

# Blade Fuse Color Codes

Offered by Vince Cattolica, KA7JOI: This article is assembled from various files found on the internet and presented here as educational material to be used by member of the Kachina ARC.

Have you every tried to read the size or “rating” of a blade fuse? And have you ever wondered why some are one color and others another color? I am writing this paper to help us all to find an answer to those questions. And it seems to me that blade fuses are being used more often that ever before so I decided to figure out how to determine the “value” of blade cases and keep up with the increased use of the blade fuses.

Blade fuses come in three different physical sizes. And, the rating of the fuse, meaning the amperage at which the fuse will break down and open the circuit, is normally shown on the “back bone” or the “top” of the fuse. The rating of the fuse is normally in raised numbers indicating the amperage at which the fuse melts, breaking the continuity of the circuit. The problem with blade fuses isn’t how it works, which is similar to most other fuses, but how you can easily determine the size/amperage at which the fuse opens the circuit. The amperage at which the fuse opens is on the backbone of the fuse. That value is actually molded on the body of the fuse in raised numbers and very difficult to read since the value is in raised numbers and is the same color as the body of the fuse. It is about as easy to read as this paper would be if it were printed in white ink!

To resolve this issue, a color was introduced to the plastic that covers the business part of the fuse. No the color is not decoration but rather it is a visual message to the user indicating the amperage at which the fuse will melt and open the circuit. And, the color indicating the value of the fuse is pretty much standard regardless of the physical size of the fuse. The common fuse size of the fuse used in our hobby are indicated in the following table.

## Fuse Color Codes commonly used in Amateur radio (See the full chart at the end of the paper)

Color	Rating
Blue	15
Yellow	20
Clear	25
Green	30

**An Important Note:** When making your own circuit, for example, mounting your new radio in your vehicle and (strongly recommended) connecting it directly to the vehicle's battery, **NEVER USE A FUSE RATED AT A HIGHER AMPERAGE THAN THE WIRE USED IN THAT CIRCUIT CAN HANDLE SAFELY;** take into account the length of the wire needed. While not exactly accurate, the red/black wire that came with your radio to power your radio was selected by the manufacturer to power your radio not further from the power supply than that length of wire that came with the radio. If the run between the battery/power source and the radio at the location you plan to mount the radio, exceeds the length of the hookup wire that came with the radio, you should consider using heavier cable (lower gauge number) between the battery/power source and the back of the radio.

In addition, while a fuse of the correct value should be incorporated into the length of the cable from the power source/battery to the radio, that fuse should be located as close as feasible to the battery/power source. It's better to

open the circuit closer to the power source/battery than the radio for several reasons; I will let you think on this while looking for the answer here in the paper.

And now back to the colors of the blade fuses. The chart at the end of this paper lists the fuse colors associated with the different fuse values. I found the chart on the internet so, like everything we find on the Internet, it must be a true and correct presentation of the fuse color to breakdown value of the fuse.

One final comment; whether you are installing your radio in a vehicle, or in your station, be sure the fuse is located close to the power supply rather than the back of the radio. If there is a need for the fuse to close the circuit, you want that break in the circuit to be as close to the power supply as possible.

And now the real final comment, and this might come into play when the vehicle battery is near the front of the vehicle rather than near the firewall between the engine and the passenger compartment. Never put a fuse in line to the radio that has a higher current rating than the wire between the power source and the radio. If you use an inline fuse that is rated to open the circuit at a higher amperage than the cable can handle, the cable becomes the fuse and that can become very dangerous! And, if in doubt about the wire size from the battery to the radio, remember to check on the amperage your wire can handle over that distance. Think about it.

## Fuse Color Codes, by Amp





<b>Color</b>	<b>Amps</b>
Black	1
Gray	2
Violet	3
Pink	4
Tan	5
Brown	7-1/2
Red	10
Blue	15
Yellow	20
Clear	25
Green	30
Aqua Blue	35
Orange	40