

## Defect Details

|                                 |   |
|---------------------------------|---|
| <b>NC No.</b>                   | 8000830656                                  |
| <b>NC Date</b>                  | 26/05/2023                                  |
| <b>NC Submission Date</b>       |   |
| <b>Part No.</b>                 | F2BZ05712B                                  |
| <b>Part Name</b>                | CAP OIL LOCK - J1D FF (10mm taper)          |
| <b>Supplier Name &amp; Code</b> | 100106-SHARP ENGINEERS.                     |
| <b>ETL Plant</b>                | 1117-ETL K-228/9 Suspension                 |
| <b>Defect Details</b>           | NOT AS PER SPECIFICATION-ANGLE FOUND NOT OK |

## 1. Problem Description

|                               |   |
|-------------------------------|---|
| <b>Defect Description</b>     | Taper angle (1.3 ± 0.30 ) found not ok. |
| <b>Detection Stage</b>        | Receipt                                 |
| <b>Problem Severity</b>       | Fitment                                 |
| <b>NG Quantity</b>            | 133                                     |
| <b>Is Defect Repeatative?</b> | No                                      |
| <b>Defect Sketch / Photo</b>  |   |

## Supplier Communication Details

|                                |                                  |
|--------------------------------|----------------------------------|
| <b>Quality Head Email ID</b>   | quality@apw3.co.in               |
| <b>Plant Head/CEO Email ID</b> | kurund.ma@sharp-engineers.com    |
| <b>MD Email ID</b>             | urkhandelwal@sharp-engineers.com |

## 2. Stock Details &amp; action taken for NG parts

| Location         | ETL End | Warehouse | Transit | Supplier FG | Supplier WIP | Total |
|------------------|---------|-----------|---------|-------------|--------------|-------|
| <b>Total Qty</b> | 4060    | 0         | 0       | 1200        | 500          | 5760  |
| <b>Check Qty</b> | 4060    | 0         | 0       | 1200        | 500          | 5760  |
| <b>NG Qty</b>    | 133     | 0         | 0       | 0           | 0            | 133   |

## Action taken on NG part

|                        |     |
|------------------------|-----|
| <b>Scrap</b>           | 0   |
| <b>Rework</b>          | 133 |
| <b>Under Deviation</b> | 0   |

## Containment Action

Segregation done immediately for all the suspected material.

## 3. Process Flow

**Process Flow Description**

10) RM inward inspection 20) Traub Machining(Drilling & Parting 30) Inspection semi-finish part 40) CNC 1s set up 50) CNC 2nd set up 60) Plating process (Outsource) 70) Inward inspection 80) Final Inspection 90) Pre-dispatch inspection 100) Packing & dispatch

**4. Process Details**

|                            |                  |
|----------------------------|------------------|
| <b>Process / Operation</b> | CNC machining    |
| <b>Outsource</b>           | No               |
| <b>Machine / Cell</b>      | SE/CNC/02        |
| <b>Machine / Cell No.</b>  | CNC machine shop |

**5. Problem Analysis**

| Type     | Possible Cause                            | Fact Verification                                  | Jud |
|----------|---|--|-----|
| Material | Wrong material grade                      | Third part inspection for RM testing               | O   |
| Method   | checking method by visual                 | Wrong checking method (limit sample not available) | X   |
| Man      | Un-skilled manpower/Semi-skilled operator | New operator                                       | X   |
| Tool     | Tool/insert/drill worn out                | Tool life monitoring as per defined frequency      | O   |
| Machine  | inaccurate machine                        | JH/PM for CNC machine                              | O   |

**6. Inspection Method Analysis (Current)**

|  |              |
|--|--------------|
| <b>Inspection Method</b>               | Other        |
| <b>Other Inspection Method</b>         | Limit sample |
| <b>Check Point at Final Inspection</b> | Yes          |
| <b>Checking Freq.</b>                  | 100%         |
| <b>Sampling</b>                        | No           |
| <b>Sample Size</b>                     | 1:1          |

**7. Root Cause Analysis (Occurance)**

|                               |  |
|-------------------------------|--|
| <b>Why 1</b>                  | CAP OIL LOCK J1D FF (10 mm taper) angle out 1.30 degree  |
| <b>Why 2</b>                  | Burr placed inside the CNC chuck jaw   |
| <b>Why 3</b>                  | under cut groove not done in the CNC chuck jaw.  |
| <b>Why 4</b>                  | Design by system   |
| <b>Why 5</b>                  |  |
| <b>Root Cause (Occurance)</b> | Under cut groove not done in the CNC chuck jaw. (New phenomena, customer complaint occurred first time, after investigation under cut groove provided. |

**Root Cause Analysis (Outflow)**

|                             |   |
|-----------------------------|---|
| <b>Why 1</b>                | CAP OIL LOCK J1D FF (10 mm taper) angle out 1.30 degree |
| <b>Why 2</b>                | Semi-skilled inspector, not aware about defect          |
| <b>Why 3</b>                | Limit sample not displayed.                             |
| <b>Why 4</b>                | New phenomena   |
| <b>Why 5</b>                |   |
| <b>Root Cause (Outflow)</b> | Limit sample not displayed.                             |

## 8. Countermeasure ( Occurrence , Outflow & System side Actions )

| Type      | Countermeasure Details  | Responsibility    | Target Date | Actual Date | Status    |
|-----------|---|-------------------|-------------|-------------|-----------|
| Occurance | Under cut groove provided in the CNC chuck jaw,(New phenomena, customer complaint occurred first time, after investigation under cut groove provided. | Mr. Datta Pandhre | 01/06/2023  | 01/06/2023  | Completed |
| Outflow   | Limit sample displayed at FID stage and training given to inspector.  | Mr, Shaikh Laik   | 27/05/2023  | 27/05/2023  | Completed |

## 9. Inspection Method After Customer Complaint

|  |   |
|--|---|
| <b>Change In Inspection System</b>     | Yes   |
| <b>Change Details</b>                  | Under cut groove provided in the CNC chuck jaw. |
| <b>Inspection Method</b>               | Other   |
| <b>Other Inspection Method</b>         | NA  |
| <b>Check Point at Final Inspection</b> | Yes   |
| <b>Checking Freq.</b>                  | 100%  |
| <b>Sampling</b>                        | No  |
| <b>Sample Size</b>                     | 1:1   |

## 10. Evidence of Countermeasure

|                           |  |
|---------------------------|--|
| <b>Occurance (Before)</b> | Under cut groove not done in the CNC chuck jaw.<br><a href="#">454_Occurance_Before.pdf</a>                          |
| <b>Occurance (After)</b>  | Under cut groove provided in the CNC chuck jaw .<br><a href="#">454_Occurance_After.pptx</a>                         |
| <b>Outflow (Before)</b>   | Limit sample not displayed. Semi-skilled inspector, not aware about defect<br><a href="#">454_Outflow_Before.jpg</a> |
| <b>Outflow (After)</b>    | Limit sample displayed at FID stage and training given to inspector.<br><a href="#">454_Outflow_After.pdf</a>        |

## 11. Horizontal Deployment

|   |                              |
|---|------------------------------|
| <b>Horizontal Deployment Required</b>     | Yes                          |
| <b>Applicable Machine / Model / Plant</b> | CAP OIL LOCK (DT) 550BZ04302 |

## 12. Document Review

|                               |   |
|-------------------------------|---|
| <b>Documents</b>              | ControlPlan, PFMEA, WISOP, JHCheckSheet, InspCheckSheet |
| <b>Specify Other Document</b> | NA  |

## 13. Effectiveness Of Action

|                          |     |
|--------------------------|-----|
| <b>Reviewed Quantity</b> | 100 |
|--------------------------|-----|

**Reason for submission**

Root cause analysis and action for occurrence not linked properly. This part running from so many years and why this problem not occur earlier and why under cut groove provided now,