

Task Title: Millwright Maintenance Procedure

# OALCF Cover Sheet – Practitioner Copy

**Learner Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Started: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Completed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- |
| **Goal Path:** | Employment | Apprenticeship |
| Secondary School | Post Secondary | Independence |

**Successful Completion:**  Yes No

**Task Description:**

The learner will scan a document and follow written instructions to perform tasks related to using a procedure in a workplace.

**Main Competency/Task Group/Level Indicator:**

* Find and Use Information/Read continuous text/A1.2

**Materials Required:**

* Pen/pencil and paper

Learner Information

Millwrights follow a procedure to perform required maintenance in the workplace. This helps them to ensure the correct tools, measurements and safety procedures are followed.

Scan the **Millwright Maintenance Procedure: Changing and Inspecting Gears** instructions.

**Millwright Maintenance Procedure: Changing and Inspecting Gears**

**Step 1: Safety Precautions**

1. Power off the machine and follow lockout/tagout (LOTO) procedures to ensure safety.
2. Wear proper PPE (gloves, safety glasses, steel-toe boots).
3. Verify that all moving parts are fully stopped before proceeding.

**Step 2: Remove the Gear Assembly**

1. Use a 13mm wrench to remove the housing cover and expose the gears.
2. Note the orientation of the gears before removal (take a picture if necessary).
3. Use a gear puller to remove the gear carefully, avoiding damage to surrounding components.
4. Place the removed gear on a clean surface for inspection.

**Step 3: Inspect the Gear**

1. **Check for wear and damage:**
   * Look for pitting, cracks, broken teeth, or unusual wear patterns.
   * If damage is found, the gear must be replaced.
2. **Measure the gear thickness using a digital caliper:**
   * Compare the reading with the specification in the manual (e.g., 12.5 mm ± 0.1 mm).
   * If out of range, use a new gear.
3. **Check gear backlash (clearance between teeth) using a feeler gauge:**
   * Compare the measurement with the acceptable range (0.15 mm ± 0.05 mm).
   * If out of tolerance, adjust the gear positioning during installation.

**Step 4: Install the New Gear**

1. Clean the mounting surface using a degreaser and a clean cloth.
2. Apply a thin layer of lubricant to the shaft and gear teeth.
3. Position the new gear correctly, ensuring proper alignment with existing components.
4. Secure the gear with bolts and use a torque wrench to tighten according to specifications.

**Step 5: Final Alignment and Testing**

1. Use a dial indicator with a digital display to check gear runout (misalignment).
   * The reading must not exceed 0.02 mm.
   * If out of tolerance, adjust the gear position.
2. Manually rotate the gear to ensure smooth movement.
3. Reinstall the housing cover and secure it with the 13mm wrench.

**Step 6: Documentation and Cleanup**

1. Record the following in the online maintenance log:
   * Gear replacement details (measurements, clearances, torque settings).
   * Condition of the old gear (reason for replacement).
   * Any additional notes or issues encountered.
2. Remove tools and debris from the work area.
3. Remove lockout/tagout devices and power on the machine.
4. Observe the machine running to ensure proper gear function.

# Work Sheet

**Task 1: List two safety precautions to follow.**

Answer:

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Task 2: Which tool is used to remove the gear assembly?**

Answer:

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**Task 3: The gear has pitting and a broken tooth. What should the millwright do?**

Answer:

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**Task 4: The gear backlash clearance measures 0.22 mm. What should the millwright do?**

Answer:

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**Task 5: In the Final Alignment and Testing what does the dial indicator measure?**

Answer:

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Task 6: List two items that must be recorded in the online maintenance log.**

Answer:

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

# Answers

**Task 1: List two safety precautions to follow.**

Answer: Any two of the following are acceptable

* Power off the machine and follow lockout/tagout (LOTO) procedures to ensure safety.
* Wear proper PPE (gloves, safety glasses, steel-toe boots).
* Verify that all moving parts are fully stopped before proceeding.

**Task 2: Which tool is used to remove the gear assembly?**

Answer: A 13 mm wrench

**Task 3: The gear has pitting and a broken tooth. What should the millwright do?**

Answer: Replace the gear

**Task 4: The gear backlash clearance measures 0.22 mm. What should the millwright do?**

Answer: Adjust the gear positioning during installation

**Task 5: In the Final Alignment and Testing what does the dial indicator measure?**

Answer: Checks the gear runout or misalignment

**Task 6: List two items that must be recorded in the online maintenance log.**

Answer: Any two of the following are acceptable

* Gear replacement details (measurements, clearances, torque settings).
* Condition of the old gear (reason for replacement).
* Any additional notes or issues encountered.

# Performance Descriptors

| Levels | Performance Descriptors | Needs Work | Completes task with support from practitioner | Completes task independently |
| --- | --- | --- | --- | --- |
| A1.2 | Scans text to locate information |  |  |  |
|  | Locates multiple pieces of information in simple texts |  |  |  |
|  | Reads more complex texts to locate a single piece of information |  |  |  |
|  | Makes low-level inferences |  |  |  |

This task: Was successfully completed Needs to be tried again

Learner Comments:

Instructor (print): Learner (print):

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