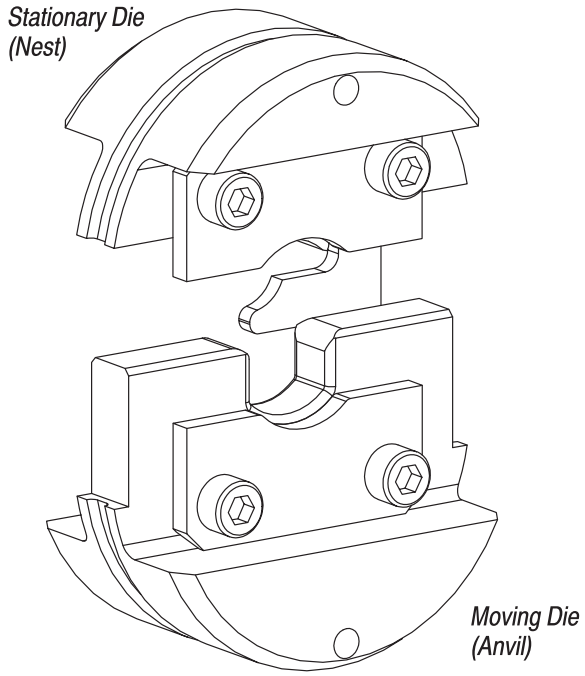
PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended–use, production operations is available.



CRIMPING DIE	COLOR CODE DOT	WIRE SIZE, AWG	HEAD OR TOOL
1490597–1	Red	8	Hydraulic Crimping Heads 1490745–1, 1490746–1, 1490747–1, 1976230–1●, or Hydraulic Hand Tools 1490748–1, 1490749–1
1490598–1	Blue	6	
1490599–1	Yellow	4	
1490406–1	Red	2	Hydraulic Crimping Heads 1490746–1, 1976230–1●, or Hydraulic Hand Tool 1490749–1
1490700–1	Blue	1/0	

● Not to be used for splices

Figure 1

1. INTRODUCTION

These crimping die assemblies listed in Figure 1 crimp TERMINYL* terminals and splices onto wire sizes 8 through 1/0 AWG. Refer to Figure 1 to ensure compatibility of crimping die, head or tool, and wire size.

For detailed information about the head or tool, refer to the instructions packaged with the head or tool.

NOTE

All dimensions on this document are in metric units [with U.S. customary units in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

2. DESCRIPTION

Each crimping die consists of a stationary die (nest) and a moving die (anvil). The stationary die features a locator. Each die contains a color code dot that matches the color code of the terminal and splice. When mated, the dies form a crimping chamber.

3. DIE INSTALLATION AND REMOVAL (Figure 2)

CAUTION

Do not operate tool without the dies.

DANGER

To avoid personal injury, ALWAYS release hydraulic pressure to hose or control and disconnect power unit from power supply before installing or removing dies.

3.1. Die Installation

1. Depress the upper release button located in the C–head and slide the nest into place.
2. Release the button and rock the die back and forth until the nest snaps in place.
3. Activate the power unit until the lower die release button located in the ram is exposed.
4. Depress the release button and slide the indenter into place.
5. Release the button and rock the indenter back–and–forth until the die snaps in place.
6. Return the ram to the down position.

CAUTION

To avoid damage to the dies, be sure that the moving and stationary dies are properly oriented.

3.2. Die Removal

Ensure that the possibility of accidental activation of the hydraulic power unit has been eliminated, and proceed as follows:

1. Depress the upper release button located in the C–head and slide the nest out of the head.

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2. Activate the power unit until the lower die release button in the ram is exposed.

3. Depress the release button and slide the indenter out of the ream.

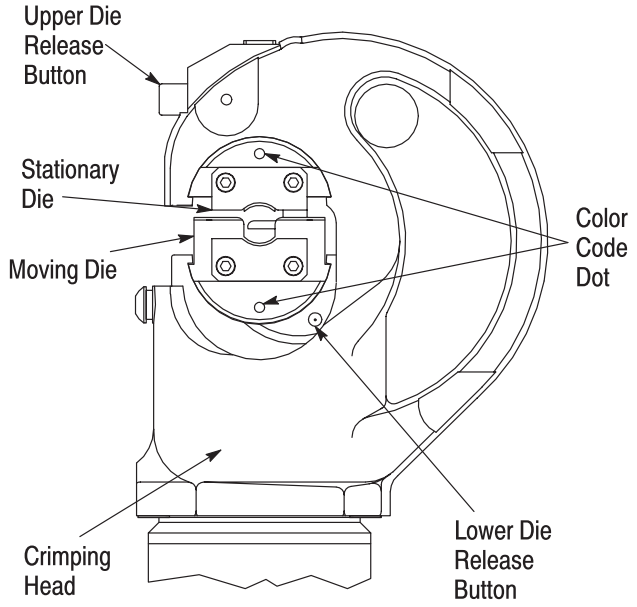


Figure 2

4. CRIMPING PROCEDURE

4.1. Crimping Terminals

DANGER

Avoid personal injury. When operating tool or power unit, exercise caution while holding terminals or wire near the crimping area.

1. Strip wire to the dimensions listed in Figure 3. Do not nick or cut the wire strands.

2. Select the proper color–coded terminal for the wire size. The wire size stamped on the terminal tongue and on the crimping die must match the wire size selected.

3. Insert stripped wire fully into terminal wire barrel. The end of the conductor must not protrude more than 1.60 mm [.063 in.] beyond the edge of the wire barrel.

CAUTION

Do NOT turn or twist the wire or terminal during insertion.

4. Place the terminal in the stationary die with the edge of the wire barrel resting against the locator and the bottom of the terminal tongue facing the stationary die. See Figure 4.

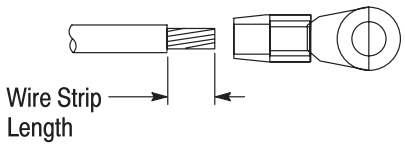
5. Holding wire in place, activate tool or power unit to complete crimp.

NOTE

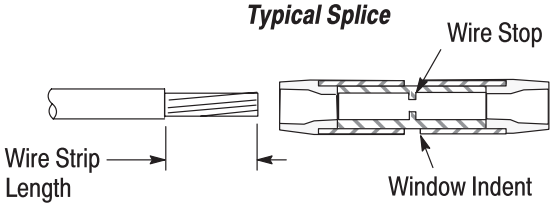
If terminal sticks in die after crimping, apply a rocking action to the terminal to remove it from the die. Wipe light oil on the dies to prevent sticking, or use spray dry lubricant.

6. Inspect the crimp according to Section 5.

Typical Terminal



Typical Splice



WIRE SIZE (AWG)	WIRE STRIP LENGTH	
	TERMINYL TERMINAL AND SPLICE	
	TERMINAL	SPLICE
8	7.96–9.53 [.313–.375]	15.48–17.07 [.609–.672]
6	11.18–12.70 [.440–.500]	19.45–20.24 [.766–.797]
4	11.18–12.70 [.440–.500]	19.45–21.03 [.766–.828]
2	11.43–13.08 [.450–.515]	21.83–30.18 [.859–1.188]
1/0	18.54–20.24 [.730–.797]	28.58–30.18 [1.125–1.188]
2/0	18.54–20.24 [.730–.797]	28.58–30.18 [1.125–1.188]
3/0	19.05–20.64 [.750–.813]	28.58–30.18 [1.125–1.188]
4/0	19.45–21.03 [.766–.828]	28.58–30.18 [1.125–1.188]

Figure 3

Crimping Terminals

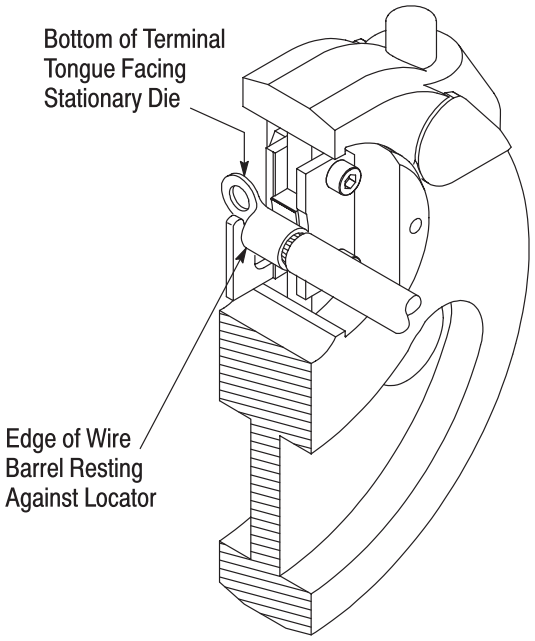


Figure 4

4.2. Crimping Splices

DANGER

Avoid personal injury. When operating tool or power unit, exercise caution while holding splice or wire near the crimping area.

1. Strip wires to the dimensions listed in Figure 3. Do not nick or cut the wire strands.

2. Select the proper color–coded splice for the wire size. The wire size stamped on the splice and on the crimping die must match the wire size selected.

3. Insert the stripped wire into the wire barrel of the end of the splice to be crimped until the wire bottoms against the wire stop within the splice.

4. Place the splice in the stationary die. Grasp the end of the splice to be crimped and point the opposite end toward the top of the head yoke at approximately a 30° angle. Rotate the end of the splice to be crimped into the die. Position the edge of the window indent against the locator. Refer to Figure 5.

5. Holding wire in place, activate tool or power unit to complete first wire barrel crimp.

6. When crimp is completed, remove the latch pin, open the yoke and remove the splice.

NOTE

If splice sticks in die after crimping, apply a rocking action to the splice to remove it from the die. Wipe light oil on dies to reduce sticking, or use spray dry lubricant.

7. To crimp the other half of splice, reposition uncrimped end of splice in the stationary die and follow the same procedure used to crimp the first half of splice.

8. Inspect the crimp according to Section 5.

Crimping Splices

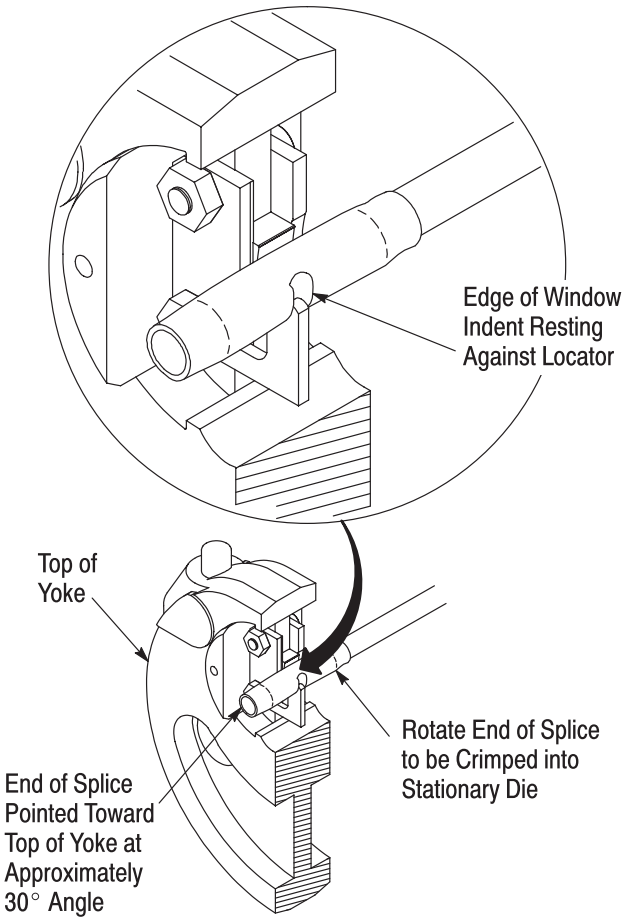


Figure 5

4.3. Crimping Splices With Step–Down Adapter

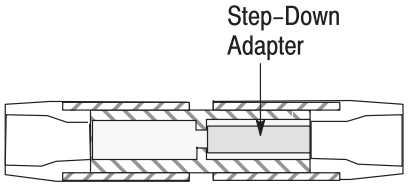
DANGER

Avoid personal injury. When operating tool or power unit, exercise caution while holding splice or wire near the crimping area.

1. Strip wires to the dimensions listed in Figure 3. Do not nick or cut the wire strands.

2. Select the proper splice, adapter, and crimping die for the wire size. See Figure 6. Note that the end of the splice containing the adapter has a different color code. Use the crimping die for the larger wire size to crimp both ends of the splice. For example, use Crimping Die 1490598–1 (for wire size 6 AWG) to crimp both ends of the splice with step–down adapter for stepping down from wire size 6 to 8 AWG.

Splices with Step–Down Adapter



WIRE SIZE (AWG) STEP	CRIMPING DIE	DIE AND SPLICE COLOR CODE	STEP–DOWN ADAPTER COLOR CODE
8 to 12–10	1490597–1	RED	Yellow
6 to 8	1490598–1	BLUE	Red

Figure 6

3. Insert stripped wire into the wire barrel of the end of the splice to be crimped until the wire bottoms against the wire stop within the splice. Refer to Figure 3.

4. Remove crimping head latch pin, and open yoke.

5. Place the splice in the stationary die. Grasp the end of the splice to be crimped and point the opposite end toward the top of the head yoke at approximately a 30° angle. Rotate the end of the splice to be crimped into the die. Position the edge of the window indent against the locator. Refer to Figure 5.

6. Holding the splice in place, close the yoke and insert the latch pin.

CAUTION

Be sure that the latch pin is fully inserted, or damage to the dies and tool or head will occur when the tool is activated.

7. Holding the wire in place, activate tool or power unit to complete first wire barrel crimp.

8. When crimp is completed, remove the latch pin, open the yoke and remove splice.

NOTE

If splice sticks in die after crimping, apply a rocking action to the splice to remove it from the die. Wipe light oil on dies to reduce sticking, or use spray dry lubricant.

9. To crimp the other half of splice, reposition uncrimped end of splice in the stationary die and follow the same procedure used to crimp the first half of splice.

10. Inspect the crimp according to Section 5.

5. CRIMP INSPECTION

Inspect crimped terminals and splices by checking the features described in Figure 7. Use only the terminals and splices that meet the conditions shown in the “ACCEPT” column.

6. MAINTENANCE/INSPECTION

DANGER

STOP

To avoid personal injury, ALWAYS release hydraulic pressure to hose or control and disconnect power unit from power supply before performing maintenance or inspection procedure.

Each crimping die is thoroughly inspected before packaging. Since there is a possibility of damage during shipment, the crimping die should be inspected immediately upon arrival at your facility.

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies and/or be supplied to supervisory personnel responsible for the dies. Though recommendations call for at least one inspection a month, the inspection frequency should be based on the amount of use, ambient working conditions, operator training and skill, and established company standards.

6.1. Daily Maintenance

It is recommended that each operator of the dies be made aware of—and responsible for—the following steps of daily maintenance:

1. Remove dust, dirt, and other contaminants with a clean brush, or a soft, lint–free cloth. Do NOT use objects that could damage the dies.

2. Make certain the dies are protected with a THIN coat of any good SAE 20 motor oil. Do not oil excessively.

3. When the dies are not in use, mate them and store in a clean, dry area.

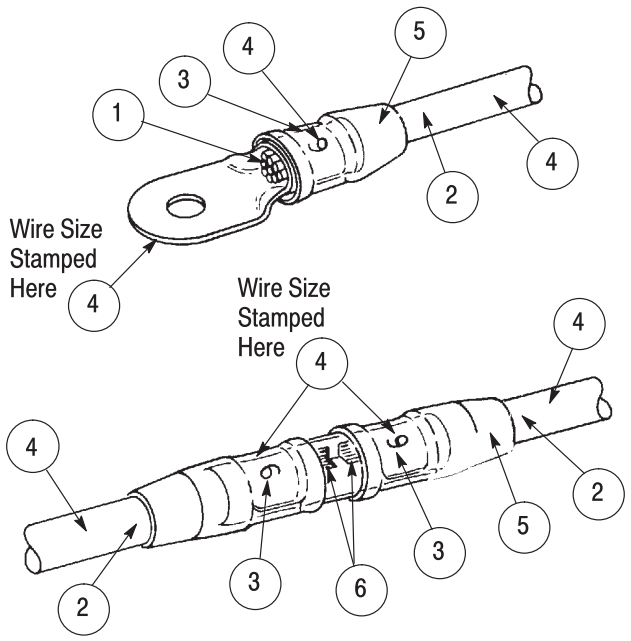
6.2. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the dies in a suitable commercial degreaser that will not affect paint or plastic material.

2. Make sure all die components are in place. If replacements are necessary, refer to the replacement parts listed in Figure 10.

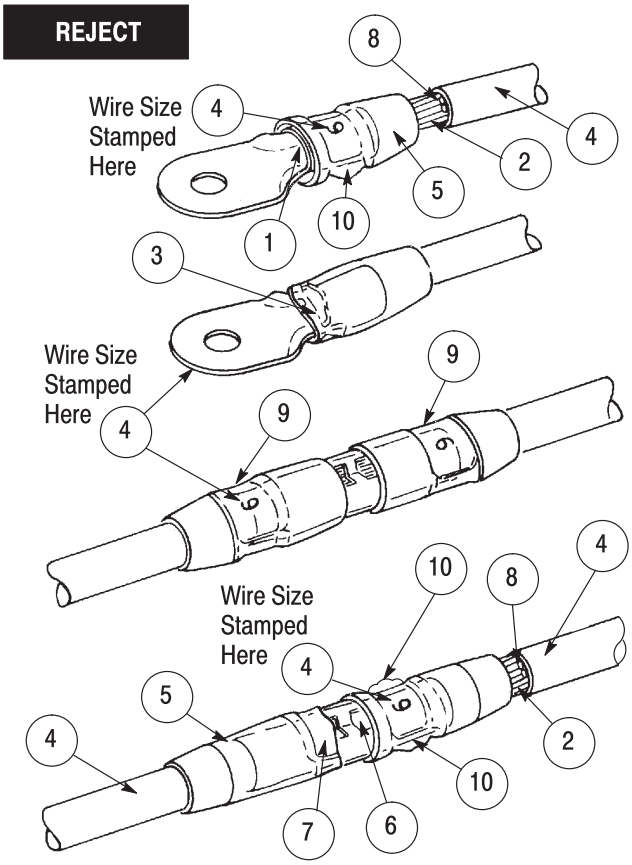
3. Check components for wear. Remove and replace worn components.

ACCEPT



1. End of wire conductor is flush with or extends beyond edge of terminal wire barrel a maximum of 1.60 mm [.063 in.].
2. Wire fully inserted.
3. Crimp centered on wire barrel.
4. Wire size is the same as wire size stamped on terminal tongue, splice body, and wire barrel.
5. Proper color code, wire size, and tooling combination used.
6. Wire conductors butted against wire stop, or flush with or extended slightly beyond edge of splice wire barrel.

REJECT



1. End of wire conductor not flush with or extending slightly beyond end of terminal wire barrel.
2. Wire not inserted fully or wrong strip length used.
3. Crimp not centered on terminal wire barrel. Terminal wire barrel was not butted against locator when crimped.
4. Wire size not the same as wire size stamped on terminal tongue, splice body, and wire barrel.
5. Wrong color code, wire size, and tooling combination used.
6. End of wire conductor not visible. Conductor did not butt against wire stop, or was not flush with or extended slightly beyond splice wire barrel.
7. Crimp not centered on splice wire barrel. Edge of window indent did not butt against locator when crimped.
8. Nicked or missing wire strands.
9. Splice was reversed in die (locator was not oriented with window indent) when crimped.
10. Excessive “flash” or extruded wire insulation (die was either damaged or incompatible when crimped).

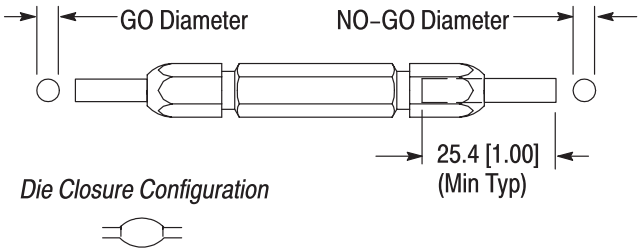
Figure 7

4. Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas. If damage is evident, the dies must be repaired before returning them to service (see Section 7, REPLACEMENT AND REPAIR).

6.3. Gaging the Crimping Chamber

The die closure inspection is accomplished using plug gages. A suggested gage design and the GO and NO–GO diameters of the plug gage elements are shown in Figure 8. The following procedure is recommended for inspecting the die closures.

Suggested Plug Gage Design



CRIMPING DIE	GAGE ELEMENT DIAMETER	
	GO	NO–GO
1490597–1	5.105–5.113 [.2010–.2013]	5.255–5.258 [.2069–.2070]
1490598–1	6.020–6.027 [.2370–.2373]	6.170–6.172 [.2429–.2430]
1490599–1	6.833–6.840 [.2690–.2693]	6.982–6.985 [.2749–.2750]
1490406–1	8.103–8.110 [.3190–.3193]	8.252–8.255 [.3249–.3250]
1490700–1	10.185–10.193 [.4010–.4013]	10.335–10.338 [.4069–.4070]

Figure 8

1. Mate the dies until it is evident that they have bottomed. Hold the dies in this position.

2. Align the GO element with the crimping chamber. Push element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber as shown in Figure 9.

3. Align the NO–GO element and try to insert it straight into the crimping chamber. The NO–GO element may start entry but must not pass completely through as shown in Figure 9.

If the crimping chamber conforms to the gage inspection, the crimping die is considered dimensionally correct and should be lubricated with a THIN coat of SAE 20 motor oil. If not, the dies must be repaired before returning them to service (see Section 7, REPLACEMENT AND REPAIR).

For additional information concerning the use of a plug gage, refer to instruction sheet 408–7424.

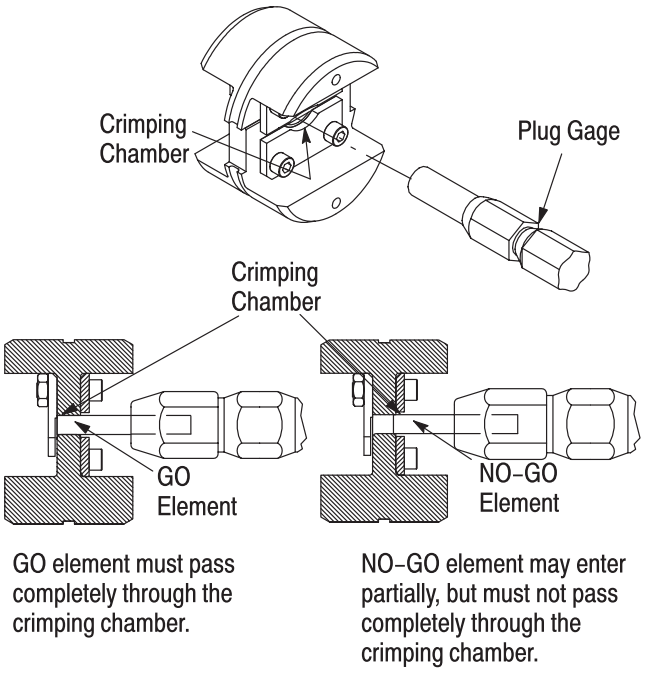


Figure 9

7. REPLACEMENT AND REPAIR

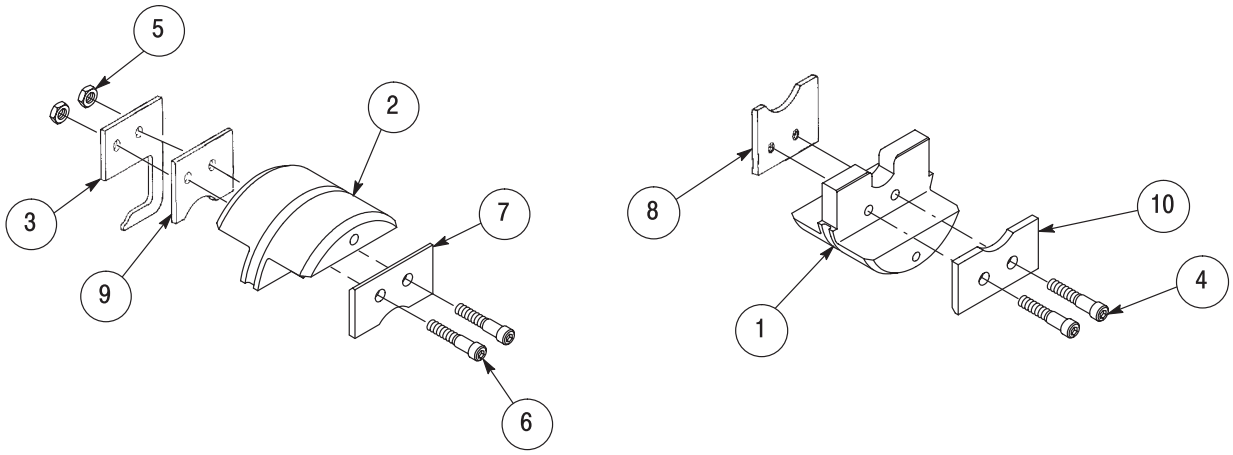
The parts listed in Figure 10 are customer–replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacement parts through your Tyco Electronics Representative, or call 1–800–526–5142, or send a facsimile of your purchase order to 1–717–986–7605, or write to:

CUSTOMER SERVICE (38–35)
TYCO ELECTRONICS CORPORATION
P.O. BOX 3608
HARRISBURG, PA 17105–3608

Dies may be returned for evaluation and repair. For die repair service, contact a representative at 1–800–526–5136.

8. REVISION SUMMARY

- Updated document to corporate requirements
- Added new part number to table in Figure 1



REPLACEMENT PARTS							
ITEM	PART NUMBER FOR CRIMPING DIE ASSEMBLY					DESCRIPTION	QTY PER ASSEMBLY
	1490597–1	1490598–1	1490599–1	1490406–1	1490700–1		
1	1490407–4	1490407–3	1490407–2	1490407–1	1490407–5	Die, Moving	1
2	1490353–4	1490353–3	1490353–2	1490353–1	1490353–5	Die, Stationary	1
3	1490357–3	1490357–2	1490357–1	1490791–1	1490791–2	Locator	1
4	8–21000–8	1–21000–9	2–21000–0	4–306105–4	3–21000–0	Screw	2
5	21018–5	21018–5	21018–5	21018–5	21018–6	Nut	2
6	4–306105–5	2–306105–5	2–21000–2	4–306105–6	6–305927–4	Screw	2
7	1490356–7	1490356–6	1490356–5	1490356–1	1490356–8	Plate, Flare	1
8	---	---	---	1490356–4	1–1490356–1	Plate, Flare, Lower	1
9	---	---	---	1490356–3	1–1490356–0	Plate, Flare, Upper	1
10	1490356–7	1490356–6	1490356–5	1490356–2	1490356–9	Plate, Flare	1

Figure 10

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

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