

### 1. INTRODUCTION

This instruction sheet has been prepared to serve as an applicator conversion guide and, in the process, promote a better understanding of the typical differences between semi-automatic (bench) and automatic versions of miniature and heavy duty (HD) miniature quick-change applicators. Applicator setup personnel and those responsible for production

scheduling should find this of particular value—especially in operations where miniature quick-change applicators are used in both semi-automatic (bench) and automatic machines.

#### NOTE



Dimensions in this instruction sheet are in millimeters [with inches in brackets].

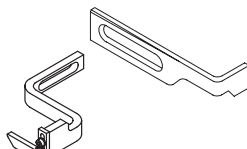
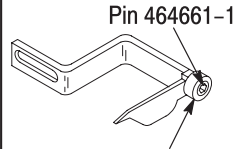
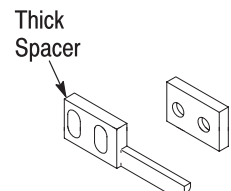
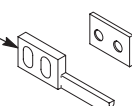
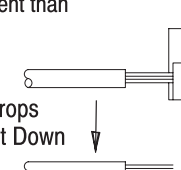
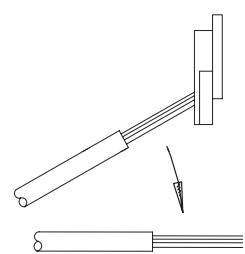
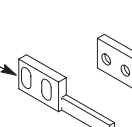
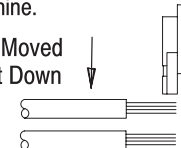
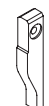
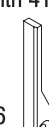
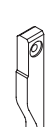
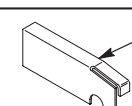
| CONVERSION PART                             | SEMI-AUTOMATIC (BENCH) MACHINE                                                                                                                                                                                                                                                                                                                           |                                                                                                                                       | AUTOMATIC MACHINE<br>With 41.3-mm [1 <sup>5</sup> / <sub>8</sub> -in.] Stroke                                                                                                                                                                                                                                     |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stripper<br>(Side Feed)                     | Fixed<br>                                                                                                                                                                                                                                                               | Floating<br>Pin 464661-1<br>Shaft Collar 22292-2<br> | Feed and Eject Sides of Machine<br>690472-2 →                                                                                                                                                                                  |
| Stripper<br>(End Feed)                      | <b>Note:</b> Thicker stripper spacer required for semi-automatic machine.<br>                                                                                                                                                                                          |                                                                                                                                       | <b>Note:</b> Different stripper spacer requirement than bench machine (thinner or none).<br>Thin Spacer → <br>Wire Drops Straight Down →  |
|                                             |                                                                                                                                                                                                                                                                        |                                                                                                                                       | <b>Note:</b> Same thick spacer as bench machine.<br>Thick Spacer → <br>Wire is Moved Straight Down →                                    |
| Terminal<br>Feed Cam<br>(Also See Figure 2) | Machine with 28.6-mm [1 <sup>1</sup> / <sub>8</sub> -in.] Stroke<br>Pre Feed<br>Mini 690602-2<br>HD Mini 690602-5<br>Post Feed<br>Mini 690501-1<br>HD Mini 690501-3<br>            |                                                                                                                                       | Long Post Feed<br>Mini 238015-1<br>HD Mini 690501-4<br>                                                                                                                                                                      |
|                                             | Machine with 41.3-mm [1 <sup>5</sup> / <sub>8</sub> -in.] Stroke<br>Long Pre Feed<br>Mini 690602-6<br>HD Mini 690602-6<br>Long Post Feed<br>Mini 238015-1<br>HD Mini 690501-4<br>  |                                                                                                                                       |                                                                                                                                                                                                                                                                                                                   |
| Strip Guide<br>Cover Plate                  | Not Used                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                       | Eject Side of Machine<br>(Side Feed Only)<br>454877-[]                                                                                                                                                                       |
| Front Chip Guard                            | Sometimes Used on Semi-Automatic and Automatic Machines (Side Feed Only)<br>691667-[] →                                                                                                                                                                              |                                                                                                                                       |                                                                                                                                                                                                                                                                                                                   |

Figure 1

The question that most frequently arises is: "If I have a bench machine applicator for Terminal 'A,' can I use that applicator to apply that terminal in one of my automatic machines (and vice versa)?" The answer is: "Yes . . . BUT only after obtaining and interchanging the parts required for conversion."

Reasons for reissue of this instruction sheet are provided in Section 4, REVISION SUMMARY.

## 2. DESCRIPTION

Basic differences (typically) between automatic and semi-automatic applicator versions are illustrated in Figure 1. Several typical strippers are shown to indicate that there is quite a difference in side feed

stripper requirements between semi-automatic and automatic terminating equipment. Note that the end feed stripper spacer requirement normally differs as well. Figure 1 also indicates that the machines in which the applicators are used have different stroke lengths, and therefore the applicators require different cams. These are the parts normally involved when a conversion is made.

To convert an applicator (or applicators), contact your local representative, and provide the following information:

Convert APPLICATOR NO. \_\_\_\_\_

for TERMINAL NO. \_\_\_\_\_

| TERMINAL FEED CAM   |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | PRE FEED                                                                                                                                                                                                                                                                                       | POST FEED                                                                                                                                                                                                                                                                                                                                                  | LONG POST FEED                                                                                                                                                                                             |
| <b>Operation</b>    | The terminal is fed over the anvil on the upstroke of the ram. A terminal is in position <i>before</i> the operator places the wire into the target area.                                                                                                                                      | The terminal is fed over the anvil on the downstroke of the ram. There is no terminal in position over the anvil until <i>after</i> the operator places the wire in the target area and depresses the foot switch.                                                                                                                                         | The terminal is fed over the anvil on the downstroke of the ram. There is no terminal in position until <i>after</i> the machine places the wire in the target area and activates the terminating machine. |
| <b>Application</b>  | The pre-feed cam is used in semi-automatic application tooling. This cam can be used with all side-feed mini applicators, and with end-feed applicators using wire size 26 AWG or smaller.                                                                                                     | The post-feed cam is used in semi-automatic application tooling. This cam can be used with all end-feed mini applicators, <i>except</i> those using wire size 26 AWG or smaller.                                                                                                                                                                           | The long post-feed cam is used in automatic application tooling. This cam is used in all end-feed and side-feed mini applicators.                                                                          |
| <b>Advantage</b>    | The pre-feed cam is used with end-feed mini applicators when running wire size 26 AWG or smaller. With small wire, the applicator wire stop cannot be used for wire positioning, and the terminal must be used for wire placement. The pre-feed cam must be used on all side-feed applicators. | Use of the post-feed cam with end-feed mini applicators tends to eliminate terminal jams—increasing production.<br><br>The post-feed cam is not used with side-feed mini applicators for bench applications.                                                                                                                                               | The long post-feed cam must be used because of the automatic placement of wire into the applicator. In addition, this cam is used to accommodate the longer stroke of the terminating machine.             |
| <b>Disadvantage</b> | Using the pre-feed cam in end-feed mini applicators can cause terminal jams. In addition, production is decreased because of the need for the operator to lay the wire in the terminal. There are no disadvantages when using the pre-feed cam with side-feed applicators.                     | When using the post-feed cam with end-feed applicators, running small wire can be a problem. The operator cannot feel the wire stop. There are no disadvantages to using the post-feed cam with end-feed applicators when running wire size 24 AWG or larger.<br><br>The post-feed cam is not used with side-feed mini applicators for bench applications. | None                                                                                                                                                                                                       |

Figure 2

### 3. CONVERSION

#### 3.1. To Semi-Automatic (Bench) Machines With a 41.3-mm [ $1\frac{5}{8}$ -in.] Stroke

— Applicator guards designed for semi-automatic (bench) machines are not required for machines with a 41.3-mm [ $1\frac{5}{8}$ -in.] stroke. Unless otherwise specified, Guard Insert 679532-1 can be used.

— Air-feed applicators require Fitting 23238-1 to properly connect to the air line.

— Quick-Exhaust Valve 22374-7 is required, and should replace any valve, if the present valve length or width exceeds 51 mm [2 in.].

— Some applicators may require rotation of the air feed cylinder end cap by 90° to avoid interference with the drive motor.

— The air feed valve is not required. The air feed assembly has a flow control valve on the normally-open port to control the air flow into the air cylinder. The four-way air feed valve can be used to control double-acting cylinders.

#### 3.2. To Automatic Machines

##### With a 41.3-mm [ $1\frac{5}{8}$ -in.] Stroke

— Applicator guards designed for automatic machines are not required for machines with a 41.3-mm [ $1\frac{5}{8}$ -in.] stroke. Unless otherwise specified, Guard Insert 904291-1 can be used.

— Quick-Exhaust Valve 22374-7 may be required, and should replace any valve, if the present valve length or width exceeds 51 mm [2 in.].

— Air-feed applicators require Air Feed Kit 904890-1.

### 4. REVISION SUMMARY

Revisions to this instruction sheet include:

- Replaced specific machine names with semi-automatic and automatic