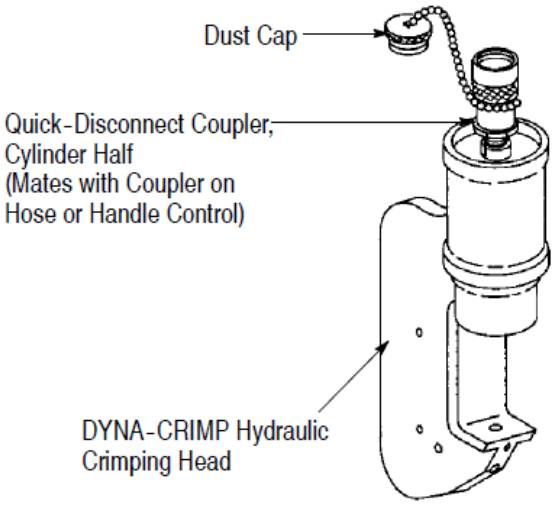


Figure 1

1. INTRODUCTION

This instruction sheet covers application, inspection and maintenance procedures for DYNA-CRIMP* Crimping Head 69099 shown in Figure 1. The crimping head is used to crimp the terminals and splices specified in Figure 2.

Products Crimped	Die Set Instruction Sheet
AMPOWER* terminals/splices, wire size range 10.5 - 190 mm2 [6 -350 MCM]	408-1606
AMPOWER quick-disconnect terminals, wire size range 42.4 - 139 mm2 [1/0 - 250 MCM]	408-2292-3
COPALUM terminals/splices, wire size range 6.64 - 96.3 mm2 [8 - 3/0 AWG] (bar crimp)	408-2353
COPALUM insul. piercing terminals/splices, wire size range 6.64 - 96.3 mm2 [8 - 3/0 AWG] (exc. stranded Al wire)	408-2397
TERMI-FOIL Single and Double Face Terminals 51911, 51911-1, 51911-2, 51911-3, and 51943	----
SOLISTRAND* terminals/splices, wire size range 6.64 - 117 mm2 [8 - 4/0 AWG]	408-1697
SOLISTRAND flag terminals, wire size range 6.64 - 117 mm2 [8 - 4/0 AWG]	408-2198
STRATO-THERM* post insulated terminals/splices, wire size range 6.64 - 76.3 mm2 [8 - 2/0 AWG]	408-1826

Figure 2

Note: This instruction sheet provides general information for the insertion of dies and the crimping procedure. Always refer to the instructions packaged with specific die sets for specific crimping instructions.

This crimping head is designed for two DYNA-CRIMP tools: either Hydraulic Hand Pump 314979-1 described in Customer Manual 409-5860; or Hydraulic Power Unit 69120-[ ] described in Customer Manual 409-1950.

Warning: To avoid personal injury and potential damage to the crimp head, TE Connectivity (TE) requires the crimp head to operate at 8,000 to 8,400 PSI [552 to 579 bar]. TE recommends using 8,200 PSI [565 bar] TE Hydraulic Pumps as other manufacturers' pumps may apply insufficient pressure (resulting in an inadequate crimp) or excessive pressure (resulting in failure of the head). Additionally, the TE pump must be used to maintain CE certification; if using other manufacturers' pumps, the user is responsible for self-certification. Read these instructions and other applicable references carefully before proceeding.

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

Reasons for reissue of this Instruction Sheet are provided in Section 7; REVISION SUMMARY

2. CRIMPING HEAD INSTALLATION AND REMOVAL

DANGER
Verify that the hydraulic pressure to hose or handle control is released and that power supply is disconnected from electric power unit, if applicable.

CAUTION
Prior to installing the head, ensure that the pump and hose being used are working properly, and are adjusted to and rated at 56.54 mPa [8,200 psi]. An incorrectly adjusted or rated pump/hose could result in severe tooling damage, as well as personal injury.

NOTE
If a coupling component for the hose assembly is packaged inside the quick-disconnect coupler on the head, it is to be used to replace the coupling on a hose assembly not equipped with a quick-disconnect coupler.

1. Thoroughly clean coupling area of handle control or hose assembly and crimping head.
2. Remove protective dust caps from both quick connect/disconnect couplers.
3. Mate both quick-disconnect couplers and tighten the collar of the coupler assembly of the crimping head (see Figure 1).

CAUTION
Oil flow must be unobstructed between power unit and crimping head. Verify that all couplers are fully mated and tightened.

NOTE
If crimping head must be removed after being in production, pressure must be released in the hydraulic system before head is removed. If using Hydraulic Power Unit 69120-[ ], disconnect power unit from power supply. When using Hydraulic Hand Pump 314979-1, turn the "Hold/Return" lever to the "Return" position.

3. DIE INSTALLATION AND REMOVAL (FIGURE 3)

DANGER
To avoid personal injury, avoid accidently depressing foot switch or handle control of power unit when changing dies.

CAUTION
Operating the crimping head WITHOUT the dies installed will damage the "C"-head or ram.

A. Installation

1. Back out the set screws in the crimping head and ram (the ram must be raised slightly to gain access to the set screw).
2. Insert the dies into the crimping head and the ram, ensuring the flats of the die shanks are facing the set screws.
3. Tighten the set screws.
4. Activate the power unit to complete the cycle and allow the ram to return to the "DOWN" position.

B. Removal

DANGER
To avoid personal injury, avoid accidently depressing foot switch or handle control of power unit when changing dies.

CAUTION
Operating the crimping head WITHOUT the dies installed will damage the "C"-head or ram.

1. Back out the set screw in the crimping head and remove the stationary die.
2. Raise the ram enough to expose the set screw and back it out until the moving die can be removed.

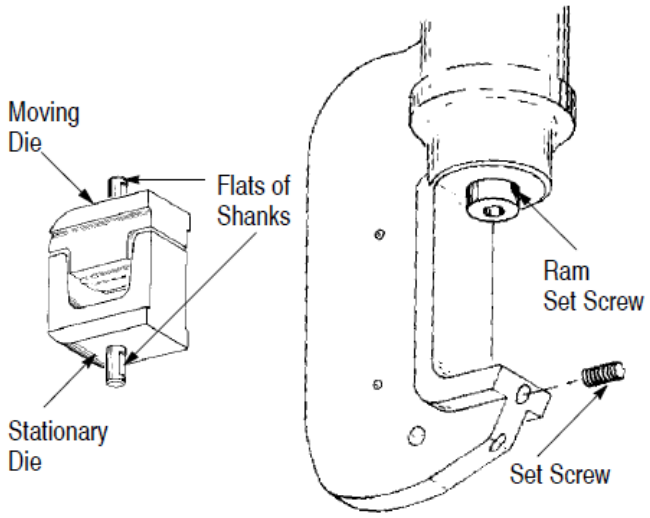


Figure 3

4. CRIMPING PROCEDURE

The following procedure provides only general information concerning crimping. Refer to instructional material packaged with the dies and power unit for more detailed information including wire stripping dimensions and how to position terminals or splices in the dies.

CAUTION
Never operate the power unit without having a crimping head attached to the handle control or crimping head coupling.

1. Insert a terminal or splice in the stationary die in accordance with instructions packaged with the dies.
2. Activate the power unit to advance the dies and hold terminal or splice in place.
3. Insert the stripped wire into the terminal or splice.
4. Activate the power unit to complete the crimp.

5. INSPECTION AND MAINTENANCE

DANGER
Verify hydraulic pressure is released and power supply is disconnected before following inspection and maintenance procedures, unless otherwise specified in the procedure.

Each crimping head is assembled and inspected before shipment. TE Connectivity recommends that the crimping head be inspected immediately upon its arrival at the facility of use, and at regularly scheduled intervals to ensure the head has not been damaged during handling and use. Frequency of inspection depends upon the following: care, amount of use, and handling of the head; type and size of products crimped; degree of operator skill; and environmental conditions.

5.1. Visual Inspection

Refer to Figure 4 and proceed as follows:

1. Inspect the assembled crimping head for nicks, scratches, and cracks.
2. Inspect for cracks especially at the corners of the C-frame and around the top of the cylinder.
3. When the crimping head is disassembled (see paragraph 5.4.), inspect the metal surfaces for nicks, cracks, scratches, and excessive wear, especially where sliding contact occurs.

NOTE
Once per year, or every 7,500 cycles (whichever comes first), the hydraulic head should be returned to TE for magnetic particle inspection. Additionally, inspect and service the head every month or 1,000 cycles.

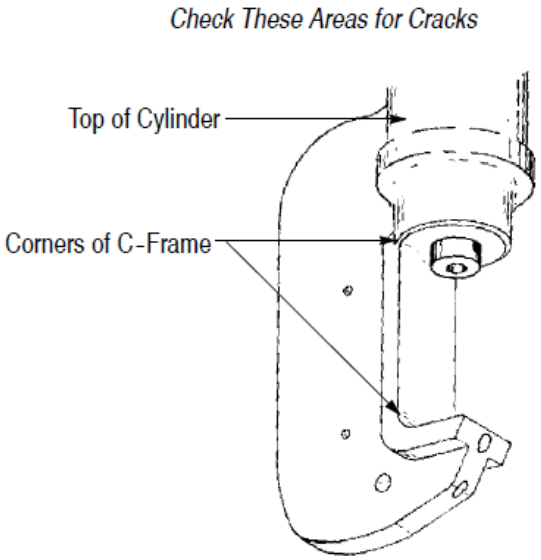


Figure 4

5.2. Cleaning

Remove accumulations of dirt and grease on the crimping head; especially in areas where dies are installed and terminals are crimped. Clean the entire head frequently with a clean, lint-free cloth.

5.3. Crimping Head Check-Out Procedure

If the ram fails to retract after completion of a crimping cycle, the cause may be in the crimping head. To determine whether the trouble is in the crimping head or not, release pressure in the power unit.

If the ram retracts, the trouble is not in the crimping head.
If ram does not retract, refer to paragraph 5.4.

5.4. Crimping Head Disassembly Procedure

DANGER
Verify that the pressure is released in the hydraulic system before head is removed. If using Hydraulic Power Unit 69120-[ ], disconnect power unit from power supply. When using Hydraulic Hand Pump 314979-1, turn the "Hold/Return" lever to the "Return" position.

NOTE
Numbers in parentheses refer to Item Numbers in Figure 6.

1. Remove crimping head from handle control or coupling and place in a vise.

   Use a suitable material to protect the finish on the head.
2. Insert a hex wrench in the ram set screw (Item 14).
3. Insert a drift pin up through the port of the base plate (Item 13), raise the ram until a 6.3 mm [.250 in.] square block of wood or steel can be placed between the hex wrench and the top of the cylinder.
4. Lower the ram slowly until it is supported by the hex wrench.
5. Remove the retaining ring (Item 4) from the bottom of the cylinder and remove the base plate (Item 13).
6. Insert a drift pin up through the cylinder and raise the ram.
7. Remove the hex wrench, remove the ram (Item 6), and spring (Item 8) from the cylinder.
8. Inspect for a broken or weak ram return spring.

9. Inspect the ram and base plate O-rings (Item 5) and back-up rings (Item 11) for worn or deteriorated condition.
10. Apply a thin film of hydraulic fluid (same type used in power unit reservoir) on surface of the O-rings and back-up rings.
11. Install the ram and ram return spring in the crimping head; aligning the slot in the piston with the guide set screw (Item 2).
12. Insert a drift pin up through bottom of the cylinder and raise the ram.
13. Place a hex wrench in the ram in the set screw.
14. Position a 6.3 mm [.250 in.] square block of wood or steel between the wrench and the top of the cylinder.
15. Lower the ram until the wrench rests against the block.
16. Install the base plate (Item 13) and retaining ring (Item 4).
17. Insert the drift pin up through the port of the base plate and raise the ram.
18. Remove the hex wrench and lower the ram.
19. Attach the crimping head to the power unit. Refer to Section 2. CRIMPING HEAD INSTALLATION AND REMOVAL.

5.5. Troubleshooting

Part	Inspection and Problem	Possible Solution
"C"-Head	Inspect for cracks, gouges, nicks, or galling on the "C"-Head or where the "C"-Head contacts dies	Return tool for repair (see Section 6)
	Check to see if upper die retaining pin does not hold stationary die in place	
	Check to see if upper die release button sticks (it should normally move in and out easily when moderate pressure is applied)	
Cylinder	Inspect for evidence of cracks, gouges, nicks, or if there are cracks, return the tool for repair (see Section 6). Galling	If there are cracks, return tool for repair (see Section 6)
		For traces of gouges, nicks, or galling, remove any sharp edges using fine emery cloth
	Inspect for oil leaks between cylinder and coupling	For oil leaks and sticky coupling, tighten or replace coupling
	Check to see if coupling sticks to the cylinder (it should normally turn on and off freely when moderate pressure is applied with a wrench)	
Quick-Disconnect Coupling	The coupling mates hard, will not mate or release, leaks oil, or sticks at hose connection	Replace coupling
Ram	Inspect the ram in the Power "ON" (ram advanced) position for evidence of galling, cracks, or oil leaks between ram and cylinder	If there are cracks or leaks, return tool for repair (see Section 6)
		If there is galling, remove any sharp edges using fine emery cloth
	Check to see if the lower die retaining pin does not hold the moving die in place	Return tool for repair (see Section 6)
	Check to see if the lower die release button sticks (it should normally move in and out easily when moderate pressure is applied)	
	Inspect the ram in the Power "OFF" (ram retracted) position to ensure that the ram returns freely to its original position	

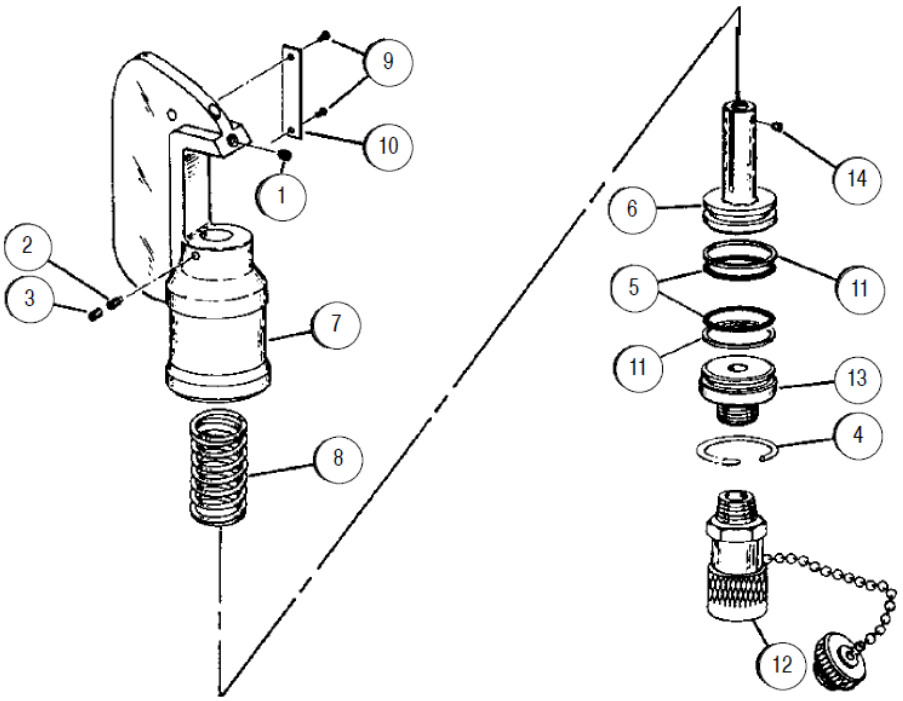
Figure 5

6. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 6. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Order parts 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, or return the entire tool for evaluation and repair, with a written description of the problem to:

CUSTOMER SERVICE (38-35)
TE CONNECTIVITY CORPORATION
P.O. BOX 3608
HARRISBURG, PA 17105-3608

Tools may also be returned for evaluation and repair. For tool repair service, contact a TE representative at 1-800-526-5136.



Item Number	Part Number	Description	Quantity Per Head
1	21013-4	Screw, Socket Head, Self-Locking, 1/4-20 UNC x 9.52 mm [.375 in] Long	1
2	21059-3	Screw, Socket Head, (Half Dog Point), 8-32 UNC x 7.95 mm [.313 in] Long	1
3	4-21010-1	Screw, Socket Head, (Flat Point), 8-32 UNC x 7.95 mm [.313 in] Long	1
4	305296	Ring, Retaining	1
5	3-21053-2	O-Ring, 60.32 mm [2.375 in] x 50.8 mm [2.00 in] I.D. x 4.78 mm [.188 in] Wide	2
6	46721	Piston, Ram	1
7	59465	Head	1
8	304560	Spring, Ram Return	1
9	21017-6	Screw, RH Drive (Type U) No. 4 x 6.35 mm [.250 in] Long	2
10	39447	Name Plate	1
11	2-21107-6	Ring, Back-up	2
12	311471-1	Coupler, Quick-Disconnect, Cylinder Half	1
13	46722	Plate, Base	1
14	21013-2	Screw, Socket Head, Self-Locking, 1/4-20 UNC x 7.95 mm [.313 in] Long	1

Figure 6

7. REVISION SUMMARY

- Latest TE logo and format resulting in numbering changes of paragraphs
- Added Warning (paragraph 1) and NOTE in paragraph 5.1.
- Added Figure 2 and 5 and adjusted order and presentation of figures