

Figure 1

1. INTRODUCTION

This instruction sheet provides instruction on application, maintenance and inspection procedures for dies that crimp SOLISTRAND ring tongue terminals, butt splices and parallel splices. These dies are used to crimp product on solid or stranded copper wire. The dies are used in Battery Operated Hand Tool PN's 1901343-1, -2, -3, -4 and 2217330-1, -2 and -5 (Customer Manual 409-10070). Read these instructions and all applicable references before inserting any die assemblies and crimping any terminals. See Table 1

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.



NOTE

Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Illustrations are for reference only and not drawn to scale.

2. DESCRIPTION

Each die assembly consists of a nest and an indenter, ordered separately, which are retained in the crimping head by set screws. The nest is positioned in the yoke of the crimping head and the indenter is positioned in the ram of the tool, in all applications.

3. DIE INSTALLATION AND REMOVAL

Refer to Table 1 and determine the correct die assembly and wire size for the terminal splice part number.



DANGER

Avoid personal injury. Exercise extreme caution when using the tool.

3.1. Die Installation

1. Pivot the latch arm away from the yoke to open the crimp head.
2. Loosen the set screw in the yoke.
3. Insert the shank of the nest into the yoke and tighten the set screw.
4. Extend the ram until the set screw is visible.
5. Loosen the set screw in the ram.
6. Insert the shank of the indenter into the ram and tighten the set screw.
7. Return the ram to the down position.
8. Pivot the latch arm and yoke toward each other until the locking flange secures the latch arm to the yoke.



CAUTION

Always make sure the yoke and latching arm are secured by the locking flange before cycling the tool.

Nominal Wire Size		mm ² (Circular Mil Area Range)	Typical Product	Dies	
Mm ²	AWG			Nest	Indenter
7-8	8	6.637-10.539 [13,100-20,800]	33463 RTT ⁽³⁾	1901001-1 ⁽²⁾	1901002-2 ⁽²⁾
13-15	6	10.539-16.771 [20,800-33,100]	33466 RTT ⁽³⁾	1901000-1 ⁽²⁾	1901002-1 ⁽²⁾
21	4 ⁽¹⁾	16.771-26.653 [33,100-52,600]	34323 BS ⁽⁴⁾	1901000-2 ⁽²⁾	1901002-1 ⁽²⁾

(1) STRATO-THERM 4 AWG can only be crimped with 2217330-[] Revision G or higher

(2) Also used for STRATO-THERM* Heat Resistant Uninsulated Terminals

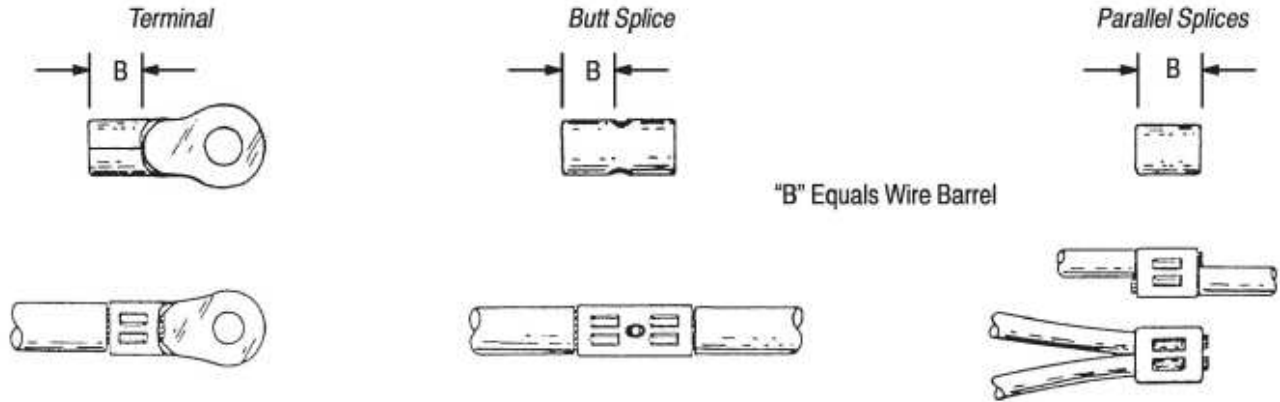
(3) RTT = Ring Tongue Terminals

(4) BS = Butt Splice

Table 1

3.2. Die Removal

1. Pivot the latch arm away from the yoke to open the head.
2. Loosen the set screw in the yoke and remove the nest.
3. Raise the ram to full up position.
4. Loosen the set screw in the ram and remove the indenter.



"B" Equals Wire Barrel

Nominal Wire Size		mm ² (Circular Mil Area)	Strip Lengths mm [inch]					
mm ²	AWG		Ring Tongue Terminals		Butt Splices		Parallel Splices	
			Min.	Max.	Min.	Max.	Min.	Max.
7-8	8	6.637-10.539 [13,100-20,800]	8.334 [.328]	9.128 [.359]	10.319 [.406]	11.112 [.437]	10.319 [.406]	11.112 [.437]
13-15	6	10.539-16.771 [20,800-33,100]	9.922 [.391]	13.225 [.522]	11.906 [.469]	12.700 [.500]	11.112 [.437]	11.905 [.469]
21	4 ⁽¹⁾	16.771-26.653 [33,100-52,600]	11.509 [.453]	12.302 [.484]	13.493 [.531]	14.288 [.563]	13.493 [.531]	14.288 [.563]

(1) STRATO-THERM 4 AWG can only be crimped with 2217330-[] Revision G or higher

Figure 2

4. WIRE STRIPPING AND CRIMPING PROCEDURE

4.1. Wire Stripping

Strip the wire to the dimensions listed in Figure 2.



CAUTION

DO NOT nick or cut the wire strands.



DANGER

AVOID PERSONAL INJURY. When operating the tool, exercise caution while holding the terminals, splices or wire near the crimping area.

4.2. Crimping Procedure

1. Ensure the wire range or size stamped on the terminal or splice corresponds with the size being used with the wire size or range stamped on the nest and indenter.
2. Pivot the latch arm away from the yoke to open the head.

- Center terminal or splice in the nest as shown in Figure 3. For best results, when brazed seam on terminal or splice is visible, position seam toward indenter.

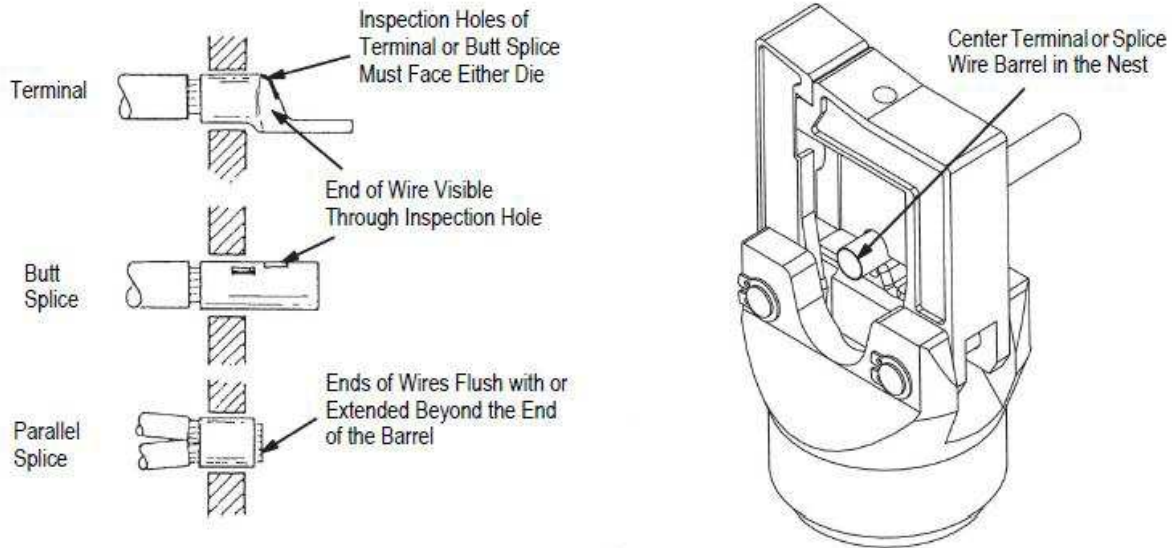


Figure 3

- Holding the terminal or splice in place, pivot the latch arm and yoke toward each other until the locking flange secures the latch arm to the yoke.



CAUTION

Always make sure the yoke and latching arm are secured by the locking flange before cycling the tool.

- Activate the tool so the ram advances and holds terminal or splice in place.



CAUTION

DO NOT deform terminal or splice wire barrel.

- Insert stripped wire into:
 - terminal** or **parallel splice** until end of conductor is flush with or extended slightly beyond end of wire barrel.
 - butt splice** until end of conductor butts against splice wire stop.
- Activate the tool to complete the crimp.



NOTE

If the terminal or splice sticks in the die after crimping, grasp the wire close to the crimp and apply a rocking motion to free it.

- Pivot the latch arm away from the yoke to open the head.
- Remove the crimped terminal or splice from the tool.
- For butt splice, repeat steps 2 thru 9 for other wire barrel.
- Refer to paragraph 5.1. for standard terminal, butt and parallel splice inspection procedure.

5. INSPECTION/MAINTENANCE



DANGER

Remove battery from tool before performing maintenance, adjustments, inspections and repairs.

Each die assembly is inspected before shipment. It is recommended that the die assembly be inspected immediately upon arrival at your facility to ensure that it conforms to the gage dimensions provided in Figure 7 and that it has not been damaged during shipment.

5.1. Crimp Inspection (Figure 4)



NOTE

The accompanying procedure is included as an aid to the local operator ONLY. It is not intended to serve as a quality control procedure for qualifying finished crimps on SOLISTRAND terminals or splices.

Inspect crimped terminals or splices by checking the features described in Figure 4. USE ONLY terminals or splices that meet the conditions shown in the ACCEPT column. Terminals and splices displaying the features shown in the REJECT column can be avoided by careful use of these instructions and by performing the maintenance and inspection procedures described in paragraphs 5.2. and 5.3.

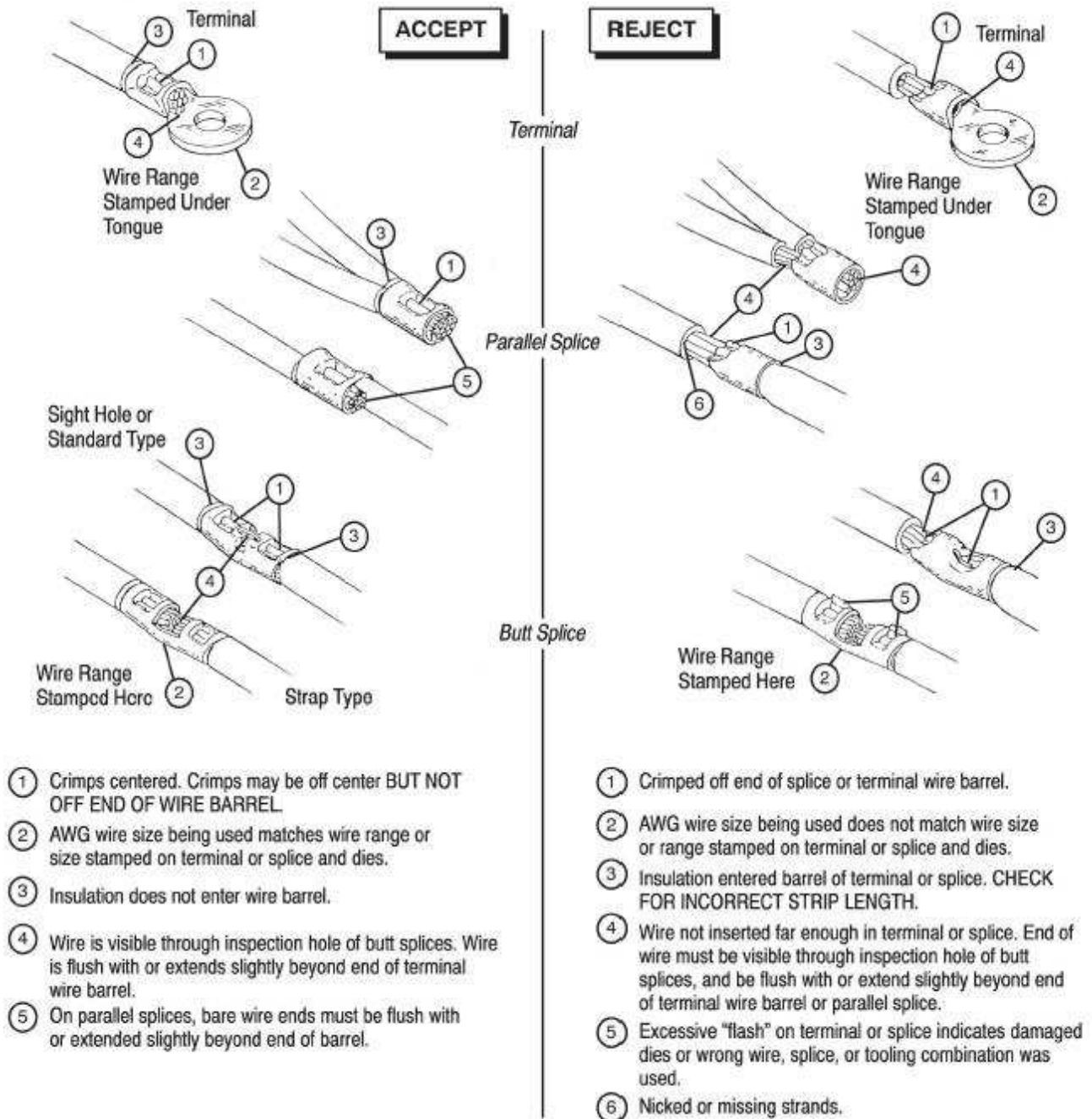


Figure 4

5.2. 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, moisture, and other contaminants from the dies with a clean brush, or a clean, soft, lint-free cloth. DO NOT use objects that could damage the dies.
2. If dies are coated with oil or preservative, wipe clean – particularly in the crimping areas – before placing them in use.
3. When dies are not in use, make certain all surfaces are protected with a THIN coat of any good SAE No. 20 motor oil, and mate and store them in a clean, dry area.

5.3. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies or be made available to supervisory personnel responsible for the dies. Though recommendations call for at least a monthly inspection, the inspection frequency should be based upon the amount of use, working conditions, operator training and skill, and established company standards. These inspections should be performed in the following sequence:

A. Visual Inspection (Figure 5)

1. Remove all lubrication and accumulated film by immersing the dies in a suitable degreaser that will not affect paint or plastic material.
2. Check all surfaces for wear. Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas. See Figure 5. If damage is evident, the die must be replaced.

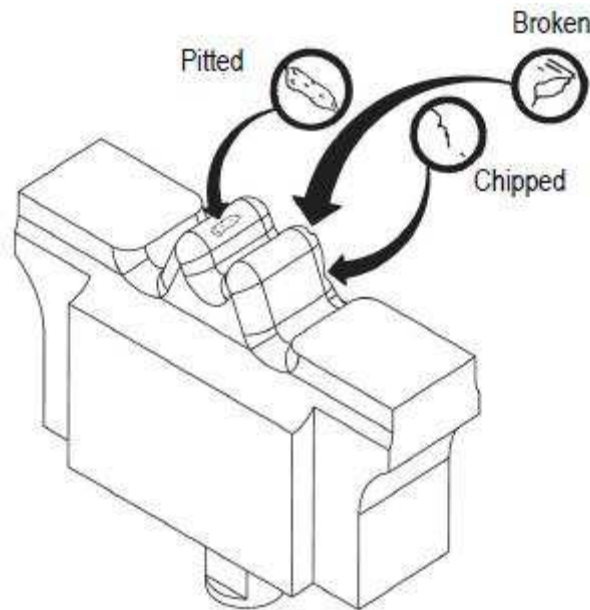


Figure 5

B. Gaging the Crimping Chamber (Figures 6 and 7)

This inspection requires the use of a plug gage conforming to the dimensions in Figure 7.

i **NOTE**
TE Connectivity does not manufacture or market these gages.

Proceed as follows (reference Figure 6):

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 wire barrel crimping chamber. Push the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber.
3. Align the NO-GO element and try to insert it straight into the same crimping chamber. The NO-GO element may start entry but must not pass completely through. If the crimping chamber conforms to the gage inspection, the dies are considered dimensionally correct. If not, they must be replaced. For additional information regarding the use of a plug gage, refer to Instruction Sheet 408-7424.

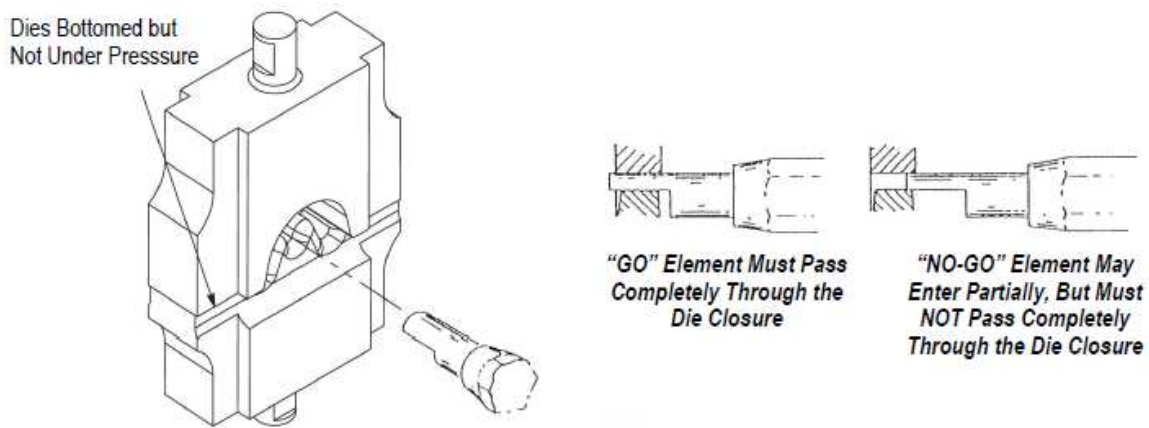
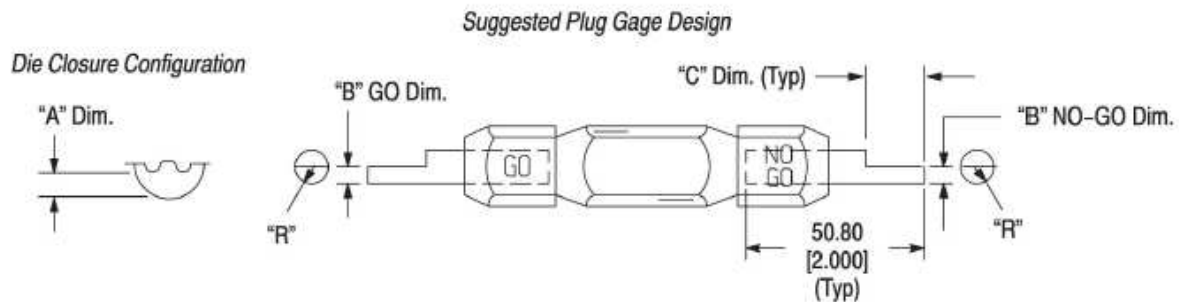


Figure 6



DIES		DIE CLOSURE DIM. "A"		GAGE ELEMENT DIM "B"		DIMENSION	
NEST	INDENTER	GO	NO-GO	GO	NO-GO	"C"	"R" (Radius)
1901001-1	1901002-2	2.540 [.1000]	2.692 [.1060]	2.540-2.548 [.1000-.1003]	2.689 2.692 [.1059-.1060]	7.92 [.312]	3.18 [.1252]
1901000-1	1901002-1	3.911 [.1540]	4.1115 [.1620]	3.911-3.919 [.1540-.1543]	4.112-4.115 [.1619-.1620]	11.09 [.437]	4.34 [.171]
1901000-2	1901002-1	4.699 [.1850]	4.902 [.1930]	4.699-4.706 [.1850-.1853]	4.899-4.902 [.1929-.1930]	11.09 [.437]	5.54 [.218]

Figure 7

6. REPLACEMENT PARTS

Order replacement dies through your TE 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 (038-035)
TYCO ELECTRONICS CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

7. REVISION SUMMARY

Revisions to this instruction sheet include:

- Add tool PN 2217330.
- Adjusted Figure numbers to accommodate Table 1.
- Removed 34-35 mm² (2 AWG) capability using nest PN 1901000-3.