

Machine Shop Production Checklist

Part 1 – Back Plate Fabrication (Milling, Tapping, Bracket Holes)

Total Production: 50 Sensor Boxes in Gangs of 12 and 13 Plates

Gang Breakdown:

- Gang of 12 plates → 24 ft → accommodates 24 sensor boxes
- Gang of 13 plates → 26 ft → accommodates 26 sensor boxes

STEPS

1. □ Visually inspect raw stainless steel plates for defects, burrs, or deformation (per gang)
2. □ Bandsaw and rough cut all plates to approximate size
3. □ Lay out rough-cut plates and label with a marker (Gang 12 / Gang 13)
4. □ Zero the vise using a dial indicator
5. □ End mill 1/8" per surface and 1/4" per dimension per surface to clean and prep
6. □ Clamp Gang 12, then Gang 13
7. □ Set stop and sit each plate on 1/2" parallels
8. □ Edge-find each plate, rotate 180°, repeat
9. □ Centre drill holes for the cross bars
10. □ Drill through holes for the cross bars
11. □ Centre drill holes for the solar panel bracket
12. □ Drill through holes for the solar panel bracket
13. □ Deburr solar panel holes with a countersink bit
14. □ Sand or disk finish all plates for smooth surface
15. □ Round outer edges to remove sharpness and ensure safe handling
16. □ Deburr outer edges using sanding disk and belt sander
17. □ Tap 4 × M4 × 0.7mm holes using a hand drill with lubricant
18. □ Log completion of each gang (Gang 12 / Gang 13); note any rework

Notes:

- Mark any defective or incomplete parts and remove from the working tray
- Ensure all measurements are verified with calibrated tools after each gang

Operator Initials: _____

Date: _____