

REPLACEMENT DU MODULE DE DÉTECTION DE CHALEUR #562630

Applicable aux véhicules d'année modèle 1997 à 2000 incl.

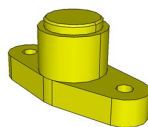
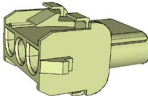

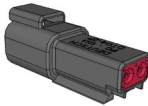
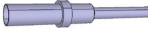
Utilisez l'ensemble IS21904 pour remplacer le module de détection de chaleur discontinué #562630

Version initiale

Mai 2021

MATÉRIEL

L'ensemble # IS21904 inclut les pièces suivantes :

Pièce No	Description		Qté
065290	DÉTECTEUR DE FEU, BI-LAME BLADE		3
561667	CONNECTEUR, AMP MATE-N-LOCK UNI 3 PH		1
561671	CHEVILLE DE CONTACT, AMP MATE-N-LOCK UNI PIN 24-18 AWG		2
562486	CONNECTEUR, DEUTSCH DT 2 PH		3
562286	CHEVILLE DE CONTACT, DEUTSCH TYPE 16 PIN 20-16 AWG		6
562487	VERROU SECONDAIRE, DEUTSCH 2C PH		3
561258	FIL, 18 AWG, GXL, ROUGE, 125 DEG		30 pi
561261	FIL, 18 AWG, GXL, NOIR, 125 DEG		30 pi
IS-21904	INSTRUCTION SHEET		1
FI-21904	FEUILLE D'INSTRUCTION		1

REMARQUE

Le matériel peut être commandé selon la pratique habituelle.

MARCHE À SUIVRE



DANGER

Stationner le véhicule de façon sécuritaire, appliquer le frein de stationnement, arrêter le moteur. Avant de travailler sur le véhicule, placer le commutateur d'allumage à la position OFF et déclencher les disjoncteurs principaux équipés d'un dispositif de déclenchement manuel. Sur les véhicules de type Commuter, placer le commutateur principal d'alimentation (master cut-out) à la position OFF.

Les procédures de cadenassage et d'étiquetage (LOTO) doivent être appliquées avant d'entreprendre toute activité d'entretien, de réparation ou d'ajustement sur le véhicule. Se référer à la procédure locale pour toute information spécifique concernant les méthodes de contrôle d'énergies.

1. Localiser le module de détection de chaleur (*heat detector module*) (pièce 562630) dans le compartiment électrique arrière (Figure 1).

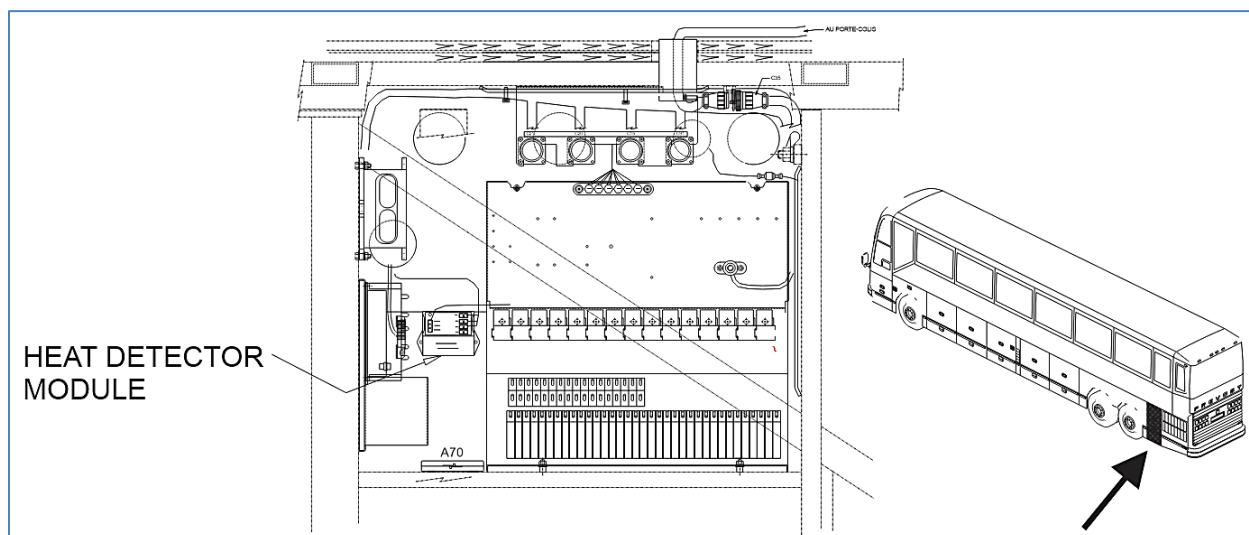


FIGURE 1

2. Retirer et jeter le module de détection de chaleur et les trois capteurs de chaleur (Figure 2). Deux capteurs de chaleur se trouvent dans le compartiment moteur et l'autre dans le compartiment des batteries.
3. Installer trois détecteurs de feu 065290 à l'endroit où se trouvait l'extrémité des capteurs de chaleur précédents.

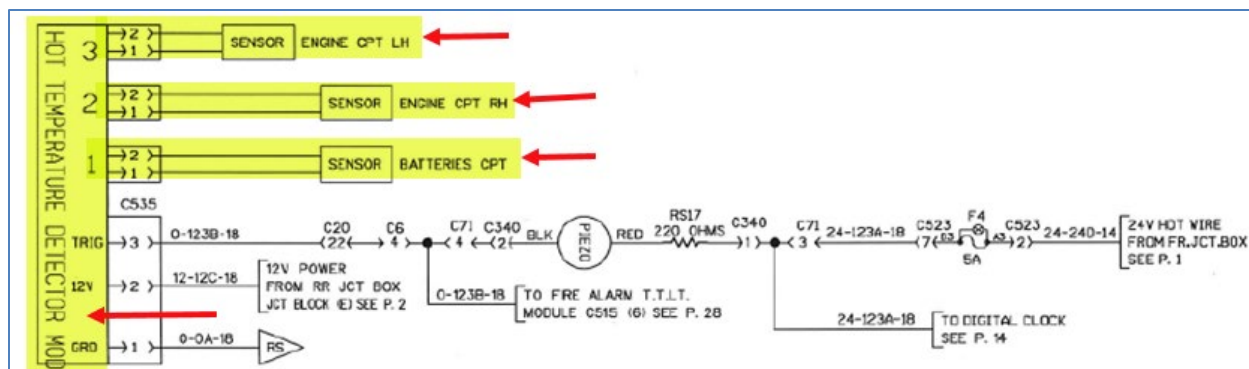


FIGURE 2

4. Fabriquer un câblage selon la figure 3.

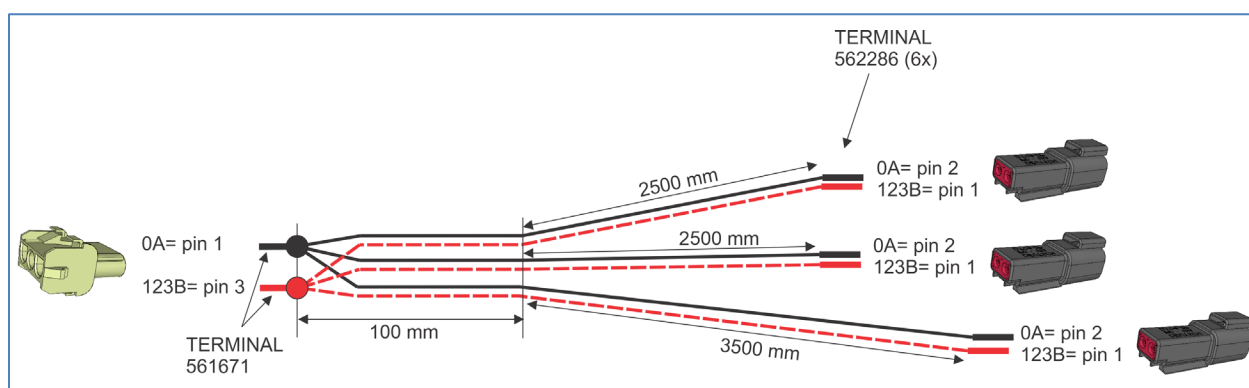


FIGURE 3

Fil rouge= circuit 123B

Fil noir = circuit 0A

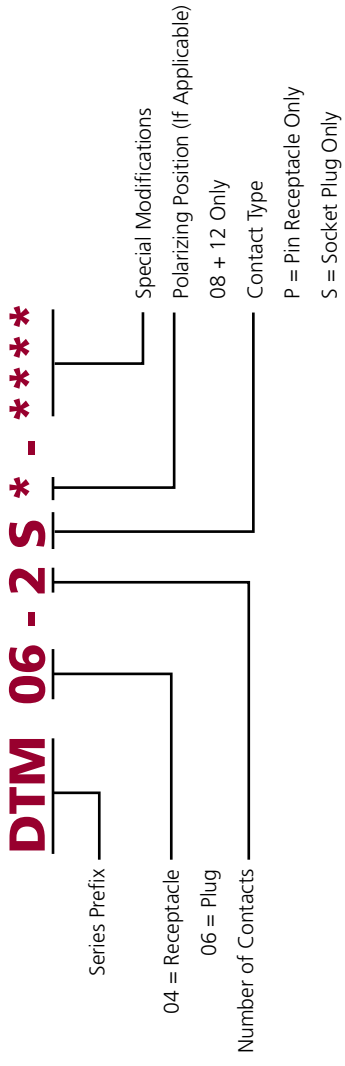
5. Raccorder le câblage au connecteur C535 précédemment connecté au module de détection de chaleur et raccorder les trois branches du câblage aux détecteurs de feu. Utilisez la branche la plus longue pour atteindre le compartiment des batteries.

DISPOSITION DES PIÈCES

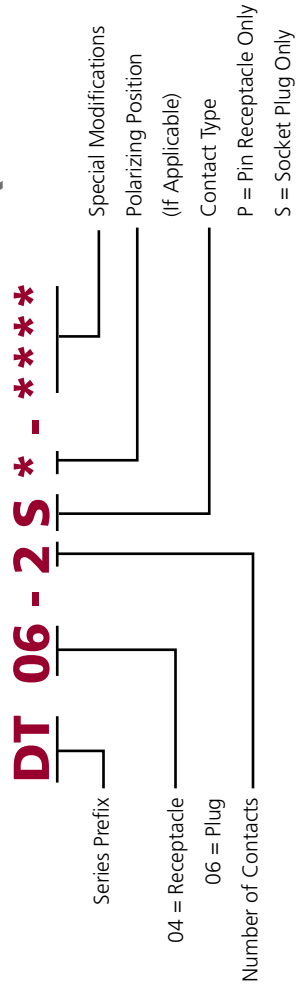
- Rebuter selon les règlements environnementaux applicables (mun. /prov. /féd.).



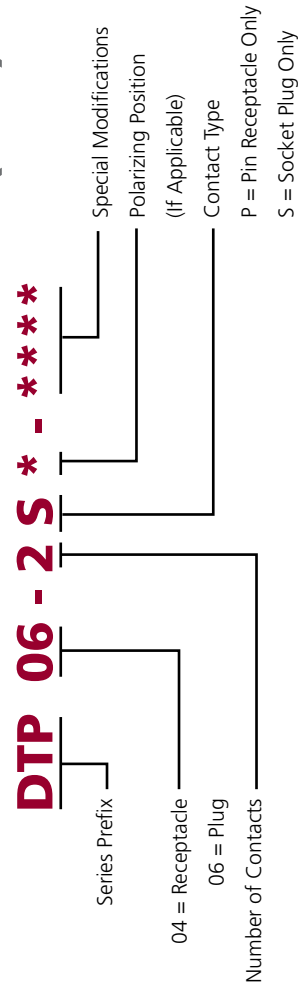
PART NUMBERING SYSTEM (DTM)



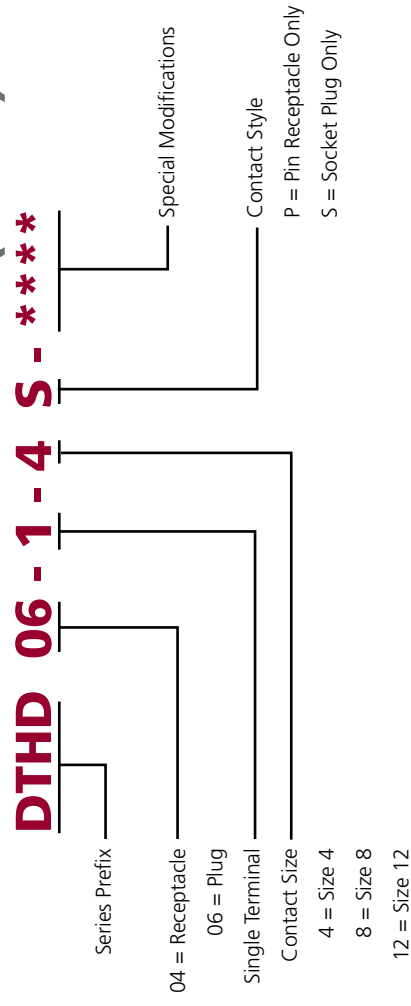
PART NUMBERING SYSTEM (DT & DT Bussed)



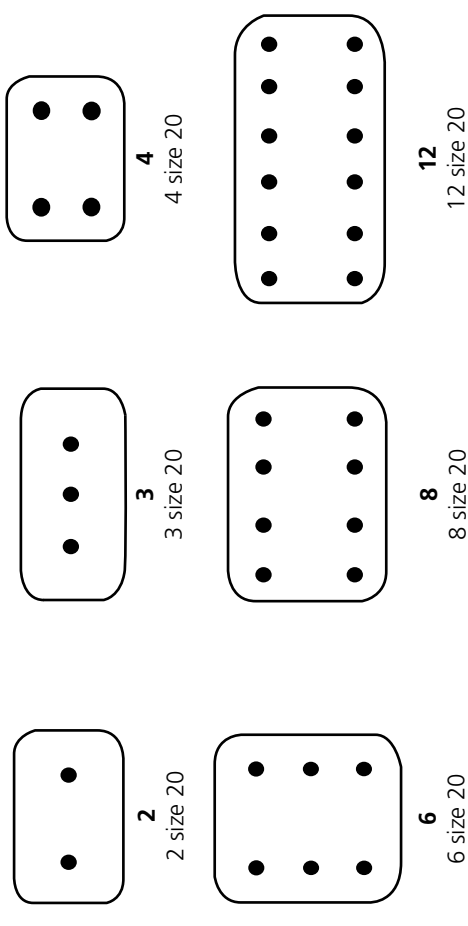
PART NUMBERING SYSTEM (DTP)



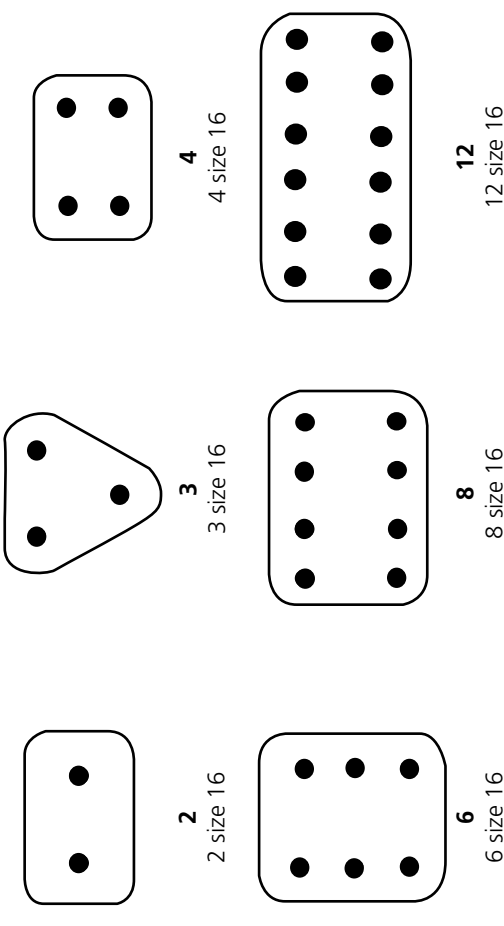
PART NUMBERING SYSTEM (DTHD)



DTM Series Size 20 Contacts



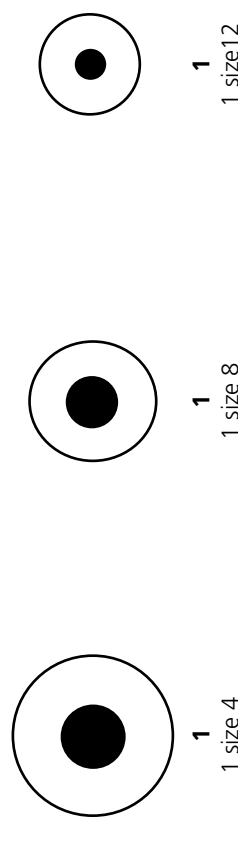
DT & DT BUSSED Series Size 16 Contacts



DTP Series Size 12 Contacts

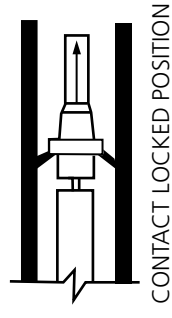
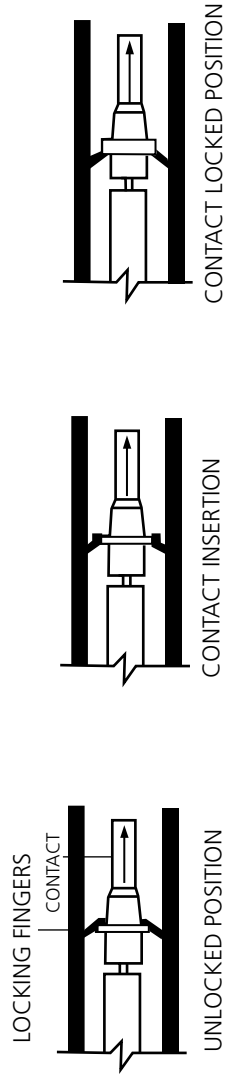


DTHD Series Size 4, 8 & 12

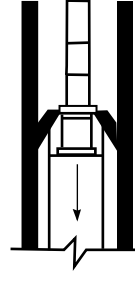
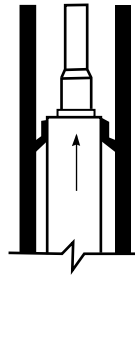


Contact Retention System (DTHD)

Required Removal Tool (See page 12)



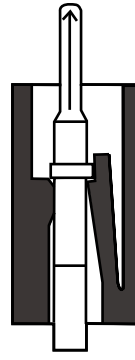
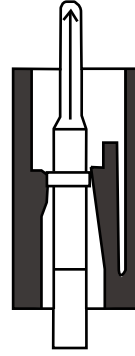
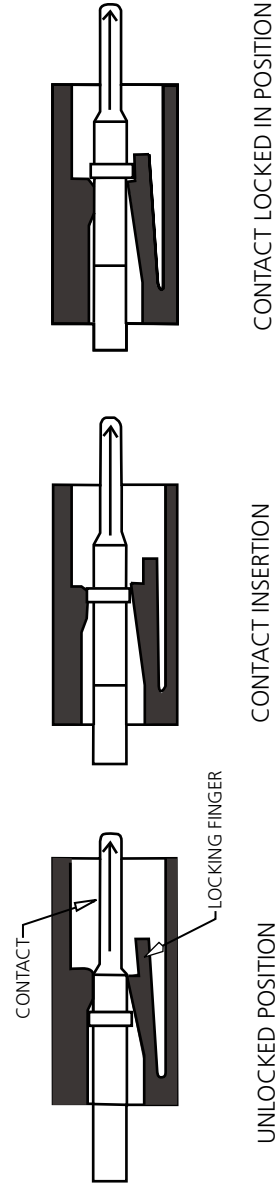
Contact Insertion Procedure



TOOL INSERTED TO UNLOCK CONTACT

TOOL AND CONTACT REMOVED

Contact Insertion System (DTM/DT/DTP)

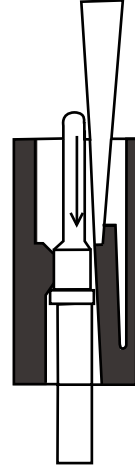
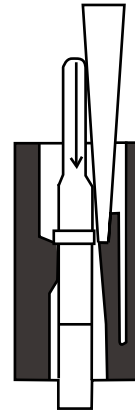


UNLOCKED POSITION

CONTACT INSERTION

CONTACT LOCKED IN POSITION

Contact Removal Procedure (DTM/DT/DTP)



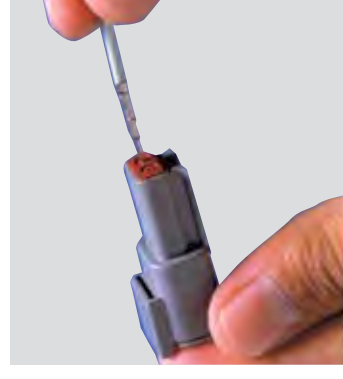
SCREW DRIVER INSERTED TO UNLOCK CONTACT

CONTACT REMOVED

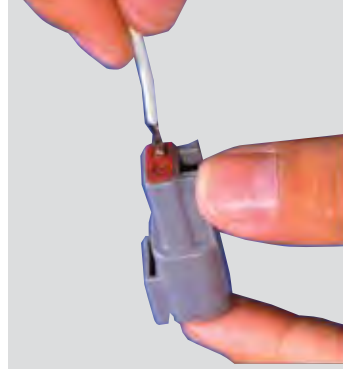
Assembly Contact Insertion (DTM, DT, DTP)



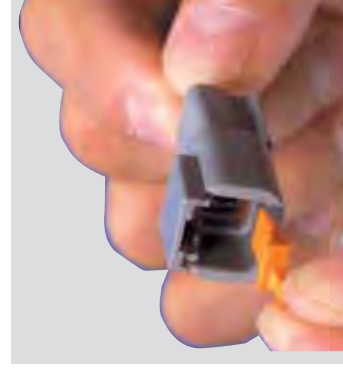
1. Grasp crimped contact approximately 1.0" (25.4mm) behind the contact barrel.



2. Hold connector with rear grommet facing you.



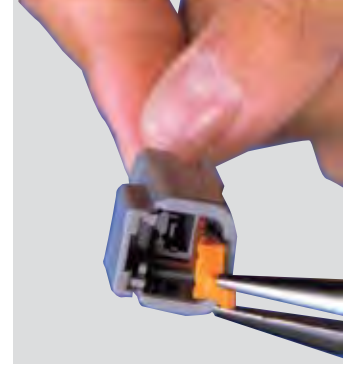
3. Push contact straight into connector grommet until a click is felt. A slight tug will confirm that it is properly locked in place.



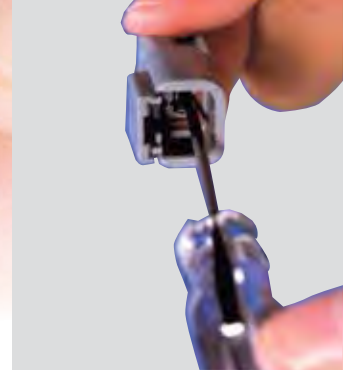
4. Once all contacts are in place, insert orange wedge: receptacles - with half holes aligning with contacts. Plugs - with contacts aligning behind full holes. The orange wedge will snap into place.

NOTE: The receptacle is shown - use the same procedure for plug.

Contact Removal



1. Remove orange wedge using needlenose pliers to pull wedge straight out.

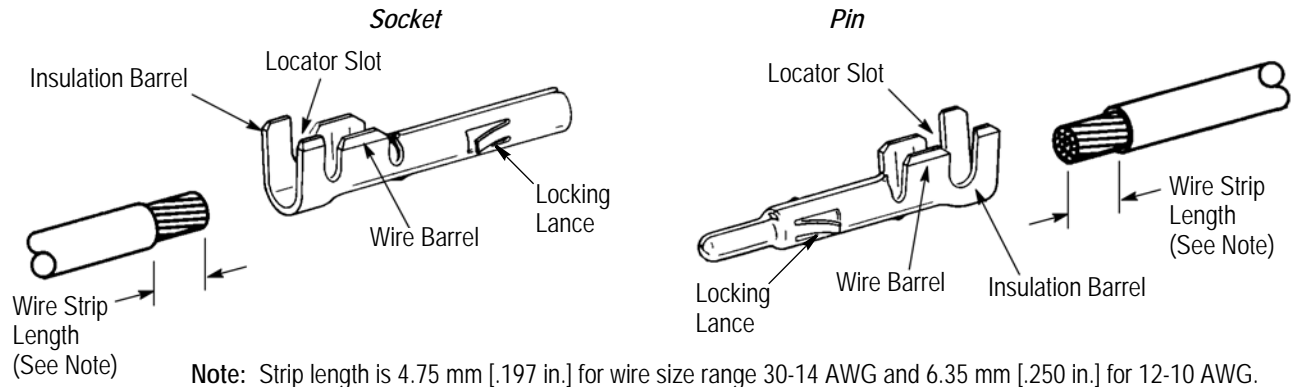


2. To remove the contacts, gently pull wire backwards, while at the same time releasing the locking finger by moving it away from the contact with a screwdriver.



3. Hold the rear seal in place, as removing the contact will displace the seal.

Universal MATE-N-LOK Contacts



Note: Strip length is 4.75 mm [.197 in.] for wire size range 30-14 AWG and 6.35 mm [.250 in.] for 12-10 AWG.

WIRE		UNIVERSAL MATE-N-LOK CONTACT				HAND TOOLING (Instruction Sheet)
SIZE (AWG) RANGE	INSULATION DIAMETER (mm [in.])	LOOSE PIECE		STRIP FORM		
		PIN	SOCKET	PIN	SOCKET	
30-26	0.81-1.45 [.032-.057]	770672-[-]	770673-[-]	350924-[-]	350925-[-]	58439-[-] (408-9591)
24-18	1.02-2.54 [.040-.100]	350690-[-]	350689-[-] ◆	350561-[-]	350570-[-] ◆	91510-1 408-9479
		350690-[-]	640347-[-]	350561-[-]	350851-[-]	
		350706-[-] ■	—	350699-[-] ■	—	
20-14	1.52-3.30 [.060-.130]	350547-[-]	350550-[-]	350218-[-]	350536-[-]	91500-1 (408-9476)
		350705-[-] ■	—	350687-[-] ■	—	
		350669-[-] ‡	—	350654-[-] ‡	—	
	3.30-5.08 [.130-.200]	350552-[-]	350551-[-]	350538-[-]	350537-[-]	91508-1 ‡‡ (408-8547) 91506-1 ‡‡ (408-8547)
350707-[-] ■		—	350700-[-] ■	—		
18-14	3.30-5.08 [.130-.200]	350918-[-]	350919-[-]	350873-[-]	350874-[-]	91508-1 ‡‡ (408-8547) 91506-1 ‡‡ (408-8547)
12-10	5.08 [.200] Max	640309-[-]	640310-[-]	350922-[-]	350923-[-]	69710-1 ‡‡ (Without Dies) (408-2095) and Die 58380-[-]

◆ Stock thickness is 0.25 mm [.010 in.]; all others is 0.30 mm [.012 in.] ■ Split pin contact

‡ Use Hand Tool 91508-1 for wire size 20-18 AWG, Hand Tool 91506-1 for wire size 16-14, Hand Tool 69710-1 and Die Set 583380-1 for 12 AWG, and Die Set 58380-2 for 10 AWG.

‡‡ Grounding pin

Figure 1

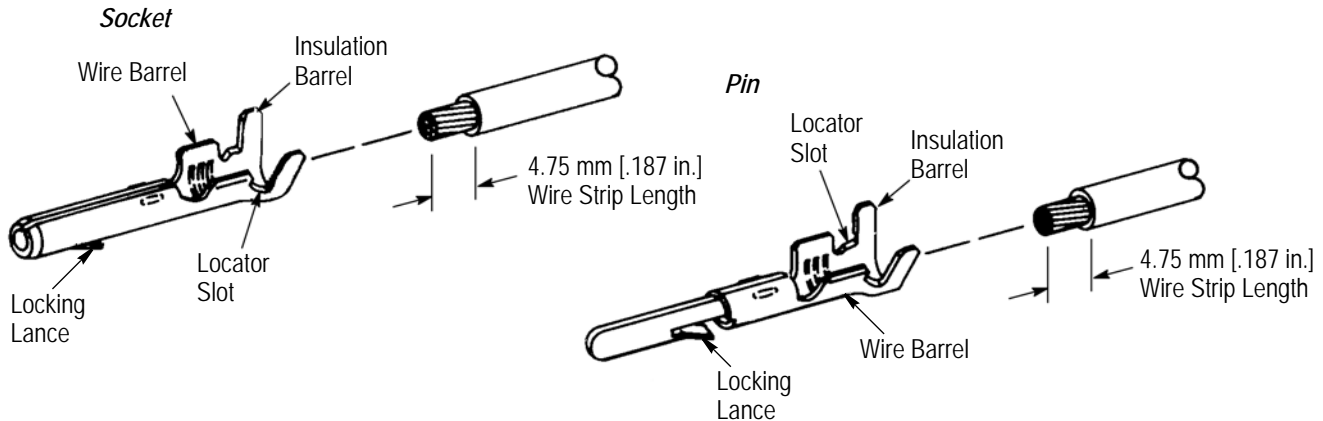
1. INTRODUCTION

This instruction sheet covers the use of MATE-N-LOK contact and housing selection charts. MATE-N-LOK contacts and housings are divided into three categories: universal, commercial, and .140.

Read these instructions thoroughly to be sure the selected contacts are compatible with the specified housings, and the selected wire and application tooling are compatible with the contacts.

Reasons for reissue of this document are provided in Section 5, REVISION SUMMARY.

Commercial MATE-N-LOK Contacts

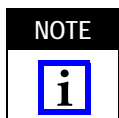


WIRE		COMMERCIAL MATE-N-LOK CONTACT				HAND TOOLING (Instruction Sheet 408-8547)
SIZE (AWG) RANGE	INSULATION DIAMETER (mm [in.])	LOOSE PIECE		STRIP FORM		
		PIN	SOCKET	PIN	SOCKET	
30-22	0.191 [.075] (Max)	61174-[-]	61173-[-]	350079-[-]	350078-[-]	91515-1
24-18	1.09-1.91 [.043-.075]	60618-[-]	60617-[-]	61116-[-]	61114-[-]	91528-1
24-20	1.52-2.54 [.060-.100]	60618-[-]	60617-[-]	61116-[-]	61114-[-]	91512-1
		—	61473-[-]	—	61115-[-]	
20-14	2.54-3.30 [.100-.130]	60620-[-]	60619-[-]	61118-[-]	61117-[-]	91504-1
(1) 18 and (1) 16 or (2) 18	2.92 [.115] (Max) and 3.30 [.130] (Max) ‡	350639-[-]	350638-[-]	350558-[-]	350557-[-]	91504-1

‡ 2.92 mm [.115 in.] (max) each for applicator termination and 3.30 mm [.130 in.] (max) combined for hand tool termination

Figure 2

The contacts must be installed into the appropriate housings and not switched between various categories.



Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

2. DESCRIPTION

2.1. Contacts

Universal pin and socket contacts (see Figure 1) are available in five different wire ranges covering sizes 30 to 10 AWG with an insulation diameter range of 0.81 through 5.08 mm [.032 through .200 in.].

Commercial pin and socket contacts (see Figure 2) are available for terminating wire sizes 30 to 14 AWG.

.140 pin and socket .140 feature a stabilizing barrel and are available for terminating wire sizes 20 to 10 AWG.

The loose-piece contacts are designed for hand tool or pneumatic tool applications. The strip-form contacts

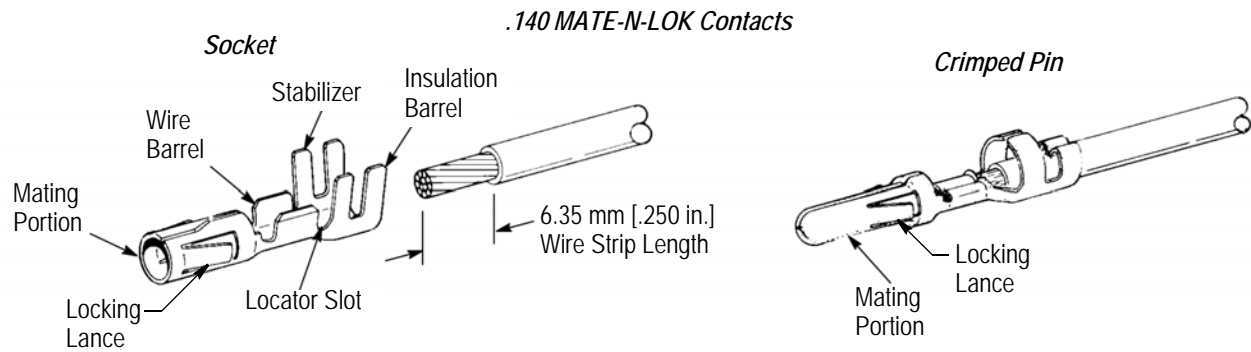
are terminated using miniature quick-change applicators used in the AMP-O-ELECTRIC* machine, AMPOMATOR* automatic lead-making machine, or the standard and mini-single end lead machine (SELM and Mini-SELM). Consult your Representative for assistance in selecting the machine and applicator that will best suit your needs.

2.2. Housings

.140 housings (see Figure 4) have a temperature rating of -55 to +105°C [-65 to 221°F] and a maximum voltage/current rating of 250 Vac at 28 amperes per contact.

Universal housings (see Figure 5) have a temperature rating of -55 to +105°C [-65 to 221°F] and a maximum voltage/current rating of 600 Vac at 19 amperes per contact. Pin and socket contacts can be used in either plug or cap housings.

Commercial housings (see Figure 6) have a temperature rating of -55 to +105°C [-65 to 221°F] and a maximum voltage/current rating of 250 Vac at 19 amperes per contact.



WIRE		.140 MATE-N-LOK CONTACT				HAND TOOLING (Instruction Sheet)
SIZE (AWG) RANGE	INSULATION DIAMETER (mm [in.])	LOOSE PIECE		STRIP FORM		
		PIN	SOCKET	PIN	SOCKET	
20-14	2.54-4.57 [.100-.180]	350389-[-]	350388-[-]	61627-[-]	61626-[-]	90247-1 (408-7434)
14-10		350391-[-]	350390-[-]	350201-[-]	350200-[-]	69710-1 (Without Dies) (408-2095) and Die 58373-[-] or 58374-[-]

Figure 3

3. SELECTION

Determine the housing type (universal, commercial, or .140) to be assembled. Refer to the listings of compatible contacts, and select the contact type and recommended wire size. Make contact selections from Figures 1, 2, and 3. Make housing selections from Figures 4, 5, and 6. Select contacts as follows:

- Determine the appropriate wire size to be used with the contact according to Column 1. Make certain the wire insulation diameter is within the range specified in Column 2.
- Columns 3, 4, 5, and 6 indicate the appropriate loose-piece and strip-form contacts for the selected wire size. Check that these base part numbers correspond with those on the package or reel.
- Column 7 indicates the appropriate hand tooling to be used to crimp loose-piece contacts. Machines for strip-form contacts are listed in Paragraph 2.1.

4. CONTACT INSERTION AND EXTRACTION

The following tools are recommended:

Contact Type	Insertion Tool	Extraction Tool
Universal	91002-1	1804030-1
Commercial	455830-1	305183 or 465644
.140	None ♦	318845-1

♦ Not necessary because of the large wire size

To insert a contact into a housing:

- Place the tweezer-shaped tool over the wire with the tool insertion tip behind the contact insulation barrel.

- Insert the contact into the housing cavity until the contact locking lance is fully seated.

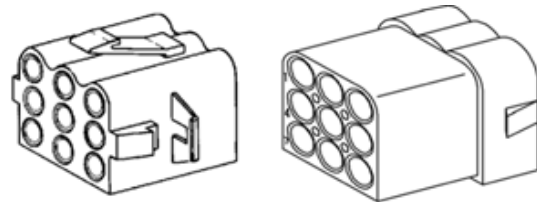
To extract a contact from a housing:

- Gently push the wire of the contact to be removed.
- From the mating face of the housing, slide the tube-shaped tool into the contact cavity of the contact to be removed until the locking lances are encased.
- Lighted push the tool while pulling the wire.

.140 MATE-N-LOK Housings

Plug (Socket)

Cap (Pin)



.140 MATE-N-LOK HOUSING

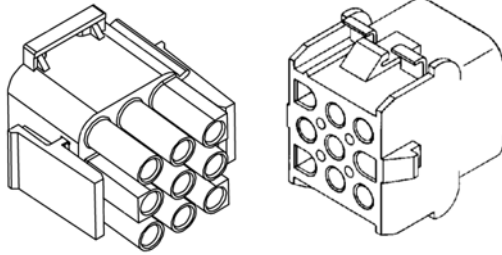
NO. OF CIRCUITS	PLUG	CAP
2	350344-[-]	350345-[-]
3	350346-[-]	350347-[-]
4	480510-[-]	480512-[-]
9	480585-[-]	480586-[-]
	480672-[-]	480673-[-]

Figure 4

Universal MATE-N-LOK Housings

Plug (Socket)

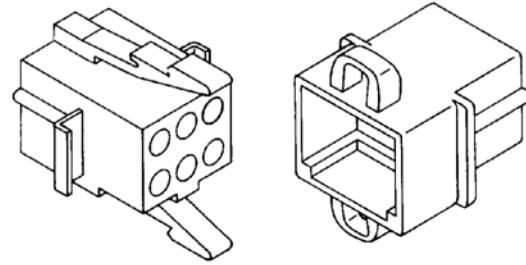
Cap (Pin)



Commercial MATE-N-LOK Housings

Plug (Socket)

Cap (Pin)



UNIVERSAL MATE-N-LOK HOUSING			
NO. OF CIRCUITS	PLUG	CAP	UL 94 MATERIAL RATING
1	350867-[]	770421-1	V-2
	350865-[]	350866-[]	V-0
2	480698-[]	480699-[]	V-2
	350777-[]	350778-[]	V-0
3	480700-[]	480701-[]	V-2
	350766-[]	350767-[]	V-0
4	480702-[]	480703-[]	V-2
	350799-[]	350780-[]	V-0
5	480763-[]	480764-[]	V-2
	350809-[]	350810-[]	V-0
6	480704-[]	480705-[]	V-2
	350715-[]	350781-[]	V-0
	640585-[]	—	V-2
8	640581-[]	—	V-0
	640586-[]	—	V-2
9	640582-[]	—	V-0
	480706-[]	480707-[]	V-2
12	350720-[]	350782-[]	V-0
	480708-[]	480709-[]	V-2
15	350735-[]	350783-[]	V-0
	480710-[]	480711-[]	V-2
	350736-[]	350784-[]	V-0

Figure 5

COMMERCIAL MATE-N-LOK HOUSING		
NO. OF CIRCUITS	PLUG	CAP
1	480349-[]	480350-[]
	480349-[]	480351-[]
2	480318-[] †	480319-[] †
	480303-[] †	480305-[] †
3	480304-[] †	480305-[] †
	480424-[] †	480426-[] †
4	480425-[] †	480426-[] †
	480270-[] †	480271-[]
6	480273-[] †	480276-[] †
	480270-[] †	480340-[]
	480270-[] †	—
8	480283-[] †	480284-[]
	480283-[] †	480345-[]
9	480274-[] †	480277-[] †
10	480285-[] †	480286-[]
	480285-[] †	480339-[]
12	480275-[] †	480278-[] †
	480287-[] †	480288-[]
15	480323-[] †	480324-[] †
16	480438-[] †	480439-[]

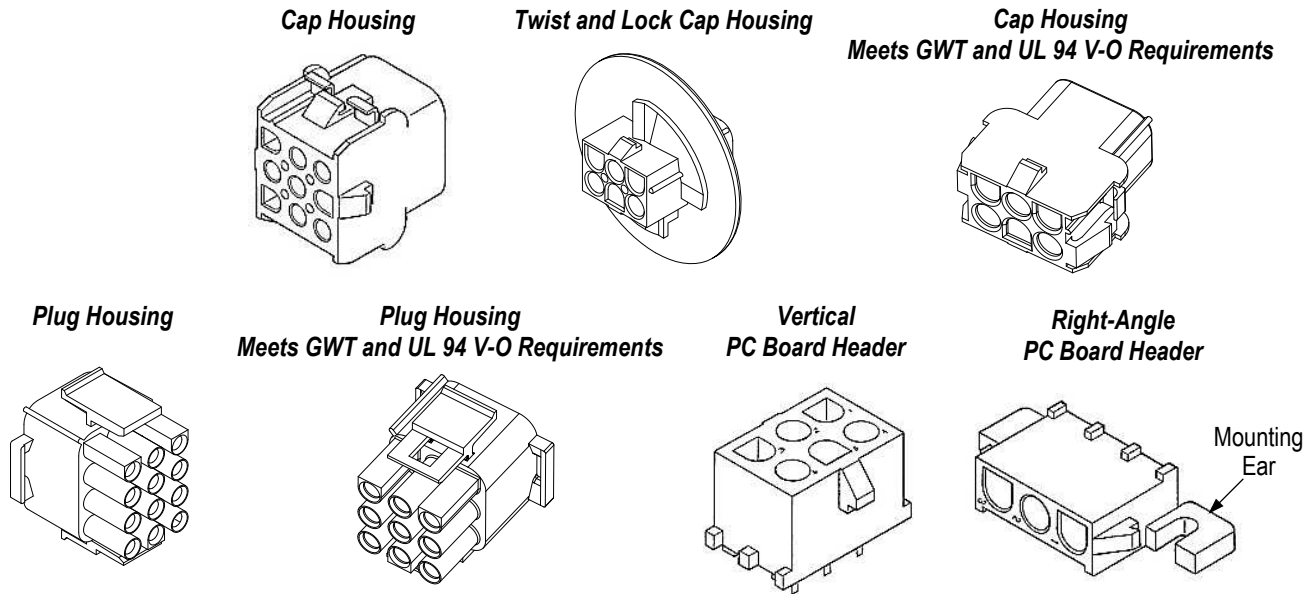
† Housing accepts double-wire applications where individual insulation diameters do not exceed 2.92 mm [.115 in.].

Figure 6

5. REVISION SUMMARY

Since the previous version of this document, the following changes were made:

- Corrected part number in Figure 1.



GWT is the glow wire test required by IEC/EN 60335-1

REFERENCE PRODUCT PART NUMBERS

HOUSING CONNECTOR					HEADER CONNECTOR			
CAP	TWIST AND LOCK CAP	CAP (GWT AND UL 94 V-0)	PLUG	PLUG (GWT AND UL 94 V-0)	VERTICAL		RIGHT-ANGLE	
					PIN	SOCKET	PIN	SOCKET
770421-1	794714-1	2178773-1	1-350867-0	1-1863003-2	350428-1	350759-4	1-350942-0	643226-1
		CONTACT		TEST CONNECTOR				
		PIN	SOCKET	PLUG HOUSING	CAP HOUSING			
		770672-1	770673-1	350848-2	350849-2			

Figure 1

These instructions cover inserting pin and socket contacts into the cap and plug housings, mating the connectors, using test connectors, mounting the cap housing to a panel, and mounting the header to a printed circuit (pc) board. Reference to instructions for crimping the contacts, installing keying plugs, installing a strain relief, and extracting the contacts is included. Reference product part numbers are given in Figure 1.

For detailed product description and application requirements, refer to application specification [114-1010](#).



NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

Reasons for re-issue of this instruction sheet are provided in Section 4, REVISION SUMMARY.

1. ASSEMBLY

1.1. Inserting Contacts and Keying Plugs (Plug and Cap Housings)



NOTE

Split pin contacts are recommended for use in housings having 6, 9, 12, and 15 circuits to reduce mating force. Grounding pin contacts (2.54 mm [.100 in.] longer than standard pin contacts) are designed for a mate first, break last (MFBL) grounding application. Programmable socket contacts are designed to accept 110 series FASTON* receptacle terminals.

1. Ensure that the contacts are crimped to meet the requirements given in [114-1010](#).
2. Observing the cavity identification numbers on the wire end and the No. 1 cavity identification rib on the side of the housing, manually insert each contact into a circuit cavity of the housing. After inserting the terminal into the back of the housing, pull back lightly on the wire of the contact to make sure that the contact is locked in place. If using keying plugs, leave the circuit cavities to be keyed empty. Refer to Figure 2.

For contacts crimped to small wire sizes, insert the contact using extraction tool 455830-1 according to [408-4371](#) (packaged with the tool).

3. If applicable, insert keying plug(s) according to instruction sheet [408-3320](#). Refer to Figure 2.

**NOTE**

Corresponding contact cavity in mating connector must be empty for connectors to engage.

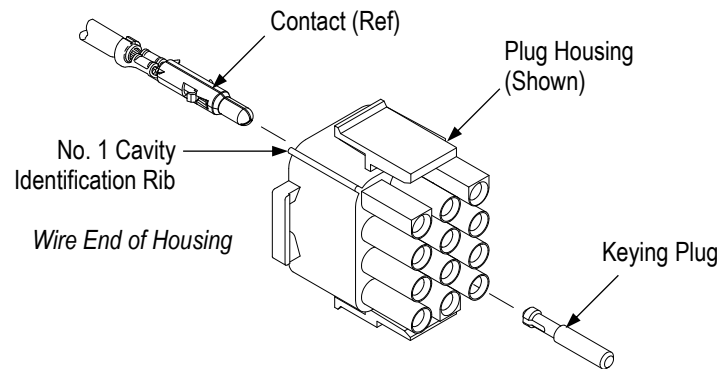


Figure 2

1.2. Strain Relief

Attach the strain relief onto the plug or cap housing according to [408-3320](#).

1.3. Test Connectors

Touch the 2.13 mm [.084 in.] diameter test probe from the applicable test connector onto the socket contact of the plug or cap housing. Follow industry-approved testing procedures.

1.4. Panel Mounting (Cap Housings)

1. Cut a panel having the thickness and dimensions given on [114-1010](#).
2. For the cap housing, insert the cap housing, mating face first, through the panel cutout in the same direction that the cutout was made until the flexible panel mounting latches snap in place. Refer to Figure 3.

For the Twist and Lock cap housing, align the pin 1 indicator rib with the short side polarization opening of the panel, and push the cap housing through the panel. Rotate the cap housing *clockwise* until it is firmly seated. In order to prevent foam leakage, a gap between the cap housing flange and the panel must be no more than the dimension given in Figure 3.

1.5. PC Board Mounting (Headers)

1. Ensure that the pc board material and thickness, layout, and hole configuration meets the requirements given on the connector customer drawing.
2. If applicable, attach the mounting ears onto the header using 3/8-in. long 6-32 pan head screws (customer supplied). Refer to Figure 1.
3. Mount the header to the pc board using the soldering requirements given on [114-1010](#).

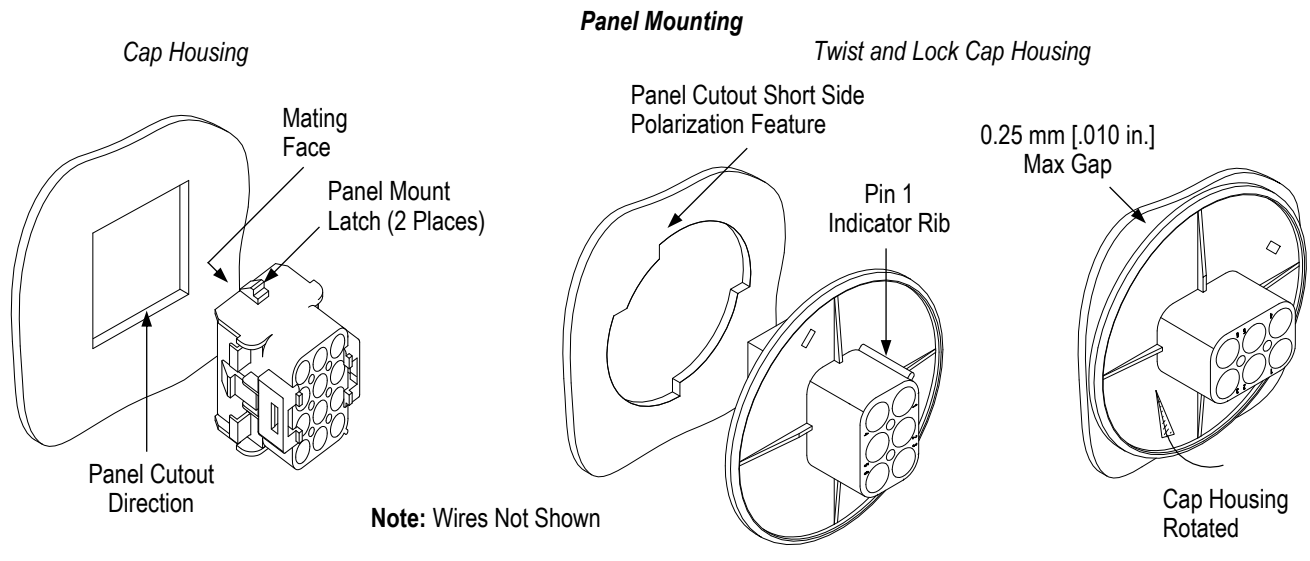


Figure 3

1.6. Mating

Ensure that the mating connectors have identical number of circuits and a pin contact mating with a socket contact. Align the mating faces of the connectors, and push them together until the locking latch fully engages the locking tab. See Figure 4.

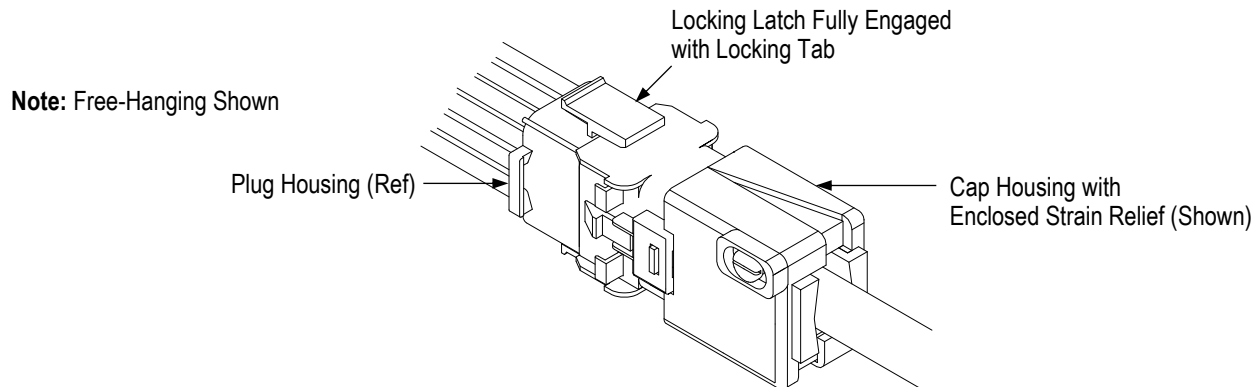


Figure 4

2. CONTACT EXTRACTION

Individual contacts can be removed from the plug or cap housing using extraction tool 318851-1 according to [408-4371](#) packaged with the tool.

3. REPLACEMENT AND REPAIR

Do not use defective or damaged product. These products cannot be repaired. For replacement information, call the number at the bottom of page 1.

4. REVISION SUMMARY

Revisions to this instruction sheet include:

- Updated document to corporate requirements
- Updated assembly procedure in Paragraph 1.1.2