

MT-Propeller Entwicklung GmbH
Flugplatzstr.1
94348 Atting
GERMANY

AIRPLANE FLIGHT MANUAL SUPPLEMENT

E-2041

**HAWKER BEECHCRAFT CORPORATION
200, 200C, 200CT, 200T, A200 (C-12A, C-12C),
A200CT (C-12D, FWC-12D, RC-12D),
A200CT (C-12F, RC-12G, RC-12H),
B200, B200C, B200CT, B200T,
B200GT, B200CGT**

EQUIPPED WITH MT-PROPELLER MODEL

MTV-27-1-E-C-F-R(P)/CFR225-55f
5-Blade Constant Speed, Full-Feathering, Reversible
Propeller

Serial No. _____

Registration No. _____

This supplement must be attached to the Section 9 of the Pilot's Operating Handbook and approved Airplane Flight Manual upon installation of the MT-Propeller Model MTV-27-1-E-C-F-R(P)/CFR225-55f. The information contained in this document supplements or supersedes the information of the Pilot's Operating Handbook and approved Airplane Flight Manual and appropriate Airplane Flight Manual Supplements only in those areas listed. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the Pilot's Operating Handbook and approved Airplane Flight Manual and appropriate Airplane Flight Manual Supplements.

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Aircraft Flight Manual Supplement
Log of revisions

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0	All	Initial Issue	21 June 2011	EASA as part of STC No. 10036196
1	1, 2, 7, 9, 10, 11;	General Changes	22 Oct 2012	EASA as part of STC No. 10036196

A black bar in the margin of a revised page shows the current change.

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SECTION 1 - GENERAL

The operator must thoroughly familiarize himself with the airplane and the contents of this supplement before initial operation. Thereafter this manual should be reviewed periodically to enable the operator to maintain the highest level of familiarity with the airplane, its controls and recommended operating procedures.

ENGINE(S)

Number of Engines: 2
Manufacturer: Pratt & Whitney Canada
Engine Models: PT6A-41, or -42, or -52, or -61

PROPELLER(S)

Number of Propellers: 2
Manufacturer: MT-Propeller Entwicklung GmbH, Germany
Propeller Model: MTV-27-1-E-C-F-R(P)/CFR225-55f
Number of Blades: 5
Propeller Diameter: 225 cm (88.6 in)
Propeller Type: Constant-speed, full-feathering, reversing,
counter-weighted, hydraulically actuated
Pitch Range (84 cm station): Feathered +81°, Reverse -20°
EASA TCDS No.: EASA P.104
FAA TCDS No.: P22BO

NOISE LEVELS

European registered aircrafts

The noise levels will be listed in the database of EASA approved noise levels for light propeller driven airplanes, latest issue and have been verified and approved by EASA. The noise tests were conducted in accordance with ICAO Annex 16, Volume 1 (5th edition, July 2008), Chapter 10.

U.S. registered aircrafts

The corrected noise level of this aircraft with this propeller is equal to or better than production aircrafts. No determination has been made by the Federal Aviation Administration that the noise levels of this aircraft are or should be acceptable or unacceptable for operation at, into, or out of, any airport.

SECTION 1 – GENERAL continued

ELIGIBILITY AND COMPATIBILITY

The eligibility and compatibility with this modification is given for the following STCs:

- PT6A-42 Engines – FAA STC No. SA02603CH-D
- PT6A-42 Engines – FAA STC No. SA00433AT (EASA.IM.A.S.02263)
- PT6A-52 Engines – FAA STC No. SA10824SC (EASA.IM.A.S.02839)
- PT6A-52 Engines – FAA STC No. SA10842SC
- PT6A-52 Engines – FAA STC No. SA02715CH-D
- PT6A-61 Engines – FAA STC No. SA10737SC (EASA STC No. 10016403)
- Raisbeck Engineering – FAA STC No. SA00752SE (EASA.IM.A.S.03051)
- Quiet Turbofan Propellers – FAA STC No. SA2698NM-S (EASA.IM.A.S.00765)
- Ram Air Recovery System – FAA STC No. SA3366NM (EASA.IM.A.S.02988)
- Enhanced Performance Leading Edges – FAA STC No. SA3831NM
- Dual Aft Body Strakes – FAA STC No. SA3519NM
- Fully Enclosed MLG Doors (when HFG-Equipped) – FAA STC No. SA4175NM
- Fully Enclosed MLG Doors (when HFG-Equipped) – FAA STC No. SA1668NM
- Nacelle Wing Lockers – FAA STC No. SA3857NM
- BLR Winglets – FAA STC No. SA01615SE
- Raisbeck MARK VI System – FAA STC No. SA1783NM (UK AAN 19647)
- RVSM – FAA STC No. SA01798SE

NOTE

The compatibility of the installation of the 5-blade MTV-27-1-E-C-F-R(P)/CFR225-55f propellers with other (than listed above) previously approved modifications must be determined by the installer.

NOTE

Aircraft models with S/N BP-1, BP-19 thru BP-22, BP-24 and after, BC-1 and after, BD-1 and after must comply with type design for an A200 prior to use of this AFMS.
Contact Hawker Beechcraft Corporation for type design information.

NOTE

Aircraft models with S/N BP-1, BP-19 thru BP-22, BP-24 and after, BC-1 and after, BB-1 and after must comply with Raytheon Aircraft Service Instruction C-12-0076.

SECTION 2 – LIMITATIONS

PROPELLER(S)

Number of Propellers: 2

Manufacturer: MT-Propeller Entwicklung GmbH, Germany

Propeller Model: MTV-27-1-E-C-F-R(P)/CFR225-55f

Propeller Hub: MTV-27-1-E-C-F-R(P)

Propeller Blade: CFR225-55f

Number of Blades: 5

Propeller Diameter: 225 cm (88.6 inches)
 Cut-off to 220 cm (86.6 inches) allowed for repair.
 No cut-off allowed if Nickel alloy erosion sheath is installed.

Blade angles: Measured at the 84 cm (33 in) station:
 Feathered: $81^{\circ} \pm 1.0^{\circ}$
 Max. Reverse: $-20^{\circ} \pm 1.0^{\circ}$

POWER PLANT LIMITATIONS

OPERATING CONDITIONS	SHP	TORQUE FT-LBS	GAS GENERATOR RPM N1		PROP RPM N2
			RPM	%	
LOW IDLE	---	---	19,500	min. 52 (*)	---
LOW IDLE	---	---	22,875	min 61 (**)	---

(*) PT6A-41 and -42 models
 (**) PT6A-52 and -61 models

SECTION 2 – LIMITATIONS Continued

PLACARDS

Placards concerning other propellers are obsolete and must be removed or permanently covered.

SECTION 3 - EMERGENCY / ABNORMAL PROCEDURES

Airplanes which have been converted from 3-blade Hartzell or 3-blade McCauley propellers to 5-blade MT propellers, the following procedure apply:

ELECTROTHERMAL PROPELLER DEICE (AUTO SYSTEM)

Abnormal Readings on Deice Ammeter: (Normal operation: 10 to 18 amps)

1. Zero Amps:

- a. Automatic Prop Deice.....CHECK ON
- b. If OFF, reposition to ON after 30 seconds.
- c. If ON with zero amps reading, system is inoperative; position the switch to OFF.
- d. Use manual backup system. (no deice ammeter indication – monitor loadmeter).

2. Zero to 10 amps:

- a. Continue operation.
- b. If propeller imbalance occurs, increase rpm briefly to aid in ice removal.

3. Over 18 amps:

- a. Continue operation if circuit breaker does not trip.
- b. If propeller imbalance occurs, increase rpm briefly to aid in ice removal.
- c. If circuit breaker trips:
 - (1) Use manual system – monitor loadmeter for excessive current drain.
- d. If manual mode circuit breaker trips:
 - (1) Avoid icing conditions.

SECTION 3 - EMERGENCY / ABNORMAL PROCEDURES continued

Airplanes which have been converted from 4-blade Hartzell propellers to 5-blade MT propellers, the following procedure apply:

ELECTROTHERMAL PROPELLER DEICE (AUTO SYSTEM)

Abnormal Readings on Deice Ammeter: (Normal operation: 18 to 24 amps)

1. Zero Amps:
 - a. Automatic Prop Deice.....CHECK ON
 - b. If OFF, reposition to ON after 30 seconds.
 - c. If ON with zero amps reading, system is inoperative; position the switch to OFF.
 - d. Use manual backup system. (no deice ammeter indication – monitor loadmeter).

2. Zero to 18 amps:
 - a. Continue operation.
 - b. If propeller imbalance occurs, increase rpm briefly to aid in ice removal.

3. Over 24 amps:
 - a. Continue operation if Auto Prop Deice circuit breaker does not trip.
 - b. If propeller imbalance occurs, increase rpm briefly to aid in ice removal.
 - c. If Auto Prop Deice circuit breaker trips:
 - (1) Use manual system – monitor loadmeter for excessive current drain.
 - d. If the Prop Deice Control circuit breaker trips:
 - (1) Avoid icing conditions.

SECTION 4 - NORMAL PROCEDURES

BEFORE TAKEOFF (RUNUP)

- 9. Auto-feather.....CHECK
- a. Power Levers.....APPROXIMATELY 500 FT-LBS TORQUE
- b. Auto-feather Switch.....HOLD TO TEST
[L AFX] & [R AFX] – ILLUMINATED
(or, [L AUTOFEATHER] & [R AUTOFEATHER]- ILLUMINATED)
- c. Power Levers.....RETARD INDIVIDUALLY THEN
ADVANCE BACK TO 500 FT-LBS
 - 1) At Approximately **410 +/- 50** ft-lbs.....OPPOSITE ANNUNCIATOR
EXTINGUISED
 - 2) At Approximately **310 +/- 50** ft-lbs.....BOTH ANNUNCIATORS
EXTINGUISED (Prop starts to feather)

NOTE

Auto-feather annunciator will cycle on and off with each fluctuation of torque as the propeller feathers.

Electrothermal Prop Deice.....CHECK

CAUTION

Do not operate the propeller deice when propellers are static.

NOTE

Electrical current for the manual (backup) system is not registered on the propeller deice ammeter. However, it will be indicated as part of the airplane's load on the load meters (small needle deflection) when the system is switched on.

SECTION 5 - PERFORMANCE

| The performance has been determined to be equal to or better than the baseline airplane.
| Flight planning should be based upon the performance data as published in the basic AFM.

SECTION 6 - WEIGHT AND BALANCE AND EQUIPMENT LIST

EQUIPMENT LIST

Propeller and Propeller Accessories

ITEM No.	ITEM	WEIGHT	ARM
1	MTV-27-1-E-C-F-R(P)/CFR225-55f incl. spinner assy and de-ice	65.5 kg (144.4 lbs)	1.739 m (68.46 in)

SECTION 7 - DESCRIPTION OF THE AIRCRAFT AND ITS SYSTEMS

Propeller:

The MTV-27-1-E-C-F-R(P)/CFR225-55f is a 5-blade hydraulically actuated, constant speed, counterweighted reversing propeller with 225 cm diameter. The propeller construction consists of natural composite blades mounted in a conventional aluminum hub. Metal erosion sheaths protect the propeller blade leading edges. The propeller is powered by the engine through the reduction gearbox. The propeller pitch and speed control is maintained by an engine driven single acting hydraulic governor (CSU), augmented by engine oil pressure.

The counterweights, assisted by the feathering spring, move the propeller blades towards the high pitch (low rpm) and into the feathered position, while the governor boosted engine supplied oil pressure, move the propeller blades towards low pitch (high rpm) hydraulic stop, beta range and reverse position. The propeller has no high pitch stops; this allows the blades to feather after engine shutdown.

No change has been made to the CSU, over-speed governor, and its settings.

CAUTION

The aircraft must not be operated without a propeller spinner.

SECTION 8 – HANDLING, SERVICE & MAINTENANCE

Propeller Service:

Since the MT-Propellers may also pick up loose pieces of rock and debris from the ramp and runway, the blades should be checked prior to each flight for damage. The daily preflight which can be performed by the pilot shall include examination of the propeller blades and spinners for visible damage, cracks, grease or oil leakage, blade shake and blade angle play. Blade shake up to 1/8 inches (3 mm) and a blade angle play of 2° is allowed. No attempt should be made to dress out nicks as would be done with metal propeller blades.

Maintenance and repairs should be accomplished only by appropriately rated personnel in accordance with MT-Propeller's Instructions for Continued Airworthiness Doc. No. E-2043, latest revision.

The propellers may be cleaned with a mild solution of soap and water. Do not use solvents.

CAUTION

Do not push aircraft on spinner.

SECTION 9 – SUPPLEMENTS

This document shall be incorporated into the aircraft's AFM following the installation of the MTV-27-1-E-C-F-R(P)/CFR225-55f propeller.

SECTION 10 – OPERATIONAL TIPS

CAUTION

If possible, propeller should be moved out of reverse at approximately 40 knots to minimize blade erosion.

Care must be exercised when reversing on runways with loose sand, dust, or snow on the surface.

Flying gravel will damage propeller blades, and dust or snow may impair the pilot's visibility.

Reverse thrust should be used only when necessary to shorten the ground roll.