QFR No - 7000861486

Defect Details

NC No.	7000861486
NC Date	07/09/2022
NC Submission Date	
Part No.	520DZ00212
Part Name	FORK BOLT K60-(DS181012)
Supplier Name & Code	100348-SINGLA FORGING
ETL Plant	1126-ETL Pantnagar
Defect Details	THREADING NOT OK-Thread Taper

1. Problem Description

Defect Description	Quality issue of Thread Taper (Perpendicularity out w.r.t. to face).
Detection Stage	Receipt
Problem Severity	Fitment
NG Quantity	960
Is Defect Repeatative?	No
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	pntquality@singlaforging.in
Plant Head/CEO Email ID	deepakgupta@singlaforging.com
MD Email ID	jain@singlaforging.com

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	1200	0	0	0	0	1200
Check Qty	1200	0	0	0	0	1200
NG Qty	960	0	0	0	0	960

Action taken on NG part

Scrap	0
Rework	960
Under Deviation	0

Containment Action
1-Quality alert to be displayed at work station. 2-100% segregation of material at various stages to done in visual inspection with proper identification marking on part.

3. Process Flow

Process Flow Description

1-Receipt of Raw Material 2-Received of Inspection 3-Storage 4-Part off Drilling 5-CNC 1st 6-CNC 2nd 7-M10 Tapping 8-Rolling 9-Plating (Out Source) 10-Final Inspection 11-Packing 12-Dispatch

4. Process Details

Process / Operation	Rolling
Outsource	No
Machine / Cell	Rolling machine
Machine / Cell No.	Rolling machine

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Man	Unskilled	Checked and verified that skilled operator having skill level II is operating the machine.	O
Machine	Rolling die not matched	Checked and verfied that Setting approval is done as per control plan	O
Machine	Die rotate out	During verifcation it observed that Die was not rotate out as PM done as per PM plan.	O
Machine	Slide arm alignment out	During investigation it observed that slide is properly tight and taper can not produced in thread.	O
Machine	Part not guide properly in running operation	During investigation it observed that taper in thread made as part not guide properly during operati	X
Method	Inspection method inadequate	During investigation it observed 100% gaueg qualified in thread but taper in thread not detected	X
Method	Inspection frequency not adequate	During verfication it observed that hourly inspection is done in in-process	O
Man	Unawareness	Checked and observed that final checker is not aware to the defect-taper in thread	X

6. Inspection Method Analysis (Current)

Inspection Method	Gauge
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	100%

7. Root Cause Analysis (Occurance)

Why 1	Part not guide properly in running operation
Why 2	Rolling die mounting arm shaft revolving out.
Why 3	Play in Arm Supporting Bearing/needle bearing
Why 4	Bearing not replaced during PM.
Why 5	During PM time bearing was OK
Root Cause (Occurance)	Part not guide properly in running operation because of Play in Arm Supporting Bearing/needle bearing as Bearing not replaced during PM.

Root Cause Analysis (Outflow)

Why 1	Final checker is not aware to the taper in thread.
Why 2	100% gauge is qualifying in taper thread in part
Why 3	
Why 4	
Why 5	
Root Cause (Outflow)	Final checker is not aware to the taper in thread as TRG is qualifying in the taper thread.

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Occurance	Play in arm to be verified physically during new setting	Shree Bhagwan	10/09/2022	10/09/2022	Completed
Outflow	Awareness Training to be provided to the final checker	Kamal Roy	08/09/2022	08/09/2022	Completed
Outflow	C.P to be revised for taper thread verification in final stage	Kamal Roy	09/09/2022	08/09/2022	Completed
Occurance	Taper thread to be verified during production	Kaml Roy	10/09/2022	10/09/2022	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	Yes
Change Details	Inspection of taper in thread is started by qualifying the matting part till end and seeing the gap in between the part & matting part face physically.
Inspection Method	Other
Other Inspection Method	Matting part
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	100%

10. Evidance of Countermeasure

Occurance (Before)	Thread Verified by gauge 248_Occurance_Before.pdf
Occurance (After)	1-Thread verified by gauge and taper thread verified in visual & by matting part 2-Play in arm to be verified during setup time 248_Occurance_After.pptx
Outflow (Before)	Thread Verified by gauge 248_Outflow_Before.pdf
Outflow (After)	Thread verified by gauge and taper thread verified in visual & by matting part 248_Outflow_After.pptx

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	All Fork Bolt Model

12. Document Review

Documents	ControlPlan
Specify Other Document	Quality Alert

13. Effectiveness Of Action

Reviewed Quantity	1
Reason for submission	Training record required for evidence