Bread boarding circuits

Material in conjunction with 1410-2
Four separate buses and 48 separate groups of 5 are shown here.

Strip #22 solid wire 1/4 inch to 3/8 inch on each end.

Many components have compatible leads.
The front side of a breadboard

Buses

Group of 5
The back side of a breadboard

Metal strips
How the groups and buses work

[Diagram showing continuity and no continuity between groups and buses]
CIE Breadboard: PTL-3
CIE Breadboard: PTL-4
Series circuit
Parallel circuit (with a common mistake)
Breadboarding a transistor amplifier
Is this also correct?
Double check the pin numbers when working with ICs.
A digital circuit

Observe polarity!

Current limit

Pull-up

V_{cc}
General guidelines:

• Do not force wires larger than #20 gage. Add soldered extensions using #22 solid wire.
• Use an IC removal tool or use a screwdriver to carefully pry up ICs for removal.
• Use buses for power and ground distribution (when available; make replacement otherwise).
• Add bypass capacitors to power buses.
• Check and recheck before applying power.
• Cut off ends and re-strip jumpers when they are worn.
• *Do not* breadboard high power, high current or high voltage circuits.
• RF circuits usually won’t work properly, if at all.
• Keep high gain circuits inline and avoid long jumpers.
• Adapters are available for SMT devices.