

Improving Morse code proficiency

Tricks of the Trade

Overcoming common problems

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One thing most all instructors learn while teaching beginners and mentoring operators is what I refer to as “*The Dirty Dozen*.” Twelve interrelated problems largely due to improper teaching or self-learning techniques and bad habits formed during the learning or teaching phase of Morse code training. While not all students have the same problems, at some point in the learning and proficiency improvement process most all students encounter one or more problems on the Dirty Dozen list.

Problems and Tricks of the Trade how to overcome them:

1. Anticipating what is being sent: A common problem develops when paper and pencil are used to write or print each letter as it is sent versus learning to copy complete words by their distinct rhythm and sound by ear. Example... Letters A N Y written down individually and the person copying is focused on each letter they have no idea of words or sentence flow. They are not learning to use Morse as a language and are simply copying individual characters. A N Y, and when the next letter is written, for example, W then A N Y W makes no sense but the mind’s eye anticipates A N Y W A Y, A N Y W H E R E or A N Y T H I N G. If a different letter than anticipated follows, focus is diverted and anticipation results. This problem is interrelated to Problems 4, 5, 6, 11 and 12.

Overcoming Anticipation: The most efficient way to overcome anticipation is to learn to recognize complete words by their unique sound and rhythm while learning to copy by ear and copying behind versus writing down individual letters in order to start remembering complete thoughts, calls, contest exchanges etc. Practice recognizing the sound and rhythm of the most common double letter, two and three letter combinations based upon frequency of usage in the English language helps forming word sounds:

Common double letter combinations: ll, ee, ss, tt, oo, mm, ff, pp, rr, nn, cc, dd - The thirty most frequent two letter combinations comprise one third of all letter usage: th, he, in, er, an, re, on, en, at, es, ed, te, ti, or, st, ar, nd, to, nt, is, of, it, al, as, ha, ng, co, se, me, de - The most common three letter combinations are: the, and, tio, ati, for, tha, ter, res, ere, con, ted, com, hat, ent, ion, nde, has, ing

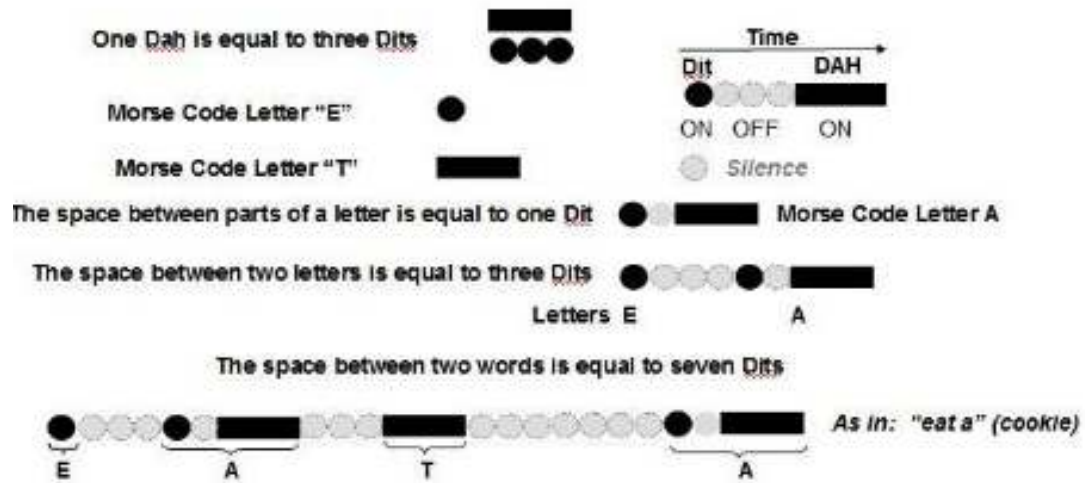
2. Attention loss, lack of accuracy: Attention loss is often related to Problem 10 during the learning phase and often causes frustration. Practice sessions should not exceed thirty minutes in duration. Break up practice sessions in ten or fifteen minute increments but certainly practice thirty minutes a day, seven days a week. Lack of accuracy is related to Problems 1, 3, 4, 6, 7 and 10. There is no substitute or better way to learn and improve proficiency than learning to copy by ear and only take notes versus putting individual characters on paper. Practice learning the sounds of short words then progress to short phrases such as My, then add a follow on word to start building phrases and sentences. Common QSO exchanges are helpful in building confidence to actually get on the air.

3. Counting Dits and Dahs: Learning Morse code by counting Dits and Dahs is a terrible habit that is difficult to break. Counting is typically caused by learning Morse at 5 or 10 words per minute character speed. While some instructors endorse using the Farnsworth method adding extra space between characters often leads to unintentional counting.

Experience has confirmed teaching words versus individual letters at 20 wpm character speed with a bit of extra space between words, for example TEA followed by EAT sent as TEA EAT and progressing three word phrases is more effective. Eliminate extra spaces between words as quickly as possible in order to learn and use Morse with normal speed and spacing. Why teach or learn at 5 or 10 wpm when it just as easy to learn at 20 is often an unanswered question. Counting is directly related to Problems 7, 8, 9 and 12.

4. Dit and Dah Transposition: Transposition is primarily related to learning at slow character speed and tone frequency being either too low or too high for an individual's hearing frequency range. The most common character reversals or transposition are: er-re, es-se, an-na, it-ti, on-no, en-ne, ot-to, ed-de, st-ts, at-ta, ar-ra, in-ni. Practice copying and sending all ten numbers is a good method for overcoming transposition.
5. Inability to break old habits: The obvious answer to overcoming Problem 5 is to not develop bad habits in the first place. Bad habits developed in the early learning stage are the most difficult to overcome. The key to breaking old habits is to focus on exercises, methods and techniques that help overcome or break specific old habits. The first step is to determine what bad habits individuals have. Counting is most certainly one, writing each character immediately as it is sent is another. Focus on overcoming the worst bad habit or habits first. To do so, they must be identified; make a list and a plan then follow the plan.
6. Inability to copy behind: Problem number 6 is directly related with Problem 12. Until students or those with experience "break the pencil and toss out the paper" and learn to copy entire words by their distinct sound an rhythm problem 6 will automatically become problem 5, 8, 9 and 10. Set up exercises comprised of short words, repeated two or three times if necessary and practice retaining words that comprise short phrases: MY RED HAT – HER OLD CAT – BIG BAD BEN – UR RST 599 – MY RIG IS A K-3 – MY ANT A DIPOLE etc. – Problem 6 leads the list of Bad Habits that must be broken in order to become proficient and use Morse code as a language.
7. Inability to distinguish spaces and timing: Problem 7 is usually related to learning to copy at slow speed and copying individual letters versus words. With regard to sending, we can tune the bands most any day and hear what is referred to as "a bad fist" – While an experienced instructor will not encourage using code readers, new radios such as the Elecraft K-3 can display Morse as it is sent, students can benefit by using a Morse display to actually see proper character spacing and timing. Watching a display while practicing sending is helpful in overcoming spacing and timing issues. Proper character and word spacing is shown in the illustration below:

Understanding Morse Code Character Elements and Spacing



8. **Increasing speed:** With regard to receiving, Problem 8 is directly related to every other problem on the Dirty Dozen List. Address each problem individually and increasing receiving speed will be easier to achieve.

Most everyone reaches a “plateau” or bump in the road where they seem to be stuck at a certain speed. To overcome problems with a given plateau or bump in the road simply “jump the bump.” If you are stuck at 20, increase the speed to 21 or 22 wpm. Jumping the bump by increasing speed even one or two words per minute is the best way to increase receiving speed proficiency. To overcome problems with sending speed, do the following exercise at least once a day. Send the sentence “THE QUICK BROWN FOX JUMPS OVER THE LAZY DOGS BACK. The sentence contains all 26 letters in the English alphabet. Start at a comfortable sending speed that allows sending the sentence all the way through without an error then increase speed one, two or three wpm. If or when a mistake is made follow the rule – Start all over again from the beginning. It won’t take too many start overs before an individual recognizes a comfort level at a desired sending speed, then increase the speed bit by bit. Remember the old saying “No Pain, No Gain.”

9. **Lack of confidence:** Problem 9 is usually related to “getting on the air” and making QSOs. One way to gain confidence is to “have QSOs with yourself.” Use a code practice oscillator or key the side tone on a transceiver without going on the air. Make up a list of QSO exchanges using different call signs, names QTH etc. and practice. Even if contesting is not something an individual wants to do, they are excellent confidence builders as the exchanges are short (Other than Sweepstakes) and there are plenty of state QSO parties to take part in. Practice makes perfect.
10. **Mental fatigue:** Problem 10 is common in many things and practicing Morse code is no different. Too much too often is not productive. Don’t practice when tired or just after coming home from a hard day at work. Practice during relaxation time or early in the morning when you are fresh or whatever time an individual has the true desire to practice is the best time. Contest or Radio Sport participants are well aware what a toll fatigue can do to their performance. Don’t overdo it.

11. Memorization versus hearing words: Problem 11 is directly related to problems 1, 2, 3, 4, 6 and 7. Until individuals develop the ability to recognize complete words by their sound and rhythm, copy behind and use Morse as a language, problem 11 will remain on the bad habit list. Use techniques and practice copying by ear and copying behind.
12. Writing each letter as it is heard: Last in alphabetical order but most certainly the number 1 problem and obstacle standing in the way of becoming proficient in Morse is our worst enemy and by all means the first bad habit to break. Break the pencil and toss out the writing pad in order to learn to copy by ear and copy behind should be the number one priority for every beginner or anyone with the desire to improve their skill in using Morse code. Learn to use it as a language is the rule of thumb to live by.

Reference material and tools for Morse code proficiency enhancement are available on WØUCE's website Morse Code Page - <http://www.w0uce.net/Morsecode.html>