

## Procedure: Clamp Final Inspection Procedure

### 1. PURPOSE AND SCOPE

- 1.1. The purpose of this procedure is to insure clamps meet key quality & functional parameters.
- 1.2. This procedure includes all clamp inspections in the Renfroe product line.
- 1.3. The Clamp Assembly Lead is responsible for implementation and management of this procedure. Engineering is responsible for its content.

### 2. REVISION AND APPROVAL

Rev.	Date	Nature of Changes	Approved By
N	09/25/2018	Original issue.	Kelly
001	02/28/2024	Updated load test time	Kelly

### 3. DEFINITIONS

- 3.1. Explain the definitions necessary to understand this procedure here. If there are none, enter N/A.

### 4. PROCEDURE

After assembly and tagging, all clamps shall be pull tested and inspected as follows:

#### 4.1. Pull Testing

- 4.1.1. All final clamp assemblies proof tested shall be load tested to twice (2) the rated load capacity.
- 4.1.2. The assembler who performs the pull test will record the load test in the Inspection report and log. This information includes:
  - 4.1.2.1. Work order number
  - 4.1.2.2. Part number
  - 4.1.2.3. Clamp model
  - 4.1.2.4. Rated capacity
  - 4.1.2.5. Jaw opening
  - 4.1.2.6. Clamp serial number
  - 4.1.2.7. Load test lbs.
  - 4.1.2.8. Load test operators initials
  - 4.1.2.9. Visual inspectors initials
  - 4.1.2.10. Load tested for 30 seconds (if required)
  - 4.1.2.11. Inspection date

After the information is completed, the clamps are placed on the final inspection bench for a final inspection check by the department supervisor or QC inspector.

#### 4.2. Final QC Inspection

##### 4.2.1. Visual Inspection

The clamps shall be inspected as follows:

- 4.2.1.1. Check cam teeth and cam jaw, swivel jaws screw. No chips.
- 4.2.1.2. Check that swivel jaws can rotate in their mounts.
- 4.2.1.3. Check maximum plate size and minimum plate size grips
- 4.2.1.4. Check for clearance while maximum plate is installed.
- 4.2.1.5. Check that shackle slides back and forth in shackle pin guide slot
- 4.2.1.6. Nut and bolts tightened properly
- 4.2.1.7. Nuts center punched
- 4.2.1.8. Make any necessary adjustments
- 4.2.1.9. Spiral Pins centered or flush where applicable.
- 4.2.1.10. Check welds per print
- 4.2.1.11. No weld splatter anywhere
- 4.2.1.12. Spring and S hooks are closed and formed properly.
- 4.2.1.13. All snap rings are seated properly if used.
- 4.2.1.14. Lock hand operates smoothly and adjusted properly where applicable.
- 4.2.1.15. Shackle assembly installed per print
- 4.2.1.16. Alignment of cam jaws and screw cups
- 4.2.1.17. Check that Screw clamps main clamping screws threads completely in and out smoothly
- 4.2.1.18. Check finish of powder coat. Apply Touchup paint, if necessary.
- 4.2.1.19. Check that the proper information is on the tag and matches the clamp.(per the drawing).
- 4.2.1.20. Check that the information on the box matches the tag on the clamp.
- 4.2.1.21. Attach the proper operator's manual
- 4.2.1.22. Include information request card.
- 4.2.1.23. Attach an inspected by sticker to the clamp body
- 4.2.1.24. Place in box if required