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NOTE:

List of effective pages of Section 8 is not a part of this List. It is includes in the above mentioned section 8.

LOG OF REVISION

Rev. No.:	Description / eligibility	Pages affected:	Date of issue of new page	Date of revision incorporating and signature
1	Revision of the airworthiness limitation and related changes in the maintenance schedule	0-3, 0-4, 0-5, 2-7, 2-21, 5-1, 5-8, 5-10, 5-26, 9-2 Deleted pages: 5-27, 5-28, 5-29, 5-30, 9-3, 9-4	Oct 1, 1997	INCORPORATED BY MANUFACTURER
2	Cold weather operation	0-3, 0-5, 3-14	Sep 30, 1998	INCORPORATED BY MANUFACTURER
3	Revision of the airworthiness limitation	0-3, 0-4, 0-5, 9-1, 9-2	Oct 7, 1998	INCORPORATED BY MANUFACTURER
4	Cold weather operation	0-3, 0-5, 2-34, 2-35, 3-14	Apr 30, 1999	INCORPORATED BY MANUFACTURER
5	Formal adaptations, reminder from aircraft operation near of the user	0-2, 0-3, 0-4, 0-5, 1-5, 2-14, 2-15, 2-22, 2-23, 2-34, 2-38, 2-51, 2-54, 2-55, 2-61, 2-63, 2-67, 3-8, 3-9, 3-12, 4-6, 4-10, 4-12, 4-13, 4-13a, 4-13b, 4-17, 4-18, 5-3, 5-4, 5-5, 5-6, 5-9, 5-10, 5-11, 5-13, 5-17, 5-18, 5-21, 5-21a, 5-21b, 6-8, 6-11, 6-19, 7-1, 7-8, 7-10, 7-13, 7-14, 7-18, 7-21, 7-22, 7-25, 7-26, 7-27, 7-29, 7-30, 7-31, 7-33, 7-34	Mar 20, 2000	INCORPORATED BY MANUFACTURER
6	Revision of the airworthiness limitation	0-3, 0-4, 0-5, 9-1, 9-2	Oct 31, 2000	INCORPORATED BY MANUFACTURER
7	Revision of the airworthiness limitation – using the AMU 1 acceleration monitoring unit	0-3, 0-4, 0-5, 9-1, 9-2	Oct 31, 2000	INCORPORATED BY MANUFACTURER
8	Revision of rubber hoses service life time	0-3, 0-4, 0-5, 5-13	Apr 13, 2001	INCORPORATED BY MANUFACTURER
9	Check of the "Tee" and the "Elbow" in Oil System	0-3, 0-4, 0-5, 5-5, 5-21a	Oct 7, 2002	INCORPORATED BY MANUFACTURER
10	Design modifications, formal adaptations	0-1, 0-3, 0-4, 0-5, 2-2, 2-5, 2-6, 2-10, 2-11, 2-11A, 2-11B, 2-15, 2-18, 2-18A, 2-18B, 2-29, 2-32, 2-33, 2-33A, 3-33B, 2-34, 2-35, 2-36, 2-41, 2-51, 2-52, 2-53, 2-53A, 2-53B, 2-53C, 2-53D, 2-54, 2-55, 2-56, 2-57, 2-57A, 2-57B, 2-57C, 2-57D, 2-58, 2-58A, 2-58B, 2-59, 2-59A, 2-59B, 2-60, 2-61, 2-61A, 2-61B, 2-62, 2-63, 2-63A, 2-63B, 2-64, 2-65, 2-65A, 2-65B, 2-68, 2-69, 2-70, 2-71, 2-72, 2-73, 2-74, 3-3, 3-5, 3-6, 3-7, 4-10, 4-14, 4-24, 6-21	Oct 15, 2002	INCORPORATED BY MANUFACTURER

LOG OF REVISION

Rev. No.:	Description / eligibility	Pages affected:	Date of issue of new page	Date of revision incorporating and signature
11	Revision of the airworthiness limitation	0-3, 0-4, 0-6, 9-1, 9-2, 9-3, 9-4	Apr 15, 2003	INCORPORATED BY MANUFACTURER
12	Revision of the airworthiness limitation	0-3, 0-4, 0-6, 9-1, 9-3	Apr 23, 2003	INCORPORATED BY MANUFACTURER
13	1. Supplement of list of parts with limited operation time for aircraft operation over 5500 flight hours. 2. Formal arrangements of accompanying technical documentation.	0-3, 0-4, 0-6, 2-34, 4-26, 5-12, 6-1, 6-10A, 6-10B, 6-10C, 6-10D, 6-12, 6-13, 9-1, 9-2, 9-3, 9-4	Aug 15, 2003	INCORPORATED BY MANUFACTURER
14	Operation on condition of the nose landing gear type 793-HPK-185-19, 793-HPK-185-19-7	0-3, 0-4, 0-6, 1-3, 3-6, 5-10, 5-18	Nov 20, 2003	INCORPORATED BY MANUFACTURER

1. INTRODUCTION

1.1. GENERAL

As required by Appendix G to FAR PART 23 the Manufacturer of the Z 242L Aircraft provides the Instruction or Continued Airworthiness of this aircraft. The Instructions are contained in several handbooks issued by the Airplane Manufacturer and completed with the appropriate Manuals, issued by the Manufacturers of other used products. The set consists of:

- 1) The Z 242L Airplane Flight Manual (DOC. No. 003.012)
- 2) The Z 242L Maintenance Manual-Vol.I - Airplane and its Systems, Handling, Servicing and Maintenance (DOC No. 003.022.1)
- 3) The Z 242L Maintenance Manual-Vol.II - Inspections, Repairs and Overhauls (DOC. No. 003.032.1)
- 4) The Z 242L Catalog of Spare Parts (DOC. No. 003.040)
- 5) The Z 242L Table of Dimensions, Limits and Clearances (DOC. No. 003.050)
- 6) TEXTRON LYCOMING AEIO-360-A1B6 Operator's Manual completed with the last issue of relevant Textron Lycoming Service Bulletins, Service Instructions and Service Letters.
- 7) Mühlbauer MTV-9-B-C/C-188-18a Operator's Manual, or HARTZELL Propeller Owner's Manual & Log Book (depending on the propeller type installed) with the latest edition of the corresponding service bulletins of the propeller manufacturer, included in it.
- 8) Operator's Manual of the Installed Standard and Optional Equipment and Appliances relevant to the particular airplane, issued by the products Manufacturers.
- 9) Maintenance and Operation Manual on Condition of the Nose Landing Gear Type 793-HPK-185-19, 793-HPK-185-19-7.

As mentioned above, the Maintenance Instructions are divided in the two Volumes:

Vol.I of the Maintenance Manual - Airplane and its Systems, Handling, Servicing and Maintenance - contains description of the airplane and its systems, basic control and operation information, servicing information and those Maintenance Instructions, necessary for daily operation, preventive maintenance up to Annual/100 hour Inspection.

Vol.II of the Maintenance Manual - Inspections, Repairs and Overhauls - contains Maintenance Information necessary for major Inspections/Maintenance, i.e. type B and C inspections after 500 and 1500 hours respectively. This Volume contains the special Manufacture Directives, i.e. procedural inspections for special operations including necessary worksheets/records.

The "Airworthiness Limitation Section" approved by the CAA is included as the last chapter of the Maintenance Manual-Vol.I (printed on "red papers").

Instructions and recommendations included in the Maintenance Instructions are based a verified by long experience with previous models of this airplane. It is user's interest to become acquainted and to observe these Instructions.

This Maintenance Manual is divided into chapters; numbers of pages and of figures are separate for each chapter.

Examples:

- numbering of pages:

1 - 4
└───┘ page number

└───┘ chapter number

- numbering of figures:

2 - 8
└───┘ number of figure

└───┘ chapter number

1.2. CHANGES

1.2.1 All changes or supplements of this manual are performed as follows:

1) The aircraft manufacturer will send mandatory bulletin changes or newly corrected pages:

a) free of charge to CAI Prague and to all foreign aviation authorities that have announced entering the Z 242L aircraft in their aviation registers;

b) on the base of contractual relations (for a charge) to other Manual holders who ask sending bulletins.

2) The holder of the Technical Manual is obliged to:

a) carry out changes in accordance with the bulletin or replace original pages with corrected ones marked with the date of issue.

b) make an entry in the Log of Revisions, Section 0.

NOTE:

The changed or new parts of the text will be marked by vertical black line on the outer sheet margine.

1.3. GENERAL CHARACTERISTICS

The Z 242L aircraft is a two-seater, single engine, low-wing cantilever monoplane with security main landing gear and nose wheel. The aircraft is intended for training, performing acrobatics and for glider towing. The powerplant is composed of the TEXTRON LYCOMING AEIO-360-A1B6 engine and the MTV-9-B-C/C 188-18a propeller or HARTZELL HC-C3YR-4BF/FC 6890 propeller, delivered optionally. The reciprocating four-stroke four cylinder engine is air-cooled, provided with low-pressure fuel injection into manifold.

Both propellers are three-blade, hydraulic pitch control, constant-speed propellers. The MTV propeller blades are made of wood with composite skin; the blades surface is coated with acrylic vanish. The propeller blades of HARTZELL propeller are made of aluminium alloy.

The aircraft is approved for acrobatics and for inverted flights. Dimensional sketch of the aircraft is in Figure 1-1.

2. FUSELAGE

- | | |
|----------------------------|---|
| (1) Fuselage skin | - CHECK CONDITION |
| (2) Static pressure probes | - REMOVE PLUGS,
CHECK CLEANNESS OF INPUT |

3. TAIL UNIT

- | | |
|---|---|
| (1) Skin | - SCRATCHES, DAMAGE |
| (2) Rudder and elevator | - FREE MOVEMENT
- PLAY IN RUDDER AND ELEVATOR
JOINTS, BALANCE TAB AND TRIM TAB
HINGES; BOLTS SECURED |
| (3) Position rear light, anticollision beacon | - CHECK CONDITION |

4. RIGHT WING

- | | |
|----------------------------------|---|
| (1) Trailing edge | - CHECK FOR DAMAGE |
| (2) Wing flaps | - CHECK FOR DAMAGE |
| (3) Aileron | - FREE MOVEMENT
- PLAY IN JOINTS, BOLTS SECURED
- MASS BALANCE FASTENING
- SURFACE CONDITION |
| (4) Wing tip, auxiliary tank | - SURFACE CONDITION; FILLING CAP
CLOSED |
| (5) Position light, strobe light | - CONDITION, ATTACHMENT,
TRANSPARENT COVER, LIGHT-
CONDUCTOR |
| (6) Wing surface - skin | - CHECK FOR SCRATCHES, DAMAGE,
LOOSE RIVETS |
| (7) Headlights (if installed) | - CONDITION, ATTACHMENT,
TRANSPARENT COVER |
| (8) Leading edge | - CHECK FOR DAMAGE |

5. FUEL AND OIL

- (1) Fuel quantity in main tanks - only if auxiliary tanks are empty.
- (2) Fuel tank filling caps closed.
- (3) Fuel drainage (use glass vessel), check for water, or other sediments/particles contamination. Verify the proper fuel grade by checking its colour. If water or slush appears, repeat drainage. Repeat drainage at each pre-flight inspection and after refuelling.

NOTE:

Drain valves list:

- main tank left and right
- auxiliary tank left and right
- master draining valve under the fuselage
- fuel filter on the firewall

- (4) Oil quantity.
- (5) Oil filler cap secured.
- (6) Oil and fuel leakage inside engine compartment.
- (7) Oil drainage: Drain valve on the hose from oil separator.

CAUTION:

AT LOW OAT (BELOW + 5 °C ON THE GROUND) REMOVE THE BLINDING CAP FROM THE OIL SYSTEM VENTING PIPE IN THE ENGINE COMPARTMENT, CHECK THIS PIPE FOR CLEANNESS AND PASSAGE - THROUGH (REMOVE ICE, IF PRESENT) AND INSTALL SCREENS INTO THE INLET HOLES OF ENGINE COOLING (Subsect. 3.13.2, Para 2, Points (1), (2)).

6. MAIN LANDING GEAR

- (1) Tires
 - (a) Surface - CONDITION
 - (b) Pressure (BARUM and GOODYEAR tires) - 190 kPa (27 p.s.i.)
- (2) Landing gear spring - CONDITION, FASTENING TO FUSELAGE CHECK
- (3) Mud guards (fairing) - FASTENING CHECK
- (4) Brakes - CHECK VISUALLY

7. ENGINE COWLING, PROPELLER, NOSE LANDING GEAR

- (1) Cowling locked - CHECK
- (2) Propeller blades - WITHOUT DAMAGE
- (3) Engine Cooling screens - ACCORDING TO OAT (Subsect. 3.13.2, Para 2, Point (2))
- (4) Tire
 - (a) Surface - CONDITION
 - (b) Pressure
 - BARUM tire - 250 kPa (36 p.s.i.)
 - GOODYEAR tire - 180 kPa (26 p.s.i.)
- (5) Nose landing gear
 - CHECK CONDITION
 - STATIC STROKE OF SHOCK ABSORBER
 - CHECK FUNCTION OF SHOCK ABSORBER

8. LEFT WING

- (1) Leading edge - CHECK FOR DAMAGE
- (2) Pitot tube - REMOVE COVER, CHECK INPUT HOLE FOR CLEANNESS
- (3) Stallwarning sensing unit - REMOVE BLINDING CAP, CHECK INPUT HOLE FOR CLEANNESS
- (4) Wing surface - skin - CHECK FOR SCRATCHES, DAMAGE, LOOSE RIVETS
- (5) Headlights - CONDITION, ATTACHMENT, TRANSPARENT COVER
- (6) Wing tip, auxiliary tank - SURFACE, FILLING CAP CLOSED
- (7) Position light, strobe light - CONDITION, ATTACHMENT, TRANSPARENT COVER, LIGHT-CONDUCTOR
- (8) Aileron
 - FREE MOVEMENT
 - PLAY IN JOINTS, BOLTS SECURED
 - MASS BALANCE FASTENING
 - SURFACE CONDITION
- (9) Wing flaps - CHECK FOR DAMAGE
- (10) Trailing edge - CHECK FOR DAMAGE

The List of Scheduled
Maintenance Checks

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5. Ailerons and flaps:
- (a) Hinges: corrosion, cracks, bearings rolled-in without play, nuts locked.
 - (b) Ailerons mass ballance: nuts of attachment bolts locked, cracks on horns (visually).
 - (c) Stops of the wing flaps (Fig. 2-8, items 4 and 14) : distortion, deformation
- 5.2.6 EMPENNAGE
- 1. Stabilizer suspension and struts (MM-I., Fig. 2-6): general condition, crack in attachment area and struts weld beads, locking of nuts.
 - 2. Elevator and rudder hinges: condition, locking of nuts, bearings rolled-in without play.
 - 3. Skin and tips: damage, deformation, tips attachment screws tightened.
- 5.2.7 CONTROLS
- 1. Control stops: check on condition (squeezes, deformations).
 - 2. Cables:
 - (a) Cables condition, corrosion, broken wires.
 - (b) Rudder, trim and flaps control cables tension.
 - 3. Control system joints: nuts and turnbuckles locked.
 - 4. Control function check (incl. flaps, engine and propeller control): free movement of all parts of system, correct run.
 - 5. Primary controls plays: do not exceed permitted values - judgement of quality.
- 5.2.8 LANDING GEAR
- (jack the airplane before landing gear check)
- 1. Tires: damage, wear (tire cord must not appear), creep on wheel rim (red marking), tire pressure.
 - 2. Landing gear wheels (after removal):
 - (a) Clean bearings, check wear (damage, coloured shading by overheating). Replace bearings if necessary (MM-I., Subsect. 7.8.2, par.3).
 - (b) Wheels casting: damage, cracks, repair acc. MM-I., Subsect. 7.8.2, par.1) and 7.8.3, par.1)(at changing of tire or max. 1.500 hours, alternatively 12 years of operation).
 - (c) Nose wheel static mass-ballance if necessary.

f50	100 (AN)	S.I. (h)	Note	Sign.
	o		(26)	
	o		(26)	
	o			
o	o		(26)	
	o		(26)	
	o		(21)	
	o		(27)	
	o		(28)	
	o		(28)	
	o			
	o			
	o		(29)	
o	o		(30)	
f 100 (1Y)		1Y (500h) max.	(30a)	
		Acc. to text		
			(31)	

The List of Scheduled
Maintenance Checks

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f50 100 S.I. Note Sign.
(AN) (h)3. Brakes and brake control:

- (a) Brakes after cleaning: condition and wear of friction discs and segments (MM-I., Fig. 2-10, Items 20, 21-without wheel removal).
- (b) Brake maintenance check in acc. with MM-I, Subsect 7.8.4: at malfunction or in interval max. 1.500 flight hours alternatively 12 years in operation. Hydraulic control of brakes:
- (c) - joints on leaks, piping on damage, hoses condition, technical life.
- refilling of hydraulic fluid and system bleeding (MM-I., Subsect. 4.4.8) if necessary.

4. Main landing gear springs:

- (a) Flight hours, alt. the number of landings for possible of the main landing gear legs including hinge screws (MM-I, Chapter 9.).
- (b) Condition of the main landing gear legs: corrosion, damage, cracks (visually).
- (c) Hinge screws (without removal): bruise buckling.
- (d) Clearance in clamping

5. Nose landing gear:

- (a) Pre-flight inspection
- (b) Hydraulic strut attachment:
- nuts of joints tightened, locked;
- check visually condition mounts and struts, namely in welds vicinity.
- (c) Hydraulic shock-absorber: leakage, function (after releasing from jacks); check fluid quantity and air pressure.
- (d) Antishimmy damper: leakage, check fluid quantity.
- (e) Leather sleeve: damage.

NOTE:

Inspection after 50 flight hours or max. 200 landings.

Inspection after 100 flight hours or max. 500 landings.

6. Wheel fairings: damage, attachment.7. Landing gear wheels - play in bearings: adjust during the wheels mounting (MM-I., Subsect. 6.4.2, par. 2)c), Subsect. 6.5.2, par. 2).5.2.9 FUEL SYSTEM

1. Joints in whole system: leakage, locking.
2. Drain valves: leakage, cleanliness.
3. Rubber hoses: condition, damage, technical life.

5.2.10 PITOT-STATIC SYSTEM

1. Pitot head: attachment horn condition, inlet cleanliness.
2. Pressure probes (ram-air probe beneath left wing leading edge, 2 static probes on rear fuselage): cleanliness, not clogged.
3. Rubber hoses: condition, technical life.
4. Condensed moisture sumps (3 pcs on left bottom of the fuselage): damage, attachment, drain if necessary, tighten properly.
5. Alternate static pressure source: check ASPS switch-valve for free motion.
6. Leakage check (Subsect. 5.3.4)

f50	100	S.I.	Note	Sign.
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	o		(32)	
	Acc. to text			
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	o			
	o		(34)	
	o		(34a)	
	o		(33)	
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	o		(36)	
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	o		(38)	
	o		(39)	
	o		(51)	
		1Y		

(29) Play in stick and pedal controls:

At 100-hour inspection check the controls plays for quality only, without any measurement. In case of any doubts or excessive plays detection measure the plays in controls according to Directive 6.401, Z 242L MM - Vol. II. The above directive gives also the method of excessive plays removal. Max. acceptable plays in controls measured at control surfaces blocked (acc. to Directive 6.401, MM II):

- (a) at the end of the control stick
 - in longitudinal direction ± 2.5 mm
 - in transversal direction ± 2.0 mm
- (b) at the end of pedals ± 2.0 mm
- (c) at the trailing edge of the trim and balance ± 1.0 mm

(30) Tires:

- (a) If tire creep on the wheel rim is detected by the rim/tire shifted marking:
 - Remove the wheel from the axle and remove the tire from the wheel (Sect. 6.4.1, 6.5.1).
 - Set the tire on the rim in correct position and reassemble the wheel according to Subsect. 6.4.2, 6.5.2.
- (b) Check the wheel condition according to Subsect. 7.8.3 (nose wheel) and 7.8.2 (main wheels) whenever you remove the tire.
- (c) After reassembly mark the tire bead and the wheel rim with red paint strip to enable quick check of tire creep in operation.
The suitable paint is epoxy/red shade, the strip mark dimensions 10x30 mm (0.4x1.2 in.) approx.

RECOMMENDATION for main wheels tires:

The tire which is worn out on one side should be turned with the worn-out part to the opposite side to ensure uniform wear of tires and also the tire longer service life.

- (30a) Landing gear wheels and bearings lubrication are checked after the first 100 hours (after 1 year at max.) and then regularly after each 1 year (500 hours) of operation.

- (31) The landing gear wheels are not mass-balanced. Only in case of excessive vibrations of the airplane nose (cowling) after take-off balance the nose wheel as prescribed in Subsect. 4.4.9 of this Manual.

(32) Replace brake friction discs and/or segments if:

- (a) Discs are worn to a thickness less than 8 mm (0.3in.), excessive crack or radial notches on the functional surface deeper than 1mm (0.04in.) are detected or excessive wear/impressions appear on the disc carriers.
- (b) Friction segments lining is worn onto the middle rivet head height 2 mm (0.08 in) (Fig. 7-3) - replace either the whole segment or rivet a new lining (see Subsect. 7.8.5 of this Manual).

(33) Check of play in main landing gear spring attachment (aircraft jacked): apply alternate force "forward-backward" and "up and down" on the end of spring (wheel axle).
Play removal (Fig. 2-9):

(a) Play in the main suspension: release the nut (11) on the bolt (4), tighten again by the torque 80-100 Nm (59-74 lbf). Lock the nut cotter pin after tightening.

(b) The play in spring side attachment: release the screws (5), remove the play by knocking - in the excentric insert shim (2), tighten the screws (5) and lock them with binding wire.

(34) Appropriate instruction for repairs of the main landing gear springs is in Sect. 7.9 of this Manual.

(34a) Replace the damaged hinge screw of the landing gear leg by a new one. Repair the damaged hinge hole by means of overturning (MM-I, Section No. 3.5.3, Item 3) and 5) and use screw of the appropriate dimension.

(35) Leakage and function of the nose landing gear shock-absorber:

(a) Repairable and nonrepairable malfunction-see Maintenance and Operation Manual on Condition of the Nose Landing Gear Type 793-HPK-185-19, 793-HPK-185-19-7.

(b) Check the function of the nose wheel hydraulic shock absorber after mounting wheels and releasing the aircraft from jacks. Swing the whole aircraft by alternate pushing the rear fuselage down and up; the piston rod of the shock absorber must move freely, without jamming. Check fluid quantity and air pressure according to Maintenance and Operation Manual on Condition of the Nose Landing Gear Type 793-HPK-185-19, 793-HPK-185-19-7 or according to Subsect. 4.4.3, 4.4.5 in MM I.

(36) Check fluid quantity according to Maintenance Operation Manual on Condition of the Nose Landing Gear Type 793-HPK-185-19, 793-HPK-185-19-7.

Refill the hydraulic fluid of shimmy damper after opening the necks; the level should reach the upper face of necks. Leave the necks opened for about half-an-hour to bleed out air-bubbles, then screw the plugs in, tighten and lock with wire.

(37) At replacement of the protective leather sleeve the shock absorber must be removed from the fuselage suspensions according to Subsect. 6.7.3 and mounted back acc. to 6.7.4.

(38) Replace hoses of Pitot static system in case of their damage, rubber hoses shall be replaced also after their service life expiry, i.e. after 5 years. Service life of silicon hoses (they are translucent), if used in this system, is not limited.

Observe the appropriate length of replaced hoses according to original ones.

The time for replacement of rubber hoses of manifold pressure gauge, and of fuel tanks venting hoses, is identical with the time for replacement of the pitot-static system hoses.

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1	Formal adaptations, reminder from aircraft operation near of the user	0-3, 0-4, 0-5, 0-7, 1-14, 6-69, 6-91, 6-115, 7-27, 7-28 Deleted pages: 7-29 to 7-40	Mar 20, 2000	INCORPORATED BY MANUFACTURER
2	Revision of rubber hoses service life time	0-3, 0-4, 0-7, 6-59	Apr 13, 2001	INCORPORATED BY MANUFACTURER
3	Design modifications, formal adaptations	0-1, 0-3, 0-4, 0-5, 0-7, 1-16, 2-2, 2-7, 2-33, 2-35, 2-37, 3-24, 3-27, 4-2, 4-28, 4-33, 4-35, 4-36, 4-36A, 4-36B, 4-40, 4-40A, 4-40B, 4-40C, 4-40D, 4-41, 4-46, 4-49, 4-50, 4-66, 4-67, 4-67A, 4-67B, 6-6, 6-8, 6-10, 6-22, 6-23, 6-41, 6-47, 6-48, 6-80, 6-81, 6-82, 6-83, 6-99, 6-101, 6-102, 7-21	Oct 15, 2002	INCORPORATED BY MANUFACTURER
4	1. Supplement of list of parts with limited operation time for aircraft operation over 5500 flight hours. 2. Formal arrangements of accompanying technical documentation.	0-1, 0-3, 0-4, 0-5, 0-7, 1-12, 2-2, 2-7, 2-13A, 2-13B, 4-12, 6-1, 6-74A, 6-74B, 7-6	Aug 15, 2003	INCORPORATED BY MANUFACTURER
5	Operation on condition of the nose landing gear type 793-HPK-185-19, 793-HPK-185-19-7	0-3, 0-7, 1-13, 2-27, 3-1, 3-17, 3-18, 3-19	Nov 20, 2003	INCORPORATED BY MANUFACTURER

LOG OF REVISIONS

Rev. No.	Description/ applicability	Pages affected	Date of issue of new pages	Date of revision incorporation and signature

SUMMARY OF TYPE B, C INSPECTIONS

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1.10B.5 Landing gear

1) Tires: damage, wear.

2) Landing wheels

(a) Inspection of wheels: - check bearings
- check single parts of wheels

(b) Wheel fairings: damage.

(c) Nose wheel trimming - as necessary.

3) Main landing gear legs

(a) Flight hours (inspection; replacement - if necessary).

(b) Condition: damage, grooves, cracks (visually).

(c) Attachment hole: distortion, ovality - at each removal of legs.

(d) Limiting insert: distortion, corrosion - at each removal of legs.

(e) Attachment bolts: check for distortion (deterioration) of bolt heads.

(f) Play in attachment of landing gear legs acc. to MM I, subsect. 5.2.16, note (33).

4) Brake system

(a) Inspection of brakes: - check friction discs and friction segments
- check single parts of brakes

(b) Brake control: condition of hoses and metal piping, brake actuators leakage, condition of bowden cables in the parking brake control.

5) Nose landing gear

(a) Pre-flight inspection.

(b) Nose landing gear attachment locking of fixing nuts: corrosion, cracks

(c) Clearances in attachment of hydropneumatic shock absorber piston rod

(d) Piston rod cover: damage.

(e) Hydropneumatic shock absorber: damage, tightness, fluid quantity, air pressure.

(f) Groove on piston rod: condition.

(g) Aluminium ring for cover fixing: condition.

(h) Length of piston rod extension.

(i) Fork fixing: condition.

(j) Filling valve: fluid leakage.

(k) Cover damper: fluid leakage.

(l) Shimmy damper: tightness, fluid quantity.

(m) Piston rod: fluid leakage.

NOTE:

Inspection after 500 flight hours or max. 2000 landings.

6) Struts and attachment pins of nose landing gear

(a) Deformation of struts.

(b) Evidence of cracks on strut: - visually,
- NDT method.

(c) Spherical bearing and hemmed bushing in the double strut: loosening, damage.

(d) Attachment pins: cracks (visually), distortion, corrosion.

(e) Corrosion, damaged paint.

B	C	MM II: section (Directive)
o	o	3.5.1
o	o	3.5.2, sub 1), (a)
	o	3.5.2, sub 2), (b)
o	o	3.5.2, sub 2) (MD 6.008)
	acc. to text	3.5.2, sub 3)
o	o	3.5.3, sub 1)
o	o	3.5.3, sub 2)
	acc. to text	3.5.3, sub 3)
	acc. to text	3.5.3, sub 4)
o	o	3.5.3, sub 5)
o	o	
o	o	3.5.4, sub 1), (a)
	o	3.5.4, sub 2), (b)
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o	o	3.5.5, sub 9)
o	o	3.5.5, sub 10)
o	o	3.5.5, sub 11)
o	o	3.5.5, sub 12)
o	o	3.5.5, sub 13)
o	o	3.5.6, sub 1)
o	o	3.5.6, sub 2)
	o	3.5.6, sub 3)
	o	3.5.6, sub 4)
o	o	(MD 6.009)

SUMMARY OF TYPE B, C INSPECTIONS

Page 6 of 12

1.10B.6 Engine and propeller installation

- 1) Engine: inspection or overhaul acc. to number of flight hours.
- 2) Propeller: inspection or overhaul acc. to number of flight hours.
- 3) Engine mount:
 - (a) Cracks: - visually (with magnifier),
- by NDT method at each engine overhaul.
 - (b) Vibration dampers - condition: without removal
after removal.
 - (c) Deflection of struts.
 - (d) Joint holes.
 - (e) Attachment pins.
 - (f) Corrosion.
- 4) Outer engine cowls
 - (a) Sheet cowls: cracks, distortion, paint.
 - (b) Composite cowls: damage.
 - (c) Engine cowlings locks: function, corrosion.
- 5) Engine accessories
 - (a) Exhaust system: cracks.
 - (b) Inner engine cowls: distortion, damage.
 - (c) Instrument cooling: damage.
 - (d) Engine intake: cleanness, corrosion; replacement of the
filtering element.

B	C	MM II: section (Directive)
o	o	3.6.1
o	o	3.6.2
o	acc. to text	3.6.3, sub 1)
o	o	3.6.3, sub 2)
	o	3.6.3, sub 3)
	o	3.6.3, sub 4)
	o	3.6.3, sub 5)
o	o	(MD 6.009)
o	o	3.6.4, sub 1)
o	o	3.6.4, sub 2)
		(MD 6.009)
o	o	3.6.4, sub 3)
o	o	3.6.5, sub 1)
o	o	3.6.5, sub 2)
o	o	3.6.5, sub 3)
o	o	3.6.5, sub 4)
o	o	3.7.1, sub 1)
o	o	3.7.1, sub 2)
o	o	3.7.1, sub 3)
o	o	3.7.2, sub 1)
o	o	3.7.2, sub 2)
o	o	3.7.2, sub 3)
	o	3.7.2, sub 4)
	o	3.7.2, sub 5)
	o	3.7.2, sub 6)
o	o	(MD 6.011)
	o	3.7.3, sub 1)
o	o	3.7.3, sub 2)
o	o	3.7.3, sub 3)
o	o	3.7.3, sub 4)
o		

1.10B.7 Powerplant systems

- 1) Oil system
 - (a) Oil cooler: cleanness, leakage, attachment.
 - (b) Hoses: damage, attachment, service life of rubber hoses.
 - (c) Oil filter element: replacement.
- 2) Fuel system
 - (a) Hoses: damage, attachment, service life of rubber hoses.
 - (b) Piping: overall condition, attachment.
 - (c) Main fuel tanks:
 - condition of filler neck packing
 - fuel tanks condition, check, attachment.
 - (d) Auxiliary fuel tanks: attachment bolts damage, tanks condition.
 - (e) Battery valve: leakage, condition.
 - (f) Fuel strainer: leakage, condition.
- 3) Engine and propeller control linkage
 - (a) Flexible rods - greasing
- damage, cracks.
 - (b) Flat springs and brackets: damage, cracks (visually).
 - (c) Matching front tubes to bushings.
 - (d) Joint pins: locking with stainless steel cotter pins.
- 4) Electrical system
 - (a) Magnetos: SERVICE LETTER TEXTRON LYCOMING No. L173

2.2.14 Removal of Landing Gear

Instructions for removal of the landing gear are given in the following subsections of the Z 242L Maintenance Manual - Vol. I:

- | | | | |
|---|----------|---|--------|
| | subject. | | |
| 1) Removal of nose landing gear wheel | - 6.4.1 | o | o |
| 2) Removal of main landing gear wheels | - 6.5.1 | o | o |
| 3) Removal of brakes | - 6.6.1 | o | o |
| 4) Removal of nose landing gear from fuselage | - 6.7.1 | | Note 1 |
| 5) Removal of main landing gear from fuselage | - 6.8.1 | | Note 2 |

NOTES:

- (1) Removal of the nose landing gear from the fuselage is to be carried out at the oleo-pneumatic strut leakage or at detected inadmissible plays in its mounting, at damaged nose landing gear and its replacement required.
- (2) Removal of the main landing gear from the fuselage is to be carried out at occurring plays in the main landing gear mounting - eliminable with difficulty, at the main landing gear damage and at its replacement. For Type B, C inspections, the main landing gear removal is not mandatory.

2.2.15 Removal of Instruments, Appliances and Batteries

- | | | |
|--|---|--------------|
| 1) Remove instruments and appliances from the aircraft if damaged or if any fault requiring their repair or replacement has occurred. | | acc. to text |
| Simple removals of instruments and appliances are not given in this Manual. More complicated removals, which are not mandatory at Type B and C inspections but which may be necessary in the course of operation, are given in sect. 2.3 of this Manual. | | |
| 2) Removal of batteries: remove batteries from the aircraft as per subsect. 6.12.1 in the Z 242L Maintenance Manual - Vol. I. | o | o |

2.2.16 Removal of Parts for Crack Detection

	B	C
1) Engine mount: removal acc. to subsect. 2.2.4, para 11) in this Chapter - at engine overhaul.		acc. to text
2) Mass balance of ailerons: removal acc. to subsect. 2.2.9, para 6) in this Chapter.	N	o
3) Wing flaps hinges on the wing rear spar (Fig. 2-12) - 2 pcs at each wing:	N	o
a) Remove wing flaps in accordance with subsect. 2.2.9.		
b) Remove nuts (5), washers (4) and screws (3) at wing flap hinges (2) - 2 pcs at each hinge; remove hinges from the wing.		
4) Stabilizer struts: removal according to subsect. 2.2.12, para 5) in this Chapter.	N	o
5) Dismount nose landing struts when removing the the nose landing gear from the fuselage (Z 242L Maintenance Manual - Vol. I, subsect. 6.7.1).	N	o
6) Aileron control levers:	N	o
a) The aileron control lever between ribs 8 and 9 (1 pc at each wing; Fig. 2-13, detail A): release control rods from the lever (1); screw off fitted bolts (6) and remove the lever (1) with brackets (5) from the wing.		
b) The aileron control lever at the wing root (1 pc at each wing; Fig. 2-13, detail B): release control rods from the lever (2); screw off fitted bolts (8) and remove the lever (2) with bearings (9) from the wing.		
<p><u>NOTE:</u></p> <p>The lever (1) is located on the rear side of the wing main spar, the lever (2) is located on the front side of the wing main spar. The levers are accessible through access holes placed on the wing bottom.</p>		
7) Wing flap control levers (1 pc at each wing; Fig. 2-13, detail C):	N	o
Release the control rod and the control cable; release springs (13) from the wing spar bracket; screw off fitted bolts (11) and the shift out the lever (3) together with brackets (10) from the wing.		

CHAPTER 3 - CHECKS AND REPAIRS

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2) Brake control

(a) Replace brake system hoses in following cases:

- expired service life of rubber hoses, see MM I, subsect. 5.2.16, Note (1);
- corrosion or damage on sealing surfaces;
- damaged hose surface.

(b) Brake system metal piping: replace damaged or considerably corroded piping.

(c) Bowden cables in the parking brake control: replace worn or damaged bowden cables.

(d) Brake actuators:

When leakage is evident, replace sealing rings (the Standard for rings is given in the List appropriate to Fig. Z 42.5310-00.00 or C 142.5320-00.00 in Z 242L Catalog) and check brake actuators for leakage according to Directive 6.502.

3.5.5 Nose landing gear

CAUTION:

REPAIRABLE AND NONREPAIRABLE MALFUNCTION—SEE MAINTENANCE AND OPERATION MANUAL ON CONDITION OF THE NOSE LANDING GEAR TYPE 793-HPK-185-19, 793-HPK-185-19-7.

1) Pre-flight inspection

- Check functional of hydropneumatic shock absorber by swaying of aircraft fuselage. Piston rod of damper must move continuous. If the greater static suspension is detected, check the air pressure in damper (acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 4.4.3 from MM I).
- Check condition of nose landing gear control.
- Reject the nose landing gear from operational at service life expired (MM I, Chapter 9).

2) Nose landing gear fixing (MM I, Fig. 2-11, item. 29)

(a) Remove corrosion; repair damaged paint by applying two layers of a synthetic enamel paint determined for outside use.

(b) Visually check in particular weld beads and their adjacent areas for cracks evidence. Use the magnifying glass min. 4 zooming.

Perform the nose landing gear disassembly from aircraft in case that cracks have been found (acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.1 from MM I).

Send nose landing gear with wheel axis to the manufacturing factory AXL, Inc. Semily, Czech Republic for repair.

3) Check clearances in attachment of hydropneumatic shock absorber piston rod acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Directive 6.503.

Perform the hydropneumatic shock absorber disassembly from nose landing gear fixing in case that permitted forward clearance and revolving clearance of hydropneumatic shock absorber piston rod has been exceeded (acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 and 6.7.4 from MM I).

Send hydropneumatic shock absorber with wheel axis to the manufacturing factory AXL, Inc. Semily, Czech Republic for repair.

4) Piston rod cover

Replace damaged cover of the hydropneumatic shock absorber piston rod. When replacing this cover, remove the strut from fixing acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 and 6.7.4 from MM I.

CAUTION:

TIMELY REPLACEMENT OF DAMAGED PISTON ROD COVER PREVENTS THE PISTON ROD FROM DUST PENETRATION AND THUS FROM DAMAGE OF SEAL PACKING.

5) Hydropneumatic shock absorber

(a) Damage:

Remove piston rod cover of hydropneumatic shock absorber (in places near fork) and check condition of hydropneumatic shock absorber. Replace hydropneumatic shock absorber in case of damage acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 and 6.7.4 from MM I.

- (b) Tightness of hydropneumatic shock absorber:
Slightly wetted surface is acceptable. Fluid leakage can occur at damage or considerable wear of the seal packings.
 - (c) Check fluid quantity:
Acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 4.4.5 from MM I.
Hydropneumatic shock absorber fluid filling acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7.
 - (d) Check air pressure:
According to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 4.4.3 from MM I.
Hydropneumatic shock absorber air pressure filling acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7.
- 6) Groove on piston rod (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 2):
Check condition of groove on piston rod (callosity from balls, material roll-up). Perform the hydropneumatic shock absorber disassembly from nose landing gear fixing in case of damage (acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 from MM I).
Send hydropneumatic shock absorber with wheel axis to the manufacturing factory AXL, Inc. Semily, Czech Republic for repair.
- 7) Aluminium ring for cover fixing (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 1, 19):
His damage warning on the great suspension and possibility fluid and air leakage. Remove hydropneumatic shock absorber from fixing at aluminium ring replacement acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 and 6.7.4 from MM I.
- 8) Length of piston rod extension:
Check length of piston rod extension from valve to cover ring (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 1, 19) $h = 190 \pm 1$ mm. If the length is greater than 194 mm and at the ejection is hear metallic noise, elastic ring is damaged (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 27).
Perform the hydropneumatic shock absorber disassembly from nose landing gear fixing (acc. to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 or acc. to Sub. 6.7.3 from MM I. Send hydropneumatic shock absorber to the manufacturing factory AXL, Inc. Semily, Czech Republic for repair.
- 9) Fork fixing:
Check condition of fork fixing and its anchorage.
Remove corrosion; repair damaged paint.
- 10) Filling valve (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 28):
Proceed according to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 at fluid leakage.
- 11) Cover damper (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 4):
Proceed according to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 at fluid leakage.
- 12) Shimmy damper:
- (a) Tightness of shimmy damper:
Slightly wetted surface is acceptable. Fluid leakage can occur at damage or considerable wear of the seal packings.
 - (b) Check fluid quantity:
According to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7.
Shimmy damper fluid filling acc. Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7.

- 13) Piston rod (see Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7, Enclosure No. 2, pos. 2):
Proceed according to Maintenance and Operation Manual on Condition of the Nose Landing Gear type 793-HPK-185-19, 793-HPK-185-19-7 at fluid leakage.

3.5.6 Struts and attachment pins of nose landing gear

1) Distortion of struts

Straightening struts bent up to 1 mm (0.04 in) is unnecessary. Straighten struts with deflection from 1 mm (0.04 in) to 2.5 mm (0.1 in); replace struts bent more than 2.5 mm (0.1 in).

2) Checking struts for cracks evidence

Check method: - visually at Type B inspection,
- by NDT method at Type C inspection (MD 6.001).

Replace struts if cracked.

3) Spherical bearing and hemmed bushing in double strut:

(a) Roll in loosened bearing; replace bearing if damaged (Directive 6.004).

(b) Replace loosened or damaged hemmed bushing, adhering to instructions given in Directive 6.002.

4) Attachment pins (fitted bolts)

Replace attachment pins if cracked (visual check), distorted or corroded on the shank.

Reream distorted holes in struts and in their attachments to the next bigger diameter (subsect. 7.2.6) and mount fitted bolts appropriate to this diameter.

5) Corrosion, damaged paint

Remove corrosion on struts and renew damaged painting as per Directive 6.009.

3.6. ENGINE AND PROPELLER INSTALLATION

Figures in Z 242L Catalog:

L 242.6000-00.00 Engine installation or other figures included in the assembly group L 242.6000

L 242.6940-00.00 MTV-9 Propeller installation

L 242.6942-00.00 HARTZELL Propeller installation

Frequency of inspections: as per sect. 1.10B.6

3.6.1 Engine

In accordance with number of flight hours determine on type of engine inspection or on handing it over to the overhaul (MM I, subsect. 5.1.2).

Accomplish the engine inspection as per the Engine Operator's Manual, respecting the notes in MM I, subsect. 5.2.16 that explain notes (3) through (15).

3.6.2 Propeller

In accordance with number of flight hours determine on accomplishing the propeller inspection (100h) or on handing it over to the overhaul (MM I, subsect. 5.1.3).

Accomplish the propeller inspection as per the Propeller Operator's Manual, respecting the notes in MM I, subsect. 5.2.16 that explain notes (16) through (20).

3.6.3 Engine mount

1) Check for cracks evidence

Check the engine mount for cracks in particular in weld beads and in their vicinity. At Type B inspection, use the magnifier; at engine removal because of overhaul carry out check of the engine mount by NDT method (Directive 6.001).

In case of cracks detected, either replace the engine mount or repair it: remove paint in the vicinity of cracks, grind cracks and weld up using the TIG method (Directive 6.101, sect. 2.2).

Renew damaged surface protection in compliance with MD 6.009.

CAUTION:

REPAIR OF CRACKS BY WELDING-UP MAY BE CARRIED OUT ONLY BY THE AUTHORIZED REPAIR STATION.

2) Vibration dampeners

Visually check parts of dampeners for cracks evidence and for deformation. The rubber pads may not be unsticked from metal shock mounts. Replace either separate defective parts or the whole dampener assembly.

CAUTION:

CLEAN RUBBER PARTS OF VIBRATION DAMPENERS ONLY WITH A DRY AND CLEAN CLOTH. NEVER USE ANY KIND OF CHEMICAL CLEANING SOLVENT.

- 3) Deflection of struts
Straightening struts bent up to 1 mm (0.04 in) deflection is unnecessary. If larger deflection is found out, straighten struts or replace them, or replace the whole engine mount assembly.
- 4) Holes in engine mount-to-fuselage joints
Using the three-point micrometer calliper, measure diameters of holes in forks on the engine mount and in the engine mount joints on the fuselage frame. Compare measured diameters with values given in the "Z 242L Table of dimensions, limits and clearances". If measured diameters are out of admissible limit range, reream these holes to the next greater diameter (subsect. 7.2.7). When installing the engine mount on the fuselage, use fitted bolts appropriate to enlarged diameters as per the aforesaid subsection.
- 5) Joint pins (fitted bolts)
Replace joint pins if cracked (visual check), distorted, corroded on shanks or in the case of rereaming holes in the engine mount attachment joints (subsect. 7.2.7).
- 6) Corrosion, damaged paint
Remove corrosion on the engine mount and renew damaged paint according to Directive 6.009.

3.6.4 Outer engine cowlings

- 1) Sheet cowls
 - (a) Drill cracks at both ends and patch them from the cowling inside with a sheet patch (MD 6.201).
 - (b) Flatten deformed cowl with a rubber mallet. Flatten punched cowl and reinforce damaged area by riveting a sheet patch on the cowling inner side.
 - (c) Repair damaged paint - see subsect. 1.7.2, para 2).
- 2) Composite cowls
Repair damaged composite cowls in accordance with Directive 6.008 or replace them.
- 3) Engine cowling locks
Replace non-functional, unreliable or considerably corroded locks. A minor corrosion is to be removed as per Directive 6.009.