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MASTER MINIMUM EQUIPMENT LIST (MMEL)

AIRCRAFT:

TYPE: PZL W-3A

MODEL: PZL W-3AS

TC No.: EASA.R.007

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This Master Minimum Equipment List (MMEL) at the above revision is recommended by the Joint Aviation Authorities (JAA) for approval by National Authorities as the basis for the preparation and approval of individual operator's Minimum Equipment List (MELs) for aircraft of this Model, as certificated by the European Aviation Safety Agency (EASA) and operated under the jurisdiction of JAA member States National Authorities.

Signed by:

Georges Rebender
JAA Operations Director

LOG OF REVISIONS

Rev. No.	Date	Page Numbers	Incorporated by
Original	2005-08-18	All pages – Original Issue	---

Table of Contents

Log of Pages

SYSTEM	PAGE	REV. NO.	CURRENT DATE
Title Page	A	Original	2005-08-18
Log fo Revisions	B	Original	2005-08-18
Table of Contents	I	Original	2005-08-18
Log of Pages	II	Original	2005-08-18
Definitions	III	Original	2005-08-18
Definitions	IV	Original	2005-08-18
Definitions	V	Original	2005-08-18
Definitions	VI	Original	2005-08-18
Preamble	VII	Original	2005-08-18
Preamble	VIII	Original	2005-08-18
Guidelines for Operating (O) and Maintenance (M) Procedures	IX	Original	2005-08-18
21	21-1	Original	2005-08-18
22	22-1	Original	2005-08-18
23	23-1	Original	2005-08-18
24	24-1	Original	2005-08-18
25	25-1	Original	2005-08-18
28	28-1	Original	2005-08-18
30	30-1	Original	2005-08-18
31	31-1	Original	2005-08-18
33	33-1	Original	2005-08-18
33	33-2	Original	2005-08-18
34	34-1	Original	2005-08-18
34	34-2	Original	2005-08-18
52	52-1	Original	2005-08-18
65	65-1	Original	2005-08-18
65.40	65.40-1	Original	2005-08-18
77	77-1	Original	2005-08-18

Definitions

1. System Definitions.

System numbers are based on the Air Transport Association (ATA) Specification Number 100 and items are numbered sequentially.

a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.

b. "Number Installed" (Column 3) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., optional equipment items) a number is not required.

NOTE: Where the MMEL shows a variable number installed, the MEL must reflect the actual number installed or an alternate means of configuration control approved by the competent Authority.

c. "Number Required for Dispatch" (Column 4) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 5 are met.

NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the competent Authority.

d. "Remarks or Exceptions" (Column 5) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative , provisos (conditions and limitations) for such operation and appropriate notes.

e. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

2. "Rotorcraft Flight Manual" (RFM) is the document required for type certification and approved by Aircraft Certification Authorities. The approved RFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

3. "As required by operating rules" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the applicable operating rules. The number required by the rules must be operative. Items installed that are in excess of the rules may be permitted by the operator's MEL to be inoperative if not otherwise required by the MMEL.

Definitions

4. *"-" symbol in Column 3 and/or Column 4 indicates a variable number (quantity) of the item installed.*

NOTE: *Where the MMEL shows a variable number installed, the MEL must reflect the actual number installed or an alternate means of configuration control approved by the competent Authority.*

5. *"Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.*

6. *Alphabetical symbol in Column 5 indicates a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.*

7. *"Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).*

8. *Inoperative components of an inoperative system: Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MEL.)*

9. *"(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.*

Definitions

10. *"(O)" symbol indicates a requirement for a specific operating procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.*

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by the competent Authority.

11. *"Deactivated" and "Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.*

12. *"Visual Flight Rules" (VFR) are defined in applicable operating and flight rules. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.*

13. *"Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.*

14. *Repair Intervals: All users of an MEL approved under applicable operating and flight rules must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:*

    Category A. No standard interval is specified. Items in this category shall be repaired in accordance with the conditions stated in the "Remarks and Exceptions" column (Column 5). If a time period is specified it shall start at 00:01 on the callendar day following the day of discovery.

    Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day of discovery.

    Category C. Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day of discovery.

    Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days, excluding the day of discovery.

    The letter designators are inserted in Column 2.

Definitions

15. *"Administrative control item" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the competent Authority. If the request results in review and approval, the item becomes an MMEL item rather than an administrative control item.*

Preamble

The following is applicable for authorized certificate holders operating under Authorities Operating Requirements (JAR-OPS). The JAR requires that all equipment installed on the aircraft in compliance with the Airworthiness Standards and the Operating Requirements must be operative. However, the requirements also permit the publication of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

A Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder and approved by the Authority to improve aircraft utilisation and thereby provide more convenient and economic air transportation for the public. The Authority approved MMEL includes those items of equipment related to airworthiness and operating requirements and other items of equipment which the Authority finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations. It does not contain obviously required items such as blades and rotors.

The MMEL is the basis for development of individual operator MELs which take into consideration the operator's particular aircraft equipment configuration and operational conditions. Operator MELs, for administrative control, may include items not contained in the MMEL; however, relief for administrative control items must be authorised by the appropriate Authority. An operator's MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of JAR requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from Airworthiness Directives or any other Mandatory Requirement. It is important to remember that all equipment related to the airworthiness and the operating requirements of the aircraft not listed on the MMEL must be operative.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that an acceptable level of safety is maintained.

Preamble

The MEL is intended to permit operation with inoperative items of equipment for a period of time until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. The MEL provides for release of the aircraft for flight with inoperative equipment.

When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/Logbook as prescribed by JAR. The item is then either repaired or may be deferred per the MEL or other approved means acceptable to the Authority prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.

When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued as prescribed by JAR. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative systems or components must also be considered. Wherever possible account has been taken in this MMEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on aircraft operation and crew workload must be considered.

Operators are to establish a controlled and sound repair program including the parts, personnel, facilities, procedures and schedules to ensure timely repair. This programme should identify the actions required for Maintenance discrepancy messages.

WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS, AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED.

Guidelines for Operating (O) and Maintenance (M) Procedures

In order to provide an adequate level of safety while providing relief for some items certain procedures must be established by the operator.
The following guidelines specify the objectives of the required procedures:

21/2	*(M)*	*Procedure for deactivating and securing system*
23/4	*(O)*	*Alternate procedure for passenger notification*
24/1	*(M)*	*Procedure for deactivating and securing generator*
33/6	*(O)*	*Alternate procedure for passenger notification*
52/1	*(O)*	*Procedure for checking doors*
65/1	*(M)*	*Procedure to meet provisos*
65/2	*(M)*	*Procedure to meet provisos*
77/1	*(O)*	*Procedure for measuring, counting and recording engine power rating cycles*

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
21 AIR CONDITIONING				
1. Cockpit Fans				
a) L.H. Fan	*C*	*1*	*0*	*May be inoperative provided:* *a) Heating and Ventilation System [Item 21/2] is operative* *OR* *b) L.H. Heated Windshield [Item 30/3a] is operative.*
b) R.H. Fan	*C*	*1*	*0*	*May be inoperative provided:* *a) Heating and Ventilation System [Item 21/2] is operative* *OR* *b) R.H. Heated Windshield [Item 30/3b] is operative.*
2. Heating and Ventilation System	*C*	*1*	*0*	*(M) May be inoperative provided:* *a) Ambient temperature is above +5 degrees C* *AND* *b) Cockpit Fans [Item 21/1] are operative or Heated Windshields [item 30/3] are operative* *AND* *c) System is deactivated and secured.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 22-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
22 STABILITY AUGMENTATION				
1. Stability Augmentation System	C	1	0	

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
23 COMMUNICATIONS				
1. Communication Systems (FM, HF, UHF, VHF, etc.)	*C*	*-*	*0*	*As required by operating rules.*
2. Crew ICS	*C*	*1*	*0*	*Right pilot station (co-pilot's) ICS may be inoperative for single pilot operations.*
3. Cabin ICS panel	*C*	*-*	*0*	*May be inoperative provided cabin crew member is not required.*
4. Cabin Public Address System	*C*	*1*	*0*	*(O) May be inoperative provided:* *a) Alternate normal and emergency procedures and/or operating restrictions are established and utilized for passenger notification* *OR* *b) For nonpassenger carrying operations.*
5. Cockpit Voice Recorder (CVR) System	*A*	*1*	*0*	*May be inoperative provided:* *a) The helicopter does not exceed 8 further flights with the CVR unserviceable* *AND* *b) Not more than 72 hours have elapsed since the CVR was found to be unserviceable,* *AND* *c) Flight Data Recorder (FDR) System [Item 31/1] is operative.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 24-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
24 ELECTRICAL POWER				
1. AC Generator	*B*	*1*	*0*	*(M) May be inoperative provided:* *a) All Inverters [Item 24/4] are operative* *AND* *b) AC generator is deactivated and secured.*
2. Batteries	*B*	*2*	*1*	*One may be inoperative provided a ground power unit is utilized for engine starting.*
3. Transforming-Rectifying Unit	*B*	*1*	*0*	*May be inoperative provided all Inverters [Item 24/4] are operative.*
4. Inverters	*B*	*2*	*0*	*May be inoperative provided the AC Generator [Item 24/1] is operative.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 25-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
25 EQUIPMENT / FURNISHINGS				
1. Cockpit seat with seat belt and shoulder harnesses	D	2	1	Right pilot station (co-pilot's) seat may be inoperative or missing for single pilot operations. Inoperative seat must be blocked and placarded. A seat with an inoperative or missing seat belt or harness is considered inoperative.
2. Passenger / cargo cabin utility seat with seat belt and shoulder harnesses	D	-	0	One or more may be inoperative or missing. Inoperative seat must be blocked and placarded. A seat with an inoperative or missing seat belt or harness is considered inoperative.
3. External Cargo Sling	D	-	0	
4. Emergency Locator Transmitter	C	-	0	As required by operating rules.
5. First Aid Kit	A	-	-	May be incomplete for a maximum of 1 calendar day.
	D	-	1	Any in excess of one may be incomplete or missing.

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
28 FUEL				
1. Fuel Gauge Indicator	*C*	*1*	*0*	*Total Fuel Indicator of the Gauge may be inoperative provided:* *a) Both fuel indicators for Engine No. 1 and Engine No. 2 groups of tanks are operative* *AND* *b) Both fuel gauge warning lights (red) are operative.* *Fuel gauge caution lights (yellow) may be inoperative provided:* *a) Both fuel indicators for Engine No. 1 and Engine No. 2 groups of tanks are operative* *AND* *b) Both fuel gauge warning lights (red) are operative.*

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
30 ICE AND RAIN PROTECTION SYSTEM				
1. Engine Intake and Particle Separator Heating System	*C*	*2*	*0*	*May be inoperative provided known and forecast conditions for flight are:* *a) Ambient temperature is above +5 degrees C* *AND* *b) No visible moisture.*
2. Pitot Tube Heating System	*D*	*2*	*0*	*May be inoperative provided:* *a) Ambient temperature is above +5 degrees C* *AND* *b) Operations are not conducted in precipitation.*
3. Heated Windshields				
a) L.H. Heated Windshield	*D*	*1*	*0*	*May be inoperative provided:* *a) Ambient temperature is above +5 degrees C* *AND* *b) L.H. cockpit fan [Item 21/1a] is operative, or* *c) Heating and Ventilation System [item 21/2] is operative.*
b) R.H. Heated Windshield	*D*	*1*	*0*	*May be inoperative provided:* *a) Ambient temperature is above +5 degrees C* *AND* *b) R.H. cockpit fan [Item 21/1b] is operative, or* *c) Heating and Ventilation System [item 21/2] is operative.*
4. Windshield Wipers	*C*	*2*	*0*	*May be inoperative provided operations are not conducted in precipitation.*
5. Main and Tail Rotor Blades De-Icing	*D*	*1*	*0*	

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
31 INDICATING / RECORDING SYSTEMS				
1. Flight Data Recorder (FDR) System	*A*	*1*	*0*	*May be inoperative provided:* *a) The helicopter does not exceed 8 further flights with the FDR unserviceable* *AND* *b) Not more than 72 hours have elapsed since the FDR was found to be unserviceable,* *AND* *c) Cockpit Voice Recorder (CVR) System [Item 23/5] is operative.*

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
33 LIGHTS				
1. Cockpit Flood-type Light	*C*	*1*	*0*	
2. Cockpit Spot Light	*C*	*2*	*0*	
3. Cockpit Instrument & Panel Lighting System	*B*	*-*	*0*	*May be inoperative provided:* *a) Sufficient lighting is operative to make each required instrument, control and other device for which it is provided easily readable* *AND* *b) Direct rays and reflections do not impair visibility either inside or outside aircraft* *AND* *c) Lighting intensity can be controlled or preset to a satisfactory level for expected flight conditions* *AND* *d) Lighting configuration at dispatch is acceptable to flight crew* *OR* *e) Co-pilot's station instrument & panel lights may be inoperative for single pilot operations.*
4. Cabin Flood-type Light	*C*	*5*	*0*	*May be inoperative provided:* *a) Inoperative lights do not exceed fifty (50) percent of the total installed* *OR* *b) Passengers are not carried.*
5. Cabin Spot Light	*C*	*1*	*0*	

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
33 LIGHTS				
6. Passenger Notice System (FASTEN SEAT BELTS - NO SMOKING)	B	1	0	(O) May be inoperative provided: a) Passengers are not carried OR b) Alternate procedures are used for passenger notification.
7. Luggage Compartment Light	C	1	0	
8. Power Supply Sockets				
a) XMSN Compartment	A	2	0	Item shall be repaired during the next scheduled 300 hour / annual inspection.
b) Luggage Compartment	A	1	0	Item shall be repaired during the next scheduled 300 hour / annual inspection.
9. Navigation / Position Light System	C	1	0	As required by operating rules.
10. Anti-Collision Light System	B	1	0	As required by operating rules.
11. Landing Lights	C	2	0	As required by operating rules.
12. Formation Lights System (Rotor Tip)	A	1	0	Item shall be repaired during the next scheduled 300 hour / annual inspection.

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
34 NAVIGATION				
1. Airspeed Indicator				
a) Single pilot operation	*D*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
b) Two pilot operation	*B*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative provided flight is conducted with referece to visual landmarks.*
2. Sensitive Altimeter Adjustable for Barometric Pressure				
a) Single pilot operation	*D*	*2*	*1*	*Right pilot station (co-pilot's) altimeter may be inoperative.*
b) Two pilot operation	*C*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative provided flight is conducted with referece to visual landmarks.*
3. Gyroscopic Rate-of-Turn Indicator	*C*	*1*	*0*	*May be inoperative provided the Standby Attitude Indicator [Item 34/7] is operative.*
4. Slip-Skid Indicator				
a) Single pilot operation	*D*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
b) Two pilot operation	*C*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
5. Gyroscopic Direction Indicator	*D*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative for single pilot operations.*

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
34 NAVIGATION				
6. Attitude Indicator				
a) Single pilot operation	*D*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
b) Two pilot operation	*B*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative provided flight is conducted with a visual horizon.*
7. Standby Attitude Indicator	*C*	*1*	*0*	*May be inoperative provided Rate-of-Turn Indicator [Item 34/3] is operative and all other required attitude indicators are operative.*
8. Vertical Speed Indicator				
a) Single pilot operation	*D*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
b) Two pilot operation	*C*	*2*	*1*	*Right pilot station (co-pilot's) indicator may be inoperative.*
9. OAT / Free Air Temperature Indicator	*C*	*1*	*0*	*May be inoperative provided another air temperature indication is operative that is convertible to OAT.*
10. Navigation Systems (VOR, LOC/GS, ADF, GPS, etc.)	*C*	*-*	*0*	*As required by operating rules.*
11. Transponder	*C*	*1*	*0*	*As required by operating rules.*
12. Stand-by Static Pressure Source	*D*	*1*	*0*	*May be inoperative provided Pitot Tube Heating System [Item 30/2] is operative*
13. Radar Altimeter	*C*	*1*	*0*	*As required by operating rules.*
14. Altitude Encoding System	*C*	*1*	*0*	*As required by operating rules.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 52-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
52 DOORS				
1. Cabin Door Caution System (DOOR OPEN light system)	*C*	*1*	*0*	*(O) May be inoperative provided it is verified that doors are closed and locked.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 65-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
65 ROTORS				
1. Rotor Brake System	*C*	*1*	*0*	*(M) May be inoperative provided:* *a) Inspection verifies that the main rotor can be rotated freely* *AND* *b) Rotor brake system is deactivated and secured.*
2. ROTOR BRAKE ON Caution Light System	*C*	*1*	*0*	*(M) May be inoperative provided:* *a) Inspection verifies that the main rotor can be rotated freely* *AND* *b) Rotor brake system is deactivated and secured.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 65.40-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
65.40 FLIGHT CONTROLS				
1. Cyclic Stick Trim System	*C*	*1*	*0*	
2. Collective Friction Brake Release	*C*	*1*	*0*	*May be inoperative provided pre-taxi hydraulic system check in RFM is complied with.*

AIRCRAFT: TYPE: PZL W-3A MODEL: PZL W-3AS	REVISION No.: Original DATE: 2005-08-18	PAGE: 77-1

1. SYSTEM & SEQUENCE NUMBERS ITEM	2. CAT.	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS AND EXCEPTIONS
77 ENGINE MONITORING INSTRUMENTS				
1. Engine Duty Time Counter	*C*	*2*	*0*	*(O) One or both may be inoperative provided:* *a) Engine start-ups are counted and recorded* *AND* *b) Engine power rating cycles are measured (with alternate means), counted and recorded.*