IQC 05
Technical Writing

A Short Introduction, with Exercises

Contents

What is Technical Writing?

What is Technical Writing?
Definition

❑ Communication written for and about business and industry, focusing on products and services [and policies?], and how to:
- manufacture them,
- market them,
- manage them,
- deliver them, and use them
- [or explain them?].

❑ Good technical writing (TW) is **precise**, **clear**, and **accurate**.

What is Technical Writing?
Examples of TW Documents

❑ Examples include:
- CVs and résumés
- Software manuals
- Company websites
- Instructions that come with a device
- A job description
- A falafel recipe
- Help files

- Code comments
- Safety protocols
- This presentation
- Official e-mails
- Use cases
- Briefing notes

❑ What about research papers, lab reports, theses, blog articles?

What is Technical Writing?
What TW is Not

- **Literature**
  - TW is not prose which recounts the fictional tales of characters
  - TW is not poetry which expresses deeply felt emotions through similes and metaphors

- **Essay**
  - TW does not narrate an occurrence
  - TW does not express an opinion

- **Journalism**
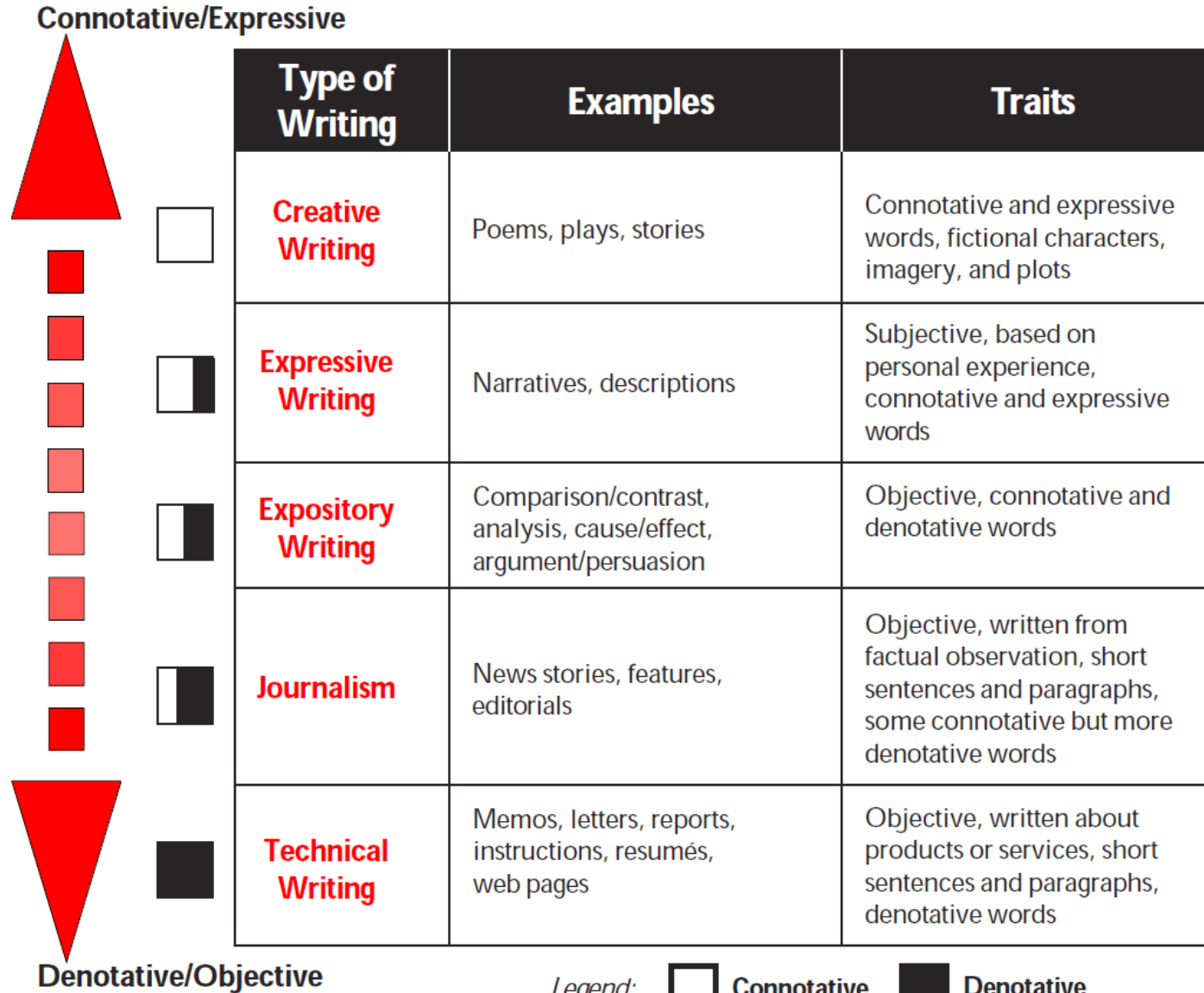 - TW does not narrate an event or report on news items

- **Personal**
  - TW does not focus on poetic images
  - TW does not describe personal experiences

What is Technical Writing?
The Communication Continuum

We read literature for pleasure, essays for enlightenment, and journalism for news.

We read technical writing to accomplish a job.

Connotative/Expressive

Type of Writing	Examples	Traits
Creative Writing	Poems, plays, stories	Connotative and expressive words, fictional characters, imagery, and plots
Expressive Writing	Narratives, descriptions	Subjective, based on personal experience, connotative and expressive words
Expository Writing	Comparison/contrast, analysis, cause/effect, argument/persuasion	Objective, connotative and denotative words
Journalism	News stories, features, editorials	Objective, written from factual observation, short sentences and paragraphs, some connotative but more denotative words
Technical Writing	Memos, letters, reports, instructions, resumés, web pages	Objective, written about products or services, short sentences and paragraphs, denotative words

Denotative/Objective

Legend: ☐ Connotative ■ Denotative

What is Technical Writing?
The Communication Continuum – Comparison

Ode to a Shoe

My son's tennis shoes rest temporarily in a heap against the kitchen door, their laces soiled, their tongues hanging out like exhausted terriers.

The soles, worn down on the insides from sliding into second, are green, the shades of summer.

Canvas exteriors, once pristine white, are the colors of the rainbow—sun bleached, mud splattered, rained on, ketchup and mustard adorned, each shoe shouting a child's joyous exuberance: "I'm alive!"

What is Technical Writing?
The Communication Continuum – Comparison

Technical Specifications for Manufacturing Tennis Shoes

The D40 Slammer Tennis Shoe will be manufactured to the following specifications:

- **Sole:** Neoprene rubber #345

    white enameled paint, 1.589" high

    Slammer waffle-textured©

- **Uppers:** Blue canvas
- **Tongue:** White canvas

    Oval Slammer© logo heat-pressure sealed, centered .50" from all sides

- **Laces:** 15" long, 100% cotton
- **Aglets:** Clear polyacetate plastic #290
- **Weight:** 1 lb. 6 oz.

Technical writing conveys precise information.

Exercise and Comments

Write a paragraph explaining why you are taking this course.

_____

Were you precise, clear, and accurate? Is this Technical Writing? Does it need to be?

- ❑ Communication skills are **essential**

- ❑ Most jobs require writing

- ❑The best idea in the world is worthless if it can't be communicated properly

- ❑ Ideas are preserved through written communication

The Five Components of Technical Writing

Five Components of Technical Writing

❑ **Development**
  ▪ Preparing and presenting evidence

❑ **Grammar**
  ▪ Spelling rules, syntax, conventions

❑ **Document Organization**

❑ **Style**

❑ **Document Design**
  ▪ Highlighting techniques and graphs

Five Components of Technical Writing

Comparison with Essays

Components	Technical Writing	Essays	Summary
Development	• Uses examples, anecdotes, testimony, data, research	• Uses examples, anecdotes, testimony, data, research	Same for both
Grammar	• It is important!	• It is important!	Same for both
Organization	• Provides an introduction, body, and conclusion • Uses a subject line vs. a thesis and itemization of points vs. transitional words • Uses topic sentences only when needed, dependent upon the type and length of correspondence	• Provides an introduction, thesis statement, body paragraphs, transitional words, and topic sentences	Similar in some ways, different in others
Style	• Uses short, denotative words; short sentences; and short paragraphs	• Uses longer, connotative words; longer sentences; and longer paragraphs	Different
Document Design	• Uses **highlighting techniques,** such as graphics, headings, subheadings, various fonts, white space, bullets, etc.	• Not usually a factor	Different

Five Components of Technical Writing
Development

❑ Uses examples, anecdotes, testimony, data, research

❑ Start with **overall objectives**, then get into details (items, steps, etc.)

❑ Logical progression

❑ Research often includes looking up information from various sources (keep track of them and cite as necessary)

❑ Presentation of data and evidence is **crucial:** use paragraphs, but also charts, graphs, and tables

[Information for this presentation taken from J. Cole's *Technical Writing Workshop* and S.M. Gerson's *Writing That Works*]

Exercise
Development

You are tasked with explaining to a group of children how to put together a LEGO kit.

What's your approach?
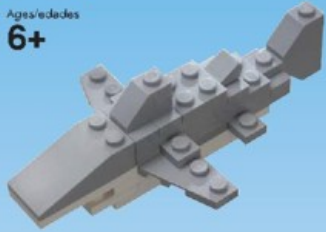
Exercise
Development

Objective

Steps

Steps

Required Items

Five Components of Technical Writing
Grammar

❑ Always use correct grammar and spelling, no matter what language your writing in – mistakes undermine what you're trying to say

❑ When in doubt, look it up or get help from someone who knows

❑ I should use the second person and talk directly to my readers

❑ Avoid slang, dawg!

❑ Don't be, like, real informal

❑ Explain acronyms: there are many possible meanings for most TLAs.

Five Components of Technical Writing
Grammar

❑ Always use correct grammar and spelling, no matter the language in which you write – mistakes undermine what you're trying to say

❑ When in doubt, look it up or get help from someone who knows

❑ Use the second person; talk directly to your reader

❑ Avoid slang

❑ Don't be informal

❑ Explain acronyms: there are many possible meanings for most Three Letter Acronyms (TLAs)

Five Components of Technical Writing
Grammar

❑ Use your spell-checker wisely

❑ Don't shift tenses in the middle of a sentence

❑ A sentence has a subject and a predicate
[see https://www.wyzant.com/resources/lessons/english/grammar/parts-of-a-sentence for definitions and examples]

❑ Don't run your sentences together – this makes them hard to understand

❑ Make the antecedents of your pronouns clear
[see http://grammar.yourdictionary.com/parts-of-speech/pronouns/pronoun-antecedent.html for definitions and examples]

Five Components of Technical Writing
Grammar

❑ Use correct punctuation: periods end sentences and commas separate dependent clauses

❑ Periods go inside quotation marks and parentheses (all of the time.)

❑ Avoid semicolons in technical writing; they can make it too complex

❑ Apostrophes are not used to form a plural: "Lend me your CD's!" Apostrophes are used for contractions and possessives: e.g. *its* and *it's*

❑ U r not txting lol

Exercise
Grammar

Candidate for a Pullet Surprise
by Mark Eckman and Jerrold H. Zar

Eye halve a spelling check her;
It came with my pea sea.
It plane lee marks four my revue
Miss steaks aye kin knot sea.

Eye ran this poem threw it
Your sure reel glad two no.
Its vary polished in it's weigh,
My checker tolled me sew.

A check her is a bless sing;
It freeze yew lodes of thyme.
It helps me right awl stiles two reed,
And aides me when aye rime.

Each frays come posed up on my screen
Eye trussed too bee a joule;
The checker pours o'er every word
To cheque sum spelling rule.

Bee fore wee rote with checkers
Hour spelling was inn deck line,
Butt now when wee dew have a laps,
Wee are knot maid too wine.

Butt now bee cause my spelling
Is checked with such grate flare,
Their are know faults with in my cite,
Of nun eye am a wear.

Now spelling does knot phase me,
It does knot bring a tier;
My pay purrs awl due glad den
With wrapped words fare as hear.

To rite with care is quite a feet
Of witch won should be proud;
And wee mussed dew da best wee can
Sew flaws are knot aloud.

That's why eye brake in two averse
Cuz eye dew want too please.
Sow glad eye yam that aye did bye
This soft wear four pea seas.

Exercise
Grammar

❑ Fix the poem to be grammatically correct

❑ Make the previous sentence concise

"Make the poem grammatically correct"

"Correct the poem's grammar"

Example
Grammar

Candidate for a Pulitzer Prize
by Mark Eckman and Jerrold H. Zar

I have a spelling checker;
It came with my PC.
It plainly marks for my review
Mistakes I cannot see.

I ran this poem through it
You're sure real glad to know.
It's very polished in its way,
My checker told me so.

A checker is a blessing;
It frees you loads of time.
It helps me write, all styles to read,
And aids me when I rhyme.

Each phrase composed upon my screen
I trust to be a jewel;
The checker pores o'er every word
To check some spelling rule.

Before we wrote with checkers
Our spelling was in decline,
But now when we do have a lapse,
We are not made to whine.

But now because my spelling
Is checked with such great flair,
There are no faults within my sight,
Of none I am aware.

Now spelling does not faze me,
It does not bring a tear;
My papers all do gladden
With wrapped words far as near.

To write with care is quite a feat
Of which one should be proud;
And we must do the best we can
So flaws are not allowed.

That's why I break into a verse
Cause I do want to please.
So glad I am that I did buy
This software for PCs.

Five Components of Technical Writing
Document Organization

❑ Technical Writing does not **usually** employ
- topic sentences (sentence summarizing the paragraph)
- transitions between and within paragraphs
- thesis statements (abstracts or summaries)

❑ In a memo or letter, the thesis statement is **usually** replaced by a subject line

❑ Technical Writing uses short paragraphs (small number of sentences expressing a single idea, with support)

Five Components of Technical Writing
Document Organization

❑ Transitional words and phrases can be replaced by
- enumerated lists
- list of bullets (•,–, etc.)
- headings and subheadings

❑ Provide an introduction, a body, and a conclusion

❑ Put the most useful, general information first

❑ Follow it with detail

Exercise
Document Organization

Write a rough outline (with section and sub-section headers and main ideas) for a blog article on a topic of your choice.

Keep in mind that the document's organization is dependent on the target audience.

Five Components of Technical Writing
Style

❑ Technical Writing uses
  ▪ short, denotative words;
  ▪ short, simple sentences;
  ▪ short paragraphs with charts (as required)

❑ Focus is on **audience** and **purpose**

❑ Remember: the reader of technical writing does not necessarily have an interest in the subject matter

❑ People do not read technical writing, such as instructions, for pleasure

❑ Technical Writing is a means to an end

Exercise
Style

Scenario: you are driving late at night on a back road in the country. It is snowing and you have not seen another car for at least 30 minutes. You hit a pothole and realize that one of your tires has been perforated. You have never changed a tire in your entire life. You pull over to the side of the road, open the glove compartment and take out the car's owner manual.

What would you want the instructions to read like?

Exercise
Style

Equipment necessary to change the tire are a lift jack and a wrench. Use the jack to lift the vehicle and pick the tire up off the ground. Then use the wrench to loosen the lug nuts on the wheel. Once all the lug nuts are loose, remove them one by one and keep them in a safe place nearby.

After the lug nuts are removed, the wheel and tire can be removed from the car. If a spare wheel is being put in its place, locate the spare wheel under the flooring of the trunk area, and take it out. Place the spare tire onto the lug bolts, and repeat the removal process in reverse order. Start by screwing on each lug nut, and then once all the lug nuts are screwed on, use the wrench to tighten the wheel to the disc plate.

After all the lug nuts are fully tightened, disengage the jack to bring the car back to the ground. Do not exceed 50 miles per hour using a spare and changing the spare back to a standard tire as soon as possible.

[Subaru.com]

Five Components of Technical Writing
Document Design

❑ Document design refers to the physical layout of the correspondence.

❑ Technical writing uses **highlighting techniques**:
  ▪ graphics and bullets, headings and sub-headings
  ▪ small **number of** different **FONTS**, colours, **and** accents (**bold**, *italics*, underline) can help – **BUT** DON'T *OVERDO* it! (I'm serious. Please don't.)

❑ For sequential instructions, use numbered lists

❑ For longer documents, include a table of contents and an index

❑ For online documents, use hyperlinks

Five Components of Technical Writing
Document Design

❑ Avoid clipart and low-resolution images

❑ Organizations may already use a set of templates with writing rules

❑ **LaTeX** can help you manage all this (so can Wizards from Microsoft Office)

Exercise
Document Design

Let's revisit the flat tire example.

Did you feel that the information was precise?

Did the message get across?

Did you understand it?

Would you have been able to change the tire?

What, if anything is missing?

Exercise
Document Design

Flat tires

If you have a flat tire while driving, never brake suddenly; keep driving straight ahead while gradually reducing speed. Then slowly pull off the road to a safe place.

■ Changing a flat tire

⚠ WARNING

- Do not jack up the vehicle on an incline or a loose road surface. The jack can come out of the jacking point or sink into the ground and this can result in a serious accident.
- Use only the jack provided with your vehicle. The jack supplied with the vehicle is designed only for changing a tire. Never get under the vehicle while supporting the vehicle with this jack.

Exercise
Document Design

- **Always turn off the engine before raising the flat tire off the ground using the jack. Never swing or push the vehicle supported with the jack. The jack can come out of the jacking point due to a jolt and this can result in a serious accident.**

1. Park on a hard, level surface, whenever possible, then stop the engine.

2. Apply the parking brake and shift the shift lever in reverse (MT models) or the select lever in the "P" (Park) position (CVT models).

3. Turn on the hazard warning flasher and have everyone get out of the vehicle.

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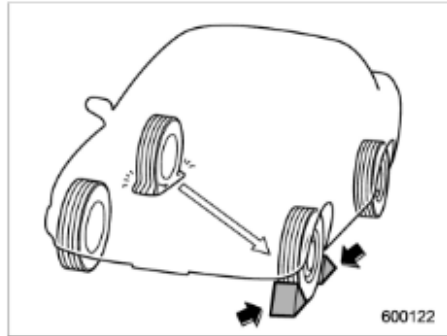
4. Put wheel blocks at the front and rear of the tire diagonally opposite the flat tire.

5. Take out the jack, jack handle and wheel nut wrench.

The tools and the spare tire are stored under the floor of the trunk (Legacy) or the cargo area (Outback). Refer to "Maintenance tools" ☞9-3.

NOTE

Make sure that the jack is well lubricated before using it.

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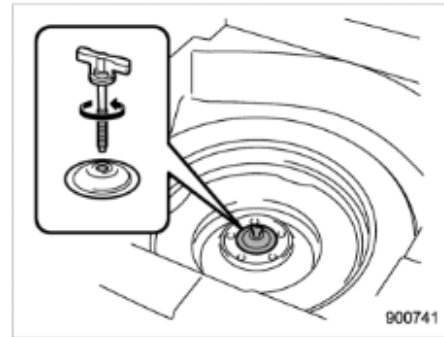
6. Take out the under-floor storage compartment and turn the attaching bolt counterclockwise, then take the spare tire out.

NOTE

Carefully read "Temporary spare tire" ☞9-2 and strictly follow the instructions.

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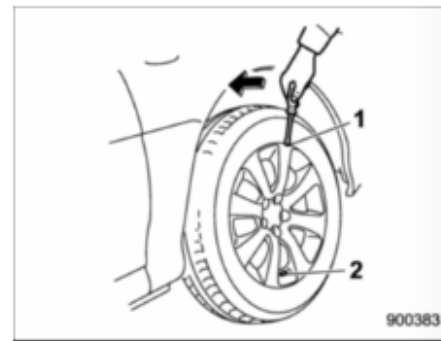
1) Notch
2) Valve hole

7. If your vehicle has wheel covers, insert a flat-head screwdriver into the notch on the opposite side of the valve hole and pry the wheel cover to remove it.

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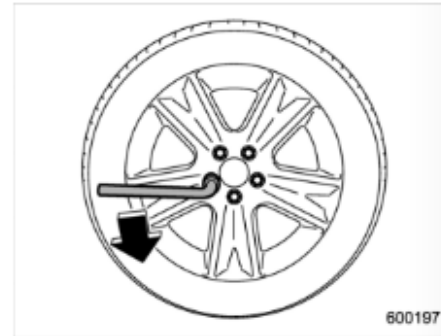
Exercise
Document Design

8. Loosen the wheel nuts using the wheel nut wrench but do not remove the nuts.

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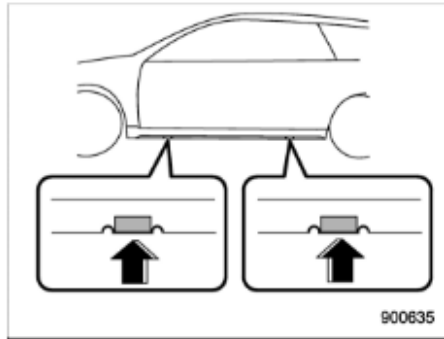
9. Place the jack under the side sill at the front or rear jack-up point closest to the flat tire.

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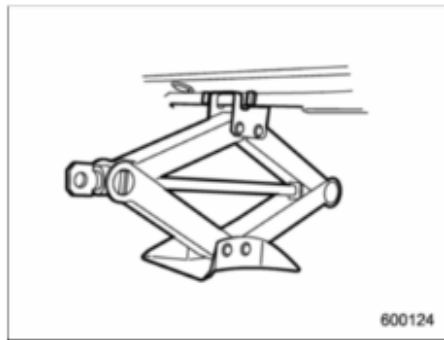
Turn the jackscrew by hand until the jack

head engages firmly into the jack-up point.

900588

10. Insert the jack handle into the hole of the wheel nut wrench.

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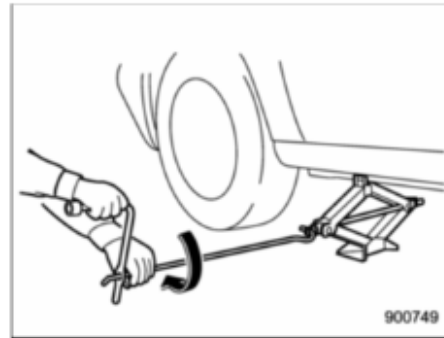
11. Insert the jack handle into the jack-screw, and turn the handle until the tire clears the ground. Do not raise the vehicle

higher than necessary.

12. Remove the wheel nuts and the flat tire.

900009
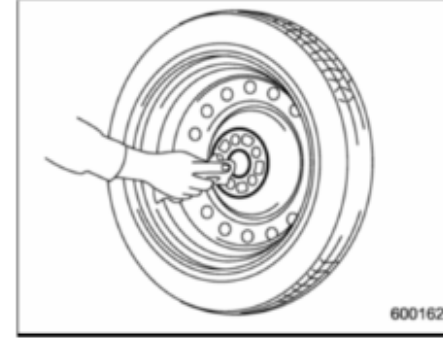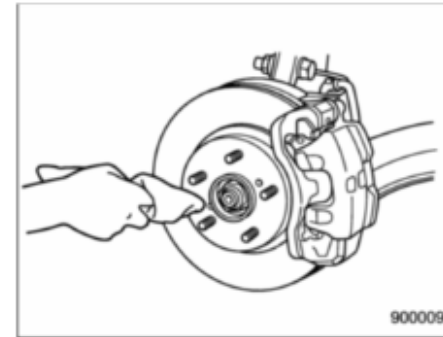
13. Before putting the spare tire on, clean the mounting surface of the wheel and hub with a cloth.

600162

– CONTINUED –

Exercise
Document Design

14. Put on the spare tire. Replace the wheel nuts. Tighten them by hand.

⚠ **WARNING**

Do not use oil or grease on the wheel studs or nuts when the spare tire is installed. This could cause the nuts to become loose and lead to an accident.

15. Turn the jack handle counterclockwise to lower the vehicle.

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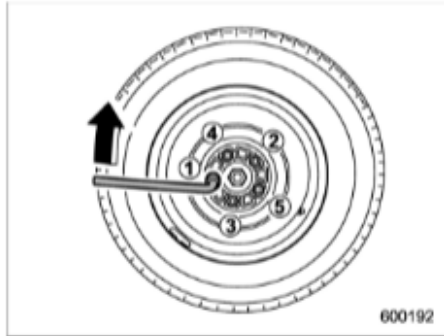
16. Use the wheel nut wrench to securely tighten the wheel nuts to the specified torque, following the tightening order in the illustration.

For the wheel nut tightening torque, refer to "Tires" ☞12-9. Never use your foot on

the wheel nut wrench or a pipe extension on the wrench because you may exceed the specified torque. Have the wheel nut torque checked at the nearest automotive service facility.

17. Store the flat tire. For details, refer to "Storing a flat tire" ☞9-8. Also store the jack and jack handle in their storage locations.

⚠ **WARNING**

Never place a tire or tire changing tools in the passenger compartment after changing wheels. In a sudden stop or collision, loose equipment could strike occupants and cause injury. Store the tire and all tools in the proper place.

■ **Storing a flat tire**

▼ **Storing in the spare tire compartment (Legacy)**

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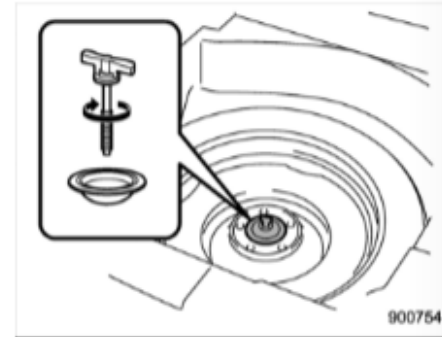
Store the flat tire in the spare tire compartment. Put the spacer and tighten the attaching bolt firmly.

[Owner's Manual - Subaru Outback 2016]

Traits of Technical Writing

Traits of Technical Writing

❑ **Clarity**

❑ **Conciseness**

❑ **Accessible Document Design**

❑ **Audience Recognition**

❑ **Accuracy**

[Concepts and Exercises from S.M. Gerson's *Writing That Works*]

Traits of Technical Writing
Clarity

Unclear Memo Example

From: Manager Untel
To: New Employee Smith
Subject: Meeting

Please plan to prepare a presentation on sales. Make sure the information is very detailed. Thanks.

❑ What don't we know in this memo?

❑ What should have been included for clarity?

The 6 Ws

- **When**'s the meeting?
- **Where**'s the meeting?
- **Who**'s the meeting for?
- **How** much information is "very detailed"?
- **How** will the presentation be made?
- **Why** is this meeting being held?
- **What** does the manager want to be conveyed about sales?

Traits of Technical Writing
Clarity

Clear Memo Example

From: Manager Untel
To: New Employee Smith
Subject: Sales Staff Meeting

Please make a presentation on improved sales techniques for our sales staff. The meeting is planned for March 28, 2017, in Room 23, from 7:00am - 6:00pm.

Our quarterly sales are down 27%. We need to help our staff accomplish the following:
      1. Make new contacts.
      2. Close deals more effectively.
      3. Earn a 25% profit margin on all sales.

Use the new multimedia presentation system to give your talk. With your help, I know our company can get back on track.

Thanks

Traits of Technical Writing
Clarity

❑ The **most important criteria** for effective technical writing. With lack of clarity, the reader will either contact the writer for further clarification, or just ignore the information
- the writer's and reader's time is wasted
- the message is lost

❑ **Scenario:** your have written a safety manual for furnace maintenance. If the writing is not clear and the reader fails to understand the content:
- **BAD** – The furnace is damaged. The company replaces the furnace, costs accrue, and public relations have been frayed.
- **WORSE** – Someone gets hurt, leading to pain, anxiety, doctor's bills, and bad public relations.
- **EVEN WORSE** – The company is sued and loses money, you lose your job, and public relations are severed.

Traits of Technical Writing
Clarity

The 6 Ws (reprise)

❑ **Who?** Who is your audience? Are they beginners or experts?

❑ **What?** What do you want your audience to know or do?

❑ **When?** In what order are things happening?

❑ **Where?** Where will the work take place?

❑ **How?** How should the task be performed?

❑ **Why?** Why is this information important?

Traits of Technical Writing
Clarity

❑ Avoid imprecise words: *many, few, short, often, recently, thin,* etc.

❑ Use precise words and terminology:
  ▪ "Don't block the user interface thread for more than 2 seconds"
  ▪ "Use four inches of 26-gauge black wire"

❑ Front-load your sentences with important information:
  ▪ "Unfortunately, your program has timed out."
  ▪ "Network connection unavailable. Call 5555 for technical support."

❑ "I had eggs scrambled with cheddar cheese and toast for breakfast this morning."
  ▪ Were the eggs scrambled with cheese and toast?

❑

Exercise
Clarity

Revise the *italicized* vague words and phrases, specifying exact information.

(Invent numbers as required.)

Specificity	
Vague Word(s)	**Specified**
I have a **low GPA.**	I have a 6.3 GPA.
The b-ball player was **really tall.**	The basketball player was 6 feet, 7 inches.
I'll be home **as soon as possible.**	I'll be home by 6 o'clock.
The team has a **losing record.**	The team has a 2-5 record.
The computer has **lots of memory.**	The computer has 6 Gigs of memory.

Traits of Technical Writing
Conciseness

Consider the question asked in the 1980's Referendum on Québec Independence:

> The Government of Québec has made public its proposal to negotiate a new agreement with the rest of Canada, based on the equality of nations; this agreement would enable Québec to acquire the exclusive power to make its laws, levy its taxes and establish relations abroad – in other words, sovereignty – and at the same time to maintain with Canada an economic association including a common currency; any change in political status resulting from these negotiations will only be implemented with popular approval through another referendum; on these terms, do you give the Government of Québec the mandate to negotiate the proposed agreement between Québec and Canada?

❑ Do you understand the question? Do you remember what you read?

❑ Did you even finish reading it?

Do you want Québec to be independent of Canada?

Traits of Technical Writing
Conciseness

❑ **Concise** means saying much with few words

❑ Keep it short and to the point – **Technical Writing Must Fit in the Box**

❑ Its opposite is **pleonasm**, which is using many words where few will do

❑ Documents must often fit in a specific physical space
  ▪ Résumé might have to be at most 2 pages
  ▪ Car owner's manual must fit in glovebox

❑ Avoid passive voice:
  ▪ "Approximately 2000 records per minute are processed by the system" vs.
  ▪ "The system processes approximately 2000 records per minute"

Exercise
Conciseness

Change the following long words to shorter words.

Changing Long Words to Short Words	
Long Word	**Short Word**
utilize	use
anticipate	await
cooperate	help
indicate	show
initially	first
presently	now
prohibit	stop
inconvenience	problem

Exercise
Conciseness

Change the following long phrases to one word.

Changing Long Phrases to One Word	
Long Phrase	**One Word**
In the event that	if
At this point in time	now
With regard to	about
In the first place	first
Is of the opinion that	thinks
Due to the fact that	because
Make revisions	revise
Take into consideration	consider
With the exception of	except
Make an adjustment of	adjust

Exercise
Conciseness

Revise the following long sentences, making them shorter.

1. I will be calling you on May 31 to see if you have any questions at that time.
- I will call on May 31 to answer questions.

2. If I can be of any assistance to you in the evaluation of this proposal, please feel free to give me a call.
- If I can help you assess this proposal, please call.

3. The company is in the process of trying to cut the cost of expenditures relating to the waste of unused office supplies.
- The company is trying to cut costs of unused office supplies.

4. I am of the opinion that graduate students have too much work to do.
- I think graduate students are overworked.

Exercise
Conciseness

Revise the following long sentences, making them shorter (continued).

5. In the month of July, my family will make a visit to the province of New Brunswick.

- In July, my family will visit New Brunswick.

6. It is the company's plan to take action to avoid problems with hazardous waste.

- The company plans to avoid hazardous waste problems.

7. On two different occasions, the manager of personnel met with at least several different employees to ascertain whether or not they were in agreement with the company's policies regarding overtime.

- Twice, the personnel manager met with six employees to learn if they agreed with the company's overtime policies.

Traits of Technical Writing
Accessible Document Design

Consider the following paragraph:

Regarding part number 315564-000, we received 541 units of wafer #3206-2. These were rejected. For the same part number, we received 643 units of wafer #3206-4. These were accepted. Three hundred and twenty-nine units of wafer #3206-5 from the same part number. These were accepted. Next, 344 of part number 315564-000's wafer #3206-6 were accepted. However, the 143 units of wafer #3206-7 (same part number) were rejected. Finally, all 906 units of wafer #3206-8 were rejected. These also were from part number 315564-00.

❑ At a density of 8.4 words per sentence, the writing is **concise**; it is also **clear**, due to specificity of detail.

❑ Does the text succeed? (Is it intelligible?)

❑ The layout makes it nearly **impossible** for the reader to understand the text.

Traits of Technical Writing
Accessible Document Design

❑ Wall-to-wall words turn off readers.

❑ **Highlighting techniques** open the text and make it inviting, while allowing for understanding and insight.

Part Number 315564-00			
Wafer #	Quantity Received	Accepted	Rejected
3206-2	541		X
3206-4	643	✔	
3206-5	329	✔	
3206-6	344	✔	
3206-7	143		X
3206-8	906		X

Traits of Technical Writing
Accessible Document Design

❑ Document design refers to the physical layout

❑ Technical documents are often used for reference only – **the reader may have little interest in the subject** (!!!)

❑ Long documents require a table of contents and an index

❑ Use hyperlinks in online documents and bookmarks in PDFs

❑ Don't use paragraphs that look like a "wall of words"

❑ Use tables to present information clearly

… and go easy on the animations.

Exercise
Accessible Document Design

Reformat the following text by using highlighting techniques. Consider using bullets or numbers, headings, boldface or underlining, and white space

To make a pie chart using your word processing package's graphic components, turn on the machine. Once it has booted up, double click on the word processing icon. After the system is open, click on "graphic," scroll down to "chart," and double click. Next, click on "data chart types" and select "pie." Once you have done this, input your new data in the "data sheet." After this has been completed, click anywhere on the page to import your new pie chart. If you want to make changes, just double click again inside the pie chart; then you can revise according to your desires.

Exercise
Accessible Document Design

SUBJECT – Making a pie chart using your word processing package

Preamble

1. Start by turning on the computer to boot up the operating system

2. Double click on the word processing icon and wait for the program to open.

Instructions

1. Click on "graphic."

2. Scroll down to "chart" and double click.

3. Click on "data chart types" and select "pie."

4. Input your new data in the "data sheet."

5. Click anywhere on the page to import your new pie chart.

To make changes, double click inside the pie chart.

Traits of Technical Writing
Audience Recognition

❑ Essentially, there are three kinds of audiences for Technical Writing:

▪ **High-Tech Peers** – readers are in the same profession at roughly the same level as the writer (or higher)
Example: email to counterpart in another company

▪ **Low-Tech Peers** – readers who may not have the same level of expertise as the writer but who need to understand the subject
Example: summary of a software design document written for a manager

▪ **Lay Readers** – everybody else
Example: list of possible side-effects of a medication, written for an elderly patient

❑ Write differently to each audience type:

▪ High-Tech Peers can handle acronyms and abbreviations

▪ Low-Tech Peers might also require parenthetical definitions

▪ No acronyms for Lay Readers, but a need for follow-up explanations

Traits of Technical Writing
Audience Recognition

Or with **Highlighting techniques ...**

Achieving Audience Recognition		
Audience	**Style**	**Example**
High Tech Peers	Abbreviations/ Acronyms OK	Please review the enclosed **OP** and **EN.**
Low Tech Peers	Abbreviations/ Acronyms need parenthetical definitions.	Please review the enclosed **OP** (Operating Procedure) and **EN** (Engineering Notice).
Lay Readers	No abbreviations/ acronyms. Explanations instead.	By following the enclosed operating procedure, you can ensure that your printer will run to our engineers' desired performance levels.

Exercise
Audience Recognition

Make a list of 4-6 acronyms or abbreviations from an area of interest.

How many of the participants understand your acronyms?

Define / explain the terms for Low-Tech Peer / Lay Reader.

Traits of Technical Writing
Accuracy

❑ Technical writing must be **accurate**:
  ▪ information must be correct and representative
  ▪ no information must be missing

❑ Inaccuracies can create nuisances, but can also be downright dangerous

❑ Accuracy often involves counting and measuring

❑ Difference between accuracy and **incompleteness** (or imprecision):
  ▪ "Use 4 feet of 3/8-inch rebar" when the requirement is for 1/2-inch rebar
  ▪ "Use 4 feet of rebar" does not specify diameter, so the builder isn't sure

Traits of Technical Writing
Accuracy

❑ Finish writing, let it sit, then re-read and see what you might have left out or gotten wrong

❑ Have someone else read it

❑ Read it aloud, and slowly

❑ Read it backwards, or upside-down

❑ Careful with the spellchecker!

Exercise
Accuracy

Describe your footwear, as accurately as possible.

Without knowing the purpose of the task, how difficult is it to know how long or how specific you should be?

Traits of Technical Writing
Once More, With Feeling

Trait	
CLARITY Organization	• Important points come first • Reporter's Questions answered • Specific, denotative words used
CONCISENESS Sentence fluency/ word choice	• Words are generally one or two syllables • Sentences average 10-12 words • Paragraphs do not exceed six typed lines

ACCESSIBLE DOCUMENT DESIGN Ideas and Content	• Highlighting techniques emphasize main points to help access • Highlighting techniques not overused
AUDIENCE RECOGNITION Voice	• Writer defines all high-tech terms • Writer considers audience needs • Writer uses pronouns to involve audience
ACCURACY Writing Conventions	• Correct punctuation • Correct spelling • Correct grammar & usage

[By Carmen Shelly]

References

References

1. S.M. Gerson, *A Teacher's Guide to Technical Writing*

2. J. Cole, *Technical Writing Workshop*

3. M.H. Larock, J.C. Tressler, C.E. Lewis, *Mastering Effective English*

4. J. Freeman, *Becoming a Better Editor of Your Own Work*

5. G.D. Gopen, J.A. Swan, *The Science of Scientific Writing*

6. J.M. Williams, *Style: Ten Lessons in Clarity and Grace*

7. D. Hacker, *The Bedford Handbook*

8. Writing at the University of Toronto – http://writing.utoronto.ca/