

# **Team 1719 Tool Basics**

# Fasteners

- Nuts and bolts
- Washers
- Wrenches
- Pliers
- Screw drivers
- Socket sets
- Pop Rivets
- Zip ties

# Bolts



Hex head bolt



Allen head bolt



Phillips head bolt

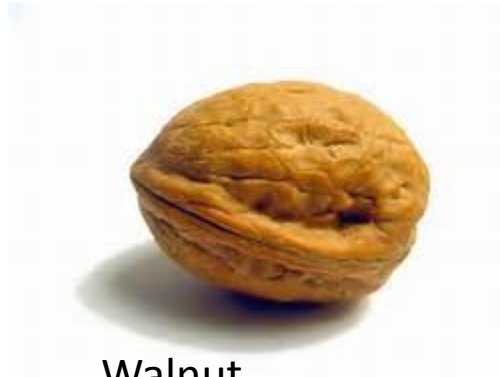
# Nuts



Standard Hex Nut



Nylock Hex Nut



Walnut  
(not generally effective  
fastener)



Keps Locknut



Wingnut

# Washers



Standard steel washer



Lock Washer

# Wrenches



Box-open end wrench



Ratchet wrench



Adjustable or Crescent wrench



Allen wrenches or Hex keys



# Pliers



Standard pliers



Vice grips



Channel-lock pliers



Needle-nosed pliers

# Screw Drivers



Phillips head screwdriver



Flat head screwdriver



Precision screwdriver



# Socket Sets and Drivers



Sockets



Socket set with  
ratchet driver



Socket driver

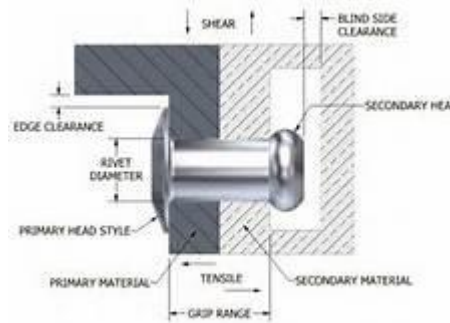
# Pop Rivets



Pop rivet



Pop rivet gun



How a pop rivet works

# Zip Ties



# Cutting and Machining

- Saws
- Snips
- Drilling
- Filing
- Taps and Dies

# Saws



Hacksaw



Coping saw

# Snips



Tin snips



Wire snips

# Drilling



Power drill

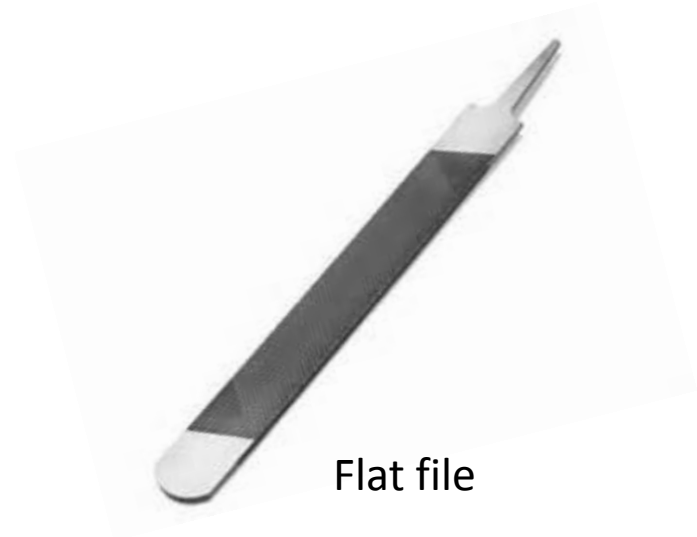


Drill bit

# Files (Rasps)



Rat-tail file



Flat file



# Taps and Dies

