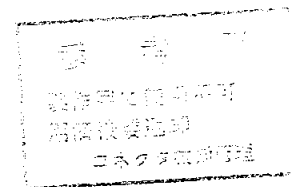
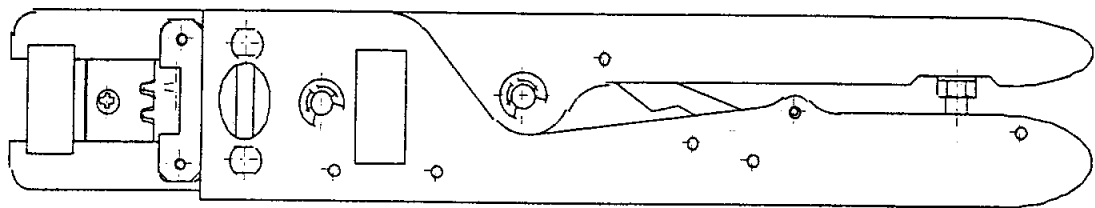


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Spec. for		Original issued: Apr. 20. 2001				
TITLE: Operation Manual for CT150-2-JN1 CT150-2-JN1 -B,-C,-F		Rev.	Date	CN-No.	Prep	Chkd
		2	Oct. 4. 2001	48867	K.Oikawa	S. Shimizu
ISSUED: Production Equipment & Tooling Dept.		FILED				
Prepared	Checked	Approved	Approved	APR 01 2002		
K.Oikawa	S. Shimizu	A. Iwasaki	<i>Kumoto</i>	DOCUMENT CONTROL		

⚠ CAUTION


- Be sure to read this operation manual before operation since all safety precautions and described in this manual.
- Properly keep this operation manual near the hand crimping tool so that anyone can refer to them at anytime.
- Be sure to use the crimping tool by following the instructions given in this operation manual. Otherwise, we will not be responsible for any accidents that may result.

This hand crimping tool is used for crimping stripped wires to contacts. To obtain excellent crimped wires, be sure to read this manual carefully in order to fully understand this tool and operate it correctly.

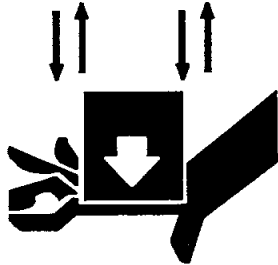


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Important Safeguards and Precautions






DANGER Pinch Points



The crimper moves OPEN/CLOSE.
NEVER put fingers into opening between the crimper and anvil.

About caution symbols: In this manual and on our products as well, the following caution symbols are used to show important information and warnings for correct use of our products. This is to avoid possible personal injury and property damage. Be sure to read and understand these special instructions before proceeding to the procedural details.


	DANGER	: A danger indicates an operation that results in serious personal injury or fatal wound if precautions are not followed.
	WARNING	: A warning indicates an operation that could cause serious personal injury or fatal wound if precautions are not followed.
	CAUTION	: A caution indicates an operation that could cause personal injury or equipment damage if precautions are not followed.

Examples of caution symbols:



An equilateral triangle \triangle serves the same as CAUTION (or DANGER and WARNING). It contains a specific warning information inside (the lightning flash with arrowhead symbol shown left means a risk of electric shock to persons).



A no entry mark  indicates an action that must be prohibited. Inside or near it is indicated a special instruction (the label shown left means prohibition of disassembly).



A black circle \bullet indicates a required action that must be proceeded with out failure. It contains specific instructions inside (the label shown left means required disconnection of a plug from an outlet).

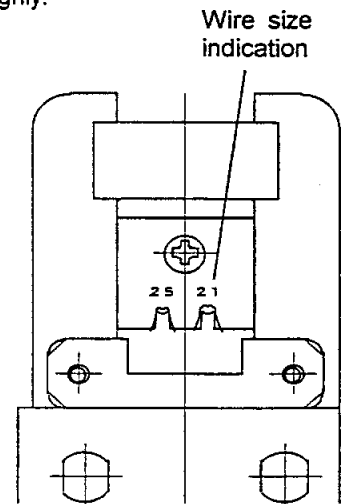
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1. Tool Name

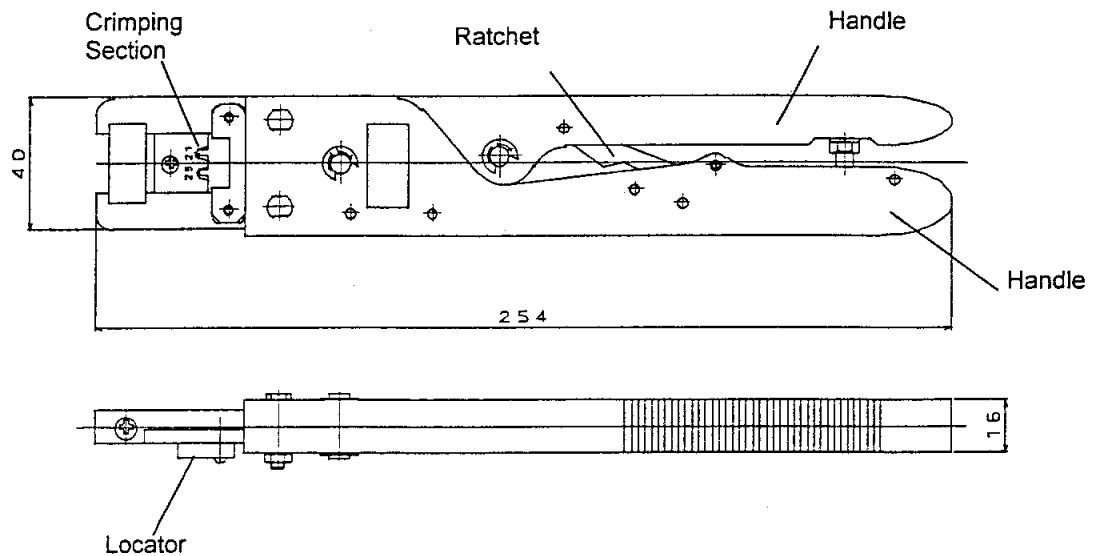
- CT150-2-JN1
- CT150-2-JN1-B
- CT150-2-JN1-C
- CT150-2-JN1-F

2. Notes on Handling this Tool

- (1) Do not crimp other than specified contacts and wires.
- (2) To keep this tool in good working condition for a long period of time, always keep it clean and handle it with care. Avoid dropping or handling it roughly.
- (3) The handle is adjusted so that the claw of ratchet is released when crimping is completed. Do not release the handle before crimping is completed.
- (4) It is not necessary to lubricate the crimper or anvil.
- (5) When using this tool, be sure to check that the contact crimp height meets the specified conditions.
- (6) This tool has two crimping sections, so select a proper one taking wire size into account.
 (The figure shows "CT150-2-JN1-F".)



3. Names of Parts

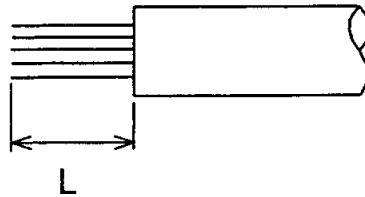


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4. Operation

(1) Wire stripping

Strip wires of covering to the L sizes shown in Page 7/9~8/9.
Then, check if conductors are flawed or are out of order.

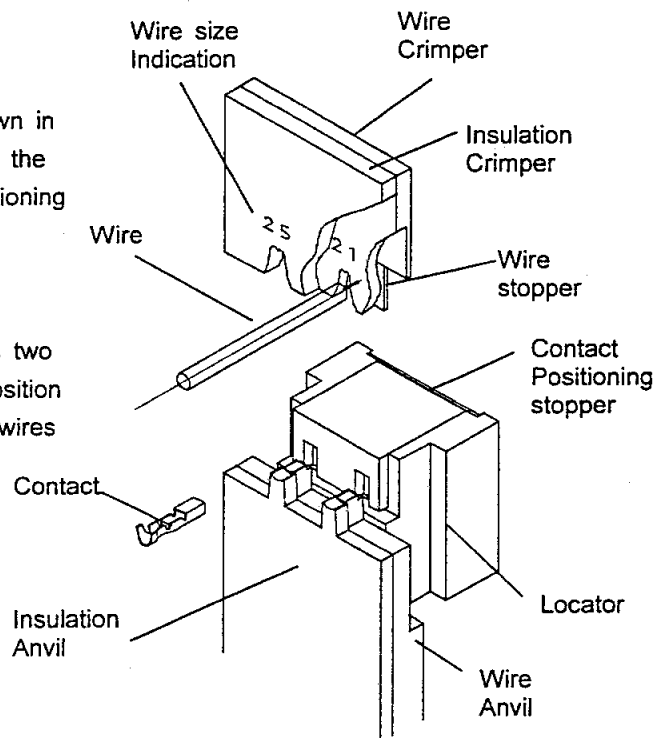


(2) Opening of handles of hand crimping tool

Open the handles before inserting contacts on the tool. No contact can be inserted when they are not opened. Closed the handles completely for crimping and release them, and they automatically return to the open position.

(3) Insertion of contact

Direct a contact to be crimped as shown in the figure, insert its tip the locator until the tip of contact reaches the contact positioning stopper. (The right figure shows "CT150-2-JN1-F".)



Note: Since the hand crimping tool has two crimping positions, select a crimping position suitable for the applicable contact and wires



(4) Insertion of wire

Bring a tip of pre-stripped wire to the wire stopper in the crimper and place the insulation section in the insulation barrel of a contact. At the time, pushing the wire tip too strong against the stopper will bend the wire, and incorrect crimping will result in. If the conductor is out of order, correct it in advance of crimping.

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(5) Crimping

While holding the wire carefully in the setting position, close the handles gradually and tighten them until the ratchet comes off. In this stage, the crimping is completed.

	CAUTION
<ul style="list-style-type: none"> ● The anvil moves OPEN/CLOSE. ● NEVER put fingers into opening between the crimper and anvil. 	

(6) Remove of contact

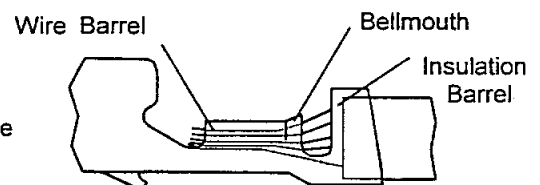
After completion of the crimping, release the handles, and they will automatically return to the open position. The crimped contact can be taken out just by pulling the wire lightly.

5. Check of Crimped Contact

The following are general criteria of contacts. Other criteria are as per the specification of each contact.

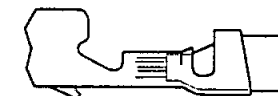
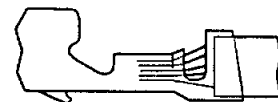
[Correctly crimped contact]

- The tip of a wire has been placed outside the wire barrel.
- The insulation has not been caught in the wire barrel.
- The wire has not been projected from the barrel.
- The insulation has been wound inside the insulation barrel.
- The crimped surface has not been excessively rough.
- The bellmouth (uncrimped section of wire) is formed.



[Defective crimped contact]

- Insufficient insertion (The wire has not been inserted completely in the wire barrel.)
- Insufficient stripping (Since the insulation has not been stripped as long as specified, the insulation has been inserted in the wire barrel.)
- Disordered wire (The wire has been projected outside the contact crimping barrel.)



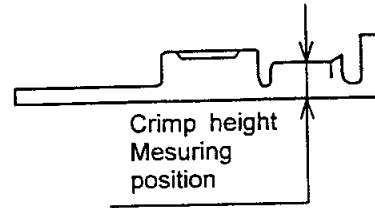
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6. Check of Tool Crimp Height

The tool crimp height has already been adjusted, but to prevent incorrect crimping, check it by the following method before crimping that the crimp height is within the specified value.



Crimp a contact without wire and compare the crimp height with the specified value.
For the specified values for respective contacts, see the detailed data on page 7/9~8/9.



7. Warranty and After-sales Service

If the tool gets out of order in normal crimping work, we shall repair it free of charge until the time mentioned below:

For one year or until 100,000 times of crimping, whichever comes first.

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8. Detailed Data of Hand crimping Toll for JN1 Series

●CT150-2-JN1

1) Contact Specification

Contact names	Applicable wires		Stripped length L (mm)
	AWG # (※1)	Insulation	
JN1-22-22S-PKG100	AWG#21 (20ea)	$\phi 1.4 \sim \phi 1.5$	1.5-2.3
	AWG#22 (7~17ea)	$\phi 1.0 \sim \phi 1.3$	1.5-2.3
	AWG#24 (7~11ea)		

2) Tool Specification

Tool names	Indication	Standard crimp height for check (※2)		Applicable wires	
		Wire	Insulation ± 0.1	Wire	Insulation
CT150-2-JN1	21	0.850 $+0.04$ -0.03	1.35	AWG #21	$\phi 1.4 \sim \phi 1.5$
	22-24	0.755 $+0.04$ -0.03	1.25	AWG #22-24	$\phi 1.0 \sim \phi 1.3$

●CT150-2-JN1-B

1) Contact Specification

Contact names	Applicable wires		Stripped length L (mm)
	AWG # (※1)	Insulation	
JN1-22-22S-PKG100	AWG#22 (7~17ea)	$\phi 1.0 \sim \phi 1.3$	1.5-2.3
	AWG#24 (7~11ea)		
JN1-22-26S-PKG100	AWG#26 (7ea)	$\phi 0.8 \sim \phi 1.0$	1.5-2.3
	AWG#28 (7ea)		

2) Tool Specification

Tool names	Indication	Standard crimp height for check (※2)		Applicable wires	
		Wire	Insulation ± 0.1	Wire	Insulation
CT150-2-JN1-B	22-24	0.755 $+0.04$ -0.03	1.25	AWG #22-24	$\phi 1.0 \sim \phi 1.3$
	26-28	0.570 $+0.03$ -0.02	1.20	AWG #26-28	$\phi 0.8 \sim \phi 1.0$

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●CT150-2-JN1-C

1) Contact Specification

Contact names	Applicable wires		Stripped length L (mm)
	AWG # (※1)	Insulation	
JN1-22-22S-PKG100	AWG#22 (7~17ea)	φ1.0~φ1.3	1.5-2.3
	AWG#24 (7~11ea)		
	AWG#25 (7ea)	φ0.8~φ1.0	1.5-2.3

2) Tool Specification

Tool names	Indication	Standard crimp height for check (※2)		Applicable wires	
		Wire	Insulation±0.1	Wire	Insulation
CT150-2-JN1-C	22-24	0.755 ^{+0.04} _{-0.03}	1.25	AWG #22-24	φ1.0~φ1.3
	25	0.645 ^{+0.03} _{-0.02}	1.20	AWG #25	φ0.8~φ1.0

●CT150-2-JN1-F

1) Contact Specification

Contact names	Applicable wires		Stripped length L (mm)
	AWG # (※1)	Insulation	
JN1-22-22S-PKG100	AWG#21 (20ea)	φ1.4~φ1.5	1.5-2.3
	AWG#25 (7ea)	φ0.8~φ1.0	1.5-2.3

2) Tool Specification

Tool names	Indication	Standard crimp height for check (※2)		Applicable wires	
		Wire	Insulation±0.1	Wire	Insulation
CT150-2-JN1-F	21	0.850 ^{+0.04} _{-0.03}	1.35	AWG #21	φ1.4~φ1.5
	25	0.645 ^{+0.03} _{-0.02}	1.20	AWG #25	φ0.8~φ1.0

(※1) Numbers of component conductive wires.

(※2) Standard crimp height for check is the crimp height of wire and insulation without wire.

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9. Standard Crimp height and Crimping strength (reference)

Wire sizes	Standard Crimp height	Crimping strength
AWG # 21	0.825~0.900mm	43. 2 N Min
AWG # 22	0.750~0.825mm	49. 0 N Min
AWG # 24	0.700~0.775mm	34. 3 N Min
AWG # 25	0.625~0.675mm	26. 5 N Min
AWG # 26	0.550~0.600mm	20. 5 N Min
AWG # 28	0.525~0.575mm	13. 7 N Min