

Standard Operating Procedure

Assignment 100 points

What is an SOP?

A standard operating procedure (SOP), pronounced "ess - oh- pee," is a document format for instructions used in industry, government agencies including DOE and PNNL, and the U.S. military. A generic template for a SOP is presented on page 3; please follow this template to arrange your own procedure for a task of your choice. Before going any further in this assignment, read chapter 14, "Writing Instructions" (pp. 375-385) in Markel. Sample procedures are embedded as links on web page 2 of this assignment; use these samples as models for writing your own procedure. There will be no peer review sessions for this assignment, so you will need to edit and proofread your own work carefully.



Assignment Instructions

Using the SOP template described on page 3, (download Word SOP Template) write a short procedure that pertains to your final project, job position or hobby. If you cannot think of a topic, then you might consider writing a procedure for one of the following activities, or something similar:

- How to change a bicycle tire
- How to change a car tire (replace a flat)
- How to do some task with mp3 files, QuickTime, Flash, WAV, etc.
- How to change the oil in a car's engine
- How to wash a car or truck
- How to edit a photo (adjust colors, etc.) using a smart phone or computer
- How to import a photo or graphic into a Word document
- How to cook or prepare a main course food or a dessert
- How to create a graph (line, pie, radar, bar, etc.) using Microsoft Excel
- How to cook meth in your basement (Good grief, NO; just seeing if you're paying attention!)
- How to tune a guitar or violin or how to move a piano
- How to sell something on Ebay or Craigslist
- How to clean or recondition a part or component
- How to (see sample topics in "categories" on the web page 2)

Requirements (Two Figures)

Aim for about 400-500 words (or 10 to 15 action steps) in your procedure. At least two figures (illustration or photograph) must be incorporated to reinforce a step or outcome. Ensure the following:

- each illustration is well-done, clear, and referenced in the text as figure 1, figure 2, etc.
- figure references or call-outs precede the figure itself.
- a figure title appears above and a one-sentence caption below.

Citing a Photo from a Web Site in a Figure Caption

I prefer that you take your own photos with a digital camera or smart phone and use those photos as figures in your procedure. However, if a figure is copied or adapted from a published source or web site and used in the definition, then the figure must be cited in parentheses in the figure caption and in the 7.0 References section. To cite a figure in the procedure, include the author or title of the web site in the figure caption. Note: the URL should not be included in the caption.



Figure 1. Replace the oil filter by twisting counterclockwise on the filter casing. Image retrieved from Briggs & Stratton (2009).



Figure 1. Replace the oil filter by twisting counterclockwise on the casing. Image retrieved <http://www.briggsandstratton.com/display> **NO**

Citation that Appears in References List (NOT the Caption)

Briggs & Stratton. (2009). *Changing Oil: Steps to Better Engine Maintenance*. Retrieved August 3, 2009 from http://www.briggsandstratton.com/maint_repair/routine_maintenance/changing_oil

References Use in SOP

To cite a non-periodical Web document in APA format, the student should list as many of the following elements as are available.

- Name of the author or organization that produced the web page
- Date of publication (if there is no date, use "n.d.")
- Title of document (in italics)
- Date you accessed the source
- A URL that will take readers directly to the source

7.0 REFERENCES

Cain, A., & Burris, M. (2009, April). *Investigation of the use of mobile phones while driving*. Retrieved January 15, 2010, from http://www.cutr.eng.usf.edu/its/mobile_phone_text.htm

Archer, Z. (n.d.). *Exploring nonverbal communication*. Retrieved July 18, 2010, from <http://zzyx.ucsc.edu/SAMPLE-archer>

If a source has no author, begin with the title and follow it with the date in parentheses.

What are the four categories of Procedures?

Here are some procedure topics to help you narrow a topic of your own. Aim for about 400-500 words (or 10 to 15 action steps) in your procedure.

Direct the Actions/Behavior of Personnel

- complete an administrative form
- specify inspection process
- implement a new payroll reporting procedure
- recommend ways to deal with delinquent accounts
- specify tool/part requisition procedure
- respond to a CBC or WSU survey

Direct the Assembly, Maintenance, or Construction of Objects or Mechanisms

- assemble a outdoor gas grill
- clean a shotgun (See EXAMPLE)
- assemble do-it-yourself entertainment center
- assemble and attach traverse drapery rods to the wall (this is deceptively simple!)
- construct a pre-fab tool shed
- construct a portable cold frame for vegetable seedlings

Direct the Operation of Equipment

- operate electron tunneling microscope
- operate a John Deere back hoe
- use syringe to inject insulin
- use micrometer to determine size
- operate a telephone switchboard
- install and format a new hard disk drive
- use a bread-maker

Direct the Implementation of a Process

- fell (cut down) a tree (See EXAMPLE)
- build, maintain, an extinguish a criss-cross campfire (See EXAMPLE)
- draw blood from a patient
- install memory or PCI cards in a computer
- perform CPR
- conduct a random-sample survey
- perform a dietary analysis

Your topic for this assignment should fit one the above four categories. Of course, the topic/subject is up to you; it doesn't need to be one that I've listed above!

What are the technical writing standards for procedures?

Accuracy: the procedure must be free from errors, mistakes, or distortion.

Feasibility : the procedure must be able to be carried out in the environment for which it was intended. All tools, parts, implements, equipment, gadgets, etc. needed for the procedure must be readily available and be listed up front. A procedure designed for a general audience but requires exotic tools and materials and esoteric knowledge is a useless procedure.

Specificity: the procedure should include only one action per procedural step. Vague or complicated action steps will certainly confuse even the most sympathetic reader.

Honesty : all portions of the procedure, especially the outcome or end result, must comply with ethical and legal standards. Specifications, dimensions, quantities, or equipment capabilities must not be misrepresented or exaggerated. Procedure writers should hold themselves to the same ethical standards they expect their readers to hold. (In other words, do not write procedures

on how to "hack" into a database to steal or change information; absolutely no procedures on how to perform euthanasia in the manner of Dr. Kevorkian, etc.)

Thoroughness: incomplete procedures require the reader to "fill in" missing steps or to invent their own alternatives to obtain the desired outcome. Thus, alternative action steps, contingencies, or other decisions should be included in the procedure.

Template for Standard Operation Procedure (SOP)

You should follow the format and heading structure below to prepare your own procedure (or download Word SOP Template). This means adopting the same heading structure and organization pattern. If you adapt an existing procedure from work or home, then acknowledge the old procedure in the references section. REQUIREMENT: include at least one clear photo, drawing, or other image to clarify important step or outcome in the procedure.

Format and Heading Structure for SOP

1.0 INTRODUCTION

A scope statement explains to whom the procedure applies, what circumstances it covers, and the intended outcome or result; it does not include essential actions. The statement answers the following questions:

- Why should the reader carry out the task?
- When should the reader carry out the task?
- Who should carry out the task?
- What are some key steps to consider before starting the procedure?

2.0 SAFETY

What safety measures or other concerns should the reader understand? When discussed in this section and used in section 5.0 below, safety terms indicate levels of seriousness of a task or step:

Danger! Likelihood of serious injury, including death [most forceful notice]

- **Danger!** The canister contains DEADLY radioactive material. Do not break the seal under any circumstances.

Warning! Potential for minor, moderate, or serious injury [forceful notice]

- **Warning!** To prevent electric shock, always disconnect your printer from its power source before cleaning the internal parts.

Caution! Potential damage to equipment or tools [least forceful notice]

- **Caution.** A power surge can erase or damage the internal memory of your computer. To avoid damage or losing your data, save your work frequently, every 5 to 10 minutes.

Note: Clarify a point, emphasize vital information, or describe options or alternatives

- **Note:** If you do not name the new folder, the computer will automatically label it "Untitled Folder."

3.0 DEFINITIONS

Any terms that might be ambiguous or that needs to be clarified should be defined before the procedural steps below. Use the 3-part form for all definitions. Definitions are often tied to particular codes or regulations above in section 7.0 REFERENCES at the end.

4.0 TOOLS and EQUIPMENT/PARTS

Include the list of necessary tools and equipment so that readers will not have to interrupt the procedure to search for something. Do NOT number the items or materials listed in this section; otherwise, the reader could confuse the information as steps in the procedure. You can use bullets or letters to list things:

- One 2-gauge, 3-piece cleaning rod
- One bronze cleaning brush for cleaning rod
- One slotted tip for cleaning rod

The list should specify precise numbers, dimensions, or quantities.

5.0 PROCEDURE

This is the step-by-step process -- the heart -- of your procedure. If possible, divide your procedural steps into several stages or phases. Immediately beneath the 5.0 Procedure heading write a summary of the steps, indicating that doing/performing X involves Y number of stages.

1. Stage or Phase One

1.1. Step 1

1.2. Step 2

2. Stage or Phase Two

2.1. Step 1

2.2. Step 2

3. Stage or Phase Three

3.1. (and so on)

Each step of the procedure should be stated as a directive (in the imperative mood -- with "you" implied). Type a period at the end of each step. Begin each step with a VERB (action statement). For example,

1. Attach the gizmo to the thing-a-mabob.
2. Connect the widget to the doo-hickey.
3. screw the multiplex crossover to the infibidulum. *And so on.* . .

- Allow only ONE clear action per step. The exception to this is if a concatenation of actions is necessary to list in one step.

For example, *push in the knob and turn it to the left until it stops turning*. This is a concatenation comprising the actions of *pushing* and *turning*, which would be awkward (or silly) if listed as separate steps.

- Place the appropriate **Warnings** or **Notes** in the proper locations in the sequence.

1. Make sure tree is still alive.
2. Determine the direction and amount of lean.

WARNING! If the tree is dead and leaning substantially, do not try to fell it without professional help. Many dead, leaning trees have a tendency to split along their length, causing a massive trunk section to fall spontaneously.

3. Find an opening into which the tree can fall in the direction of the lean or as close to the direction of the lean as possible.

NOTE: Because most trees lean downhill, try to direct the fall downhill. If the tree leans slightly away from your desired location, use wedges to direct the fall.

- Use familiar-to-unfamiliar sequence.

You must initialize a blank disk before you can store information on it. (less effective = unfamiliar-to-familiar sequence)

Before you can store information on a blank disk, you must initialize the disk. (effective = familiar-to-unfamiliar sequence)

- Use parallel phrases by starting each action step with a verb.

Steps NOT in parallel order (BAD)

1. Switch the terminal to "on."
2. The CONTROL key and C key are pressed simultaneously.
3. Typing LOGON, and pressing the ESCAPE key.
4. Type your user ID number, then press the ESCAPE key

Steps in Parallel Order (GOOD)

1. Switch the terminal to "on."
2. Press the CONTROL key and C key simultaneously.
3. Type LOGON and press the ESCAPE key.
4. Type your user ID number, then press the ESCAPE key

- Use affirmative (positive) phrases.

Verify that your disk is not contaminated with a virus. (less effective = Negative)

Examine your disk for virus contamination. (effective = Affirmative)

- Include relevant warnings and cautions in logical places in the procedure. Warning statements refer to potential harm to the operator; caution statements refer to potential damage to the tools, equipment, or materials involved in the procedure. (See 2.0 Safety above.)

- A general warning or caution may be needed to mitigate any legal liabilities.

6.0 CONCLUSION

Describe the outcome or results of the procedure. Discuss any variations or exceptions to the procedure. Create an empathetic bond between you and the reader so that he or she feels a sense of accomplishment from completing the procedure (e.g. *Congratulations, you can now enjoy/operate/use/apply.* . .).

7.0 REFERENCES (in APA format)

In this section, all the references used to write the procedure, if any, are listed in APA format, including information from OSHA, ANSI, and other standardized sources.

END Procedure Assignment