Aircraft Lockout/Tagout Program (LOTO) for All NAAS EMPLOYEES

Aircraft Lockout/Tagout (LOTO)

- There are many areas on an aircraft that require positive control of Hazardous Energy:
  - E & E Bays, Wing Integral Tanks
  - Wheel Wells, Center Integral Tanks
  - Flap Wells.
- Hazardous energy must be dissipated!
Aircraft Lockout/Tagout (LOTO)

- **Definitions**
  - **Lock**: A device used to positively control or isolate the operation of an energy device.
  - **Tag**: A device used to identify that the component is under maintenance, giving specific instructions not to activate under any circumstances.
  - **JSA**: Job Safety Analysis, a process where a competent, qualified person conducts a thorough inspection and evaluation of the work area and identifies each safety and/or health hazard; with positive corrective actions to minimize or eliminate those safety and/or health hazards. (1926.147(b)(4)(i))

Aircraft Lockout/Tagout (LOTO)

Definitions Continued

- **Aircraft Unique Non-Permitted Confined Space**: Those spaces identified by the customer or air carrier as non-permit required confined spaces. These spaces are typically areas of the aircraft where access is limited and might be impacted by moving flight controls, electrical energy etc.

- **Aircraft Permitted Required Confined Space**: A Confined Space that contains or has the potential to contain a hazardous atmosphere. Contains a material having the potential for engulfing an entrant. Has an internal configuration in which an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section or any other recognized serious safety of health hazard.
Aircraft Lockout/Tagout (LOTO)
Definitions Continued

- **Warning Tag (Red)** – Tag to be installed on the aircraft, aircraft circuit breakers or any part of the aircraft systems indicating that a system has been disabled and will remain disabled until such time as the task is completed and the tag is removed.

- **Tag Out** – The disabling of a system by use of a “Warning Tag” 1910.147(c)(3)(i)

Aircraft Lockout/Tagout (LOTO)

- **General Types of Lockout Devices:**
  - Locks
  - Gear Safety Pins
  - Tags
  - Circuit Breaker Lockout Collars
  - Chains
  - Hydraulic Line Caps
Aircraft Lockout/Tagout (LOTO)

- General Lockout/Tagout Steps:
  - Know the equipment and types of energy associated with it as well as the maintenance you will be doing.
  - Use the normal shutdown procedures to prepare the equipment for Locking and Tagging. All controls should be in the OFF or Neutral position.
  - Turn off main power switches. Shut all fluid isolation valves.
  - Lock & Tag the Energy Sources. Put a Lock and Tag on all energy isolation devices when it is possible. With aircraft components, it is not always possible to apply an actual "lock" to the system being worked on.

- General Lockout/Tagout Steps (cont):
  - Release all Stored Energy. Cap, vent and drain all fluid lines. Discharge all capacitors. Block all pieces that would be a hazard if they moved. Disconnect pneumatic lines and apply pneumatic or hydraulic line caps.
  - Test to ensure LOTO is effective. Check voltage on all circuits. Check pressure gauges on fluid lines.
  - Attempt to start the equipment in the normal manner. Then return all control devices to the OFF or NEUTRAL position.
Aircraft Lockout/Tagout (LOTO)

**Procedures:**
- Identify the type of work to be performed and what equipment will be worked on. The mechanic, mechanic's supervisor or Manager identifies the system by referencing Job Cards, JSA's or Maintenance Manuals.
- The mechanic, mechanics' supervisor or Manager surveys aircraft to determine if affected systems have been locked out.
- Signs are placed around aircraft if required by Customer, Operator or Maintenance Manual.
- Energy is dissipated (if required).

If the task is NOT completed at the end of your shift and the system is still required to be locked-out for the operation, the tag **MUST** remain installed until such time as the task or tasks requiring the tagout is completed.

**NOTE:**
Additional technicians working on same system, performing different task are required to install Danger Tags as well.
Aircraft Lockout/Tagout (LOTO)

• Procedures:
  – After work is completed, employee or his supervisor removes the tag and files it with the tag control log.
  – The mechanic, mechanics’ supervisor or Manager must verify that all systems affected by the LOTO are restored to operational status.

• Procedures:
  – Identify the type of work to be performed and what equipment will be worked on. The Lead Mechanic, Supervisor or Manager identifies the system by referencing Job Cards, JSA’s or Maintenance Manuals.
  – Lead Mechanic, Supervisor or Manager surveys aircraft to determine if affected systems have been locked out.
**Aircraft Lockout/Tagout (LOTO)**

**WARNING TAG SAMPLE**

<table>
<thead>
<tr>
<th>NORTH AMERICAN AIRCRAFT SERVICES INC.</th>
<th>AREA</th>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>11502 Jones Maltsberger</td>
<td>Area 1</td>
<td>WARNING</td>
</tr>
</tbody>
</table>

**WORK ORDER NO.**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**CARD NO.**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**LOCATION**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**REASON**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**INSTALLED BY**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**REMOVED BY**

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**NOTE:**

This tag may only be removed by the individual who installed it or his/her supervisor or manager.

**WARNING**

Aircraft Lockout/Tagout (LOTO)

**WARNING TAG INSTRUCTION**

- Block 1: Enter the control number from the warning tag control log.
- Block 2: Enter the Aircraft Reg. Number.
- Block 3: Enter the Work order number from the warning tag control log block 1.
- Block 4: Enter the routine or non-routine card number the warning tag is to be installed against.
- Block 5: Enter the location on the aircraft the tag is to be installed.
- Block 6: Enter the date the tag is installed.
- Block 7: Enter the name of the individual installing the tag.
- Block 8: Enter the date the tag was removed.
- Block 9: Enter the control number from the warning tag control log.
- Block 10: Enter the Aircraft Reg. Number.
- Block 11: Enter the Work order number from the warning tag control log block 1.
- Block 12: Enter the name of the individual removing the tag.
- Block 13: Enter the date the tag is removed.
- Block 14: Enter the name of the individual removing the tag.
- Block 15: Enter the date the tag is removed.
- Block 16: Enter the date the tag is removed.
- Block 17: Enter the name of the individual removing the tag.
- Block 18: Enter the date the tag is removed.
- Block 19: Enter the name of the individual removing the tag.
- Block 20: Enter the date the tag is removed.

**NOTE:**

When removed, the warning tag must be attached to the routine or non-routine work card that generated the installation of the tag.
When filling out the tag, all blocks on both portions of the tag must be completed and the individual installing the tag must sign and date the tag.

The Warning Tag Control number shall be assigned from the warning tag control Log.

REMOVE THE RIGHT SIDE OF THE TAG AND FILE IT WITH THE WARNING TAG CONTROL LOG.

PUT THE LEFT (LARGE) PORTION OF THE TAG AT THE LOCATION TAGED OUT.
Aircraft Lockout/Tagout (LOTO)
WARNING TAG SAMPLE AND INSTRUCTION

WARNING

This tag may only be removed by the individual who installed it and/or their supervisor.

When removing the tag, the mechanic, his supervisor or manager must sign and date the “Removed By” blocks of the tag.

The tag may only be removed by the individual who installed it and/or their supervisor.

The tag must be retained with the Warning Tag Control Log.

Aircraft Lockout/Tagout (LOTO)
WARNING CONTROL LOG SAMPLE

Friday, January 20, 2006

WARNING TAG CONTROL LOG

QUALITY CONTROL AUDIT DATE: _______________________
QUALITY CONTROL AUDITOR: ___________________________

Aircraft Lockout/Tagout (LOTO)
WARNING TAG CONTROL LOG SAMPLE

Friday, January 20, 2006

WARNING TAG CONTROL LOG

QUALITY CONTROL AUDIT DATE: _______________________
QUALITY CONTROL AUDITOR: ___________________________
# Aircraft Lockout/Tagout (LOTO)

## WARNING CONTROL LOG SAMPLE AND INSTRUCTIONS

**North American Aircraft Services, Inc**  
Repair Station NS8R594J  
11502 Jones Maltsberger  
San Antonio Texas  
Form NAAS-QC-102

### WARNING TAG CONTROL LOG

<table>
<thead>
<tr>
<th>WORK ORDER NO.</th>
<th>A/C REG. NO.</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WORK ORDER NO.</th>
<th>A/C REG. NO.</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**QUALITY CONTROL AUDIT DATE: ________________________**  
**QUALITY CONTROL AUDITOR: ___________________________**

When the task is completed and the Warning tag is removed, place another diagonal line through the number block. This will form an (X) and indicate the tag has been removed and the control number has been closed.

Retain the large portion of the Warning with the control log and discard the small right hand portion.

---

When the task is completed and the Warning tag is removed, place another diagonal line through the number block. This will form an (X) and indicate the tag has been removed and the control number has been closed.

Retain the large portion of the Warning with the control log and discard the small right hand portion.

---

When issuing a Warning Tag Control number, place a diagonal line (/) through the number issued (See Example). This indicates the number has been issued and will not be duplicated.

Enter the Control Number in Block 1 and block 11 of the Warning Tag.
Aircraft Lockout/Tagout (LOTO)

WARNING CONTROL LOG SAMPLE AND INSTRUCTIONS

North American Aircraft Services, Inc
11502 Jones Maltsberger
San Antonio Texas

Aircraft Lockout/Tagout (LOTO)

WARNING CONTROL LOG

North American Aircraft Services, Inc
11502 Jones Maltsberger
San Antonio Texas

When all the tasks are completed and all the Warning tags have been removed. The inspector, supervisor or manager must insure all the large portions of the tags are accounted for. The inspector, supervisor or manager will sign and date the bottom of the Warning Tag control log.

The large portion of the tag must be retained with the control log when all tasks are completed.

<table>
<thead>
<tr>
<th>Task No.</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Task 1</td>
<td>Complete</td>
</tr>
<tr>
<td>002</td>
<td>Task 2</td>
<td>Complete</td>
</tr>
<tr>
<td>003</td>
<td>Task 3</td>
<td>Complete</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

QUALITY CONTROL AUDIT DATE: 01-22-2006
QUALITY CONTROL AUDITOR: John Jones