

AIRCRAFT TOOL LIST

The following is a list of tools that will be helpful when assembling your RANS S-19.

HAND TOOLS

Pliers	Safety Wire Pliers
Needle Nose Pliers	Vise Grip Pliers
Needle-Nose Vise Grip Pliers	Side Cutters
Wire Strippers	Small spring clamps
Aviation Snips	Hand Pop-Rivet Tool
Hammer	Click Punch
Rubber Mallet*	Screwdriver Set
Several Small Clamps	Safety Glasses
Wrench Set SAE & Metric	Socket Set - SAE & Metric
Ruler & Tape Measure	2 or 4 ft. Level
Adjustable Fly Cutter*	Utility Knife
Set of Drill Bits (sizes listed below)	Files
Deburring Tool	Scotch-Brite Pads
Cleco pliers	Digital Protractor*
Fluting Pliers	Flanging (Edge Rolling) Tool

POWER TOOLS

Electric Hand Drill	Small Electric Grinder
Dremel*	Bench Disk Sander*
Soldering Iron	Heat Gun*
CD or MP3 Player*	Right Angle Drill and Bits

It is highly recommended that you use a pneumatic riveter.
These are the pneumatic riveters that we use at RANS.

Marson V2 lightweight pneumatic riveter P/N 79014

MSC Industrial Supply Co. P/N 04053278

LUBRICANTS & ADHESIVES

Small Can Lithium Grease	Clear Silicone
Contact Cement	WD40
Super Glue	Lubricating oil
Drill Lubricant (We use Walter Cool-Cut) *	Glue Stick
Double Stick Tape	

CLECO FASTENERS

The following are considered minimum quantities.

200	3/32"	(Cadmium / Silver)
200	1/8"	(Copper)
20	5/32"	(Black)
20	3/16"	(Brass / Gold)

DRILL BIT & REAM SIZES

A Unibit[®] Step Drill ranging from 1/4" to 3/4" and conventional bits ranging from 1/8" to 3/8" is strongly recommended.

In addition to these the following bits will be required to assemble your S-19.

CONVENTIONAL BITS

#50
#40
#30
#28
#21
#11
1/2" & 3/4" Unibit[®] Step Drill

RIGHT ANGLE

#40
#30
#11

LONG BITS

#40 – 6"
#40 – 12"*
#30 – 6"

REAMS

0.1885"
0.375"

TOOLS AND MATERIALS NEEDED FOR CASTING LEAD BALLAST WEIGHTS

Hot plate	Lead flux
Stainless steel spoon	Scale
Scrap wood	Screws or clamps
Lead (Tire shops are a good source)	Safety glasses
Respirator	Welding apron and gloves
Crucible (Or small sauce pan able to withstand 900°F)	

* Indicates optional items. These are not required, but may make building easier