

Defect Details

NC No.	8000825772
NC Date	07/04/2023
NC Submission Date	
Part No.	F2GN12502B
Part Name	MAIN SPRING J1A & J1D
Supplier Name & Code	101225-HELICAL SPRINGS
ETL Plant	1117-ETL K-228/9 Suspension
Defect Details	NOT AS PER SPECIFICATION-SQUARENESS FOUND NOT OK

1. Problem Description

Defect Description	Squareness found 2 mm against the spec of 1 mm
Detection Stage	Receipt
Problem Severity	Function
NG Quantity	483
Is Defect Repeatative?	Yes
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	amit.patel@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	6448	0	0	0	0	6448
Check Qty	6448	0	0	0	0	6448
NG Qty	448	0	0	0	0	448

Action taken on NG part

Scrap	0
Rework	100
Under Deviation	0

Containment Action

segregate all material at customer end.

3. Process Flow

Process Flow Description

Raw Material > Coiling > Stress Relieving - 1 > End Grinding > Shot peening > Scragging > Length, OD & Wavyness Checking > Stress Relieving -2 > Surface Finish Oiling > PDI > Packing & Dispatch.

4. Process Details

Process / Operation	Grinding Operation
Outsource	No
Machine / Cell	Grinding Machine
Machine / Cell No.	L4G1

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Method	Grinding Plate Misalignment.	Grinding Plate alignment not checked	X
Method	Wheel dressing not followed as per defined frequency	Wheel dressing done as per the defined frequency	O
Material	As per Drawing	RMTC checked found ok	O
Machine	Herdon	Found ok	O

6. Inspection Method Analysis (Current)

Inspection Method	Other
Other Inspection Method	By Spring Standing
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	5

7. Root Cause Analysis (Occurance)

Why 1	End Coil Squareness Out of Spec.
Why 2	Spring not loaded straight in Grinding plate
Why 3	Grinding plate position not ok
Why 4	Holes in layer wise Grinding plates not aligned with respect to each other
Why 5	Alignment of holes of three plates checked with insertion of spring
Root Cause (Occurance)	No robust method to check the alignment of holes of three plates

Root Cause Analysis (Outflow)

Why 1	End Coil Squareness Out of Spec.
Why 2	Not arrested in inspection
Why 3	Inspection done on sampling basis
Why 4	No 100% inspection defined
Why 5	
Root Cause (Outflow)	No 100% inspection defined

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Outflow	100% inspection of springs by making the springs stand on surface	Prod. And Quality	25/03/2023	25/03/2023	Completed
Occurance	1.Alignment of grinding plates holes ensured with the help of rod positioned between grinding plates. [OPL ADDED] 2. Check point of alignment of grinding plates added in grinding setup approval. 3.OPL displayed at Grinding 4.Training provided to the operator and recorded the same	Prod. And Quality	25/03/2023	25/03/2023	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	Yes
Change Details	100% inspection of springs by making the springs stand on surface
Inspection Method	Other
Other Inspection Method	By Spring Standing
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	5

10. Evidence of Countermeasure

Occurance (Before)	Alignment of grinding plates holes ensured with the help of spring insertion in grinding holes 398_Occurance_Before.pdf
Occurance (After)	Alignment of grinding plates holes ensured with the help of rod positioned between grinding plates. 398_Occurance_After.pdf
Outflow (Before)	Sampling Inspection 398_Outflow_Before.pdf
Outflow (After)	100 % inspection by making spring stand 398_Outflow_After.pdf

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	similar model

12. Document Review

Documents	PFMEA, InspCheckSheet
Specify Other Document	setup report

13. Effectiveness Of Action

Reviewed Quantity	300
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Reason for submission

Verified next 3 lot and found ok