

New Jersey SkillsUSA Championships

2022 WELDING FABRICATION

Tool List

Layout Tools; pipe vice, combination squares, 2' squares, vice grips, dividers, protractor, center punch, ball peen hammers, files, tape measure, level, "C" clamps, soap stone, pencil, pen.

Welding Tools; chipping hammers, wire brushes, personal protective equipment.

RECOMMENDED SIZE FOR TABLE: ¼" X 16" X 24" (OR LARGER)

RECOMMENDED SIZE FOR BASE AND CLAMP BARS: ½" x 12" X 18" (OR LARGER)

NO GRINDERS, STRAIGHT EDGES, PATTERNS, TEMPLETS OR MAGNETIC SQUARES ALLOWED!

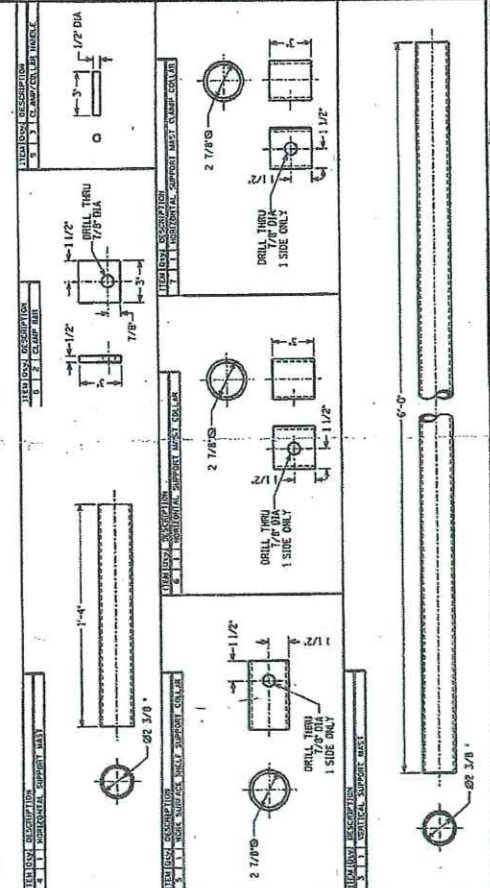
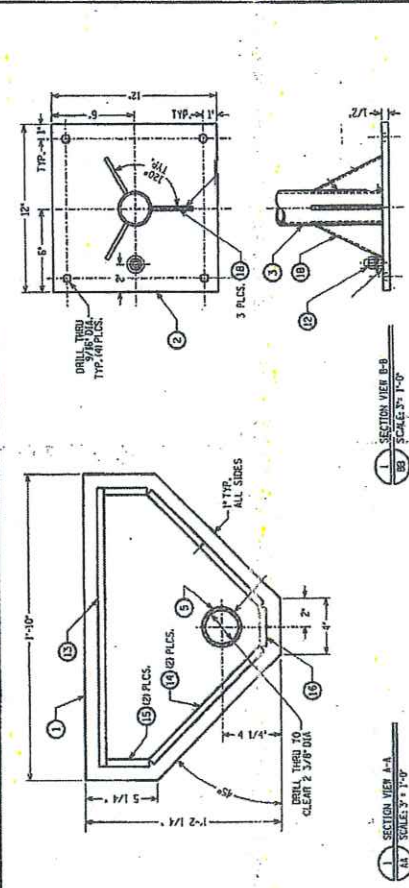
TEAMS ARE REQUIRED TO BRING WORK TABLE AND CUTTING TORCH.

OXYGEN AND ACETYLENE CYLINDERS, HOSE AND REGULATORS WILL BE SUPPLIED BY CUMBERLAND TECH.

**Skills USA
Fabrication Competition**

Bill of Material			Material
No	Qty	Description	
1	1	<u>Work Surface Shelf:</u> 14 1/4" X 22" X 1/4" Thick Plate.	CRS
2	1	<u>Support Mast Base Plate:</u> 12" X 12" X 1/2" Thick Plate.	CRS
3	1	<u>Vertical Support Mast:</u> 2" Dia Schedule 40 X 72" Long Steel Tube.	Steel Tube
4	1	<u>Horizontal Support Mast:</u> 2" Dia Schedule 40 X 16" Long Steel Tube.	Steel Tube
5	1	<u>Work Surface Shelf Support Collar:</u> 2 1/2" Dia Schedule 40 X 5" Long Steel Tube.	Steel Tube
6	1	<u>Horizontal Support Mast Collar:</u> 2 1/2" Dia Schedule 40 X 3" Long Steel Tube.	Steel Tube
7	1	<u>Horizontal Support Mast Clamp Collar:</u> 2 1/2" Dia Schedule 40 X 3" Long Steel Tube.	Steel Tube
8	2	<u>Clamp Bar:</u> 3" X 3" X 1/2" Thick Plate.	CRS
9	4	<u>Clamp / Collar Assy Handle:</u> 1/2" Dia X 3" Long Steel Rod.	Steel Rod
10	4	<u>Hex Head Cap Screws:</u> 3/4" 10 UNC X 2" Long.	Stock
11	4	<u>Hex Head Nuts { Heavy }:</u> 3/4" 10 UNC.	Stock
12	1 Ea	<u>Hex Head Cap Screws:</u> 1/2" 13 UNC X 1" Long / <u>Hex Nut:</u> 1/2" 13 UNC / <u>Flat & Lock Washer</u>	Stock
13	1	<u>Work Surface Shelf Support:</u> 1/2" Thick X 1" X 20" Long.	CRS
14	2	<u>Work Surface Shelf Support:</u> 1/2" Thick X 1" X 11 1/2" Long.	CRS
15	2	<u>Work Surface Shelf Support:</u> 1/2" Thick X 1" X 3 1/8" Long.	CRS
16	1	<u>Work Surface Shelf Support:</u> 1/2" Thick X 1" X 2 3/4" Long.	CRS
17	4	<u>Anchor Bolts:</u> 1/2" X 3" { Not Shown }	Stock
18	3	<u>Vertical Support Mast Gussets:</u> 1/4" Thick X 3" X 5 1/4".	CRS
< Key >		<u>Note:</u> Item Numbers: 3,4,5,6,7 & 9 Shall be cut to size and drilled prior to the competition .	
< Key >		<u>Note:</u> Item Numbers: 1,2,8,13,14,15,16 & 18 Shall be fabricated the day of the competition.	

NO.	QTY.	DESCRIPTION	MATERIAL
1	1	WORK SURFACE SHELF - 1/4" THK. STL. PLATE	CRS
2	1	VERTICAL SUPPORT MAST - 2" DIA. SCHEDULE 40 X 12' LG. STL. TUBE	CRS
3	1	HORIZONTAL SUPPORT MAST - 2" DIA. SCHEDULE 40 X 12' LG. STL. TUBE	CRS
4	1	WORK SURFACE SHELF SUPPORT COLLAR - 2-1/2" DIA. SCHEDULE 40 X 3' LG. STL. TUBE	CRS
5	1	HORIZONTAL SUPPORT MAST COLLAR - 2-1/2" DIA. SCHEDULE 40 X 3' LG. STL. TUBE	CRS
6	1	CLAMP BAR - 3" X 3" X 1/2" THK. STL. PLATE	CRS
7	1	CLAMP/COLLAR ASST. HANDLE - 1/2" DIA. X 3' LG. STL. ROD	CRS
8	1	HEX HEAD CAP SCREW - 3/4" - 10 UNC. X 2" LG.	CRS
9	1	HEX HEAD NUT (HEAVY) - 3/4" - 10 UNC. - 1" LG. HEX. HEAD NUT - 1/2" - 20 UNC. FLAT WASHER, LOCK WASHER	CRS
10	1	HEX HEAD CAP SCREW - 1/2" - 20 UNC. X 2" LG.	CRS
11	1	HEX HEAD NUT (HEAVY) - 1/2" - 20 UNC. - 1" LG. HEX. HEAD NUT - 1/2" - 20 UNC. FLAT WASHER, LOCK WASHER	CRS
12	1	HEX HEAD CAP SCREW - 1/2" - 20 UNC. X 2" LG.	CRS
13	1	HEX HEAD NUT (HEAVY) - 1/2" - 20 UNC. - 1" LG. HEX. HEAD NUT - 1/2" - 20 UNC. FLAT WASHER, LOCK WASHER	CRS
14	1	HEX HEAD CAP SCREW - 1/2" - 20 UNC. X 2" LG.	CRS
15	1	HEX HEAD NUT (HEAVY) - 1/2" - 20 UNC. - 1" LG. HEX. HEAD NUT - 1/2" - 20 UNC. FLAT WASHER, LOCK WASHER	CRS
16	1	HEX HEAD CAP SCREW - 1/2" - 20 UNC. X 2" LG.	CRS
17	1	HEX HEAD NUT (HEAVY) - 1/2" - 20 UNC. - 1" LG. HEX. HEAD NUT - 1/2" - 20 UNC. FLAT WASHER, LOCK WASHER	CRS
18	1	VERTICAL SUPPORT MAST GUSSET - 3" THK. STL. PLATE (SEE DETAIL)	CRS



NO.	QTY.	DESCRIPTION	DATE	BY
1	1	WORK SURFACE SHELF		
2	1	VERTICAL SUPPORT MAST		
3	1	HORIZONTAL SUPPORT MAST		
4	1	WORK SURFACE SHELF SUPPORT COLLAR		
5	1	HORIZONTAL SUPPORT MAST COLLAR		
6	1	CLAMP BAR		
7	1	CLAMP/COLLAR ASST. HANDLE		
8	1	HEX HEAD CAP SCREW		
9	1	HEX HEAD NUT (HEAVY)		
10	1	HEX HEAD CAP SCREW		
11	1	HEX HEAD NUT (HEAVY)		
12	1	HEX HEAD CAP SCREW		
13	1	HEX HEAD NUT (HEAVY)		
14	1	HEX HEAD CAP SCREW		
15	1	HEX HEAD NUT (HEAVY)		
16	1	HEX HEAD CAP SCREW		
17	1	HEX HEAD NUT (HEAVY)		
18	1	VERTICAL SUPPORT MAST GUSSET		

THE LINCOLN ELECTRIC CO., CLEVELAND, OHIO

MACH

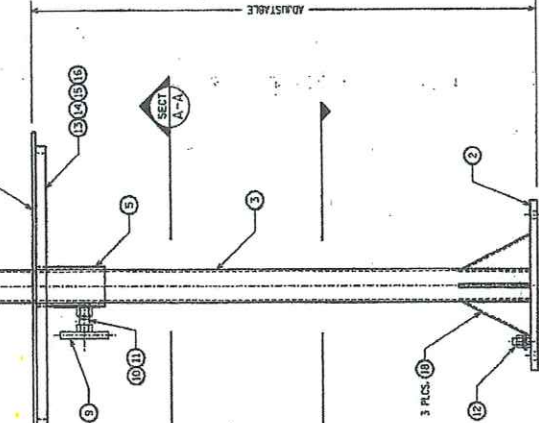
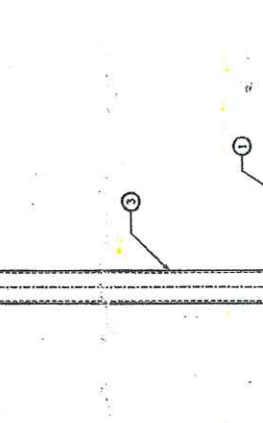
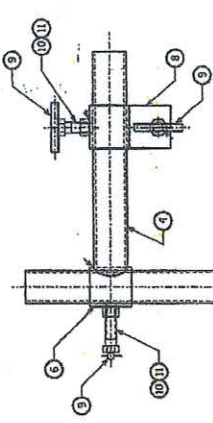
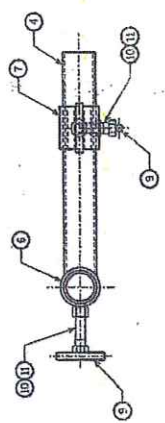
WELD BOOTH STAND & SHELF

ASSEMBLY DRAWING

DATE: 02/20/88

SCALE: 3/4" = 1'-0"

FIG. NO. 2089-01.4



FOR REFERENCE FILES PLEASE USE SHEETS:
01-2089-001
01-2089-002

DATE: 02/20/88

SCALE: 3/4" = 1'-0"

FIG. NO. 2089-01.4