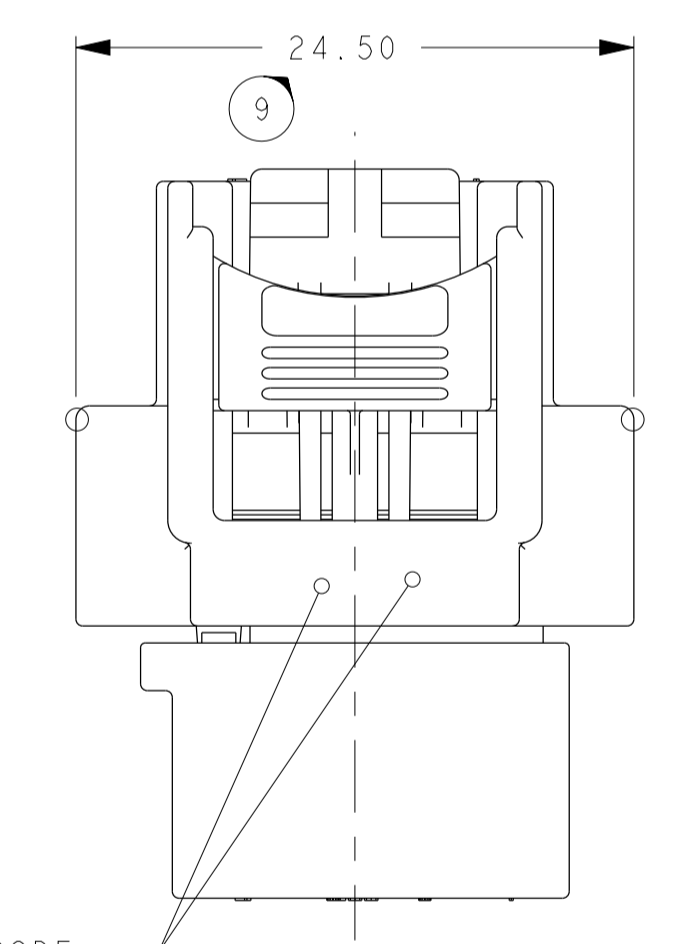
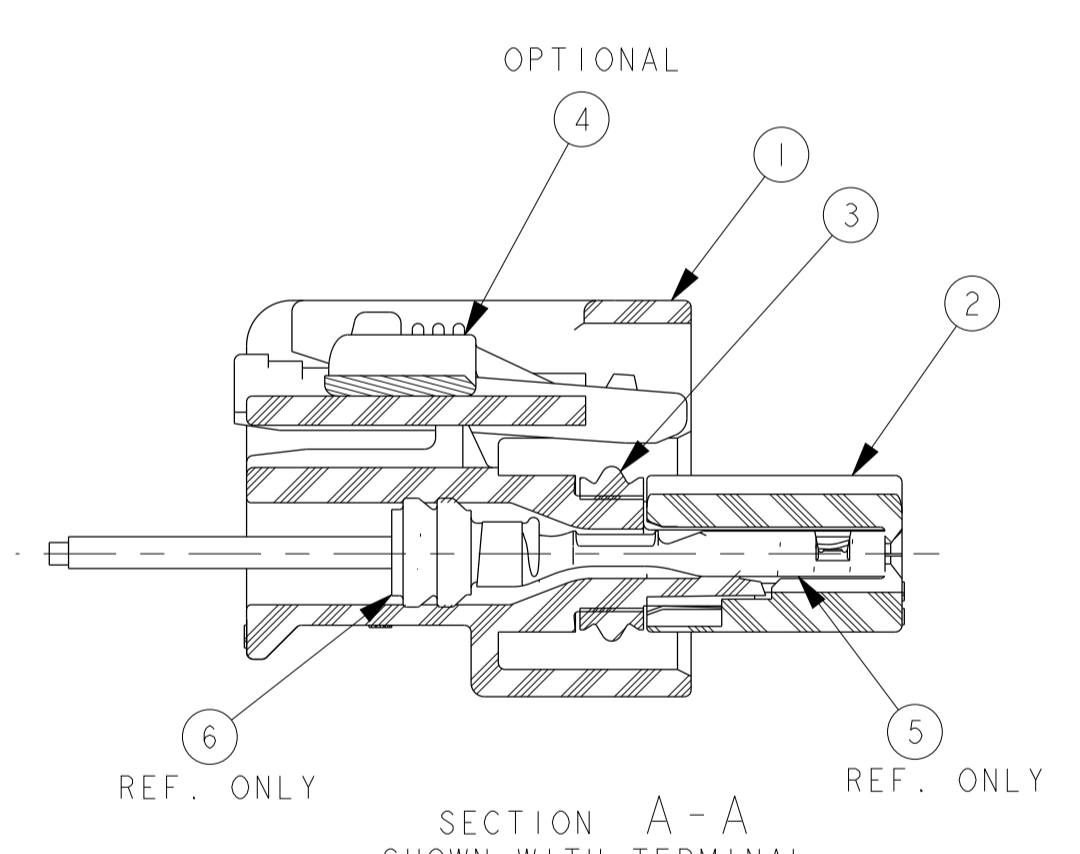
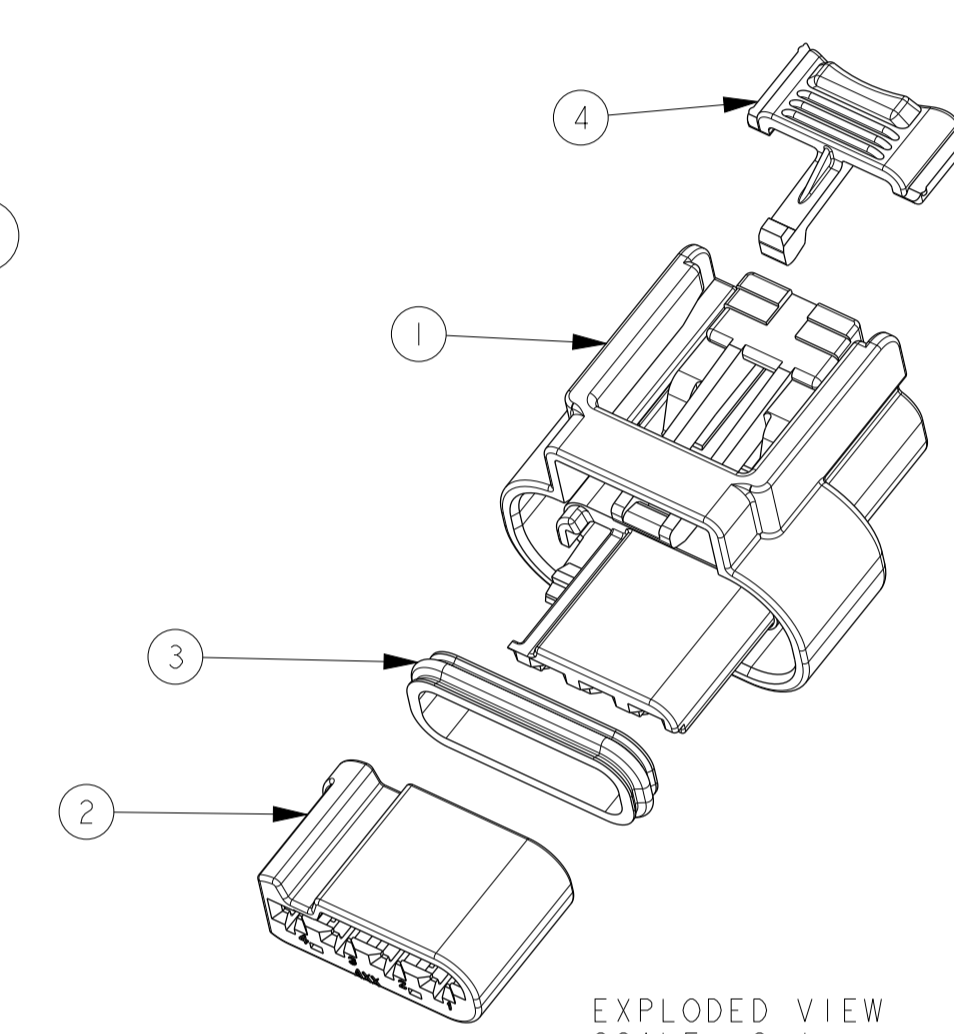
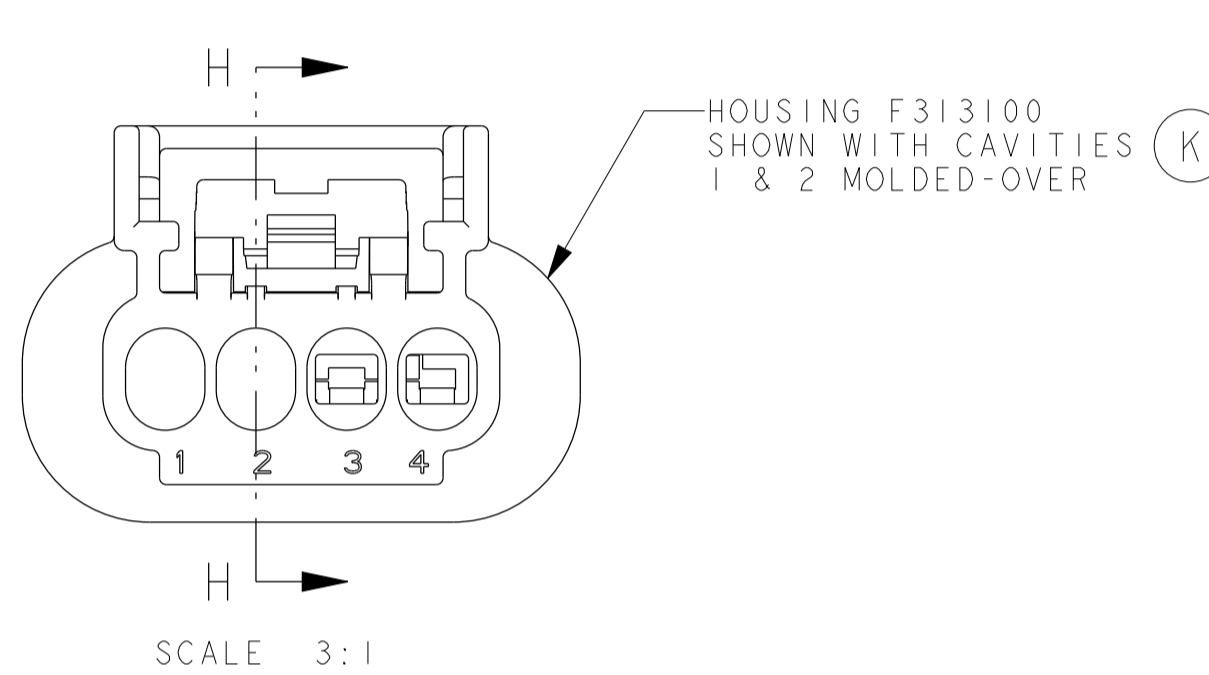
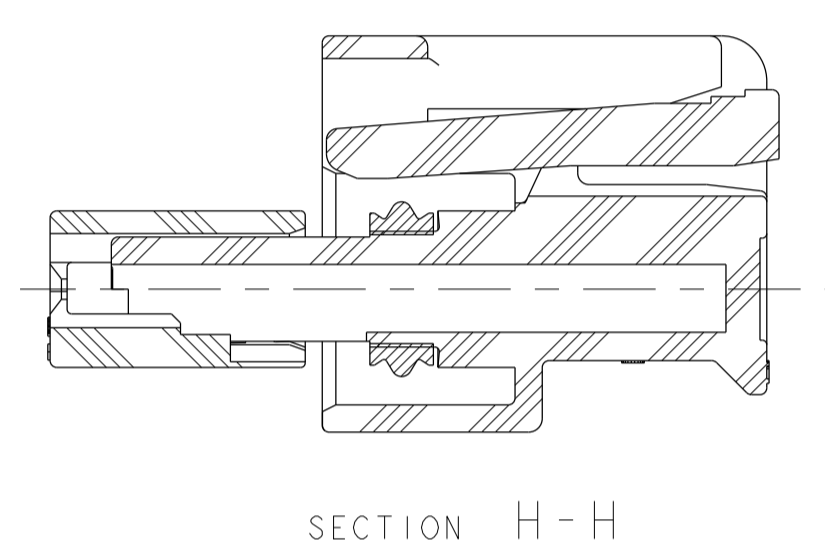
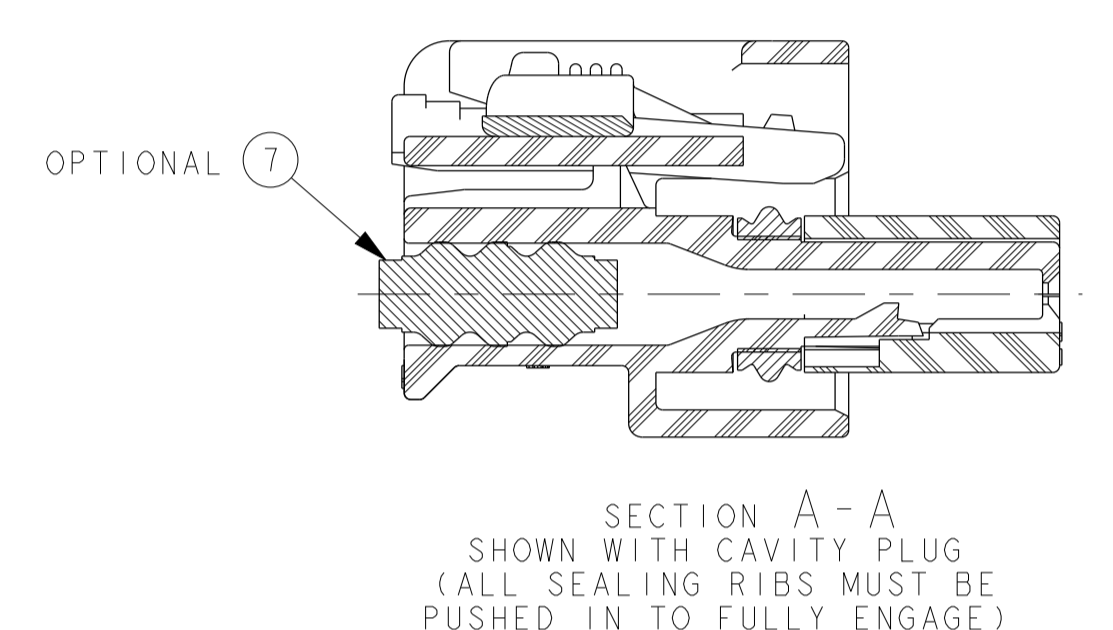
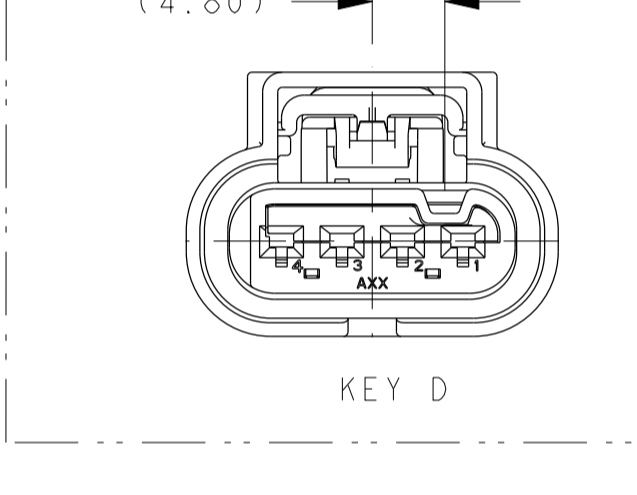
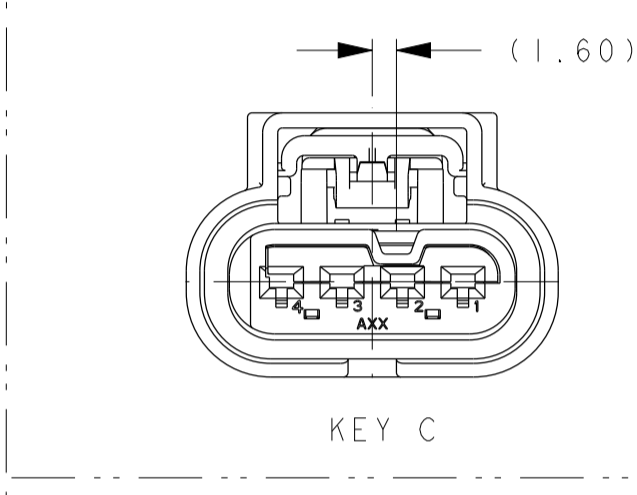
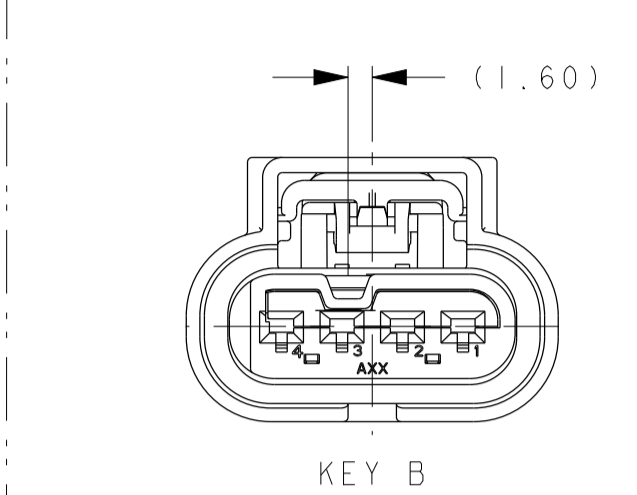
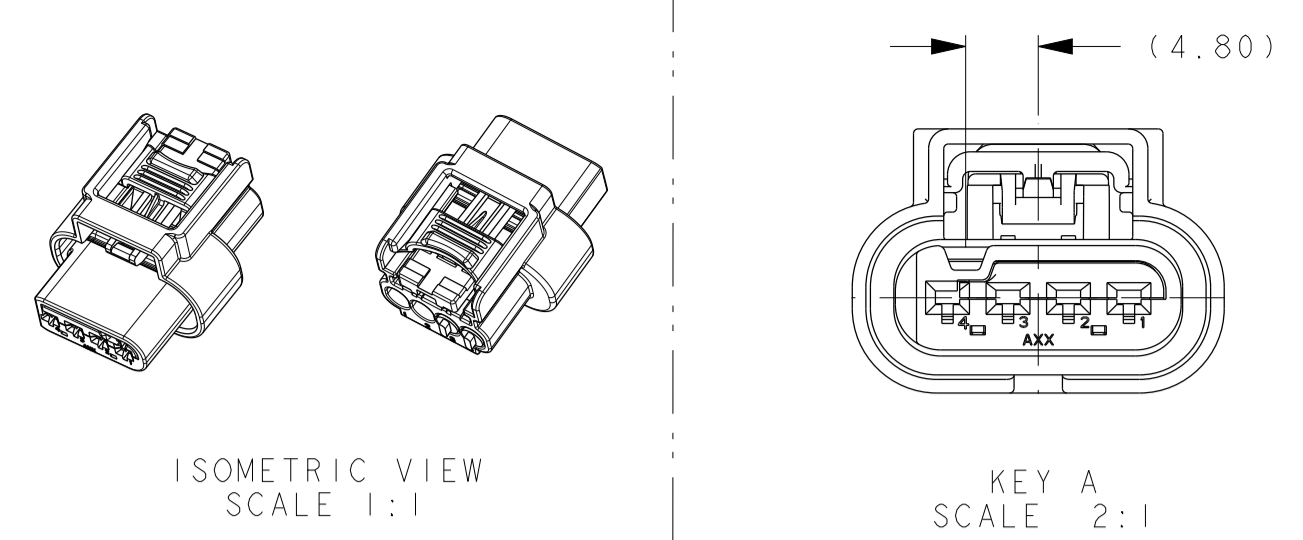
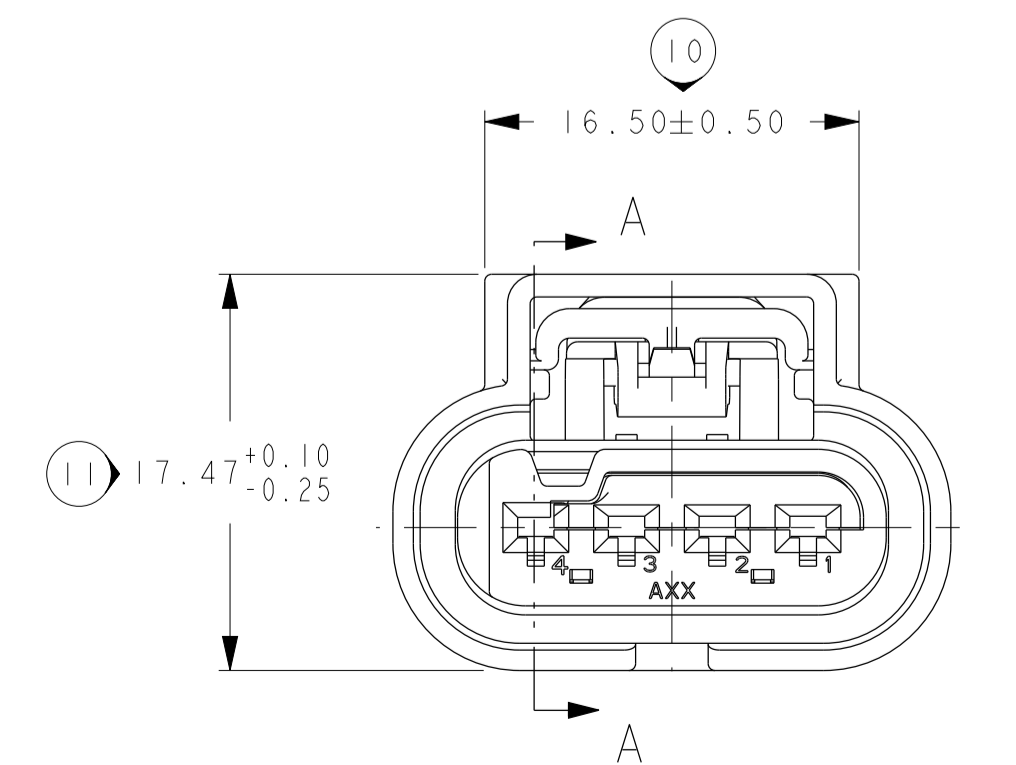
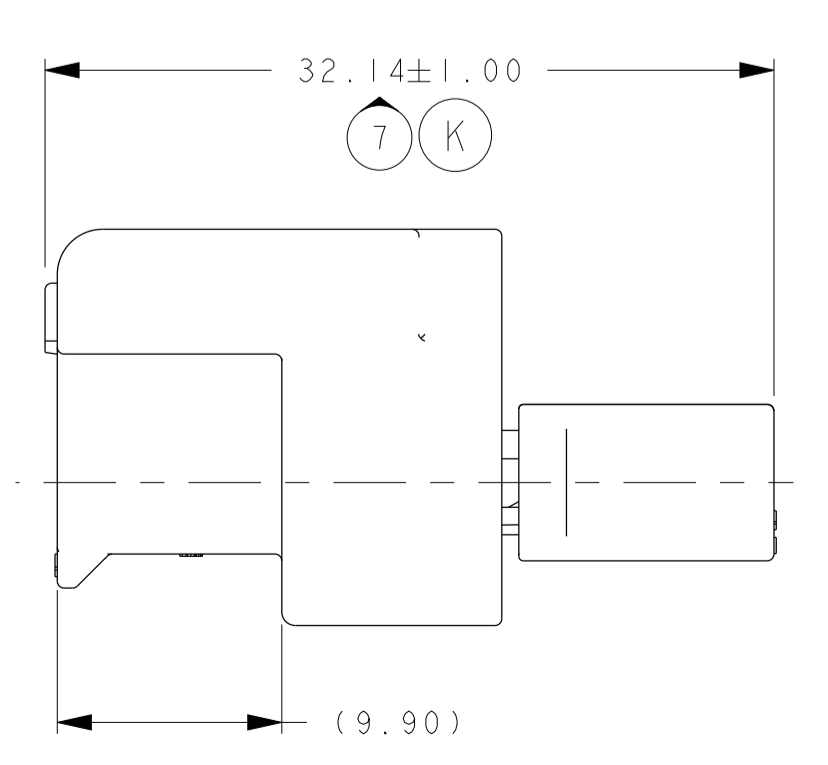


ASSEMBLY PART NUMBER CHART													
PART NUMBERS				KEY OPTION	COLOR	MOLDED-OVER POSITIONS				COMPONENTS			
DELPHI	REV	MVL	REV			1	2	3	4	INSULATOR (HOUSING)	TPA (BLUE)	RING SEAL (BLUE)	CPA (RED)
33511378	02	F405100	B	A	BLACK	X	X			F313100	F481100	F752210	
33511379	01	F192100	A	A	BLACK	X	X					N/A	
13965727	02	F782100	B	A	BLACK			F971100					
33511380	02	F882100	B	B	LT GRAY			F181100	F581100			F752210	
-	-	N/A	-	C	DK GRAY			F281100	F681100				
-	-	N/A	-	D	BLACK			F381100	F781100				
13820427	01	F881100	A	A	BLACK			F971100	F481100	F342100			
33511381	01	F981100	A	B	LT GRAY			F181100	F581100				
-	-	N/A	-	C	DK GRAY			F281100	F681100				
-	-	N/A	-	D	BLACK			F381100	F781100			N/A	
13856391	01	F095900	A	A	BLACK		X	F225900					
33400263	01	-	-	A	BLACK	X	X	33400261	F481100				
33400264	01	-	-	A	BLACK		X	33400262					

APPLICABLE COMPONENTS CHART									
ITEM NO.	DESCRIPTION	PLATING OR COLOR	SUPPLIER		DELPHI	GRIP CODE	WIRE SIZE	INSULATION DIAMETER RANGE	MATERIAL/SPEC NO
			NAME	NUMBER					
5	1.20 SYSTEM TERMINAL	TIN	MVL	54001864	13576990	18	18-16 AWG 0.75-1.25mm ²	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN	MVL	54002006	13806233	20	22-20 AWG 0.35-0.50mm ²	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN/SILVER	MVL	54001866	13587331	18	18-16 AWG 0.75-1.25mm ²	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN/SILVER	MVL	54002007	15521522	20	22-20 AWG 0.35-0.50mm ²	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	SILVER	MVL	F731400	13805376	18	18-16 AWG 0.75-1.25mm ²	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	SILVER	MVL	F931400	13805375	20	22-20 AWG 0.35-0.50mm ²	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	GOLD	MVL	54001863	13579640	18	18-16 AWG 0.75-1.25mm ²	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	GOLD	MVL	54002005	13827658	20	22-20 AWG 0.35-0.50mm ²	1.20mm-1.90mm	COPPER ALLOY / NA
6	1.20 SYSTEM CABLE SEAL ROUND	RUST RED	MVL (QSR)	C528010 (A-0419)	13898958		18-16 AWG 1.00-1.25mm ²	1.90mm-2.41mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	GREEN	MVL (QSR)	(A-0419C)	33402838		22-20 AWG 0.50-0.75mm ²	1.40mm-1.90mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	TAN	MVL (QSR)	C073510 (A-0419B)	33511987		0.35mm ²	1.20mm-1.40mm	SILICONE
7	1.20 SYSTEM SEAL PLUG	GREEN	MVL (QSR)	C628010 (A-0412)	13898957		OPTIONAL AS REQUIRED		SILICONE



8 (ASSEMBLY DATE CODE APPLIED IN THIS LOCATION)



- NOTES:
- VALIDATED TO SAE/USCAR-2 REV 5 WITH THE FOLLOWING EXCEPTION(S):
- SECTION 5.4.2 (Connector-Connector Mating/Unmating Force)
>95N (UN-MATING FORCE FROM DEVICE)
 - VALIDATED TO THE FOLLOWING TEMP, VIBRATION, AND SEALING CLASSES:
- GMW3191 SECTION 4.28 V4 T4 (155°C) WITH GOLD OR SILVER TERMINALS
- SAE/USCAR-2 V3 T4 (150°C) WITH GOLD OR SILVER TERMINALS
- SAE/USCAR-2 V3 T3 (125°C) / V2 T4 (150°C) WITH TIN/SILVER TERMINALS
- SAE/USCAR-2 V2 T3 (125°C) WITH TIN TERMINALS
- SAE/USCAR-2 SEALING S3 T4 (150°C) (ISO16750 9K EQUIVALENT)
 - CONNECTOR MAY BE USED WITH THE FOLLOWING TERMINALS:
- DELPHI APEX 1.2 TERMINALS LISTED IN THE APPLICABLE COMPONENTS CHART ON THIS DRAWING WITH WIRE SIZES DEFINED IN NOTE 4.
- SEE DELPHI DRAWING C18001-1-2-CUST FOR SPECIFIC TERMINAL DETAILS AND CRIMPING REQUIREMENTS
- PLATING OF TERMINALS AND MATING DEVICE BLADES MUST BE COMPATIBLE
 - CONNECTOR SYSTEM VALIDATED TO USCAR-2 REQUIREMENTS WITH THE FOLLOWING RANGE OF WIRE SIZES AND TYPES IN CONJUNCTION WITH APPROPRIATE COMPONENTS FOUND IN THE "APPLICABLE COMPONENTS" CHART:
AWG - WIRE SIZES: 22AWG - 16AWG
INSULATION DIAMETER: 1.50mm MIN - 2.41mm MAX
WIRE TYPE: MIL-123-A, MS-8288, MS-9502 OR EQUIVALENT (STRUCTURE AND PROPERTIES ACCORDING TO SAE J1128)
METRIC - WIRE SIZES: 0.35mm² - 1.25mm²
INSULATION DIAMETER: 1.20mm MIN - 2.30mm MAX
TYPE/STANDARD: FLR2X, FLR9X OR EQUIVALENT (STRUCTURE AND PROPERTIES ACCORDING TO ISO 6722)
- CONTACT DELPHI ENGINEERING REGARDING USE OF OTHER WIRE SIZES AND/OR TYPES
- WIRE AND INSULATION TYPE MUST BE APPROPRIATE FOR TEMPERATURE CLASS & APPLICATION ENVIRONMENT
- CONNECTOR IS MATE COMPATIBLE WITH DEVICES WHICH CONFORM WITH THE FOLLOWING USCAR INTERFACE SPECIFICATIONS:
- 120-S-004-1-201 (WITH EWCAP-001 TYPE 120-T BLADES)
- 120-S-004-1-202 (WITH EWCAP-001 TYPE 120-T BLADES)
 - ANNUAL QUALITY REQUIREMENTS:
- IT IS PERMISSIBLE TO PERFORM CONTINUOUS CONFORMANCE PER DELPHI SPECIFICATION #AQA-001 INSTEAD OF ANNUAL LAYOUT AND ANNUAL PV REQUIREMENTS OF ISO TS16949 AND SAE/USCAR-2 REV 5. FOR TERMINAL TO CONNECTOR AND TPA TO CONNECTOR ONLY.
 - SOURCE ID, MOLD & CAVITY ID SIGNIFIES TOOL OWNERSHIP, FOR REFERENCE
 - (K) INDICATES IN-PROCESS INSPECTION FOR MANUFACTURING DIMENSIONS OR SPECIFICATIONS.

ECN-13-01301	APP CHART	ADDED GREEN CABLE SEAL 33402838, REMOVED BLUE CABLE SEAL 54200391/13576991
ECN-13-01016	PART BOM	ECO 423850 - CORRECT PART REV FOR 3 DELPHI AND 3 MVL PART NUMBERS ECO 423850
ECN-13-01009	NOTES	UPDATE VIEWS FOR DESIGN IMPROVEMENT TO CPA F752210 REVISED NOTE 2 - UPDATE PERFORMANCE DATA FOR TIN/SILVER PLATING APP CHART CORRECT DELPHI P/N FOR TAN SEAL - 33511987 WAS 33511342
13-00686	NOTES	ECO 422555 - DELPHI P/N'S ADDED FOR MVL PARTS WITH REV LEVELS CHARTS AND NOTES UPDATED FCI REPLACED WITH MVL, VIEWS RE-ALIGNED WITH 3:1 SCALE
13-00105	PART BOM	ADDED PART NUMBERS 33400263 & 33400264
12-01304	APP CHRT	ADD 0.35 CABLE SEAL C073510, ADD 0.35mm ² AND 22 AWG WIRE
	PART BOM	KEY OPTION C WAS BROWN, KEY OPTION D WAS DK GRAY
	NOTES	CORRECT AND REVISE NOTE 4
12-00612	CHARTS	RE-ACTIVATE PART NUMBERS F405100, F782100 AND F882100
	CHARTS	CPA PART NUMBER F752210 WAS 54200016
	CHARTS	REVISED "APPLICABLE COMPONENTS CHART"
	NOTES	REVISED NOTE 4
11899	CHARTS	REVISED "APPLICABLE COMPONENTS" CHART
11835	CHARTS	ADDED ASM NUMBER F095900, REVISED "APPLICABLE COMPONENTS" CHART, REVISED NOTE #5
11765	CHARTS	REVISED "APPLICABLE COMPONENTS" CHART, MOVED KEY VIEWS, NOTES REVISED
	CHARTS	DRAWING NUMBER PCC0546721 WAS PCC0546721
10454	CHARTS	REVISED CHART, ADDED "APPLICABLE COMPONENTS" CHART, KEYS C&D "NOT AVAILABLE" ADDED DIMENSION BALLOONS
	KEY(S)	REFERENCE DIMS WERE DIMENSIONS WITH TOLERANCE (#12,#13,#14,#15) #12,C15 17.42±0.10/-0.25 WAS 17.42 (#11), 32.15±1.00 WAS 32.15 (#7)
	G11	DIMENSION 24.5 (#9) MOVED TO NEW VIEW & TARGETS ADDED
	C11	16.50±0.50 WAS 16.50 (#10)
	NOTES	ADDED QUALITY ASSURANCE REQUIREMENTS (DIAMOND), "K" NOTE, & CONN-CONN REMOVAL FORCE
10140		RELEASE FOR PRODUCTION
ECN-NO.	ZONE	CHANGE DESCRIPTION
PROJECT SPEC.	PACKAGING SPEC.	APPLICATION SPEC.
APEX 1.2		
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TOLERANCES	±0.1	±.2*
CONTRIBUTOR:	SEE CHART	CAD SYSTEM
DO NOT MEASURE DRAWING	COLOUR: SEE CHART	DELPHI PACKARD ELECTRICAL/ELECTRONIC ARCHITECTURE
DATE	NAME	PROJECT
CREATED BY	20071102	Maheshwari P
MODIFIED BY	20131106	Moh MAJIDH
CHECKED BY	20131107	Bob CURT
APPROVED BY	20131002	Surbha SHAN
FILE NAME	PCC0546721	DOCUMENT UNDER PDS CONTROL, NO MODIFICATION ALLOWED OUTSIDE
DRAWING NUMBER		REV.
PCC0546721		M
STATE		APPROVAL LEVEL
12MM HIRSCHMANN INTERFACE		A1
PART NUMBER		SHEET
AM-07001		1
CAT. NO.		REV.
		1
		SCALE 3:1