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PPAP Package for:

Customer Name: Newark Electronics
Customer Part Number: 84AC8518
(TE Connectivity Part Number): 1-2296704-1
Date: April 2020

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Nondisclosure Agreement

If a nondisclosure agreement has been reached with your company, it will be included on the following page(s). Please review the terms of this agreement to ensure that further actions associated with information contained within this PPAP package do not violate these terms.

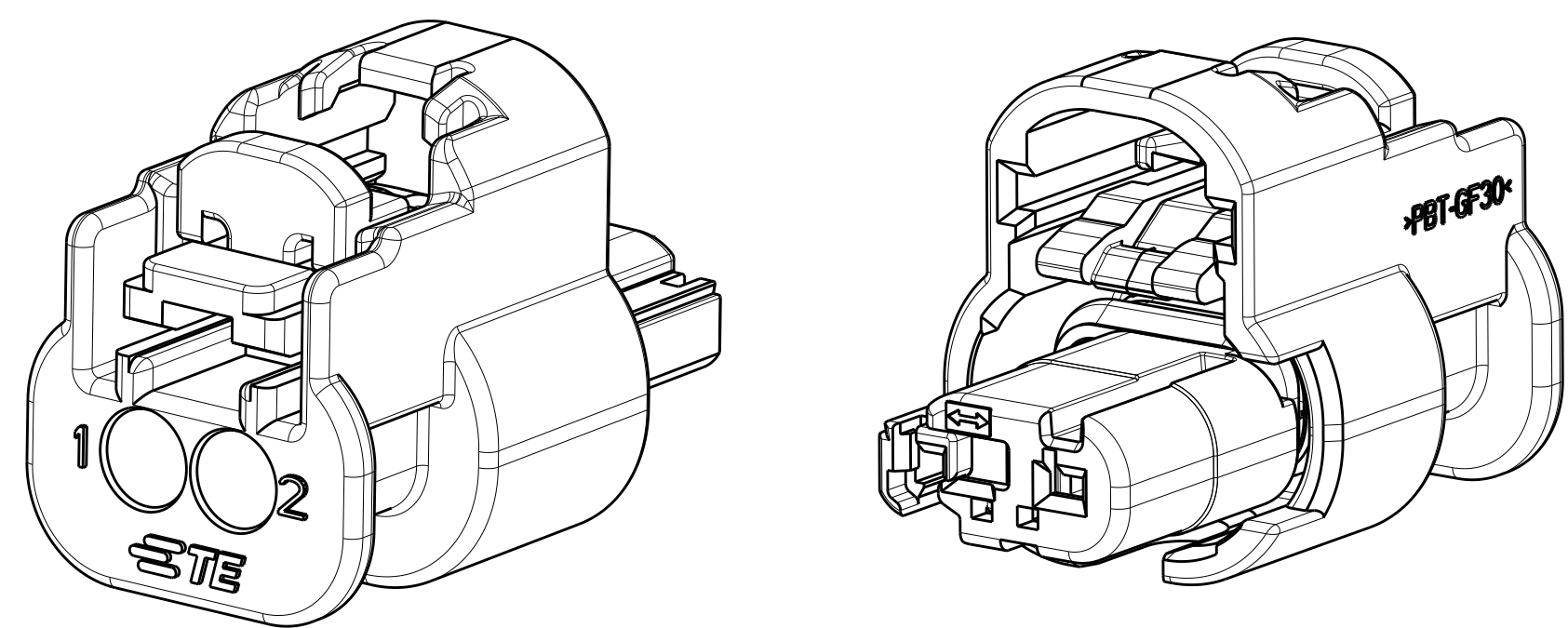
If a nondisclosure agreement HAS NOT been reached, certain documents deemed confidential by TE Connectivity will not be included in this PPAP package. These documents include but are not limited to the Design FMEA, the Process Flow Diagram, the Process FMEA and the Control Plan. These documents can be reviewed by you company but cannot be retained.



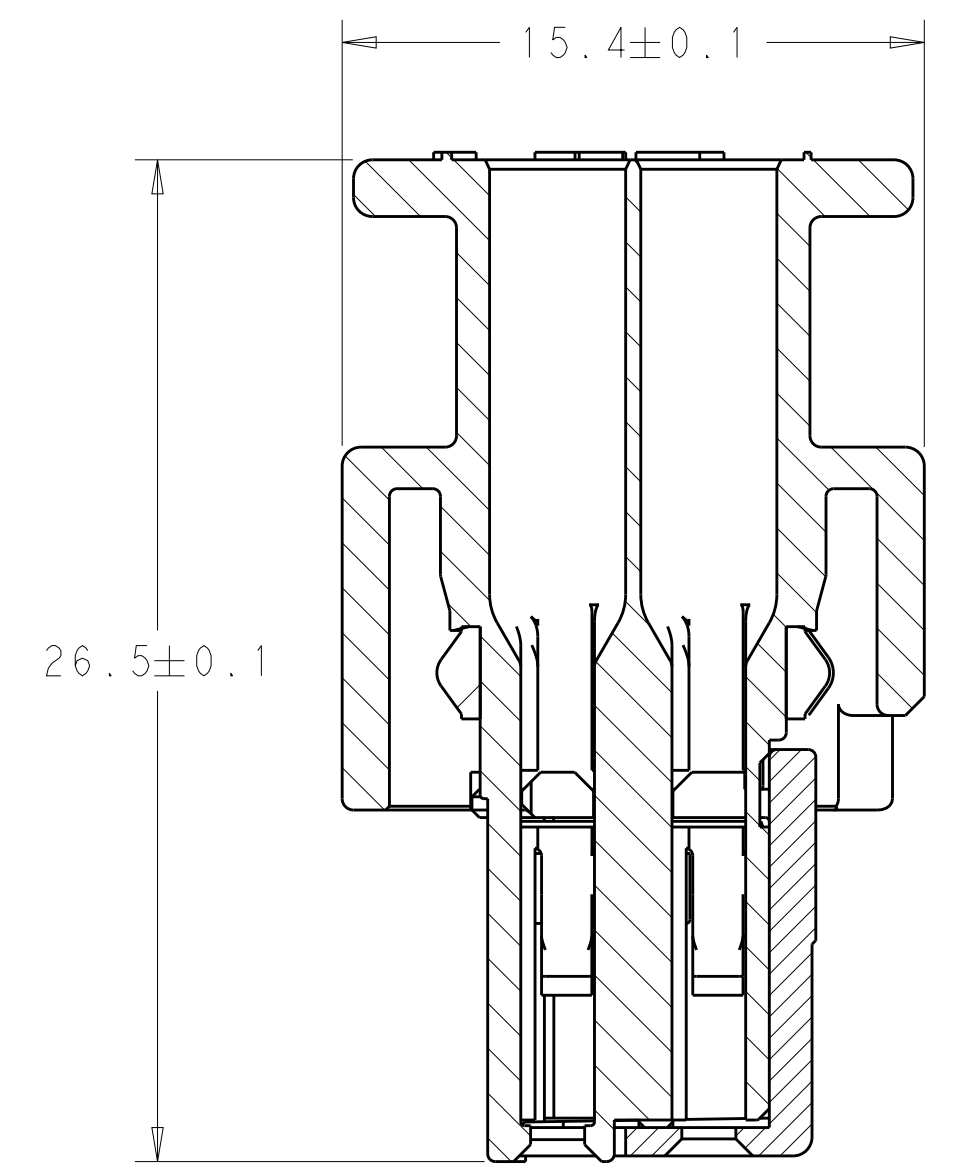
Section 1

Design Records

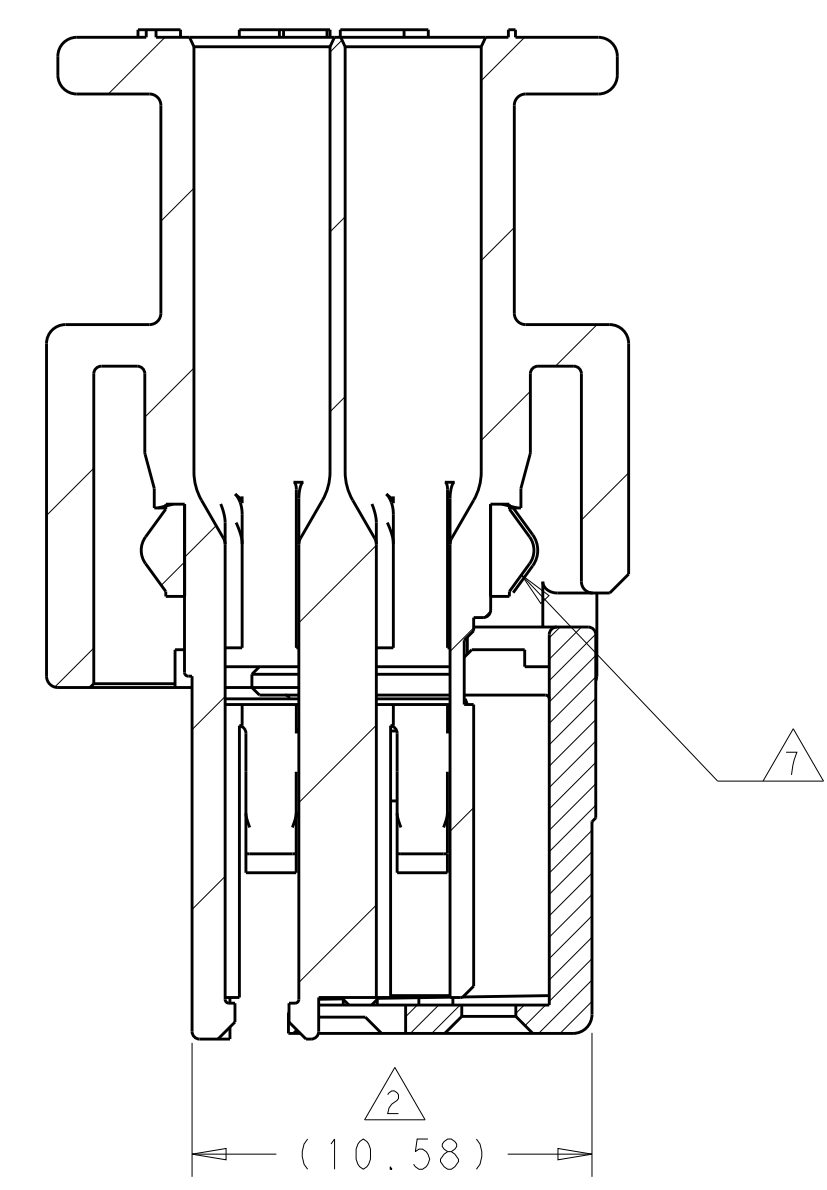
REVISIONS				
P.	LTN	DESCRIPTION	DATE	OWN APVD
A		RELEASED PER ECO-16-004253	18MAR2016	DLD MDB
A1		REVISED PER ECO-16-006018	19APR2016	DLD MDB



REF VIEW
SCALE 4:1

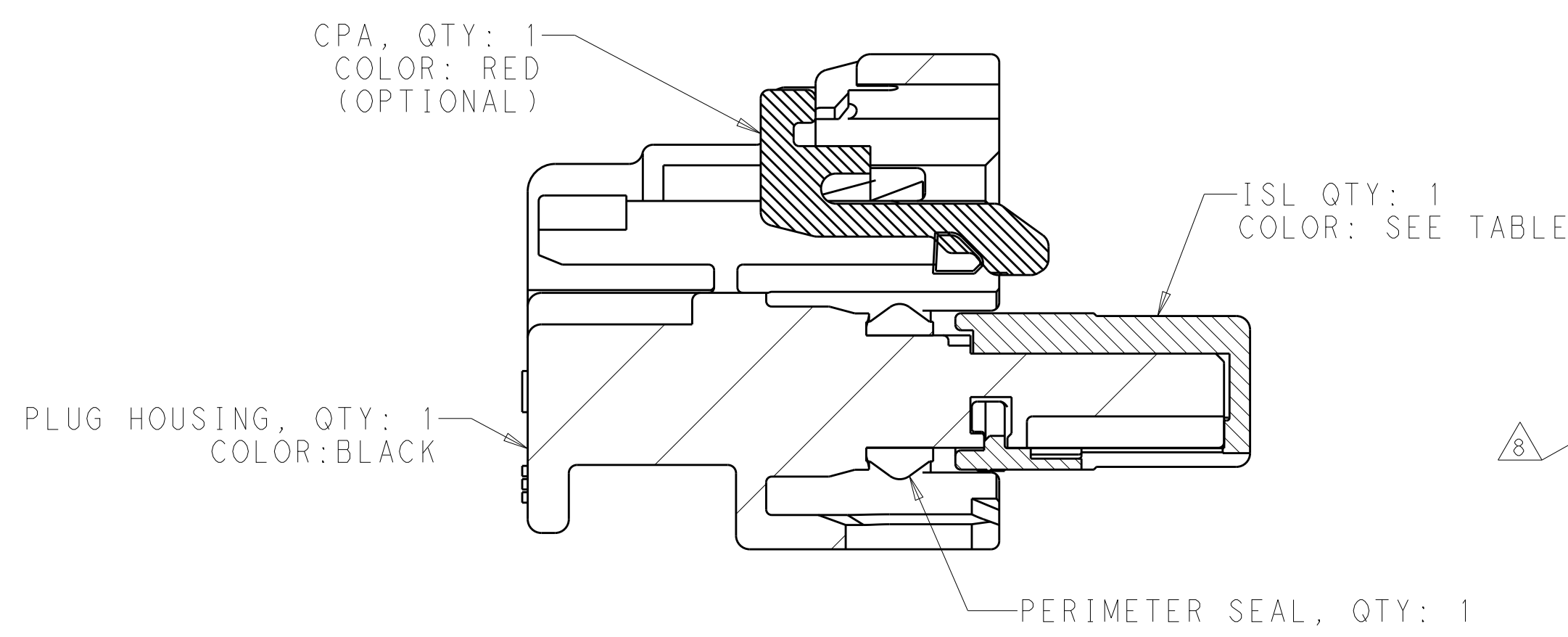


SECTION E-E
SHOWN WITH ISL IN
FINAL POSITION

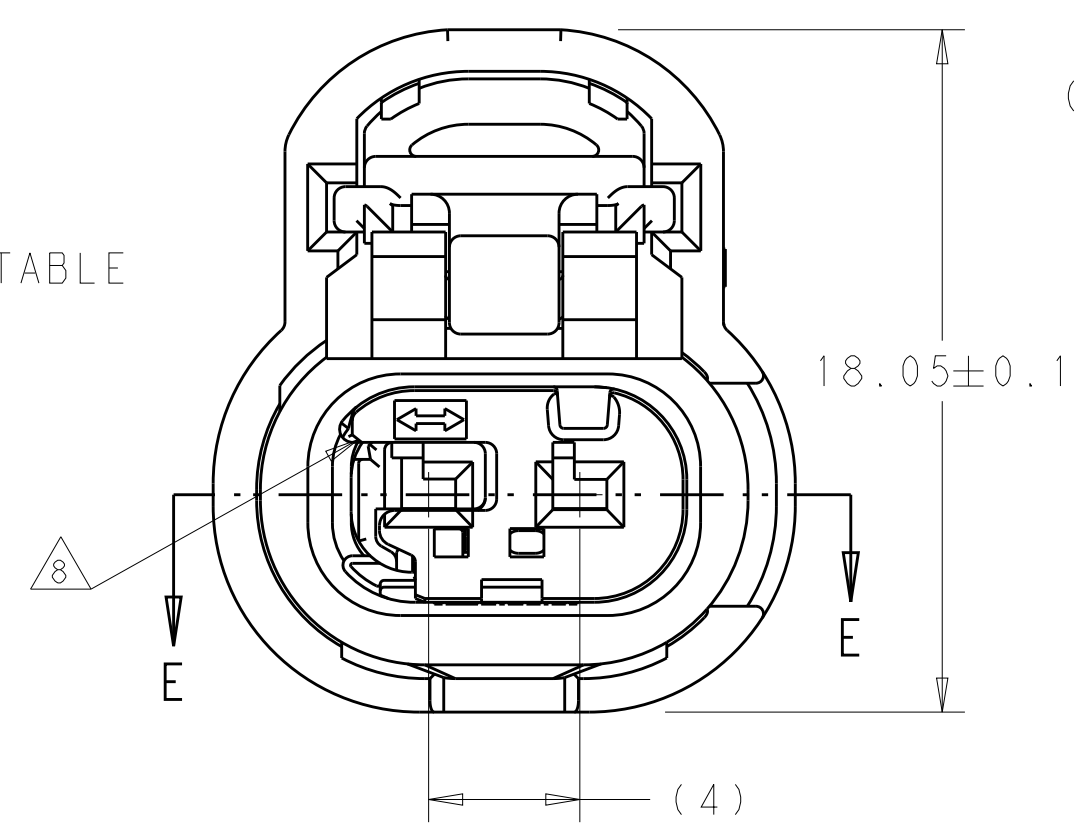


SECTION E-E
SHOWN WITH ISL IN
SHIPPING POSITION

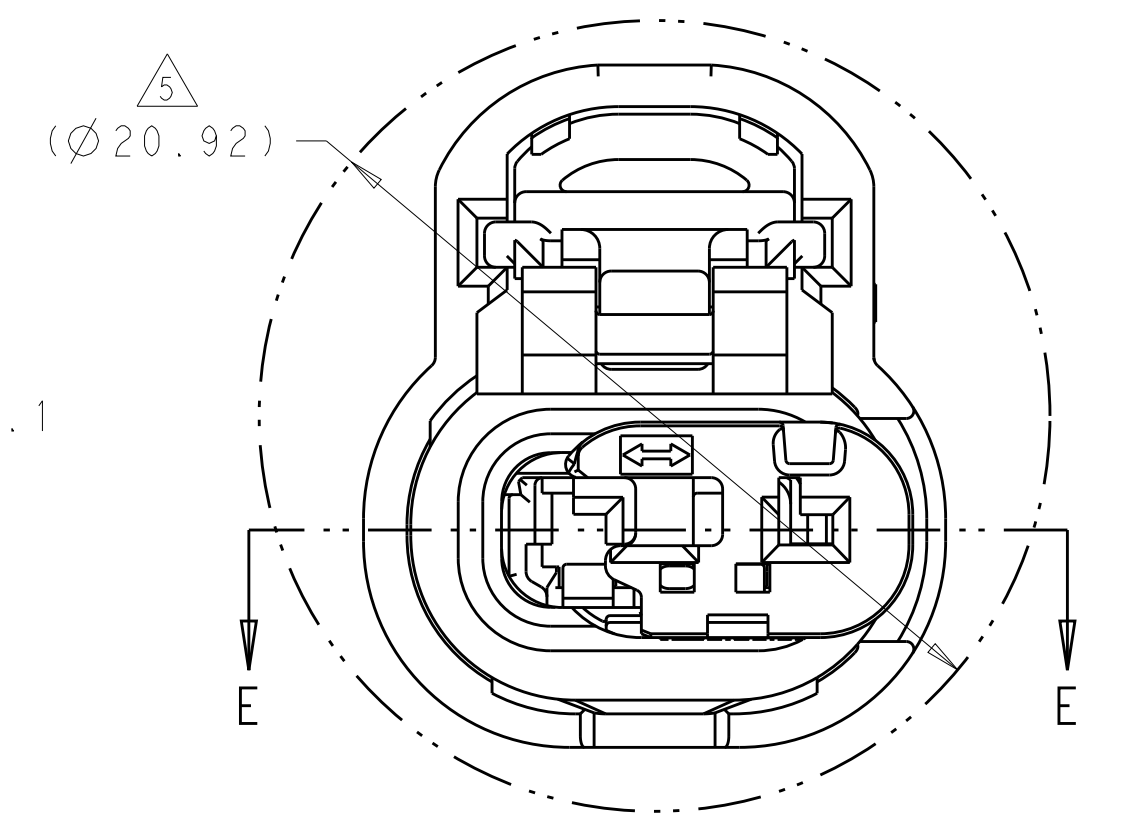
- PART NUMBER 1-2296704-1 SHOWN ON DRAWING.
- TPA AND CPA (OPTIONAL) ARE SHIPPED IN THEIR PRE-LATCHED POSITIONS. SEE INSTRUCTION SHEET 408-8968 FOR DIRECTIONS ON MOVING THE CPA AND TPA TO THE PRE-LATCHED POSITION, IF NECESSARY.
- TERMINALS SOLD SEPARATELY. FOR USE WITH TE MCON 1.2mm CLEAN BODY CONTACT WITH WIRE SEAL. SEE TE MCON 1.2-CB (CLEAN BODY) APPLICATION SPEC 114-18464 FOR CRIMP DETAILS.
- SEE USCAR DRAWING 120-S-002-1-Z01 FOR MATING INTERFACE DETAILS.
- MINIMUM FEED THROUGH CONDITION WITH 1.0mm CLEARANCE ALL AROUND.
- CONNECTOR APPLICATION ENVIRONMENT IS SUBMERSION IN ENGINE OIL. FOR REQUIRED MECHANICAL STABILITY AND FLUID COMPATIBILITY, INDIVIDUAL WIRE SEALS PRODUCED FROM ETHYLENE/ACRYLIC (AEM) BASE MATERIALS ARE REQUIRED PER TERMINAL P/N TABLE.
- CONNECTOR HAS FLUROSILICONE SEAL INTENDED TO PERFORM IN AN OIL ENVIRONMENT VIBRATION DAMPENING. SEAL CONTAINS LESS THAN 1% SILICONE VOLATILES BY WEIGHT. SEAL IS COATED WITH OSIXO DRY LUBRICANT FOR MATING PURPOSES. SEALING IS NOT GUARANTEED.
- LIFT ISL AND AWAY FROM PLUG AND MOVE THE RIGHT 2.0mm.
- NOTE REMOVED
- MATES WITH STRAIGHT EXIT WIRE DRESS, TE PN 2272168-1 AND RIGHT ANGLE EXIT WIRE DRESS, TE PN 2272169-1
- CONNECTOR IS A ONE TIME MATE CONNECTOR. THE INTEGRITY OF THE SEAL COATING MUST BE PROTECTED, AND THUS SEAL MUST REMAIN UNTOUCHED UNTIL FINAL MATE.



SECTION D-D
SHOWN WITH CPA IN
LATCHED POSITION

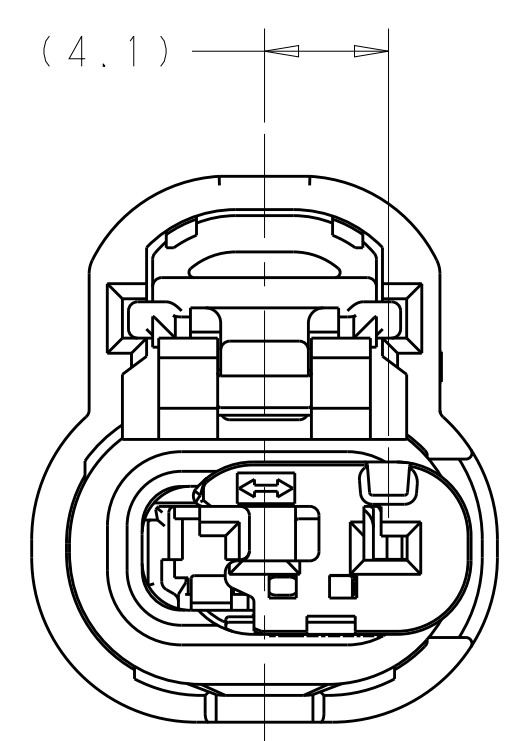


ISL SHOWN IN
FINAL POSITION



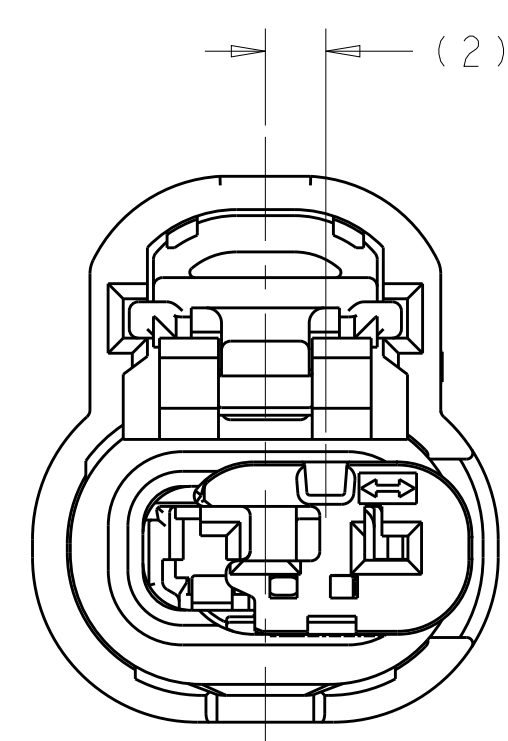
ISL SHOWN IN
PRE-LATCHED POSITION
REF ONLY

KEYING CONFIGURATIONS



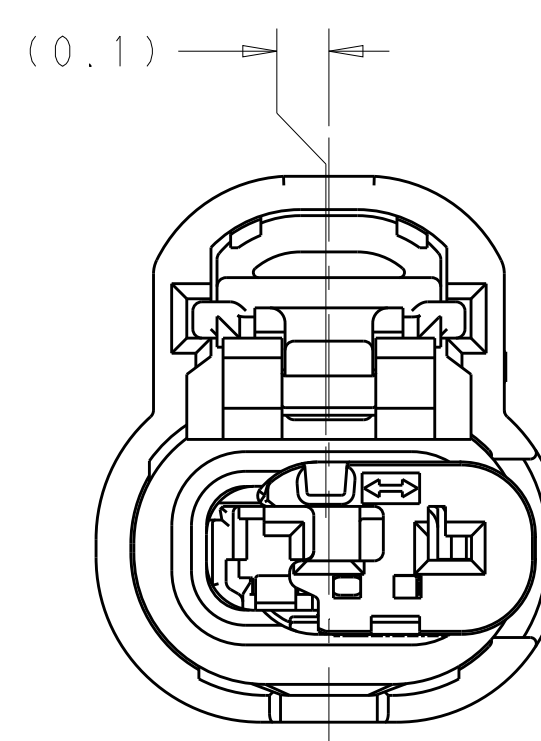
SCALE 4:1

KEYING OPTION A



SCALE 4:1

KEYING OPTION B



SCALE 4:1

KEYING OPTION C

TE MCON 1.2-CB (CLEAN BODY)		
1670146-3		
1670146-2	(0.5-0.75)	
1670146-1		
PART NUMBER	METRIC WIRE SIZE	APPLICABLE WIRE SEAL
		2138898-1

YES	DK GRAY	KEY CODE "C"	1-2296704-3
YES	LT GRAY	KEY CODE "B"	1-2296704-2
YES	BLUE	KEY CODE "A"	1-2296704-1
N/A	DK GRAY	KEY CODE "C"	2296704-3
N/A	LT GRAY	KEY CODE "B"	2296704-2
N/A	BLUE	KEY CODE "A"	2296704-1
CPA	ISL COLOR	KEY CONFIGURATION	PART NUMBER

THIS DRAWING IS A CONTROLLED DOCUMENT. OWN: M. HITCHCOCK, 05JUN2012. CHK: M.D. BROWN, 05JUN2012. APVD: M.D. BROWN, 05JUN2012.

STE TE Connectivity

NAME: PLUG ASSEMBLY, FEMALE, 2 POSITION, OIL SUBMERSIBLE

SIZE: A1, CAGE CODE: 2296704, DRAWING NO: 2296704, RESTRICTED TO: GM

RESTRICTED CUSTOMER. SCALE: 5:1, SHEET: 1 OF 1, REV: A1



Section 2

Engineering Change Documents



Product Change Notification

Current Date: 13-Nov-2019

TE Connectivity

Product Change Notification: P-19-018198

PCN Date: 11-NOV-19

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:

Multiple Part numbers. Phase 1. Americas Footprint Optimization.

Description of Changes

We hereby inform you about a transfer of tools and/or processes of the components of the Finished Goods that we ship to you to further improve our Supply Chain towards our customers. The transfer follows a strict procedure, which fully maintains quality, ability to supply and form-fit-function of the concerned products. The receiving manufacturing location operates under a certified quality management system in accordance with standard automotive requirements. These moves will be validated not to affect product FFF, tool geometry or quality performance. TE will uphold our responsibility to internally validate and approve these tools among appropriate first article dimensional and capability analysis, comparative 2-sample T-tests before and after moves, before and after CT scans where needed, and PV test as defined by TE product engineering. TE is willing to provide any such validation data to our customers as our joint non-disclosure agreement statuses allow. AMEND with PCN P-19-018058

Reason for Changes:

Product improvement. These changes are part of an overall effort from TE to improve our supply chain toward our customers and to focus each plant on core products and processes. A TE-internal release test based on the relevant part specifications will be executed before delivery and this notification serves to fulfill our notification requirements as prescribed by AIAG 4th edition. This change notification document accompanies a letter sent to your organization on September 13, 2019 signed by our Vice President of Sales and Marketing. Follow up conversations can occur upon request with your sales contact within 15 calendar days after receipt of this PCN. TE can share validation data with your organization upon request. If you have any questions or needs from this move, please contact your sales engineer within 15 days of receipt of this letter. If no response is received on this period, TE will consider this as an approval and tools must move to the new locations.

Estimated Dates:

Last Order Date (Obsolete Parts Only):	First Date To Ship (Changed Parts Only):
	03-JAN-2020
Last Ship Date (Obsolete Parts Only):	Last Date for Mixed Shipments: (Changed Parts Only):
	No Mixed Shipments

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1417746-2	NO					
1-1419168-1	NO		"V23542-G1506-D101"			
1-1419168-2	NO		"V23542-G1506-D102"			
1-1419168-3	NO		"V23542-G1506-D103"			
1-1419168-5	NO					
1-1438096-8	NO					
1-1438103-3	NO					
1-1438103-9	NO					
1-1438153-1	NO					
1-1438153-3	NO					
1-1438153-4	NO					
1-1438153-7	NO					
1-1438153-8	NO					
1-1438435-3	NO					
1-1438693-4	NO					
1-1438693-6	NO					
1-1438693-8	NO					
1-1438693-9	NO					
1-1438841-1	NO					
1-1438841-2	NO					
1-1438841-7	NO					
1-1456426-1	NO					
1-1456426-2	NO					
1-1456426-5	NO					
1-1456426-6	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1456985-0	NO					
1-1587041-4	NO					
1-1670915-1	NO					
1-1670917-1	NO					
1-1718644-5	NO					
1-1732466-0	NO					
1-1924067-1	NO					
1-1924067-2	NO					
1-1924067-3	NO					
1-1924067-4	NO					
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1-2103177-1	NO					
1-2103177-2	NO					
1-2103177-4	NO					
1-2138020-0	NO					
1-2203455-0	NO					
1-2203515-0	NO					
1-2203515-1	NO					
1-2203515-3	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
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1-2203515-7	NO					
1-2203529-2	NO					
1-2203654-2	NO					
1-2203654-7	NO					
1-2203663-0	NO					
1-2203663-6	NO					
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1-638514-4	NO					
1-638514-5	NO					
1-638514-6	NO					
1-776905-1	NO					
1-776905-2	NO					
1-776905-3	NO					
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Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1438098-1	NO					
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1438136-1	NO					
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1438136-5	NO					
1438426-1	NO					
1438426-3	NO					
1438435-2	NO					
1438435-4	NO					
1438435-7	NO					
1438435-9	NO					
1438442-4	NO					
1438483-1	NO					
1438486-1	NO					
1438545-1	NO					
1438617-1	NO					
1438618-1	NO					
1438618-3	NO					
1438619-1	NO					
1438620-1	NO					
1438691-1	NO					
1438691-2	NO					
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1438691-8	NO					
1438693-1	NO					
1438693-5	NO					
1438950-4	NO					
1438950-6	NO					
1438950-7	NO					
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1456630-2	NO					
1456897-2	NO					
1456897-5	NO					
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1456983-2	NO					
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1488992-6	NO					
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1557304-1	NO					
1557321-1	NO					
1557404-1	NO					
1557405-1	NO					
1557406-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
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1557408-3	NO					
1557409-3	NO					
1557409-4	NO					
1557410-2	NO					
1557410-3	NO					
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1557485-3	NO					
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184016-1	NO					
184022-1	NO					
184026-1	NO					
184032-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
184034-1	NO					
184042-1	NO					
184042-2	NO					
184046-1	NO		"EM3604-000", "AMP-0-0184046-1"			
184050-2	NO					
184060-1	NO					
184115-1	NO					
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184116-2	NO					
184124-1	NO					
184139-1	NO					
184140-1	NO					
184141-1	NO					
184207-1	NO					
184212-1	NO					
184212-2	NO					
184214-1	NO					
184216-1	NO					
184220-1	NO					
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1924292-6	NO					
1924484-1	NO					
1924513-1	NO					
1924674-9	NO					
1924675-1	NO					
1924675-4	NO					
1924683-1	NO					
1924684-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1924685-1	NO					
1924686-1	NO					
1924689-1	NO					
1924783-4	NO					
1924940-5	NO					
1924940-6	NO					
1924941-7	NO					
1924941-9	NO					
1924942-1	NO					
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1924942-5	NO					
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1924943-1	NO					
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1924943-5	NO					
1924943-6	NO					
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1924944-4	NO					
1924944-6	NO					
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2-1438103-7	NO					
2-1438103-8	NO					
2-1438136-3	NO					
2-1438153-1	NO					
2-1438454-1	NO					
2-1438950-1	NO					
2-1670917-1	NO					
2-1718643-1	NO					
2-1718644-1	NO					
2-1823608-4	NO					
2-1823608-5	NO					
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Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
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2-2840672-1	NO					
2035383-3	NO					
2098198-5	NO					
2098256-7	NO					
2098269-1	NO					
2098269-4	NO					
2098541-1	NO					
2098541-2	NO					
2098541-5	NO					
2098541-6	NO					
2098641-1	NO					
2098641-2	NO					
2098641-5	NO					
2098641-6	NO					
2098863-2	NO					
2098863-3	NO					
2098863-4	NO					
2098864-3	NO					
2098865-1	NO					
2098865-2	NO					
2098865-3	NO					
2098865-4	NO					
2098865-5	NO					
2098866-1	NO					
2098866-3	NO					
2098866-4	NO					
2098866-5	NO					
2098866-7	NO					
2098922-1	NO					
2098922-2	NO					
2098922-6	NO					
2098922-8	NO					
2098922-9	NO					
2098923-5	NO					
2098923-6	NO					
2098923-8	NO					
2098923-9	NO					
2098924-5	NO					
2098924-7	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2098924-8	NO					
2103022-1	NO					
2103177-5	NO					
2103385-4	NO					
2103628-1	NO					
2103628-2	NO					
2103628-4	NO					
2103628-5	NO					
2103628-6	NO					
2103628-7	NO					
2103741-2	NO					
2103741-3	NO					
2103742-2	NO					
2103742-3	NO					
2103743-2	NO					
2103743-3	NO					
2103744-1	NO					
2138020-1	NO					
2138020-2	NO					
2138020-3	NO					
2138020-4	NO					
2138020-5	NO					
2138020-6	NO					
2138020-8	NO					
2138020-9	NO					
2138041-1	NO					
2138041-2	NO					
2138043-6	NO					
2138161-1	NO					
2138161-2	NO					
2138161-3	NO					
2177376-1	NO					
2203109-6	NO					
2203455-1	NO					
2203455-7	NO					
2203455-8	NO					
2203455-9	NO					
2203515-5	NO					
2203516-7	NO					
2203516-8	NO					
2203516-9	NO					
2203663-5	NO					
2203773-7	NO					
2203919-1	NO					
2203973-2	NO					
2203973-5	NO					
2203973-6	NO					
2203973-7	NO					
2203973-8	NO					
2203973-9	NO					
2272033-1	NO					
2272723-1	NO					
2272723-5	NO					
2272723-9	NO					
2289050-1	NO					
2289050-2	NO					
2294430-1	NO					
2294430-5	NO					
2296698-1	NO					
2296700-3	NO					
2296700-6	NO					
2296701-1	NO					
2296701-3	NO					
2300498-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2300498-2	NO					
2300498-6	NO					
2300498-7	NO					
2301631-2	NO					
2304305-2	NO					
2304306-1	NO					
2306039-1	NO					
2306271-1	NO					
2306883-1	NO					
2306884-1	NO					
2307223-1	NO					
2307235-1	NO					
2310207-1	NO					
2310239-1	NO					
2310242-1	NO					
2310242-2	NO					
2311069-1	NO					
2311069-3	NO					
2311069-4	NO					
2311069-5	NO					
2311069-6	NO					
2311071-1	NO					
2311073-9	NO					
2311074-1	NO					
2311075-1	NO					
2311077-1	NO					
2311077-2	NO					
2311084-1	NO					
2311084-2	NO					
2311084-3	NO					
2316020-1	NO					
2316023-1	NO					
2321028-1	NO					
2323660-1	NO					
2323661-1	NO					
2324336-1	NO					
2327375-1	NO					
2327375-2	NO					
2327611-1	NO					
2327611-2	NO					
2327904-1	NO					
2327904-2	NO					
2331832-1	NO					
2332200-6	NO					
2332200-7	NO					
2332470-1	NO					
2335239-1	NO					
2336315-1	NO					
2336318-1	NO					
2336334-1	NO					
2336677-1	NO					
2337306-1	NO					
2337311-1	NO					
2339949-1	NO					
2339949-2	NO					
2339949-3	NO					
2348609-1	NO					
2348609-3	NO					
2349476-1	NO					
2840368-2	NO					
2840595-1	NO					
2840624-1	NO					
2840789-1	NO					
2840822-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2840837-1	NO					
2840838-1	NO					
2840960-1	NO					
2840960-2	NO					
3-1419171-9	NO					
3-1438099-1	NO					
3-1438099-4	NO					
3-1438099-5	NO					
3-1438103-1	NO					
3-1438103-3	NO					
3-1438103-4	NO					
3-1438103-8	NO					
3-1438691-1	NO					
3-1438693-1	NO					
3-1438693-2	NO					
3-1438693-6	NO					
3-1438841-2	NO					
3-1438841-5	NO					
3-1438841-8	NO					
3-1438950-5	NO					
3-1587041-0	NO					
3-1924513-2	NO					
3-1924513-6	NO					
3-1924513-8	NO					
3-1924672-4	NO					
3-1924672-7	NO					
3-1924939-0	NO					
3-1924939-1	NO					
3-1924939-4	NO					
3-1924939-5	NO					
3-1924939-8	NO					
3-2035383-3	NO					
3-2035383-5	NO					
3-2035383-7	NO					
3-2035383-8	NO					
3-2098269-1	NO					
3-2098269-2	NO					
3-2098269-3	NO					
3-2098269-6	NO					
3-2098269-7	NO					
3-2098269-8	NO					
3-2098922-0	NO					
3-2098922-3	NO					
3-2098922-5	NO					
3-2098922-7	NO					
3-2138020-1	NO					
3-2138020-2	NO					
3-2138020-4	NO					
3-2203654-2	NO					
3-2203654-4	NO					
3-2203654-5	NO					
3-2203663-1	NO					
3-2203663-3	NO					
3-2311078-0	NO					
3-2311078-1	NO					
3-2311078-2	NO					
3-2311078-3	NO					
3-2311078-4	NO					
3-2311078-5	NO					
3-2311078-6	NO					
3-2311078-7	NO					
3-2311078-9	NO					
3-2311082-0	NO					
3-2311082-2	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
3-2311082-5	NO					
3-2311082-6	NO					
3-2311082-7	NO					
3-2311082-8	NO					
3-2311082-9	NO					
319234-2	NO					
4-1419171-0	NO					
4-1419171-1	NO					
4-1438090-7	NO					
4-1438099-7	NO					
4-1438099-8	NO					
4-1438136-2	NO					
4-1438136-3	NO					
4-1438691-1	NO					
4-1438691-6	NO					
4-1438693-2	NO					
4-1438693-3	NO					
4-1438693-5	NO					
4-1438841-0	NO					
4-1438841-1	NO					
4-1438841-5	NO					
4-1456426-1	NO					
4-1488991-1	NO					
4-1488991-2	NO					
4-1587041-6	NO					
4-1924067-1	NO					
4-1924067-2	NO					
4-1924225-7	NO					
4-1924225-8	NO					
4-1924292-1	NO					
4-1924513-2	NO					
4-1924513-3	NO					
4-1924513-4	NO					
4-1924513-5	NO					
4-1924513-6	NO					
4-1924513-7	NO					
4-1924513-8	NO					
4-1924513-9	NO					
4-1924783-1	NO					
4-1924783-2	NO					
4-1924783-3	NO					
4-1924783-4	NO					
4-1924783-9	NO					
4-1924939-2	NO					
4-1924939-3	NO					
4-1924939-5	NO					
4-1924939-6	NO					
4-1924939-7	NO					
4-1924939-8	NO					
4-1924939-9	NO					
4-2035383-1	NO					
4-2035383-6	NO					
4-2035383-7	NO					
4-2035383-8	NO					
4-2035383-9	NO					
4-2098269-1	NO					
4-2098269-2	NO					
4-2098269-5	NO					
4-2098269-6	NO					
4-2098269-7	NO					
4-2098269-8	NO					
4-2098541-1	NO					
4-2098541-2	NO					
4-2098559-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
4-2098641-1	NO					
4-2098641-2	NO					
4-2098922-1	NO					
4-2098922-2	NO					
4-2098922-3	NO					
4-2098922-4	NO					
4-2098922-6	NO					
4-2098922-8	NO					
4-2103015-1	NO					
4-2103015-2	NO					
4-2103015-4	NO					
4-2103015-5	NO					
4-2103015-6	NO					
4-2103177-1	NO					
4-2103177-2	NO					
4-2103177-4	NO					
4-2103177-5	NO					
4-2103177-6	NO					
4-2103177-7	NO					
4-2103350-1	NO					
4-2103350-2	NO					
4-2103350-4	NO					
4-2103350-5	NO					
4-2103587-1	NO					
4-2103587-2	NO					
4-2203654-2	NO					
4-2203654-3	NO					
4-2203654-6	NO					
4-2203654-7	NO					
4-2203654-8	NO					
4-2203654-9	NO					
4-2203663-3	NO					
4-2203663-4	NO					
4-2203663-6	NO					
4-2203663-7	NO					
4-2203663-8	NO					
4-2203663-9	NO					
4-2272003-1	NO					
4-2272003-2	NO					
4-2272003-3	NO					
4-2272003-4	NO					
4-2272003-5	NO					
4-2272004-1	NO					
4-2272004-2	NO					
4-2272005-1	NO					
4-2272005-2	NO					
4-2272173-1	NO					
4-2272173-2	NO					
4-2272173-3	NO					
4-2840548-1	NO					
4-2840548-2	NO					
5-1438099-1	NO					
5-1438129-9	NO					
5-1438691-4	NO					
5-1438691-6	NO					
5-1438691-7	NO					
5-1438841-9	NO					
5-1557773-1	NO					
5-1557773-2	NO					
5-1557773-3	NO					
5-1557773-5	NO					
5-1557774-1	NO					
5-1557774-3	NO					
5-1557774-4	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
5-1557774-5	NO					
5-1557774-7	NO					
5-1557802-1	NO					
5-1557803-1	NO					
5-1557911-1	NO					
5-1557915-1	NO					
5-1557921-1	NO					
5-1557922-1	NO					
5-1587041-6	NO					
5-1587041-7	NO					
5-1924225-3	NO					
5-1924225-5	NO					
5-1924225-7	NO					
5-1924225-9	NO					
5-1924513-0	NO					
5-1924513-1	NO					
5-1924513-3	NO					
5-1924513-5	NO					
5-1924513-6	NO					
5-1924513-8	NO					
5-1924783-0	NO					
5-1924783-2	NO					
5-1924783-3	NO					
5-1924783-4	NO					
5-1924783-5	NO					
5-1924939-0	NO					
5-1924939-1	NO					
5-1924939-4	NO					
5-1924939-5	NO					
5-1924939-6	NO					
5-1924939-7	NO					
5-1924939-9	NO					
5-2035383-0	NO					
5-2035383-3	NO					
5-2035383-6	NO					
5-2098269-0	NO					
5-2098922-9	NO					
5-2103177-1	NO					
5-2203455-5	NO					
5-2203654-0	NO					
5-2203654-1	NO					
5-2203654-3	NO					
5-2203654-6	NO					
5-2203654-7	NO					
5-2203654-8	NO					
5-2203654-9	NO					
5-2203663-0	NO					
5-2203663-1	NO					
5-2203663-3	NO					
5-2203663-8	NO					
5-2203663-9	NO					
5-2272723-1	NO					
5-2272723-5	NO					
5-2272723-7	NO					
5-2272723-9	NO					
5-2311082-3	NO					
5-2311082-4	NO					
5-2311082-5	NO					
5-2311082-6	NO					
6-1438090-7	NO					
6-1438891-0	NO					
6-1438841-3	NO					
6-1438841-5	NO					
6-1438841-7	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
6-1924225-0	NO					
6-1924225-1	NO					
6-1924225-2	NO					
6-1924225-5	NO					
6-1924225-6	NO					
6-1924225-7	NO					
6-1924225-8	NO					
6-1924783-0	NO					
6-1924783-2	NO					
6-1924783-6	NO					
6-1924783-7	NO					
6-1924783-9	NO					
6-1924939-0	NO					
6-1924939-1	NO					
6-1924939-2	NO					
6-1924939-3	NO					
6-1924939-4	NO					
6-1924939-5	NO					
6-1924939-6	NO					
6-1924939-7	NO					
6-1924939-8	NO					
6-1924939-9	NO					
6-2035383-0	NO					
6-2035383-2	NO					
6-2035383-3	NO					
6-2035383-5	NO					
6-2035383-6	NO					
6-2035383-9	NO					
6-2098922-0	NO					
6-2098922-6	NO					
6-2098922-7	NO					
6-2098922-8	NO					
6-2103177-4	NO					
6-2203654-0	NO					
6-2203654-6	NO					
6-2203654-7	NO					
6-2203654-8	NO					
6-2203654-9	NO					
6-2203663-0	NO					
6-2203663-2	NO					
6-2203663-5	NO					
6-2203663-6	NO					
6-2203663-7	NO					
6-2203663-9	NO					
6-2272723-0	NO					
638514-1	NO					
638514-8	NO					
7-1438136-2	NO					
7-1438136-3	NO					
7-1438691-4	NO					
7-1438691-7	NO					
7-1438691-8	NO					
7-1438691-9	NO					
7-1438841-1	NO					
7-1438841-2	NO					
7-1438841-3	NO					
7-1438841-5	NO					
7-1438841-6	NO					
7-1456659-0	NO					
7-1456659-1	NO					
7-1456659-3	NO					
7-1456659-7	NO					
7-1456659-8	NO					
7-1456659-9	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1924225-0	NO					
7-1924225-1	NO					
7-1924225-2	NO					
7-1924225-3	NO					
7-1924783-0	NO					
7-1924783-1	NO					
7-1924783-2	NO					
7-1924783-3	NO					
7-1924783-4	NO					
7-1924783-5	NO					
7-1924783-6	NO					
7-1924783-7	NO					
7-1924783-8	NO					
7-1924783-9	NO					
7-1924939-0	NO					
7-2035383-0	NO					
7-2035383-2	NO					
7-2035383-3	NO					
7-2035383-8	NO					
7-2098922-2	NO					
7-2098922-3	NO					
7-2098922-6	NO					
7-2098922-8	NO					
7-2203654-0	NO					
7-2203654-1	NO					
7-2203654-2	NO					
7-2203654-3	NO					
7-2203654-9	NO					
7-2203663-0	NO					
7-2203663-1	NO					
776905-8	NO					
8-1438129-4	NO					
8-1438129-5	NO					
8-1438136-2	NO					
8-1438691-0	NO					
8-1438691-1	NO					
8-1438691-2	NO					
8-1438691-3	NO					
8-1438691-4	NO					
8-1438691-5	NO					
8-1438691-7	NO					
8-1438691-8	NO					
8-1438841-3	NO					
8-1438841-4	NO					
8-1438841-5	NO					
8-1438950-3	NO					
8-1438950-5	NO					
8-1438950-6	NO					
8-1456659-0	NO					
8-1456659-7	NO					
8-1456659-9	NO					
8-1924783-1	NO					
8-2035383-0	NO					
8-2035383-3	NO					
8-2035383-9	NO					
828904-1	NO		"CF0547-000", "AMP-0-0828904-1", "80.264.00", "8202609390", "8202611101"			
828904-2	NO					
828922-1	NO		"EG9737-000", "AMP-0-0828922-1", "80.263.00", "820A-37376"			
828922-2	NO					
9-1438090-6	NO					
9-1438136-6	NO					
9-1438841-4	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
9-1438841-7	NO					
9-1456659-2	NO					
9-1456659-7	NO					
9-2035383-4	NO					
9-2035383-5	NO					
9-2035383-6	NO					
9-2035383-7	NO					
963292-1	NO					
963293-1	NO					
963530-1	NO		"1072609867", "820P-37717", "820P-37904", "43119-000"			
963531-1	NO		"1072607258"			
964972-1	NO					
967067-1	NO		"0-0967067-1", "EG9740-000", "AMP-0-0967067-1"			
967067-2	NO					



Product Change Notification

Current Date: 13-Nov-2019

TE Connectivity

Product Change Notification: P-19-018199

PCN Date: 11-NOV-19

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:
Multiple Part numbers. Phase 1. Americas Footprint Optimization.

Description of Changes
We hereby inform you about a transfer of tools and/or processes of the components of the Finished Goods that we ship to you to further improve our Supply Chain towards our customers. The transfer follows a strict procedure, which fully maintains quality, ability to supply and form-fit-function of the concerned products. The receiving manufacturing location operates under a certified quality management system in accordance with standard automotive requirements. These moves will be validated not to affect product FFF, tool geometry or quality performance. TE will uphold our responsibility to internally validate and approve these tools among appropriate first article dimensional and capability analysis, comparative 2-sample T-tests before and after moves, before and after CT scans where needed, and PV test as defined by TE product engineering. TE is willing to provide any such validation data to our customers as our joint non-disclosure agreement statuses allow. AMEND with PCN P-19-018058

Reason for Changes:
Product improvement. These changes are part of an overall effort from TE to improve our supply chain toward our customers and to focus each plant on core products and processes. A TE-internal release test based on the relevant part specifications will be executed before delivery and this notification serves to fulfill our notification requirements as prescribed by AIAG 4th edition. This change notification document accompanies a letter sent to your organization on September 13, 2019 signed by our Vice President of Sales and Marketing. Follow up conversations can occur upon request with your sales contact within 15 calendar days after receipt of this PCN. TE can share validation data with your organization upon request. If you have any questions or needs from this move, please contact your sales engineer within 15 days of receipt of this letter. If no response is received on this period, TE will consider this as an approval and tools must move to the new locations.

Estimated Dates:	
Last Order Date (Obsolete Parts Only):	First Date To Ship (Changed Parts Only):
	03-JAN-2020
Last Ship Date (Obsolete Parts Only):	Last Date for Mixed Shipments: (Changed Parts Only):
	No Mixed Shipments

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1438356-1	NO					
1-1438356-8	NO					
1-1438454-1	NO					
1-1924940-1	NO					
1-1924940-3	NO					
1-1924940-7	NO					
1-1924940-8	NO					
1-1924940-9	NO					
1-2203312-1	NO					
1-2203312-2	NO					
1-2203312-3	NO					
1-2203773-3	NO					
1438129-1	NO					
1438129-2	NO					
1438129-3	NO					
1456554-1	NO					
1557407-2	NO					
1557407-3	NO					
1557801-1	NO					
1557801-2	NO					
1557801-3	NO					
1557801-4	NO					
1557873-1	NO					
1587902-2	NO					
1670120-1	NO					
1670120-2	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
184002-1	NO					
184020-1	NO					
184097-1	NO					
184099-1	NO					
184344-1	NO					
184471-6	NO					
184471-8	NO					
2-1438693-0	NO					
2-1438693-1	NO					
2-1438693-8	NO					
2-1438693-9	NO					
2-1456659-4	NO					
2-1924225-9	NO					
2098557-1	NO					
2098557-2	NO					
2098557-4	NO					
2098557-7	NO					
2098559-5	NO					
2098559-6	NO					
2098559-7	NO					
2098559-8	NO					
2098863-5	NO					
2098863-6	NO					
2098863-7	NO					
2098863-8	NO					
2098863-9	NO					
2103149-1	NO					
2103149-4	NO					
2103149-7	NO					
2103534-1	NO					
2103534-2	NO					
2103534-4	NO					
2138089-1	NO					
2203654-5	NO					
2203654-9	NO					
2272763-1	NO					
2311072-1	NO					
2321027-1	NO					
2324337-1	NO					
3-1438136-4	NO					
3-1924783-0	NO					
3-1924783-7	NO					
3-1924783-8	NO					
3-1924783-9	NO					
4-2098557-1	NO					
4-2311082-0	NO					
4-2311082-1	NO					
4-2311082-2	NO					
4-2311082-4	NO					
4-2311082-5	NO					
4-2311082-6	NO					
4-2311082-7	NO					
4-2311082-8	NO					
5-1456659-3	NO					
5-1456659-8	NO					
5-1557909-1	NO					
5-1557910-1	NO					
5-1557910-2	NO					
5-1924670-0	NO					
5-2304580-1	NO					
6-1438136-2	NO					
6-1438136-8	NO					
6-1438136-9	NO					
6-1587041-6	NO					
6-1587041-9	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
776671-1	NO					
776834-3	NO					
776834-4	NO					
776834-5	NO					
776887-2	NO					
776887-3	NO					
776887-5	NO					
9-1438691-0	NO					
9-1438691-1	NO					
9-1438691-3	NO					
9-2301631-2	NO					
963294-1	NO					



Section 3

Customer Engineering Approval



ENGINEERING SAMPLE EVALUATION REPORT

PART NAME: PLUG ASSEMBLY, 5 POSITION, 1.2mm MCON, High Performance CPA Mold Move		PART NO.: See table below in "Change Details"	
SUBMITTED BY: Stacie Ice		CURRENT MANUFACTURING SITE: Pegg Road, Greensboro, NC	TOOL MOVE:
		FUTURE MANUFACTURING SITE: Empalme, MX	PROCESS CHANGE:
			MATERIAL/MATERIAL SUPPLIER CHANGE:
			CAPACITY TOOL:
SUPPLIER: TE Connectivity		3/3/2020	MADE TO DRAWING DATED: GU5T-14A464-AA

CHANGE DETAILS: Greensboro Consolidation

As part of the Greensboro Consolidation, TE is moving the 5P MCON High Performance CPA mold (Mold M487888) from Pegg Road, Greensboro, NC to Empalme, MX. [This document is intended to obtain final approval for the testing performed to move the mold.](#)

Ford Part Number	TE Part Number (Parent)	Component	Mold/Die Number
GU5T-14A464-AB	1-2300499-1	1pc MCON CPA	M487888
HU5T-14A464-PB	1-2300499-2	1pc MCON CPA	M487888

APPROVED:	<input checked="" type="checkbox"/>	PRODUCT ENGINEERING SIGNATURE*: <i>J. Chappell</i>	DATE: Mar 20, 2020
REJECTED:	<input type="checkbox"/>	JCHAPP19 (Mar 20, 2020)	

IDENTIFY WITH ▾ REMARKS AFFECTING PRODUCT ENGINEERING CRITICAL REQUIREMENTS

*By signing this document, you state that you have verified the physical part/s with the drawing/s and agree with key dimensional data, notes and appearance.

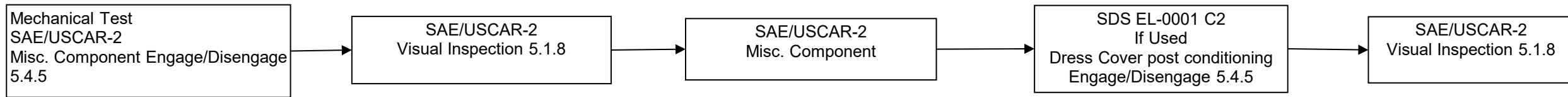


Design Verification Plan and Report

System: CPSC 18.01.07 Connectors		Ford part number (s): See ESER Tab		Model Year and Program: Multiple		Ford Design Engineer: JCHAPP19 <i>Sh. Chapple</i> <small>JCHAPP19 (Mar 20, 2020)</small>			
Temperature Class	T4	T1, T2, T3, T4 T5	Supplier: TE Connectivity		Ford Design Engineer Approval Mar 20, 2020				
Vibration Class	V4	V1, V2, V3, V4, V5	Reason for Validation:	Tool Transfer	Part Level:	PV - production		Plan: 2/4/2020	Report: 3/3/2020
Sealing Class	S3	S1, S2, S3							

Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Remarks:
				Required	Tested	Sched.	Actual	

Group E -Mechanical Test Misc. Component Engage/Disengage 5.9.5



E-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV	10	10	2/12/2020	Test Request: 20200194ACL
E-2. Misc. Component Engage/Disengage 5.4.5	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	Max	Min	Ave					
E-2.d CPA Engage (Pre-set to Lock) SAE/USCAR-2, 5.4.5.2.3 A	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	11.00N 135.20N	5.46N 120.92N	6.82N 126.97N	PV	10	10	2/12/2020	Mated Unmated
E-2.e CPA Disengage (Lock to preset) SAE/USCAR-2, 5.4.5.2.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	11.19N	9.67N	10.36N				2/12/2020	
E-2.f CPA Disengage (Remove) SAE/USCAR-2, 5.4.5.2.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	151.55N	136.32N	143.53N	PV	10	10	2/12/2020	
E-5. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV	10	10	2/12/2020	



Section 4

Design FMEA

See Section A for nondisclosure conditions.

The Design FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.



Section 5

Process Flow Diagram

See Section A for nondisclosure conditions.

The Process Flow Diagram, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.



Section 6

Process FMEA

See Section A for nondisclosure conditions.

The Process FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.



Section 7

Control Plan

See Section A for nondisclosure conditions.
The Control Plan, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 8

Measurement System Analysis



Gage Repeatability and Reproducibility (ANOVA)

Method: Externas - Internas	Equipment: Vernier	Elaborated Date: January 24, 2020 STANDARD RECORDS 2020-0273
Trainer: Miguel Rodriguez	ID Equipment: EEVE-426	
Area: MOLDEO	Sample Code: Moldeo-Vernier	
	Plant: Plant 2	

Number	Name
Operator A: 55694	Guillermo Hernandez
Operator B: 110596	Suseth Rodriguez
Operator C: 89173	Gretel Borbon

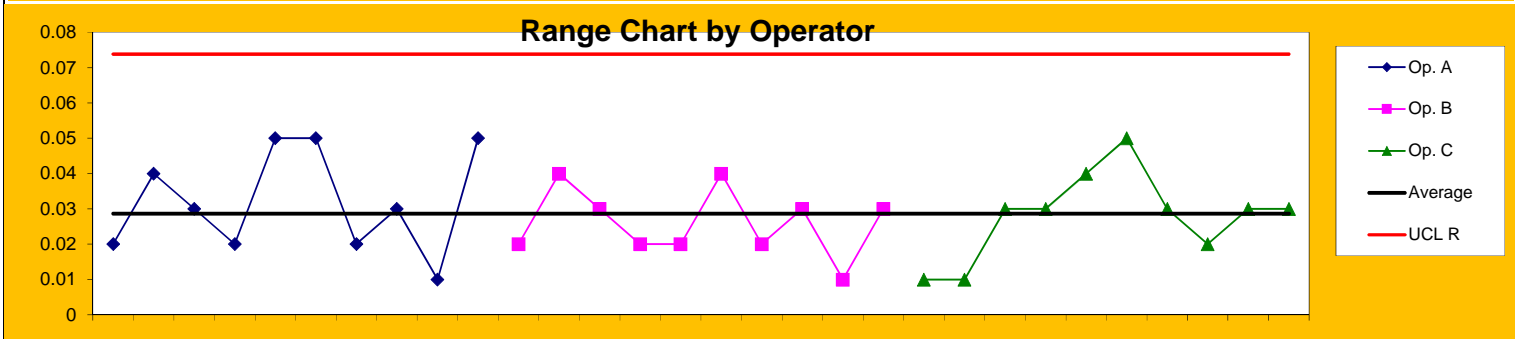
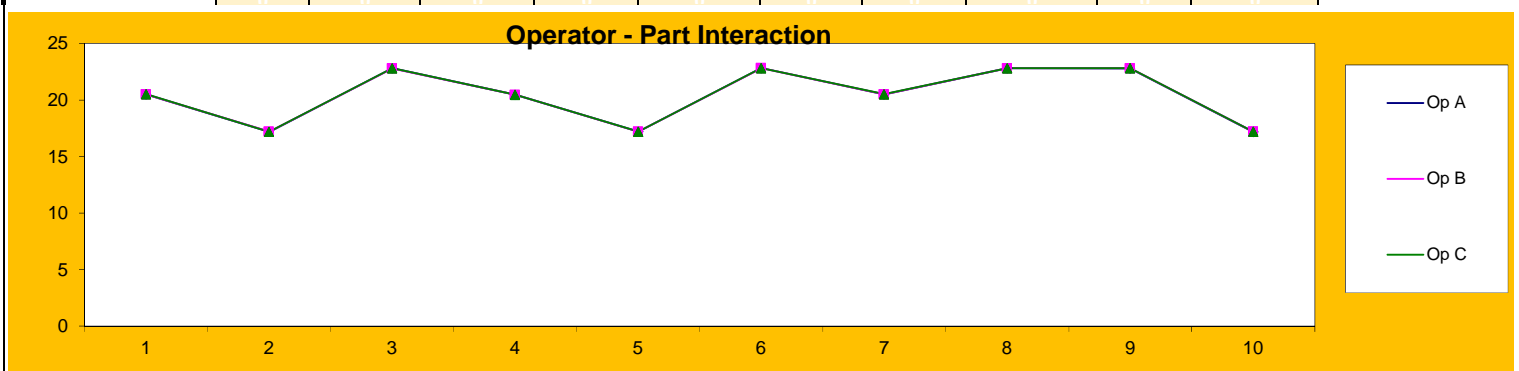
GR&R - %Study Variation:	0.62%
Number of Distinct Categories:	228
All points under line UCL R:	OK

Eng. Quality:	62982	Miguel Rodriguez
According Results:	Accepted	

Reason of the Study
Entrenamiento

# of Trials =	3	K ₁ =	0.5908	Xbar diff =	0.008333	D ₄ =	2.58
# of appraisers =	3	K ₂ =	0.5231	Rbarbar =	0.028667	R _p =	5.631111111
# of parts =	10	K ₃ =	0.3146	UCL R =	0.0740		

Appraiser/Trial #	Parts to measure										Average	
	1	2	3	4	5	6	7	8	9	10		
55694 Guillermo Hernandez	S-1	20.500	17.180	22.830	20.480	17.180	22.810	20.500	22.820	22.800	17.160	20.426
	S-2	20.510	17.190	22.800	20.470	17.210	22.840	20.510	22.830	22.810	17.200	20.437
	S-3	20.520	17.220	22.820	20.460	17.230	22.860	20.490	22.800	22.800	17.210	20.441
	Average	20.5100	17.1967	22.8167	20.4700	17.2067	22.8367	20.5000	22.8167	22.8033	17.1900	Xbar _a = 20.4347
Range	0.0200	0.0400	0.0300	0.0200	0.0500	0.0500	0.0200	0.0300	0.0100	0.0500	Rbar _a = 0.0320	
110596 Suseth Rodriguez	S-1	20.490	17.200	22.790	20.450	17.200	22.800	20.500	22.800	22.810	17.180	20.422
	S-2	20.510	17.190	22.820	20.460	17.190	22.820	20.510	22.800	22.810	17.210	20.432
	S-3	20.510	17.230	22.800	20.470	17.210	22.840	20.490	22.830	22.820	17.210	20.441
	Average	20.5033	17.2067	22.8033	20.4600	17.2000	22.8200	20.5000	22.8100	22.8133	17.2000	Xbar _b = 20.4317
Range	0.0200	0.0400	0.0300	0.0200	0.0200	0.0400	0.0200	0.0300	0.0100	0.0300	Rbar _b = 0.0260	
89173 Gretel Borbon	S-1	20.520	17.190	22.830	20.450	17.190	22.810	20.510	22.830	22.830	17.190	20.435
	S-2	20.510	17.200	22.800	20.480	17.200	22.830	20.530	22.820	22.810	17.220	20.44
	S-3	20.520	17.190	22.820	20.470	17.230	22.860	20.500	22.810	22.840	17.210	20.445
	Average	20.5167	17.1933	22.8167	20.4667	17.2067	22.8333	20.5133	22.8200	22.8267	17.2067	Xbar _c = 20.4400
Range	0.0100	0.0100	0.0300	0.0300	0.0400	0.0500	0.0300	0.0200	0.0300	0.0300	Rbar _c = 0.0280	



Gage Repeatability and Reproducibility (Crossed)

Method:	Externas - Internas	Equipment:	Vernier
Trainer:	Miguel Rodriguez	ID Equipment:	EEVE-426
Area:	MOLDEO	Sample Code:	Moldeo-Vernier
		Plant:	Plant 2

Elaborated Date:	January 24, 2020
STANDARD RECORDS	
2020-0273	

	Number	Name
Operator A:	55694	Guillermo Hernandez
Operator B:	110596	Suseth Rodriguez
Operator C:	89173	Gretel Borbon
Eng. Quality:	62982	Miguel Rodriguez
<u>According Results:</u>		Accepted

General Comments - Special Event

Gage R&R Study - ANOVA Method

Variance and Standard Deviation Components			
Source	St. Dev.	Variance	% of Variance
Total Gage R&R	0.015105	0.00022815	0.00%
Repeatability	0.016055	0.00025778	0.00%
Reproducibility	0	0	0.00%
Operator	0.00368	1.3539E-05	0.00%
Operator*Part	0	0	0.00%
Part to Part	2.451951	6.01206461	100.00%
Total Variation	2.451998	6.01229276	100.00%

Process Tolerance = 0

Gage R&R Using 5.15 Standard Deviations (99%)

Source	Study Variation	% Study Variation
Total Gage R&R	0.077789	0.62%
Repeatability	0.082686	0.65%
Reproducibility	0	0.00%
Operator	0.01895	0.15%
Operator*Part	0	0.00%
Part to Part	12.62755	100.00%
Total Variation	12.62779	100.00%

Gage R&R Using 6.0 Standard Deviations (99.7%)

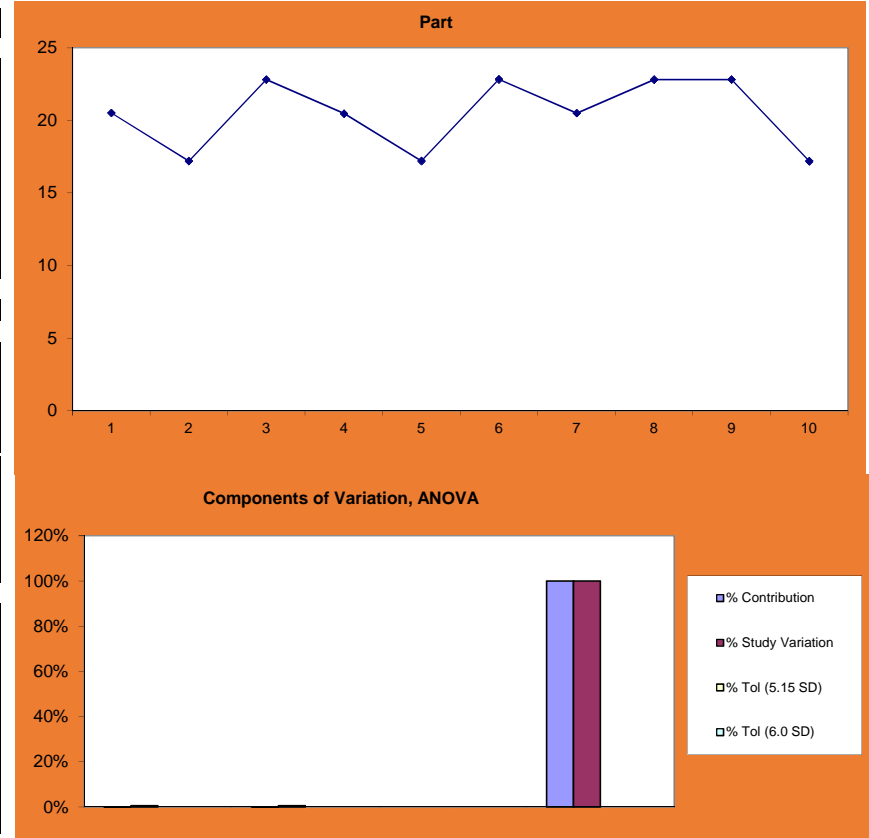
Source	Study Variation	% Study Variation
Total Gage R&R	0.090627	0.62%
Repeatability	0.096333	0.65%
Reproducibility	0	0.00%
Operator	0.022077	0.15%
Operator*Part	0	0.00%
Part to Part	14.71171	100.00%
Total Variation	14.71199	100.00%

Number of Distinct Categories = **228**

Analysis of Variance (ANOVA) Table

Source	DF	SS	MS	F	p
Part	9	486.9783878	54.1087098	209904.478	0.000
Operator	2	0.001068889	0.00053444	2.073	0.135
Op. x Part Interaction	18	0.002308889	0.00012827	0.498	0.949
Gage (error)	60	0.015466667	0.00025778		
Total	89	486.9972322			

p value for Op. x Part Interaction as error term = 0.25





DATA - GRR ATTRIBUTE STUDY

Empalme Site

DATE:	31-Jan-20	Work Center:	N/A
REQUEST:	Miguel Rodriguez	NUM. Gage-Fixture	Pin Gage Go-NoGo
QUALITY ENGINEER:	Miguel Rodriguez	OPERATOR 1	55694-Guillermo Hdez.
MANUFACTURE ENGINEER	Miguel Rodriguez	OPERATOR 2	110596-Suseth Rodriguez
PLANT:	Plant 2	OPERATOR 3	89173-Gretel Borbon
SPC TECHNICIAN:	Victor Peralta	Standard Record	2020-0372
PART NUMBER:	Varios		
COMMENT General:	Quality Inspection - Pin Gage - Method Inspection		

Known Population				55694-Guillermo Hdez.			Expert	110596-Suseth Rodriguez			Expert	89173-Gretel Borbon			Expert	OPER VS OPER	OPER VS SAMPLE
# ID	Num Sample	DETAILS	Standard	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Agree	Agree
1	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
2	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
3	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
4	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
5	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
6	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
7	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
8	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
9	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
10	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
11	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
12	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
13	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
14	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
15	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
16	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
17	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
18	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
19	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
20	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
21	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
22	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
23	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
24	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
25	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
26	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
27	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
28	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
29	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK



DATA - GRR ATTRIBUTE STUDY

Empalme Site

DATE:	31-Jan-20	Work Center:	N/A
REQUEST:	Miguel Rodriguez	NUM. Gage-Fixture	Pin Gage Go-NoGo
QUALITY ENGINEER:	Miguel Rodriguez	OPERATOR 1	55694-Guillermo Hdez.
MANUFACTURE ENGINEER	Miguel Rodriguez	OPERATOR 2	110596-Suseth Rodriguez
PLANT:	Plant 2	OPERATOR 3	89173-Gretel Borbon
SPC TECHNICIAN:	Victor Peralta	Standard Record	2020-0372
PART NUMBER:	Varios		
COMMENT General:	Quality Inspection - Pin Gage - Method Inspection		

Known Population				55694-Guillermo Hdez.			Expert	110596-Suseth Rodriguez			Expert	89173-Gretel Borbon			Expert	OPER VS OPER	OPER VS SAMPLE
# ID	Num Sample	DETAILS	Standard	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Agree	Agree
30	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
31	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
32	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
33	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
34	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
35	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
36	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
37	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
38	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
39	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
40	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
41	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
42	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
43	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
44	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
45	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
46	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
47	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
48	3	Wire Hole Increase	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
49	1	Good Parts	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
50	2	Wire Hole Reduced	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK

Final comments of the study:

SPC Technician: Must be sent to answer to request, quality engineer and manufacture engineer.



REPORT GRR ATTRIBUTE

DATE	31-Jan-20	ID - EQUIPMENT
STANDAR RECORD	2020-0372	Pin Gage Go-NoGo
Work Center:	N/A	
RESULT	ACCEPTED	

Operators

Inspected total

Agreement

95% UCL

Calculated Score

95% LCL

% OPER VS OPER			% OPER VS STANDARD		
55694-Guillermo Hdez.	110596-Suseth Rodriguez	89173-Gretel Borbon	55694-Guillermo Hdez.	110596-Suseth Rodriguez	89173-Gretel Borbon
50	50	50	50	50	50
50	50	50	50	50	50
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
94.18%	94.18%	94.18%	94.18%	94.18%	94.18%

Total Inspected

Agreement

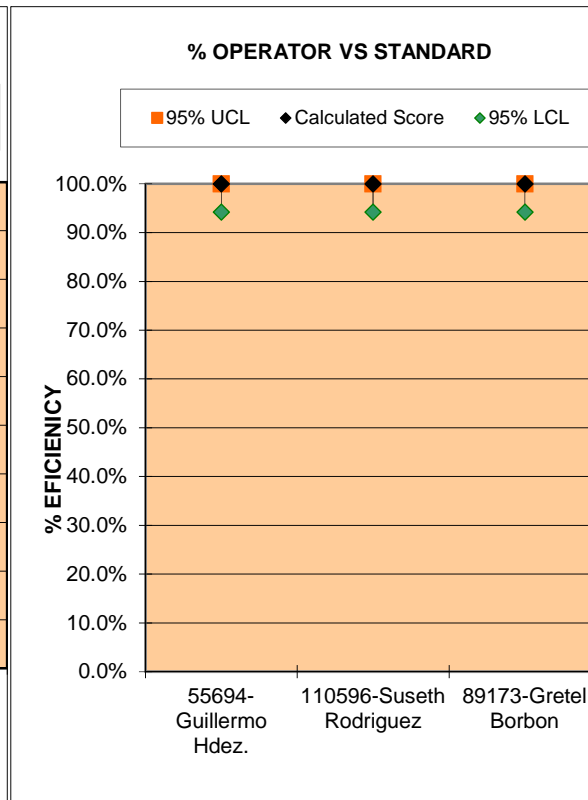
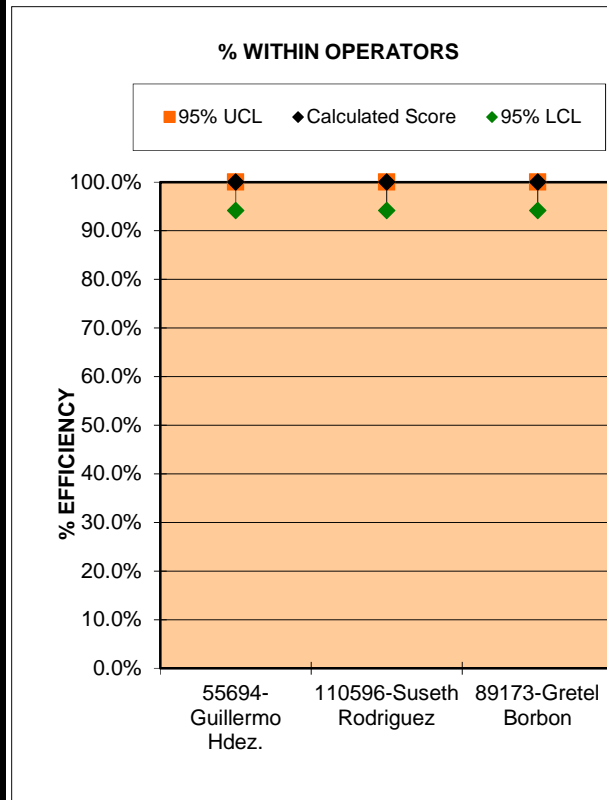
95% UCL

Calculated Score

95% LCL

Screen % Effective Score	
Total Inspected	50
# Agreement	50
95% UCL	100.0%
Calculated Score	100.0%
95% LCL	94.18%

Screen % Effective Score vs Standard	
Total Inspected	50
# Agreement	50
95% UCL	100.0%
Calculated Score	100.0%
95% LCL	94.18%



Section 9

Dimensional Results

Final assembly dimensions not affected by this change.



Production Part Approval

DIMENSIONAL TEST RESULTS



TE Connectivity-Empalme is accredited by ANSI-ASQ National Accreditation Board for ISO/IEC 17025 under a defined calibration and/or testing scope.

ACT-1173

Organization: TE Connectivity	Part Number: 1-2296704-1
Supplier/Vendor Code: N/A	Part Name: PLUG ASSEMBLY FEMALE, 2 POSITION, OIL SUBMURGIBLE
INSPECTION FACILITY: TE Connectivity Empalme Metrology lab	Design Record Change Level: C-2296704 REV. A1 Engineering Change Documents: N/A
# Folio: 50483	Page <u>1</u> of <u>2</u>

Item	Dim./Spec.	Spec. / Limits		Units	Organization Measurement Results (Data)						Ok	Not Ok	Instrument # ID
		tol +	tol -		SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6			
1	26.5	0.1	0.1	mm	26.598	26.593	26.587	26.588	26.593	26.582	✓		LMMC-009
2	15.4	0.1	0.1	mm	15.349	15.364	15.338	15.359	15.325	15.342	✓		LMMC-009
3	18.05	0.1	0.1	mm	17.983	17.964	17.972	17.980	17.964	17.986	✓		LMMC-009
4	10.58	REF	REF	mm	10.593	10.576	10.564	10.585	10.598	10.597	✓		LMMC-009
5	4	REF	REF	mm	4.049	4.027	4.066	4.053	4.037	4.053	✓		LMMC-009
6	20.92	REF	REF	mm	OK	OK	OK	OK	OK	OK	✓		LMVE-004
7	4.1	REF	REF	mm	4.221	4.248	4.208	4.221	4.249	4.225	✓		LMMC-009

NOTES:

1	PART NUMBER 1-2292704-1 SHWN ON DRAWING				OK	OK	OK	OK	OK	OK	✓		
2	TPA AND CPA (OPTIONAL) ARE SHIPPED IN THEIR PRE - LATCHED POSITIONS SEE INTRUCTION SHEET 408-8968 FOR DIRECTIONS ON MOVING THE CPA AND TPA TO THE PRE - LATCHED POSITION IF NECESSARY				NOTED PER APQP TEAM						✓		
3	TERMINALS SOLD SEPARATELY FOR USE WITH TE MCON 1.2mm CLEAN BODY CONTACT WITH WIRE SEAL SEE TE MCON 1.2-CB (CLEAN BODY) APPLICATION SPEC 114-18464 FOR CRIMP DETAILS.				NOTED PER APQP TEAM						✓		
4	SEE USCAR DRAWING 120-S-002-1-Z01 FOR MATING INTERFACE DETAILS.				NOTED PER APQP TEAM						✓		
5	MINIMUM FEED THROUGH CONDITION WITH 1.0mm CLEARANCE ALL AROUND				NOTED PER APQP TEAM						✓		
6	CONNECTOR APPLICATION ENVIRONMENT IS SUBMERSON IN ENGINE OIL FOR REQUIRED MECHANICAL STABILITY AND FLUID COMPATIBILITY INDIVIDUAL WIRE SEALS PRODUCED FROM ETHYLENE / ACRYLIC (AEM)BASE MATERIALS ARE REQUIRED PER TERMINAL P/N TABLE				NOTED PER APQP TEAM						✓		
7	CONNECTOR HAS FLUOROSILICONE SEAL INTENDED TO PERFORM IN AN OIL ENVIRONMENT VIBRATION DAMPENING SEAL CONTAINS LESS THA 1% SILICONE VOLATILES BY WEIGHT SEAL IS COATED WITH OSIXO DRY LUBRICANT FOR MATING PURPOSES SEALING IS NOT GUARANTEED				NOTED PER APQP TEAM						✓		
8	LIFT ISL AND AWAY FROM PLUG AND MOVE THE RIGHT 2.0mm				NOTED PER APQP TEAM						✓		

March 2006 CFG-1003

AEF004J-EG Rev: J

SIGNATURE	TITLE	DATE
Omar Sanchez	Metrology Chief	MAR-25-2020



Production Part Approval

DIMENSIONAL TEST RESULTS



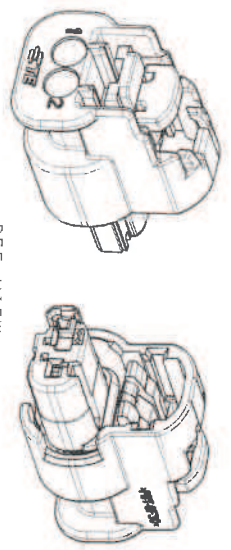
TE Connectivity-Empalme is accredited by ANSI-ASQ National Accreditation Board for ISO/IEC 17025 under a defined calibration and/or testing scope.

ACT-1173

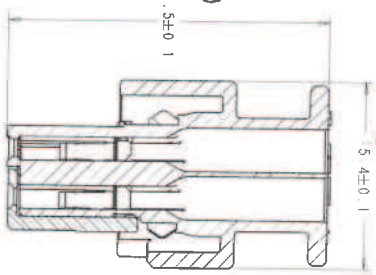
Organization: TE Connectivity	Part Number: 1-2296704-1
Supplier/Vendor Code: N/A	Part Name: PLUG ASSEMBLY FEMALE, 2 POSITION, OIL SUBMURGIBLE
INSPECTION FACILITY: TE Connectivity Empalme Metrology lab	Design Record Change Level: C-2296704 REV. A1 Engineering Change Documents: N/A
# Folio: 50483	Page 2 of 2

Item	Dim./Spec.	Spec. / Limits tol + tol -	Units	Organization Measurement Results (Data)						Ok	Not Ok	Instrument # ID
				SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6			
9	NOTE REMOVED			OK	OK	OK	OK	OK	OK	✓		
10	MATES WITH STRAIGHT EXIT WIRE DRESS TE PN 2272168-1 AND RIGHT ANGLE EXIT WIRE DRESS TE PN 2272169-1			NOTED PER APQP TEAM						✓		
11	CONNECTOR IS A ONE TIME MATE CONNECTOR THE INTEGRITY OF THE SEAL COATING MUST BE PROTECTED AND THUS SEAL MUST REMAIN UNTOUCHED UNTIL FINAL MATE			NOTED PER APQP TEAM						✓		
TOTAL # OF FEATURES				56								
LESS BASIC DIMENSIONS				0								
LESS REFERENCE DIMENSIONS				24								
REPORTED DIMENSIONS				32								
# DIMENSIONS IN TOLERANCE				32								
# DIMENSIONS OUT OF TOLERANCE				0								
% DIMENSION IN TOLERANCE				100.00 %								
% DIMENSION OUT OF TOLERANCE				0.00 %								

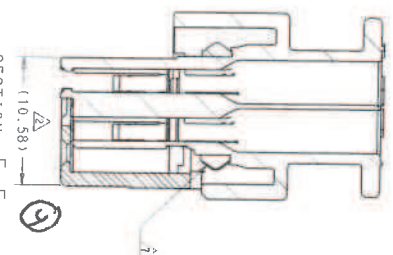
March 2006	CFG-1003	SIGNATURE	TITLE	DATE
AEF004J-EG Rev: J		Omar Sanchez	Metrology Chief	MAR-25-2020



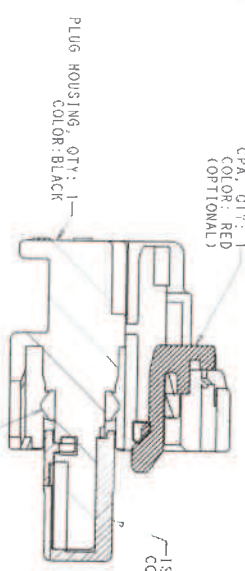
REF VIEW
SCALE 4:1



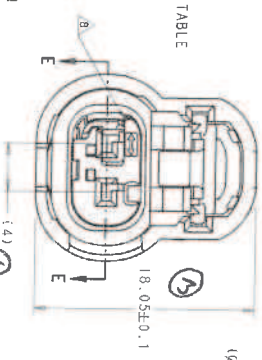
SECTION E-E
SHOWN WITH ISL IN
FINAL POSITION



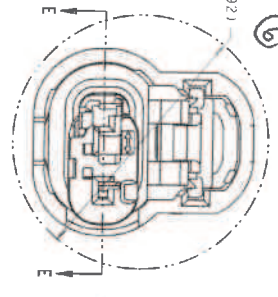
SECTION E-E
SHOWN WITH ISL IN
SHIPPING POSITION



SECTION D-D
SHOWN WITH CPA IN
LATCHED POSITION

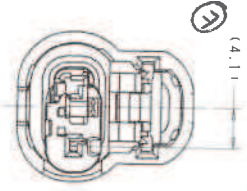


ISL SHOWN IN
FINAL POSITION

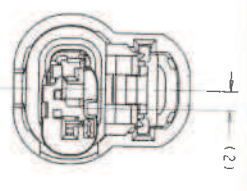


ISL SHOWN IN
PRE-LATCHED POSITION
REF ONLY

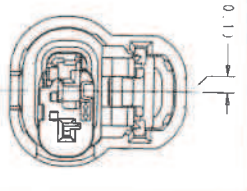
KEYING CONFIGURATIONS



SCALE 4:1



SCALE 4:1



SCALE 4:1

REV	DATE	DESCRIPTION	BY	CHK
A		RELEASED FOR PRODUCTION		
AT		REVISED PER ECO-15-051415		

- PART NUMBER 1-2296704-1 SHOWN ON DRAWING.
- TPA AND CPA (OPTIONAL) ARE SHIPPED IN THEIR PRE-LATCHED POSITIONS. SEE INSTRUCTION SHEET 408-9988 FOR DIRECTIONS ON MOVING THE CPA AND TPA TO THE PRE-LATCHED POSITION, IF NECESSARY.
- TERMINALS SOLD SEPARATELY. FOR USE WITH TE MCON 1.2mm CLEAN BODY SPEC 114-18464 FOR CRIMP DETAILS.
- SEE USCAR DRAWING 120-S-002-1-201 FOR MATING INTERFACE DETAILS.
- MINIMUM FEED THROUGH CONDITION WITH 1.0mm CLEARANCE ALL AROUND.
- CONNECTOR APPLICATION ENVIRONMENT IS SUBMERSION IN ENGINE OIL. FOR REQUIRED MECHANICAL STABILITY AND FLUID COMPATIBILITY, INDIVIDUAL WIRE SEALS PRODUCED FROM ETHYLENE/ACRYLIC (EAM) BASE MATERIALS ARE REQUIRED PER TERMINAL P/N TABLE.
- CONNECTOR HAS FLUOROSILICONE SEAL INTENDED TO PERFORM IN AN OIL ENVIRONMENT VIBRATION DAMPENING. SEAL CONTAINS LESS THAN 1% SILICONE VOLATILES BY WEIGHT. SEAL IS COATED WITH OXIDIZING LUBRICANT FOR MATING PURPOSES. SEALING IS NOT GUARANTEED.
- LIFT ISL AND AWAY FROM PLUG AND MOVE THE RIGHT 2.0mm.

- NOTE REMOVED
- MATES WITH STRAIGHT EXIT WIRE DRESS, TE PN 2272168-1 AND RIGHT ANGLE EXIT WIRE DRESS, TE PN 2272169-1
- CONNECTOR IS A ONE TIME MATE CONNECTOR. THE INTEGRITY OF THE SEAL COATING MUST BE PROTECTED, AND THIS SEAL MUST REMAIN UNTOUCHED UNTIL FINAL MATE.

KEY CODE "C"	KEY CODE "B"	KEY CODE "A"	KEY CODE "A"	KEY CODE "B"	KEY CODE "A"
YES	LT GRAY	KEY CODE "B"	1-2296704-2	KEY CODE "A"	1-2296704-1
YES	BLUE	KEY CODE "A"	1-2296704-1	KEY CODE "B"	2296704-3
N/A	N/A	KEY CODE "C"	2296704-3	KEY CODE "B"	2296704-2
N/A	LT GRAY	KEY CODE "B"	2296704-2	KEY CODE "A"	2296704-1
N/A	BLUE	KEY CODE "A"	2296704-1		

TE MCON 1.2-CB (CLEAN BODY)	TERMINAL NUMBER	METRIC WIRE SIZE	AMERICAN WIRE GAUGE
1670126-3	16	1.0	18
1670126-2	17	1.0	18
1670126-1	18	1.0	18

THIS DRAWING IS A COMPONENT OF THE MATE CONNECTOR SYSTEM.

TE CONNECTIVITY



PLUG ASSEMBLY, FEMALE 2 POSITION, OIL SUBMERSIBLE

1-2296704



Manufacturing Location / Process Change Product Quality Re-verification

Part Name:	CPA, 5P MCON High Performance	Material:	PBT, 30%GF	Customer P/N:	GU5T-14A464-AA (See ESER Table)	TE P/N:	2138343-1
Drawing Number:	2138343			Prepared By:	Before:	Larry Espinosa	
Revision:	A9	Revision Date:	30-Sep-19		After:	Miguel Rodriguez	
Date:	1/29/2020	Mfg. Location From: Pegg Road, Greensboro, NC			Reviewed By:	Stacie Ice	
Tool #:	M487888	Mfg. Location To: Empalme, MX			Lab:	Empalme, Mexico	

Quality Inspection Plan Dimensions (1 part per cavity for each feature listed)			Before Move Results				After Move Results			
Ref.	Feature Description	Specification	Cavity #				Cavity #			
Dim 12	Overall Width	9.00mm Nominal	1-16	Cav 1 = 8.96	Cav 7 = 8.98	Cav 13 = 8.98	1-16	Cav 1 = 8.97	Cav 7 = 8.98	Cav 13 = 8.96
				Cav 2 = 8.98	Cav 8 = 8.97	Cav 14 = 8.98		Cav 2 = 8.97	Cav 8 = 8.98	Cav 14 = 8.98
				Cav 3 = 8.99	Cav 9 = 9.00	Cav 15 = 8.98		Cav 3 = 8.97	Cav 9 = 8.97	Cav 15 = 8.96
				Cav 4 = 8.97	Cav 10 = 8.99	Cav 16 = 8.98		Cav 4 = 8.96	Cav 10 = 8.99	Cav 16 = 8.98
				Cav 5 = 8.97	Cav 11 = 8.99			Cav 5 = 8.96	Cav 11 = 8.98	
				Cav 6 = 8.98	Cav 12 = 8.97			Cav 6 = 8.99	Cav 12 = 8.96	
Dim 18	Overall Length	10.50mm Nominal	1-16	Cav 1 = 10.59	Cav 7 = 10.59	Cav 13 = 10.58	1-16	Cav 1 = 10.57	Cav 7 = 10.58	Cav 13 = 10.56
				Cav 2 = 10.57	Cav 8 = 10.58	Cav 14 = 10.59		Cav 2 = 10.56	Cav 8 = 10.59	Cav 14 = 10.57
				Cav 3 = 10.59	Cav 9 = 10.59	Cav 15 = 10.60		Cav 3 = 10.58	Cav 9 = 10.59	Cav 15 = 10.58
				Cav 4 = 10.60	Cav 10 = 10.59	Cav 16 = 10.60		Cav 4 = 10.59	Cav 10 = 10.56	Cav 16 = 10.59
				Cav 5 = 10.59	Cav 11 = 10.55			Cav 5 = 10.56	Cav 11 = 10.57	
				Cav 6 = 10.56	Cav 12 = 10.57			Cav 6 = 10.58	Cav 12 = 10.56	



Section 10

Material, Performance Test Results

Certificate of Analysis

Customer:	Product Number	: 52568990
MAQUILAS TETAKAWI SA DE CV	Product Name	: ULTRAMID® A3EG7 BLACK 23189
CARRET INT KM 1969		POLYAMIDE 726KG FIBREBOARD IBC
85340 EMPALME SON	Vehicle	: 220351/15UC3G
	Batch/Lot	: A520018C1
Attention: BASFORDERINFO@TE.COM	Manuf.Date	: Jan-21-2020
eMAIL: BASFOrderInfo@te.com	Shipped Date	: Mar-02-2020
Cust Prod: 702661-9	Shipped Quantity	: 9,603.336 LB
Cust Prod Name: ULT.A3EG7 BK23189 726KG 11G	Delivery Date	: Mar-02-2020
Cust P.O.: 2711392596	Order Number	: 117433342 000010
Cust P.O. Line: 1	Delivery Note	: 144304846 900001

Inspection Certificate 3.1 according to EN 10204

Characteristic	Result	UOM	-----Specification-----		Test Method
			Minimum	Maximum	
ASH-A	34.984	%	33.000	37.000	ASTMD5630
Moisture	0.07	%	-	0.15	ASTM6869 / ISO15512B
VN-PA	141	ml/g	130	160	ISO 307

Comments :
 Results shown are the means of individual test values determined on samples taken during production of the lot specified.

This product is approved for the following specifications:

- MS-DB41 CPN 2224
- MS-DB41 CPN 3695
- M5600
- M53122

The information contained herein is based either on analytical tests of samples or on statistical process data; it is intended solely for purposes of comparison with the established specifications for the product. Warranties of the product are exclusively as set forth in the applicable contract documents.

GM Part Number	TE Part Number
13512365	1-2296694-1
13512366	1-2296694-2
13512367	1-2296694-3
13515048	2296698-1
13515049	2296698-2
13515050	2296698-3
13514238	1-2296704-1
13514239	1-2296704-2
13514240	1-2296704-3
13515613	1-2296702-1
13515614	1-2296702-2
	1-2296702-3
13514590	1-2296695-1
13514591	1-2296695-2
13514592	1-2296695-3
	1-2296695-4
13515950	2296699-1
13515951	2296699-2
13515952	2296699-3

GM Part Number	TE Part Number
13514090	1-2296696-1
13514087	1-2296696-2
13514088	1-2296696-3
	1-2296696-4
	1-2296696-5
13514091	1-2296696-6
13514089	1-2296696-7
	2296700-1
	2296700-2
13515953	2296700-3
	2296700-4
	2296700-5
13515956	2296700-6
13515957	2296700-7
13515044	1-2296697-1
13515045	1-2296697-2
13515046	1-2296697-3
	1-2296697-4
	1-2296697-5
13515047	1-2296697-6
	1-2296697-7
	2296701-1
13515954	2296701-2
13515955	2296701-3
	2296701-4
	2296701-5
13515958	2296701-6
	2296701-7

Test	GMW 3191 Req't	Deviation	Orig Val	Ergo Val	Empalme
CPA Locking Force Mated Connector	22N Max		Min: 7.37N Max: 18.67N	Min 6.24N Max: 7.56N	Min: 4.06N Max: 8.96N
CPA Unlocking Force Mated Connector	10N Min 30N Max	7N Min	Min: 9.39N Max: 10.97N	Min: 8.66N Max: 11.66N	Min: 7.99N Max: 9.63N
CPA Closing Force Unmated Connector	80N Min		Min: 102.99N Max: 123.92N	Min: 156.07N Max: 382.63N	Min: 119.19N Max: 135.99N
CPA Extraction Force Unmated Connector	60N Min		Min: 103.42N Max: 114.99N	Min: 149.51N Max: 158.11N	Min: 128.33N Max: 153.81N



Design Verification Plan and Report

System: CPSC 18.01.07 Connectors		Ford part number (s): See ESER Tab		Model Year and Program: Multiple		Ford Design Engineer: JCHAPP19		
Temperature Class	T4	T1, T2, T3, T4 T5	Supplier: TE Connectivity		Ford Design Engineer Approval			
Vibration Class	V4	V1, V2, V3, V4, V5	Reason for Validation:	Tool Transfer	Part Level:	PV - production	Plan: 2/4/2020	Report: 3/3/2020
Sealing Class	S3	S1, S2, S3						
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Remarks:
				Required	Tested	Sched.	Actual	

Test Part Inventory Page

	Male Connector Test	Female Connector Test
Terminal Test Part Numbers	N/A	N/A
Seal Test Part Numbers	N/A	N/A
Clip/Cover etc. Test Part Numbers	N/A	N/A
Mating Device Used Part Numbers	N/A	TE PN 2203781-1 GU5T-14A624-BB
Terminal Test Part Numbers	N/A	N/A
Connector Test Part Numbers	N/A	TE PN 1-2300499-1 GU5T-14A464-AB
Wire Gauge and Type	N/A	N/A

Test	USCAR Req't	Deviation	DV Val	PV Val	Empalme
CPA Locking Force Mated Connector	22N Max		Min: 6.71N Max: 9.31N	Min: 6.72N Max: 9.40N	Min: 5.46N Max: 11.00N
CPA Unlocking Force Mated Connector	10N Min 30N Max	7N Min	Min: 12.83N Max: 14.36N	Min: 9.81N Max: 10.85N	Min: 9.67N Max: 11.19N
CPA Closing Force Unmated Connector	60N Min		Min: 110.20N Max: 122.52N	Min: 90.12N Max: 114.71N	Min: 120.92N Max: 135.20N
CPA Extraction Force Unmated Connector	30N Min		Min: 126.56N Max: 148.84N	Min: 89.77N Max: 120.44N	Min: 136.32N Max: 151.55N

CT SCANS

BEFORE / AFTER Overlay (QIP Dim 12)



BEFORE / AFTER Overlay (QIP Dim 18)








Ford DVPR PV Report_GSO Consolidation_5P MCON High Performance Plug CPA Mold AMove_03Mar2020

Final Audit Report

2020-03-20

Created:	2020-03-17
By:	Sumit Das (sumit.das@te.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA9NiA9DhoArzyVEpwCGG3g0LuptF38xSW

"Ford DVPR PV Report_GSO Consolidation_5P MCON High Performance Plug CPA Mold AMove_03Mar2020" History

-  Document created by Sumit Das (sumit.das@te.com)
2020-03-17 - 4:59:44 PM GMT- IP address: 104.129.196.84
-  Document emailed to JCHAPP19 (jchapp19@ford.com) for signature
2020-03-17 - 5:02:17 PM GMT
-  Email viewed by JCHAPP19 (jchapp19@ford.com)
2020-03-20 - 6:03:40 PM GMT- IP address: 136.2.33.163
-  Document e-signed by JCHAPP19 (jchapp19@ford.com)
Signature Date: 2020-03-20 - 6:12:47 PM GMT - Time Source: server- IP address: 136.2.33.163- Signature captured from device with phone number XXXXXXXX8750
-  Signed document emailed to Sumit Das (sumit.das@te.com) and JCHAPP19 (jchapp19@ford.com)
2020-03-20 - 6:12:47 PM GMT

Section 11

Initial Process Studies

Not Applicable



Section 12

Qualified Laboratory Documentation

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - IATF 16949:2016

This is to certify that:

TE Connectivity
Global Automotive Division
Americas North
Carretera Internacional, KM 1969
Guadalajara-Nogales Km 2
Empalme
Sonora
85340
Mexico

operates a Quality Management System which complies with the requirements of IATF 16949:2016 for the following scope:

Design and manufacture of electrical interconnecting devices.

For and on behalf of BSI:


Carlos Pitanga, Chief Operating Officer Assurance – Americas

BSI Certificate Number: 514458-003

IATF Number: 0315420



Certification Date: 2018-07-11

Latest Issue: 2018-07-11

Page: 1 of 2

...making excellence a habit.™

Expiry Date: 2021-07-10

This certificate remains the property of BSI and shall be returned immediately upon request.

An electronic certificate can be authenticated [online](http://www.bsigroup.com/ClientDirectory). Printed copies can be validated at www.bsigroup.com/ClientDirectory

To be read in conjunction with the scope above or the attached appendix.

Further clarifications regarding the scope of this certificate and the applicability of IATF 16949 requirements may be obtained by consulting the organization.

IATF Contracted Office: BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

Location

TE Connectivity
Global Automotive Division
Americas North
Carretera Internacional, KM 1969
Guadalajara-Nogales Km 2
Empalme
Sonora
85340
Mexico

Registered Activities

Manufacture of interconnecting devices.

Including the following remote support functions:

TE Connectivity
Global Automotive Division
Americas North
900 Wilshire Boulevard
Suite 150
Troy, MI 48084
Design and Development.

TE Connectivity
Global Automotive Division
Americas North
Fulling Mill Road
Middletown, PA 17057
Design and Development, Product Testing and Customer Service.

TE Connectivity
Global Automotive Division
Americas North
3800 Reidsville Road
Winston-Salem, NC 27102
Design and Development, Product Testing and Calibration, Business Office (Quote Process) and Purchasing.

TE Connectivity
Global Automotive Division
Americas North
20 Esna Park Drive
Markham, Ontario
L3R 1E1 Canada
Design and Development and product testing (optics lab)

TE Connectivity
Global Automotive Division
Americas North
2100 Paxton Street
Harrisburg, PA 17111
Provision of Product Testing to TE Connectivity Manufacturing Sites.

TE Connectivity North Carolina
Distribution Center
8000 Piedmont Triad Parkway
Greensboro, North Carolina 27409
Receiving Inspection, Storage / Inventory.

BSI Certificate Number: 514458-003

IATF Number: 0315420



Certification Date: 2018-07-11

Latest Issue: 2018-07-11

Expiry Date: 2021-07-10

Page: 2 of 2

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Section 13

Appearance Approval Report

Not Applicable



Section 14

Sample Product

**Sent in separate package
(if required)**



Section 15

Master Sample

Retained at manufacturing location



Section 16

Checking Aids

Not Applicable



Section 17

Records of Compliance with Customer-Specific Requirements

MDS Report

Substances of assemblies and materials

This report is for internal Automotive industry use only. Distribution to non-Automotive clients is a violation of the Terms of Use, and is not permitted unless a written permission was given by DXC Technology. Parsing is not allowed.

1. Company and Product Name

1.1 Supplier Data

Name [ID]: **Tyco Electronics GAD [913]**
DUNS Number: **-**
Street/Postal Code: **Amperestr. 12-14**
Nat./ZipCode/City: **DE 64625 Bensheim**
Supplier Code: **-**
Contact Person: **IMDS Team (India) Engineering Services**
- Phone: **-**
- Fax No.: **-**
- E-Mail Address: **imds@te.com**

1.2 Product Identification

Part/Item No.: **1-2296704-1**
Description: **Group Drawing, Plug Assembly, 2 Posn, MCON**
Report No.: **-**
Date of Report: **-**
Purchase Order No.: **-**
Bill of Delivery No.: **-**
Preliminary MDS: **No**
IMDS ID / Version: **620395219 / 7**
Node ID: **914291392**
MDS Status (Change Date): **Internally released (03/12/2020)**

MDS Report

Substances of assemblies and materials

Materials which are subject to legal prohibitions must not be included!
 Dangerous substances formed or released during use must also be declared
 Please note: GADSL list for substances that require declaration

2. Characterization of the Component

Part/Item No.: **1-2296704-1**
 Description: **Group Drawing, Plug Assembly, 2 Posn, MCON**

Report No.: **-**
 IMDS ID / Version: **620395219 / 7**
 Node ID: **914291392**

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
1	Group Drawing, Plug Assembly, 2 Posn, MCON	1-2296704-1	620395219 / 7		2.72				
└2	Plug Housing, 2 Pos, Sealed, MCON, T4 Variant - Black	2301455-1	592715920 / 4	1	2.2				Yes
└3	PBT-GF30	1573435-2	448749639 / 4		2.2			5.1.a	No
└4	GF-Fibre	-				30			

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
└4	Further Additives, not to declare	system				5.5			
└4	PBT	-				64			
└4	Carbon black	1333-86-4				0.5			
└2	2P MCON Sealed Female ISL - Blue	2203636-4	465808963 / 7	1	0.27				Yes
└3	PBT-GF15	704734-4 + 1-704402-1	309409743 / 5		0.27			5.1.a	No
└4	PBT-GF15	704734-4	98895942 / 3			97.5		5.1.a	
└5	GF-Fibre	-				15			
└5	Further Additives, not to declare	system				1			
└5	PBT	-				84			
└4	PBT Colorant Masterbatch	1-704402-1	309095175 / 5			2.5	2 - 3	5.1.b	
└5	PBT	-				56.428571	50 - 60		
└5	Zinc sulphide	1314-98-3				36.428571	30 - 40	D / P	
└5	Confidential Substances	*****				7.142857			
└2	I-Bump Perimeter Seal Fem. 2 Pos. Sealed 1.2mm	2289774-1	529972413 / 4	1	0.07				Not Applicable
└3	FVMQ	B4112BR			0.07			5.3	No
└4	FVMQ	-				94.5	92 - 97		
└4	VMQ	-				4	3 - 5		
└4	Calcium-carbonate	471-34-1				0.5	0 - 1		

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User:

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Date:

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Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
└4	Synthetic iron oxide (Fe2O3)	1332-37-2				0.5	0 - 1		
└4	Carbon black	1333-86-4				0.25	0 - 0.5		
└4	Cerium-tetrahydroxide	12014-56-1				0.25	0 - 0.5		
└2	Front Loaded Sealed CPA - Red	2138343-1	320209481 / 13	1	0.18				Not Applicable
└3	PBT-GF30	17669-1 + 3-1573497-5	668311786 / 3		0.18			5.1.a	No
└4	PBT-GF30	17669-1	48049287 / 6			97.5		5.1.a	
└5	GF-Fibre	-				30			
└5	Further Additives, not to declare	system				1			
└5	PBT	-				69			
└4	PBT Masterbatch RAL3002 CARMINE RED	3-1573497-5	668231210 / 1			2.5	2 - 3	5.1.b	
└5	PBT	-				95.263158	90 - 100		
└5	Confidential Substances	*****				4.736841			

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Section 18

Part Submission Warrant

Part Submission Warrant

Part Name	2POS, MCON 1.2 CB REC 1p TL SEALED	Cust. Part Number	84AC8518
Shown on Drawing No.	C-2296704	Org. Part Number	1-2296704-1
Engineering Change Level	A1	Dated	19-Apr-2016
Additional Engineering Changes	N / A	Dated	N / A
Safety and/or Government Regulation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No.	N / A
Weight (kg)			0.0027
Checking Aid Number	N / A	Checking Aid Engineering Change Level	N / A
Dated			N / A

ORGANIZATION MANUFACTURING INFORMATION

TE Connectivity / **588115092**

Supplier Name & Supplier/Vendor Code

Carretera Int. Km. 1969 Guadalajara-Nogales

Street Address

Empalme **85340** **Mexico**

City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION

Newark Electronics

Customer Name/Division

N/A

Buyer/Buyer Code

GM

Application

MATERIALS REPORTING

Reporting of all materials, not just Substances of Concern, may be required by certain OEMs or other customers.

Has customer-required Substances of Concern information been reported? Yes No

Submitted by IMDS or other customer format: **620395219 / 7**

Are polymeric parts identified with appropriate ISO marking codes? Yes No N/A

REASON FOR SUBMISSION

- | | |
|--|--|
| <input type="checkbox"/> Initial submission | <input type="checkbox"/> Change to Optional Construction or Material |
| <input type="checkbox"/> Engineering Change(s) | <input type="checkbox"/> Sub-Supplier or Material Source Change |
| <input checked="" type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional | <input type="checkbox"/> Change in Part Processing Location |
| <input type="checkbox"/> Correction of Discrepancy | <input type="checkbox"/> Parts produced at Additional Location |
| <input type="checkbox"/> Tooling Inactive > than 1 year | <input type="checkbox"/> Other - please specify |

REQUESTED SUBMISSION LEVEL (Check one)

- Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- Level 4 - Warrant and other requirements as defined by customer.
- Level 5 - Warrant with product samples and complete supporting data reviewed at supplier's manufacturing location.

SUBMISSION RESULTS

The results for dimensional measurements material and functional tests appearance criteria statistical process package

These results meet all design record requirements: YES NO (If "NO" - Explanation Required)

Mold / Cavity / Production Process **M487888**

DECLARATION

I affirm that the samples represented by this warrant are representative of our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at a production rate of Proprietary /1 hour. I also certify that the documented evidence of such compliance is on file and available for review. I have noted any deviation from the declaration below.

EXPLANATION/COMMENTS: **Production Rate is TE proprietary.**
P-19-018198 & P-19-018199: Component 2138343-1

Is each Customer Tool properly tagged and numbered? Yes No N/A

Organization Authorized Signature Alejandra Lara A. Date **April 2020**

Print Name **Alejandra Lara** Phone No. **N/A** Fax No. **N/A**

Title **PPAP Technician** E-mail alejandra.lara@te.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: Approved Rejected Other

Customer Signature _____ Date _____

Print Name _____ Customer Tracking Number (optional) _____

March 2006 **CFG-1001**

Optional customer tracking number: _____



Section 18a

Bulk Material Requirements



Not Applicable