

Cordless Electric Power Tool 933150-1

409-5751
(was CM 5751)
08 DEC 98 Rev C

AMP

***customer
manual***

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DANGER**SAFETY PRECAUTIONS PREVENT INJURY**

Safeguards are designed into AMP* tools to protect operators and maintenance personnel from hazards during normal tool operation. As with most tooling, certain precautions must be taken by the operator to avoid personal injury or damage to the tool. Carefully observe the following safety precautions before and during operation of the tool.

- **ALWAYS** remove the battery pack when performing any maintenance on the tool.
- **ALWAYS** keep fingers clear of the crimping area when operating the tool.
- **ALWAYS** be sure that the correct splice type and size is used in the tool.

TOOLING ASSISTANCE CENTER

CALL TOLL FREE 1-800-722-1111
(CONTINENTAL UNITED STATES AND PUERTO RICO ONLY)

GENERAL POLICY

All power tools remain the property of AMP Incorporated. The customer shall have no title to the tool(s) and his interest shall be limited to the use of said tool(s) for the purpose indicated during the stated term.

No major change or modification shall be made without written consent of AMP Incorporated.

The customer shall be fully responsible for the maintenance of the tool(s) as described in this manual.

Each tool shall be returned in usable condition, reasonable wear and tear excepted. Before returning the tool, contact AMP Incorporated, Harrisburg, Pennsylvania, and request instructions for shipping and disposition.

AMP Field Service Engineers are available to provide assistance when problems arise concerning use and maintenance of the tool. Contact AMP Incorporated for applicable fees.

INFORMATION REQUIRED WHEN CONTACTING AMP INCORPORATED

AMP Incorporated offers the **Tooling Assistance Center** as a means of providing technical assistance when required.

When contacting AMP Incorporated by telephone regarding questions about the use or maintenance of a tool, it is suggested that a person familiar with the tool be present with a copy of the manual to receive instructions. Many difficulties can be corrected in this manner.

When calling the Tooling Assistance Center, be ready with the following information:

1. Customer name
2. Customer address
3. Person to contact (name, title, telephone number and extension)
4. Person calling
5. Tool number and serial number if applicable
6. Product part number and serial number if applicable
7. Urgency of request
8. Nature of problem
9. Description of inoperative component(s)
10. Additional information/comments that may be helpful

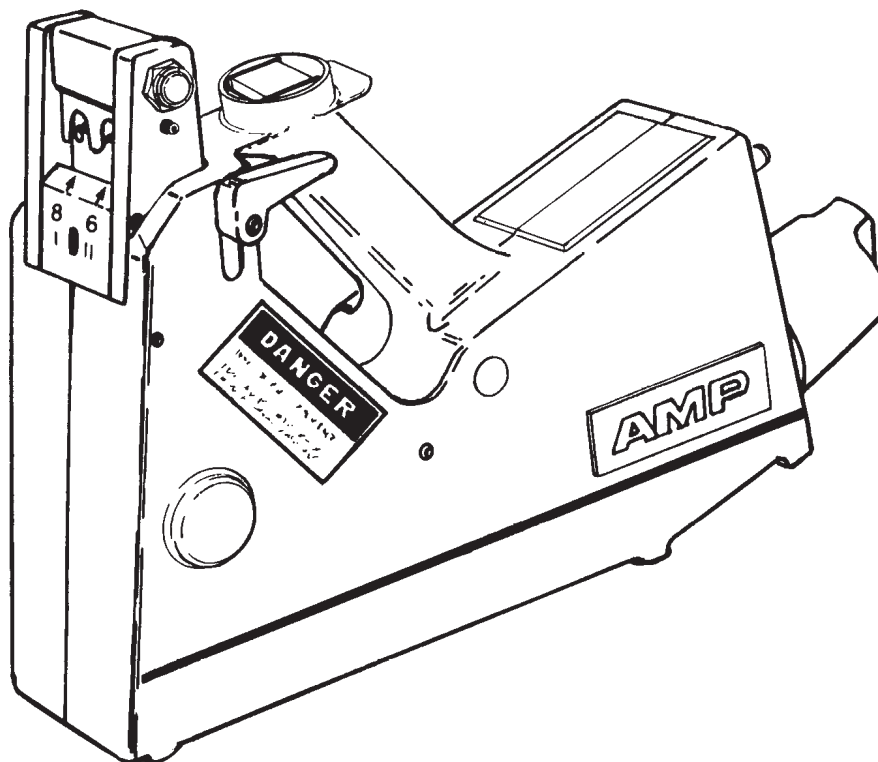


Figure 1

1. INTRODUCTION

This manual covers the operation and maintenance of AMP Cordless Electric Power Tool 933150-1, which is used to apply AMP COPALUM* Splices to solid-conductor wire. See Figure 1. Read this manual carefully before attempting to operate the tool for the first time. The performance of the tool depends largely on the intelligent use of the information contained in this manual.

NOTE

Termination procedure is also covered in pictorial form on AMP Instruction Sheet 408-9425, which is packaged with the tool.

Due to tooling or product improvements, procedures or illustrations presented in this manual may conflict with the latest available information. If this manual does not agree with the AMP Cordless Electric Power Tool being used, contact AMP Incorporated for assistance. Refer to Page 2 of this manual for details.

When reading this manual, pay particular attention to **DANGER**, **CAUTION**, and **NOTE** statements.

DANGER

Denotes an imminent hazard which may result in moderate or severe injury.

CAUTION

Denotes a condition which may result in product or equipment damage.

NOTE

Highlights special or important information.

Reasons for reissue are provided in Section 9, REVISION SUMMARY.

NOTE

All measurements on this document are in metric units [with U.S. customary units in brackets].

Figure 2 lists tool specifications.

Tool Number	933150-1
Dimensions (Approximate)	
Height	254 mm [10 In.]
Width	69.85 mm [2.75 In.]
Length	431.8 mm [17 In.]
Weight	5.448 Kilograms [12 lbs]
Battery Pack Life	Approximately 200 crimps on a full charge

Figure 2

2. DESCRIPTION

AMP Cordless Electric Power Tool 933150-1 is a portable hand tool featuring two integral die sets. These die sets allow the tool operator to splice a wide variety of wire sizes and combinations without having to repeatedly remove and replace die sets.

2.1. Electrical Requirements

The tool is powered by a removable, rechargeable battery pack, which is supplied with a recharging unit. The recharging unit operates on 115 Vac line power, and charges the battery pack from full discharge to full charge in about 1.5 hours. A second battery pack is supplied to permit continuous operation of the tool without interruptions for battery charging.

2.2. Functional Description (Figure 3)

With a fully-charged battery pack installed in the tool, the operator presses on the side pads to open the dies, then inserts the proper splice to be crimped. The tool is then brought to the wires and the wires are placed inside the splice.

When the control button is pressed, the motor starts, operating a cam, which pushes up on the die anvils, bottoming the dies. A special feature of the tool ensures that each splice is fully crimped before the dies reopen. This feature provides high-quality, consistent crimps.

DANGER *The tool is designed to provide a complete crimp with every cycle. Once the control button is pressed, the tool will NOT stop until it has returned to the starting position, unless the battery pack is removed from the tool. Keep fingers clear of the crimping dies during the crimping operation.*

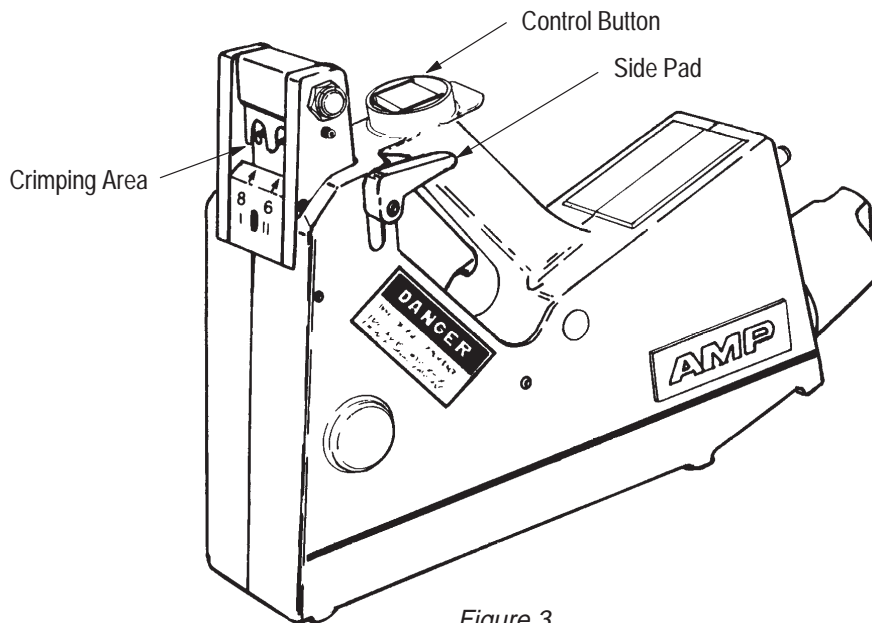


Figure 3

3. OPERATION

3.1. Crimping Die/Splice Selection

Depending on the size and type of wires encountered, the operator will use one of two splice sizes, along with the corresponding die set in the tool. To determine the correct splice and die set for your application, refer to Figure 4.

Find the correct size, composition, and combination of wires encountered, then determine the correct splice. Also listed is the color code found on the splice and on the proper die set on the tool.

WIRE COMBINATION BY SIZE (AWG) AND COMPOSITION●				SPLICE SIZE, COLOR CODE, AND KIT PART NUMBER	COLOR CODE ON DIES
Aluminum (AL)		Copper (CU)			
No. 12	No. 10	No. 14	No. 12		
1	—	—	1	No. 8 (RED) 608501-1	RED DOT
2	—	—	—		
—	1	—	1		
3	—	—	—		
2	—	—	1		
—	1	1	—		
1	1	—	—		
1	—	1	—		
1	—	2	—		
1	—	3	—		
2	—	1	—	No. 6 (BLUE) 608502-1	BLUE DOT
—	2	—	1		
3	—	—	1		
4	—	—	1		
—	2	—	—		
—	3	—	—		
4	—	—	—		
—	1	—	2		
—	2	1	—		
—	3	—	1		
3	—	1	—		
4	—	1	—		
5	—	—	—		
—	4	—	—		

NOTE: For proper insulation, all splices are used with the AMP Heat Shrink Tubing supplied in each splice kit.

- Solid wires ONLY. For other combinations, call the Tooling Assistance Center at 1-800-722-1111.

Figure 4

3.2. Crimping Procedure

CAUTION Make sure that you are using the correct COPALUM splice and die set for the aluminum wire or aluminum and copper wire size combinations that you are going to crimp. The color code stripe on the splice and the color code dot on the crimping dies **MUST** match. Do **NOT** alter COPALUM splices by removing the internal perforated inserts. If you have any questions concerning proper application, contact your local AMP representative.

Insert the battery pack in the tool. Make sure that the battery is properly oriented in the tool cavity, as shown in Figure 5.

NOTE Termination procedure is also covered in pictorial form on AMP Instruction Sheet 408-9425, which is packaged with the tool.

Refer to Figure 4, select the proper splice, and proceed as follows:

1. Make sure that each wire extends a **minimum** of 25.4 mm [1 in.] from any electrical box or wall surface.
2. Strip each wire to the proper length, as indicated in Figure 6. When stripping the wires, do NOT nick or cut the conductors. If a conductor is damaged, cut the wire and strip it again.
3. Open the dies by depressing the pad on either side of the tool handle.

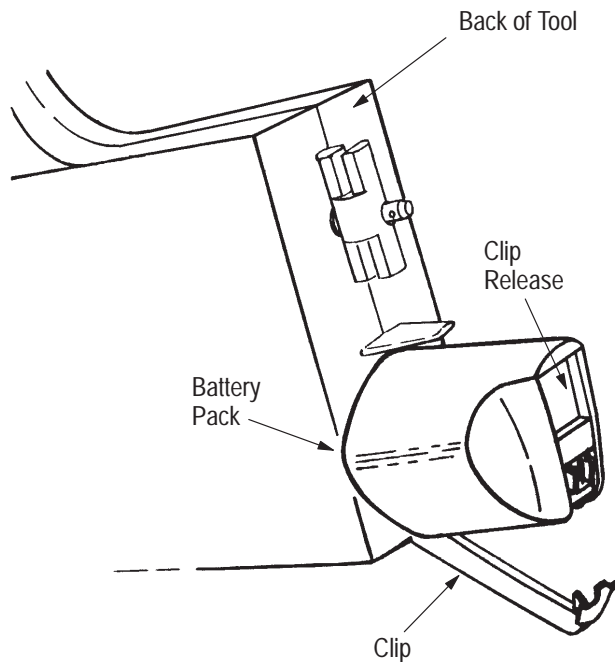
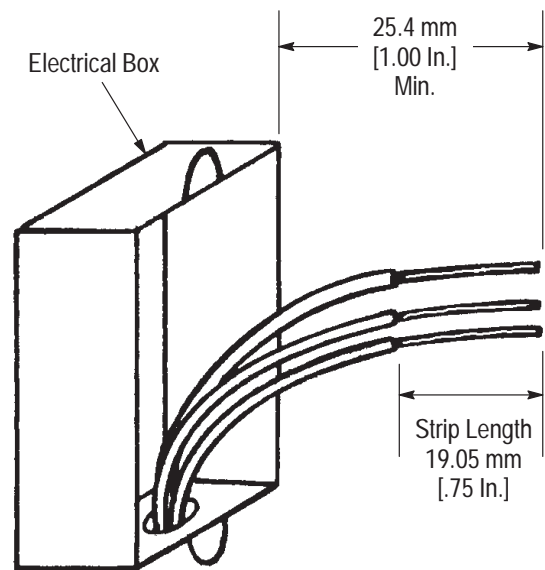


Figure 5



NOTE: Not to Scale

Figure 6

4. Insert the correct splice into the die set with the color code dot matching the color code stripe on the splice. The back of the splice should bottom against the urethane stop behind the crimping dies.
5. Release the pad to close the dies onto the splice. The die set not being used should close fully.

CAUTION To achieve proper crimping, and to prevent damage to the crimping dies, do NOT place other objects in the dies.

DANGER The die set not in use should close completely. Do NOT place fingers in any open crimping dies.

6. Bring the tool up to the wires to be spliced and insert the stripped wires into the splice in the tool. Make sure that the wire ends extend well past the splice end.
7. Press the control button to crimp the splice. The tool should cycle and stop. If the tool stops in mid-cycle, the battery pack must be changed. Refer to Paragraph 3.5, Battery Charging, for detailed information on replacing the pack.

DANGER Keep fingers away from the crimping area when operating the tool.

8. When the tool stops, open the dies by depressing one of the side pads, and remove the crimped splice from the tool.

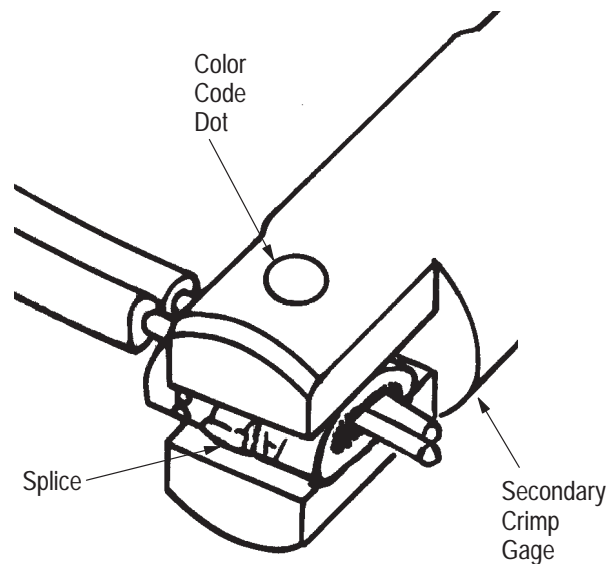


Figure 7

3.3. Crimp Inspection

Check each crimped splice with the Secondary Crimp Gage to be sure of a proper crimp. Find the gage end with the color code dot matching the color code stripe on the splice. Align the splice as shown in Figure 7 and insert the splice into the gage. The splice should enter the gage easily.

If the splice does not meet the gage test, check that the proper wire sizes and combinations listed in Figure 4 were used, cut off the splice, strip the wires, and apply a new splice.

If the splice **still** does not meet the gage test, the tool must be returned to your AMP Distributor for service. Refer to Page 2 of this manual for details.

3.4. Finishing the Splice

If the splices are supplied with insulating boots, slip one boot over each crimped splice. If not, apply a length of double-wall, heat-shrink tubing over each splice and apply heat with an appropriate heat source. Be sure to avoid overheating the wires.

3.5. Battery Charging

Because of the nature of the batteries in the rechargeable battery pack, the pack should be fully discharged before recharging.

To remove the battery pack, push the release button, as shown in Figure 8. Pull the pack out and replace with a fully-charged pack.

CAUTION

The battery pack cavity in the tool is keyed to prevent damage to the tool that could be caused by installing the battery pack incorrectly. Do not defeat this keying feature.

DANGER

If a discharged battery pack causes the tool to stop in mid-crimp, the tool will automatically finish the crimping cycle when the fully-charged pack is placed in the tool. Keep fingers away from the crimping area when changing the battery pack.

To charge the battery pack, make sure that the charging unit is plugged in, then insert the pack into the charging unit, as shown in Figure 9, and press the "charge start" button until the red charge light turns on. The battery pack will be fully charged when the light goes out—a full charge takes about 1.5 hours.

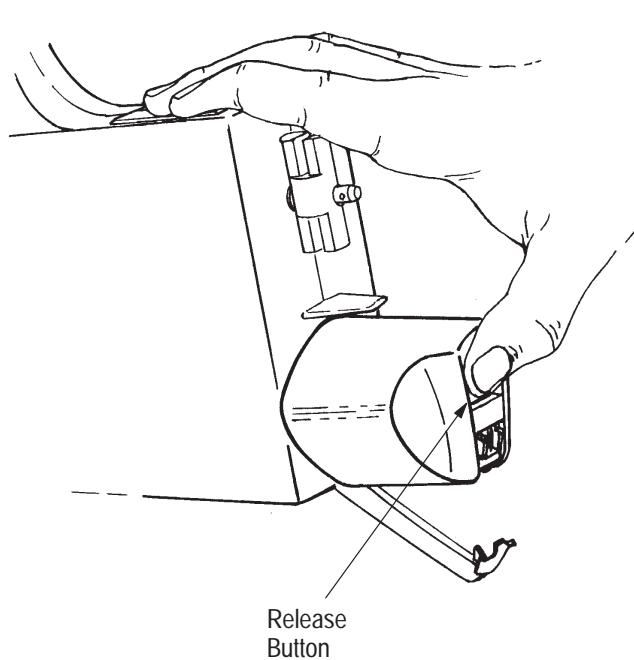


Figure 8

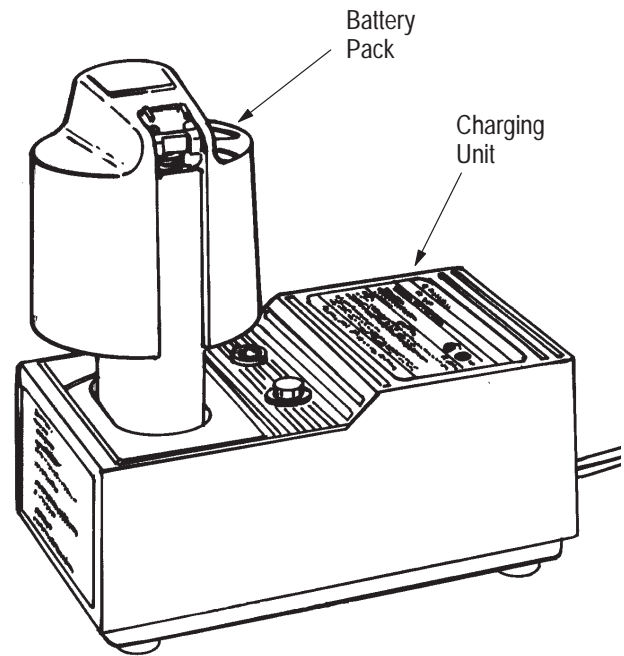


Figure 9

4. MAINTENANCE/INSPECTION

These instructions have been approved by AMP Design, Production, and Quality Control Engineers to provide documented maintenance and inspection procedures in accordance with AMP Corporate Policy No. 3-3. Through AMP test laboratories and the inspection of production assembly, the procedures described herein have been established to ensure the quality and reliability of AMP Cordless Electric Power Tool 933150-1.

DANGER

ALWAYS remove the battery pack from the tool BEFORE performing any maintenance on the tool.

4.1. Daily Maintenance

Although AMP Cordless Electric Power Tool 933150-1 is designed for minimum upkeep, AMP recommends that each operator of the tool be made aware of — and responsible for — the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean brush or a soft, lint-free cloth. Do NOT use objects that could damage the tool. The tool housing may be wiped clean with a clean cloth.
2. Make sure that all external pins and screws are in place.
3. When the tool is not in use, remove the battery pack and store the tool in the provided tool case. Do NOT store the battery pack in the charger.

4.2. Periodic Visual Inspection

The tool should be carefully examined at regular intervals, according to the amount of use, ambient working conditions, operator training and skill, and established company standards.

Remove all excess lubrication from the crimping area of the tool. Check dies for damage or excessive wear. Inspect the crimping area for metal particles. The presence of metal particles indicates a lack of lubrication or misaligned or worn parts. If damaged or excessively worn parts are found, the tool must be repaired before returning it to service. Refer to Section 5, TOOL REPAIR.

4.3. Lubrication

It is important that the tool be lubricated at regular intervals to ensure minimum wear and dependable service. Figure 10 indicates the proper lubrication areas and the type of lubricant to be used.

NOTE

Apply lubricant sparingly to avoid lubricant and dirt build-up.

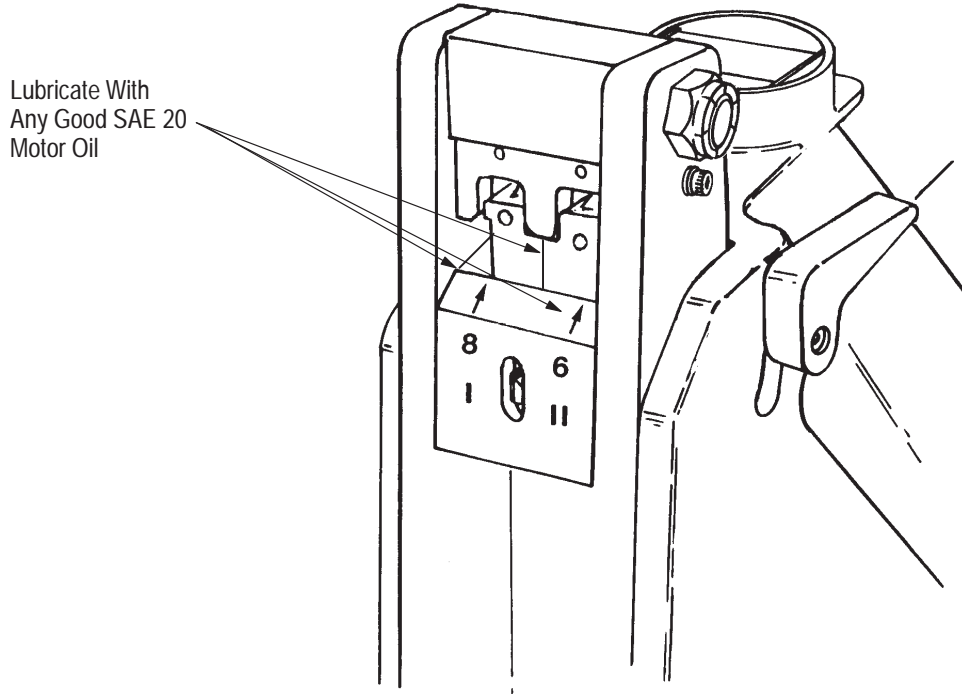


Figure 10

Frequency of lubrication should be as follows:

- Tools used in daily production – Lubricate daily
- Tools used daily (occasional) – Lubricate monthly
- Tools used weekly – Lubricate monthly

5. TOOL REPAIR

When repair of the tool is necessary, contact the Tooling Assistance Center at 1-800-722-1111 for detailed information.

6. REVISION SUMMARY

Since the previous release of this manual, the following changes were made:

Per EC 0990-1352-98

- Updated document to conform to corporate requirements