QFR No - 8000851574

## Defect Details

| | |
|---|---|
| **NC No.** | 8000851574 |
| **NC Date** | 10/11/2023 |
| **NC Submission Date** | |
| **Part No.** | F2LG05402B |
| **Part Name** | SEAT PIPE - J1A & J1D |
| **Supplier Name & Code** | 100539-N P ENTERPRISES |
| **ETL Plant** | 1117-ETL K-228/9 Suspension |
| **Defect Details** | NOT AS PER SPECIFICATION-ID STEP, OD GRROVE STEP |

## 1. Problem Description

| | |
|---|---|
| **Defect Description** | Step observed in head groove |
| **Detection Stage** | Inprocess |
| **Problem Severity** | Function |
| **NG Quantity** | 82 |
| **Is Defect Repeatative?** | No |
| **Defect Sketch / Photo** | |

## Supplier Communication Details

| | |
|---|---|
| **Quality Head Email ID** | quality@npcindustries.in |
| **Plant Head/CEO Email ID** | anand@npcindustries.in |
| **MD Email ID** | ajay@npcindustries.in |

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

| Location | ETL End | Warehouse | Transit | Supplier FG | Supplier WIP | Total |
|---|---|---|---|---|---|---|
| **Total Qty** | 58240 | 60000 | 18000 | 0 | 0 | 136240 |
| **Check Qty** | 58158 | 59990 | 18000 | 0 | 0 | 136148 |
| **NG Qty** | 82 | 10 | 0 | 0 | 0 | 92 |

Action taken on NG part

| | |
|---|---|
| **Scrap** | 92 |
| **Rework** | 0 |
| **Under Deviation** | 0 |

| Containment Action |
|---|
| segregate all material |

## 3. Process Flow

| Process Flow Description |
| --- |
| Cutting - Draw - Forging - Rough Grinding - Punching - CNC Head Turning - CNC Tail Facing - Tapping & Chamfering - Final Grinding - Final Inspection - Cleaning - RPO Oiling - Packing & Dispatch. |

## 4. Process Details

| | |
| --- | --- |
| **Process / Operation** | CNC Head Turning |
| **Outsource** | No |
| **Machine / Cell** | CNC |
| **Machine / Cell No.** | CNC - 07 |

## 5. Problem Analysis

| Type | Possible Cause | Fact Verification | Jud |
| --- | --- | --- | --- |
| Method | Variation during part loading | After verification we found No variation observed during part loading | O |
| Tool | Worn out Head Forging Punch Pin | After verification we observed usage of worn out Punch Pin results in step mark | X |
| Machine | CNC program tempered | After verification we found CNC program was not tampered | O |
| Tool | CNC insert fitment NG | After verification we found CNC insert was Dislocate | X |
| Man | Operator unskilled | After verification we found Operator observed to be skilled | O |
| Material | Other grade material use | After verification we found Material was used as per define std. | O |

## 6. Inspection Method Analysis (Current)

| | |
| --- | --- |
| **Inspection Method** | Gauge |
| **Other Inspection Method** | |
| **Check Point at Final Inspection** | No |
| **Checking Freq.** | Sampling |
| **Sampling** | No |
| **Sample Size** | as per std |

## 7. Root Cause Analysis (Occurance)

| | |
| --- | --- |
| **Why 1** | Step in Hex ID and step in Groove OD surface. |
| **Why 2** | Worn out Punch not changed at forging & Variation in size during CNC Turning . |
| **Why 3** | Punch change frequency followed at forging & Dislocation of the Turning tool bit at CNC. |
| **Why 4** | Punch change frequency not adequate at forging & Turning tool bit loose. |
| **Why 5** | |
| **Root Cause (Occurance)** | 1. Punch change frequency not adequate at forging 2. Turning tool bit loose. |

## Root Cause Analysis (Outflow)

| | |
| --- | --- |
| **Why 1** | Step in Hex ID and step in Groove OD surface. |
| **Why 2** | Could not be detected at Final inspection |
| **Why 3** | Skipped in Sampling at Final Inspection |
| **Why 4** | Sampling Quantity was inadequate |

| | |
|---|---|
| **Why 5** | |
| **Root Cause (Outflow)** | Sampling Quantity was inadequate |

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

| Type | Countermeasure Details | Responsibility | Target Date | Actual Date | Status |
|---|---|---|---|---|---|
| Outflow | Q- alert to be displayed in Final inspection . | Mr. Princ | 11/11/2023 | 11/11/2023 | Completed |
| Outflow | New snap gauge to be modified for detection of the groove width. | Mr. Ravinder | 15/11/2023 | 12/11/2023 | Completed |
| Occurance | Q- alert to be displayed in Forging & CNC shop. | Mr. Princ | 11/11/2023 | 11/11/2023 | Completed |
| Outflow | 100 % Inspection to be start with Visual & Snap Gauge at final inspection. | Mr. Ankush | 14/11/2023 | 11/11/2023 | Completed |
| Occurance | Punch change frequency to be revalidated and freezed | Mr. Narinder | 15/11/2023 | 15/11/2023 | Completed |
| Occurance | Insert tightening bolt inspection to be added in daily Startup checksheet | Mr. Princ | 15/11/2023 | 12/11/2023 | Completed |

## 9. Inspection Method After Customer Complaint

| | |
|---|---|
| **Change In Inspection System** | Yes |
| **Change Details** | 100 % inspection start |
| **Inspection Method** | Gauge |
| **Other Inspection Method** | |
| **Check Point at Final Inspection** | Yes |
| **Checking Freq.** | 100% |
| **Sampling** | No |
| **Sample Size** | 100% |

## 10. Evidance of Countermeasure

| | |
|---|---|
| **Occurance (Before)** | No any checkpoint available in daily Startup checksheet<br>593_Occurance_Before.jpeg |
| **Occurance (After)** | Insert tightening bolt inspection to be added in daily Startup checksheet<br>593_Occurance_After.png |
| **Outflow (Before)** | Sampling plan follow at final inspection<br>593_Outflow_Before.jpg |
| **Outflow (After)** | New snap gauge to be modified for detection of the groove width.<br>593_Outflow_After.png |

## 11. Horizontal Deployment

| | |
|---|---|
| **Horizontal Deployment Required** | Yes |
| **Applicable Machine / Model / Plant** | CNC Machine |

## 12. Document Review

| | |
|---|---|
| **Documents** | ControlPlan, WISOP, JHCheckSheet, InspCheckSheet |

| | |
|---|---|
| **Specify Other Document** | Not Required |

## 13. Effectiveness Of Action

| | |
|---|---|
| **Reviewed Quantity** | 280 |
| **Reason for submission** | All parts found ok during verificaction |