

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 & TAPES

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	3M™ Brand #471 Vinyl Tape
PVC Cleaner and Cement	DOW 730 Sealant or similar

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 & COUNTERSINK CUTTERS

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
Letter N
1/2" & 3/4" Unibit® Step Drill

RIGHT ANGLE

#40
#30
#11

LONG BITS

#40 – 6"
#40 – 12"*
#30 – 6"

REAMS

0.1885"
0.249"
0.3115
0.375"

COUNTERSINK CUTTERS

100 Degree

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