QFR No - 7001010242

Defect Details

NC No.	7001010242
NC Date	01/05/2024
NC Submission Date	
Part No.	F2FA19033M
Part Name	K0PG FORK PIPE MACHINED
Supplier Name & Code	101109-TUBE INVESTMENTS OF INDIA LIMI
ETL Plant	1136-ETL Suspension Sanand
Defect Details	RUN OUT MORE-ID Runout NG and Bend Part

1. Problem Description

Defect Description	Fork pipe straightness was Observed 0.150 ~0.200 mm against specification 0.06/200 mm. Runout observed was 0.150~0.180 mm against specification 0.08 B.
Detection Stage	Inprocess
Problem Severity	Function
NG Quantity	765
Is Defect Repeatative?	No
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	anandms@tii.murugappa.com
Plant Head/CEO Email ID	girisha@tii.murugappa.com
MD Email ID	mukeshahuja@tii.murugappa.com

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	3000	0	0	1500	28000	32500
Check Qty	3000	0	0	1500	28000	32500
NG Qty	765	0	0	5	35	805

Action taken on NG part

Scrap	805
Rework	0
Under Deviation	0

Containment Action
100% inspection after Rough Grinding at ETL end & 100 % Visual Inspection for Tube Machining OD Chamfer at Final Inspection & Sampling Inspection on Fixture with Dial stand & magnetic Block at Sanand Machining center.

3. Process Flow

Process Flow Description
TUBE FORMING - ANNEALING - WET PROCESS - PUSH POINTING - DRAWING - STRESS RELIEVING - STRAIGHTENING - ECT - CTL - FACING & CHAMFERING - FINAL INSPECTION - PACKING

4. Process Details

Process / Operation	STRAIGHTENING
Outsource	No
Machine / Cell	TFF straightening machine
Machine / Cell No.	TFF straightening mc

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Man	Operator failed to inspect	Auto counted inspected part is match with packed qty so, there is no possibility of failure.	O
Machine	Straightening roll damage	Roll condition verified , no mark observed & no roll change activity done.	O
Tool	Checking instrument Error	Calibrated instrument used & the least count 0.01mm so, there is no possibility of instrument error.	O
Method	Gauge checking Method Error	Ok & NG part checked in existing checking method- Arrived KAPPA is 0.40 so, present checking method	X
Machine	Straightening pressure roll reversed	Straightening pressure roll bit reversed while straightening process.	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	Fork pipe straightness was Observed 0.150 ~0.200 mm against specification 0.06/200 mm.
Why 2	Straightening pressure roll reversed
Why 3	Straightening Pressure roll partially loosen
Why 4	Pressure roll clamping inherent seal loosened while operation
Why 5	Operator failed lock the inherent seal once in a week.
Root Cause (Occurance)	Operator failed lock the inherent seal once in a week.

Root Cause Analysis (Outflow)

Why 1	Fork pipe straightness was Observed 0.150 ~0.200 mm against specification 0.06/200 mm.
Why 2	Gauge checking Method Error.
Why 3	Arrived KAPPA is 0.40 after attribute MSA.

Why 4	NG parts are accepted by all appraiser
Why 5	Present run out rest spot & dial indicator not detected corner run out.
Root Cause (Outflow)	Present run out rest spot & dial indicator not detected corner run out.

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Outflow	Additional one dial indicator added at the both end corner of tube to checking run out.	Mr. Satish	08/05/2024	04/05/2024	Completed
Occurance	Roll locking mechanism additionally provided outer side of roll adjustment handle.	Mr. Satish.	13/05/2024	08/05/2024	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	Yes
Change Details	Additional one dial indicator added at the both end corner of tube to checking run out.
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)	Roll locking mechanism not available to roll adjustment handle. 771_Occurance_Before.pptx
Occurance (After)	Roll locking mechanism additionally provided outer side of roll adjustment handle. 771_Occurance_After.pptx
Outflow (Before)	Bend checking with Dial indicator at middle only. 771_Outflow_Before.pptx
Outflow (After)	Three dial indicator , especially added one dial at both end of tube to check tube corner bend also 771_Outflow_After.pptx

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	Action to be implemented between 280 mm to 305 mm cut length.

12. Document Review

Documents	WISOP
Specify Other Document	NO

13. Effectiveness Of Action

Reviewed Quantity	
Reason for submission	