



EUROPEAN AVIATION SAFETY AGENCY



Operational Evaluation Board Report

**Jetprop LLC Piper (PA-46 Jetprop DLX)
Piper (PA-46-500TP – Malibu Meridian)**

**Report
28 June 2012**

**European Aviation Safety Agency
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PA-46 Jetprop DLX
PA-46-500TP – Malibu Meridian
Operational Evaluation Board (OEB)



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Revision Record

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Original Draft	Initial Evaluation	22 May 2005
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Acronyms

AFM	Airplane Flight Manual
CPD	Common Procedures Document for conducting Operational Evaluation Boards, dated 10 June 2004
Difference Level	a designated level of difference as defined in the CPD for the evaluation of pilot training, checking, and currency
EASA	European Aviation Safety Agency
EU-OPS	Commission Regulation (EC) No 859/2008 of 20 August 2008 amending Council Regulation (EEC) No 3922/91 as regards common technical requirements and administrative procedures applicable to commercial transportation by aeroplane.
FT.....	Feet
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
MDR.....	Master Difference Requirements
MEL	Minimum Equipment List
MFD	Multi-function Display
MLW	Maximum Landing Weight
MTOW	Maximum Take-off Weight
ODR.....	Operator Differences Requirements
OEB	Operational Evaluation Board
OSD	Operational Suitability Data
Part-FCL	Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.
POH	Pilot's Operating Handbook
TC	Type Certificate
SOP	Standard Operating Procedures

OEB Group Composition

Jetprop LLC Piper (PA-46 Jetprop DLX) / Piper (PA-46-500TP – Malibu Meridian)

Name	Capacity	Task
Herbert MEYER	EASA	Section Manager Operational Suitability
Klaus WALKNER	EASA	OEB Coordinator
Joachim WIRTHS	EASA	OEB Chairman

Note on references and reference texts:

Where references are made to requirements and where extracts of reference texts are provided, these are at the amendment state at the date of publication of the report.

Executive Summary

1. Scope of the evaluation

This report presents the recommendations from a “catch-up” evaluation of the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft. The scope of this evaluation is limited to the differences between the Malibu Meridian and the Jetprop DLX. Initial pilot type rating training was not evaluated.

This evaluation does not constitute an assessment of any other related aircraft, such as the PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), or the PA-46R-350T (Malibu Matrix).

Previous determinations made by the JAA have not been validated during this catch-up process, but are incorporated for completeness. These determinations comprise:

- a single license endorsement (“PA46”) for the Piper PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), and the PA-46-500TP (Malibu Meridian) aircraft;
- differences training which is not further specified, between the PA-46-310P (Malibu) / PA-46-350P (Malibu Mirage) and the PA-46-500TP (Malibu Meridian) aircraft; and
- designation as High Performance Aircraft (HPA) for the Piper PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), the PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft.

By correlation, the PA-46R-350T (Malibu Matrix) has been included with the PA-46-310P (Malibu), and the PA-46-350P (Malibu Mirage) for single license endorsement purposes. Difference levels for training, checking, and currency for the PA-46R-350T (Malibu Matrix) have not been evaluated and must be determined by the competent Authority.

All relevant reports are available on the EASA OEB website at

<http://www.easa.europa.eu/certification/experts/flight.php>

2. Operational Evaluation of the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft.

Following an application from AOPA-Germany, Verband der Allgemeinen Luftfahrt e.V., Luftfahrt e.V. and MMIG46 (Malibu Mirage Interest Group), EASA performed a catch-up process to consider the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft as variants for a single license endorsement.

The OEB recognized the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft as variants requiring familiarization training. Consequently, the existing single license endorsement “PA46” should be extended to the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft.

The EASA Operational Evaluation was conducted as a “catch-up” process in accordance with the EASA OEB Handbook, the CPD, and applicable Part-FCL and EU-OPS requirements.

Operational Evaluation Report

1. Purpose and Applicability

This report addresses:

- pilot licence endorsement for the Piper PA-46-310P (Malibu), PA-46-350P (Malibu Mirage), the PA-46R-350T (Malibu Matrix), PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft;
- Master Differences Requirements (MDR) between the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX);
- recommendations for familiarization training between the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX); and
- recommendations for checking, currency / recent experience concerning the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX).

Differences in avionics equipment between the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) have not been evaluated. This report does not address specialized operations, or the use of special equipment or functions.

2. Pilot License Endorsement

In accordance with previous determinations and with the results from this evaluation, EASA recommends that a single license endorsement “**PA46**” is applied for the Piper PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), the PA-46R-350T (Malibu Matrix), the PA-46-500TP (Malibu Meridian); and the Jetprop LLC Piper P-46 (Jetprop DLX) aircraft as shown in the following table:

1 Manufacturer	2 Aeroplanes	3	4 Licence Endorsement
Piper	PA-46-310P (Malibu) PA-46-350P (Malibu Mirage) PA-46R-350T (Malibu Matrix) ⁴	(HPA) (D) ²	PA46 ¹
	PA-46-500TP (Malibu Meridian) ³		
Jetprop LLC Piper	PA-46 Jetprop DLX ³		

¹ A single license endorsement for the Piper PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), and the PA-46-500TP (Malibu Meridian) aircraft has been determined by the JAA.

² Differences training which is not further specified, between the PA-46-310P (Malibu)/PA-46-350P (Malibu Mirage) and the PA-46-500TP (Malibu Meridian) aircraft has been established by the JAA.

³ The Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft have been evaluated by EASA as variants requiring familiarization training.

⁴ Difference levels for training, checking, and currency for the PA-46R-350T (Malibu Matrix) have not been evaluated and must be determined by the competent Authority.

3. General Description of the Piper PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper P-46 (Jetprop DLX)

The Malibu Meridian and the Jetprop DLX are both based on non-turbo-prop version of the PA-46 aircraft series and are consequently of a high level of commonality. Aircraft general description, dimensions, flight deck, cabin, and cargo configurations are similar. The P&W PT6A-35 engine used in the Jetprop DLX provides a slightly higher horsepower than the P&W PT6A-42 of the Malibu Meridian. Limitation differences exist in aircraft weights (empty weight, MTOW and MLW). Aircraft systems are similar with differences in fuel tank capacities. The Malibu Meridian and the Jetprop DLX have a similar cockpit interface and layout (i.e. displays, dimensions and location). Differences in avionics and flight instrument displays arising from upgrades and optional equipment have not been considered as these vary in accordance with individual customization (e.g. Electronic Flight Display System, MFDs, etc.) and may require additional assessment. Aircraft performance data differ between the Malibu Meridian and the Jetprop DLX (e.g. take-off/landing over 50ft obstacle, climb rate, service ceiling, fuel burn). Most operational procedures are identical. Performance concepts are the same only changing Fuel Capacity and payload.

4. Master Differences Requirements (MDR)

4.1 MDR Tables

MDR tables for the Piper PA-46-310P (Malibu), the PA-46-350P (Malibu Mirage), the PA-46-500TP (Malibu Meridian) and the Jetprop LLC Piper PA-46 (Jetprop DLX) aircraft are shown below. Definitions of the various levels for Training/Checking/Currency are those used in the CPD.

Master Differences Requirements (MDR)							
		FROM AIRPLANE					
TO AIRPLANE		Malibu	Malibu Mirage	Malibu Matrix	Malibu Meridian	Jetprop DLX	
		Malibu	-	(1)	(4)	(2)	(4)
		Malibu Mirage	(1)	-	(4)	(2)	(4)
		Malibu Matrix	(4)	(4)	-	(4)	(4)
		Malibu Meridian	(2)	(2)	(4)	-	A/A/A
		Jetprop DLX	(4)	(4)	(4)	A/A/A	-
(1) Determined by JAA as variant with unspecified familiarization training (2) Determined by JAA as variant with unspecified differences training (3) Evaluated by EASA as variant with familiarization training (Level A/A/A) (4) Has not been evaluated							

4.2 Levels of Training, Checking and Currency (excerpts from the CPD)

Level A Training. *Level A difference training is applicable to aircraft with differences that can adequately be addressed through self-instruction. Level A training represents a knowledge requirement such that, once appropriate information is provided, understanding and compliance can be assumed to take place. Compliance with level A training is typically achieved by methods such as issuance of operating manual page revisions, dissemination of flight crew operating bulletins or differences hand-outs to describe minor differences between aircraft. Level A training is normally limited to situations such as the following:*

- a. *The change introduces a different version of a system/component for which the flight crew has already shown the ability to understand and use;*
- b. *The change results in minor or no procedural changes and does not result in adverse safety effects if the information is not reviewed or is forgotten; or*
- c. *Information highlighting a difference that, once called to the attention of a crew, is self-evident, inherently obvious, and easily understood.*

Level A Checking. *Level A checking indicates that no check related to differences is required at the time of differences training. A pilot is, however, responsible for knowledge of each variant flown. Differences items should be included as an integral part of subsequent proficiency checks.*

Level A Currency. *At Level A currency is considered to be common to each variant. Thus, assessment or tracking of currency for separate variants is not necessary or applicable. Maintenance of currency in any one variant or a combination of variants suffices for any other variant.*

5. Specifications for Pilot Training, Checking and Currency

5.1 Piper PA-46-500TP (Malibu Meridian) / Jetprop LLC Piper P-46 (Jetprop DLX) Familiarization Training

The OEB reviewed in a catch-up process the training, checking and currency requirements between the Malibu Meridian and the Jetprop DLX and concluded that level A differences for training, checking, and currency exist between the two aircraft.

Level A familiarization training is typically achieved by a self-study review of differences on the basis of differences hand-outs, pilot's operating handbooks / airplane flight manuals, or similar suitable documentation.

5.1.1 Training Areas of Special Emphasis (TASE)

The following items should receive special emphasis in the familiarization between the two variants:

- Engine performance and control, including operation of power / condition levers, propeller management and feathering;
- Fuel system, including tank arrangements, fuel burn, capacities and fuel monitoring and management;
- Aircraft limitations and performance, including take-off / landing performance, aircraft weights, and service ceiling; and
- Avionics and cockpit displays, including their use in normal and abnormal/emergency operations, as applicable

Operators may add additional elements as required by their operation, and these will vary. Training organisations should review their training courses when applicable aircraft modifications occur.

5.2 Piper PA-46-500TP (Malibu Meridian) / Jetprop LLC Piper P-46 (Jetprop DLX) Checking

Level A checking indicates that no check related to differences is required at the time of differences training. A pilot is, however, responsible for knowledge of each variant flown. Differences items should be included as an integral part of subsequent proficiency checks.

5.3 Piper PA-46-500TP (Malibu Meridian) / Jetprop LLC Piper P-46 (Jetprop DLX) Currency / Recent Experience

Compliance with Part-FCL and EU-OPS, as appropriate is required for recent experience. Level A currency indicates that maintenance of currency in any one variant or a combination of variants suffices for any other variant. Consequently, take-offs and landings performed on either the Malibu Meridian or the Jetprop DLX are valid for both variants.