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INSTRUCTION

1. It is the responsibility of all personnel to report any unserviceability of item assembly and make necessary entry in AFTO Form 781A.
2. A visual inspection includes checking for all types of wear, damage, corrosion, security, chaffing, in fact for the complete well-being of the particular item in addition to cleanliness.
3. A Functional Check is where the operation of the item or service in question is required to determine its serviceability.
4. Suggestion affecting changes are to be forwarded to ACAS (M) Air HQ, Dhaka.

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INTRODUCTION

1. The Pre-Flight Inspection will be accomplished prior to the first flight of the day. The inspection consists of checking the aircraft for flight preparedness by performing visual examination and to find that no defect or mal-adjustment exists that could cause accident or aborted missions.
2. It is the responsibility of all personnel to report about any unserviceable item or assembly and make necessary entry in AFTO Form-781A.
3. A Functional check is where the operation of the item or service in question is required to determine its serviceability.

SECTION I- Pre-Flight.

To be accomplished prior to the first flight of the day.

SECTION II- Between Flight

To be accomplished after each flight when another flight is anticipated during the day.

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SECTION III- Post-Flight.

To be accomplished after the last flight of the day.

SECTION IV- Special Inspection.

4. Suggestion affecting changes are to be forwarded to ACAS (M) Air HQ, Dhaka.

Note :- If for some particular reason the "Inspection after the last flight of the day" has not been carried out, it is imperative that it be performed before the first flight of the following day.

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SECTION-I

PRE-FLIGHT INSPECTION

WORK CARDS

PT-6 AIRCRAFT

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INTRODUCTION

1. The Pre-Flight Inspection will be accomplished prior to the first flight of the day. The inspection consists of checking the aircraft for flight preparedness by performing visual examination and operational checks of certain components to ensure no defect or mal-adjustment exists that could cause accident or aborted missions.

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PRE - FLIGHT INSPECTION

PREPARATION

1. Main Wheel checked.
2. AFTO Form-781 for reported discrepancies.
3. Canopy and other covers removed.
4. Surface control locks removed.
5. Picketting cable or ropes untied and removed.
6. Necessary fairing, panels, hatches and doors removed or opened.
7. Take off area is free from foreign objects.

A. NOSE SECTION (Including Nose L/Gear and Wheel Well)

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1. To inspect the wheel, check the following :–
 - a. Wheel for oil, grease, mud and dust.
 - b. Tyre for oil, grease, mud and specified inflation (2.3 Kg/Sq Cm).
 - c. Valve stem for serviceability.
 - d. Creep mark for slippage.
2. To inspect the shock strut & its accessories check the following :–

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- a. Telescopic shock strut for oil leak, exposed polished surface for cleanliness.
 - b. Extension of shining portion of strut is not less than 185 mm (with the help of a jig locally made).
 - c. Actuator for leaks, polished surface for cleanliness.
 - d. Flexible rubber hoses, pipe lines for chafing, damage and leak (with brakes "ON").
 - e. Fairing doors for damage, play & cleanliness.
 - f. Shimmy-damper for oil leak & security.
 - g. Shimmy-damper radial linkage for security.
 - h. Check all hollow bolts of torque arms for security and free rotation.
 - j. Check security/tightness of nut and bolts of shimmy damper.
3. Inspect wheel well :-
- a. Entire wheel well visually for any damage, foreign bodies, rags, tools & cleanliness.
 - b. Nose L/gear up lock mechanism for proper functioning & cleanliness (Lock should remain in un-locked position).
4. Nose L/Gear mechanical indicator for damage & bend.

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B. CENTRE FUSELAGE (Inner Wing up to Rear Cockpit).

1. Inspect Left Inner Wings for the following :
 - a. Foot step for damage security and cleanliness.
 - b. Walk-way for cleanliness free of mud, oil & grease.
 - c. Upper and lower surface visually for any damage and cleanliness.
 - d. Fuselage for damage and cleanliness.
2. Inspect Right Inner Wing :
 - a. Upper and lower surface visually for any damage and cleanliness.
 - b. Fuselage for damage and cleanliness.

C. RIGHT WING, MAIN L/GEAR 7 WHEEL WELL

1. Inspect Main landing gear and wheel well for the following :
 - a. Wheel for oil, grease, mud and dust.
 - b. Tyre for oil, grease, mud, cuts and inflation specified (3.2 Kg/Sq Cm).
 - c. Valve stem for serviceability.
 - d. Creep mark for slippage.
2. Inspect strut and its accessories :

- a. Shock strut for oil leak, polished surface for cleanliness and extension specified (113 ± 2 mm) (with the help of a jig locally made).
 - b. Fairing doors for damage, play & cleanliness.
 - c. Brake pipe lines & flexible rubber hose for chaffing damage & leak (brakes 'ON').
 - d. Check red alignment mark of pull rod combination of main landing gear for proper position.
3. Inspect Main L/Gear Wheel Well :
- a. Entire wheel well visually for any foreign object, rags, tools & cleanliness.
 - b. L/Gear actuator polished surface for cleanliness.
 - c. Up-lock mechanism for proper functioning (lock should remain in un-locked position).
 - d. L/Gear machanical indicator for damage.
 - e. Check eye bolt for crack/bend visually.
4. Inspect Aileron and tab :
- a. Aileron for damage and cleanliness.
 - b. Fixed tab for damage.
 - c. Aileron for smooth operation (move aileron up and down and observe that there is no obstruction from the cockpit).

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5. Right Wing upper and lower portion visually for skin damage, deformation and cleanliness, Panels for security.

6. Flap for damage and cleanliness (operate flap).

D. LEFT WING, MAIN L/GEAR AND WHEEL WELL 550110

1. Repeat item as per 'C' (No 1—6 and sub paras).

E. REAR FUSALAGE AND EMPENNAGE

1. Aft Fuselage for skin damage, panels for security & cleanliness.

2. Tail end for damage and security.

3. Empenage :

a. Elevator :

(i) Elevator for damage, play and cleanliness. (operate with control column). Ensure that the operation is smooth.

(ii) Adjustable trimming tab (elevator) for free and full movement (operate timer it should be neutral position with the elevator).

(iii) Checking of trimming tab movement with corresponding rotation of trimmer control dial from both cockpits .

Auth : MTR/101/2/FS/Vol-7/E-13AB dt. 20 Dec 03

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- b. Rudder :
 - (i) Rudder for free movement, damage and cleanliness (operate rudder left & right).
 - (ii) Trimming tab for damage.
 - (iii) Hings are free from any dirt and are serviceable.
- c. Tail Plane visually for damage and cleanliness.
- d. Fin visually for damage and cleanliness.

F. FRONT AND REAR COCKPIT

- 1. Inspect Rear cockpit for the following :-
 - a. Check both landing gear lever in down position and latched in both cockpit and wire locked in rear cockpit.
 - b. Ensure canopy for smooth operation, bearings and stoppers for fitting and rails are free from foreign objects/obstruction.
 - c. Canopy lock for proper functioning.
 - d. Canopy glass for crazing, crack and cleanliness.
 - e. Cockpit for cleanliness, any foreign object & water.
 - f. Seat for correct operation.
 - g. Smooth operation of rudder pedal and differential brake. Security of liner with threaded rod of rudder pedal assembly.
 - h. Emergency pneumatic press (45 to 50 kg/sq cm). Air bottle cock is closed and soft wire locked.

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- j. Control column for smooth and easy operation.
- k. Main pneumatic system pressure in the gauge specified limit (35 to 45 kg/sq cm). Ensure that the cock is at open position before flying).
- l. All panels are free from looseness, damage & security.

2. Inspect Front Cockpit :-
 - a. Repeat No 'F.' 1. a. to b. l., read 'Front' in place of 'Rear'.
 - b. Wind shield for crack, crazing, scratches & cleanliness.
 - c. Hand pump for easy operation, leak and damage.

FINAL OPERATION

1. Exterior of aircraft visually for fuel, oil and damage. All previously removed panels and doors for proper installation.
2. Fairing doors, panels and hatches for security.
3. Drain out about (.5-1) ltr fuel from service tank1 during pre flight inspection.
4. Make required Pre-Flight entries in AFTO Form-781A.
5. On completion of pre flight insp, make sure no foreign object or tools are left in the cockpit. Close the canopy, use canopy cover during summer.

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SECTION-II

AFTER FLIGHT & THRU FLIGHT INSPECTION

WORK CARDS

PT-6 AIRCRAFT

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INTRODUCTION

1. Thru Flight Inspection will be accomplished after each flight when another flight is anticipated during the day. The inspection consists of checking the aircraft to determine if it is suitable for another flight by performing visual examination and operational checks of certain components to assure that no defect exist which would be detrimental to further flight.

THRU-FLIGHT INSPECTION

PREPARATION

1. Soon after receiving the aircraft, check the wheels.
2. Remove loose carbon if any between the brake drums and shoes.
3. Check exterior of aircraft for loose rivets, damage, deformation and fuel, oil and hydraulic leaks.
4. All fairings, doors, panels and hatches for damage & security.
5. Electrical switches 'OFF'.
6. AFTO Form 781 for reported discrepancies.

A. NOSE SECTION

1. Inspect the wheel to check the following :–
 - a. Wheel for oil, grease, mud and dust.
 - b. Tyre for uneven tread, wear, cuts, blisters and free from oil, grease and mud.
 - c. Slippage mark for alignment.
 - d. Valve stem for serviceability.
 - e. Tyre for proper inflation (visually).

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- f. Check all hollow bolts of torque arms for security and free rotation.
 - g. Check security/tightness nut and bolts of shimmy damper.
 - h. Wheel well for damage and pneumatic leak.
2. Inspect the shock strut and accessories for :-
 - a. Shock strut for leak (visually).
 - b. Extension of strut shining portion (visually).
 - c. Flexible rubber hose, pipe lines for any damage, chaffing.

B. CENTRE FUSELAGE

1. Inspect left inner wings :-
 - a. Upper and lower wings surface and fuselage panels visually for damage and security.
2. Inspect right inner wings :-
 - a. Upper and lower wings surface and fuselage panels visually for damage and security.

C. RIGHT WING, MAIN L/GEAR & WHEEL WELL

The main tyres of PT-6 ac is to be checked for any visible cord during running change

Auth: 06.03.2600.014.10.001.12.099/85AB dt 26 Jul 15

- b. Tyre for cuts, wear, blisters, free from grease and oil.
- c. Valve stem for serviceability & proper position.
- d. Tyre for proper inflation (visually).
- e. Slippage mark for alignments.
- f. Check eye bolt for crack/bend visually.
- g. Check red alignment mark of pullrod combination of main landing gear for proper position
- h. Wheel well for damage and pneumatic leak.

D. LEFT WING, MAIN L/GEAR & WHEEL WELL

- 1. Repeat item as per 'C' (No 1 & sub-paras a to h.)

E. FRONT & REAR COCKPIT

- 1. Inspect rear cockpit :-

- a. Check both landing gear lever in down position and latched in both cockpit and wire locked in rear cockpit.
- b. Canopy for smooth operation.
- c. Canopy for crack or development of new crack crazing, distortion, scratches, cleanliness and security.
- d. Charge pneumatic system if required.
- e. Seat for operation and safety.
- f. Brake system for serviceability & leakage of pneumatic pressure.

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2. Inspect Front Cockpit :-
 - a. Inspection similar to rear cockpit except :
 - (i) Wind screen for cleanliness
 - (ii) Cockpit floor for cleanliness.

FINAL OPERATION

1. Make required thru flight entries in AFTO Form 781A.

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SECTION-III

POST FLIGHT INSPECTION

WORK CARDS

PT-6 AIRCRAFT

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INTRODUCTION

1. The Post Flight Inspection will be accomplished after the last flight of the day. This inspection consists of checking the aircraft to determine if it is suitable for another flight by performing visual examination of certain components areas or systems to assure that no defects exist which would be detrimental to further flight.

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POST FLIGHT INSPECTION

PRELIMINARY PREPARATION

1. Main wheel Checked.
2. Electrical Switches 'OFF'.
3. AFTO Form 781 for reported discrepancies.

A. NOSE SECTION (Including Nose L/Gear & Wheel Well)

1. Inspect the Nose Wheel to check the following :–
 - a. Wheel for oil, grease, mud and dust.
 - b. Whell for corrosion, pitting and damage.
 - c. Tyre for uneven tread, wear, cuts blisters and free from oil, grease and mud.
 - d. Slippage mark for alignments.
 - e. Valve stem for serviceability and blanked off with flat type dust cap.
 - f. Inflation of tyre specified (2.3 Kg/Sq Cm). Ensure that wheel axle is about 185 mm above the ground.
 - g. Static discharger for serviceability & ensure it touches the ground.
2. Inspect the shock sturt & its accessories :–

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- a. Telescopic shock strut for oil leak, exposed polished surface for cleanliness.
 - b. Check the security/tightness nut and bolts of shimmy damper.
 - c. Extension strut shining portion is not less than 185 mm (with the help of a jig locally made).
 - d. Actuator for leaks, polished surface for cleanliness.
 - e. Check all hollow bolts of torque arm for security and free rotation.
 - f. Shimmy damper :-
 - (i) Oil leak and screw of the bottom cover for tightness.
 - (ii) The clearance between the bottom cover and the rocker arm not less than 0.5 mm.
 - (iii) No directional play at the joints of the rocker and rotational shaft spline.
 - (iv) Driving rod for cracks.
2. Inspect the wheel well :-
- a. Actuator for leakage, shining portion for cleanliness.
 - b. Lock hook actuator and two way valve for leakage.

- c. L/G up lock mechanism for proper functioning, damage and security.
- d. Air pipes for leakage, damage, chaffing and security.
- e. Entire wheel well visually check for any damage, loose rivets, foreign bodies, rags, tools and cleanliness.

B. CENTRE FUSELAGE (Inner wings up to Rear Cockpit)

- 1. Inspect left Inner Wing :-
 - a. Foot step for damage, security and cleanliness.
 - b. Walk way for cleanliness, free of mud, oil and grease.
 - c. Upper and lower surface visually for any damage and cleanliness.
 - d. Fuselage for damage and cleanliness.
- 2. Inspect Right Inner Wings :-
 - a. Upper and lower wing surface visually for any damage and cleanliness.
 - b. Fuselage for damage and cleanliness.

C. RIGHT WING, MAIN L/G AND WHEEL WELL.

- 1. Inspect Main Landing Gear :-
 - a. Wheel for oil, grease, mud & dust.
 - b. Wheel for damage, corrosion evidence of overheating adjacent to brake.

- c. Tyre for uneven tread, wear, cuts blisters, free of grease and oil.
 - d. Slippage mark of alignments.
 - e. Valve stem for serviceability.
 - f. Inflation tyre specified (3.2 Kg/Sq Cm). The centre of the wheel axle is about 220 mm above the ground with help of a jig locally made).
 - g. Brake and pipes for serviceability.
 - h. Inspect brake for proper running clearance.
2. Shock strut and its accessories :-
- a. Strut for oil leak, polished surface for cleanliness & extension specified (113 ± 2 mm with the help of a jig locally made). (Pressure 48 ± 1 Kg/Sq Cm).
 - b. Wheel fairing doors for serviceability, crack, bent, deformation and distortion.
 - c. Check red alignment mark of pull rod combination for proper position.
 - d. Linkage for looseness & security.
 - e. Brake pipe lines, flexible rubber hose for chaffing, damage & leak (Brakes 'ON').
 - f. Bracing strut welding seam for crack & serviceability.

3. Inspection Right Main L/G Wheel :-

- a. Entire wheel well for any foreign object, rags, tools cleanliness.
- b. Check eye bolt for crack/bend visually.
- c. L/G actuator for leakage, check nut for security and looseness, eye end for serviceability and lubrication.
- d. Pneumatic pipe lines for wear, damage chaffing & leakage.
- e. Up lock mechanism for proper functioning (lock should remain in unlocked position).
- f. Up lock actuator for leakage and security.
- g. L/Gear mechanical indicator for damage and security. Cable for wear, damage and broken thread.

4. Aileron and tabs :-

- a. Fabric for damage, cuts, wear and cleanliness.
- b. Fixed tab for damage and cleanliness.
- c. Suspension joints, fixing brackets, transmission rods and rocker for reliable connection and lubrication.
- d. Bonding wire for serviceability.
- e. Aileron for smooth operation (move aileron from the cockpit up & down observe that there is no obstruction).

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5. Right wing upper and lower portion visually for damage, deformation and cleanliness. Panels for security.
6. Flap for damage, crack and cleanliness. Hinges for cleanliness and lubrication (operate flap and ensure smooth operation).

D. LEFT WING, MAIN L/GEAR AND WHEEL WELL

1. Repeat item as per 'C' (No 1 to 6 and their sub-paras).

E. REAR FUSELAGE AND EMPENAGE

1. Aft fuselage for skin damage, panels for security and cleanliness.

2. Tail end for damage and security.

3. Empenage :—

a. Inspect Elevator for the following :—

(i) Elevator for damage, play and cleanliness. (Operate with control column from the cockpit and ensure smooth operation, free movement).

(ii) Connecting rods, for serviceability and hinge points lubricated.

(iii) Adjustable trimming tab for free and full movement operate trimmer it should be neutral position with the elevator.

(iv) Trim tab for serviceability and security. Connecting rods for serviceability and lubrication.

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- g. Seat for correct operation.
- h. Smooth operation of rudder pedal and differential brake.
- j. Emergency pneumatic press (45 to 50 kg/sq cm).
- k. Air bottle cock is closed & soft wire locked. (Emergency one)
- l. Control column for smooth and easy operation.
- m. Main pneumatic system pressure in the gauge specified limit (35–45 Kg/Cm Sq).
- n. All panels are free from looseness, damage & security.
- p. L/Gear control lever for leakage, safety fixture for freedom of movement and positioning disc for tightness.
- q. Foot pedals for free movement, limit stop for serviceability and security.
- r. Brake system for serviceability, leakage and application (operate 'BRAKES').
- s. Brake control button for free movement.
- t. Checking of trimming tab movement with corresponding rotation of trimmer control dial from both cockpits.

Auth : MTR/101/2/FS/Vol-7/E-13AB dt. 20 Dec 2003.

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2. Inspect Front Cockpit:

a. Inspection similar to rear cockpit except :-

(i) Main air bottle cock for easy opening & leakage.

(ii) Hand pump for easy operation and obstruction.

FINAL OPERATION

1. Exterior of aircraft visually for fuel, oil and damage. All previously removed panels and doors for proper installation.
2. Fairing doors, panels and hatches for security.
3. Make required Post-Flight entries in AFTO Form-781.
4. Picket the aircraft until next flight with the help of other tradesmen.
5. Fuel tank should not be kept empty over night.

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SECTION-IV

WEEKLY MAINTENANCE INSP

WORK CARDS

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WEEKLY MAINTENANCE

1. Visually inspect landing gears wheels and tyres for condition and serviceability.
2. Check the ac skin and fabric for any dent, damage and deformation.
3. Inspect all landing gear hinges joints.
4. Check landing gear shock struts for proper extension, cleaning and greasing.
5. Cleaning and greasing of mounting joints in all the wheel wells.
6. Check all controls and their mounting joints for security, cleaning and greasing.
7. Check canopy fittings and canopy rails, ensure they are in good condition.
8. Check the security of the canopy lock.
9. Check both the cockpit for cleanliness.
10. Ensure availability of antislip and allignment markings in all the relevant areas/places.
11. Ensure red marking on the rear sliding canopy lock.

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MISC INFORMATION

"Vent lines are to be air blown (with reqr pressure) in Pre-flt and through flts."

Auth: Air HQ/06.03.2600.014.10.002.14.088/02AB dt 14 Jul 14

Airframe

1.	Length	-	8.46 M
2.	Span	-	10.22 M
3.	Height	-	3.25 M
4.	Track	-	2.87 M
5.	Prop clearance	-	45 cm
6.	Nose wheel deflection	-	$52^0 \pm 3^0$
7.	Angle of incidence	-	$2^0 30'$
8.	Dihedral	-	7^0
9.	Washout	-	3^0
10.	Aileron (Up/down)	-	$22^0/16^0$
11.	Elevator (Up/down)	-	$28^0/20^0$
12.	Rudder	-	$\pm 25^0$
13.	Flaps (Up/down)	-	$0^0/40^0$
14.	Wing area	-	17 sq. m
15.	Tyre press—Main—3.2 kg/cm ² , Nose – 2.3 kg/cm ²		
16.	Weights :-		
a.	Empty ac	-	1095 kg
b.	Max all up weight	-	1400 kg.
17.	Trim tab up/down	-	$\pm 15^0$