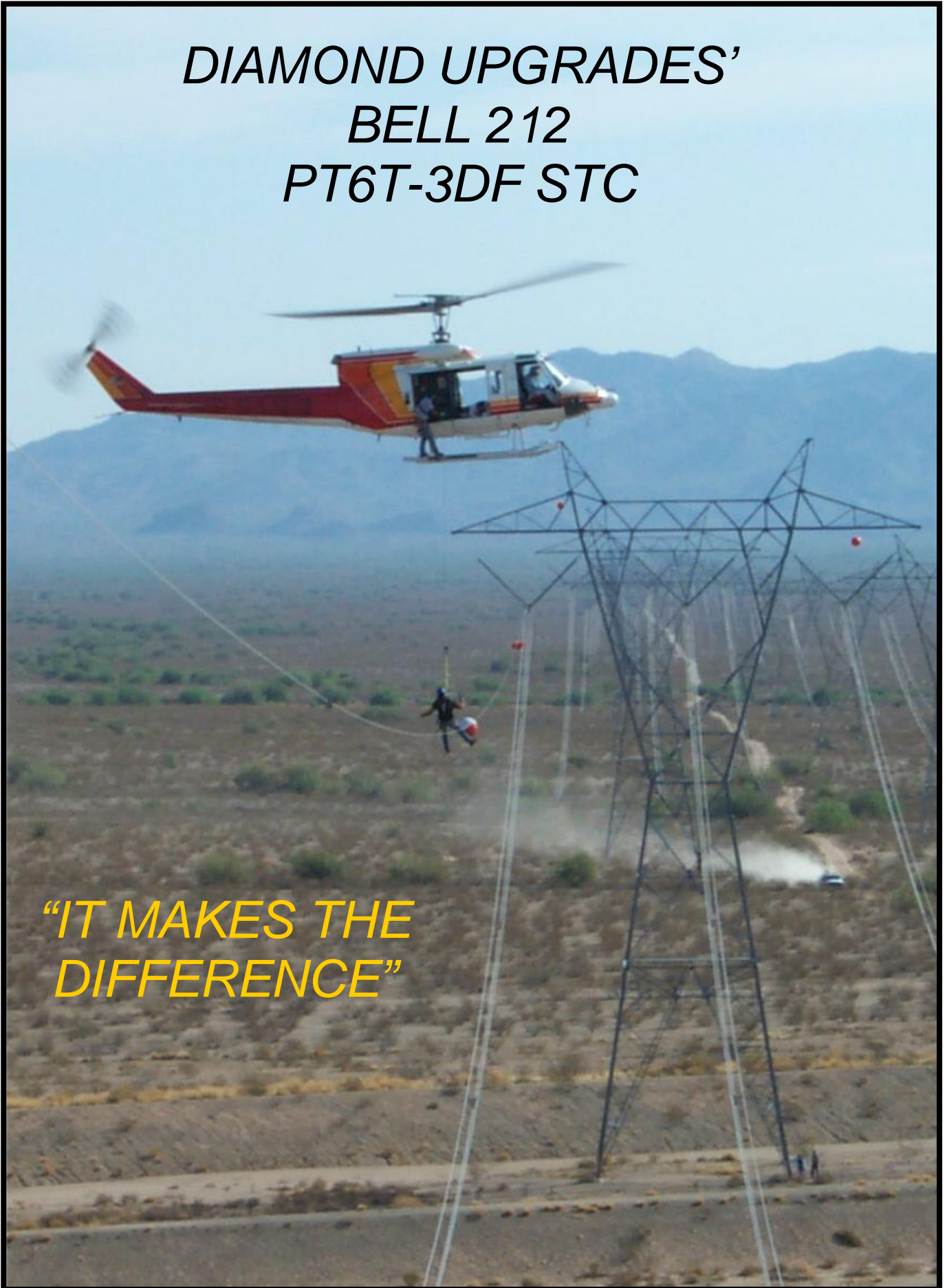


*DIAMOND UPGRADES'
BELL 212
PT6T-3DF STC*

*"IT MAKES THE
DIFFERENCE"*



Diamond Upgrades

920 North King Street, Second Floor, Wilmington, DE 19801
1.602.527.7875 – FAX 1.602.340.1916

Diamond Upgrades:

Diamond Upgrades is a company that creates safety and performance upgrades through FAA and EASA Approved STCs

Our Products:

Our STCs allows the Pratt & Whitney PT6T-3DF Twin Pac to be installed in any Bell 212, or 412.

These STCs increase **Safety** and **Commonality** for Bell 212's, Bell 412s, Bell 412 SPs, and Bell 412 HPs.

In addition to increased single engine performance, a Bell 212 or Bell 412 equipped with a Pratt & Whitney PT6T-3DF Twin-Pac will have greater N_1 and ITT operating margins when operating in all areas, particularly at high altitudes and in hot areas. This should result in lower maintenance and overhaul costs.

Fleet Enhancement Package

Pratt & Whitney is presently offering a **Fleet Enhancement Program**, (or FEP) for these upgrades.

Please ask your Pratt & Whitney sales representative about the **Diamond Upgrades PT6T-3DF FEP** to discover the price advantages.

The Bell 212 STC:

The latest revision to the original STC allows for the installation of PT6T-3DF Twin Pac in the Bell 212 with two options:

Part I allows the Bell 212 helicopter to retain the existing instruments and markings and operate the PT6T-3DF at existing (PT6T-3B) power settings while enjoying improved fleet engine commonality, and better engine thermodynamic and RPM margins.

Part II allows the helicopter to utilize greater OEI performance and flight planning by using the provided OEI Climb and Hover charts and installing re-marked instruments.

Getting Started:

Please contact us:

For the Americas: **Larry Karpurk 602.527.7875** or Larry.Karpurk@DiamondUpgrades.com.

In Europe: **Roy Knaus: +43 (0)6462-4200** or www.heli-austria.at

May 22, 2020

Bell 212 STC

United States Of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SR01124LA

This Certificate issued to DIAMOND UPGRADES, LLC
920 NORTH KING STREET
2ND FLOOR
WILMINGTON, DE 19801

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 29 of the Federal Aviation Regulations.

*Certification basis is set forth in Type Certificate Data Sheet No. H4SW

Original Product Type Certificate Number: H4SW

Make: Bell

Model: 212

Description of Type Design Change: Installation of Pratt & Whitney PT6T-3DE, or -3DF Twin-Pac in place of PT6T-3 or PT6T-3B Twin-Pac, in accordance with Airline Upgrades' Installation Instruction AU-001207, Revision N/C, dated January 3, 2001, or later FAA approved revision. FAA Approved Rotorcraft Flight Manual Supplement No. AU-001206, dated January 12, 2001, or later FAA approved revision is required with this installation.

Limitations and Conditions: The installation should not be incorporated in any aircraft unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the airworthiness of the aircraft. The limitation of the installed PT6T-3DE engine is the same performance and limits as the PT6T-3B and the limitations for installed PT6T-DF engine are: 1) the same performance and limits as the PT6T-3B, and 2) the optional OEI performance and limits of the PT6T-3DF. A copy of this STC must be included in the permanent records of the modified aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission. NOTE: Noise characteristics: This installation has been determined not to increase the noise level and is not considered an "acoustical change" as defined in para. 21.93(b), Amend. 21-77 of the Federal Aviation Regulations.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: December 1, 2000

Date reissued: October 11, 2012, August 5, 2013

Date of issuance: January 19, 2001

Date amended: October 10, 2001, May 30, 2002



By direction of the Administrator

[Handwritten Signature]
(Signature)

Manager, Propulsion Branch
Los Angeles Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.



Transport
Canada

Aviation

Transports
Canada

Aviation

Suite 620
800 Burrard Street
Vancouver, B.C.
V6Z 2J8

Your file Votre référence

Our file Notre référence

P-04-0435

August 09, 2004

Mr. Larry W. Karpurk
Airline Upgrades
321 West Palm Lane
Phoenix, Arizona
85003 USA

Subject: Acceptance of Foreign STC SR01124LA

This is in response to FAA LA ACO letter dated May 24, 2004 requesting Transport Canada approval of the subject STC.

In accordance with our current policy associated with the review of foreign STCs, some STCs applicable to certain categories of aircraft may be accepted solely on the basis of their foreign certification, and do not require the issue of a corresponding certificate by Transport Canada. The subject STC falls within these criteria.

This STC will be entered in the national index of STCs that have been reviewed and accepted by Transport Canada for installation on Canadian-registered aeronautical products.

This letter confirms formal acceptance of the referenced STC by Transport Canada.

Should you require any additional information, please do not hesitate to contact the undersigned at (604) 666-5593.

Yours truly,

Paul Arnell
Aircraft Certification Engineer
for
Regional Manager Aircraft Certification

Cc: Ms. Sharon L. Kennedy, LAACO - ANM-103L

Canada



SUPPLEMENTAL TYPE CERTIFICATE

10048627

This Supplemental Type Certificate is issued by EASA, acting in accordance with Regulation (EC) No. 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation and in accordance with Commission Regulation (EU) No. 748/2012 to

DIAMOND UPGRADES, L.L.C.

**920 NORTH KING STREET, 2ND FLOOR
WILMINGTON DE 19801
USA**

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and environmental protection requirements when operated within the conditions and limitations specified below:

Original Type Certificate Number : FAA H4SW
Type Certificate Holder : BELL HELICOPTER TEXTRON, INC.
Type Design - Model : BELL 212
Original STC Number : FAA SR01124LA

Description of Design Change:

Installation of Pratt & Whitney PT6T-3DE or PT6T-3DF Twin-Pac to replace PT6T-3 or PT6T-3B Twin-Pac

While the FAA approval is granted for both the -3DE and -3DF, the EASA scope of investigation and approval is limited to the -3DF as the -3DE engine is currently not EASA approved.

EASA Certification Basis:

The Certification Basis (CB) for the original product remains applicable to this certificate/ approval. The requirements for environmental protection and the associated certified noise and/ or emissions levels of the original product are unchanged and remain applicable to this certificate/ approval.

See Continuation Sheet(s)

For the European Aviation Safety Agency,

Date of issue: 26 March 2014


Massimo MAZZOLETTI
Certification Manager
Rotorcraft, Balloons, Airships

Note:
The following numbers are listed on the certificate:
EASA current Project Number: 0010025878-001

SUPPLEMENTAL TYPE CERTIFICATE - 10048627 - DIAMOND UPGRADES, L.L.C.

TE.STC.00091-003 - Copyright European Aviation Safety Agency. All rights reserved.

ITT Indicator for Pratt & Whitney PT6T-3DF Twin-Pac



INTER-TURBINE TEMPERATURE (ITT)

■	300° to 810° C	Continuous Operation
■	810° C	Maximum continuous
■	810° to 940° C	OEI operation
■ ■ ■	885° C	30 Minute OEI maximum
■ ■ ■	940° C	2 ½ minute OEI maximum
▲	1090° C	Maximum for start (2 seconds above 940° C)

N₁ Indicator for Pratt & Whitney PT6T-3DF Twin-Pac



GAS PRODUCER RPM (N₁)

△	12%	Minimum for operating throttle during start
△	61%	Idle RPM
■	61 to 103.2%	Continuous Operation
■	103.2%	Maximum continuous
■	103.2 to 109.2%	OEI operation
■ ■ ■	106.8%	30 Minute OEI maximum
■ ■ ■	109.2%	2 ½ minute OEI maximum

Torquemeter for Pratt & Whitney PT6T-3DF Twin-Pac equipped Bell 212s and 412s without Mast Torque, And WITHOUT SB 212-91-138

TORQUEMETERS MARKED 100% (TWIN)



TRANSMISSION TORQUE (Δ)
(TWIN ENGINE OPERATION)

	0 to 87.5%	Continuous Operation
	87.5 to 100%	5 minute takeoff range
	100%	Maximum

ENGINE 1 OR ENGINE 2 TORQUE
(SINGLE ENGINE OPERATION)

	83.6 TO 87.5%	2 ½ minute range
	87.5%	Maximum OEI

Torquemeter for Pratt & Whitney PT6T-3DF Twin-Pac equipped Bell 212s and 412s without Mast Torque WITH SB 212-91-138

TORQUEMETERS MARKED 104.3% (TWIN)



TRANSMISSION TORQUE (Δ)
(TWIN ENGINE OPERATION)

	0 to 87.5%	Continuous Operation
	87.5 to 104.3%	5 minute takeoff range
	104.3%	Maximum

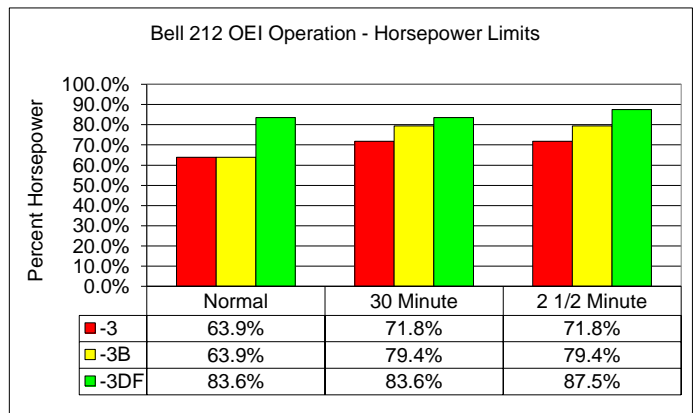
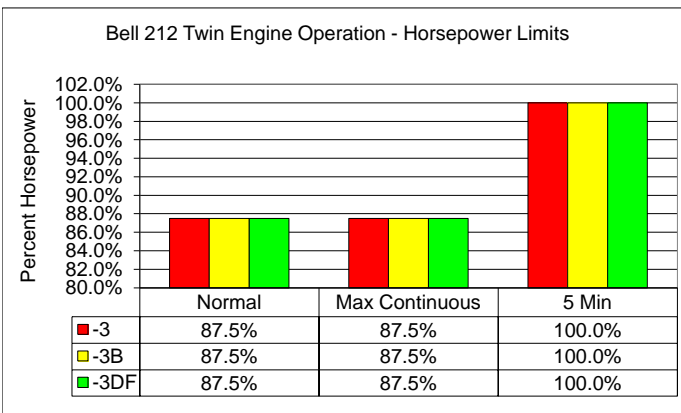
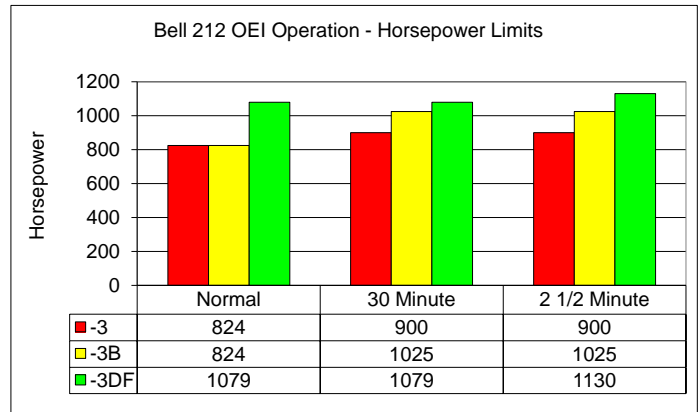
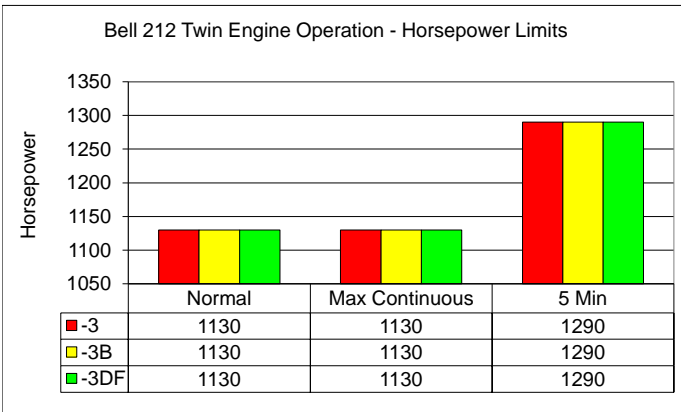
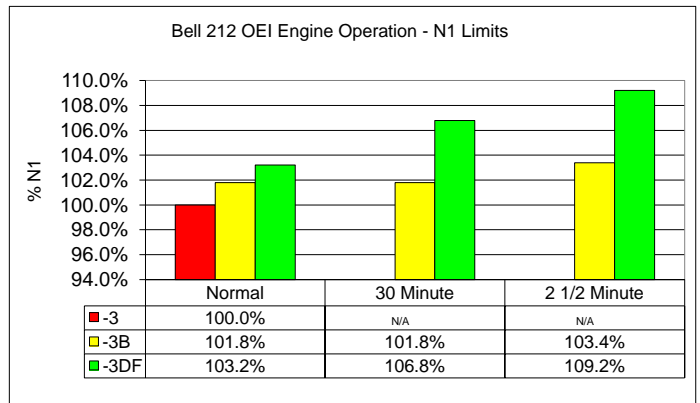
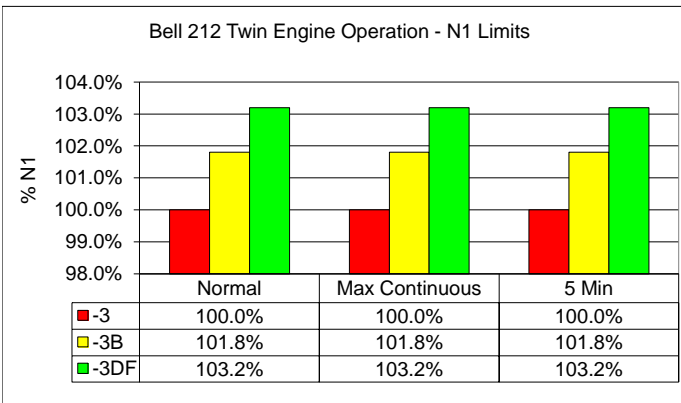
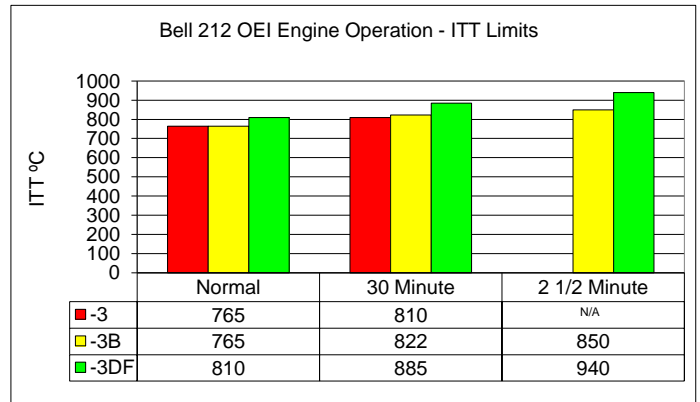
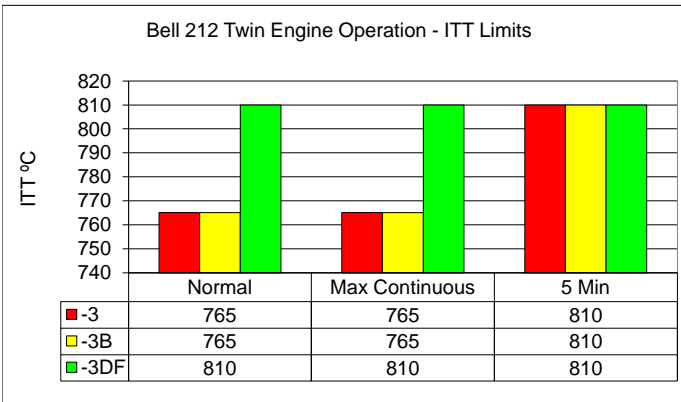
ENGINE 1 OR ENGINE 2 TORQUE
(SINGLE ENGINE OPERATION)

	83.6 TO 87.5%	2 ½ minute range
	87.5%	Maximum OEI

DIAMOND UPGRADES - BELL 212 COMPARISONS

Twin Engine

OEI Operation



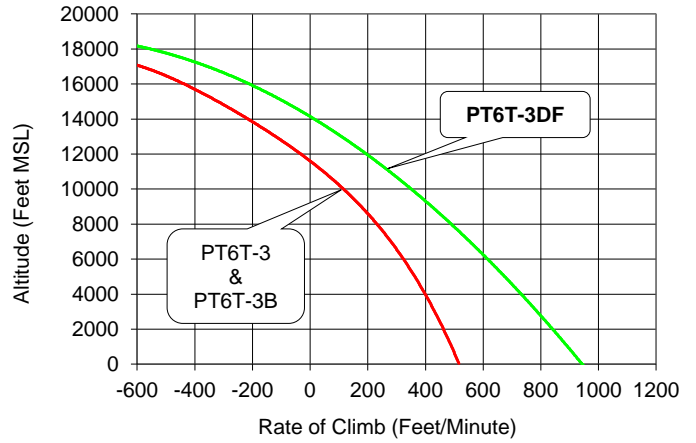
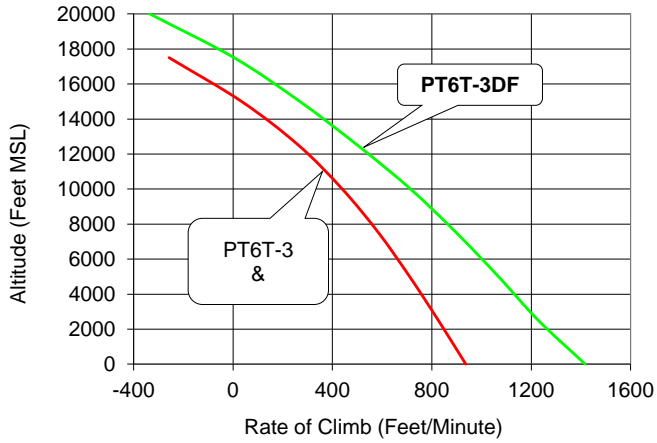
DIAMOND UPGRADES - BELL 212 COMPARISONS @ 8,000 LBS.

ISA +0°C

ISA +20°C

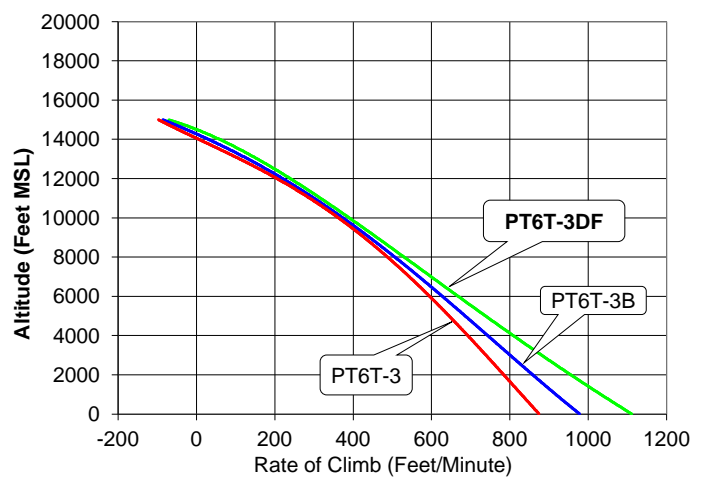
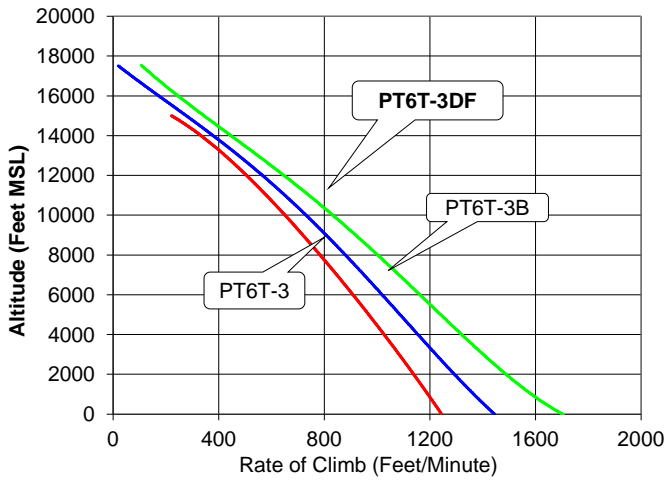
Bell 212 Comparison ISA
OEI - MCP 8,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - MCP 8,000 Lbs. GW



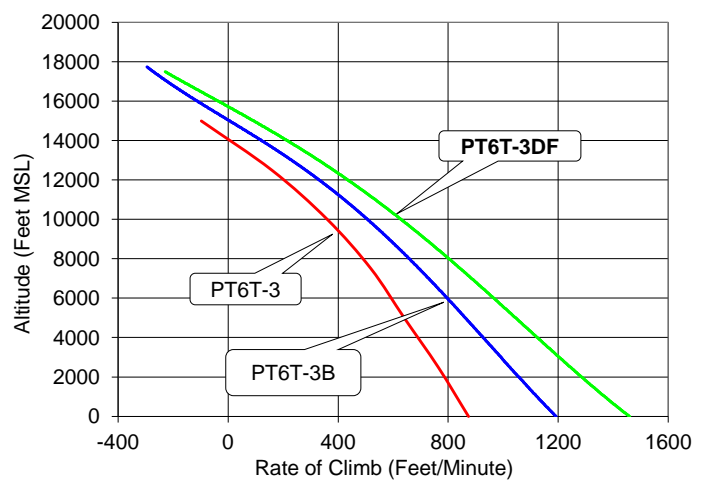
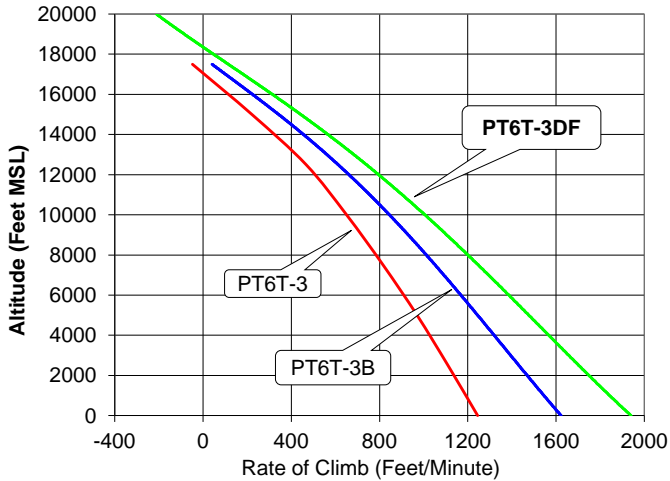
Bell 212 Comparison ISA
OEI - 30 Min. Power - 8,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 30 Min. Power - 8,000 Lbs. GW



Bell 212 Comparison ISA
OEI - 2 1/2 Min. Power - 8,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 2 1/2 Min. Power - 8,000 Lbs. GW



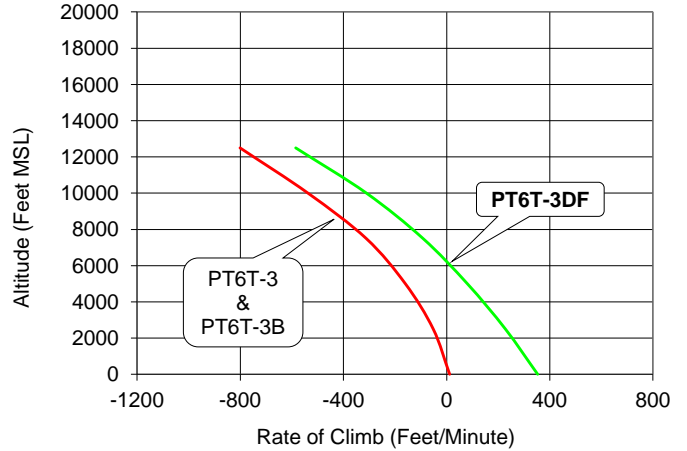
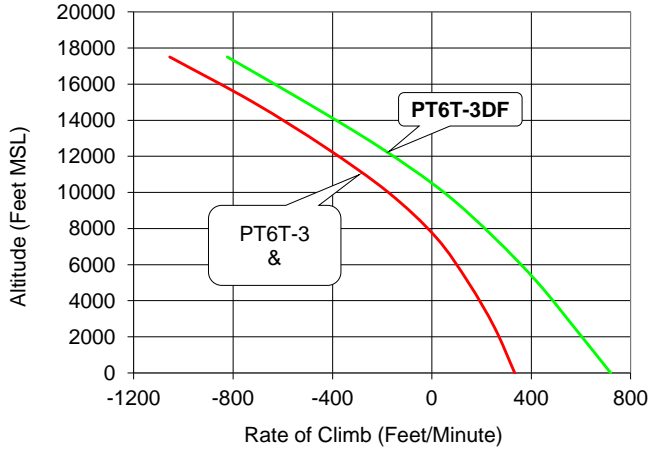
DIAMOND UPGRADES - BELL 212 COMPARISONS @ 10,000 LBS.

ISA +0°C

ISA +20°C

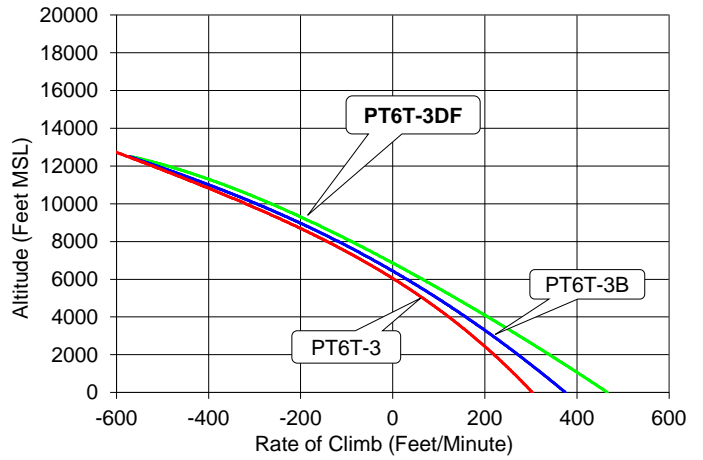
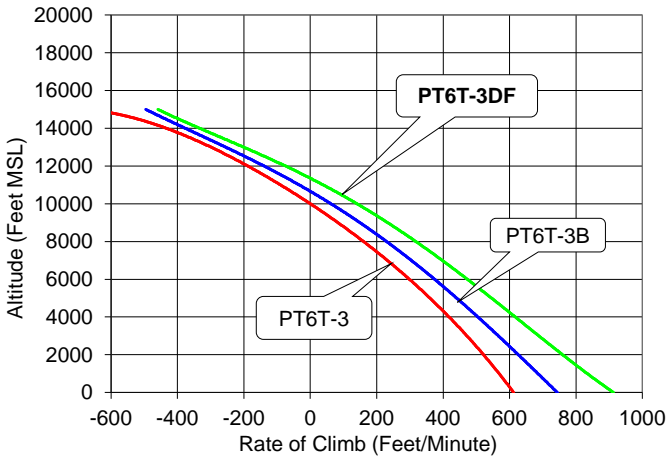
Bell 212 Comparison ISA
OEI - MCP 10,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - MCP 10,000 Lbs. GW



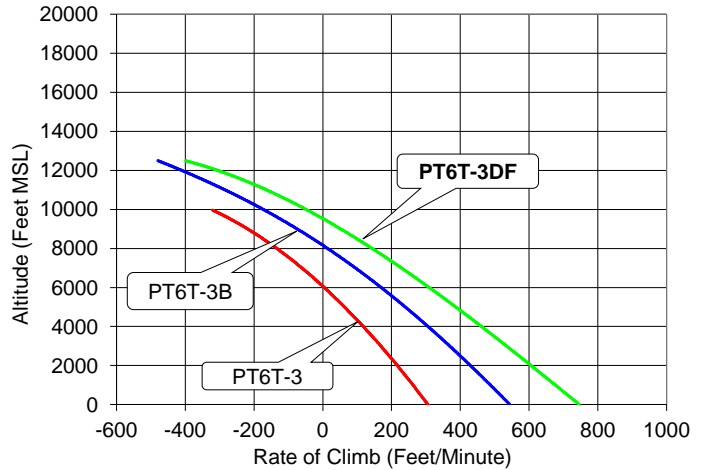
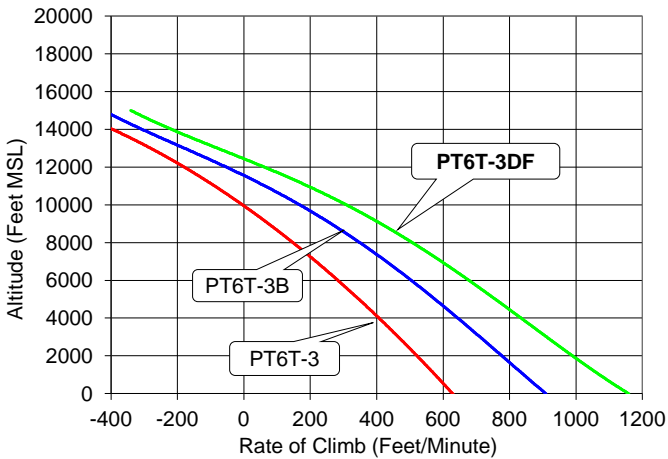
Bell 212 Comparison ISA
OEI - 30 Min. Power - 10,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 30 Min. Power - 10,000 Lbs. GW



Bell 212 Comparison ISA
OEI - 2 1/2 Min. Power - 10,000 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 2 1/2 Min. Power - 10,000 Lbs. GW



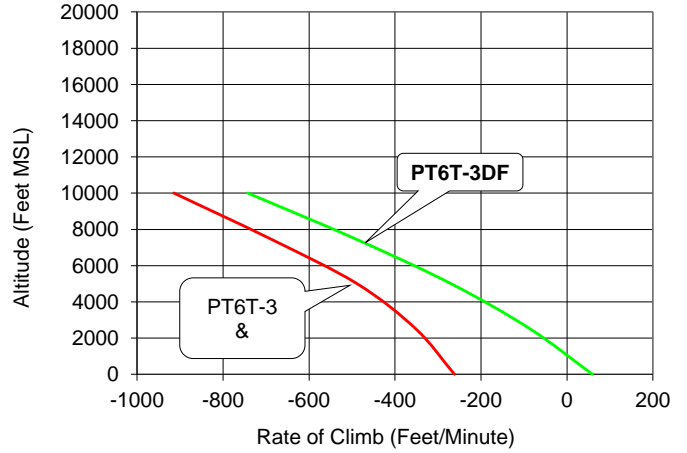
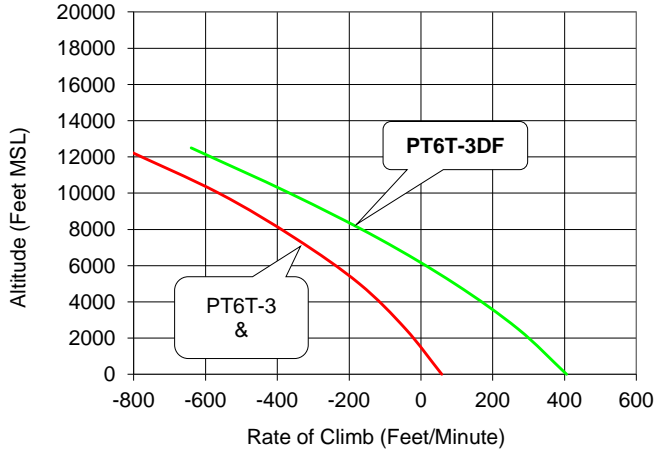
DIAMOND UPGRADES - BELL 212 COMPARISONS @ 11,200 LBS.

ISA +0°C

ISA +20°C

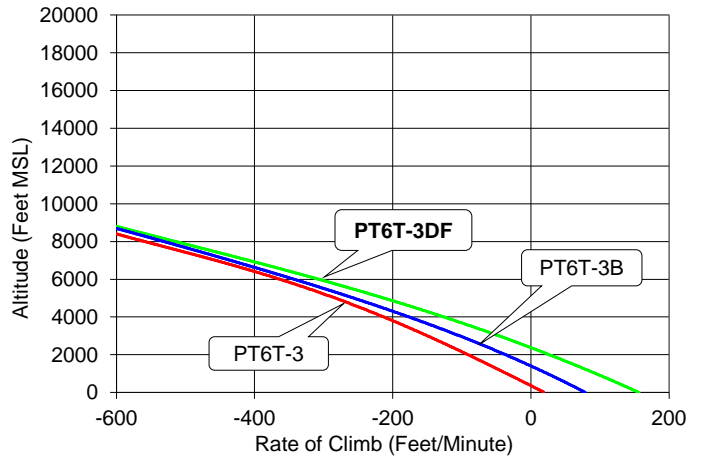
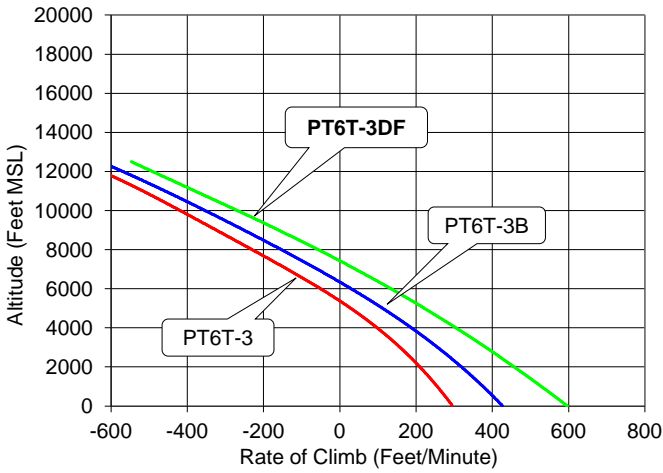
Bell 212 Comparison ISA
OEI - MCP 11,200 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - MCP 11,200 Lbs. GW



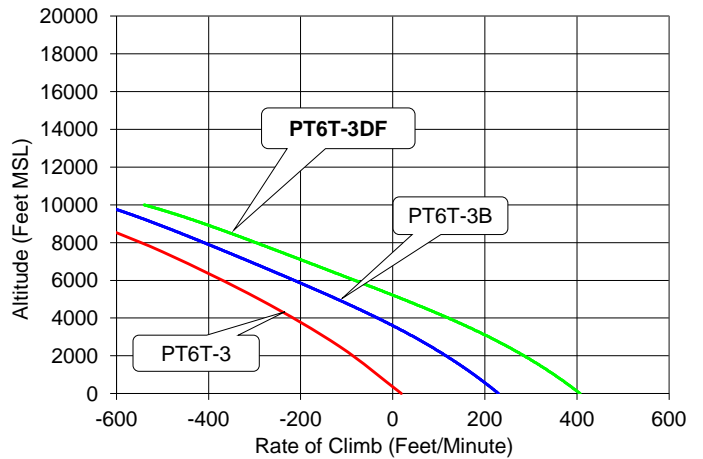
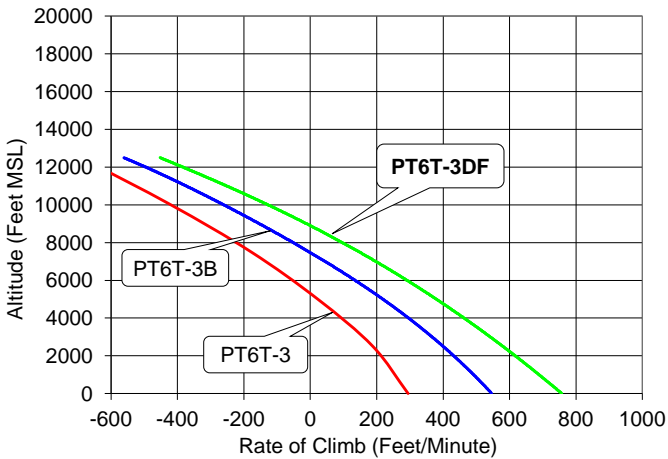
Bell 212 Comparison ISA
OEI - 30 Min. Power - 11,200 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 30 Min. Power - 11,200 Lbs. GW



Bell 212 Comparison ISA
OEI - 2 1/2 Min. Power - 11,200 Lbs. GW

Bell 212 Comparison ISA +20°C
OEI - 2 1/2 Min. Power - 11,200 Lbs. GW

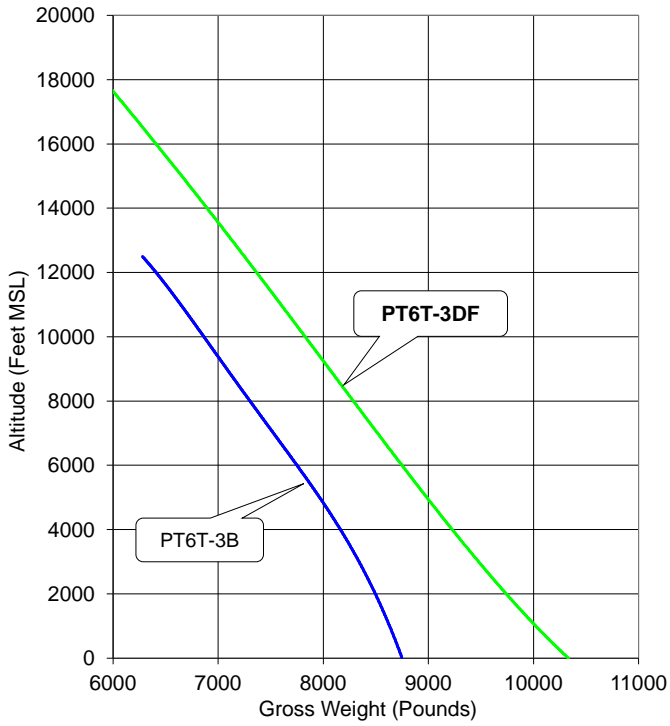


DIAMOND UPGRADES - BELL 212 COMPARISONS HIGE - HOGE

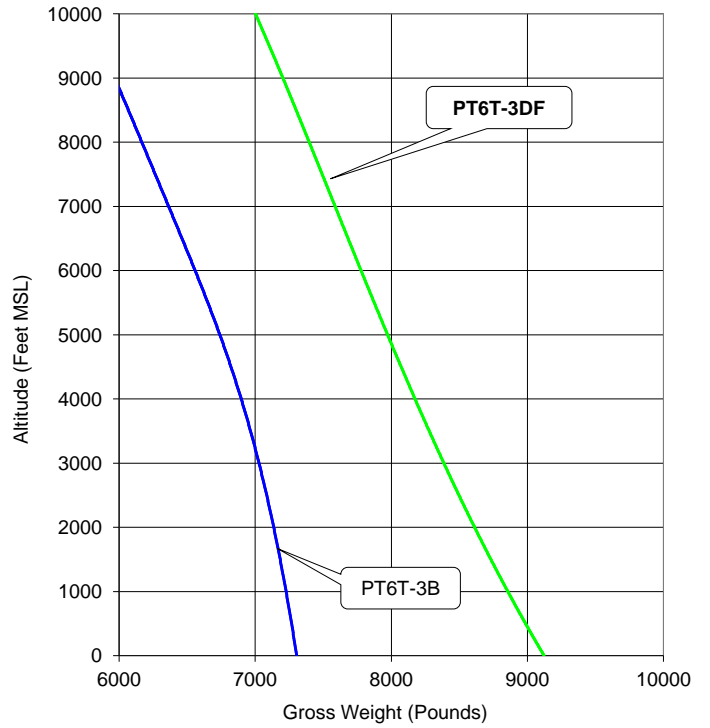
ISA +0°C

ISA +20°C

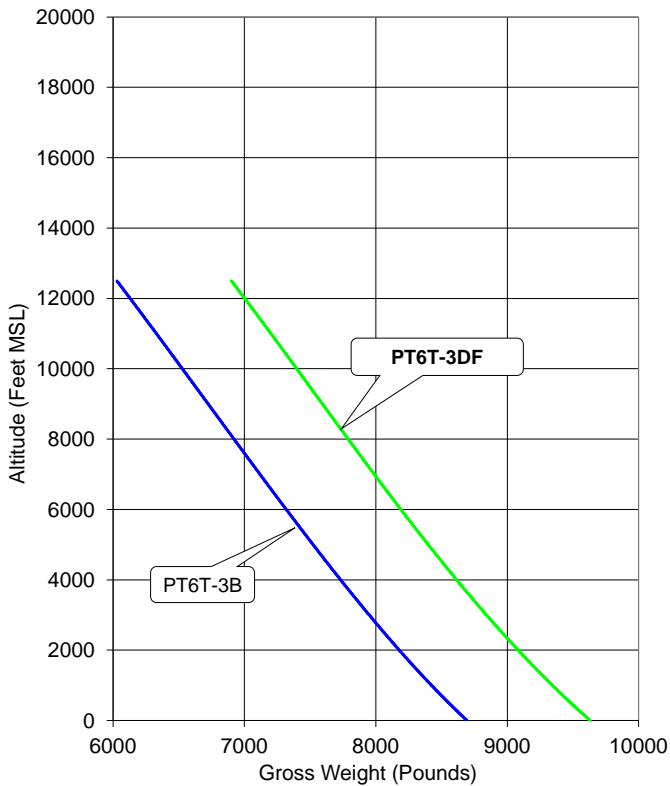
Bell 212 Comparison ISA
OEI - HIGE - 4' Skid Height



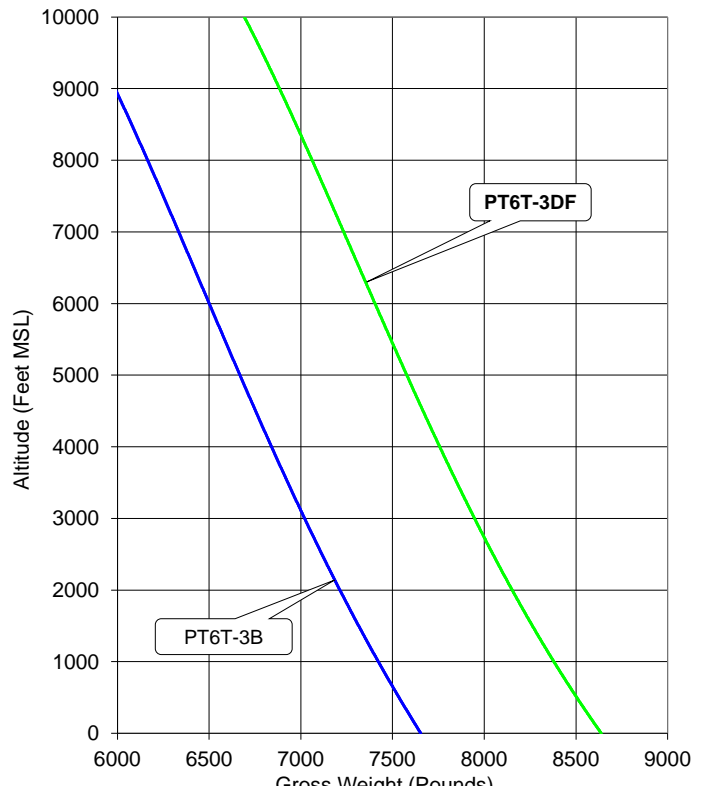
Bell 212 Comparison ISA +20°C
OEI - HIGE - 4' Skid Height



Bell 212 Comparison ISA
OEI - 60' HOGE



Bell 212 Comparison ISA +20°C
OEI - 60' HOGE



Diamond Upgrades

PT6T-3



PT6T-3B



PT6T-3DF

