

PROJECT HEXAPOD WORK INSTRUCTION

[illegible]

PROJECT HEXAPOD WORK INSTRUCTION

PART NUMBER	DESCRIPTION	QTY
	SAFETY GLASSES	1
	WELDING HOOD	1
1/4-20 X .5LG BHCS	BUTTON HEAD CAP SCREWS	20
1/4-20 SQUARE NUT	SQUARE NUTS	20
	WIRE BRUSH	1
	RIGHT ANGLE GRINDER	1
	SOAP STONE CHALK	1
	HAMMER	1
	MIG WELDER	1
	IR TEMEPRATURE METER	1
	TAPE MEASURE	1

Description:		CALF WELDING		Subject:		EQUIPMENT REQUIRED	
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PART NUMBER	DESCRIPTION	QTY
	WELDING WIRE	AR
	DEGREASER	AR
	GRINDING WHEELS	AR
STPY-304-4	SHOCK PLATE, CALF, 1/4	1
STPY-304-3	TAB, SHOCK MOUNT, CALF, 1/4	2
STPY-304-2	SIDE PLATE, CALF, 3/16	2
STPY-304-1	RIB PLATE, CALF, 11 GA	7
STPY-304-11	REAR FOOT GUSSET, CALF, 3/16	1
STPY-304-10	FOOT ANGLED PLATE, CALF, 11 GA	2
STPY-304-9	FRONT FOOT GUSSET, CALF, 11 GA	1
STPY-304-8	BOTTOM BRIDGING PLATE, CALF, 3/16	1
STPY-304-7	BOTTOM ANGLED PLATE, CALF, 11 GA	2
STPY-304-6	TOP ANGLED PLATE, CALF, 11 GA	2
STPY-304-5	KNEE CAP, CALF, 11 GA	1

Description:

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PARTS REQUIRED

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CAUTION: Safety glasses are required throughout this operation.

Always use personal safety precautions outlined in a MSDS for any specific chemical. If you have any questions in reference to handling chemicals, refer to the appropriate MSDS or ask your group leader and/or supervisor.

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SAFETY & IMPORTANT NOTES

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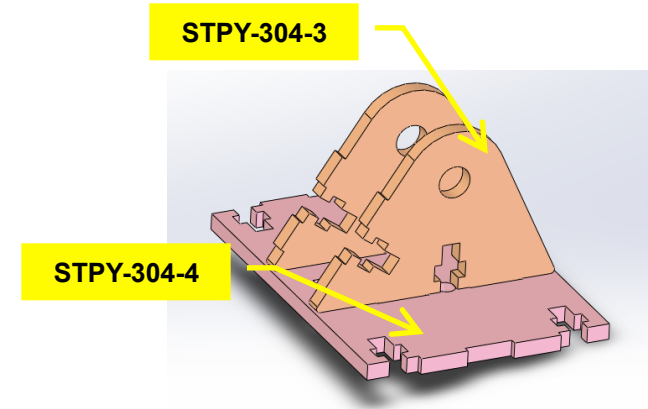
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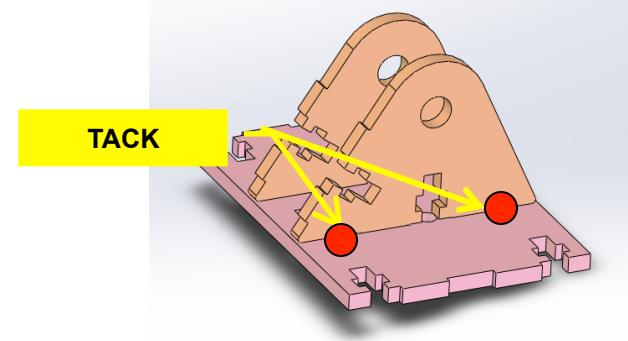
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1. Gather all of the cut plates for the **STPY-304-A1** Assembly and inspect each for defects, dross, and cleanliness.
2. If any dross/dirt/rust or other imperfections are present within 1.5" of the weld zone use a **WIRE BRUSH** or **RIGHT ANGLE GRINDER** to clean the region until bright silver steel is present.
3. **FIXTURE** the bottoms of 2X of **STPY-304-3** to the top of **STPY-304-4** using the **1/4-20 BHCS** and **1/4-20 SQUARE NUTS**.



4. **TACK WELD** both **STPY-304-3** to **STPY-304-4** using 2 tacks per plate side. Tacks to be **1" to 2"** from end of plate. **CLEAN** the tacks with a **WIRE BRUSH**.
5. **REMOVE** the bolts and nuts.



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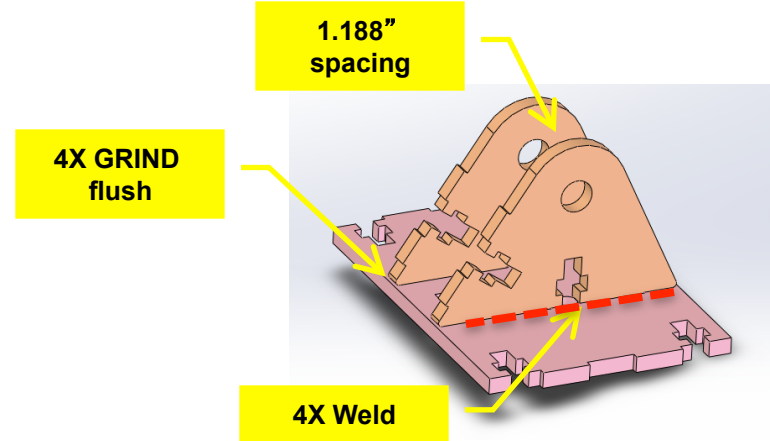
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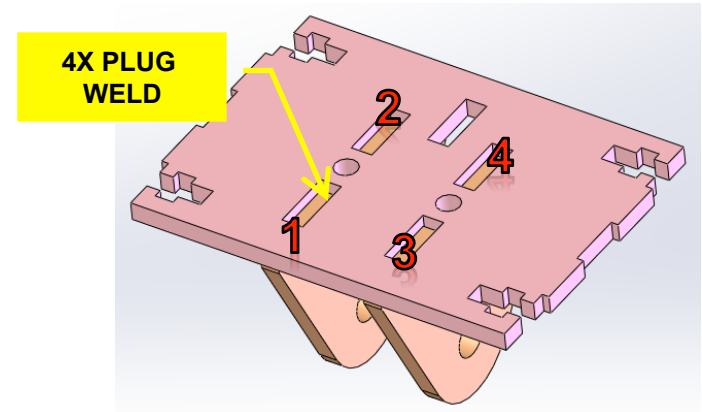
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6. **FILLET WELD** both sides of the plates ending 1" from the ends
7. **CHECK** the spacing to be **1.313"** btwn the tabs
8. Allow the assembly to cool and clean the welds using a **WIRE BRUSH**.
9. **WRAP WELD** the ends of the plates.
10. Allow the assembly to cool and **GRIND** the weld ends to be flush w/ **STPY-304-4**.



11. Flip the assembly and **PLUG WELD** the tabs into the slots. Follow the weld order 1 through 4. **CHECK** the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F after each plug weld.



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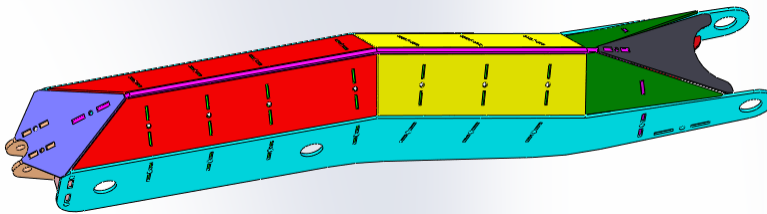
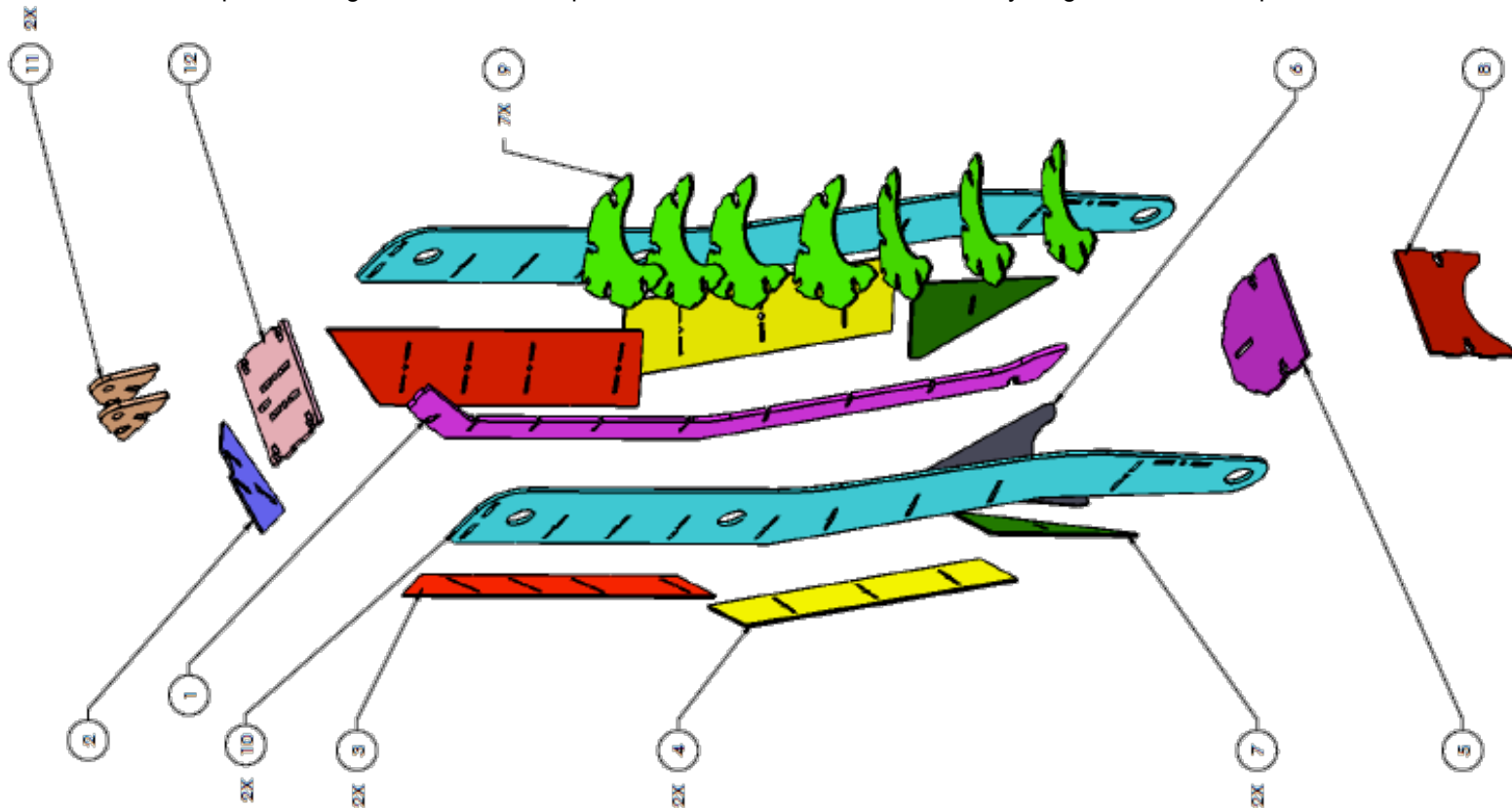
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12. ASSEMBLE the rest of the plates using the screws and square nuts. **CHECK** to make sure everything fits flush and square.



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12	STPY-304-4	SHOCK PLATE, CALF, 1/4	1
11	STPY-304-3	TAB, SHOCK MOUNT, CALF, 1/4	2
10	STPY-304-2	SIDE PLATE, CALF, 3/16	2
9	STPY-304-1	RIB PLATE, CALF, 11 GA	7
8	STPY-304-11	REAR FOOT GUSSET, CALF, 3/16	1
7	STPY-304-10	FOOT ANGLED PLATE, CALF, 11 GA	2
6	STPY-304-9	FRONT FOOT GUSSET, CALF, 11 GA	1
5	STPY-304-8	BOTTOM BRIDGING PLATE, CALF, 3/16	1
4	STPY-304-7	BOTTOM ANGLED PLATE, CALF, 11 GA	2
3	STPY-304-6	TOP ANGLED PLATE, CALF, 11 GA	2
2	STPY-304-5	KNEE CAP, CALF, 11 GA	1
1	STPY-304-12	SPINE, CALF, 1/4	1

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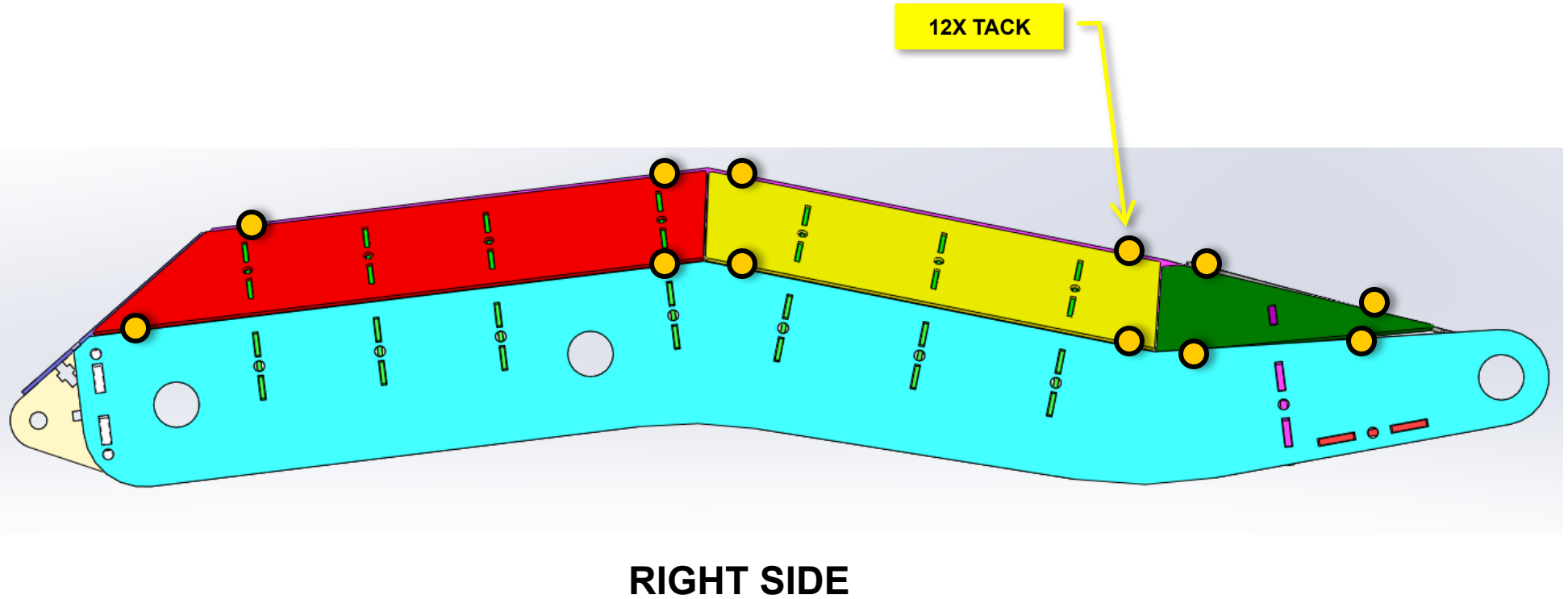
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14. **TACK WELD** the plates in the following locations. **CLEAN** tacks w/ a wire brush.



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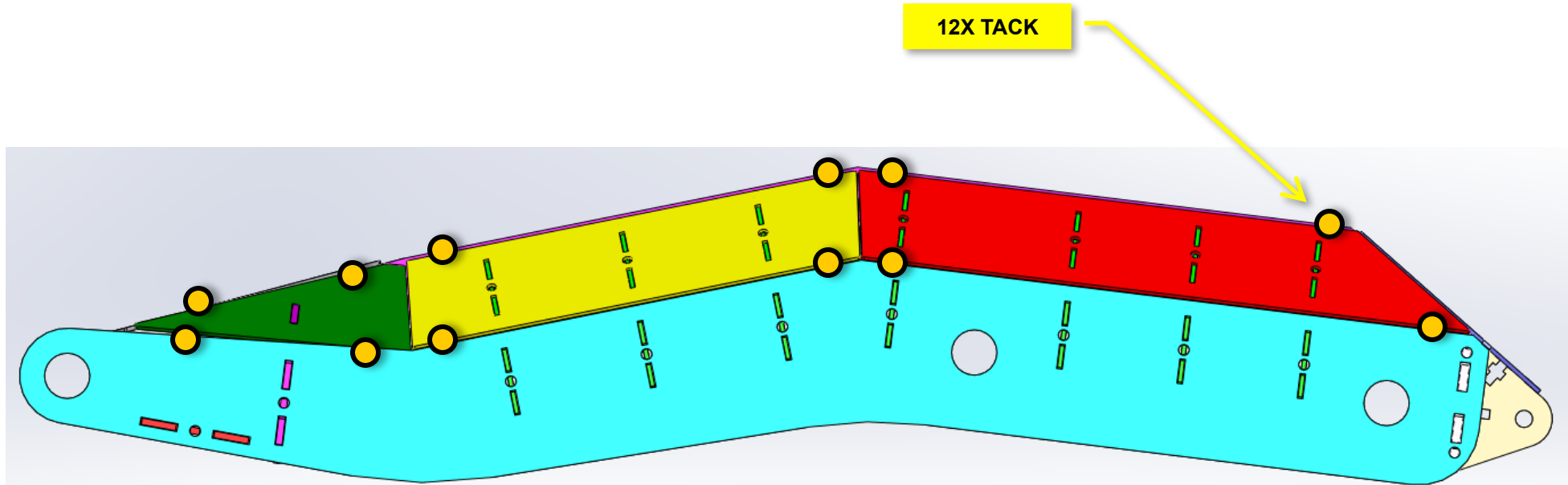
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PROJECT HEXAPOD WORK INSTRUCTION

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LEFT SIDE

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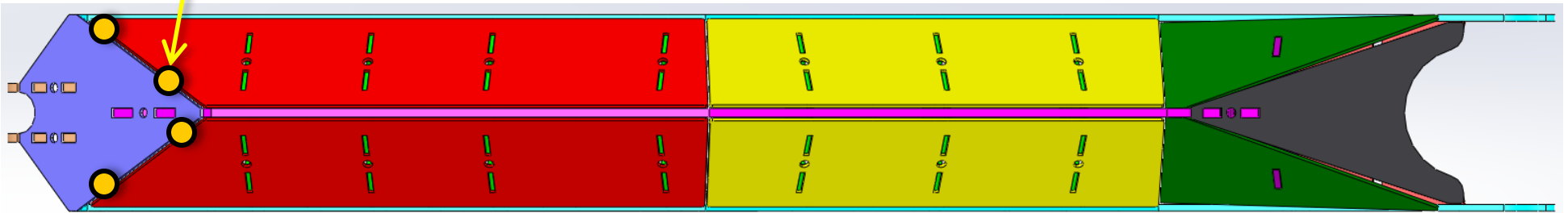
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4X TACK



FRONT SIDE

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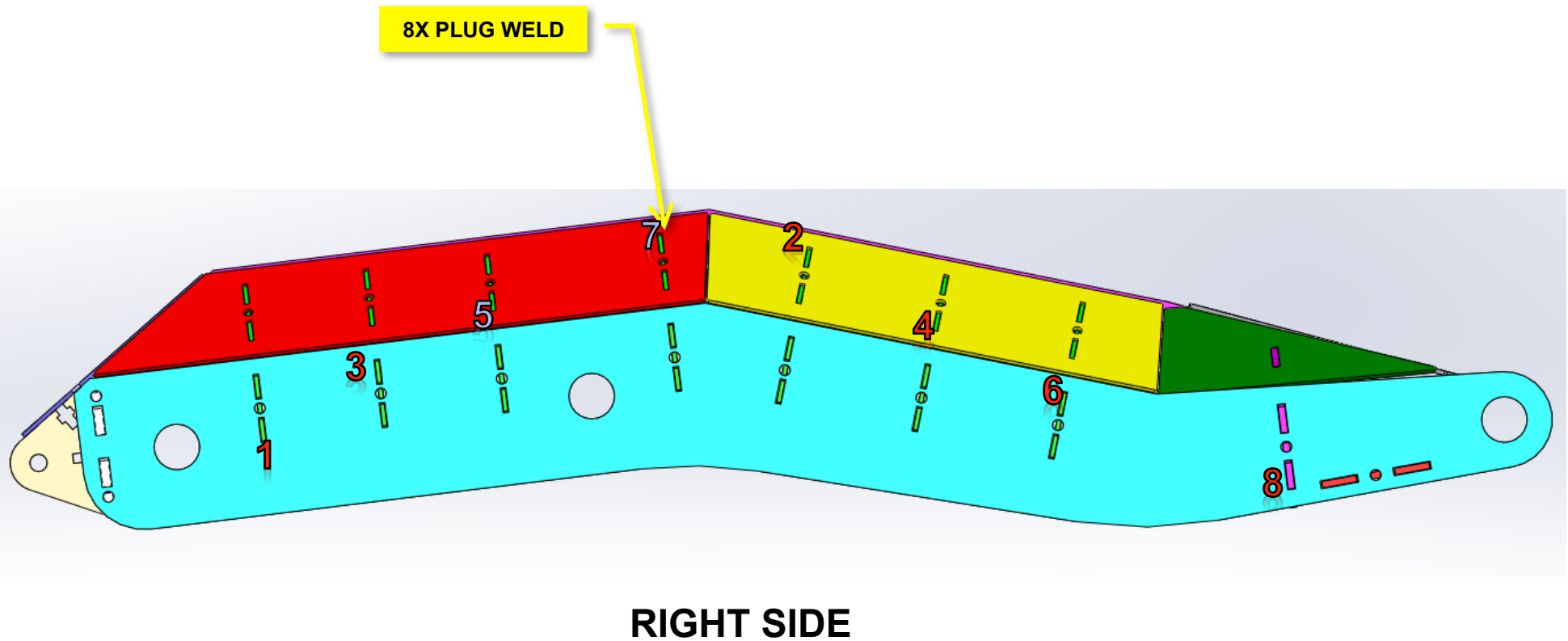
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14. **PLUG WELD** the plates on the **RIGHT SIDE** in the following locations and order. **CHECK** the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F after each plug weld. **CLEAN** welds w/ a wire brush.



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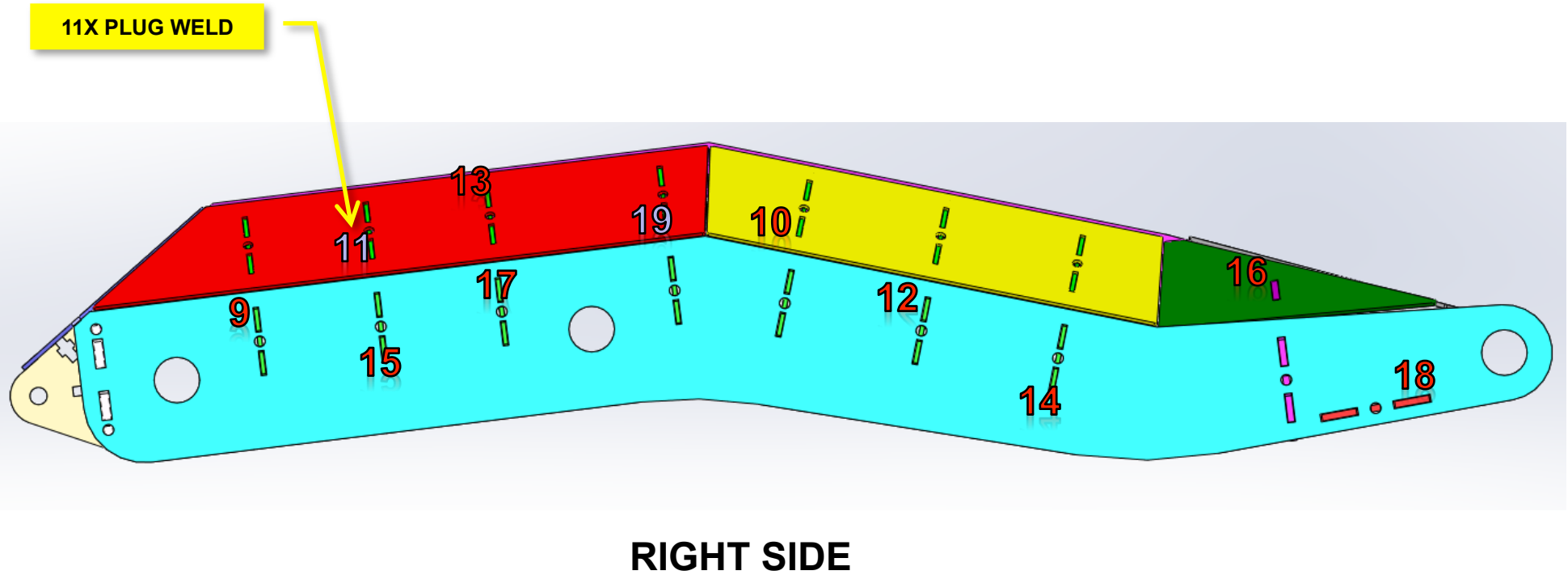
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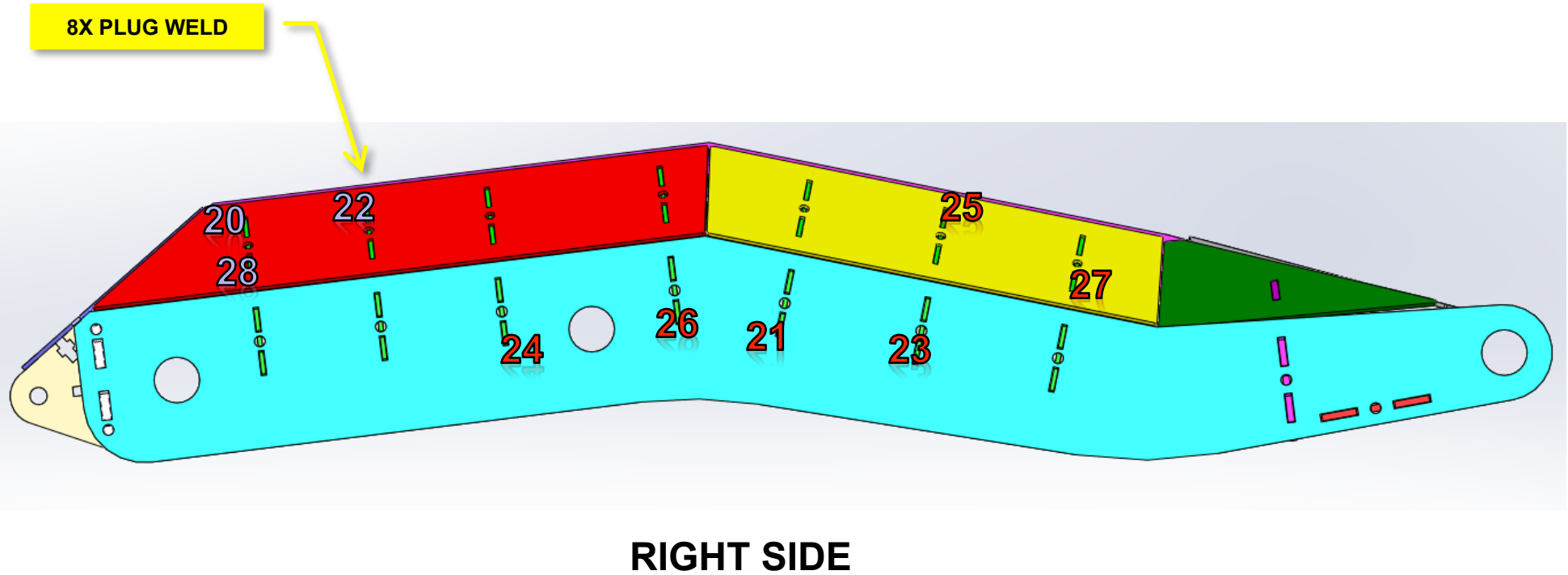
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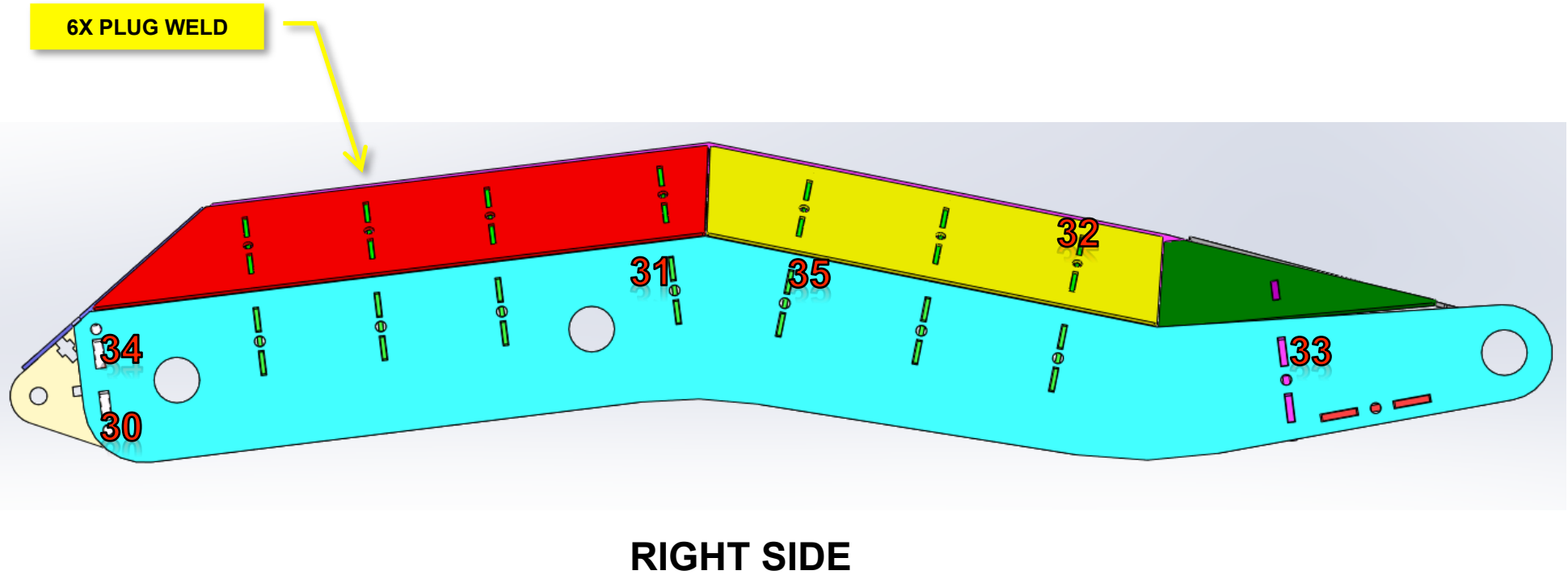
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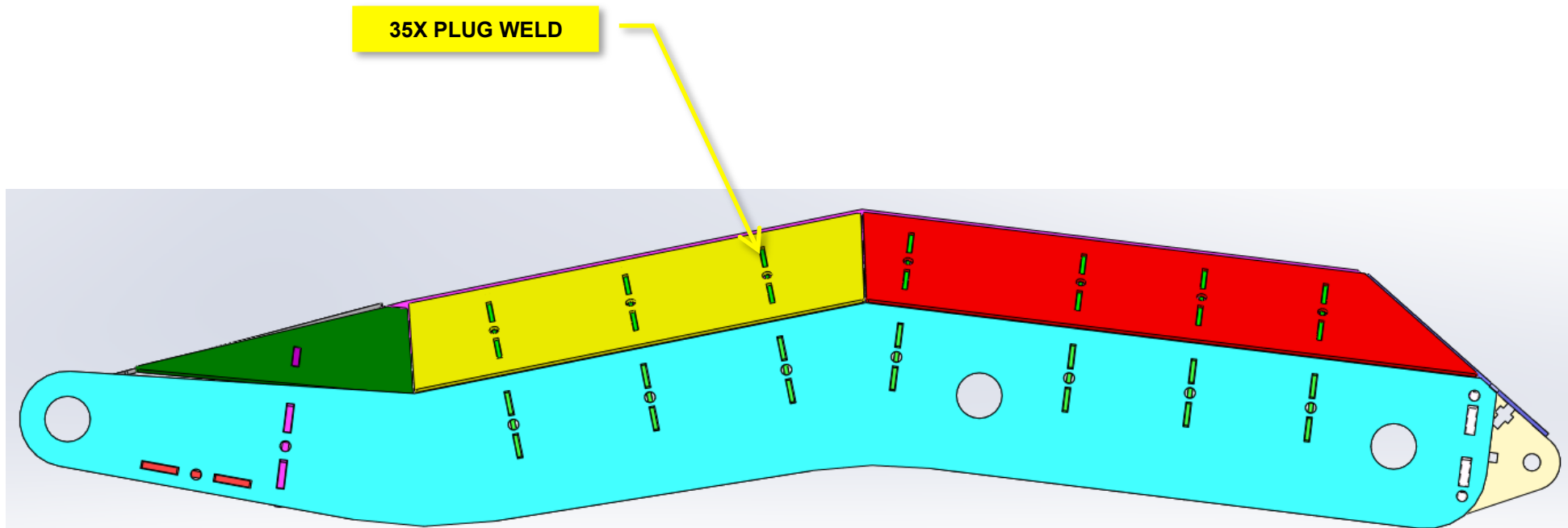
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15. **PLUG WELD** the plates on the **LEFT SIDE** in the same pattern as the **RIGHT SIDE**. **CHECK** the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F after each plug weld. **CLEAN** welds w/ a wire brush.



LEFT SIDE

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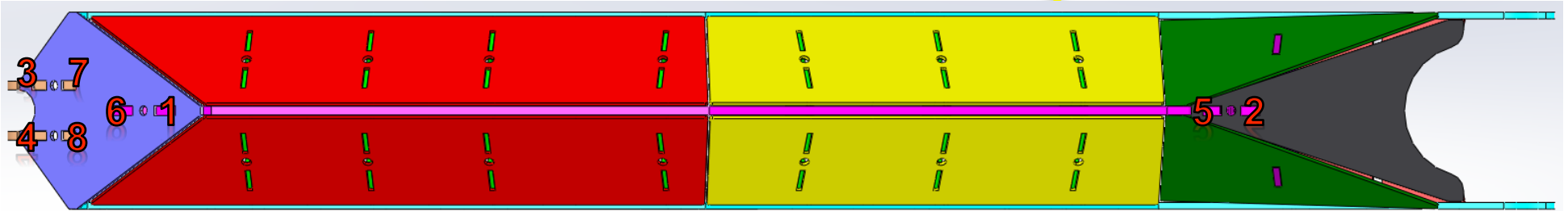
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16. **PLUG WELD** the plates on the **FRONT SIDE** in the following locations and order. **CHECK** the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F after each plug weld. **CLEAN** welds w/ a wire brush.

8X PLUG WELD



FRONT SIDE

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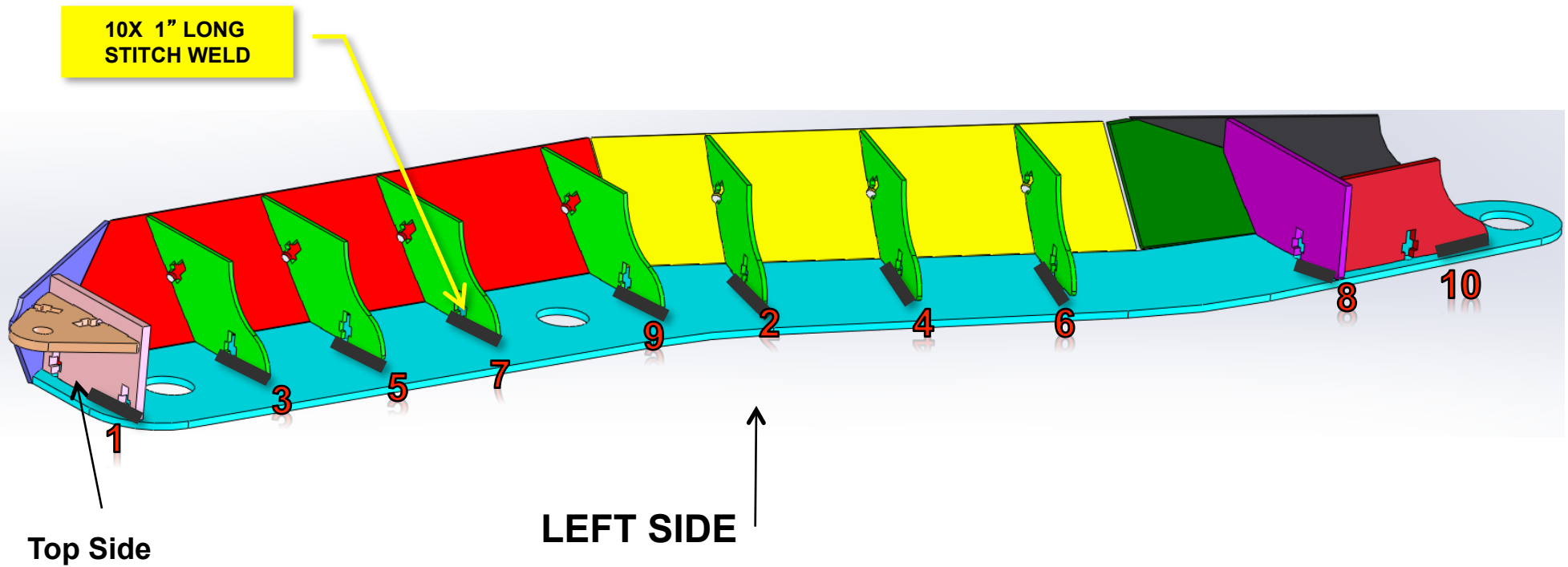
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17. **REMOVE** all of the **SCREWS** and **NUTS** and save. **CLEAN** all of the plug welds with a wire brush.
18. **STITCH WELD** the **TOP** insides of the assembly in the following order. Welds to be 1" to 1.5" long.
19. **AFTER 5 WELDS SWITCH** to the **RIGHT** side and repeat 1-5.
20. **SWITCH** back to the **LEFT** and complete welds 6-10.
21. **SWITCH** back to the **RIGHT** and finish 6-10 there as well.
22. **CLEAN** welds with a wire brush.

RIGHT SIDE (hidden)



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23. **STITCH WELD** the **TOP** insides of the assembly in the following order. Welds to be 1" to 1.5" long and **BRIDGE** the angled plates as shown.

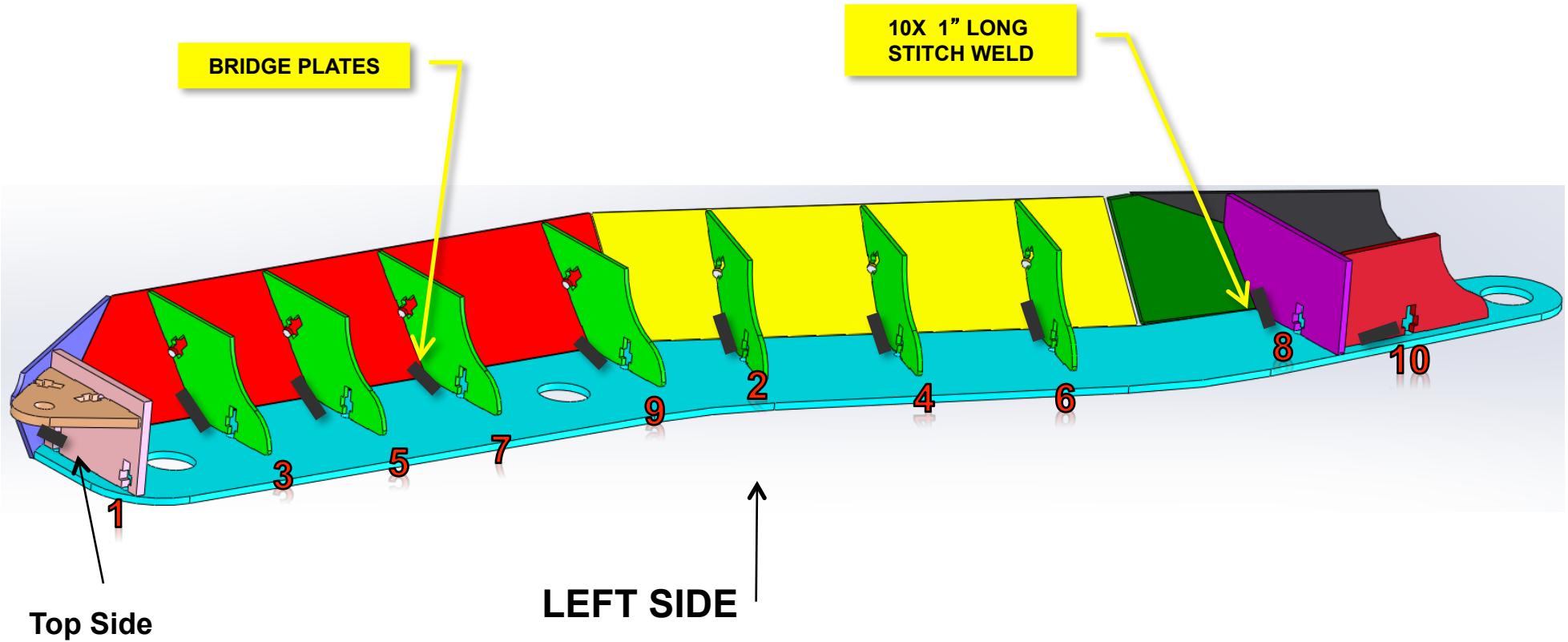
24. **AFTER 5 WELDS SWITCH** to the RIGHT side and repeat 1-5.

25. **SWITCH** back to the LEFT and complete welds 6-10.

26. **SWITCH** back to the RIGHT and finish 6-10 there as well.

27. **CLEAN** welds with a wire brush.

RIGHT SIDE (hidden)



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28. STITCH WELD the **TOP** insides of the assembly in the following order. Welds to be 1" to 1.5" long and **BRIDGE** the angled plates to the **SPINE** as shown.

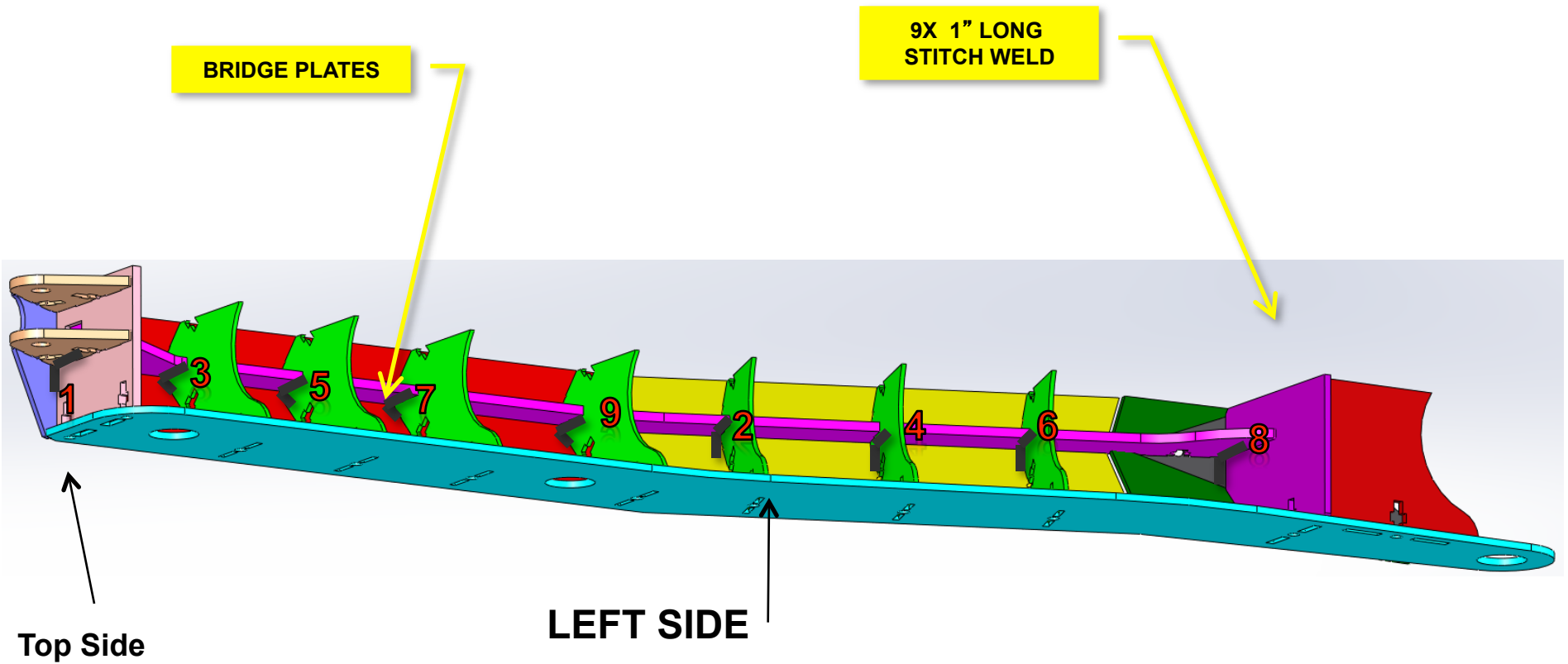
29. AFTER 5 WELDS SWITCH to the RIGHT side and repeat 1-5.

30. SWITCH back to the LEFT and complete welds 6-9.

31. SWITCH back to the RIGHT and finish 6-9 there as well.

32. CLEAN welds with a wire brush.

RIGHT SIDE (hidden)



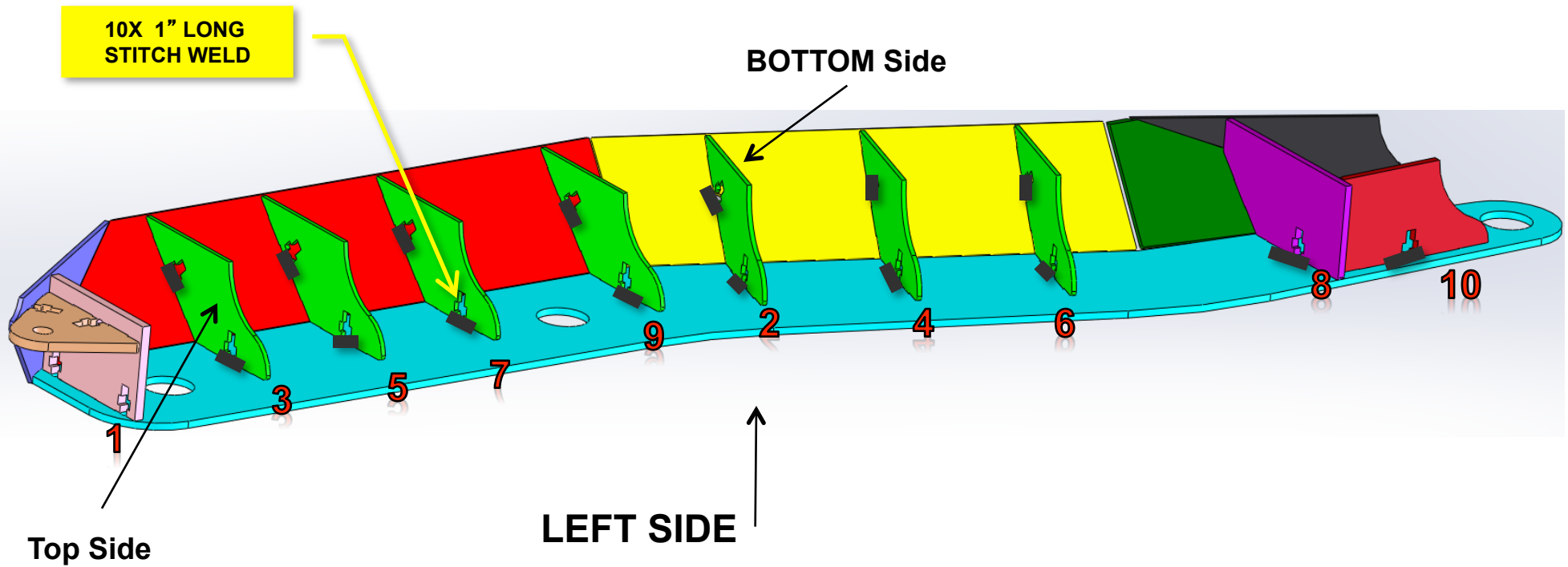
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33. After TOPS and BOTTOMS are welded and CLEANED, **WELD** a STITCH over the base of the t shaped cutouts in the following order LEFT and RIGHT sides as before.

34. **REPEAT** steps 18 through 33 for the BOTTOM SIDE of the RIBS.

RIGHT SIDE (hidden)



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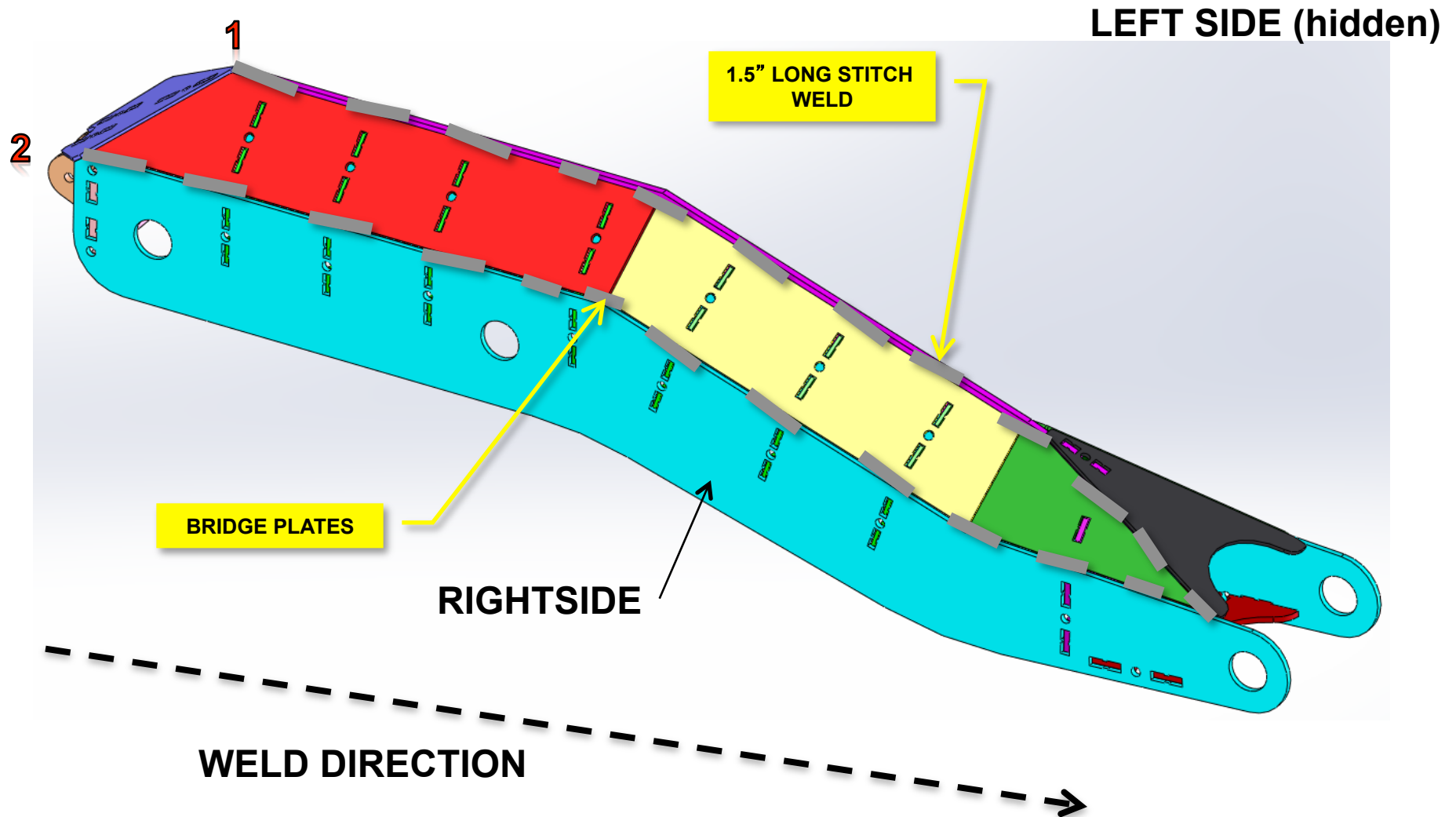
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34. STITCH WELD 1.5" to 2" welds w/ same spacing along the seams as indicated in order from page left to page right. BRIDGE plates at intersections.

CHECK the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F

35. **REPEAT** step 34 on the LEFT side of the leg.



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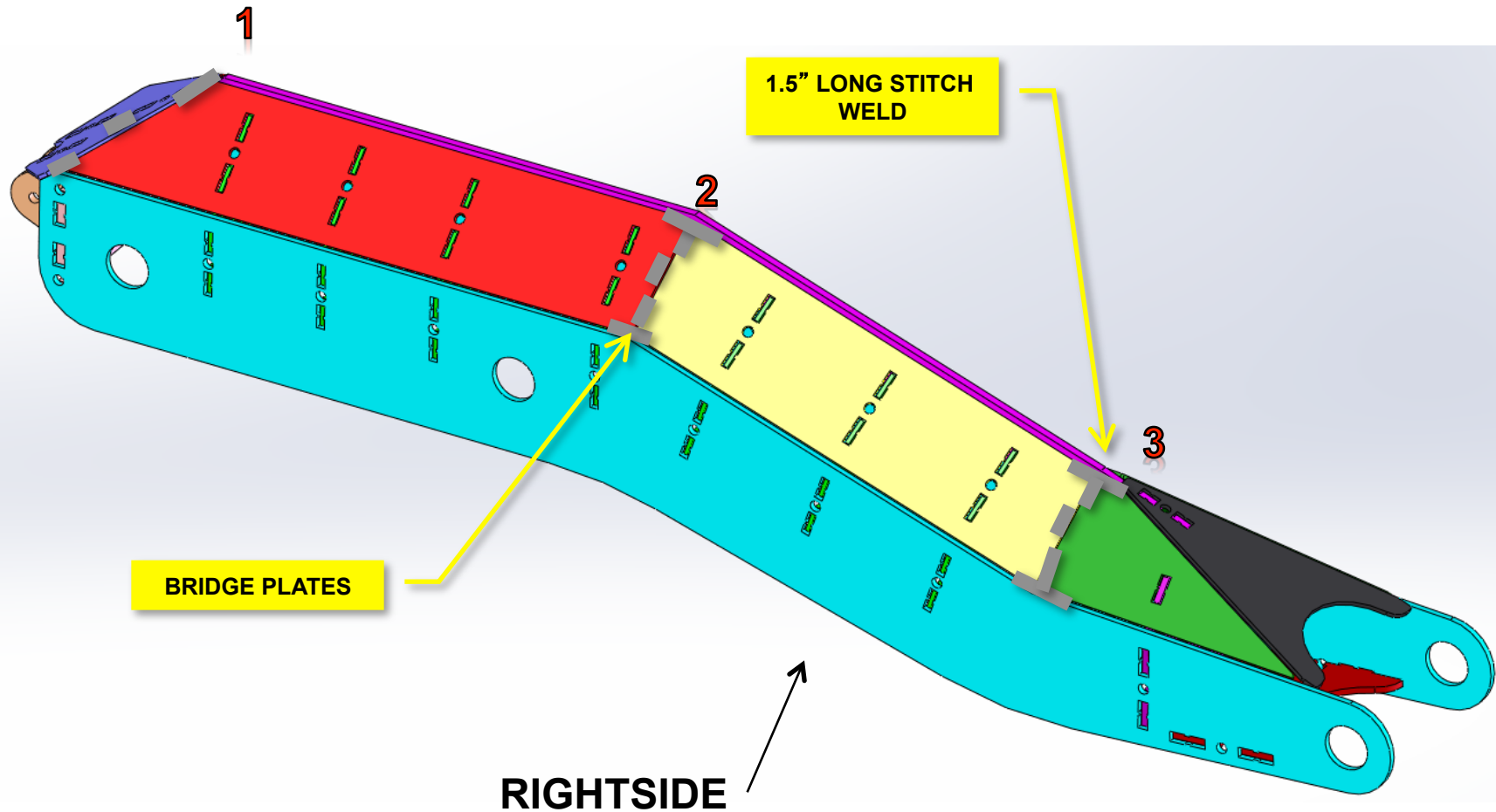
36. CLEAN welds from previous stitch welding using a WIRE BRUSH.

37. STITCH WELD 1.5" to 2" welds w/ same spacing along the seams as indicated in order from page left to page right. BRIDGE plates at intersections.

CHECK the temperature of the metal 3" away from the weld zone to make sure it NEVER goes above 160F

38. REPEAT step 37 on the LEFT side of the leg.

LEFT SIDE (hidden)



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