



JOB AIDS

Welcome to an eText on the occupational competency of creating and using Job Aid. The following Key Questions are addressed with pertinent terms shown in **bold**:

- A. What is a **Job Aid**?
- B. Why is it important to know how to create and use Job Aids?
- C. What **terms** are commonly used with Job Aids?
- D. What are examples of technical occupations that use Job Aids?
- E. What are examples of Job Aids?
- F. What is the difference between a standard operating procedure and a job aid?
- G. What is a **phrase**?
- H. What is an **acronym**?
- I. What is a **mnemonic**?
- J. What is a **rhyme**?
- K. What is an **alliteration**?
- L. What is a **checklist**?
- M. What is the standard operating procedure and job aid for creating Job Aids?
- N. What is your attitude toward Job Aids?
- O. What have you learned?
- P. How should you announce your competence in Job Aids?
- Q. How can you increase your competence in Job Aids?



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A. What is a Job Aid?

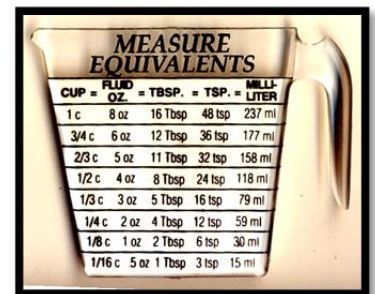
The sign read OPEN HOUSE, so my older brother and I wandered in. It was an indoor shooting range. Before long, both of us were shooting at paper targets with 22 caliber rifles. I soon discovered that he was more accurate than I; his shots were closer to the bull's eye than mine. It was then I remembered BRASS. Year's earlier, my Dad had taken me to a gun safety course held one evening at the county courthouse. It was there I learned BRASS. It's an acronym for Breath - Relax - Aim - Sight - Squeeze. More precisely, that routine is:

1. Breath: Inhale a deep breath of air, exhale half, and hold it.
2. Relax: Let your arms and body relax.
3. Aim: Move the muzzle of the gun toward the target.
4. Sight: Zero the gun sights on the bull's eye.
5. Squeeze: Slowly squeeze the trigger; don't pull the trigger - that pulls the sights out of alignment.

With renewed confidence, I challenged my brother to another round. He accepted. This time using BRASS, I was more accurate than he.

BRASS is a job aid. Although I wasn't getting paid to shoot at the target, sibling rivalry caused me to recall a helpful sequence.

A **Job Aid** is any device that helps a technician remember key steps, sequences, protocol, or other aspects of a specific job task. For example, every sous chef struggles at times with conversions, such as how many milliliters in a cup? To help remember such conversion, some chefs use a refrigerator magnet which is a ready reference for the task, a job aid.



MEASURE EQUIVALENTS				
CUP	FLUID OZ.	TBSP.	TSP.	MILLILITER
1 c	8 oz	16 Tbsp	48 tsp	237 ml
3/4 c	6 oz	12 Tbsp	36 tsp	177 ml
2/3 c	5 oz	11 Tbsp	32 tsp	158 ml
1/2 c	4 oz	8 Tbsp	24 tsp	118 ml
1/3 c	3 oz	5 Tbsp	16 tsp	79 ml
1/4 c	2 oz	4 Tbsp	12 tsp	59 ml
1/8 c	1 oz	2 Tbsp	6 tsp	30 ml
1/16 c	5 oz	1 Tbsp	3 tsp	15 ml

The next time you learn something on the job, ask yourself *How am I going to remember this? How am I going to recall this new and easier technique, this new and faster procedure?* If you can't remember it, you'll have to use the old technique which will be more difficult, or use the old procedure which will take more time.

The purpose of this lesson is to introduce the use of Job Aids or memory joggers for doing standard operating procedures on the job. The goal is to develop occupational competence in creating and using job aids. This involves:

- Exploring forms such as phrases, acronyms, mnemonics, rhymes, alliterations, checklists.
- Analyzing characteristics of job aids.
- Creating personal job aids.
- Assessing application and memorability.
- Understanding the related body of knowledge.
- Using pertinent terms accurately in context.
- Appreciating the value of job aids (a jog).

B. Why is it important to know how to create and use Job Aids?

1. **Comply with codes** Job Aids help technicians remember standard operating procedures to comply with building codes. Nearly every community protects the public from shoddy workmanship by instituting building codes. These codes cover all aspects of construction including concrete, plumbing, electrical wiring, cable installations, and others. For example, electrical code insists that any outlet within reach of a plumbing fixture such as a sink must be protected with a ground fault circuit interrupter (GFCI). The purpose of this device is to protect people from getting electrocuted when touching both a clothes washing machine and a water faucet. Job Aids jog technicians' memories to ensure codes are met.
2. **Improve job performance** When you recall how to do a new SOP or technique, you'll improve :
 - > **Efficiency** and save time.
 - > **Effectiveness** and save effort.
 - > Productivity and achieve more.
 - > Accuracy and reduce your errors.
 - > Safety and improve your occupational health.
3. **Improve supervision** When you become a supervisor or self-employed, occupational competence in Job aids will be valuable. Skills in nearly every technical occupation have potential for self-employment. Technical competence in Job Aids provide reminders of SOPs. And when hiring, training, and supervising other workers, knowing how to create and use Job Aids becomes vital for maintaining quality of service. (See *Self-employment* lesson for more information.)

C. What **terms** are commonly used with Job Aids? Compare and contrast.

Every occupation/career, bar none, is laden with words which have precise meanings and become a technical language of terms, nomenclature, phrases, acronyms, vernacular, symbols, lingo, and jargon. In order to perform successfully in a career/occupation of your choice, you must learn the lexicon. Use this form to help create your own glossary for on the job.

Print this page and add the definition of each term as you learn it. To use this as a study aid, crease on the fold line, and test yourself.

term	a word having a precise meaning, especially in a specific context such as an occupation/career
acronym	
alliteration	
checklist	f o l d
flow	d
jig	 i n e
job aid	
memory jogger	
mnemonic	
phrase	
rhyme	
SOP	
standard operating procedure	

(add more terms as you learn and define them, especially for your occupation/career of choice)

D. What are examples of technical occupations that use Job Aids?

Every technical occupation, bar none, uses job aids of some kind or another. Examples are everywhere, including the following:

- Every plumber knows *Liquids go down — Gases go up.*
- Every electrician recites *White to bright — Black to brass.*
- Every chef answers *Mise en place?*
- Every carpenter thinks *Measure twice — cut once.*
- Every blacksmith knows *Strike while the iron's hot.*
- Every butcher reads the COOL (Country-Of-Origin Label) to assess where the livestock was born, raised, and slaughtered.
- Every craftsperson uses jigs. A **jig** is a pattern or device for replicating/ holding/ aligning mechanical parts. It is a job aid in that it is a physical reminder on how to do the task.
- Every private airplane pilot wonders *How much fuel do I have left onboard?*

Occupational Profile I met Richard Kent at a small airport. We talked as he showed me his airplane.

How did you get into flying?

My son got me interested. As a teenager, he got interested in flying and took ground school. That led to flying lessons and soon he did his solo. I'd go flying with him, and I got hooked, too.

Earlier you mentioned the word redundant. What does that mean?

For almost every component on an airplane or in a flight, there is another something backing that one up. Let me try to explain. This reciprocating engine in this airplane has two parallel sets of ignition components: every cylinder has two spark plugs, those spark plugs are fired via separate spark plug wires, each wiring harness is powered by a separate magneto, and all of that is separate from the rest of the electrical system on the aircraft. Each ignition system backs up the other. They're redundant. If one system malfunctions, the other keeps working. The probability of both systems malfunctioning at the same time is very remote. And the list goes on: there's redundancy in the radio navigation systems, there are two communications radios, there are two fuel pumps, and so forth.

Are these redundant systems always functioning normally?

I hope so, but I don't trust so. There's a job aid for that. It came with the airplane. Before you take off, there's a procedure to determine, for example, if both ignition systems are working, if both fuel pumps are working, if both radios are working. Remember: takeoffs are optional, but landings are mandatory. The time to check your equipment is before takeoff.

And that's just one series of job aids; pilots have flight bags full of job aids. Everything from pre-flight to takeoff to in-flight navigation to approach to landing to taxiing. There are job aids for everything, including emergency procedures. The last thing a pilot wants to do is forget something, so most of these are check lists.

Do all of your job aids come with the airplane?

Nope. Most do not. Just those that pertain to the particular aircraft. Navigation aids like maps and approach plates are constantly being revised and updated, so those have to be renewed on a regular basis. GPS receivers have improved on that by offering frequent downloads. In flight, you want to have the best, and that's usually the most current information available.

But pilots also create their own job aids. I created one to help in flight. I mentioned earlier that this airplane has two fuel pumps. That's because it's a PIPER which is a low-wing aircraft with a fuel tank in each wing. The fuel pump pumps fuel from the tanks up to the engine. If this was a CESSNA which is a high-wing aircraft with fuel tanks again in the wings but above, gravity pulls the fuel out of the tanks down to the engine. No need for fuel pumps there.

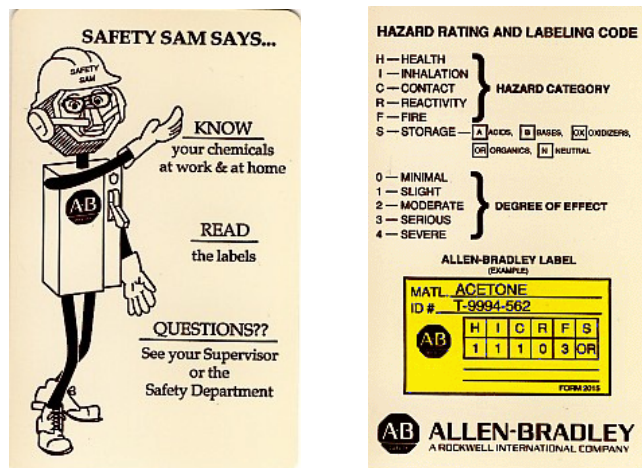
When both my fuel tanks are full, I have four hours and 48 minutes of flight time. This engine burns just under 10 gallons an hour. But when the tanks are freshly filled, the cool fuel warms and begins to expand pushing fuel out past the filler caps. So as soon as I get in the air, I want to draw some fuel from each tank and reduce loss. In addition, as the flight progresses, I want to keep the weight of the fuel somewhat even. If I only drew fuel from one wing tank, soon that wing is lighter than the other, and I'd be fighting the aircraft. So I devised a job aid that times my fuel burn out of each tank and reminds me when to switch from one tank to another and ensure an even draw of fuel. Here's my job aid.

<u>Left Tank</u>	<u>Right Tank</u>	<u>[Remain]</u>
0:24		[4:48]
[2:00]	0:48	[4:24]
	[2:00]	
1:48		[4:00]
[1:00]	2:48	[3:00]
	[1:00]	
3:18		[2:00]
[0:30]	3:48	[1:00]
	[0:30]	
4:03		[0:45]
[0:15]	4:18	[0:30]
	[0:15]	
4:33		[0:15]
[0:00]	4:48	[0:00]
	[0:00]	

E. What are examples of Job Aids?

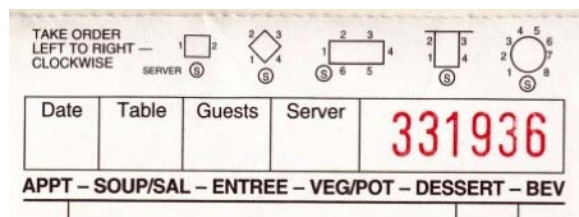
Examples of Job Aids abound in that they help a technical worker remember vital aspects of the job being performed. One Job Aid that plumbers use reminds them that *Liquids go down—Gases go up*. In other words, fluids in a kitchen sink go down the sewer, while sewer gasses are vented up and out through the roof.

- A dance instructor arranges “foot prints” on the floor to help dancers learn the steps.
- Heavy-equipment mechanics can watch short three-dimensional videos — “just-in-time reminders” — of how a particular piece of equipment operates, what the problem is, and how to fix it.
- Some job aids are printed on plastic cards that can be carried in a wallet or purse. Here’s an example.



Courtesy Allen-Bradley

- And other job aids are printed right on a waiter’s order pad for easy reference.



Want more examples of Job Aids? Every lesson contains one or more.

F. What is the difference between a standard operating procedure and a job aid?

Simply put, a **standard operating procedure** prescribes the steps to complete a work task, while a **job aid** is a reminder or memory jogger of those steps. More specifically, an SOP is an industry-wide prescribed sequence of actions followed routinely to complete a work task, while a Job Aid is a prompter or guide for doing a task which jogs the memory while performing the task. For example, many people are trained in how to administer cardio-pulmonary resuscitation (CPR) but few do it frequently. Many such people carry a small plastic card in purse or wallet to remind them of the sequential steps in correctly doing CPR. Other workers use Job Aids to remind them of specialized or highly-critical sequences of tasks. (See *Standard Operating Procedure* lesson for more information.)

Job Aids are for more than mere habit. For example, if your job task is to always answer the phone, you've probably done it dozens of times a day, it has become habit, and you don't need a Job Aid. Job Aids are for those more complex or less-often performed tasks.

In addition, Job Aids are reminders, not instructional. All airplane pilots use several checklists prior to taking off and during a flight. Pilots use these checklists, not as a To Do list, but as a reminder in case they forgot some important check point. Their motto: *Plan the flight and fly the plan.*

G. What is a **phrase**?

A **phrase** is a series of words or a short sentence. A phrase is often used as a verbal memory jogger. For example, chefs will heed the phrase *Mise en place*? It is a French phrase which means: Is everything in place? Have you read the entire formula before beginning? Do you have all of the ingredients on hand? Have you pre-measured all the ingredients? Do you have all of the equipment on hand? Do you have time to complete the formula? Then you may begin. In some formulas, such as for Pear Clafouti or Sauce Brune, specifics such as times, temperatures, actions, etc., everything must be in place in order to have a successful outcome.

H. What is an acronym?

An **acronym** (AK-row-nim), also called initialism, is a word formed from the initial letters of a name, phrase, or sequence. Acronyms are examples of jargon and slang. There are three kinds of acronyms.

1. **First letters of a name or phrase**, such as the acronym FBI which stands for the Federal Bureau of Investigation, and is a technical “shorthand” or jargon to simplify communication. Other examples include:
 - SOP = Standard Operating Procedure
 - ASAP = As Soon As Possible
 - EOE = Equal Opportunity Employer
 - SKU = Stock-Keeping Unit
 - UPC = Universal Product Code

All branches of the military have scores of acronyms. For example:

- GI = Government Issue
- PFC = Private First Class
- NCO = Non-Commissioned Officer
- CO = Commanding Officer
- FUBAR = Fowled Up Beyond Any Repair
- SNAFU = Situation Normal All Fowled Up

and scads more. (scads = jargon meaning high in number or abundance)

2. **First letters form a word**, such as these classic examples:
 - RADAR = RADio Detecting And Ranging
 - SONAR = SOund NAVitation Ranging
 - NASA = National Aeronautic and Space Administration
 - SCUBA = Self Contained Underwater Breathing Apparatus
3. **First letter(s) of a series of words** we want to remember. Its a memory jogger. For example, the acronym word HOMES helps us remember the names of the five great lakes in the North American Continent.
 - H = Huron O = Ontario M = Michigan E = Erie S = Superior

Be careful. The same acronym can mean different things to different people. Take the acronym GPS for example. AcronymSearch.com lists several variations including:

- GPS = Global Positioning System
- GPS = Gallons Per Second
- GPS = Gas Pressure Switch
- GPS = Go Pound Sand

Your turn! Visit www.AcronymSearch.com to learn if there are different meanings for your personal initials.

I. What is a mnemonic?

A **mnemonic** (knee-MAH-nick) is a word device used to assist memory. For example, electricians know *White to bright—Black to brass*. In other words, connect the wire with the white insulation to the bright/silver-colored terminal, and the black wire to the brass-colored terminal. The mnemonic provides an electrician with a handy “catch phrase” for remembering details.

J. What is a rhyme?

A **rhyme** (RIME) occurs if words at the ends of phrases sound alike. For example, when you were in the first grade you may have learned the cardinal directions of north, east, south, west with the rhyme *Never Eat Shredded Wheat*.

- Every chef know that *A pint is a pound the world around*. Specifically, a pint of liquid such as water, olive oil, or egg yolks weighs one pound. Such a rhyme helps jog memory while assembling a food dish.
- Waiters, when carrying several drinks, use *Light in the Right* as a way of remembering that the decaf coffee, “lite” beer, or diet soda is in their right hand. Would the corollary be *Heft on the Left*?
- The rhyme *Click it or Ticket* reminds us to fasten our seat belt in a vehicle to avoid being stopped by the police.
- The rhyme *Red over white — Pilot’s delight* helps an airplane pilot to visually land safely on a runway. Specifically, when the two horizontal bands of lights on the sides of the runway (VASI) show different colors, that means the pilot is on the correct slope of approach to perform a standard landing. On the other hand, *White over white—You fly all night* means you’re too high. Conversely, *Red over red—Pilot’s dead* means you’re too low. The rhyme helps the pilot remember key aspects of landing.
- Airplane pilots will also tell you there are *old pilots and there are bold pilots, but there are no old, bold pilots*.

K. What is an alliteration?

An **alliteration** (ah-lit-eh-RAY-shun) is a word formed from the initial letters of a name, phrase, or sequence. For example, mechanics know that when working with nuts and bolts, *Righty—Tighty* and *Lefty—Loosey*. In other words, turn the nut to the right (clockwise) and it gets tight; turn to the left (counterclockwise) and, it becomes loose. The alliteration is a novel reminder.

An alliteration “rolls off your tongue easily” when spoken aloud. For example, the phrase *ninety nine bottles of beer on the wall*, when repeated continuously begins to roll off your tongue easily. That’s an alliteration.

- Every veterinary technician knows that the gestation period for a sow – a female pig – is *3 months, 3 weeks, and 3 days*.
- Another example is the phrase *You’ve got to pick a pocket or two* sung by Oliver, a young pick pocket in merry olde England in the stage play/movie by the same name.

L. What is a checklist?

A **checklist** is a written or even printed series of items which must be verified or “checked” before continuing. In its simplest form, it is a “laundry list” of items to be purchased at a grocery store. And after you fill your grocery cart, you check your written list to discover what items you forgot. It is not a “to do list;” it is a reminder list.

Here’s an example of a airplane pilot’s checklist of items to be verified immediately prior to taking off. Here again, this is not a “to do list,” it is a list of things to be verified before pushing forward on the throttle. As every pilot know, *takeoffs are optional, but landings are mandatory*. If everything is not in order, do not take off.

NORMAL TAKEOFF

Fasten & check seat belts
Explain emergency egress
Latch door
Set transponder
Set navigation radios
Set communications radios
Lock primer
Check brakes at beginning of taxi
Taxi to active runway
Check for bubbles in compass
Fuel on fuller tank
Fuel pump ON
Trim to aft of neutral
Neutralize rudder trim
Check flaps
Free controls
Perform runup: 2000 rpm: mags - vacuum - gages
Check fuses
Check for other traffic with 360° turn
Radio intentions on CTAF/UNICOM
Full power
Rotate at V_{lof}: 53 KIAS
Keep a happy thought
Let the aircraft lift off
Establish V_y (best rate of climb w/o flaps): 76 KIAS
Maintain heading by sighting over nose
At 400' AGL, level off for visual check to avoid collision
Resume climb
Smile

A **flow** is a physical pattern or sequence in performing a complex work task, especially a checklist like above.

M. What is the standard operating procedure and job aid for creating and using Job Aids?

Several approaches may be used to creating Job Aids. The following SOP creates an acronym based on a common word to help remember the steps.

1. **K**now the job task completely and intimately.
2. **E**xamine the steps/sequences/key aspects of the task.
3. **A**nalyz**e** the commonalities of the steps by asking others familiar with the job task.
4. **I**n**T**ernalize the steps by making it memorable. Add graphics.
5. Simplify by identifying the keys:
 - Key aspects – Explore it!
 - Key words – Say it!
 - Key steps – Memorize it!
 - Key sounds – Hear it!
 - Key smells – Smell it!
 - Key feels – Feel it!
 - Key sequences – Number them!
 - Key parts – Sketch them!
 - Key terms – Recite them!

The job aid is:

KEY IT!

(See *Standard Operating Procedure* lesson for more information.)

N. What is your attitude toward Job Aids?

To determine your attitude toward this Soft Technical Skill, complete the following 20-item survey. This is NOT a test — there are no right or wrong answers. Work quickly — your first reaction is your best. To what extent do you agree or disagree with each of the statements? Merely click on the bubble of your choice.

Example:

Knowing this Soft Technical Skill will help my career.

.....

Disagree Disagree Agree Agree
a lot a little a little a lot

When you finish, the eSurvey will give you your score. Jot it down because you will need it later. Click on the following link and enter your name and email when prompted.

www.lesson-up.net/eSurvey

Where are you on the following scale?

Do you have a positive or negative attitude toward this Soft Technical Skill?

10 20 25 30 40
(negative) (neutral) (positive)
< ----- >

To further analyze your results, discuss the Attitude eSurvey with others who have completed this lesson. Further analysis may be done with your instructor.

O. What have you learned?

Here's a Practice eQuiz to help you assess your progress. You are on your honor to be truthful and honest.

MULTIPLE CHOICE: Read each item carefully. Select the one best alternative and click on that bubble.

Example:

A term is:

- A word shown in **bold**.
- The first word in a glossary/lexicon.
- A word or phrase with a precise meaning in context.
- A fancy way of saying something simple.

When you finish, the eQuiz will give you your score. Jot it down because you will need it later. Click on the following link and enter your name and email when prompted.

www.lesson-up.net/AideQuiz

Where are you on the following scale?
(number of correct answers)
0 . . . 5 . . . 10 . . . 15 . . . 20
(start over) < - - - (okay) - - - > (excellent)

To further analyze your results, compare and discuss your answers with someone that has completed this lesson. Further analysis can be done with your instructor.

P. How should you announce your competence in Job Aids?

Your mastery of Job Aids may be certified by the Soft Technical Skills Institute (STSI). To do so, successfully pass the Comprehensive Performance Examination. Ask your instructor to schedule this exam.

When you pass the Comprehensive Performance Examination, you will be eligible to receive:

- An app for your smart phone to remind you of the standard operating procedure and job aid for this competency
- A personalized wallet card attesting to your mastery of the competency.



The wallet card provides a link to STSI, which describes in detail the competency standards that you mastered.

To get your app and wallet card, go to the www.lesson-up.net HOME page, click on STSI, and follow the prompts.

You can declare your competence and positive attitude toward the skills in several ways, including:

- **Occupational Resume** – Create a section titled *Related Job Knowledge & Skills*. Enter your mastery of Job Aids there.
- **Job Applications** – Declare your competence on your job application where appropriate.

- **Job Interview(s)** – Mention your competence, your score on the Attitude eSurvey, and point out the link to STSI. Some technicians assemble a **portfolio**, which is an organized collection of evidence of what a worker knows and is able to do regarding a specific job or occupation, especially regarding learning on the job. You may even want to be more specific and include a one-page description of each occupational skill you've learned through job experience and how you learned each one. If you don't have a lot of work experience and your resume is rather short, include a statement regarding how you are willing to learn on the job and a short description of what occupational knowledge and skills you would be interested in learning.
- **Periodic Performance Evaluations** – Remind your supervisor/ employer of all your competencies.

Q. How can you increase your competence in Job Aids?

The purpose of this lesson was to introduce the concept of learning, using, and creating Job Aids on the job. This lesson can't provide you with everything you need to know — you will always need to learn more. Here are just a few things you can do to improve and maintain your skill level.

1. **Interview** workers in your local community who work in your desired occupation/ career, and ask what Job Aids they use.
2. **Research** terms, trends, and other concepts. Google the Internet for the following information at:
 - www.xp123.com/jobaidinfo/
 - www.squidoo.com/languageart
3. **Search** the electronic catalogs of your local school, college, or public libraries for pertinent books and other materials. Possibilities include:
 - ***The Checklist Manifesto*** by A. Gawande (Metropolitan, 2009)
 - ***A Handbook of Job Aids*** by A. Rossett and J. Gautier-Downes (Pfeifer, 1991)
 - ***How to Produce Great Job Aids: INFO-LINE***, a series of practical booklets (American Society for Training and Development, 1989)
4. **Learn** on the job. See *Learn on the Job* lesson for how-to information.
5. **Enroll** in a workshop/course on Job Aids at your local community college/technical institute.
6. **Join** professional organizations and associations. **Read** their newsletter/ journals/ publications. **Network** with others working in the industry. An example is the Association for Talent Development (formerly known as the American Society for Training & Development at www.astd.com).
7. **Secure an internship** with a company which employs workers with your career interests. **Enroll in co-op work training** where local employers cooperate with local training programs to provide relevant on-the-job experience.
8. **Train** other technicians. One of the best ways to continue to learn is to teach others how to do it. Offer to provide one-to-one, on-the-job instruction or “stand-up” training in front of a group. As they learn about the subject, so will you.



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- This eText updated on 14 January 2015.