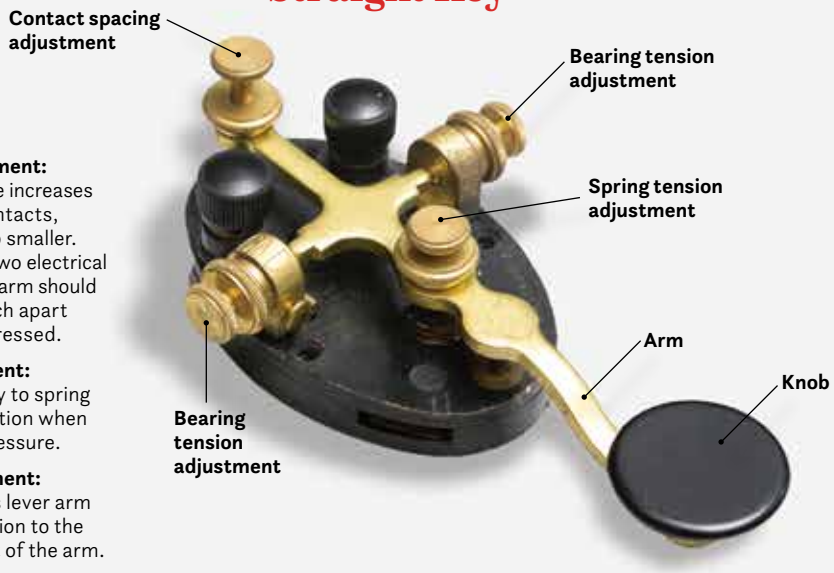
THE BIG PICTURE

Key Pieces and Paddle Parts

Of the tools used to send Morse code, straight keys and paddles are the most common. Though they differ in appearance and in required operating technique, they're both essentially on-off switches with similar components.

Straight Key

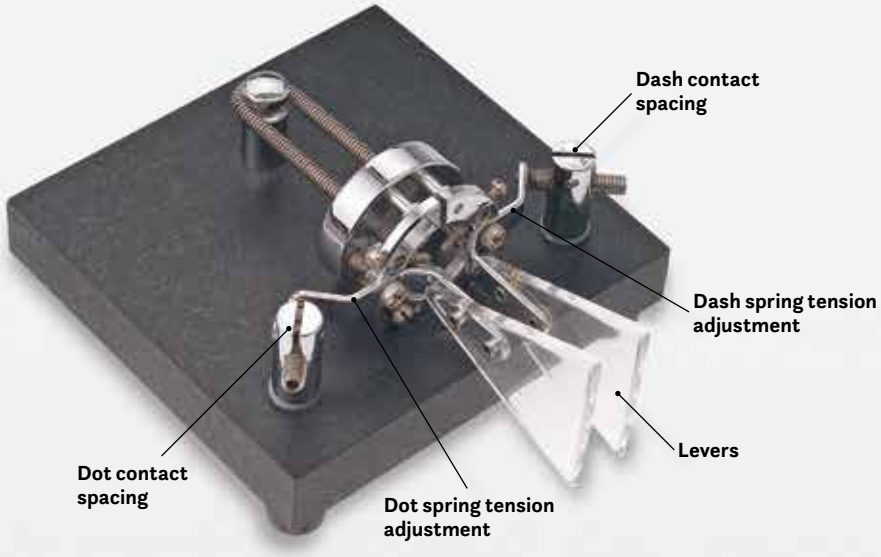


Contact spacing adjustment: Turning counterclockwise increases the gap between the contacts, clockwise makes the gap smaller. The space between the two electrical contacts under the key's arm should be about 1/16th of an inch apart when the key is not depressed.

Spring tension adjustment: Allows the arm of the key to spring up and break the connection when the operator releases pressure.

Bearing tension adjustment: Reduces play in the key's lever arm without introducing friction to the up-and-down movement of the arm.

Paddles



Contact spacing: Adjust to determine how far you must move the paddle before the contact is closed.

Tension adjustment: Adjust to increase or decrease the amount of force required to push each paddle.

Tools for Sending Code

Steve McGrane, KM9G

One of the first things that comes to mind when we think of CW is the Morse code key. At its heart, a Morse code key is very similar to a light switch. You make or break a connection — in this case, to make a series of long and short pulses that are put together in a meaningful way. Here's a closer look at the tools hams use to make these connections.

Using a three-fingered grip on a straight key helps with stability and precision.

The Straight Key

In the case of a Morse code *straight key*, the length of time you keep the switch connected is the length of the signal that's transmitted over the air. When you press the key, the connection is switched on. If you let go, the switch automatically returns to the off position.

Most people use a three-fingered grip on a straight key, centering their index finger and stabilizing with their thumb and middle finger. This allows you stay properly oriented on the key, and also reminds you to make small, precise presses that enable you to time the length and spacing of *dits* and *dahs* (hamspeak for the familiar "dots" and "dashes" of Morse code).

The Paddle

Paddles are an alternative to straight keys. Instead of you manually controlling the length of the dit and the dah, as you do with a straight key, the paddle handles it for you electronically. On a set of paddles, one paddle controls the dits and the other controls the dahs. When you push the switch on, the paddle will send the character at the proper length every time.

If you hold the switch closed long enough, the paddle will repeat the character at a perfectly measured pace. You can adjust that pace to go faster or slower, depending on your skill level and the skill level of the person on the receiving end. Finally, if you squeeze the paddles together, that will alternate which character is sent. If you squeeze the dit paddle first, then squeeze the dah paddle, the key will auto-repeat *dit-dah-dit-dah-dit-dah* until you let go. If you do the opposite, and squeeze the dah paddle first, the key will auto-repeat *dah-dit-dah-dit-dah-dit* instead. By mastering the timing of squeezing and letting go, you can send any combination of dits and dahs.

There are a few types of paddles: *single-lever* (you lose the squeeze function, but gain compactness/fewer moving parts), *dual-lever* (the most common kind), and *bugs* (which are kind of half straight key/half paddle — see the photo at right for an example).

Which One to Use

When trying to choose between key or paddle, keep in mind that one isn't really better than the other, they are just different. I come from an engineering background. I try my best all day, every day to be efficient and precise. A paddle speaks to that nature.

A straight key, however, seems to have a soul. Imagine a language you're familiar with, spoken in a regional accent. Some places drop the final "R," others have a southern drawl. Similarly, you can hear nuances from operator to operator by the way they use a straight key. There's even a name for this quality: the *fist*. Some hams can recognize the fist of the operator on the other end of the contact before they even send their name, location, or call sign.

Some people enjoy the history associated with one form of key or the other, and want to connect with that. The most important thing is to find a key or paddle that works for you and enjoy it.

Steve McGrane, KM9G, is a dad, a network infrastructure engineer, and runs a YouTube channel about ham radio and retro computers. If you've seen any of his videos, you might know him by his nickname: T.O. You can often find him in the TOADs discord at discord.gg/tsVKqfv or on video at youtube.com/temporarilyoffline.

This unusual wooden bug was made by Gary Johnson, NA6O.