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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

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Part Certification

	System	X	Subsystem		Component	Page 1	FMEA Number AUTOMATIC ASSEMBLY (e-FMEA DOC ID 5461110)
Part Number (Delphi:15425692)		Design or Process Responsibility CHAVARRIA, VICTOR				Prepared by SIBAMEA, PEDRO N	Telephone # +52 844 4115500
Model Year(s)/Vehicle(s) COMPONENT		Key Date 2021-11-19 00:00:00				Original FMEA Date 2021-10-26 00:00:00	FMEA Revision Date 2021-10-30 17:35:31
Core Team CHAVARRIA, VICTOR, INGENIERO DE PROCESOS +52 844 4115500 GARZA, RAQUELINE V, INDUSTRIAL ENGINEERING PLANT 9800 CENTEC 1 +52 844 4115500 MEDINA, EDUARDO, MANUFACTURING SUPERVISOR T"A" PLANT 8400 CENTEC 3 86-63-400 ext 5420 ORTIZ URIBE, DIEGO A., TECNICO DE MANTENIMIENTO 3480 DOMINGUEZ, SALOME, RELIABILITY SUPERVISOR +52 SIBAMEA, PEDRO N, INDUSTRIAL ENGINEER PLANT 9800 CENTEC 1 +52 844 4115500 ZARTUCHE, JOSE LUIS, MATERIALS ENGINEER CENTEC II +52 844 4389060 GARCIA, ABRIL, QUALITY +52 844 4115500 ZARTUCHE, LUIS, COORDINADOR DE MATERIALES null MACIAS, MARCO, EHS +52 844 4115500 SANCHEZ, GIOVANNA, null null							Supervisor's Approval STRINGEL, OSCAR

											Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
10) RECEIVING MATERIAL IN DOCKS	SUSPECT MATERIAL	ASSEMBLY PROBLEMS	6	N/A	SUPPLIER PROBLEMS	2	(D) -VISUAL INSPECTION TO VERIFY THE CONTAINER CONDITION ACCORDING WORK INSTRUCTION -MATERIALS DEPARTMENT INSPECTS AND SEGREGATE DAMAGE MATERIAL -INSPECTION BY INCOMING INSPECTION	7	84	None						
10.1)	DAMAGED COMPONENT	-RAW MATERIAL CAN NOT BE USED -ASSEMBLY PROBLEM	6	N/A	-INCORRECT HANDLING DURING TRANSPORTATION -OPEN CONTAINER	2	(P) -CLOSED CONTAINER AND BOX -DOCK OPERATOR (D)VERIFY CONTAINER OR BOX IN GOOD CONDITION -VISUAL AID DISPLAYED	7	84	None						
10.11)	DAMAGED MATERIAL	ASSEMBLY PROBLEMS	6	N/A	IMPROPER MATERIAL HANDLING	2	(D) -VISUAL INSPECTION TO VERIFY THE CONTAINER CONDITION ACCORDING WORK INSTRUCTION -MATERIALS DEPARTMENT INSPECTS AND SEGREGATE DAMAGE MATERIAL -INSPECTION BY INCOMING INSPECTION	7	84	None						
20) VISUAL INSPECTION OF MATERIAL RECEIVED TO VERIFY PHYSICAL CONTAINER CONDITION AND COMPARE AGAINST MANIFEST	MISSING LABEL	RAW MATERIAL CAN NOT BE USED	4	N/A	-INCORRECT HANDLING DURING TRANSPORTATION -MISSING LABEL FROM SUPPLIER	2	(D) VISUAL INSPECTION AGAINST MANIFEST ACCORDING TO WORK INSTRUCTION	7	56	None						
20.1)	ILLEGIBLE LABEL	RAW MATERIAL CAN NOT BE USED	4	N/A	-DAMAGE DURING TRANSPORTATION -PRINTING PROBLEMS	2	(D) VISUAL INSPECTION AGAINST MANIFEST AND MATERIAL IS SEGREGATED ACCORDING THE WORK INSTRUCTION	3	24	None						
20.11)	MISSING MANIFESTED CONTAINER	-AFFECTS INVENTORIES -INTERRUPTED MANUFACTURING FLOW	1	N/A	MISSING FROM SUPPLIER -LOST DURING TRANSPORTATION	2	(D) VISUAL INSPECTION WITH MANIFEST, DISCREPANCY IS GENERATED ACCORDING THE WORK INSTRUCTION - SCANNING	3	6	None						
20.12)	DAMAGE CONTAINER	SUSPECT MATERIAL	4	N/A	-DAMAGE DURING TRANSPORTATION -INCORRECT HANDLING DURING TRANSPORTATION -BAD STACKED	2	(D) -VISUAL INSPECTION TO VERIFY THE CONTAINER CONDITION ACCORDING WORK INSTRUCTION -MATERIALS INSPECTS AND SEGREGATE DAMAGE MATERIAL -INSPECTION BY INCOMING INSPECTION	7	56	None						
20.13)	MATERIAL UNDER QUALITY ALERT	SUSPECT MATERIAL	4	N/A	-SUPPLIER REPORTS -MATERIAL OUT OF SPECIFICATION	2	(D) VISUAL INSPECTION ACCORDING TO WORK INSTRUCTION AND MATERIAL IS SEGREGATED TO BE SORTED OR RETURNED TO THE SUPPLIER QUALITY ALERT LIST FOR SUSPECT MATERIAL	7	56	None						
20.14)	DAMAGED MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING INCORRECT FROM SUPPLIER	2	(D) VISUAL INSPECTION TO VERIFY THE CONTAINER CONDITION ACCORDING WORK INSTRUCTION -MATERIALS DEPARTMENT INSPECTS AND SEGREGATE DAMAGE MATERIAL -INSPECTION BY INCOMING INSPECTION	7	56	None						
25) CHECK OF THE AMOUNT OF RAW MATERIAL IN PARTS UNIQUE BOUGHT	MISSING VERIFICATION	DISCREPANCY IN INVENTORY	4	N/A	SUPPLIER	2	(P) INSTRUCTION, WORK INTRUCTION OPERADOR CERTIFICATE	7	56	None						
30) LOAD MATERIAL IN SYSTEM (SAP/QAS)	MISSING LOAD	-DISCREPANCY IN THE INFORMATION -AFFECTS INVENTORIES	1	N/A	-IMPROPER INFORMATION HANDLING -MISSING OPERATION	2	(P) -WORK INSTRUCTION FOR MATERIALS OPERATOR -(D)SCANNING OF THE MATERIAL	4	8	None						
40) MOVE MATERIAL FROM RAMP TO SUPERMARKET AREA OR MATERIAL SUSPECT/ UNDER QUALITY ALERT TO INCOMING INSPECTION	DAMAGED MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) -OPERATOR METHOD	7	56	None						
40.1)	MIXED MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) -OPERATOR METHOD -CERTIFICATED OPERATOR	7	56	None						
41) MOVE MATERIAL SUSPECT OR UNDER QUALITY ALERT TO INCOMING INSPECTION AREA	MIXTED MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	-INCORRECT HANDLING OF THE MATERIAL	2	(P) WORK INSTRUCTION FOR MATERIALS OPERATOR	8	64	None						
41.1)	DAMAGE MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) WORK INSTRUCTION FOR MATERIALS OPERATOR	8	64	None						
42) MATERIAL ARE INSPECTED IN INCOMING INSPECTION AREA	DAMAGE OR MISSING LABEL	PROBLEM TO SCAN THE CUSTOMER INFORMATION	4	N/A	-INCORRECT HANDLING -PROBLEMS OF SUPPLIER	2	(D) -VISUAL INSPECTION BY OPERATOR OF INCOMING INSPECTION AREA	3	24	None						
42.11)	DAMAGE CONTAINER	SUSPECT MATERIAL	4	N/A	DAMAGE DURING TRANSPORTATION -INCORRECT HANDLING - BOXES WRONG ALLOCATED	2	(D) VISUAL INSPECTION TO VERIFY THE CONTAINER CONDITION ACCORDING WORK INSTRUCTION -MATERIALS INSPECTS AND SEGREGATE DAMAGE MATERIAL -VISUAL AID DISPLAYED -INSPECTION BY INCOMING INSPECTION	7	56	None						
42.13)	DAMAGED MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING -INCORRECT FROM SUPPLIER	2	(P) WORK INSTRUCTION FOR MATERIALS OPERATOR	7	56	None						
42.14)	MATERIAL OUT SPECIFICATIONS (ATRIBUTES)	RAW MATERIAL CAN NOT BE USED	4	N/A	INCORRECT FROM SUPPLIER	2	(D) VERIFICATION ACCORDING THE DRAWING VISUAL INSPECTION	7	56	None						
43) MATERIAL INSPECTED IS MOVED RAMPS OR MNC IS SCRAPED OR RETURNED TO THE SUPPLIER	MIXED MATERIAL	-RAW MATERIAL CAN NOT BE USED -ASSEMBLY PROBLEM	1	N/A	-INCORRECT HANDLING DURING TRANSPORTATION -OPEN CONTAINER	2	(D) CLOSED CONTAINER AND BOX -DOCK OPERATOR VERIFY CONTAINER OR BOX IN GOOD CONDITION -VISUAL AID DISPLAYED	7	14	None						
43.1)	MATERIAL WITH OUT IDENTIFICATION	-RAW MATERIAL CAN NOT BE USED -ASSEMBLY PROBLEM	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) WORK INSTRUCTION	8	64	None						
50) STORE MATERIAL IN SUPERMARKET / SHOP STOCK AREA	WRONG MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	INCORRECT ALLOCATION -SIMILAR COMPONENT	2	(P) WORK INSTRUCTION FOR MATERIALS OPERATOR	8	64	None						

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50.1)	DAMAGE MATERIAL	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) WORK INSTRUCTION FOR MATERIALS OPERATOR	8	64	None						
50.12)	MATERIAL MISSING ALLOCATE	RAW MATERIAL CAN NOT BE USED	4	N/A	P/N NEWS -LACK OF CAPACITY IN SUPERMARKET	2	(P) OPERATOR METHOD STORE -SAP SYSTEM -MAP OF LOCATION	3	24	None						
50.13)	MATERIAL WRONG ALLOCATE	RAW MATERIAL CAN NOT BE USED	4	N/A	IMPROPER MATERIAL HANDLING	2	(P) OPERATOR METHOD STORE -SAP SYSTEM -MAP OF LOCATION	3	24	None						
60) PRINT SHIPPING LABELS AND PROCESS CARD ACCORDING TO THE REQUERIMENTS	WRONG INFORMATION (LABEL)	WRONG DESTINY CUSTOMER INSATISFACTION	5	N/A	WRONG INFORNARTION LOADED	2	(D) -VISUAL INSPECTION BY MATERIALS OPERATOR	8	80	None						
60.1)	WRONG INFORMATION (PROCESS CARD)	WRONG DESTINY CUSTOMER INSATISFACTION	5	N/A	WRONG INFORNARTION LOADED	2	(D) -VISUAL INSPECTION BY MATERIALS OPERATOR	8	80	None						
60.11)	ILLEGIBLE LABEL	PROBLEM TO SCAN THE CUSTOMER INFORMATION	5	N/A	PRINTING PROBLEM	2	(D) VISUAL INSPECTION BY MATERIALS OPERATOR	8	80	None						
60.12)	DAMAGED LABEL	PROBLEMS TO SCAN THE SHIPPING LABEL	5	N/A	IMPROPER HANDLING	2	(D) VISUAL INSPECTION BY MATERIALS OPERATOR	8	80	None						
70) MOVE SHIPPING LABELS TO WORK STATION (WHEN APPLY)	SHIPPING LABEL MIXED	ASSEMBLY PROBLEM	4	N/A	IMPROPER HANDLING	2	(P) OPERATOR METHOD -D-VISUAL INSPECTION OF SERVICE OPERATOR	7	56	None						
70.1)	MISSING SHIPPING LABEL	ASSEMBLY CAN NOT BE BUILD	4	N/A	INCORRECT HANDLING LOOSING DURING TRANSPORTATION	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	7	56	None						
70.11)	DAMAGE LABEL	LABEL CAN NOT BE USED	5	N/A	INCORRECT HANDLING	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	8	80	None						
80) BUILD THE KIT ACCORDING TO THE REQUIREMENTS (WHEN APPLY)	WRONG TOOL	-ASSEMBLY PROBLEM	3	N/A	MISS OPERATION	2	(P) -OPERATOR METHOD	4	24	None						
80.1)	WRONG MATERIAL	-ASSEMBLY PROBLEM	5	N/A	MISS OPERATION	2	(P) -OPERATOR METHOD	8	80	None						
80.11)	WRONG SHIPPING LABEL	-ASSEMBLY PROBLEM	2	N/A	MISS OPERATION	2	(P) OPERATOR METHOD	3	12	None						
80.12)	WRONG IDENTIFICATION OF THE MATERIAL	-ASSEMBLY PROBLEM	3	N/A	INCORRECT HANDLING	2	(P) -OPERATOR METHOD	4	24	None						
80.13)	MIXED MATERIAL	-ASSEMBLY PROBLEM	5	N/A	MISS OPERATION	2	(P) OPERATOR METHOD	8	80	None						
80.14)	WRONG METHOD	MANUFACTURING FLOW INTERRUMPED INCORRECT ASSEMBLY	6	N/A	MISS OPERATION	2	(P) OPERATOR METHOD	8	96	None						
85) TO REQUEST SHIPPING LABEL FROM KIT PART NUMBER (WHEN APPLY)	WRONG INFORMATION	MANUFACTURING FLOW INTERRUMPED	6	N/A	MISS OPERATION	2	(P) OPERATOR METHOD	7	84	None						
90) MOVE MATERIAL, AND TOOL FROM KIT'S CENTER TO WORK STATION ACCORDING TO THE REQUIREMENTS (WHEN APPLY)	DAMAGED COMPONENT	ASSEMBLY PROBLEM	5	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION - OPERATOR METHOD	8	80	None						
90.1)	DAMAGED TOOL	ASSEMBLY PROBLEM	5	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION - OPERATOR METHOD	5	50	None						
90.11)	DAMAGED SHIPPING LABEL	SHIPPING LABEL CAN NOT BE USED	5	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION - OPERATOR METHOD	8	80	None						
100) MOVE MATERIAL, PACKING MATERIAL AND TOOL OF THE P/N CHANGE FROM WORK STATION TO KIT'S CENTER OR PACKING CAR (WHEN APPLY)	DAMAGED COMPONENT	ASSEMBLY PROBLEM	5	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION - OPERATOR METHOD	8	80	None						
100.1)	DAMAGED TOOL	ASSEMBLY PROBLEM	5	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION - OPERATOR METHOD	8	80	None						
105) TRANSFER MATERIAL FROM SUPERMARKET AND SHOP STOCK SLOCK (SLOCK 1) TO WIP SLOCK (SLOCK 2) IN SAP/QAS SYSTEM (SCANNING)	MISSING SCANNING	AFFECTED INVENTORY MANUFACTURING FLOW INTERRUPTED	4	N/A	MISS OPERATION	2	(P) -OPERATOR METHOD	7	56	None						
105.1)	MATERIAL WITH OUT IDENTIFICATION	MANUFACTURING INTERRUMPED FLOW	4	N/A	INCORRECT HANDLING OF THE MATERIAL	2	(P) -OPERATOR METHOD	3	24	None						
110) MOVE COMPONENT FROM SUPERMARKET, PARTS PURCHASED SHOP STOCK AND MOLDING SHOP STOCK AREA TO WORK STATION	DAMAGED COMPONENT	ASSEMBLY PROBLEM	4	N/A	INCORRECT HANDLING DURING TRANSPORTATION	2	(P) USE OF CAR FOR TRANSPORTATION (D)-SERVICE OPERATOR VERIFY CONTAINER GOOD CONDITION PERMITED AMOUNT OF STACK MATERIAL IS INDICATED TO SERVICE	8	64	None						
110.1)	MIXED COMPONENT	-RAW MATERIAL CAN NOT BE USED -ASSEMBLY PROBLEM	4	N/A	-INCORRECT HANDLING DURING TRANSPORTATION	2	(P) -SERVICE OPERATOR METHOD	8	64	None					8	

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110.11)	WRONG COMPONENT	-RAW MATERIAL CAN NOT BE USED -ASSEMBLY PROBLEM	4	N/A	-INCORRECT HANDLING DURING TRANSPORTATION	2	(P) -SERVICE OPERATOR METHOD	8	64	None						
140) MOVE BOXES, RETURNABLE CONTAINERS FROM SUPERMARKET AREA TO WORK STATION	DAMAGE CONTAINER	CONTAINER CAN NOT BE ISED	2	N/A	INCORRECT HANDLING	2	(P) -TRANSPORTATION IN CARS -OPERATOR METHOD	8	32	None						
140.1)	DIRTY CONTAINER	CONTAINER CAN NOT BE USED	2	N/A	INCORRECT HANDLING	2	(P) CONTAINER MUST BE CLEAN BY MATERIAL S OPERATOR BEFORE BE USED ACCORDING TO THE OPERATOR METHOD	8	32	None						
140.11)	WRONG CONTAINER OR BOX	CONTAINER CAN NOT BE USED	2	N/A	MISS OPERATION	2	(P) -MATERIAL OPERATOR METHOD	8	32	None						
145) MOVE FINISHED GOOD FROM INCOMPLETE CONTAINER AREA TO WORK STATION (WHEN APPLY)	INCOMPLETE FINISH GOOD CONTAINER INVENTORY HIGH	OVER STOCK	1	N/A	MISS OPERATION	2	(P) -WORK METHOD	8	16	None						
150) VERIFICATION OF SET-UP BY MANUFACTURING (LOAD RIGHT ROW MATERIAL FOR RUN PART NUMBER)	INCORRECT VERIFICATION	MANUFACTURING FLOW INTERRUMPED	2	N/A	INCORRECT INFORMATION USE	2	(D) VERIFICATION OF SET-UP ROUTINE	7	28	None						
150.1)	MISSING METHOD	INTERRUPTED MANUFACTURING FLOW	6	N/A	INCORRECT HANDLING OF METHOD	2	(D) -MANUFACTURING INSPECTION	8	96	None						
150.2)	WRONG OR BAD STATE METHOD	INTERRUPTED MANUFACTURING FLOW	6	N/A	MISS OPERATION	2	(D) -MANUFACTURING INSPECTION	8	96	None						
150.3)	NOT RELEASED METHODS	INTERRUPTED MANUFACTURING FLOW	6	N/A	MISS OPERATION	2	(D) -MANUFACTURING INSPECTION	8	96	None						
150.4)	ASSEMBLY OUT SPECIFICATIONS (ATRIBUTES)	MATERIAL CAN NOT BE USE	6	N/A	INCORRECT FROM SUPPLIER	2	(P) OPERATOR METHOD TRAINING OPERATOR	8	96	None						
150.5)	WRONG OR DAMAGE TOOL	ASSEMBLY PROBLEMS	6	N/A	MISS OPERATION INCORRECT HANDLING OF THE TOOL	2	(P) OPERATOR METHOD TRAINING OPERATOR	8	96	None						
150.51)	WRONG OR DAMAGE EQUIPMENT	ASSEMBLY PROBLEMS	6	N/A	MISS OPERATION INCORRECT HANDLING OF THE TOOL	2	(D) OPERATOR VERIFICATION OF SET-UP ROUTINE	8	96	None						
150.6)	NOT IDENTIFIED CONTAINER	MATERIAL CAN NOT BE USED	4	N/A	IMPROPER HANDLING OF THE MATERIAL MISS OPERATION	2	(P) OPERATOR METHOD	8	64	None						
150.7)	WRONG ROW MATERIAL IN THE BOWLS	ASSEMBLY PROBLEMS	6	N/A	IMPROPER HANDLING OF THE MATERIAL -MISS OPERATION	2	(P) -OPERATOR VERIFICATION OF SET-UP ROUTINE -METHODE OF CLEAN UP ROW MATERIALS -SET-UP OF MAINTENANCE	7	84	None						
160) PLACE SHIPPING LABEL ON CONTAINER/BOX	WRONG LABEL	MISS ID-CUSTOMER INSATISFACTION	4	N/A	MISS OPERATION, OPERATOR DOES NOT VERIFY THE SHIPPING LABEL AGAINTS THE METHOD -SIMILAR COMPONENT	2	(P) OPERATOR METHOD -D- -MANUFACTURING VERIFY -Q.C FINAL AUDIT	3	24	None						
160.11)	DAMAGED LABEL	SHIPPING LABEL CAN NOT BE USED - MANUFACTURING FLOW INTERRUPTED	4	N/A	-INCORRECT HANDLING -INCORRECT PRINTING	2	(D) MANUFACTIRING INSPECTION -D- Q.C FINAL VERIFY -VPS IN SHIPPING LABEL PRINTING AREA	7	56	None						
160.12)	WRONG PLACED LABEL	MANUFACTURING FLOW INTERRUPTED	3	N/A	MISS OPERATION	2	(D) Q.C FINAL INSPECTION OPERATOR METHOD	7	42	none						
162) SCANING, PROCESS CARD, TOOL NEST,COMPONENTS. ID OPERATOR AND SHIPPING LABEL.	WRONG WORK METHOD	INTERRUPTED MANUFACTURING FLOW - ASSEMBLY PROBLEM	4	N/A	MISS OPERATION	2	(P) OPERATOR METHOD -(D)SCANING WITH ELECTRONIC DETECTION	2	16	None						
162.1)	WRONG TOOL NEST	INTERRUPTED MANUFACTURING FLOW - ASSEMBLY PROBLEM	4	N/A	MISS OPERATION	2	(P) OPERATOR METHOD -(D)SCANING WITH ELECTRONIC DETECTION	2	16	None						
162.2)	WRONG COMPONENT	INTERRUPTED MANUFACTURING FLOW - ASSEMBLY PROBLEM	4	N/A	MISS OPERATION	2	(P) OPERATOR METHOD -(D)SCANING WITH ELECTRONIC DETECTION	2	16	None						
162.3)	WRONG SHIPPING LABEL	INTERRUPTED MANUFACTURING FLOW - ASSEMBLY PROBLEM	4	N/A	MISS OPERATION	2	(P) OPERATOR METHOD -(D)SCANING WITH ELECTRONIC DETECTION	2	16	None						
170) PLACE RAW MATERIALS INTO THE BOWL	DAMAGE CONNECTOR	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						
170.1)	DAMAGE CPA	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						
170.11)	DAMAGE RETAINER	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						

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170.12)	DAMAGE SEAL	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						
170.13)	DAMAGE CABLE.SEAL	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						
170.14)	DAMAGE PLR	ASSEMBLY PROBLEMS	7	N/A	DAMAGED BOWL -- DEFECTS FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - EQUIPMENT DESIGN - MAINTENANCE METHOD	6	84	None						
170.2)	WRONG COMPONENT INTO THE INCORRECT BOWL (RAW MATERIAL MIXED)	NOT FUNCTIONAL PART	7	N/A	IMPROPER MATERIAL HANDLING. PROCESS OF PARTS REMOVES INCOMPLETE BEFORE THE PROCESS START MIXED MATERIAL FROM SUPPLIER	2	(P) (D)OPERATOR METHOD - MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY - TOOLING DESIGN - CCA SYSTEM -BOWL DESIGN FEEDER.	6	84	None						
170.3)	CONTAMINATED COMPONENTS ,FOREIGN MATERIAL (FOOD, OIL, DUST, ETC)	CONTAMINATED PRODUCT SHIPPED	6	N/A	ABSENCE OF PREVENTIVE MAINTENANCE. AIR CONTAMINANTS-OPERATOR DOESN - FOLLOW THE METHOD CORRECTLY	2	(P) (P) 1.MANUFACTURING INSPECTION -PREVENTIVE MAINTENANCE PLAN -AUDIT PRODUCT OF FINAL ASSEMBLY -FINISHED GOODS CONTAINERS IN ENCLOSED AREA DURING PROCESSING	6	72	None						
180) ASSEMBLY CABLE.SEAL ON RETAINER IN THE TURN TABLE	DAMAGED RETAINER	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER -END RUN WITH CYLINDER.	6	84	None						
180.1)	WRONG RETAINER	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WRONG FIXTURE -MISSADJUSTED VISION SYSTEM	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -CCA SYSTEM -TOOLING DESING BOWL FEEDERS	6	84	None						
180.11)	RETAINER CONTAMINATED BY DUST	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION - BAD SETUP OF ROUTINE OF MANUFACTURING - BAD MAINTENACE PREVENT	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -MAINTENANCE ROUTINE METHODE	7	98	None						
180.3)	MISSING RETAINER	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WRONG FIXTURE -MISSADJUSTED VISION SYSTEM	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS -SENSOR OF PRESENCE	6	84	None						
180.7)	CONTAMINATED RETAINER BY DUST	ASSEMBLY PROBLEMS	7	N/A	ABSENCE OF PREVENTIVE MAINTENANCE. AIR CONTAMINANTS-OPERATOR DOESN - FOLLOW THE METHOD CORRECTLY	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING	7	98	None						
180.8) CABLE.SEAL	DAMAGED CABLE.SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER -SENSOR OF PRESENCE	5	70	None						
180.9)	WRONG CABLE.SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WRONG FIXTURE - BAD OPERATION - BAD SET-UP OF METHOD OF MAINTENANCE -GRIPPER MISSADJUSTED.	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -CCA SYSTEM -TOOLING DESING BOWL FEEDERS	6	84	None						
180.91)	BAD ASSEMBLED CABLE.SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WORN TOOL - DAMAGE TOOL - BAD OPERATION	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -SENSOR OF PRESENCE	6	84	None						
180.92)	MISSING CABLE.SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WORN TOOL - DAMAGE TOOL - MISSADJUSTED SENSOR OF PRESENCE	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -SENSOR OF PRESENCE	6	84	None						
190) ASSEMBLY CONNECTOR ON CABLE.SEAL, RETAINER IN TURN TABLE	DAMAGE CONNECTOR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WORN TOOL - DAMAGE TOOL - DOES NOT USE THE FIXTURE	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -BOWL TOOLING DESING -TOOL NEST DESING (POKAYOKE)	5	70	None						

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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [X] Delphi Confidential

Part Certification

	System	X	Subsystem		Component	Page 1	FMEA Number AUTOMATIC ASSEMBLY (e-FMEA DOC ID 5461110)
Part Number (Delphi:15425692)		Design or Process Responsibility CHAVARRIA, VICTOR				Prepared by SIBAMEA, PEDRO N	Telephone # +52 844 4115500
Model Year(s)/Vehicle(s) COMPONENT		Key Date 2021-11-19 00:00:00				Original FMEA Date 2021-10-26 00:00:00	FMEA Revision Date 2021-10-30 17:35:31
Core Team CHAVARRIA, VICTOR, INGENIERO DE PROCESOS +52 844 4115500 GARZA, RAQUELINE V, INDUSTRIAL ENGINEERING PLANT 9800 CENTEC 1 +52 844 4115500 MEDINA, EDUARDO, MANUFACTURING SUPERVISOR T"A" PLANT 8400 CENTEC 3 86-63-400 ext 5420 ORTIZ URIBE, DIEGO A., TECNICO DE MANTENIMIENTO 3480 DOMINGUEZ, SALOME, RELIABILITY SUPERVISOR +52 SIBAMEA, PEDRO N, INDUSTRIAL ENGINEER PLANT 9800 CENTEC 1 +52 844 4115500 ZARTUCHE, JOSE LUIS, MATERIALS ENGINEER CENTEC II +52 844 4389060 GARCIA, ABRIL, QUALITY +52 844 4115500 ZARTUCHE, LUIS, COORDINADOR DE MATERIALES null MACIAS, MARCO, EHS +52 844 4115500 SANCHEZ, GIOVANNA, null null							Supervisor's Approval STRINGEL, OSCAR

												Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
190.1)	WRONG CONNECTOR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WORN TOOL - DAMAGE TOOL - DOES NOT USE THE FIXTURE	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -CCA SYSTEM	6	84	None						
190.11)	DAMAGE CONNECTOR (LATCH)	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -WORN TOOL - DAMAGE TOOL - DOES NOT USE THE FIXTURE	2	(P) OPERATOR METHOD -D-MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING - MASTER PIECES	5	70	None						
195) MARK PRINT (JULLIAN DATE)	INCORRECT MARK PRINT	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION - -BAD SETUP OF PRINTER	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY -QUALITY VISUAL AID. -METHODE OF JULLIAN DATE CODE.	7	98	None						
195.1)	MISSING MARK PRINT	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION --BAD SETUP OF PRINTER	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY -QUALITY VISUAL AID. -METHODE OF JULLIAN DATE CODE.	7	98	None						
195.2)	INCORRECT DATE PRINT CODE (JULIAN DATE)	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION --BAD SETUP OF PRINTER	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY -METODE OF JULIAN DATE CODE -- QUALITY VISUAL AID	7	98	None						
195.3)	INCORRECT DATE PRINT CODE (CORRECT AREA)	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD SETUP OF PRINTER	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY -METHODE OF JULIAN DATE CODE - METHODE OF ASSMBLY -QUALITY VISUAL AID -METHODE OF MANTENAINCE	7	98	None						
200) ASSEMBLY SEAL ON CONNECTOR, CABLE.SEAL, RETAINER IN TURN TABLE	DAMAGE SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING (POKAYOKE)	5	70	None						
200.1)	MISSING SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D-MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING - MASTER PIECES	5	70	None						
200.2)	DOUBLE SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D-MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING - MASTER PIECES	5	70	None						
200.3)	WRONG SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -COLOR SENSOR OF PRESENCE	5	70	None						
200.4)	INVERTED SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING (POKAYOKE)	6	84	None						
200.5)	TWISTED SEAL	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE - BOWL TOOLING DESING -TOOL NEST DESING (POKAYOKE)	7	98	None						
210) ASSEMBLY CPA ON CONNECTOR, SEAL, CABLE.SEAL, RETAINER ON TURN TABLE.	BAD ASEMBLED CPA	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -	5	70	None						

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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [X] Delphi Confidential

Part Certification

	System	X	Subsystem		Component	Page 1	FMEA Number AUTOMATIC ASSEMBLY (e-FMEA DOC ID 5461110)
Part Number (Delphi:15425692)		Design or Process Responsibility CHAVARRIA, VICTOR				Prepared by SIBAMEA, PEDRO N	Telephone # +52 844 4115500
Model Year(s)/Vehicle(s) COMPONENT		Key Date 2021-11-19 00:00:00				Original FMEA Date 2021-10-26 00:00:00	FMEA Revision Date 2021-10-30 17:35:31
Core Team CHAVARRIA, VICTOR, INGENIERO DE PROCESOS +52 844 4115500 GARZA, RAQUELINE V, INDUSTRIAL ENGINEERING PLANT 9800 CENTEC 1 +52 844 4115500 MEDINA, EDUARDO, MANUFACTURING SUPERVISOR T"A" PLANT 8400 CENTEC 3 86-63-400 ext 5420 ORTIZ URIBE, DIEGO A., TECNICO DE MANTENIMIENTO 3480 DOMINGUEZ, SALOME, RELIABILITY SUPERVISOR +52 SIBAMEA, PEDRO N, INDUSTRIAL ENGINEER PLANT 9800 CENTEC 1 +52 844 4115500 ZARTUCHE, JOSE LUIS, MATERIALS ENGINEER CENTEC II +52 844 4389060 GARCIA, ABRIL, QUALITY +52 844 4115500 ZARTUCHE, LUIS, COORDINADOR DE MATERIALES null MACIAS, MARCO, EHS +52 844 4115500 SANCHEZ, GIOVANNA, null null							Supervisor's Approval STRINGEL, OSCAR

											Action Results						
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							BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING (POKAYOKE)										
210.1)	MISSING CPA	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP	2	(P) OPERATOR METHOD -D-MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING -MASTER PIECES	5	70	None							
210.2)	WRONG CPA	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -BOWL TOOLING DESING -COLOR SENSOR OF PRESENCE -TOOL NEST DESING	5	70	None							
210.3)	DAMAGED CPA	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -PRESS CYLINDER WITH DETECTION OF END POSITION -MAINTENANCE ROUTINE METHODE -BOWL TOOLING DESING -SENSOR OF PRESENCE -TOOL NEST DESING (POKAYOKE)	5	70	None							
220) ASSEMBLY PLR ON CONNECTOR, SEAL, CABLE SEAL, RETAINER, CPA ON TURN TABLE.	MISSING PLR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D-MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER -END RUN WITH CYLINDER - -MASTER PIECES	5	70	None							
220.1)	WRONG PLR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER	6	84	None							
220.2)	DAMAGED PLR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER -END RUN WITH CYLINDER	6	84	None							
220.3)	INVERTED PLR	ASSEMBLY PROBLEMS	7	N/A	-MISS OPERATION -BAD MACHINE OPERATION -BAD OPERATION -BAD SET-UP -GRIPPER MISSADJUSTED	2	(P) OPERATOR METHOD -D- -MANUFACTURING INSPECTION -AUDIT PRODUCT OF FINAL ASSEMBLY-FIRST SAMPLE BY MANUFACTURING-VERIFICATION OF MATERIAL BY MANUFACTURING -TOOLING DESING -MAINTENANCE ROUTINE METHODE -TOOLING DESING BOWL FEEDERS AND GRIPPER -END RUN WITH CYLINDER (POKAYOKE)	6	84	None							
290.01) FIRST SAMPLE RELEASED BY Q.C. PROCESS AUDIT BY Q.C.	ASSEMBLY OUT OF SPECIFICATION	ASSEMBLY PROBLEM	7	N/A	MISS OPERATION - MATERIAL OUT SPECIFICATION	2	(D) FIRST SAMPLE RELEASED WORK INSTRUCTION - INSPECTION ACCORDING TO THE DRAWING	7	98	None							
290.02)	INCORRECT AUDIT	MANUFACTURING FLOW INTERRUMPED	7	N/A	INCORRECT INFORMATION USE	2	(P) WORK INSTRUCTION OPERATOR TRAINING	7	98	None							
290.03)	MISSING AUDIT	INTERRUPTED MANUFACTURING FLOW	6	N/A	INCORRECT INFORMATION USE	2	(P) WORK INSTRUCTION OPERATOR TRAINING	7	84	None							
310) FINISH ASSEMBLY IS PACKAGED BAG IS CLOSED	DAMAGE MATERIAL	ASSEMBLY PROBLEM	7	N/A	INCORRECT MATERIAL HANDLING IMPROPER PACKING	2	(D) MANUFACTURING INSPECTION - Q.C. FINAL AUDIT	7	98	None							
310.1)	INCOMPLETE STD PACK	CUSTOMER INSATISFACTION	2	N/A	MISS OPERATION	2	(P) PACKING INFORMATION ELECTRICAL ACCOUNT IN WORK STATION	7	28	None							
310.111)	WRONG SHIPPING LABEL	INTERRUPTED MANUFACTURING FLOW	2	N/A	MISS OPERATION	2	(D) SCANING WITH ELECTRONIC DETECTION (P) -OPERATOR METHOD	5	20	None							
310.13)	WRONG CONTAINER OR BOX	ASSEMBLY PROBLEM	4	N/A	-INCORRECT HANDLING IMPROPER PACKING	2	(D) -MANUFACTURING INSPECTION -Q.C FINAL AUDIT	7	56	None							
310.15)	WRONG PACKING	CUSTOMER INSATISFACTION	4	N/A	MISS OPERATION	2	(D) -MANUFACTURING INSPECTION -Q.C FINAL AUDIT	7	56	None							
310.16)	WRONG SHIPPING LABEL	INTERRUPTED MANUFACTURING FLOW	2	N/A	MISS OPERATION	2	(D) SCANING WITH ELECTRONIC DETECTION (P) -OPERATOR METHOD	5	20	None							
316) MOVE FINISH GOOD CONTAINER FROM WORK STATION TO INCOMPLETE CONTAINER AREA (WHEN APPLY)	FINISHED GOOD IS NOT SENT TO INCOMPLETE CONTAINER AREA	CUSTOMER INSATISFACTION	1	N/A	MISS OPERATION	2	(P) WORK METHOD	8	16	None							
318) RELABELING WHEN APPLY	WRONG SHIPPING LABEL	CUSTOMERS INSATISFACTION	4	N/A	IMPROPER MATERIAL HANDLING - SYSTEM PROBLEM	2	(P) OPERATOR TRAINING (D) VISUAL INSPECTION	4	32	None							

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Part Number (Delphi:15425692)			Design or Process Responsibility CHAVARRIA, VICTOR			Prepared by SIBAMEA, PEDRO N	Telephone # +52 844 4115500
Model Year(s)/Vehicle(s) COMPONENT			Key Date 2021-11-19 00:00:00			Original FMEA Date 2021-10-26 00:00:00	FMEA Revision Date 2021-10-30 17:35:31
Core Team CHAVARRIA, VICTOR, INGENIERO DE PROCESOS +52 844 4115500 GARZA, RAQUELINE V, INDUSTRIAL ENGINEERING PLANT 9800 CENTEC 1 +52 844 4115500 MEDINA, EDUARDO, MANUFACTURING SUPERVISOR T"A" PLANT 8400 CENTEC 3 86-63-400 ext 5420 ORTIZ URIBE, DIEGO A., TECNICO DE MANTENIMIENTO 3480 DOMINGUEZ, SALOME, RELIABILITY SUPERVISOR +52 SIBAMEA, PEDRO N, INDUSTRIAL ENGINEER PLANT 9800 CENTEC 1 +52 844 4115500 ZARTUCHE, JOSE LUIS, MATERIALS ENGINEER CENTEC II +52 844 4389060 GARCIA, ABRIL, QUALITY +52 844 4115500 ZARTUCHE, LUIS, COORDINADOR DE MATERIALES null MACIAS, MARCO, EHS +52 844 4115500 SANCHEZ, GIOVANNA, null null							Supervisor's Approval STRINGEL, OSCAR

												Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
318.1)	DAMAGE SHIPPING LABEL	ASSEMBLY PROBLEMS	4	N/A	IMPROPER MATERIAL HANDLING - SYSTEM PROBLEM	2	(P) OPERATOR TRAINING (P) VISUAL INSPECTION	4	32	None						
318.2)	INACTIVE SHIPPING LABEL	SHIPPING LABEL CAN NOT BE READ	4	N/A	IMPROPER MATERIAL HANDLING - SYSTEM PROBLEM	2	(P) OPERATOR TRAINING (P) VISUAL INSPECTION	4	32	None						
320) FINISHED GOOD CONTAINERS ARE MOVED TO MANUFACTURING INSPECTION AREA WHEN APPLY	DAMAGED MATERIAL	ASSEMBLY PROBLEMS	2	N/A	-IMPROPER MATERIAL HANDLING - THERE IS NOT METHOD	2	(D) -MANUFACTURING INSPECTION -Q.C FINAL AUDIT	7	28	None						
320.1)	DAMAGE LABEL	LABEL CAN NOT BE USED	2	N/A	INCORRECT HANDLING	2	(P) OPERATOR METHOD	8	32	None						
320.11)	MISSING SHIPPING LABEL	ASSEMBLY CAN NOT BE BUILD	2	N/A	INCORRECT HANDLING LOOSING DURING TRANSPORTATION	2	(P) OPERATOR METHOD	7	28	None						
320.13)	DAMAGE CONTAINER	SUSPECT MATERIAL	2	N/A	DAMAGE DURING TRANSPORTATION	2	(P) OPERATOR METHOD	6	24	None						
325) VERIFICATION OF SET-UP IN MANUFACTURING INSPECTION AREA	INCORRECT VERIFICATION	SUSPECT MATERIAL	2	N/A	MISS OPERATION	2	(D) VERIFICATION OF ROUTINE OF SET UP IN MANUFACTURING INSPECTION AREA	8	32	None						
330) MANUFACTURING INSPECTION (CONTAINMENT IS APPLIED WHEN APPLY)	FIRST SAMPLE MISSING	MATERIAL CAN NOT BE INSPECTED BY Q.C	1	N/A	-MISS OPERATION -FELT DOWN DURING TRANSPORTATION	2	(P) -OPERATOR METHOD (D) -VISUAL INSPECTION	7	14	None						
330.1)	ASSEMBLY OUT OF SPECIFICATION ACCORDING ATTRIBUTES	ASSEMBLY PROBLEMS	7	N/A	-INCORRECT MATERIAL HANDLING - INCORRECT USE OF VERIFIERS WHEN APPLY	2	(P) -OPERATOR METHOD (D) -VISUAL INSPECTION	7	98	None						
330.11)	WRONG CONTAINER	SUSPECT MATERIAL	5	N/A	IMPROPER INFORMATION HAND	2	(D) -OPERATOR METHOD (D) -VISUAL INSPECTION	6	60	None						
330.13)	DAMAGE SHIPPING LABEL	LABEL CAN NOT BE USED	2	N/A	INCORRECT HANDLING	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	7	28	None						
330.14)	MISSING SHIPPING LABEL	ASSEMBLY CAN NOT BE BUILD	2	N/A	INCORRECT HANDLING LOOSING DURING TRANSPORTATION	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	8	32	None						
330.16)	WRONG SHIPPING LABEL	-ASSEMBLY PROBLEM	6	N/A	MISS OPERATION	2	(P) -OPERATOR METHOD (D) -VISUAL INSPECTION	7	84	None						
340) MOVE FINISH GOOD CONTAINER TO Q.C. INSPECTION AREA WHEN APPLY	DAMAGED MATERIAL	ASSEMBLY PROBLEMS	8	N/A	- IMPROPER MATERIAL HANDLING	2	(D) Q.C. FINAL AUDIT	8	128	None						
340.1)	DAMAGE CONTAINER	SUSPECT MATERIAL	2	N/A	DAMAGE DURING TRANSPORTATION	2	(P) OPERATOR METHOD	8	32	None						
340.11)	DAMAGE SHIPPING LABEL	LABEL CAN NOT BE USED	1	N/A	INCORRECT HANDLING	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	8	16	None						
340.12)	MISSING SHIPPING LABEL	ASSEMBLY CAN NOT BE BUILD	1	N/A	INCORRECT HANDLING LOOSING DURING TRANSPORTATION	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	8	16	None						
351) AUDIT PRODUCTS OF FINAL ASSEMBLY	WRONG IDENTIFICATED ASSEMBLY	ASSEMBLY PROBLEMS	7	N/A	IMPROPER MATERIAL HANDLING - ASSEMBLY IS NOT INSPECTED ACCORDING THE DRAWING	2	(P) LABELING AND PACKAGING WORK INSTRUCCTION FOR Q.C (D) - VISUAL AID OF THE COMPONENT	3	42	None						
351.1)	MISSING SHIPPING LABEL	ASSEMBLY CAN NOT BE BUILD	4	NA	INCORRECT HANDLING LOOSING DURING TRANSPORTATION	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION OF SERVICE OPERATOR	3	24	None						
351.11)	ASSEMBLY OUT OFF SPECIFICATION ACCORDING ATTRIBUTES	ASSEMBLY PROBLEMS	5	NA	INCORRECT MATERIALHANDLING - INCORRECT USE OF VERIFIERS WHEN APPLY	2	(P) OPERATOR METHOD -D- VISUAL INSPECTION	5	50	None						
351.3)	WRONG SHIPPING LABEL	-ASSEMBLY PROBLEM	6	N/A	MISS OPERATION	2	(P) -OPERATOR METHOD	7	84	None						
351.4)	DAMAGE CONTAINER	SUSPECT MATERIAL	2	N/A	DAMAGE DURING TRANSPORTATION	2	(D) OPERATOR METHOD	7	28	None						
351.5)	WRONG CONTAINER	SUSPECT MATERIAL	5	N/A	IMPROPER INFORMATION HAND	2	(P) -OPERATOR METHOD (D) -VISUAL INSPECTION	7	70	None						
352) INSPECTION LAY OUT ANNUAL	DIMENSION IN TENSION OUT SPECIFICATION (WHEN APPLY)	CUSTOMER INSATISFACTION - NOT CAN USED	6	N/A	MISS OPERATION	2	(D) INSPECTO BY Q.C. SYSTEM PPAP	8	96	None						
370) CONTAINER IS CLOSED	INCORRECTLY CLOSE CONTAINERS	-DAMAGED COMPONENT - FOREING MATERIAL CAN GET INTO CONTAINER	6	N/A	-MISS OPERATION -DAMAGE BOX	2	(P) WORK METHOD TO CLOSE CONTAINERS	8	96	None						
380) MOVE FINISH GOOD CONTAINERS TO SHIPPING AREA.	DAMAGED MATERIAL	-DAMAGED COMPONENT - FOREING MATERIAL CAN GET INTO CONTAINER	6	N/A	-MISS OPERATION	2	(P) WORK METHOD TO CLOSE CONTAINERS	8	96	None						
390) FINISH GOOD CONTAINERS ARE SEGREGATED BY DESTINATION	SEGREGATION WRONG OR MISSING	CANT NOT ELABORATE MANIFIESTO	1	N/A	-MISS OPERATION	2	(P) OPERATOR METHOD	4	8	None						
400) MANIFEST (PUSH DELIVERY) IS ELABORATED	MISSING PUSH DELIVERY	CUSTOMER INSATISFACTION	1	N/A	-MISS OPERATION	2	(P) WORK METHOD	4	8	None						
410) MOVE FINISH GOOD CONTAINERS FROM SHIPPING AREA TO DISTRIBUTION CENTER	DAMAGED MATERIAL	CUSTOMER INSATISFACTION	4	N/A	-MISS OPERATION	2	(P) WORK METHOD	8	64	None						