Instruction Manual: How to Repair a Leaky Faucet

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Assignment 3

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Introduction

A leaky faucet, caused by a worn washer, can lose up to fifty litres of water per day. This loss can result in a higher water bill, overuse of the septic system, and rust or chlorine deposits in your sink and pipes. These instructions detail how to replace the washer. No specialised knowledge, skills, or tools are necessary.

Overview

The typical faucet consists of a round knob or handle which, when turned, causes the stem to screw down until the washer sits snugly over the seat (see Figure 1). With the washer in place, the flow of water is stopped. A worn washer loses the ability to form a tight seal, causing the faucet to leak or drip. Replacing the worn washer will eliminate the leak.

Required Equipment and Materials

- pliers
- screwdriver (applicable to the screw type[s] used in the faucet)
- new washer (matching the old washer in shape and size)

Instructions

1. **Turn off water supply**

Look under the sink or fixture for the water supply valve. If you are unable to access or locate the sink valve, use the main water supply valve located in the basement or under the house. The water pipe (2.5-3.8cm, or 1-1.5 inches in diameter) usually originates from an inside cellar wall. Locate the valve by following the pipe from the wall to an attached valve, usually within a metre (or 3 feet) of the wall (see Figure 2). Fully rotate the valve clockwise. Once the water supply is turned off, the faucet can be disassembled.
2. **Disassemble the faucet**

   a) Before removing the handle, open the faucet to allow remaining water in the pipe to drain. Using the screwdriver, remove the screw on the top of the handle. If the screw is not visible, remove the cap cover (Figure 1a) on the tap handle to expose the screw. Once the screw is removed, separate the handle (b) from the rest of the faucet.

   b) Next, use pliers to remove the packing nut (c) by turning the nut counter-clockwise. The flat, circular packing washer (d) can now be removed from the faucet base (i). Once the packing nut and washer have been removed, screw the stem out of the base by turning the faucet counter-clockwise in the “open” direction. Lift the stem (e) out of the base (i).

3. **Replace the worn faucet washer**

   Using the appropriate screwdriver, remove the washer screw (g) from the stem (e). Remove the worn faucet washer (f) and replace with a new one of the same size and shape, using the washer screw (g) to hold it in place (if the washer screw is also worn, replace it with a new one).

4. **Reassemble the faucet**

   To reassemble the faucet, reverse the sequence described in Step 2. Using pliers, screw the stem (e) into the base (i) until it ceases to turn. Next, place the packing washer (d) and nut (c) over the stem. Tighten the packing nut (c) slowly and carefully: do not over-tighten the nut. Finally, secure the handle with the screwdriver, and ensure the handle is turned to the “off” position.

5. **Turn on the water supply**

   Double-check that the faucet is fully in the “off” position. Next, turn the water supply valve counter-clockwise slowly (approximately one half-turn at a time) until the valve is fully
open. The slow turns will prevent a sudden build-up of pressure, which could damage the pipes. Once the water supply is back on, test the faucet. It should now work without leaks or drips.

**WARNING:** Turning the water supply valve too quickly can result in water gushing out, flooding, and pipe damage.

**Figure 1**

*Typical faucet in exploded view*

![Faucet Diagram](image1)

*Note.* Source: (Lannon et al., 2012, p. 286).

**Figure 2**

*Location of main shut-off valve*

![Shut-off Valve Diagram](image2)

*Note.* Source: (Lannon et al., 2012, p. 287).
Reference


This example assignment has been adapted from: