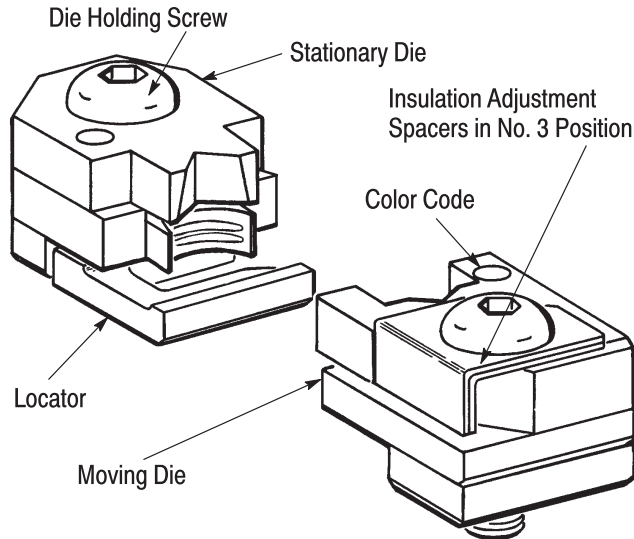


**PROPER USE GUIDELINES**

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.



**PIDG STRATO-THERM TERMINAL CRIMPING DIES**

576711, 576714, 576715, 576716, 576720, 576723, 576742

Figure 1

**1. INTRODUCTION**

This instruction sheet provides application instructions, maintenance, and inspection procedures for the dies listed in Figure 1. These dies will crimp PIDG STRATO-THERM Terminals with a wire size range of 24 thru 10.

Basic instructions on the use of these dies, die adjustments, wire preparation, etc.; are provided in Section 2, INSTRUCTIONS.

Section 3, MAINTENANCE and INSPECTION PROCEDURES, enables you to establish and maintain a die certification program.

Dies are coated with oil to prevent rust and corrosion. Wipe this oil from the dies, particularly from the crimping area. Instructions for Hand Tool 69710-1, refer to Instruction Sheet 408-2095. For recommended tooling used with these dies other than Hand Tool 69710-1, contact Tyco Electronics Tooling Assistance Center at the number listed at the bottom of this page.

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

**2. INSTRUCTIONS**

**2.1. Die Insertion**

Each set of dies consist of a moving die and a stationary die. See Figure 1.

1. Position the stationary die in the stationary die holder. Tighten the die holding screw just enough to hold the die in place. Do not tighten the screw.
2. Position the moving die in the moving die holder. Tighten the die holding screw just enough to hold the die in place. Do not tighten the screw.
3. With a terminal in position, insert the wire, then squeeze the handles until the dies bottom.

**NOTE** Refer to Figure 2 for wire strip length.



4. Tighten both the die holding screws while dies are bottomed. Tool is now ready for operation.

**NOTE** Check the die alignment and tighten the die holding screws at least twice daily.



**2.2. Die Removal**

Loosen the die holding screws, and remove the dies.

**2.3. Wire Stripping and Crimping Procedures**

**A. Wire Stripping**

Strip the wires to the dimensions provided in Figure 2.

**NOTE** Refer to Paragraph 2.4 for die insulation crimp adjustment.

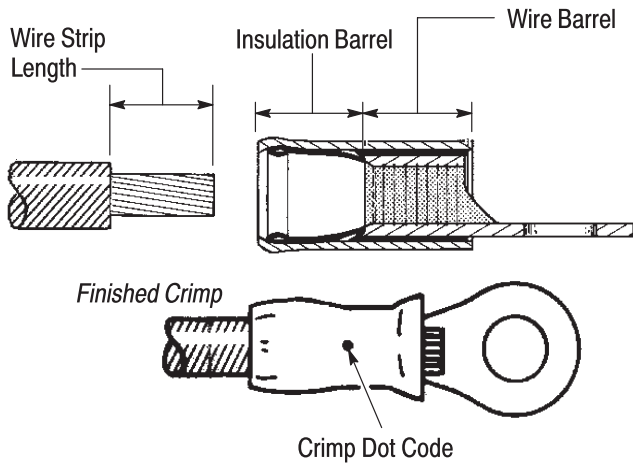


**B. Crimping with Hand Tool 69710-1**

1. Place the terminal in the stationary die as shown in Figure 3.

**NOTE** Dies will not accommodate terminals with tongue width exceeding 11.91 mm [.469 in.].





DIE PART NUMBER	WIRE SIZE (AWG)	COLOR AND DOT CODE	WIRE STRIP LENGTH	
			Min.	Max.
576711	24-22	2 Dots BROWN	5.56 [.219]	6.35 [.250]
576720	20	1 Dot GRAY	5.56 [.219]	6.35 [.250]
576715	18	2 Dots ORANGE	5.56 [.219]	6.35 [.250]
576714	16	1 Dot ORANGE	5.56 [.219]	6.35 [.250]
576716	14	2 Dots WHITE	5.56 [.219]	6.35 [.250]
576742	12	1 Dot WHITE	5.56 [.219]	6.35 [.250]
576723	10	1 Dot BLACK	7.62 [.300]	8.38 [.330]

Figure 2

2. Close the tool handles until the terminal is held firmly in place.
3. Insert a stripped wire into the terminal until the wire butts against the locator.
4. Complete the crimp by closing the handles until the CERTI-CRIMP\* hand crimping tool ratchet control releases.
5. The handles can now be opened and the crimped item may be removed.

**2.4. Insulation Crimp Adjustment**

1. The insulation crimping section of the moving die has three crimp positions: 1-Tight, 2-Medium, 3-Loose.
2. Turn both insulation crimp adjustment spacers so that they fit into the notch in the side of the die. See Figure 1. This is the No. 3 or loose position. *(The moving die must be removed from the die holder to make this adjustment if the die has already been installed).*

**NOTE:** To locate PIDG STRATO-THERM Terminals, pull locator down slightly.

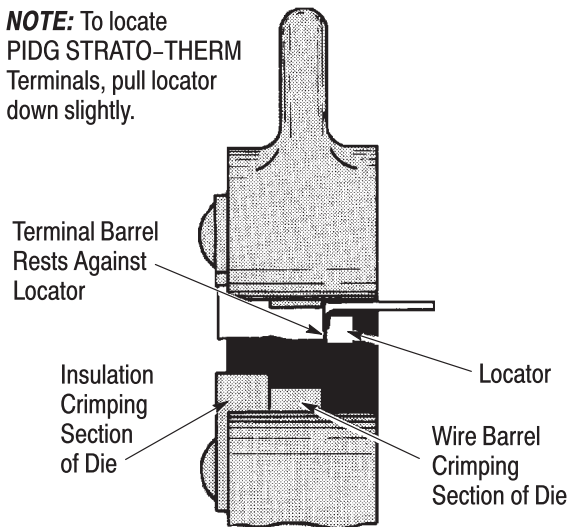


Figure 3

3. Insert the die into the die holder.
4. Turn the die holding screw enough to hold the die firmly in place. The die holding screw will be tightened after completing steps 5 and 6.
5. Insert the UNSTRIPPED wire into ONLY the insulation barrel position of the terminal.
6. Make a test crimp (refer to Paragraph 2.3 for crimping procedure). Close the die on the terminal and hold the die in the bottomed position. Tighten the die holding screw while the dies are bottomed, then complete the crimping cycle.
7. Remove the terminal from the dies, and check the insulation grip as follows: Bend the wire back and forth ONCE. The terminal sleeve should retain the grip on the wire insulation.
8. If the wire pulls out, use the following procedure to set the insulation crimp adjustment to the next tighter position: First, remove the die from the die holder. Then, turn the lower insulation adjustment spacer 90° so that it fits between the die and the die holder. The No. 2 will appear on the corner of the spacer. Repeat the test crimp, and adjust the die as necessary until the desired insulation grip is obtained.
9. With both adjustment spacers placed between the die and the die holder, the die is set in its tightest insulation crimping position. The No. 1 will appear on the corner of the top spacer.

**2.5. Color and Dot Code**

Note that the dies and terminals are color-coded according to wire size for easy identification. See Figure 2. When the terminals are properly crimped in the correct dies, 1 dot or 2 dots (depending on wire size), will appear embossed on the top and bottom of the terminal. See Figure 2.



*Damaged product should not be used. If a damaged product is evident, it should be cut from the wire and replaced with a new one. Do not reterminate terminals.*

### 3. MAINTENANCE and INSPECTION PROCEDURE

Tyco Electronics recommends that a maintenance/inspection program be performed periodically. This is necessary to ensure that continued use of the dies will result in the same dependable and uniform terminations for which the dies were designed.

We recommend an initial frequency of inspection of once a month. This frequency may be adjusted to suit your requirements through experience. The frequency of an inspection is dependent upon:

- The care, amount of use, and handling of the dies.
- The type and size of the products applied.
- The degree of operator skill.
- The presence of abnormal amounts of dust and dirt.
- Your own established standards.

With proper maintenance and inspection, these dies will give years of satisfactory service.

All Tyco Electronics dies are thoroughly inspected before being shipped from the factory, however, since there is a possibility of die damage during shipment, Tyco Electronics recommends that new dies be inspected in accordance with Section 3 when received in your plant.

#### 3.1. Cleaning

Do not allow deposits of dirt, grease, and foreign matter to accumulate in the die closure area and on the bottoming surfaces of the dies. These deposits may prevent the dies from bottoming fully and may also cause excessive wear in the die closure surfaces, thereby affecting the quality of the crimp. The dies should be wiped clean frequently with a clean, soft cloth.

#### 3.2. Visual Inspection

Visually inspect the die closure surfaces for broken, chipped, or pitted conditions. Although dies may gage within permissible limits, worn or damaged die closure surfaces are objectionable and can affect the quality of the crimp. Examples of possible damaged die surfaces are shown in Figure 4.

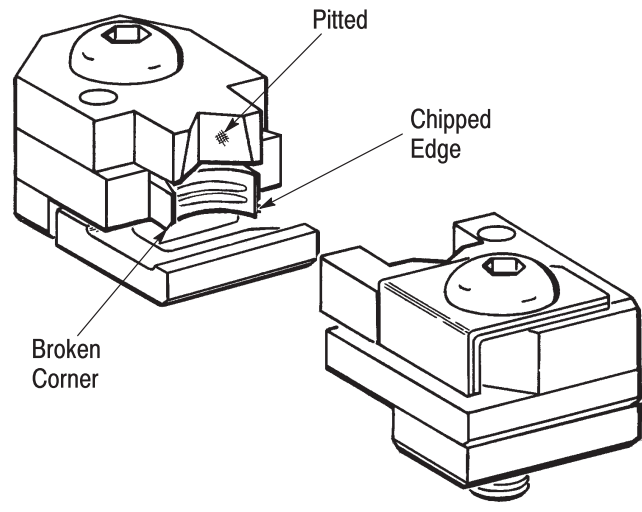


Figure 4

#### 3.3. Die Closure Inspection

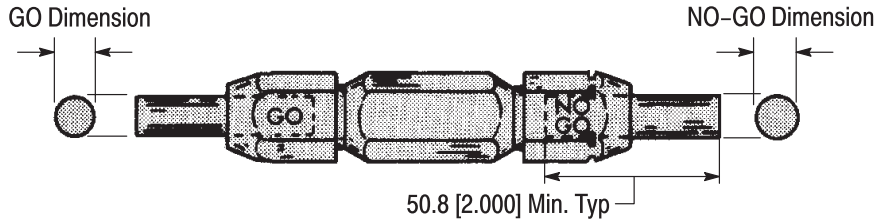
Every Tyco Electronics die set is inspected and tested for proper die closure before being shipped from the factory. An inspection should, however, be performed periodically to measure the die closure.

The die closure inspection is accomplished using the GO NO-GO plug gages. A suggested plug gage design and the GO NO-GO dimensions of the plug gage members are provided in Figure 5.

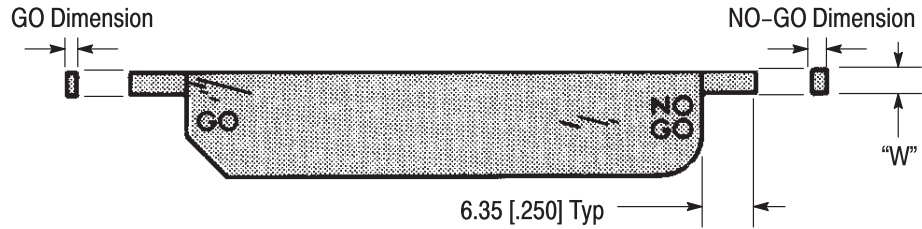
The following procedure is recommended for measuring the die closures:

1. Remove traces of oil or dirt from the die crimping areas, and plug gage members.
2. Turn both insulation adjustment spacers of the moving die so that they fit into the notch in the side of the die. See Figure 1. The die is now set in the No. 3 or loose position. This will provide access to the wire barrel dies for plug gaging.
3. Insert both dies in the tool die holders.
4. When using pneumatic tools, reduce air supply pressure to a range between 103–138 kPa [15–20 psi]. Actuate the tool to bottom the wire barrel dies. When using the hand tool, close the handles of the tool until the wire barrel dies bottom. Do not apply additional pressure to the tool handles.
5. Some dies need to be removed from the hand tool to gage the wire barrel dies. The position of the locator and the insulation die prevent gaging the wire barrel die in the tool. Remove the complete die assembly and rotate the locator 180°. This will allow access to the wire barrel die. The complete die can then be placed in a vise with light pressure for gaging.

**Wire Barrel Die Closure Configurations**



**Insulation Barrel Die Closure Configurations**



DIE SET	WIRE BARREL CRIMP CHAMBER		INSULATION BARREL CRIMP CHAMBER		
	GO	NO-GO	GO	NO-GO	WIDTH (W)
576711	2.591-2.598 [.1020-.1023]	2.690-2.692 [.1059-.1060]	0.813-0.820 [.0320-.0323]	1.217-1.219 [.0479-.0480]	4.06 [.160]
576720	2.591-2.598 [.1020-.1023]	2.690-2.692 [.1059-.1060]	1.067-1.074 [.0420-.0423]	1.471-1.473 [.0579-.0580]	4.39 [.173]
576715	3.048-3.056 [.1200-.1203]	3.147-3.150 [.1239-.1240]	0.940-0.947 [.0370-.0373]	1.344-1.346 [.0529-.0530]	5.89 [.232]
576714	3.124-3.132 [.1230-.1233]	3.223-3.226 [.1269-.1270]	0.940-0.947 [.0370-.0373]	1.344-1.346 [.0529-.0530]	5.89 [.232]
576716	3.327-3.335 [.1310-.1313]	3.426-3.429 [.1349-.1350]	1.067-1.074 [.0420-.0423]	1.471-1.473 [.0579-.0580]	6.63 [.261]
576742	3.683-3.691 [.1450-.1453]	3.782-3.785 [.1489-.1490]	1.067-1.074 [.0420-.0423]	1.471-1.473 [.0579-.0580]	6.63 [.261]
576723	4.775-4.783 [.1880-.1883]	4.874-4.877 [.1919-.1920]	1.676-1.684 [.0660-.0663]	2.080-2.083 [.0819-.0820]	8.43 [.332]

Figure 5

6. With the wire barrel dies bottomed, check the wire barrel crimp die closure using the proper plug gage. Hold the gage in a straight alignment with the die closure and carefully try to insert, without forcing the GO member, and then the NO-GO member. See Figure 6, Detail A. The GO member must pass completely through the insulation and wire barrel crimp die closures.

7. The NO-GO member may enter partially, but must not pass completely through the wire barrel crimp die closure. See Figure 6, Detail A.

8. Remove the moving die from the tool die holder.

9. Reposition the insulation adjustment spacers in the No. 1 position. Refer to Paragraph 2.4 for insulation crimp position adjustment procedures.

10. Insert the moving die into the tool die holder.

11. With the wire barrel dies bottomed, check the insulation crimp die closure using the proper plug gage in the same manner as steps 6 and 7. See Figure 6, Detail B.

12. If both the wire barrel and insulation die closures meet the GO NO-GO gage conditions, the dies may be considered dimensionally correct.

13. If you find that the crimp die closures do not conform with the GO NO-GO gage conditions, contact your local Tyco Electronics Representative.

**4. REPLACEMENT PARTS**

A complete inventory of customer-replaceable parts for each die set assembly should be stocked and controlled to prevent lost time when replacement of parts is necessary. See Figure 7. 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:

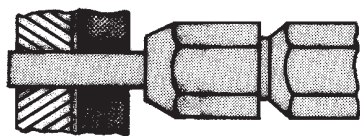
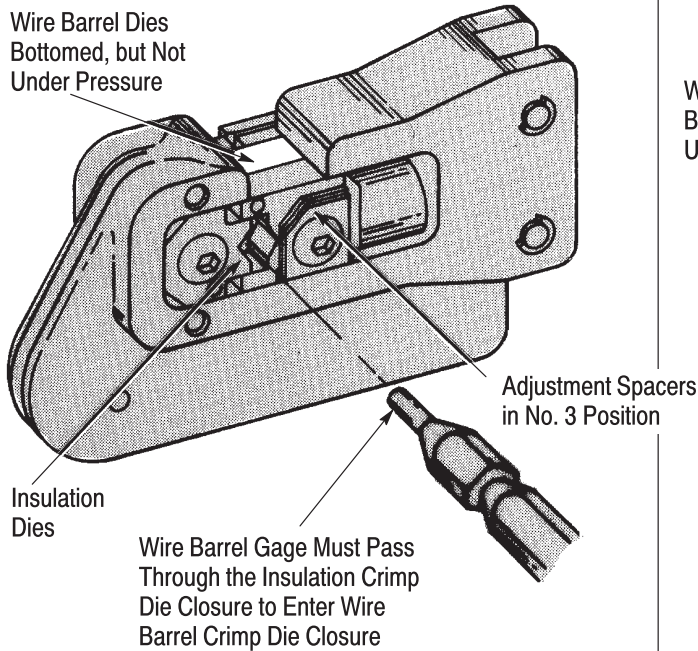
CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

Tools and dies may also be returned for evaluation and repair. For repair service, contact a Tyco Electronics Representative at 1-800-526-5136.

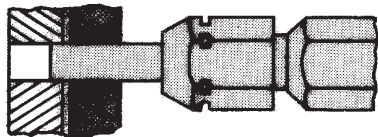
**5. REVISION SUMMARY**

- Updated document to corporate requirements
- Changed wire strip length for wire size 10 in table in Figure 2

*Inspection of Wire Barrel Crimping Dies (Detail A)*

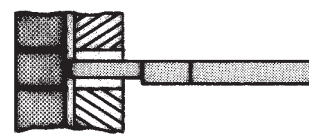
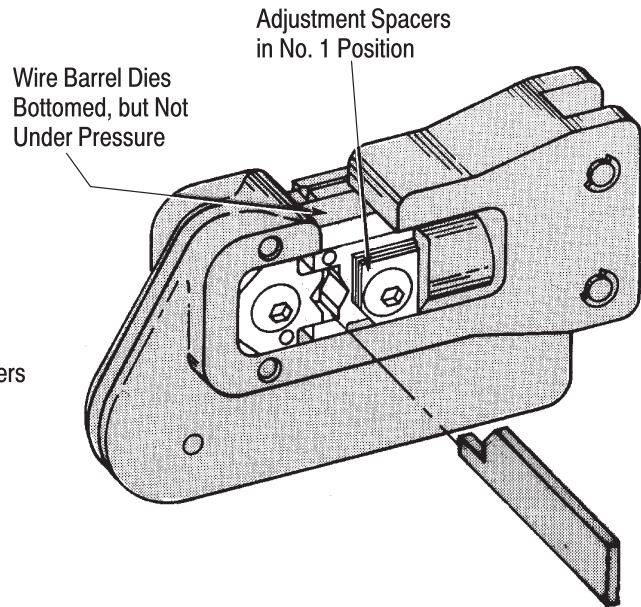


"GO" Gage Must Pass Completely Through Die Closure

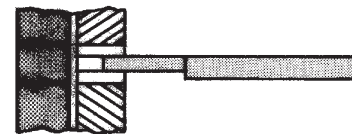


"NO-GO" Gage May Enter Partially, but Must Not Pass Completely Through the Die Closure

*Inspection of Insulation Crimping Dies (Detail B)*

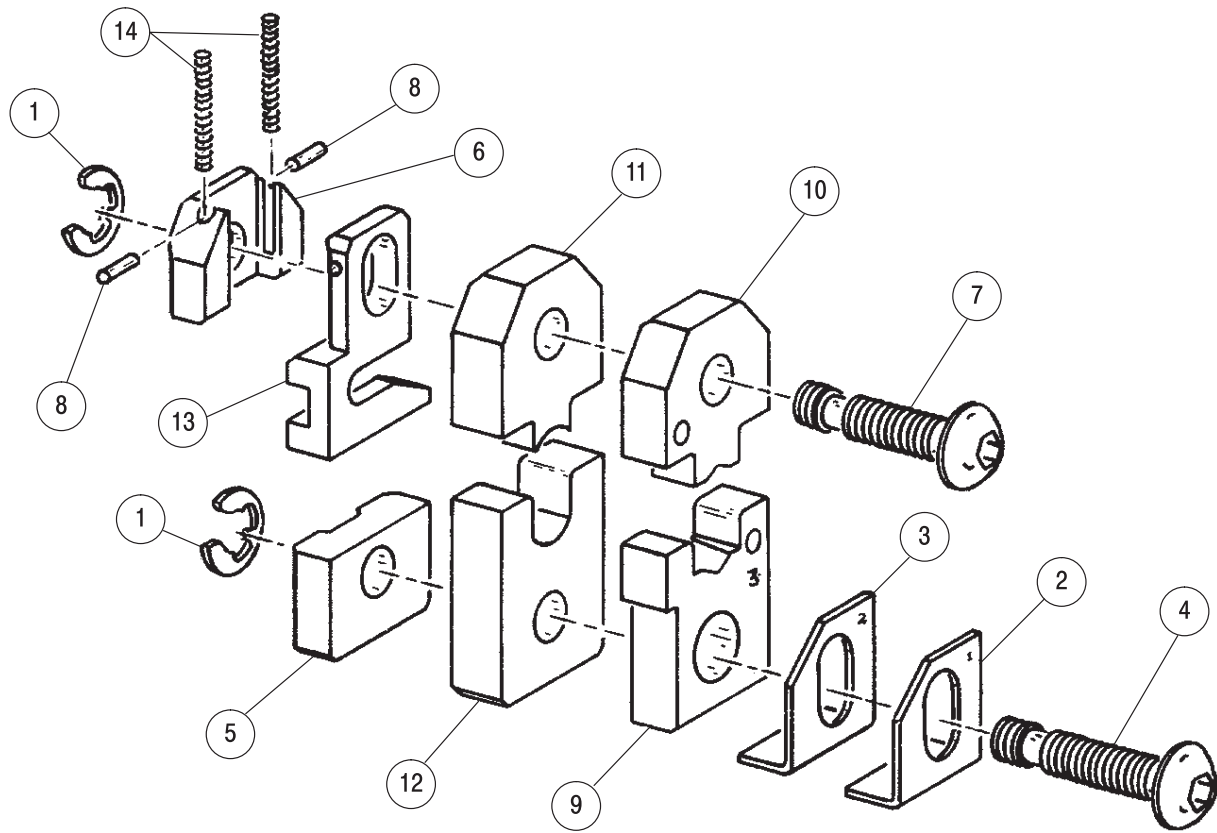


"GO" Gage Must Pass Completely Through Die Closure



"NO-GO" Gage May Enter Partially, but Must Not Pass Completely Through the Die Closure

Figure 6



ITEM NO.	DESCRIPTION	QTY PER DIE SET	DIE SET NUMBERS						
			576711	576714	576715	576716	576720	576723	576742
1	RING, Retaining	2	1-21046-3	1-21046-3	1-21046-3	1-21046-3	1-21046-3	1-21046-3	1-21046-3
2	SPACER	1	1-306027-5	306027-6	306027-6	306027-6	1-306027-5	306027-9	306027-6
3	SPACER	1	1-306027-6	306027-7	306027-7	306027-7	1-306027-6	1-306027-0	306027-7
4	SCREW, Special	1	1-306131-6	1-306105-1	1-306105-1	1-306105-1	1-306131-6	2-306131-3	1-306105-1
5	SPACER	1	2-305832-8	2-305832-8	2-305832-8	2-305832-8	2-305832-8	2-305832-8	2-305832-8
6	SPACER, Locator	1	2-305832-9	2-305832-9	2-305832-9	2-305832-9	2-305832-9	2-305832-9	2-305832-9
7	SCREW, Special	1	2-306131-1	1-306131-6	1-306131-6	1-306131-6	2-306131-1	3-306131-4	1-306131-6
8	PIN, Coiled	2	21949-1	21949-1	21949-1	21949-1	21949-1	21949-1	21949-1
9	INDENTER, Insulation	1	576712-1	576712-2	2-45931-2	2-45931-3	576712-3	2-45931-4	2-45931-3
10	ANVIL, Insulation	1	576713-1	576713-2	576713-4	1-45932-8	576713-3	1-45932-9	1-45932-8
11	ANVIL	1	576718-7	576718-8	576718-1	576718-2	576718-5	576718-4	576718-6
12	INDENTER, Barrel	1	576719-8	576719-7	576719-1	576719-2	576719-5	576719-4	576719-6
13	LOCATOR	1	576771-1	576771-1	576771-1	576771-1	576771-1	576771-5	576771-1
14	SPRING, Compression	2	7-59683-4	7-59683-4	7-59683-4	7-59683-4	7-59683-4	7-59683-4	7-59683-4

Figure 7