QFR No - 8000782049

Defect Details

NC No.	8000782049
NC Date	27/03/2022
NC Submission Date	
Part No.	F1GN01102B
Part Name	MAIN SPRING K86A
Supplier Name & Code	101225-HELICAL SPRINGS
ETL Plant	1136-ETL Suspension Sanand
Defect Details	HIGHT U/SIZE.-TOTAL HIGHT UNDERSIZE

1. Problem Description

Defect Description	Total Length Under Size and Over Size i.e. 244.42, 213.11 mm
Detection Stage	Receipt
Problem Severity	Fitment
NG Quantity	231
Is Defect Repeatative?	Yes
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	arun@helicalsprings.in
Plant Head/CEO Email ID	shaikhmoin@helicalsprings.in
MD Email ID	ataneja@helicalsprings.in

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	12000	16000	0	5800	6000	39800
Check Qty	10000	16000	0	5800	6000	37800
NG Qty	231	42	0	58	0	331

Action taken on NG part

Scrap	273
Rework	58
Under Deviation	0

Containment Action
100% inspection done for length at ETL & Warehouse.

3. Process Flow

Process Flow Description
Raw Material Receipt & Inspection, Coiling, Stress Relieving, End Grinding, Shot Peening, Scragging, Length & Wavyness checking, Strain-aging, Surface Finish-Oiling, Final Inspection/ PDI, Packing, Dispatch

4. Process Details

Process / Operation	Coiling
Outsource	No
Machine / Cell	NA
Machine / Cell No.	CNC Coiling

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Man	Unskilled operator	Skill Matrix checked found ok	O
Method	Improper length setting	Improper locking of length gauge	X
Material	As per Drawing	RMTC checked found ok	O
Method	1.Improper material handing	Setup part mix with ok part	X
Machine	Herdon	Found ok	O

6. Inspection Method Analysis (Current)

Inspection Method	Gauge
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	29 / 10000

7. Root Cause Analysis (Occurance)

Why 1	length short
Why 2	During setup length short spring coiled
Why 3	Setup quantity mix with the ok material
Why 4	No provision was available for setup part storage
Why 5	
Root Cause (Occurance)	No provision was available for setup part storage

Root Cause Analysis (Outflow)

Why 1	length short
Why 2	Length gauge setting disturbed
Why 3	Improper locking of Length gauge
Why 4	No cross check method for length gauge verification
Why 5	
Root Cause (Outflow)	No cross check method for length gauge verification

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Outflow	1.Free length tolerance band reduced from +4.0 mm to +3.50 mm 2.Dedicated length gauge will be introduced for K0LA main spring (fixed type) 3.Control plan changed and updated	Arun Kumar	30/03/2022	28/03/2022	Completed
Occurance	1.Yellow bin introduced at coiling to keep suspected/setup part 2.OPL displayed at coiling 3.Training provided to the operator and recorded the same	Arun Kumar	30/03/2022	24/03/2022	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	Yes
Change Details	Free length tolerance band reduced from +4.0 mm to +3.50 mm
Inspection Method	Gauge
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	Sampling
Sampling	No
Sample Size	29 / 10000

10. Evidance of Countermeasure

Occurance (Before)	Yellow bin not Available 25_Occurance_Before.pdf
Occurance (After)	Yellow bin introduced at coiling to keep suspected/setup part 25_Occurance_After.pdf
Outflow (Before)	Free length gauge tolerance 4.00 mm 25_Outflow_Before.pdf
Outflow (After)	Free length tolerance band reduced from +4.0 mm to +3.50 mm 25_Outflow_After.pdf

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	All Similar Part.

12. Document Review

Documents	
Specify Other Document	OPL

13. Effectiveness Of Action

Reviewed Quantity	1000
Reason for submission	Verified and found effective till date