



ASSEMBLY PART NUMBER CHART											
MVL		DELPHI		INDEX TYPE	① INSULATOR (HOUSING)	② TPA		③ RING SEAL		④ CPA	
NUMBER	REV	NUMBER	REV			COLOR	MVL	DELPHI	MVL	DELPHI	MVL
54200378	H	13578335	01	A	BLACK	54200382		54200386			
54200379	H	13800877	01	B	LT GRAY	54200383		54200387			
54200380	H	33511473	01	C	BROWN	54200384		54200388		NA	NA
54200381	H	13576035	01	D	DK GRAY	54200385		54200389			
F519600	K	13893234	02	A	BLACK	54200382		54200386	54200392		
F500900	K	13982959	02	B	LT GRAY	54200383		54200387		F752210	
F600900	K	33511474	02	C	BROWN	54200384		54200388			
F177010	K	13925686	02	D	DK GRAY	54200385		54200389			
		33126400	01	A	BLACK		33109603	54200386			

APPLICABLE COMPONENTS CHART									
ITEM NO.	ITEM DESCRIPTION	PLATING OR COLOR	SUPPLIER		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
6	1.20 SYSTEM CABLE SEAL ROUND	RUST RED	MVL (OSR)	C528010 (A-0419)	13898958		18-16 AWG 1.00-1.25mm ²	1.90mm-2.41mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	BLUE	MVL (OSR)	54200391 (A-0131)	13819956		22-20 AWG 0.50-0.75mm ²	1.40mm-1.90mm	SILICONE
	1.20 SYSTEM CABLE SEAL ROUND	TAN	MVL (OSR)	C073510 (A-0419B)	33511987		0.35mm ²	1.20mm-1.40mm	SILICONE
7	1.20 SYSTEM CAVITY PLUG	GREEN	MVL (OSR)	C628010 (A-0412)	13898957				OPTIONAL AS REQUIRED

NOTES:

- VALIDATED TO SAE/USCAR-2 REV 4
- 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: MIL123-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
 - WIRE TYPE: 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-003-1-Z01 (WITH EWCAP-001 TYPE 120-T BLADES)
 - 120-S-003-1-Z02 (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-NO.	ZONE	DESCRIPTION	DATE	BY
ECN-13-01229	CHART	ECO 424611 - ADD PART NUMBER 33126400 FOR NEW CLEARANCE SLOT OPTION		
	H2-H4	ADD VIEWS OF KEY A HOUSINGS 54200382 & 33109603		
	NOTES	REVISED NOTE 1 - REV 4 WAS REV 3, REMOVED EXCEPTIONS		
ECN-13-01030	PART BOM	ECO 423850 CORRECT DELPHI AND MVL PCL LEVELS		
ECN-13-01007	CHARTS	ECO 423850 - ADD DELPHI ASSY AND APPLICABLE COMPONENT P/N'S FOR MVL WITH REV LEVELS		
		UPDATE VIEWS FOR DESIGN IMPROVEMENT TO CPA P/N F752210		
	NOTES	REVISE NOTE 2 PERFORMANCE DATA		
ECN-12-01303	APP CHRT	ADD 0.35 CABLE SEAL C073510, ADD 0.35mm ² and 22 AWG WIRE		
	PART BOM	REMOVE F534300, C434300, TEMP CLASS COLUMN		
	BTI	ADD INSULATION DIA RANGE TO APP CHART		
	NOTES	REVISED NOTE 4		
12-00271	CHART	F752210 WAS 54200016 (NEW CPA), PCL UPDATED TO 'H', 0.75-1.25mm ² WAS 0.75-1.50mm ²		
	NOTES	NOTE #4 WAS CORRECTED (0.50-1.25mm ² WAS 0.50-1.50mm ²)		
11970	N13	CORRECTED DIMENSION: 33.3±0.75 WAS 33.1±0.3		
11903	CHART	APPLICABLE COMPONENTS CHART REVISED		
	CHART	F519600 WAS F400900 (CORRECTION)		
11891	CHART	ADDED KEY OPTION D WITH CPA (F177010)		
11838	CHART	APPLICABLE COMPONENTS CHART REVISED		
	NOTES	REVISED NOTE #5		
	CHART	CORRECTED PCL CODES		
10700	ALL	REVISED AND REDRAWN IN FCI - CUSTOMER FRAME.		
	----	ASSY P/N F5434300 FOR FLUOROSILICONE MATERIAL APPLICATION ADDED, CHART UPDATED WITH FLUOROSILICONE SEAL P/N'S (NOT AVAILABLE).		
	D16			

PROJECT SPEC.	PACKAGING SPEC.	APPLICATION SPEC.	COPYRIGHT
USCAR-2 REV 4	NONE	NONE	DELPHI CORPORATION AND/OR ITS AFFILIATES. ALL RIGHTS RESERVED. REVISED

TOLERANCES	PLACE DIMS	MATERIAL	(SEE TABLE)	SURFACE FINISH
DO NOT MEASURE DRAWING	SEE NOTE 5	COLOR:	SEE TABLE	

DATE	NAME	TITLE	DRAWING NUMBER	REV.	APPROVAL LEVEL
2013/11/13	J. LAURIN	CHART ASSEMBLY - 3-WAY FEMALE (12MM APEX SEALED CONNECTOR SYSTEM)	K29002	N	A1
2013/11/13	Mani MAJUMDAR				
2013/11/13	Sudha BIAN				
2013/11/13	JIM CAMPBELL				

FILE NAME	ESR NO.	CAT. NO.	SCALE
K29002	AM030093		3:1

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