PREVOST

Instruction Sheet IS-21904

HEAT DETECTOR MODULE #562630 REPLACEMENT

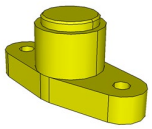
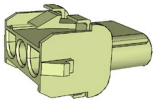
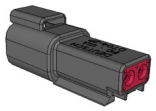
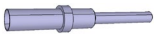
Applicable to vehicle year model 1997-2000 incl.

Use kit IS21904 to replace discontinued heat detector module #562630

First Release **May 2021**

MATERIAL

Kit # **IS21904** includes the following parts:

Part No.	Description		Qty
065290	FIRE DETECTOR, TWIN BLADE		3
561667	CONNECTOR, AMP MATE-N-LOCK UNI 3 PH		1
561671	PIN TERMINAL AMP MATE-N-LOCK UNI PIN 24-18AWG		2
562486	CONNECTOR, DEUTSCH DT 2 PH		3
562286	PIN TERMINAL, DEUTSCH TYPE 16 PIN 20-16AWG		6
562487	SECONDARY LOCK, DEUTSCH 2C PH		3
561258	WIRE, 18 AWG, GXL, RED, 125 DEG		30 ft
561261	WIRE, 18 AWG, GXL, BLACK, 125 DEG		30 ft
IS-21904	INSTRUCTION SHEET		1
FI-21904	FEUILLE D'INSTRUCTION		1

NOTE
Material can be obtained through regular channels.

PROCEDURE

DANGER

Park vehicle safely, apply parking brake, stop the engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

Lockout & Tag out (LOTO) must be performed during set-up, maintenance or repair activities. Refer to your local procedure for detailed information regarding the control of hazardous energy.

1. Locate the heat detector module (part number 562630) in the rear electrical compartment (Figure 1).

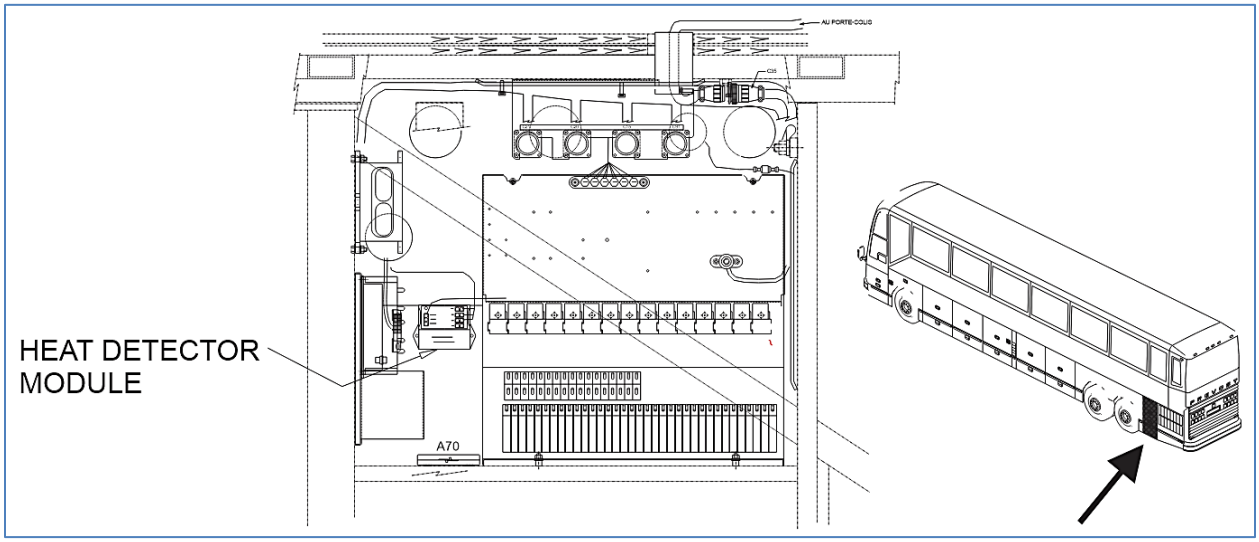


FIGURE 1

2. Remove and discard the heat detector module and the three heat sensors (Figure 2). Two heat sensors are in the engine compartment and one is in the battery compartment.
3. Install three 065290 fire detectors at the location of the end of the previous heat sensors.

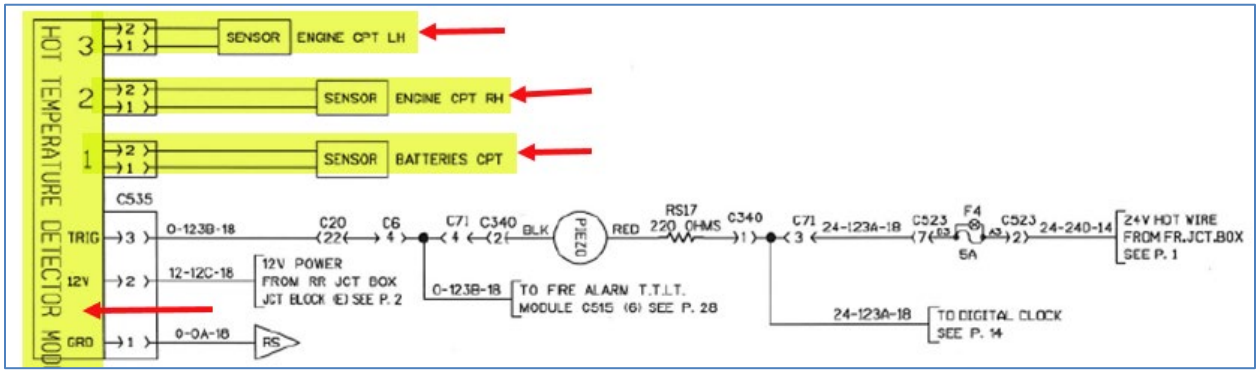


FIGURE 2

4. Build a harness as shown in figure 3.

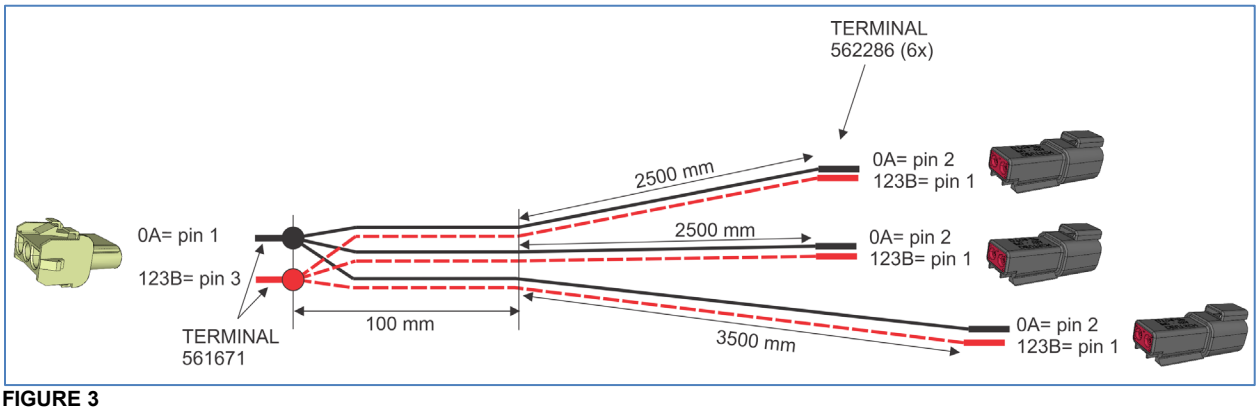


FIGURE 3

Red wire= circuit 123B

Black wire= circuit 0A

5. Connect harness to connector C535 previously connected to the heat detector module and connect the three branches of the harness to the fire detectors. Use the longest branch to reach the battery compartment.

PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

PART NUMBERING SYSTEM (DTM)

DTM 06 - 2 S * - **

- Series Prefix: DTM
- 04 = Receptacle / 06 = Plug: 06
- Number of Contacts: 2
- Contact Type: S
  - P = Pin Receptacle Only
  - S = Socket Plug Only
- Polarizing Position (If Applicable): *
  - 08 + 12 Only
- Special Modifications: ****

PART NUMBERING SYSTEM (DT & DT Bussed)

DT 06 - 2 S * - **

- Series Prefix: DT
- 04 = Receptacle / 06 = Plug: 06
- Number of Contacts: 2
- Contact Type: S
  - P = Pin Receptacle Only
  - S = Socket Plug Only
- Polarizing Position (If Applicable): *
- Special Modifications: ****

PART NUMBERING SYSTEM (DTP)

DTP 06 - 2 S * - **

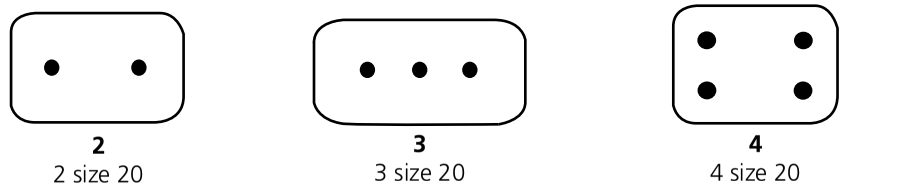
- Series Prefix: DTP
- 04 = Receptacle / 06 = Plug: 06
- Number of Contacts: 2
- Contact Type: S
  - P = Pin Receptacle Only
  - S = Socket Plug Only
- Polarizing Position (If Applicable): *
- Special Modifications: ****

PART NUMBERING SYSTEM (DTHD)

DTHD 06 - 1 - 4 S - **

- Series Prefix: DTHD
- 04 = Receptacle / 06 = Plug: 06
- Single Terminal: 1
- Contact Size: 4
  - 4 = Size 4
  - 8 = Size 8
  - 12 = Size 12
- Contact Style: S
  - P = Pin Receptacle Only
  - S = Socket Plug Only
- Special Modifications: ****

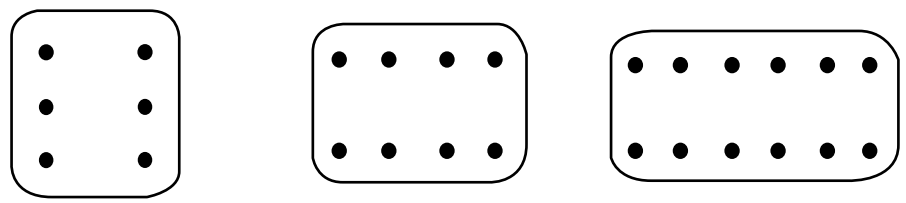
DTM Series Size 20 Contacts



2
2 size 20

3
3 size 20

4
4 size 20

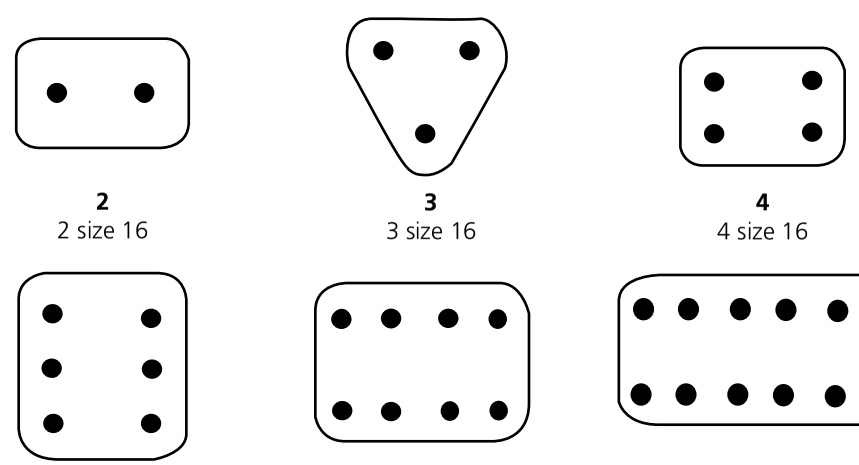


6
6 size 20

8
8 size 20

12
12 size 20

DT & DT BUSSED Series Size 16 Contacts



2
2 size 16

3
3 size 16

4
4 size 16

6
6 size 16

8
8 size 16

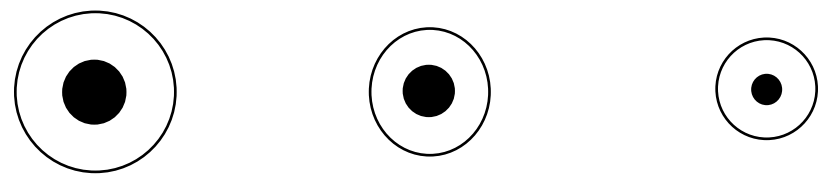
12
12 size 16

DTP Series Size 12 Contacts

2
2 size 12

4
4 size 12

DTHD Series Size 4, 8 & 12



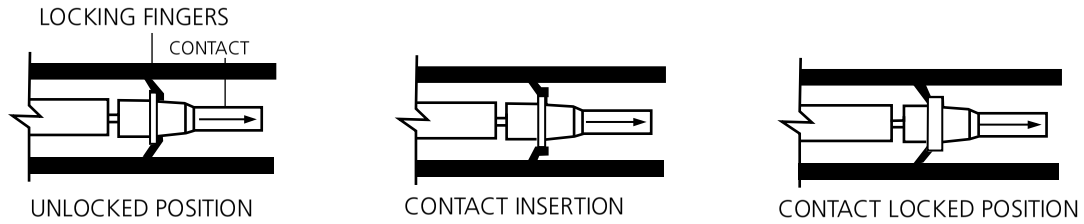
1
1 size 4

1
1 size 8

1
1 size12

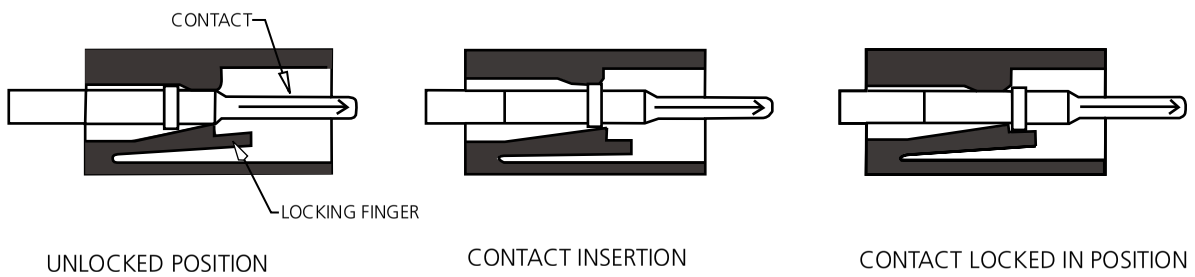
Contact Retention System (DTHD)

Rquired Removal Tool (See page 12)

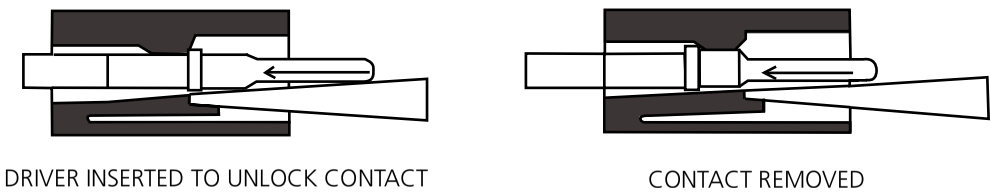


Contact Insertion Procedure

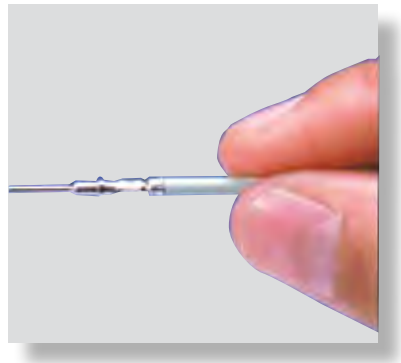
Contact Insertion System (DTM/DT/DTP)



Contact Removal Procedure (DTM/DT/DTP)



Assembly Contact Insertion (DTM, DT, DTP)



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

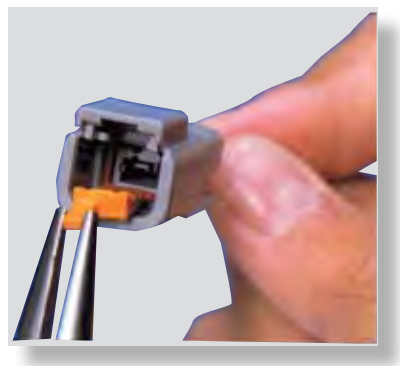
2. Hold connector with rear grommet facing you.

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

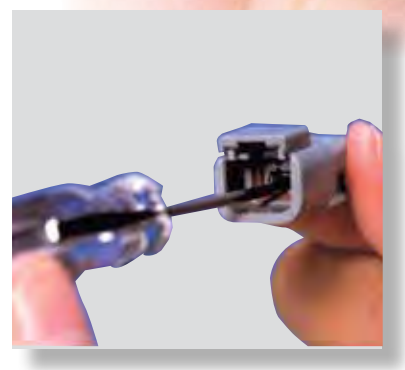
4. Once all contacts are in place, insert orange wedge: receptacles - with half holes aligning with contacts. Plugs - with contacts aligning behind full holes. The orange wedge will snap into place.

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

Contact Removal



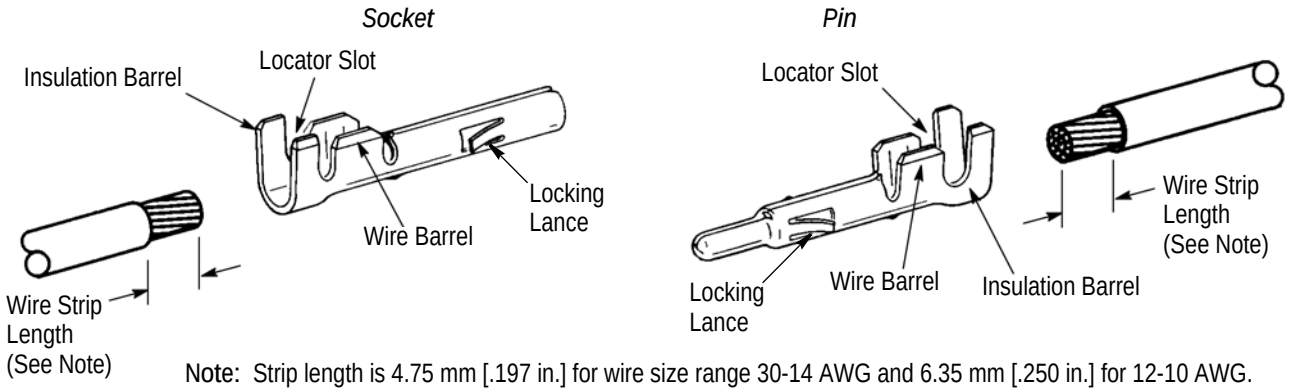
1. Remove orange wedge using needlenose pliers to pull wedge straight out.



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.

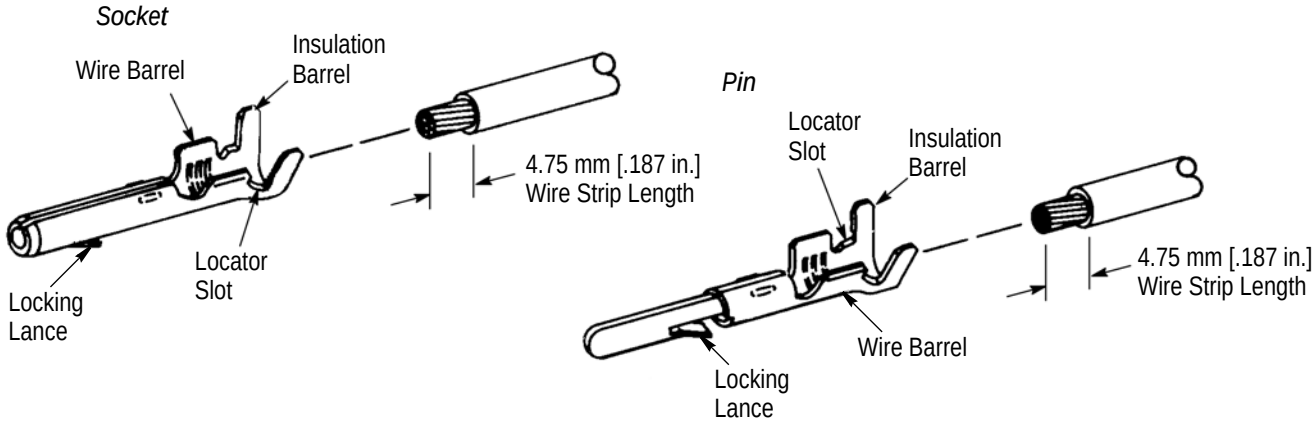
Read these instructions thoroughly to be sure the selected contacts are compatible with the specified housings, and the selected wire and application tooling are compatible with the contacts.

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

©2012 Tyco Electronics Corporation, a TE Connectivity Ltd. company
All Rights Reserved
*Trademark

TE Connectivity, TE connectivity (logo), and TE (logo) are trademarks. Other logos, product and/or company names may be trademarks of their respective owners.

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.

NOTE

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-LECTRIC* 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.

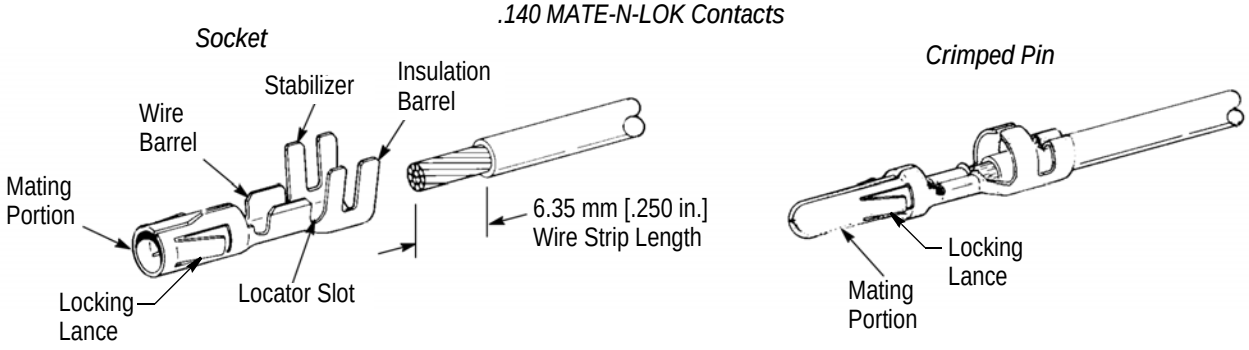
2.2. Housings

.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.

.140 MATE-N-LOK Contacts



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:

1. 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.

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.

3. 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:

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

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

To extract a contact from a housing:

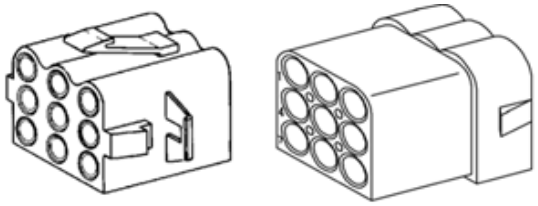
1. Gently push the wire of the contact to be removed.

2. 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.

3. Lighted push the tool while pulling the wire.

.140 MATE-N-LOK Housings

Plug (Socket) *Cap (Pin)*

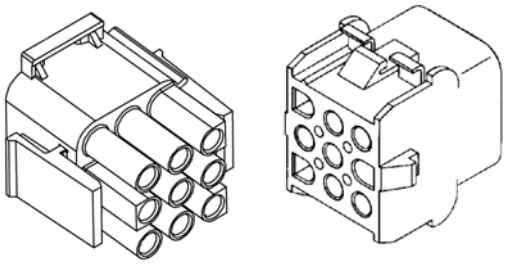


.140 MATE-N-LOK HOUSING		
NO. OF CIRCUITS	PLUG	CAP
2	350344-[ ]	350345-[ ]
3	350346-[ ]	350347-[ ]
4	480510-[ ]	480512-[ ]
9	480585-[ ]	480586-[ ]
	480672-[ ]	480673-[ ]

Figure 4

Universal MATE-N-LOK Housings

Plug (Socket) *Cap (Pin)*

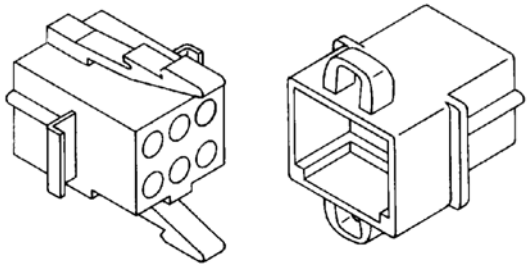


UNIVERSAL MATE-N-LOK HOUSING			
NO. OF CIRCUITS	PLUG	CAP	UL 94 MATERIAL RATING
1	350867-[ ]	770421-1	V-2
	350865-[ ]	350866-[ ]	V-0
2	480698-[ ]	480699-[ ]	V-2
	350777-[ ]	350778-[ ]	V-0
3	480700-[ ]	480701-[ ]	V-2
	350766-[ ]	350767-[ ]	V-0
4	480702-[ ]	480703-[ ]	V-2
	350799-[ ]	350780-[ ]	V-0
5	480763-[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

Figure 5

Commercial MATE-N-LOK Housings

Plug (Socket) *Cap (Pin)*



COMMERCIAL MATE-N-LOK HOUSING		
NO. OF CIRCUITS	PLUG	CAP
1	480349-[ ]	480350-[ ]
	480349-[ ]	480351-[ ]
2	480318-[ ] †	480319-[ ] †
3	480303-[ ] †	480305-[ ] †
	480304-[ ] †	480305-[ ] †
4	480424-[ ] †	480426-[ ] †
	480425-[ ] †	480426-[ ] †
6	480270-[ ] †	480271-[ ]
	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

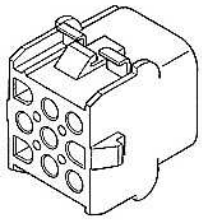
5. REVISION SUMMARY

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

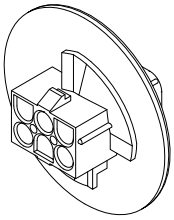
- Corrected part number in Figure 1.

Universal MATE-N-LOK* Connectors

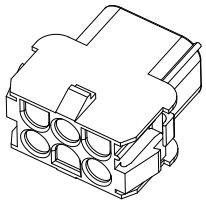
Cap Housing



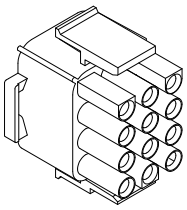
Twist and Lock Cap Housing



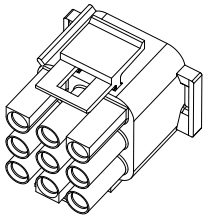
Cap Housing
Meets GWT and UL 94 V-O Requirements



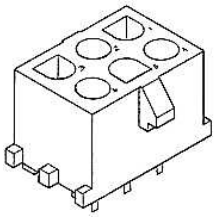
Plug Housing



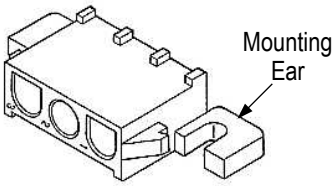
Plug Housing
Meets GWT and UL 94 V-O Requirements



Vertical
PC Board Header



Right-Angle
PC Board Header



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.*

© 2018 TE Connectivity family of companies
All Rights Reserved
*Trademark

TE Connectivity, TE connectivity (logo), and TE (logo) are trademarks. Other logos, product, and/or company names may be trademarks of their respective owners.

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.

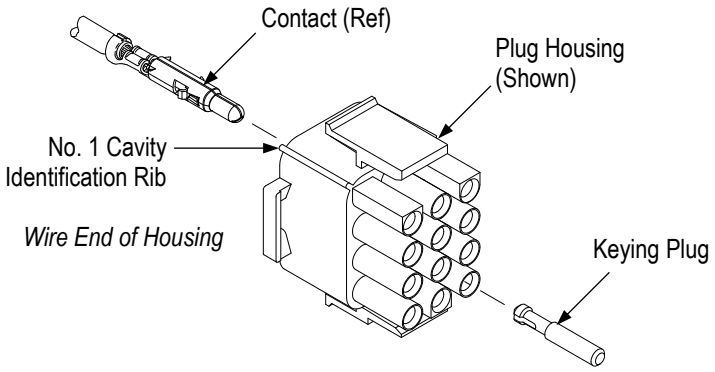


Figure 2

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.

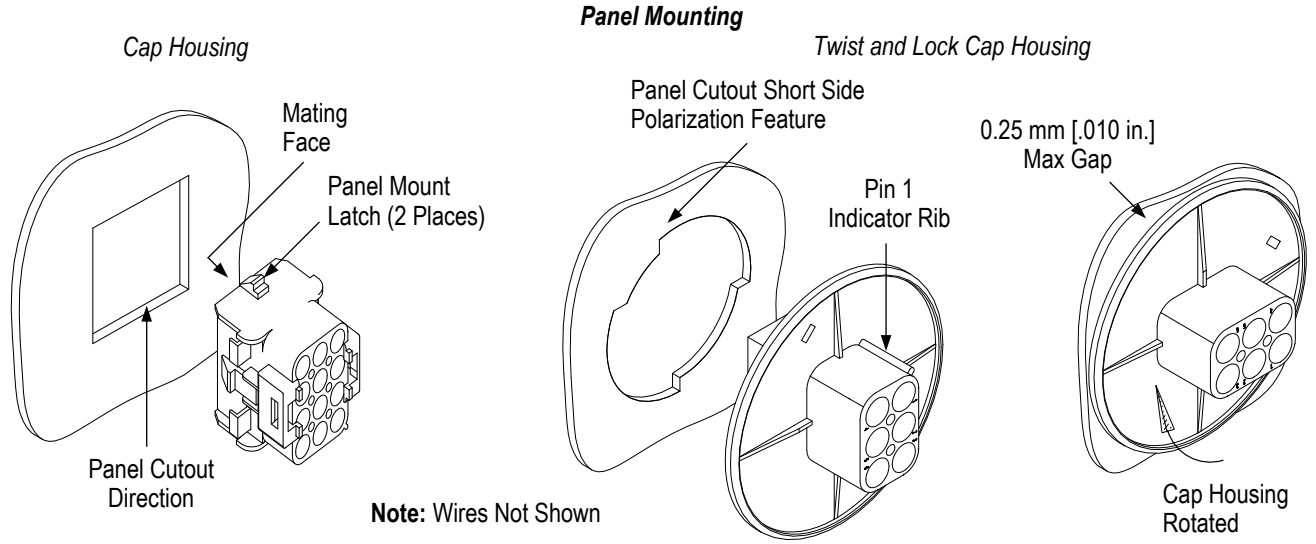


Figure 3

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.

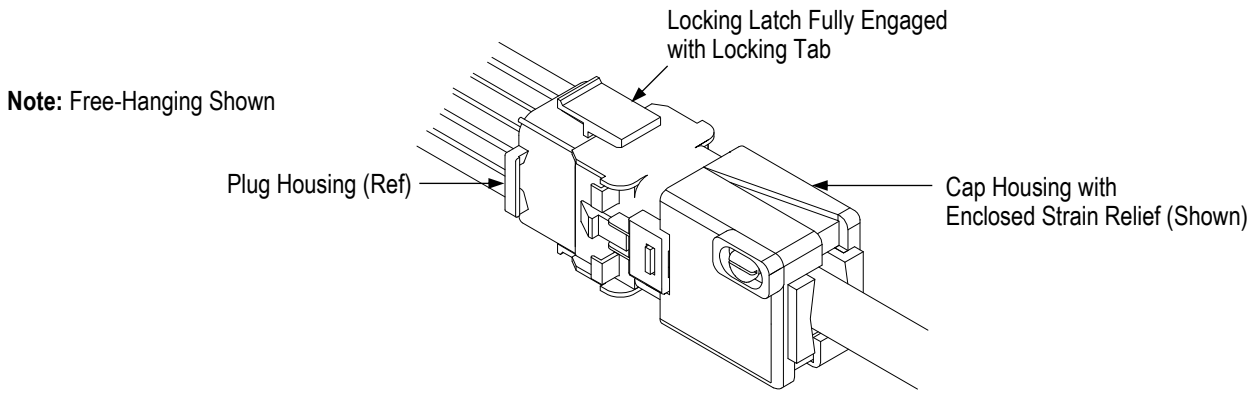


Figure 4

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