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**MUKAMALAH AVIATION COMPANY LIMITED (MAC)**  
**LEONARDO S.p.A. AW139 AIRCRAFT INSPECTION PROGRAM**  
**05-05-100 AW139 100 HOUR CHECK**

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**Tail Number**

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**SAP Order Number**

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**Work Order Number**

**Instructions**

1. Each listed inspection and/or maintenance function is to be performed in accordance with the publications listed in the current AW139 Technical Publications Index.
2. This inspection must be performed every 100 Hours on VIP aircraft S/N 31562, and 31851 and every 100 hours / 3 months on all non-VIP aircraft.
3. Each section / item must be initialed or stamped by the mechanic and inspector (if applicable) performing the inspection.
4. All personnel (mechanics, inspectors, shops, etc) who will be signing off any part of the check are required to enter their printed name and company ID with stamp imprint (or certificate number if work is not being performed by repair station) on the last page of this document.
5. Enter all discrepancies found and the corrective action taken on repair station or operator non-routine forms. On this inspection form, write **YES** or **NO** in the box under **Work Required** column for each section / item. If work was required and **YES** was written in the **Work Required** box, also indicate the Non-Routine number that the work was performed under.
6. Enter the Man Hours for each completed line item in the MHRS column.
7. At the completion of each inspection form, a qualified & authorized mechanic shall check the entire form for proper completion and then enter his signature, company ID number (or certificate number if work is not being performed by repair station), date and repair station certificate number (if applicable) in the space provided at the end of the form.

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**Work Order Number**

**1. FUSELAGE (INCL. UPPER DECK) & LANDING GEAR**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
1. 71-25	<b>AIRCRAFT HAVING ADDITIONAL COWLING LATCHES ONLY</b>  Additional cowlings latches: Do a DI for general condition and security of attachments including the lubrication of the latch assemblies.  Ref 39-A-71-11-00-00A-31AA-A.  Applicable _____ Not Applicable _____				
2. CP100-01	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  GVI of Nose Landing Gear Bay: Perform a general visual inspection of the nose landing gear bay for corrosion protection deterioration and evidence of water intrusion.  Ref: DMC 39-A-20-81-02-00A-310A-D.				
3. CP100-03	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  GVI of Access Panels and Provision of Cabin Lower Structure: Perform a general visual inspection of the access panels and related provisions of cabin lower structure for corrosion, evidence of water intrusion and corrosion protection deterioration. (removal of the access panels/equipments is required only if damage or corrosion is present)  Ref: DMC 39-A-20-81-09-01A-310A-D				
4. CP100-09	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  GVI of Main Battery Bay: Perform a general visual inspection of the main battery bay and installation for condition, corrosion, evidence of water intrusion, salt contamination and corrosion protection deterioration.  Ref: DMC 39-A-20-81-01-00A-310A-D				
5. CP 100-10	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  VC of Radar Bay: Perform a visual check of the radar bay for corrosion and corrosion protection deterioration.  Ref: DMC 39-A-20-81-05-00A-311A-D				

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ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
6. CP100-11	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  VC of Nose Avionics Bay: Perform a visual check of the nose avionics bay for salt accumulation, corrosion, evidence of water intrusion and corrosion protection deterioration.  Ref: DMC 39-A-20-81-11-00A-311A-D				
7. CP100-15	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  GVI of Access Panels and Provision of Cockpit Structure: Perform a general visual inspection of the access panels and related provisions of cockpit lower structure for corrosion, evidence of water intrusion and corrosion protection deterioration. (removal of access panels/equipments is required only ff damage or corrosion is present)  Ref: DMC 39-A-20-81-08-01A-310A-D				
8. CP100-22	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  VC of Baggage Compartment: Perform a visual check of the visible area of the baggage compartment for evidence of water intrusion and corrosion protection deterioration.  Ref: DMC 39-A-20-81-04-00A-311A-D				
9. CP700-01	<b>ALL EXCEPT VIP AIRCRAFT S/N 31562 &amp; 31851</b>  GVI of Main Landing Gear Bay: Perform a general visual inspection of the main landing gear bay for corrosion protection deterioration and evidence of water intrusion.  Ref: DMC 39-A-20-83-01-00A-310A-D				
<b>FUSELAGE (INCL. UPPER DECK) &amp; LANDING GEAR COMPLETED</b>					

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**2. ENGINE & POWERPLANT**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
1. MTD AW139-09-016	Engine BOV filter cleaning: Clean and inspect bleed valve screen cartridge housing and cover.	LH	RII		
	Ref P&WC PT6C-67C MM 75-30-00.	RH	RII		
ENGINE & POWERPLANT COMPLETED					

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**3. TAILBOOM & TAIL ROTOR DRIVE**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
1. 64-27	Tail rotating controls installation - Pitch change link assembly spherical bearings: Remove pitch change link assemblies.  Ref. 39-A-64-31-01-00A-520A-A				
	Do a DI for condition, damage and play (removal of pitch change link assemblies required) (axial play check only) (maximum play allowed: 0.2 mm - 0.0079 in). If play found is between 0.1 and 0.2 mm (0.0039 and 0.0079 in), inspection interval must be reduced at 100 FH  Ref 39-A-64-31-00-00A-31AA-A		RII		
	Reinstall pitch change link assemblies. Ref. 39-A-64-31-01-00A-720A-A		RII		
2. CP300-02	VC of the Tail Plane: Perform a visual check of the tail plane installation for evidence of water intrusion, corrosion damage, sealant and corrosion protection deterioration.  Ref: 39-A-20-84-02-00A-311A-D				
3. MI53-04	Tail Structure Assembly (fin rib attachment area): Detailed inspection for cracks (both internal and external sides).  Ref 39-A-53-40-00-00A-31AA-A				
4. MI53-11	Tail Structure Assembly (aft/front spar to skin joint): Detailed inspection for cracks (both internal and external sides).  Ref 39-A-53-40-00-00A-31AH-A				
5. MI64-04	Tail Rotor Damper: Detailed inspection for cracks in the elastomer.  Ref 39-A-64-21-00-00A-31AD-A  Applicable: ____ Not applicable: ____				
6. MI64-05	Tail Rotor Damper (P/N 3G6420V00851): Detailed inspection of body for cracks in the elastomer.  Ref. 39-C-64-21-00-00A-31AA-A  Applicable: ____ Not applicable: ____				
<b>TAILBOOM &amp; TAIL ROTOR DRIVE COMPLETED</b>					

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**4. MAIN ROTOR & GEARBOX**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
1. 62-19	Damper spherical bearings Do a DI for damage, condition and play (no removal required) (axial play check only) (maximum play allowed: 0.25 mm - 0.0099 in). Ref. 39-A-62-22-00-00A-31AA-A				
2. 62-25	Rotating controls installation - Fixed swashplate Do DI for damage, condition and play. Ref 39-A-62-31-00-00A-31AC-A; 39-C-62-31-00A-31AC-A.				
3. 62-27	Swashplate assembly duplex bearing Lubrication of bearings (includes inspection of seals). Ref 39-A-12-20-07-00A-242A-A				
4. 62-33	Rotating controls installation - Rotating scissors Do DI for damage, condition and play. Ref 39-A-62-31-00-00A-31AC-A; 39-C-62-31-00-00A-31AC-A.		RII		
5. 62-36	Rotating controls installation - Pitch change link assembly spherical bearings Remove pitch change link assemblies. Ref. 39-A-62-31-01-00A-520A-A				
	Do a DI for condition, damage and play (removal of pitch change link assemblies required) (axial play check only) (maximum play allowed: 0.2 mm - 0.0079 in). If play found is between 0.1 and 0.2 mm (0.0039 and 0.0079 in), inspection interval must be reduced at 100 FH. Ref 39-A-62-31-00-00A-31AB-A		RII		
	Reinstall pitch change link assemblies. Ref. 39-A-62-31-01-00A-720A-A		RII		
6. 62-50	Damper spherical bearings Do a DI for alignment of slippage marks and for sealant integrity on the skating and ceramic coating damage of eye end assy and body end assy spherical bearings. <b>NOTE: Tasks applicable only to main rotor damper P/N 3G6220V01353 and 3G6220V02051</b> Ref. 39-A-62-22-02-01A-31AA-A (AMPI Note 58)		RII		
7. 62-50A	Main rotor damper Do a DI for alignment of slippage marks between the damper body and the damper body end locking ring. <b>NOTE: Tasks applicable only to main rotor damper P/N 3G6220V02051</b> Ref. 39-A-62-22-02-02A-31AA-A (AMPI Note 66)		RII		

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**4. MAIN ROTOR & GEARBOX**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
8. 62-51	<p>Damper body end bearing friction check Perform a bearing friction torque check of the damper body end (of each damper). Max. 265.5 inch-pounds (30.0 Nm). Record results below.</p> <p>Ref. AMP 39-A-62-22-02-01A-340A-A for damper P/N <b>3G6220V01353</b> and <b>3G6220V02051</b>. (AMPI Note 58)</p> <p><b>YELLOW</b>      <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>BLUE</b>        <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>RED</b>          <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>BLACK</b>       <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>WHITE</b>       <b>PASS</b> _____ <b>FAIL</b> _____</p> <p>If any fail, replace damper and re-test.</p>		RII		
9. 62-51	<p>Damper rod end bearing friction check Perform a bearing friction torque check of the damper rod end (of each damper). Max. 265.5 inch-pounds (30.0 Nm). Record results below.</p> <p>Ref. AMP 39-A-62-22-02-01A-340A-A for damper P/N <b>3G6220V01353</b>. (AMPI Note 58)</p> <p><b>YELLOW</b>      <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>BLUE</b>        <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>RED</b>          <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>BLACK</b>       <b>PASS</b> _____ <b>FAIL</b> _____</p> <p><b>WHITE</b>       <b>PASS</b> _____ <b>FAIL</b> _____</p> <p>If any fail, replace damper and re-test.</p>		RII		

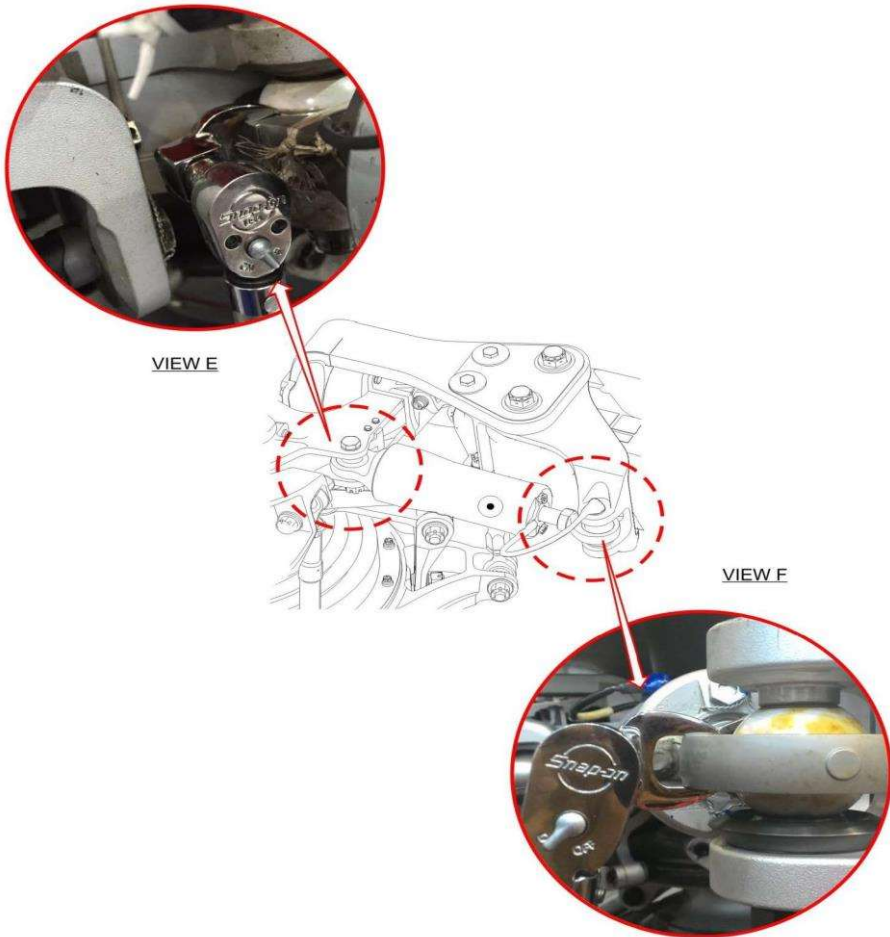
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**4. MAIN ROTOR & GEARBOX**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
	<div><p>VIEW E</p><p>VIEW F</p></div>				

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**4. MAIN ROTOR & GEARBOX**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
10. 62-49	<p>Damper anti-rotation block wear check  Do a detailed inspection for wear of the damper anti-rotation block, including the damper special washer (of each damper). Dimensional check and compliance with allowable limits is required. Refer to figures over page and record results below.</p> <p>Ref. AMP 39-A-62-22-07-00A-31AB-A.</p> <p>"A" Maximum 1.06 inches (26.9 mm)  "B" Minimum 0.96 inches (24.35 mm)</p> <p><b>YELLOW</b>      "A" _____ "B" _____</p> <p><b>BLUE</b>        "A" _____ "B" _____</p> <p><b>RED</b>          "A" _____ "B" _____</p> <p><b>BLACK</b>        "A" _____ "B" _____</p> <p><b>WHITE</b>        "A" _____ "B" _____</p> <p>If any fail, replace the anti-rotation block and re-test.</p>		RII		

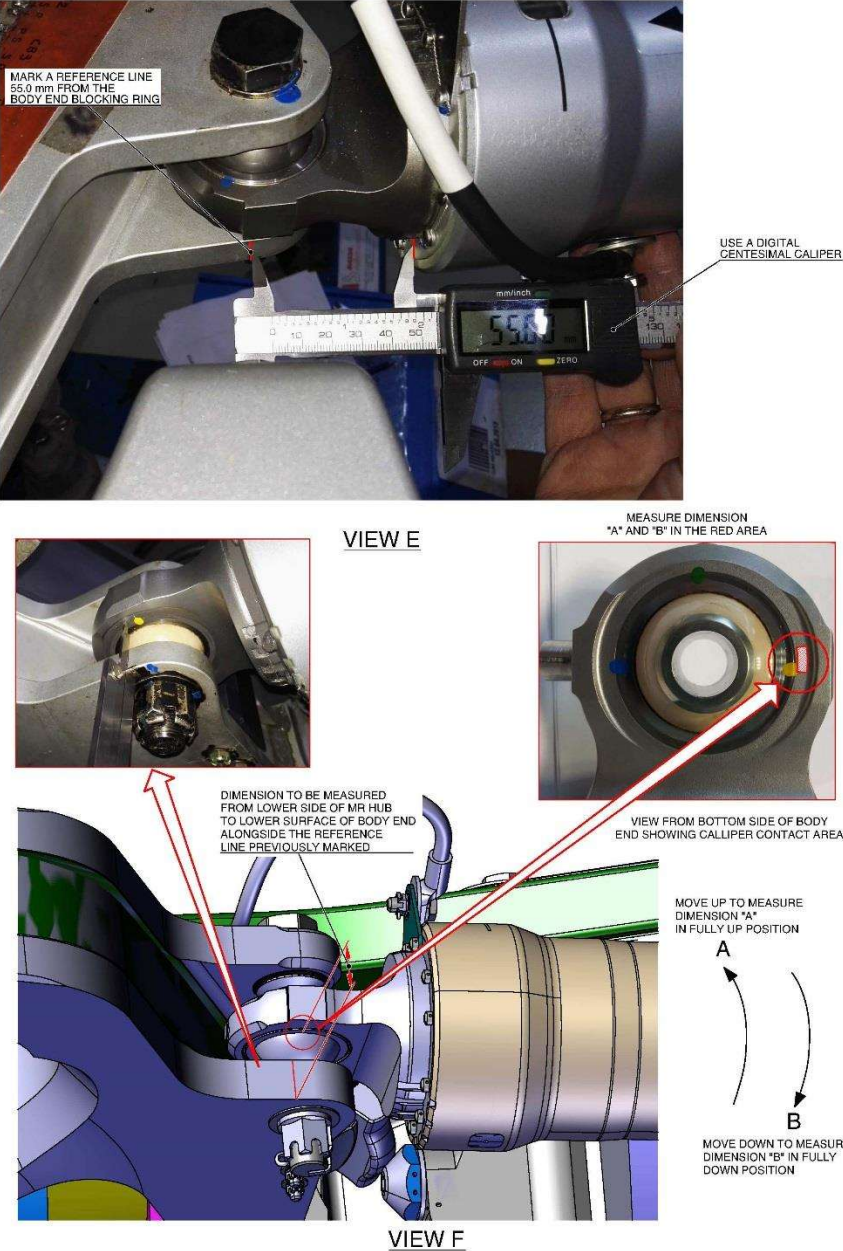
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**4. MAIN ROTOR & GEARBOX**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
					
MAIN ROTOR & GEARBOX COMPLETED					

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**5. NIGHT VISION SYSTEMS**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
1. Pre-Inspection MTD 2017- 001AW139 STCSR02104S E	<b>S/N 31562 ONLY</b>  1. Review aircraft records for compliance of STC SR02104SE.  Applicable _____ Not Applicable _____  NOTE: If applicable, continue with step 2. If not applicable, N/A steps 2 thru 9.				
2. Pre-Inspection	1. Inspect aircraft windscreen and applicable transparencies for defects that may affect the performance of the NVGs. Utilize the applicable OEM Maintenance Manual for airworthiness limits associated with this inspection.				
3. Placards	(Refer to STC ICA Paragraph 4-1, Figures 4.1 & 4.2)  Placards that control the operation of equipment during NVG operations should be inspected for condition and legibility. Placards that are illegible and/or damaged must be replaced.				
4. Instrument Flood Lights	(Refer to STC ICA Paragraph 5-6, Figure 5.1)  1. Inspect floodlights for cleanliness, cracks and cracking around mount holes. Flood lights with cracks must be replaced.				
5. Radio, Indicator, Annunciator and Lamp Assembly Filtration	(Refer to STC ICA Paragraph 5-6, Figure 5.2)  Inspect filters for cleanliness, crazing, condensation and cracking. Any filters with crazing, condensation, or cracking that allows incompatible light leakage or degraded visual acuity of display must be replaced. If condensation can be cleaned after removing the filter, and the condensation is not a defect in the filter itself, the filter may be reinstalled. See Appendix B for equipment that requires filtration.				
6. Backup Utility Light	(Refer to STC ICA Paragraph 5-7, Figures 5.3 & 5.4)  1. Inspect utility light for cleanliness; cracks in lens, and cracking around mount holes. Cracked lenses must be replaced. Mounting hole cracks and utility lights with cracks must be replaced.				

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**5. NIGHT VISION SYSTEMS**

ITEM	TASK	MECH	INSP	WORK REQD Yes / No	MHRS
7. Cabin Lighting	<p>(Refer to STC ICA Paragraph 5-8, Figure 5.5)</p> <ol style="list-style-type: none"> <li>Inspect LED light(s) for cleanliness, scratches and cracking around mount holes. Light(s) with cracks must be replaced.</li> <li>As applicable, inspect filters for cleanliness, crazing, condensation and cracking. Any filters with crazing, condensation and cracking that allows incompatible light leakage or degraded visual acuity of display must be replaced. If condensation can be cleaned after removing the filter and the condensation is not a defect in the filter itself the filter may be reinstalled between the filter and OEM lens or bezel. See ICA appendices for filter and instrument assemblies that require this installation</li> </ol>				
8. External Lighting	<p>(Refer to STC ICA Appendix A, to determine applicability)</p> <p>Inspect LED Position Light Assemblies.</p> <ol style="list-style-type: none"> <li>The LED external lights are designed with multiple LED's. If any LED fails, the unit must be replaced.</li> <li>Inspect the lens, replace if the lens has excessive scratching, discoloration. If the lens is cracked in any amount replace the lens and or light assembly.</li> </ol>				
9. Post Inspection	<ol style="list-style-type: none"> <li>Perform operational check of inspected systems to verify correct function and operation.</li> <li>Inspect all panel lighting, radio, and annunciator lights for proper illumination and balance. Inspect rheostat controls for full range and illumination levels.</li> </ol>				
<b>NIGHT VISION SYSTEMS COMPLETED</b>					

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**6. WORK COMPLETION**

TASK	MECH	INSP	WORK REQD Yes / No
Complete final walkaround on aircraft to ensure all panels have been reinstalled.			
Verify completion of all associated Routine / Non-Routine Work Orders.			
Record the total man-hours for all checklist items: _____			

I certify that the 100 Hour Check has been performed on aircraft:

(tail number) \_\_\_\_\_, aircraft total time \_\_\_\_\_, in accordance with the Mukamalah Aviation Company Leonardo AW139 Aircraft Inspection Program Revision \_\_\_\_ and Operator Maintenance Manual Revision \_\_\_\_ and the aircraft has been determined to be in airworthy condition with respect to the work performed.

Date

Mechanic's Signature

Company ID Number or  
Cert. Number

Repair Station Cert. No.  
(if applicable)