

FORWARD CHECK GAUGE
FOR WHEEL CLINCH
PART NO. 1619900117
516039024/01





Control Plan

Prototype	Pre-launch	Production	Key contact /Phone:	Appasaheb Jadhav	9075084937	Date(Rev.):	27.03.2024
Control Plan Number:	C4A/QA/CP/06	Rev. No. / Date :-	05 / 27.03.2024	Cure Team:	ASJ ,AAB, MHG, MBC, MFS, MHG	Customer Engineering Approval /Date (If Reqd.):	NA
Part No./Latest Change Level:	165PP00117	Mod No.: / Date :-	D / 08.11.2017	Supplier/Plant Approval/Date:	NA	Customer Quality Approval/Date (if Reqd.):	NA
Part Name/Description:	Wheel Clutch Upgrade		Other Approval/ Date(if reqd):	NA	Other Approval/Date (if Reqd.):	NA	
Supplier/Plant:	Cast 4 Aluminium pvt ltd	Supplier code:	101100	Cast. Name:	ETL		

Part/ Process Number	Process Name Operation Description	Machine Device Jig, Tools For Mfg.	Characteristic			Special	Methods				Responsibility	Reaction Plan		
			No.	Product	Process	Char. Class	Product /Process/ Specification/ Tolerance	Evaluation Measurement Technique	Sample				Control	
									Size	Freq.			Method	
40	FINAL INSPECTION	IN House	40.00	DIMENSIONAL										
			40.01	ID	--		▲	36.0+0.15/+0.05	DEPG/DVC	5 Nos	Every Lot	As per final inprocess checksheet F/QAD/08	QA Inspector	If not ok as per sample lot reject or rework
			40.02	LUG HEIGHT	--		▲	26.6±0.1	SPECIAL GAUGE/DHG	5 Nos				
			40.03	OD	--		--	110.0±0.3	SNAP GAUGE/DVC	5 Nos				
			40.04	RUNOUT ON LUG FACE	--		--	0.2 Max	MANDRELL & DIAL	5 Nos				
			40.05	DIM	--		--	2.5-0.2	DHG	5 Nos				
			40.06	STEP OD	--		--	90 ± 0.3	SNAP GAUGE/DVC	5 Nos				
			40.07	STEP OD	--		--	89.0±0.3	SNAP GAUGE/DVC	5 Nos				
			40.08	TEETH ID RUNDUT	--		▲	0.15 Max	Profile Gauge	100%				
			40.09	HEIGHT	--		--	11.0±0.2	DHG	5 Nos				
			40.1	SURFACE FINISH ON LUG FACE	--		--	RA 1.6 Max	RA TESTER/VISUAL	5 Nos				
			40.11	COUNTER DEPTH	--		--	2.0+/-0.1	DHG	5 Nos				
			40.12	6 HOLE TAPPING	--		--	M5 x 0.8	TPG	5 Nos				
			40.13	PCD	--		--	54 ± 0.2	PCD GAUGE	5 Nos				
			40.14	DIMN	--		--	8±0.3	DHG	5 Nos				
			40.15	Minor Dia.	--		--	4.130-4.334	DEPG/DVC	100%				
			40.16	Visual	--		--	Free from burr, crack, sharp edges, casting defects, etc.	Visual	100%				

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[Handwritten Signature]

INSPECTION AGREEMENT

Customer : ETL (Transmission Division)

Customer Part No.: 165PP00117 (Mod. D)

Part Description : WHEEL CLUTCH UPGRADE

R. No.	Parameter	Specification	Inspection method	Frequency	In Process	Who will inspect	Final inspection	Who will inspect	PDI	Who will inspect	
1	OD	110.0 ± 0.3	Snap G	Per Hour	100%	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
2	ID	∅ 36.0 + 0.15 / + 0.05	DEPG	Per Shift	100%	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
3	Chamfer on ID	0.5±0.2 X 45°±1'30"	Contractor/ As per limit sample	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
4	Surface Finish	3.2 Max.	RA Tester	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
5	Chamfer on ID	0.5±0.2 X 45°±1'30"	Contractor/ As per limit sample	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
6	Teeth OD	∅ 89 ± 0.3	Snap G	Per Shift	100%	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
7	Internal ID	∅ 90 ± 0.3	DVC	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
8	Height	2.5 - 0.2	Digital Height Gauge	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
9	Chamfer on OD Side	0.3±0.2 X 45°±1'30"	Contractor/ As per limit sample	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
10	Height	6.0 ± 0.5	Digital Height Gauge	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
11	Height	9.5±0.2	Digital Height Gauge	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
12	Height	11.0±0.2	Digital Height Gauge	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
13	Surface Finish	1.6 Max.	RA Tester	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
14	Lug Height	26.8±0.1	SPL Relation G/ DHG	Per Shift	100%	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
15	Frictionface Runout	0.2 Max.	Dial & mandrel	Per Hour	20 Nos	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
16	Lug face Runout	0.2 Max.	Dial & mandrel	Per Hour	20Nos	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
17	Counter Height	2.0±0.1	DHG	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
18	6 Hole Tapping	M5X0.8 (6 HOLE)	TPG	Per Shift	20 Nos/ Hr	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
19	Counter ID	∅ 6 ±0.2	DVC	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
20	Lug OD	∅ 11 ±0.2	DVC	Per Hour	2 Nos/ Hr	Quality Inspector	-	-	5 Nos. / Lot	Q/A ENGINEER	
21	PCD	34.0 ± 0.2	PCD Gauge	Per Shift	100%	M/C Operator	-	-	5 Nos. / Lot	Q/A ENGINEER	
22	Teeth ID Runout	0.15 Max.	Profile Gauge	Per Hour	2 Nos/ Hr	Quality Inspector	100%	Quality Inspector	5 Nos. / Lot	Q/A ENGINEER	
23	Raw material Ash-132	As per BAL std	Spectrometer	As per supplier TC and inhouse test of every heat number and each lot.							Q/A ENGINEER
24	Supplier Identification Mark	Identification mark is C1	Permanent Marker	Per Hour	5 Nos	M/C Operator	100%	Q/A Inspector	5 Nos	Q/A ENGINEER	
25	Cutt section	No blow Hole	Spray test	Once in a shift as per limit sample.							Q/A ENGINEER
26	X-ray	Level 2	Every loading	Will verify sample to every loading at ETL							Q/A ENGINEER
27	Vacume Sample	Contave	Every Degassing								Q/A ENGINEER
28	Visual	Free Form Casting Defect (Burr, crack Blow holes, extra material in spring pocket etc)	As per enclosed eye sequence chart.	100%	100%	Quality Inspector	100%	Q/A Inspector	5 Nos	Q/A ENGINEER	

Prepared by : QJ



Approved by : ASJ

