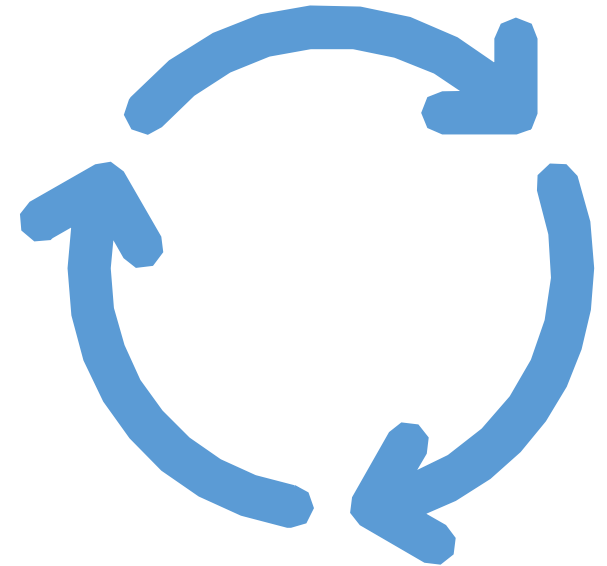


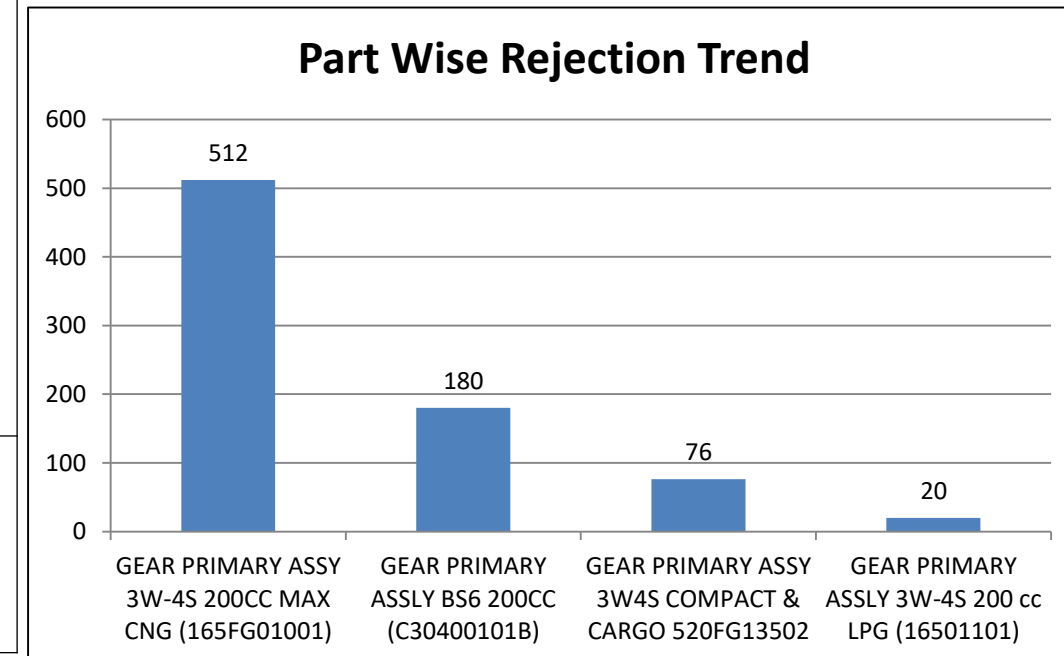
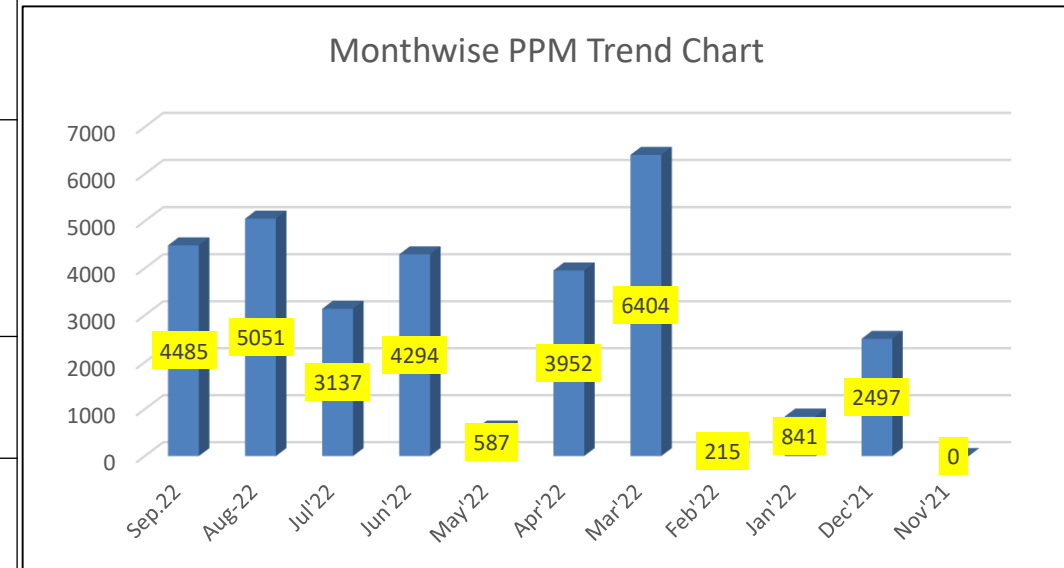
GPH Defects & Action Plan By M/S Sanjeev Auto

- Prepared By:- Mr. Dhananjay Nilangekar
- Reviewed By:- Mr. Vijaykumar Wankhede

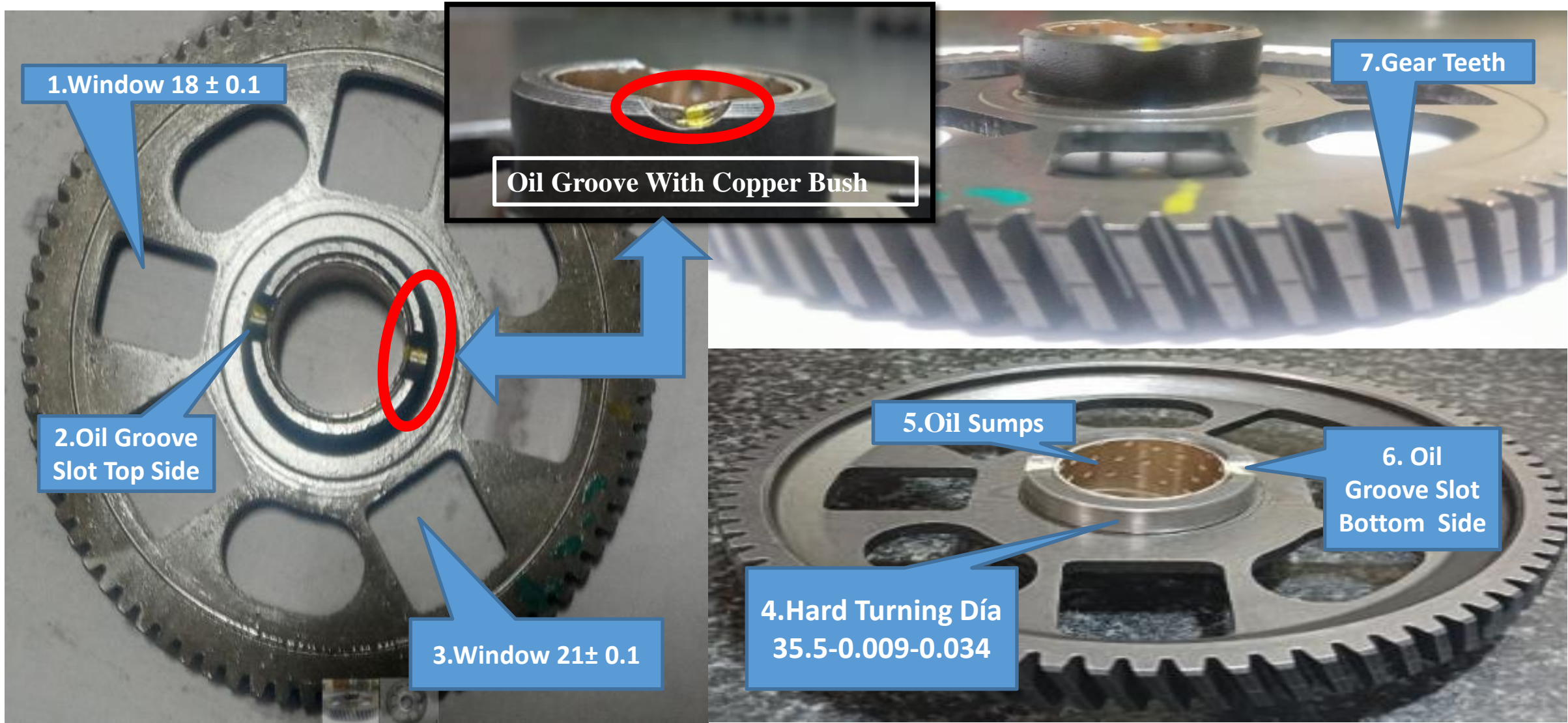


M/s Sanjeev Auto Rejection Data as Per ETL

Part Name	Defects							Total Rejection
		Apr-22	May.22	Jun.22	July.22	Aug-22	Sep-22	
GEAR PRIMARY ASSLY BS6 200CC (C30400101B)	Teeth damage	40						180
	Bush Slot Shift			49		13	111	
	Boss OD Oversize Ø35.5				1	39	40	
	Line Mark on Face						25	
	Window oversize			38				
GEAR PRIMARY ASSLY 3W-4S 200 cc LPG (16501101)	Diameter 35.5-0.009/0.034 found Oversize upto 35.440mm	5		9			36	20
	Dent Mark on teeth			6				
GEAR PRIMARY ASSY 3W-4S 200CC MAX CNG (165FG01001)	Diameter 25.0+0.020/+0.053 found oversize	38						512
	Pocket width found oversize 19 mm found against 18.0+/-0.2	6						
	Dia Ø35.5 mm Operation Missing	1				6		
	Boss OD Oversize Ø35.5		1	8	8		1	
	Flicker Upto 0.08~0.10		13					
	Wrong Identification tracability (Groove marking)		2					
	Bush Slot Shift			53		221	60	
	DFC found 0.25 & FACE R/O FOUND 0.80 MM			1				
	Sharp Egde & damage	20			7			
Rusty				127				
GEAR PRIMARY ASSY 3W4S COMPACT & CARGO 520FG13502	Bush damage	29						76
	Ovality upto 0.042~0.050 & Undersize		10					
	Dia Ø35.5 mm Operation Missing			17				
	Line Mark on Face						23	
	Bush Slot Shift			20				



GPH Part Introduction



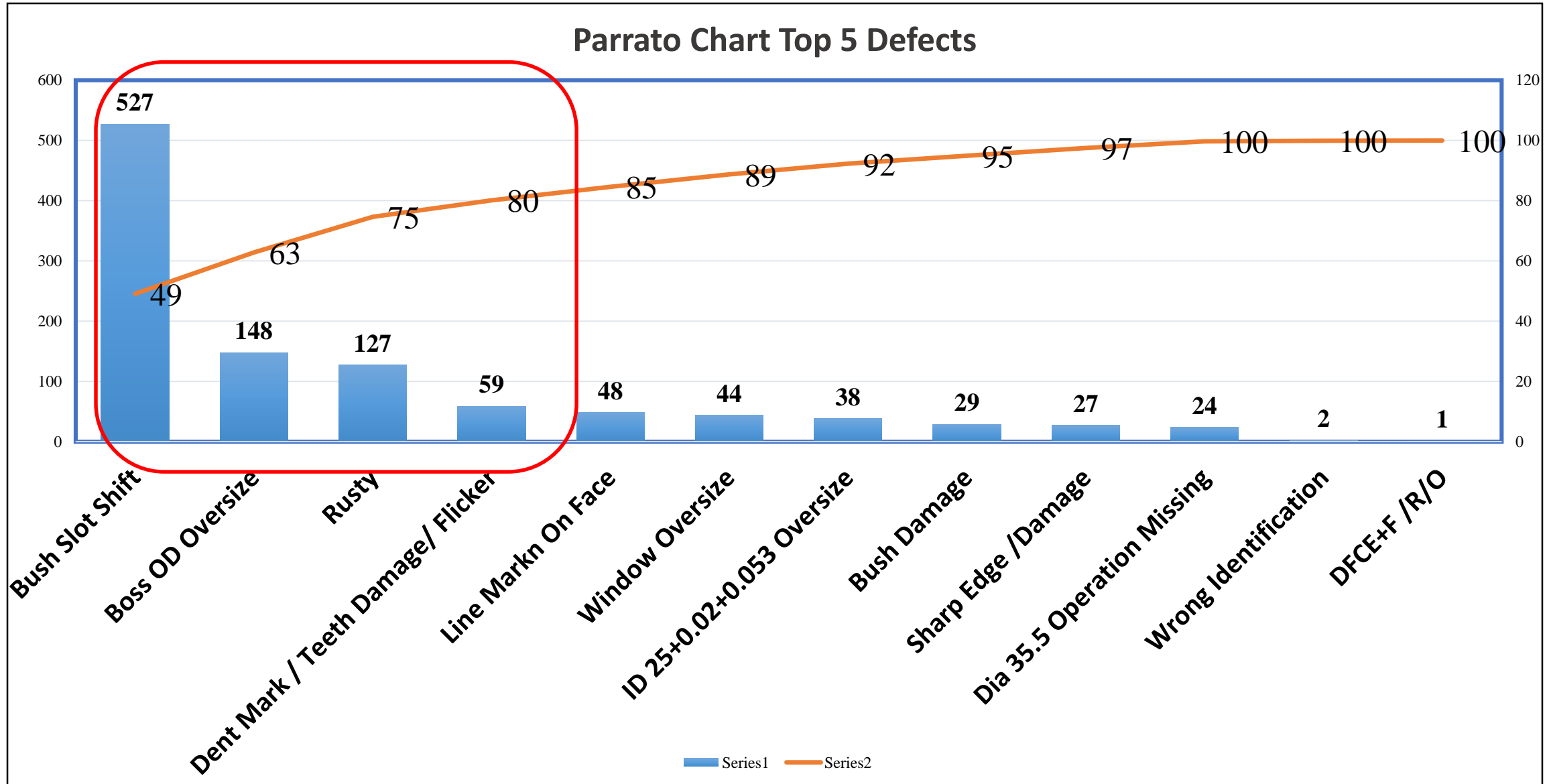
GPH Family Parts having Same Design & Manufacturing Process

Part wise-Defect wise Stratification

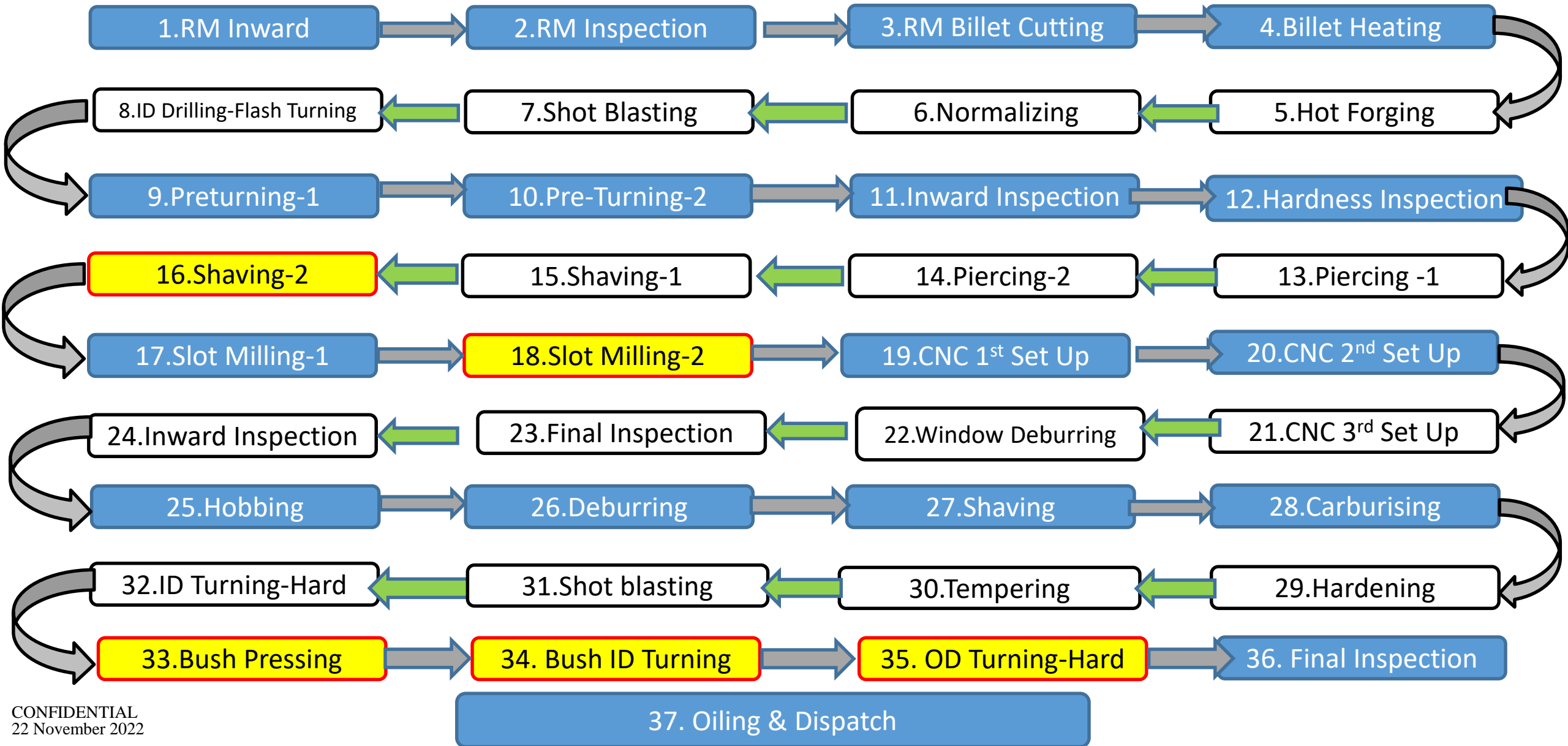
Part wise Defect wise Stratification

Sr No	Category Defect	Total Quantit	Cummulative	Cumulative %	3W4S CNG	BS6	3W4S LPG	3W4S CARGO
1	Bush Slot Shift	527	527	49	334	173	0	20
2	Boss OD Oversize	148	675	62	18	80	50	0
3	Rusty	127	802	74	127	0	0	0
4	Dent Mark / Teeth Damage/ Flicker	59	861	79	13	40	6	0
5	Line Markn On Face	48	909	84	0	25	0	23
6	Window Oversize	44	953	88	6	38	0	0
7	ID 25+0.02+0.053 Oversize	38	991	91	38	0	0	0
8	Bush Damage	29	1020	94	0	0	0	29
9	Sharp Edge /Damage	27	1047	97	27	0	0	0
10	Dia 35.5 Operation Missing	24	1071	99	7	0	0	17
13	Ovality	10	1081	100	0	0	0	0
11	Wrong Identification	2	1083	100	2	0	0	0
12	DFCE+F /R/O	1	1084	100	1	0	0	0
	Grand Total	1084			573	356	56	89

Parratto Chart For Top Contributing Defects

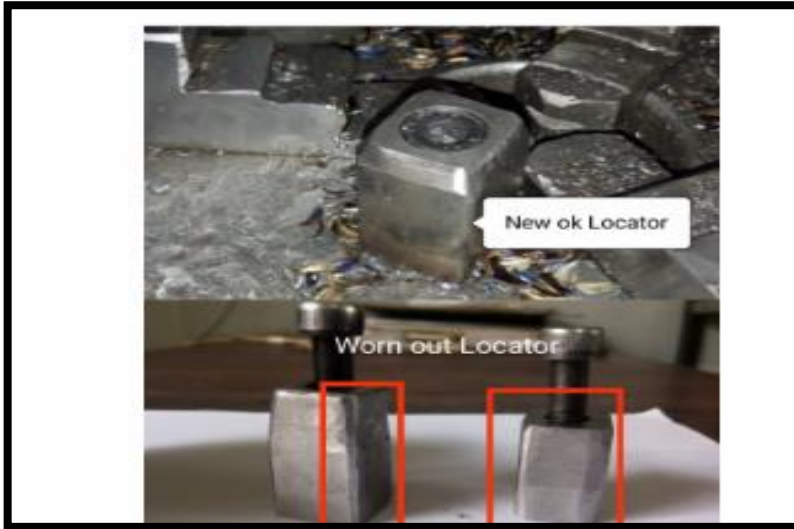


GPH Part Process Flow Diagram



Defect No-01 Bush Shift
Defectives:- 527

Defect Bush Shift:-Slot Shift



1. Worn Out Locator Changed



4. Worn Out Driving Gear Changed



7. Symmetricity Gauge Added





Technical Actions Taken to avoid GPH Slot Shift :-

1. Worn Out Locator Changed & Height of Locator Reduced
2. Additional Relief given to slide job in Locator freely, Fit Locator may cause to sit job in Tilted Position.
3. Play In Locator & Window of Job reduced to 0.1mm.
4. Both of the Slot Milling-1 & Slot Milling-2 machines, Driving Gear of Ball Screw Changed
5. Slide Movement- Play In Slide , Considerably reduced while milling operation.
6. Jaw boring done to "True" Jaws.
7. New Symmetricity Gauge manufactured for setting –Approval & process Inspection.

Bush Shift Defect
comprises of two Defects:-

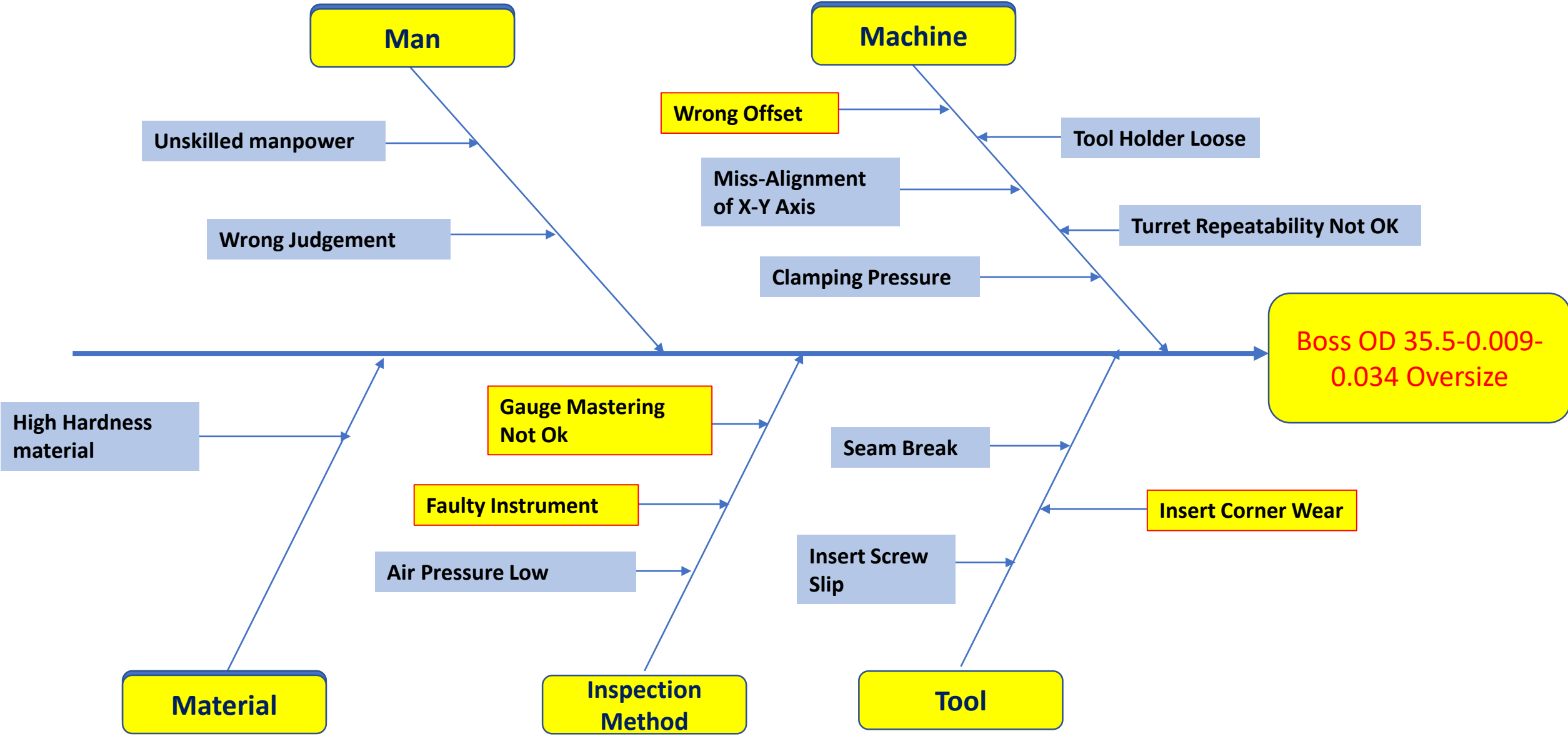
1. Milling Slot Shift
2. Actual Bush Shift-Press

2. SOP Bush Pressing Operation

SOP Bush Pressing Operation			
Sr No	What To do	How To Do	Check Point
1	Confirm the yellow marking is available On Locator		Yellow Marking on Locator
2	Locate The Part in such a way that Parts Milling slot should match with Yellow Marking		Yellow marking Should Match with Milling slot
3	Locate the bush On Part in such a way that bush Half cut should match with Yellow marking. (Yellow Marking on Fixture should be visible through Bush cut as shown in Image.)		Yellow marking should match with milling slot & Bush centre cut. It should be
4	When bush is pressed by punch, bush fits exactly symmetrical to milling slot .		Bush Centre cut & part Milling slot match with each other.

**Defect No-02:-OD Oversize 35.5-0.009-0.034
Defectives-148**

Fish Bone Analysis



Corrective & Preventive Actions

Defect OD 35.5-0.009-0.034 Oversize CAPA

Sr No	4MT	Possible Cause	Corrective action	Preventive action	Sustenance Action
1	Machine	wrong Offset	Training Given to operator	offset Interlock Provided on Machine	JH Check sheet
2	Inspection	Faulty APG	New APG Added	Carbide Ring to Introduce at Final Inspection (Attribute Gauging)	JH Check sheet
3	Inspection	Mastering Not Ok	Training Given to operator	Master Sample Prepared for Gauge Validation every 15 job.	SOP Prepared
4	Tool	Insert Corner Wear	Tool Life Monitoring	Tool Life Interlock	JH Check sheet

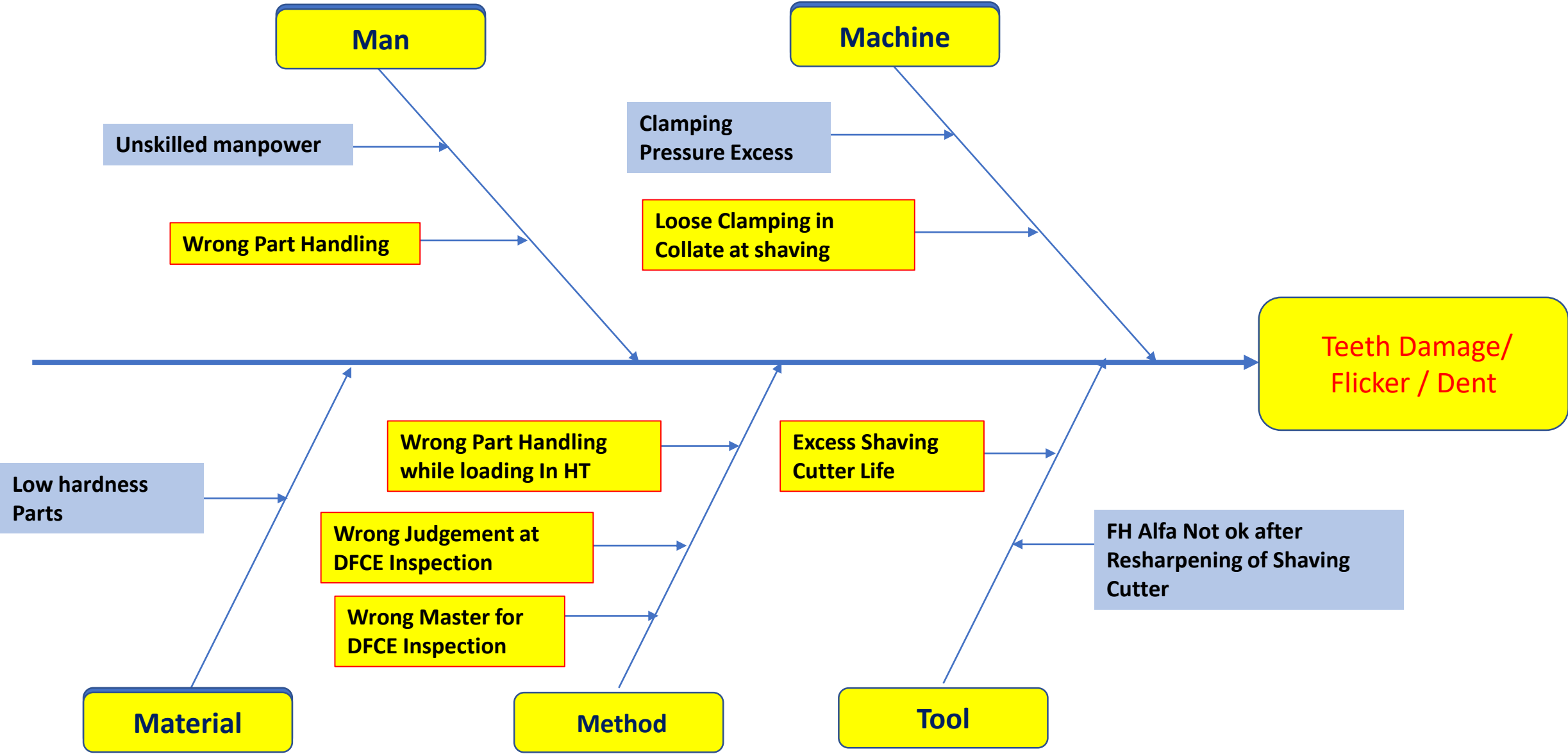
Defect No-03:-Rusty Parts

Seasonal Defect:- Only Occurred one time in July.

Action:- After Heat Treatment Immediate Anti rust oil application Started.
After the action defect did not repeated.

**Defect No-04:-Dent Mark/ Teeth Damage/ Flicker
Defectives:-59**

Fish Bone Analysis for Dent-Flicker



Corrective & Preventive Actions

Defect Dent On teeth/ Flicker CAPA

Sr No	4MT	Possible Cause	Corrective action	Preventive action	Sustainance Action
1	Man	Wrong Part Handling	Training Given to Operator	SOP for Material Handling Prepared & Dispalyed	Sustainance Through JH Check sheet
2	Method	Metal to Metal contact while loading parts in HT	Training through One point lesson	Daily monitoring	Sustainance Through JH Check sheet
3	Method	Metal to Metal Contact Due to Broken Bin	Broken Bin eliminated from Cycle	All ok Bins are in circulation.	Sustainance Through JH Check sheet
4	Inspection	Wrong Judgement	Traing Given to Operator	Master Sample to be prepared	Sustainance Through JH Check sheet
5	Inspection	Wrong Master for DFCE Inspection	Training through One point lesson	Master Sample to be prepared	Sustainance Through JH Check sheet
6	Tool	Excess tool life of Shaving Cutter	Tool life Re-Monitoring started for Freezing	Daily 100 % Inspection after Shaving by Operator	Check point In Process Inspection

Defect No-05:- Line Mark on Face Defectives:-48

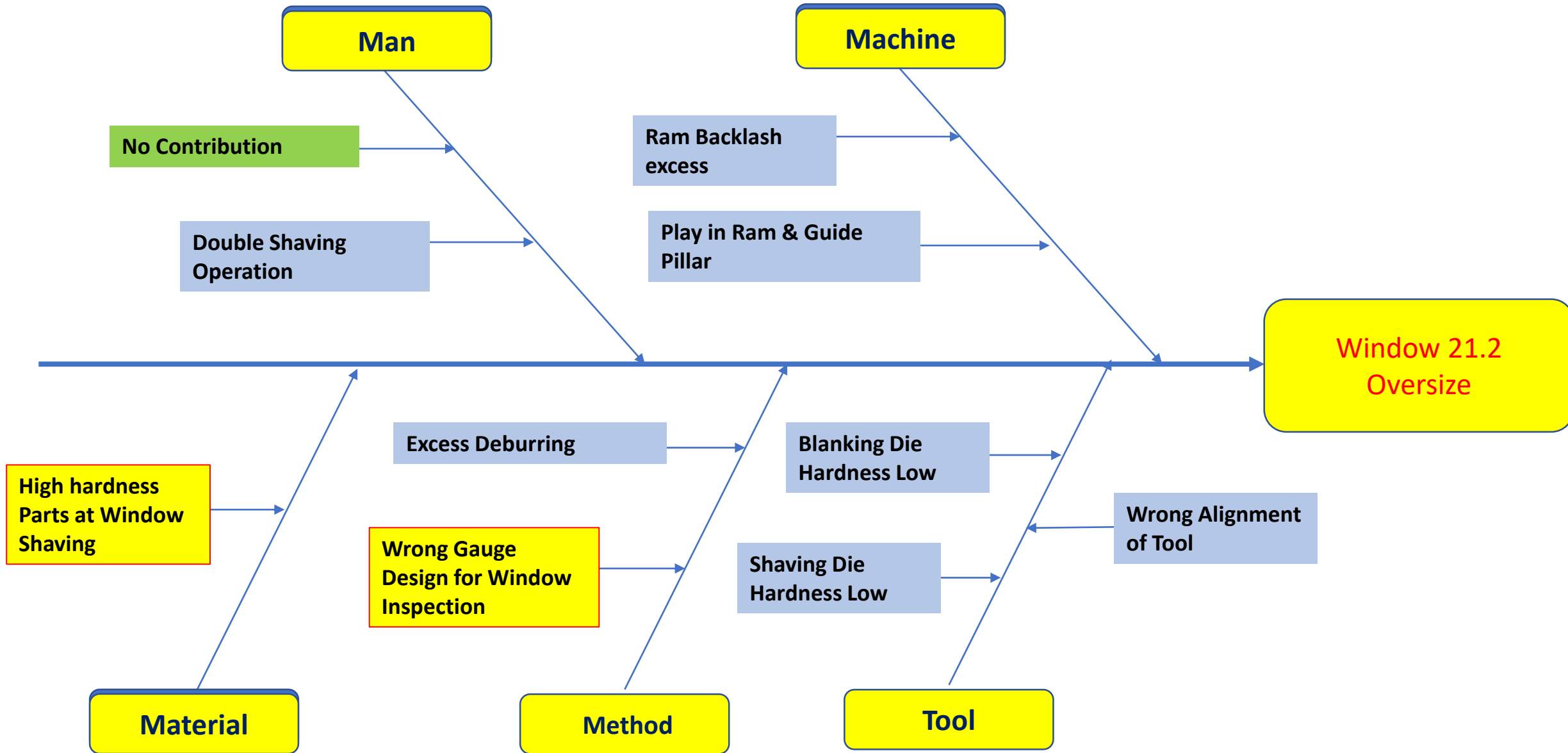
B Type defect:- Occurred Once Due to Burr (on mandrill) Rubbing at Shaving Process.

Action:- Shaving mandrill Changed. Defect eliminated.

Inspection Side:- OPL & Master Sample Displayed in FID & Process.

Defect No-06:- Window Oversize
Defectives:-44

Fish Bone Analysis for Window Oversize



Corrective & Preventive Actions

Window 21.2 oversize CAPA

Sr No	4MT	Possible Cause	Corrective action	Preventive action	Sustainance Action
1	Material	High Hardness of Parts at Piercing & window Shaving Operation	Hardness Inspection at every 200 nos started	Action Taken at Normalising process for Part Mix up & High Hardness	Process audits
2	Method	Wrong Gauge Design (Combined No Go Gauge for Length & Width of Window Does not Arrest width Oversize Parts)	Gauge Design Changed.	New Standrd Slip Gauge Introduced for Window width Inspection	Reciepth Inspection Report
3	Inspection at Process	Combination Gauge PCD+Width used for inspection can show only Go Result. So Oversize parts did not arrested by Gauge	New Separate Plug Gauge of window 21.2 & Window 18 Introduced for Checking Go / No-Go Width	<p>A. Process Inspection Frequency increased.</p> <p>B. Both Variable & Attribute Gauging Started.</p> <p>C. Three Stage Inspection for Window Started.</p> <p>1. At Press Operation Process 100%</p> <p>2. At CNC Supplier final inspection 100 %</p> <p>3. At CNC Part Inward Sampling Basis</p>	Through Process Audits at Supplier & Receipt Inspection Report
	22 November 2022		CONFIDENTIAL		21

Thank You !!