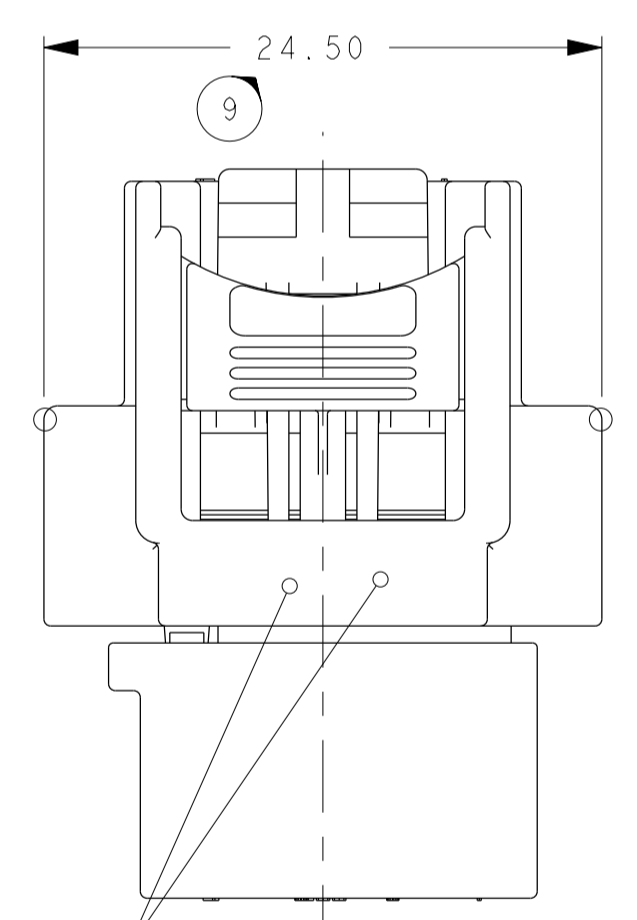
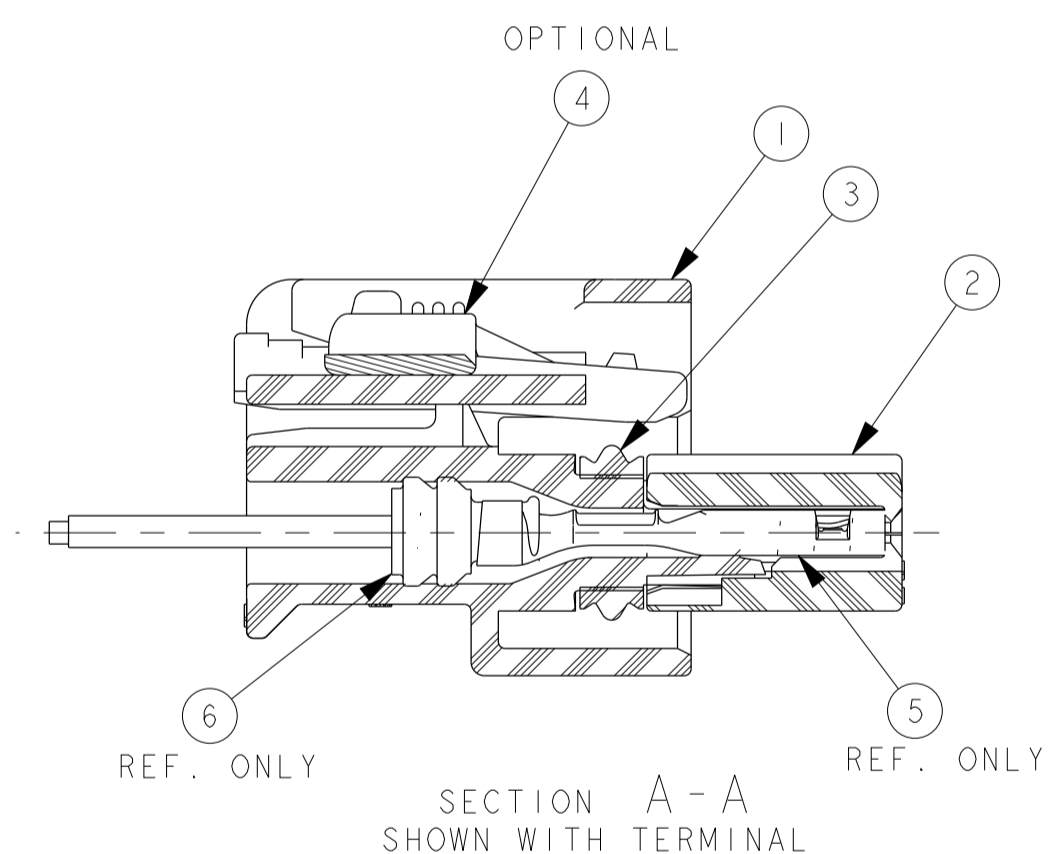
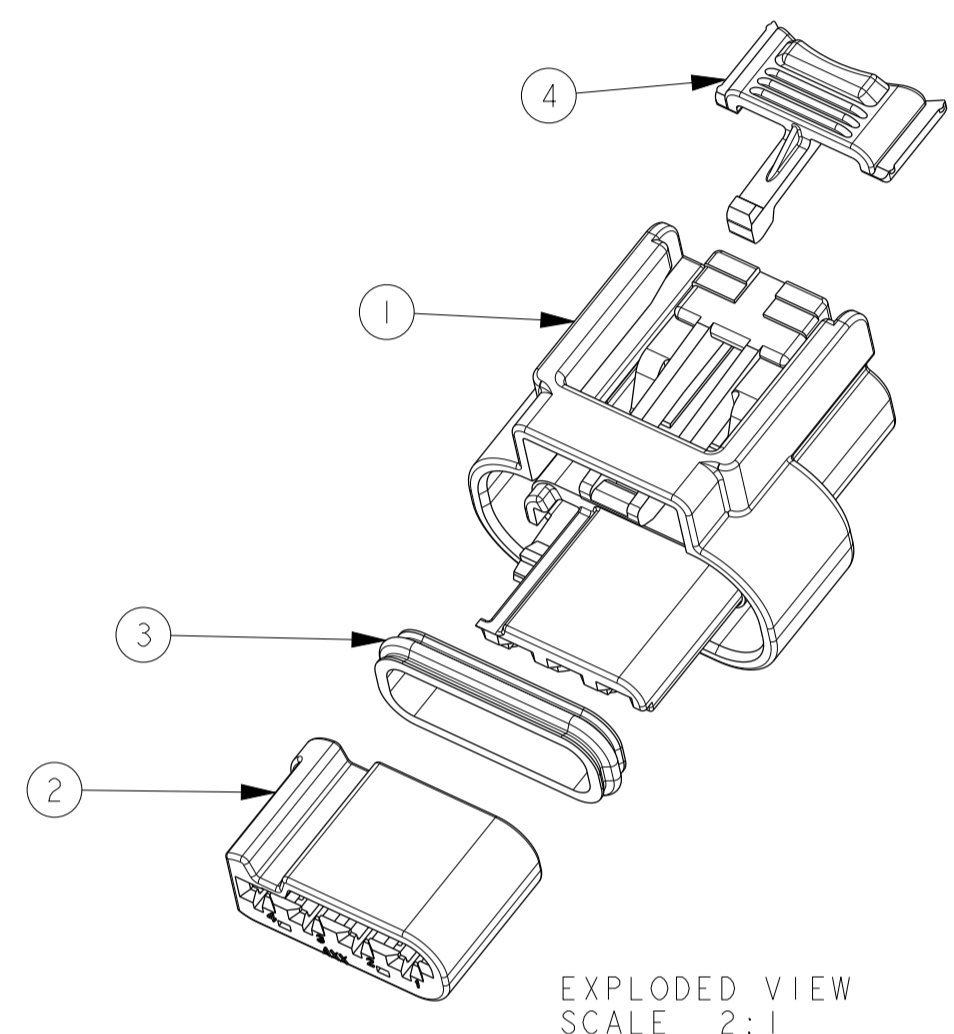
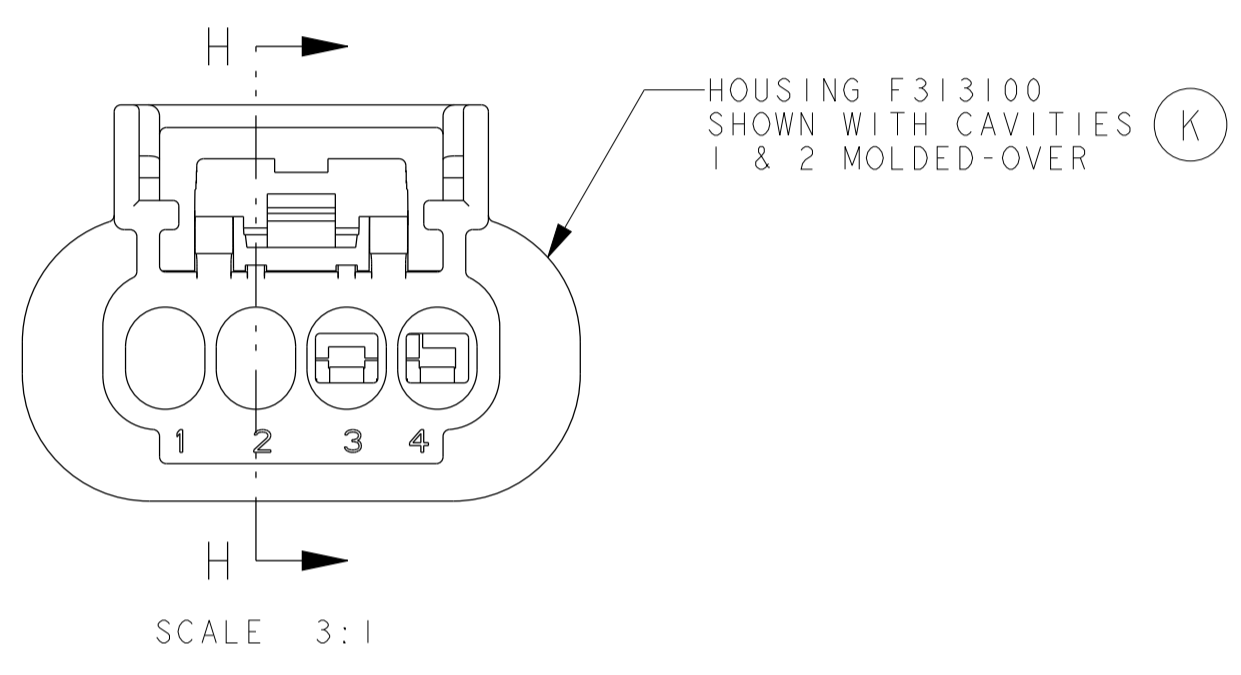
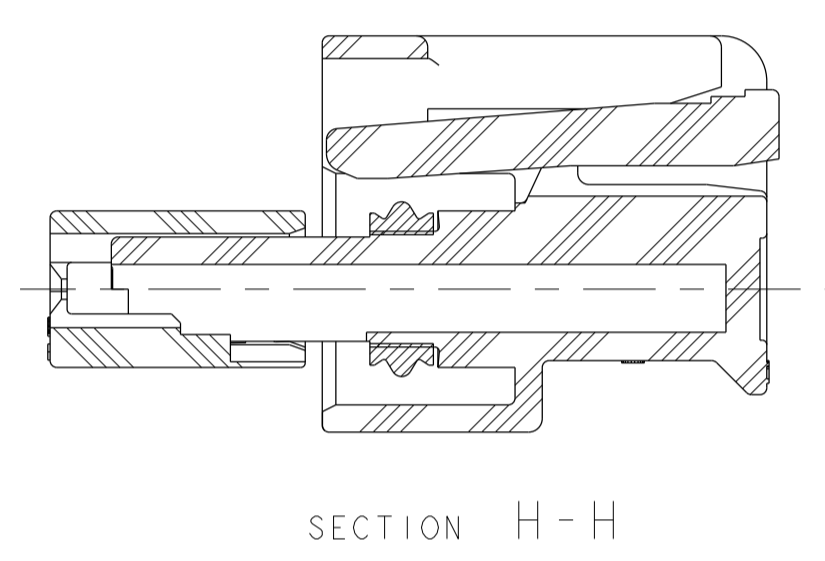
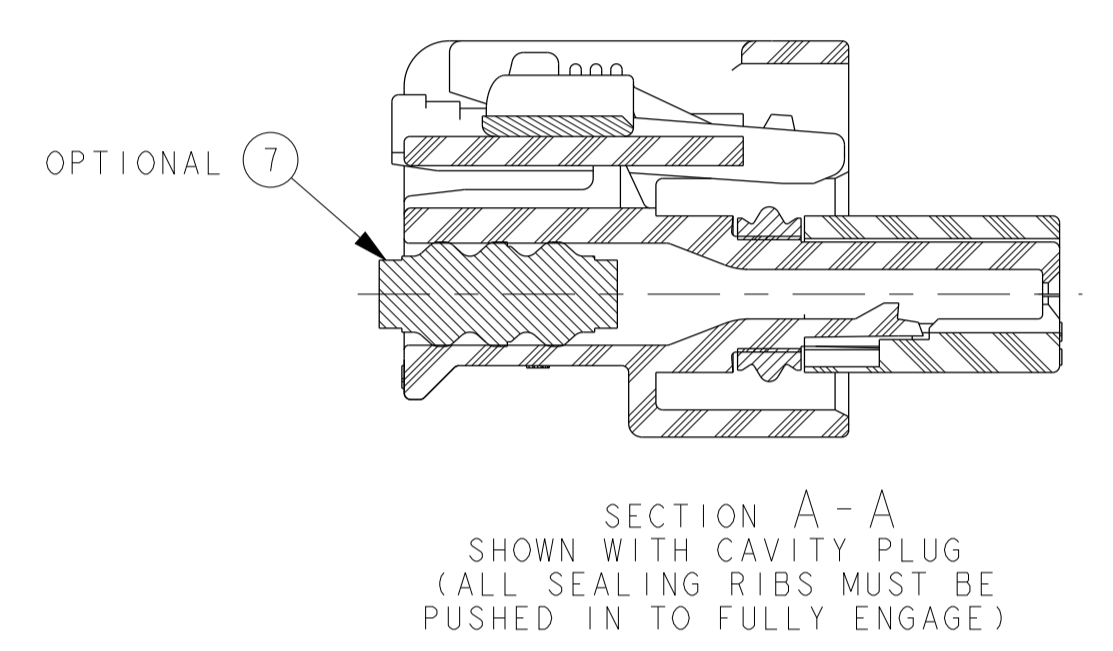
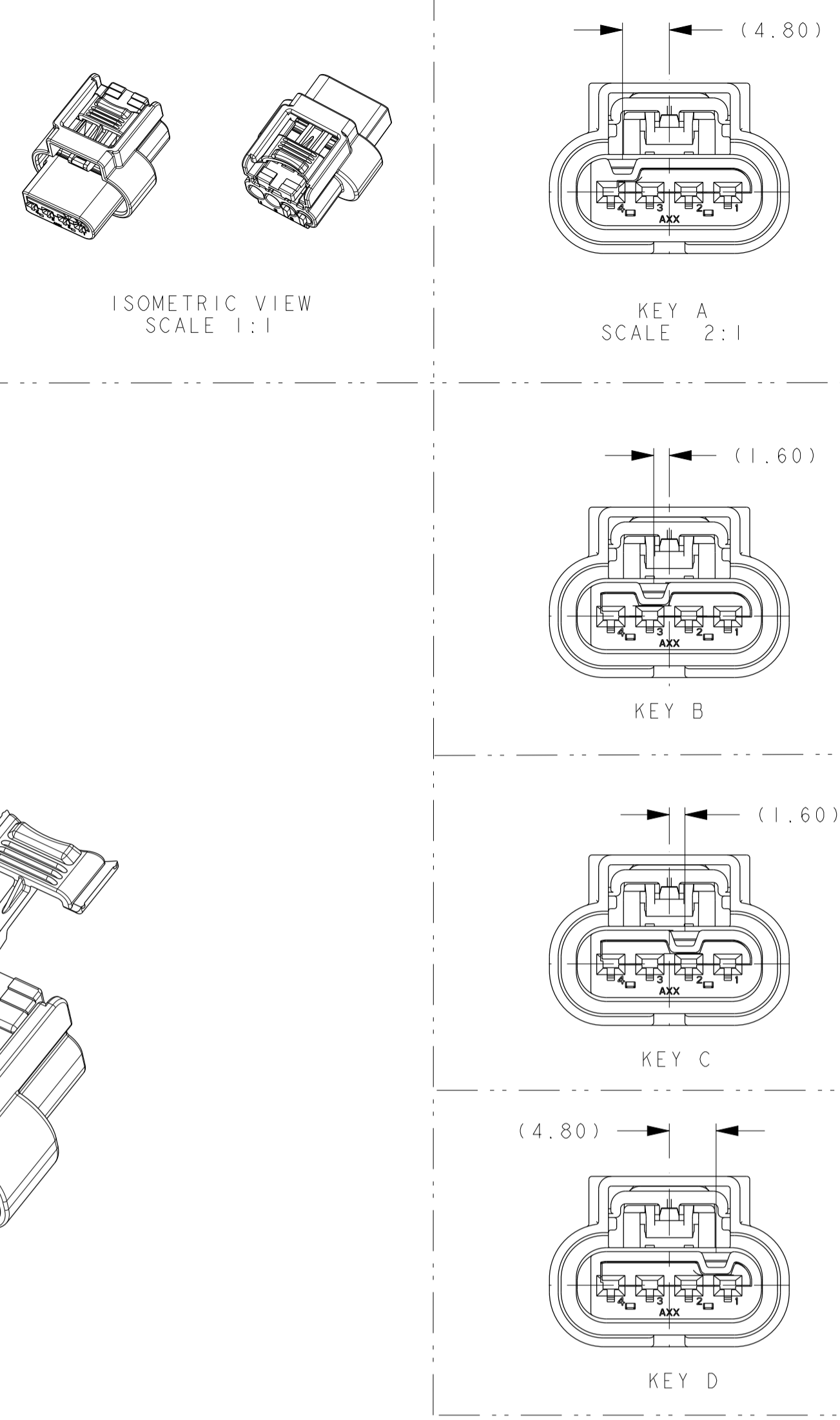
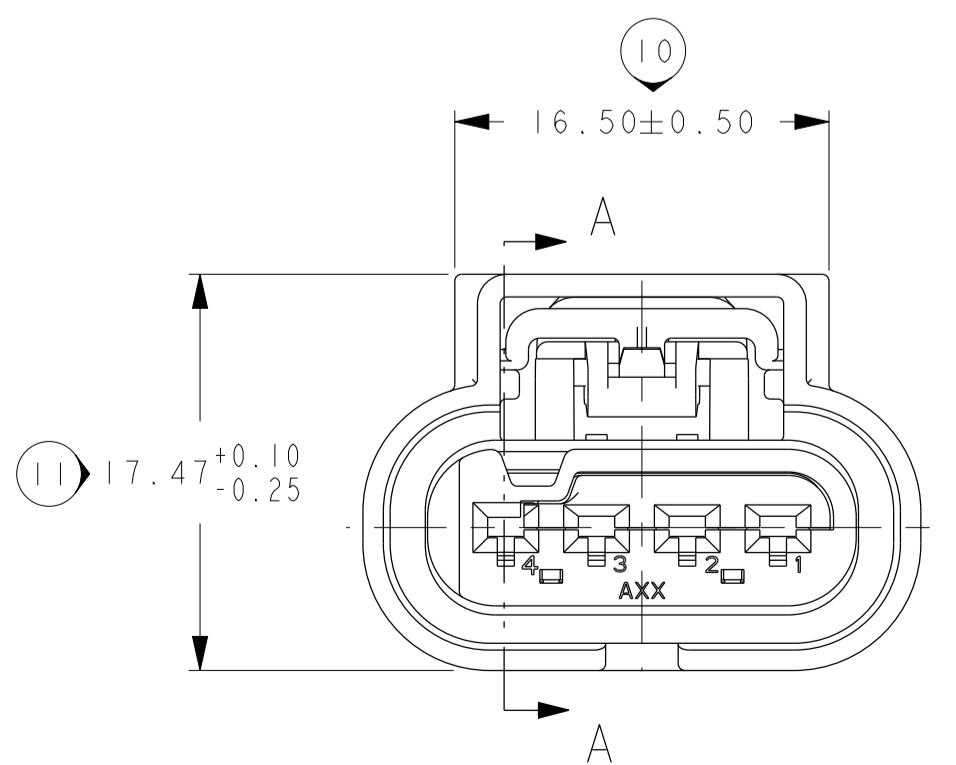
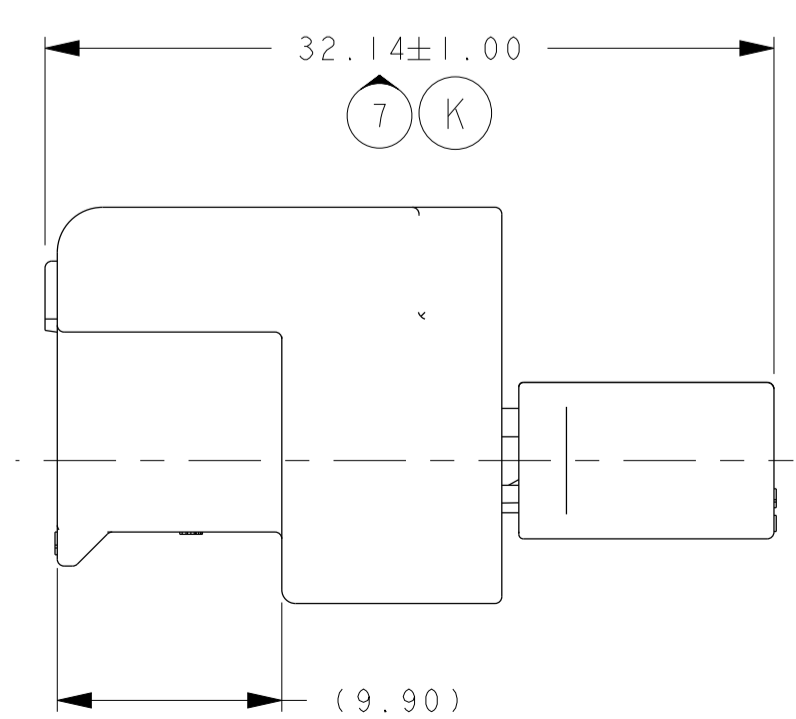


ASSEMBLY PART NUMBER CHART													
PART NUMBERS				KEY OPTION	COLOR	MOLDED-OVER POSITIONS				COMPONENTS			
DELPHI	REV	MVL	REV			1	2	3	4	INSULATOR (HOUSING)	TPA (BLUE)	RING SEAL (BLUE)	CPA (RED)
33511378	02	F405100	B	A	BLACK	X	X			F313100	F481100	F752210	
33511379	01	F192100	A	A	BLACK	X	X					N/A	
13965727	02	F782100	B	A	BLACK					F971100			
33511380	02	F882100	B	B	LT GRAY					F181100	F581100		
-	-	N/A	-	C	DK GRAY					F281100	F681100	F752210	
-	-	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 <sup>2</sup>	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN	MVL	54002006	13806233	20	22-20 AWG 0.35-0.50mm <sup>2</sup>	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN/SILVER	MVL	54001866	13587331	18	18-16 AWG 0.75-1.25mm <sup>2</sup>	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	TIN/SILVER	MVL	54002007	15521522	20	22-20 AWG 0.35-0.50mm <sup>2</sup>	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	SILVER	MVL	F731400	13805376	18	18-16 AWG 0.75-1.25mm <sup>2</sup>	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	SILVER	MVL	F931400	13805375	20	22-20 AWG 0.35-0.50mm <sup>2</sup>	1.20mm-1.90mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	GOLD	MVL	54001863	13579640	18	18-16 AWG 0.75-1.25mm <sup>2</sup>	1.70mm-2.41mm	COPPER ALLOY / NA
	1.20 SYSTEM TERMINAL	GOLD	MVL	54002005	13827658	20	22-20 AWG 0.35-0.50mm <sup>2</sup>	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 <sup>2</sup>	1.90mm-2.41mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	GREEN	MVL (QSR)	(A-0419C)	33402838		22-20 AWG 0.50-0.75mm <sup>2</sup>	1.40mm-1.90mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	TAN	MVL (QSR)	C073510 (A-0419B)	33511987		0.35mm <sup>2</sup>	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: 0.35mm<sup>2</sup> - 1.25mm<sup>2</sup>  
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		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 <sup>2</sup> 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
	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	MATERIAL: SEE CHART
DO NOT MEASURE DRAWING	TOOL NO.	ECO Loc. C46 AN
DATE	NAME	TITLE
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
DELPHI		CAD SYSTEM
DELPHI PACKARD ELECTRICAL/ELECTRONIC ARCHITECTURE		proj / eng.
PCC0546721		DWG SIZE
SERIAL RELEASED		A1
DRAWING NUMBER		REV.
PCC0546721		M
STATE		SHEET
PART NUMBER		1
AM-07001		REV.
CAT. NO.		1
See Table		SCALE 3:1