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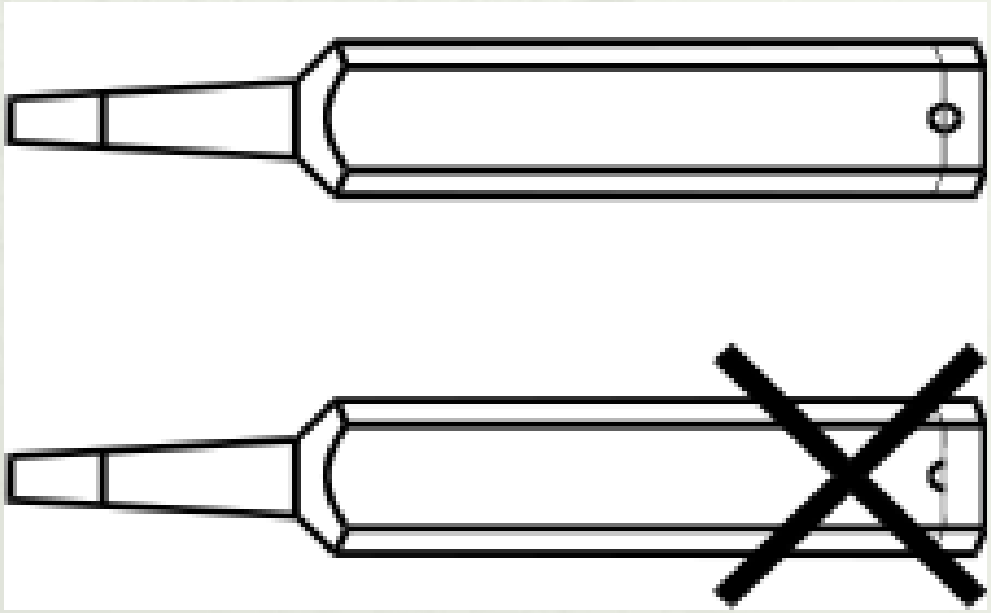
User's Manuals



#%$@ing thing.

–Anonymous 340 Engineer

Learning Objectives

- By the end of this module, you will understand some of the **audience and organizational issues** to consider when writing user's manuals.
- As well, you will have briefly reviewed some of the issues related to **writing style** that are important when writing an array of documents.

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Methodological Issues

- Think of manuals as devices or systems that must undergo the same engineering processes as any other system or device:
  - Conceptualization
  - Analytic testing (of device and users)
  - Design
  - Implementation
  - Empirical testing (of device and users)
  - Revision
  - Production
- **Example: Electronic Blood Pressure Gauge**

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Audience Issues

- What level of expertise does your audience have?
  - Expert?
  - Low?
  - Mixed?
- The organization, style, and format that you use depend critically upon the answer to this question.

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Authorship Issues

- Should Engineers write user manuals? Or should a writing expert be engaged?
  - Technical Manuals?
  - User Manuals?
- The answer depends upon the expertise of the audience.
- For technical manuals written for those with a high level of expertise – yes.
- For user and operator manuals – maybe.

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Process Issues

1. Engineering/technical staff write first cut of the manual.
2. Manual is passed off to a writing specialist along with a sample of the device/program.
3. A draft of the manual is designed and tested by the writing specialist against the sample device/program.
4. The manual is returned to the Engineer for revisions.
5. **Manual is tested with real users (both analytical and empirical testing).**
6. Further revisions (include marketing and legal staff).
7. Production.

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Organizational Issues

- Ensure headings accurately represent the information contained within the section (i.e., use descriptive headings).
- Provide a table of contents with two or three levels of headings (and an index if the document is sufficiently lengthy).
- Move from non-technical to technical, from general to specific, from simple to complex.
- Avoid ***Go To*** instructions in paper manuals (i.e., instructions that refer users to another part of the manual). **Go To** instructions are *de rigueur* in electronic manuals.
- Consider carefully whether video user manuals are appropriate given the technical detail and expected user. Greater technical detail and lower user expertise indicate that a paper manual is likely a better choice than video.

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Organizational Issues (cont'd)

- Use an organization appropriate to your audience:
  - A task-oriented organization (i.e., installation, start-up, write, edit, save, etc.) is often most appropriate for the low to average expertise user.
  - An option/component-oriented orientation (i.e., Menu 1, Sub-Menu 1.1, 1.2, Menu 2, Sub-Menu 2.1, etc.) is often most appropriate for those with a high level of technical expertise.
  - Two-part document for mixed audiences (technical details in appendix, or both video and printed versions).

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Organizational Issues (cont'd)

- A standard organization:
  - Prefatory (title page, TofC, LofF, LofT)
  - General Information (copyright, support, conventions used, glossary, organization of manual, warranty)
  - Packaging and handling information
  - Installation information
  - Usage information
  - Appendices (troubleshooting guide, FAQ, technical information, index)

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Rhetorical Issues

- Write in the 2nd person rather than the 3rd person: use "When ***you*** do X, then Y happens" rather than "When ***the user*** does X, then Y happens"
- Use shorter sentences and paragraphs than usual (a grammar checker is very useful here – grade 10 to 12).
- Keep your language as simple as possible and avoid using unnecessary jargon. Include a glossary for those technical terms which you must include.
- Repeat important information several times.
- Use examples in your explanations.
- Use metaphors and analogies appropriate for the user.
- Use humor when possible. A user who is having fun is generally also learning. (Exercise some caution here as users with a high level of expertise may find this irritating.)

The Seven Deadly Sins of Style in User Manuals

- Talkie Verbs (too general)
- Vague “This” Subjects (too general)

- Empty Sentence Openers (wasted space)
- Nominalizations (wasted space & too complicated)

- Noun Strings (too complicated)
- Prepositional Phrases (too complicated)
- Passive Voice (too complicated)

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Style: Talkie Verbs

Use verbs with precise meanings rather than general verbs (i.e., use ***calculate***, ***print***, or ***record*** rather than ***make***).

(Be)	Drive	Go	Look	Seem
Bring	Face	Grow	Make	Show
Carry	Feel	Have	Place	Take
Come	Find	Hold	Put	Think
Deal	Get	Keep	Say	Try
Do	Give	Know	See	Turn

Because of the team's ignorance, no one could **know** at the beginning what the product was **going** to **look** like or how long it was **going** to **take** them to **make** it.

Style: Vague “This” Subjects

Avoid vague “this” subjects: change **“Pressing *this* will turn the device on”** to **“Pressing *this button* will turn the device on”**

This (???)	**Verb/Object**

The next recommendation is to clarify the rewards structure. **This** is required to maintain motivation on projects where many extra hours are required and no overtime policy exists. **This** can be critical for commitment from employees.

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Style: Empty Sentence Openers

Avoid empty sentence openers: change **"There are two solutions to the problem"** to **"The problem has two solutions"**

There is/are . . .	**(that/which)**
It is . . .	**(that)**

There are many aspects of the problem **that** have not yet been considered.

It is probable **that** we should measure the wind characteristics at the site.

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Style: Nominalizations

Use a verb-based style rather than a noun-based style: change **"*The assumption of* mixed subcompartments makes it difficult *to make reliable predictions of* chemical concentrations"** to **"*Assuming* mixed subcompartments makes it difficult to *reliably predict* chemical concentrations"**

Verb Form	Noun Form
require	requirement of
impose	imposition of
discuss	discussion of
resemble	resemblance to
remove	removal of
fear	fear of

Our request is that on your return, you conduct **a review of** the data and provide **an immediate report**.

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Style: Noun Strings

Break up noun strings: change ***"Integrated Circuit Mixed Analog/Digital Integrated Circuit Product Delivery Process Benchmarking"*** *to* ***"Benchmarking the Mixed Product Delivery Process for Analog/Digital Integrated Circuits"***

Noun	**Noun**	**Noun**	**Noun**	**Noun**	**Noun**

The wind pattern was further illustrated following a **recovery boiler electrostatic precipitator fire** at the site in 1988.

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Style: Prepositional Phrases

Avoid strings of prepositional phrases: change **"One example of the effects of such a lack of effective strategies, project orientation, and interdepartmental cooperation is our low morale"** to **"For example, because we lack effective strategies, project orientation, and interdepartmental cooperation, our morale is low"**

in . . .	**on . . .**	**of . . .**	**of . . .**	**of . . .**	**at . . .**

More detailed analysis, using Cepstrum technique, is applied based **on** computation **of** the power spectrum **of** the logarithm **of** the power spectrum **of** the vibration data obtained **from** the accelerometer **on** the truck frame **in** different positions (A. Rawicz, circa 1995).

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Style: Passive Voice

Use the active rather than the passive voice: change **"This device *was designed* to monitor the room"** to **"We *designed* this device to monitor the room"** or **"The device monitors the room"**

To Be + Verb-ed

An explanation of atmospheric stability and a detailed evaluation of its application to this air quality evaluation **is contained** in Appendix A.

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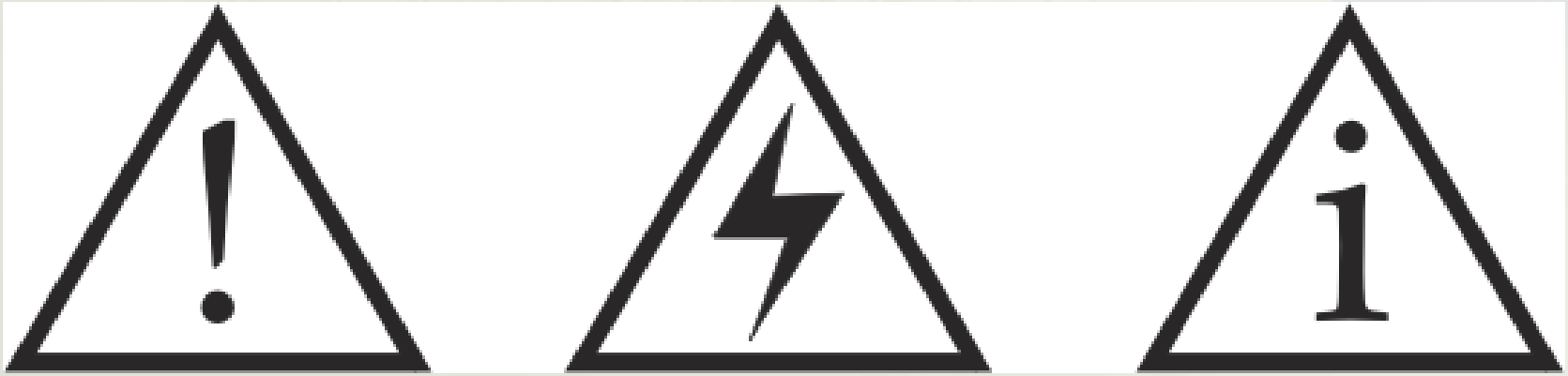
Format Issues

- Make use of organizers: “In the last section, you learned . . . . In this section, you will learn . . . .”
- Be consistent with headings, organization, etc.
- Use more white space than usual (i.e., use wide margins, start new sections on a new page).
- Use a reasonably sized font (i.e., 12 point minimum)
- NB. Labels on drug bottles are in 4 point type. Great for those of us with failing vision! <Grrrr>

Format Issues

- Generally use lots of figures and tables (mention in text and explain).
- Draw attention to important information by boldfacing, using colour, using a large font, or placing it in a box.
- Use symbols to indicate cautions, hazards, or info.



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Employ Graphics

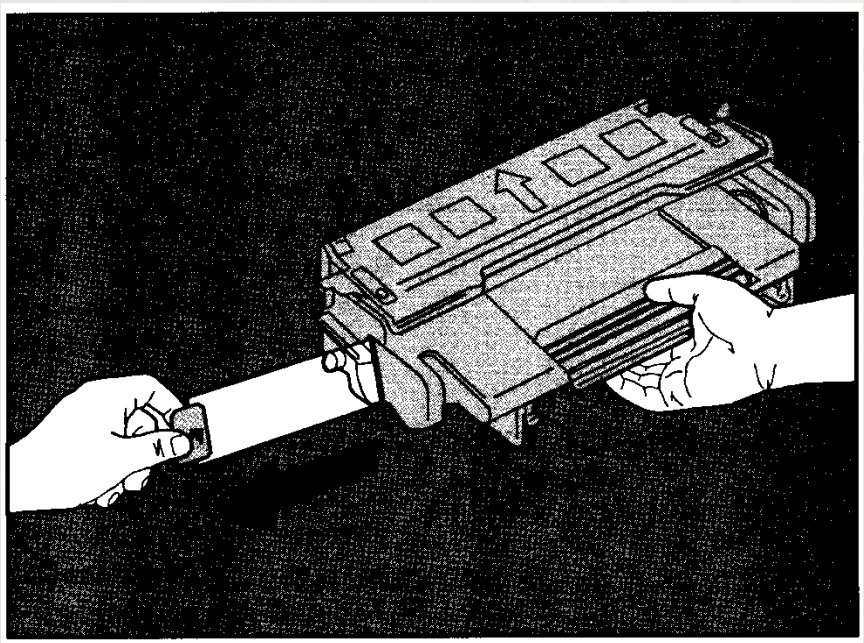

Figure 6-2. Removing the Toner Cartridge Sealing Tape

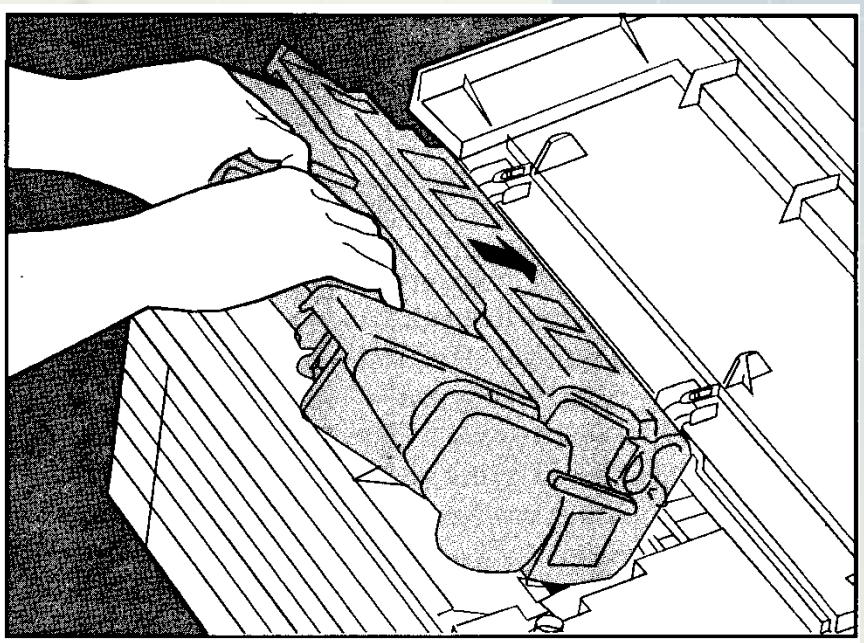

Figure 6-3. Inserting the Toner Cartridge

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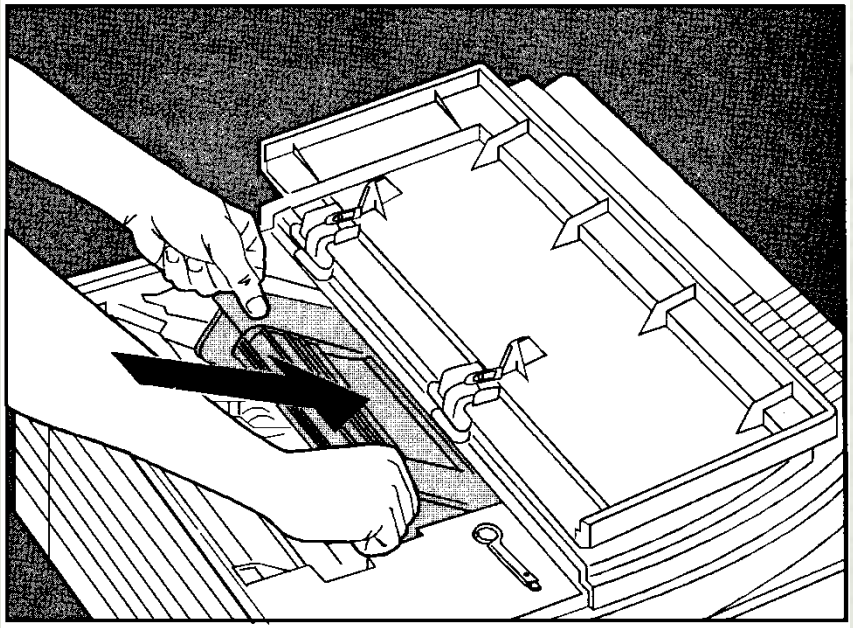

Figure 6-4. Seating the Toner Cartridge

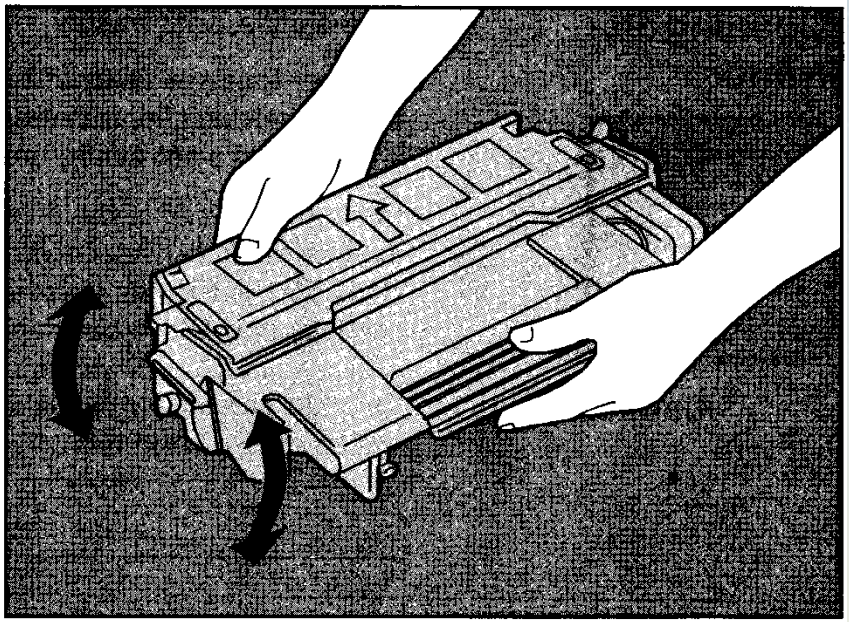

Figure 6-5. Rotating the Toner Cartridge

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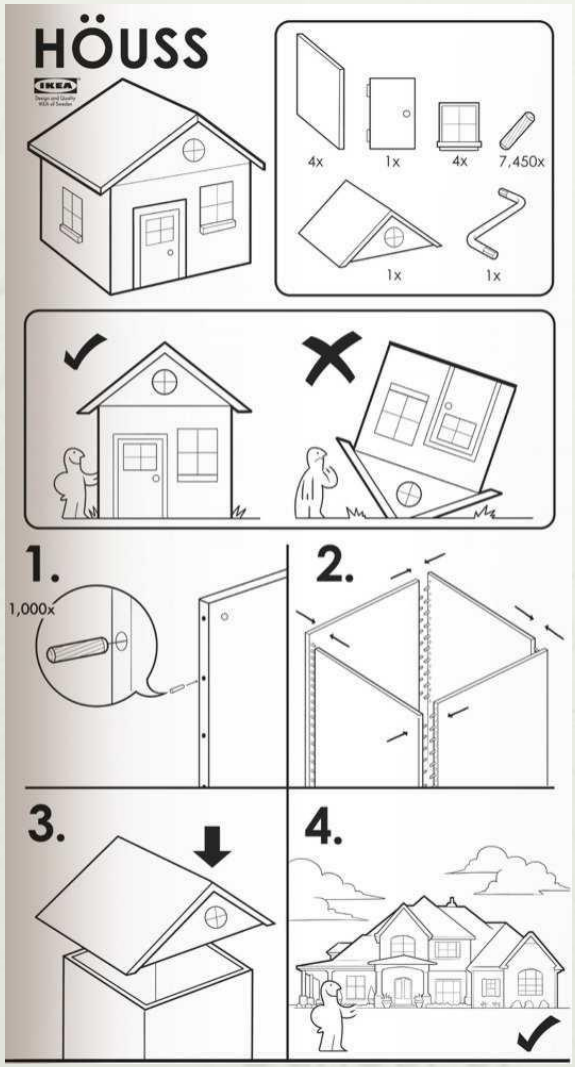
Cause of the Swedish Housing Crisis?



Production Issues

- Quick Reference Guides?
  - Often supplied with simple consumer products
  - A handy reference even for complex systems with manuals
- Issues of Durability?
  - Paper weight (how frequently will it be used?)
  - Lamination (will it be used in industrial settings – oil, water, etc.?)
  - Binding (will pages be added to it later?)
  - Production values (does it need to look good?)
- On-line Manuals?

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Principles of On-Line Help Files

1. Get a copy of *Microsoft Manual of Style for Technical Publications* (available free on-line).
2. Become completely familiar with the program and/or device.
3. Select a software package for “help file” authoring (ensures consistency).
4. Build a preliminary version of the help file.
5. **Test it with novice users and expert users.**
6. Make revisions as necessary.

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On-line Help Files – A Few Details

1. Plan *Table of Contents* comprehensively by going through all features/procedures of program/device:
   a) Organization, conciseness and clarity are guiding values for text.
   b) Descriptive topics: “Installing AAA batteries” rather than “Batteries”.
   c) Include one key procedure per topic; use “Go To” instructions to move from general to detailed info.
   d) Provide answers to any question asked by software: “Save before exiting?” “Yes/No/Cancel” requires defining each option.
   e) Any window that opens should have a help file entry.
2. For complex systems, include a detailed index with possible synonyms: “power supply” and “batteries”
3. Consider including a video tutorial for things that must be assembled (especially if complex)

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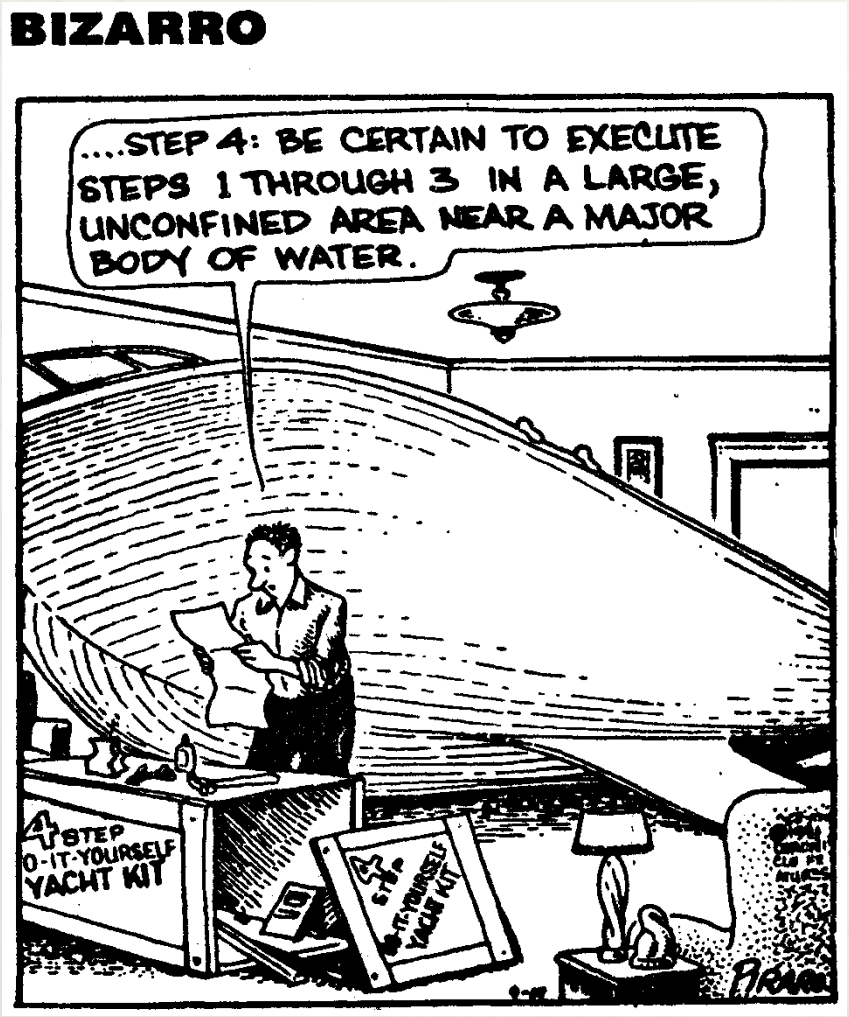
Conclusion



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