3M Science. Applied to Life.™

Instructions and Parts List

3M-Matic™

7000r-7000r3 HS Pro

Type22100

Random High Speed Case Sealer with AccuGlide™ V HSP Taping Heads and Optional Tape Application Monitor (TAM)

Serial #: _____

For reference, record machine serial number here.

Important Safety Information

BEFORE INSTALLING OR OPERATING THIS EQUIPMENT
Read, understand and follow all safety and operating instructions.

Spare Parts

It is recommended you immediately order the spare parts listed in the “Spare Parts/Service Information” section. These parts are expected to wear through normal use, and should be kept on hand to minimize production delays.

Replacement Parts and Service Information

To Our Customers:

This is the 3M-Matic™/AccuGlide™/Scotch® equipment you ordered. It has been set up and tested in the factory with Scotch® Tapes.

Included with each machine is an Instructions and Parts List Manual.

Technical Assistance / Replacement Parts and Additional Manuals:

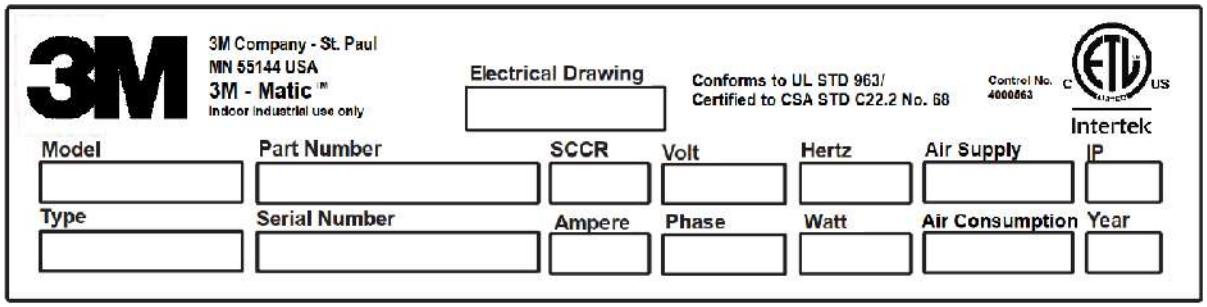
For technical assistance, contact our help line at 1-800-328-1390. Provide the customer support coordinator with the model/machine name, machine type, and serial number that are located on the identification plate (For example: Model 7000r HS - Type 22100 - Serial Number 13282).

To order replacement parts, contact:

CSPD division of Combi Packaging Systems LLC.
6299 Dressler Road NW
North Canton, OH 44720
store.combi.com/CSPD/PublicStore/

Phone: 1-800-344-9883
Fax: 1-877-847-5883
e-mail: CSPD-CSR@combi.com
www.combi.com

Identification Plate



Minimum billing on replacement part orders will be $50.00
Replacement part informationa and pricing availabel on request
There is a 15% restocking fee (per order) on returned parts
Note: Outside of the United States, for replacement parts and ordering information please contact your local /regional 3M or 3M representitive.

Replacement Parts and Service Information

To Our Customers:

This is the 3M-Matic™/AccuGlide™/Scotch® equipment you ordered. It has been set up and tested in the factory with Scotch® tapes. If any problems occur when operating this equipment and you desire a service call or phone consultation, call, write, or fax the appropriate number listed below.

Included with each machine is an Instructions and Parts List Manual.

Service, replacement parts, and additional manuals available direct from:

Order parts by part number, part description, and quantity required.
Also, when ordering parts or additional manuals, include model/machine name, machine type, and serial number that are located on the identification plate.

Table of Contents — Manual 1:
7000r-7000r3 HS Pro Random High Speed Case Sealer

(For Taping Head information, see Manual 2: AccuGlide™ 4 Taping Heads, 2 Inch or 3 Inch)

Table of Contents *(continued)* — Manual 1: 7000r-7000r3 Random High Speed Case Sealer

(For Taping Head information, see Manual 2: AccuGlide™ 4 Taping Heads, 2 Inch or 3 Inch)

Table of Contents *(continued)* — Manual 1: 7000r-7000r3 Random High Speed Case Sealer

(For Taping Head information, see Manual 2: AccuGlide™ 4 Taping Heads, 2 Inch or 3 Inch)

Abbreviations and Acronyms

List of Abbreviations/Acronyms

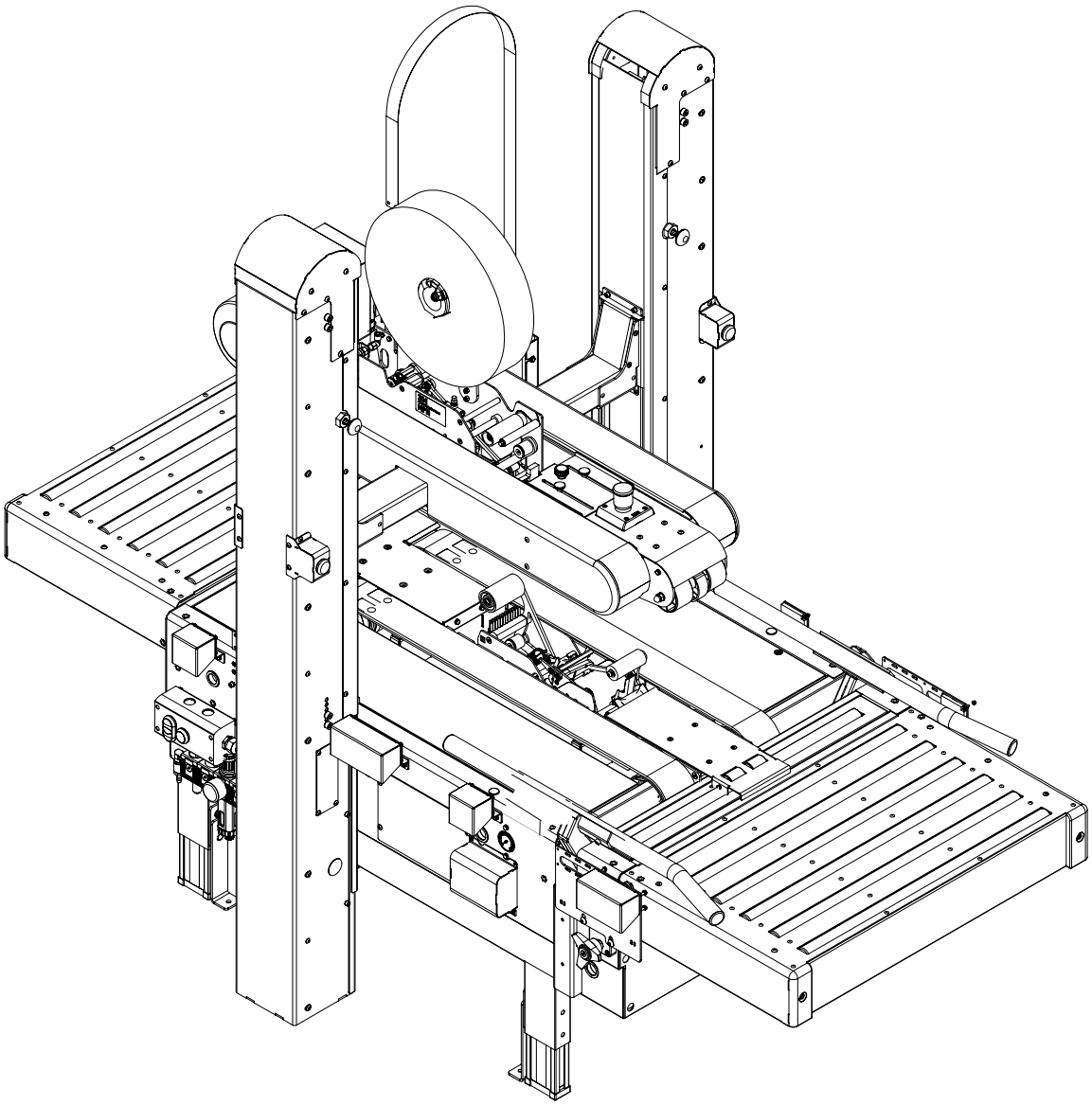
3M-Matic ..... Trademark of 3M St. Paul, MN 55144-1000
AccuGlide ..... Trademark of 3M St. Paul, MN 55144-1000
Scotch ..... Trademark of 3M St. Paul, MN 55144-1000
Drw. ..... Drawing
Ex. ..... For Example
Fig. ..... Exploded View Figure no. (spare parts)
Figure ..... Illustration
Max. ..... Maximum
Min. ..... Minimum
Nr. ..... Number
N/A ..... Not Applicable
OFF ..... Machine Not Operating
ON ..... Machine Operating
PLC ..... Programmable Logic Control
PP ..... Polypropylene
PU/PU Foam .... Polyurethane Foam
PTFE ..... Polytetraflourethelene
PVC ..... Poly-vinyl chloride
W ..... Width
H ..... Height
L ..... Length
TAM ..... Tape Application Monitor
PLC ..... Programmable Logic Control
LD ..... Little David

1. Introduction

1.1 Manufacturing Specifications / Description / Intended Use

The **3M-Matic™ 7000r-7000r3 HS Pro Random High Speed Case Sealer with AccuGlide™ 4 Taping Heads** is designed to apply a "C" clip of **Scotch®** pressure-sensitive film box sealing tape to the top and bottom center seam of regular slotted containers. The **7000r-7000r3 HS** Pro automatically adjusts to a wide range of box sizes (see "Specifications Section – Box Weight and Size Capacities").

The **3M-Matic™** case sealing machines have been designed and manufactured in compliance with the legal requirements at the date of inception.



3M-Matic™ 7000r-7000r3 HS Pro Random High Speed Case Sealer, Type 22100

1.2 How to Read and Use the Instruction Manual

This instruction manual covers safety aspects, handling and transport, storage, unpacking, preparation, installation, operation, set-up and adjustments, technical and manufacturing specifications, maintenance, troubleshooting, repair work and servicing, electric diagrams, warranty information, disposal (ELV), a definition of symbols, plus a parts list of the 3M-Matic™ **7000r-7000r3 HS Pro** Random High Speed Case Sealer.

3M Closure and Masking Systems Division
3M Center,
St. Paul, MN 55144-1000 (USA)

1.2.1 Importance of the Manual

The manual is an important part of the machine; all information contained herein is intended to enable the equipment to be maintained in perfect condition and operated safely. Ensure that the manual is available to all operators of this equipment and is kept up to date with all subsequent amendments. Should the equipment be sold or disposed of, please ensure that the manual is passed on. Electrical and pneumatic diagrams are included in the manual. Equipment using PLC controls and/or electronic components will include relevant schematics or programs in the enclosure and in addition, the relevant documentation will be delivered separately.

1.2.2 Manual Maintenance

Keep the manual in a clean and dry place near the machine. Do not remove, tear, or rewrite parts of the manual for any reason. Use the manual without damaging it. In case the manual has been lost or damaged, ask your after sale service for a new copy.

1.2.3 Consulting the Manual

The manual is composed of:

- Pages which identify the document and the machine
- Index of the subjects
- Instructions and notes on the machine
- Enclosures, drawings and diagrams
- Spare parts (last section)

All pages and diagrams are numbered. The spare parts lists are identified by the figure identification number. All the notes on safety measures or possible dangers are identified by the symbol:

1.2.4 How to Update the Manual in Case of Modifications to the Machine

Modifications to the machine are subject to manufacturer's internal procedures. The user receives a complete and up-to-date copy of the manual together with the machine. Afterwards the user may receive pages or parts of the manual which contain amendments or improvements made after its first publication. The user must use them to update this manual.

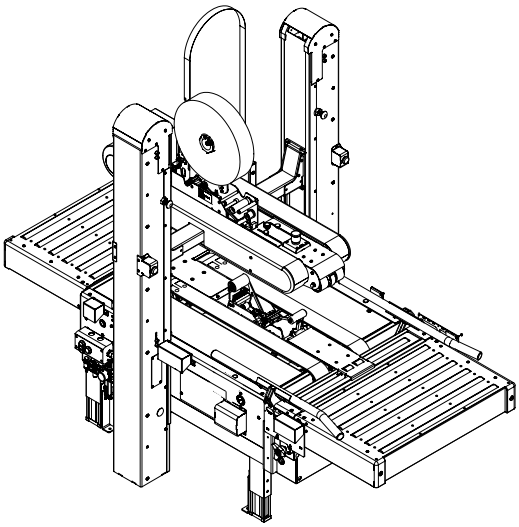
2. General Information

2.1 Data Identifying Manufacturer and Machine

3M

3M Closure and Masking System Division

3M Center
St. Paul, MN 55144-1000 (USA)



3M

3M Company - St. Paul
MN 55144 USA
3M - Matic ™
Indoor industrial use only

Electrical Drawing

Conforms to UL STD 963/
Certified to CSA STD C22.2 No. 68

Control No. 4000863

Intertek

Model	Part Number	SCCR	Volt	Hertz	Air Supply	IP

Type	Serial Number	Ampere	Phase	Watt	Air Consumption	Year

2.2 Data for Technical Assistance and Service

Agent/Distributor or
Local After Sale Service:

2.3 Warranty

Equipment Warranty and Limited Remedy: THE FOLLOWING WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, A CUSTOM OR USAGE OF TRADE:

3M sells its **3M-Matic™ 7000r-7000r3 HS Pro Random High Speed Case Sealer, Type 22100** with the following warranties:

1. The drive belts and the taping head knives, springs and rollers will be free from all defects for ninety (90) days after delivery.
2. All other taping head parts will be free from all defects for three (3) years after delivery.
3. All other parts will be free from all defects for two (2) years after delivery.

If any part is proved to be defective within its warranty period, then the exclusive remedy and 3M's and seller's sole obligation shall be, at 3M's option, to repair or replace the part, provided the defective part is returned immediately to 3M's factory or an authorized service station designated by 3M. A part will be presumed to have become defective after its warranty period unless the part is received or 3M is notified of the problem no later than five (5) calendar days after the warranty period. If 3M is unable to repair or replace the part within a reasonable time, then 3M at its option, will replace the equipment or refund the purchase price. 3M shall have no obligation to provide or pay for the labor required to install the repaired or replacement part. 3M shall have no obligation to repair or replace (1) those parts failing due to operator misuse, carelessness, or due to any accidental cause other than equipment failure, or (2) parts failing due to non-lubrication, inadequate cleaning, improper operating environment, improper utilities or operator error.

Limitation of Liability: 3M and seller shall not be liable for direct, indirect, special, incidental or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability or any other legal theory.

The foregoing Equipment Warranty and Limited Remedy and Limitation of Liability may be changed only by a written agreement signed by authorized officers of 3M and seller.

Contents: 7000r-7000r3 HS Pro Random High Speed Case Sealer

(1) 7000r-7000r3 HS Pro Random High Speed Case Sealer, Type 22100

(1) Tool Kit

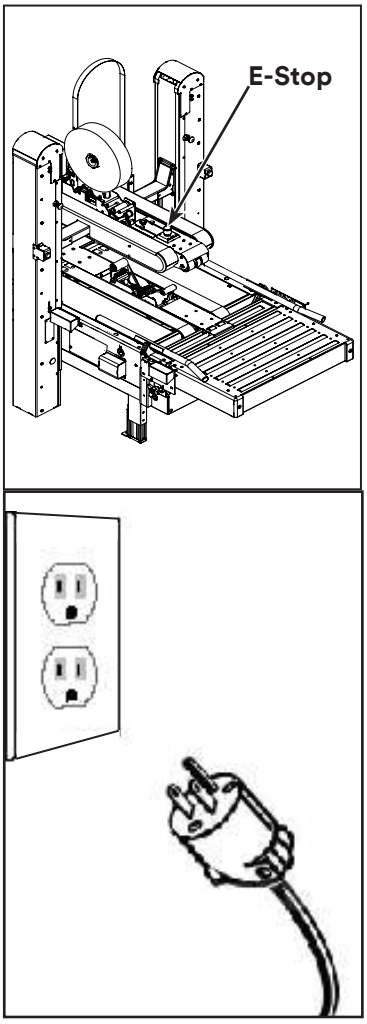
(1) Instruction and Parts Manual

3. Safety

3.1 General Safety Information

Read all the instructions carefully before starting work with the machine; please pay particular attention to sections marked by the symbol:

Figure 3-1



The machine is provided with a LATCHING EMERGENCY STOP BUTTON **(Figure 3-1)**; when this button is pressed, it stops the machine at any point in the working cycle.

Maintain clear access to power cord while machine is operating.

Disconnect plug from power source before machine maintenance **(Figure 3-1)**.

Also disconnect air if the machine has a pneumatic system.

Keep this manual in a handy place near the machine. This manual contains information that will help you to maintain the machine in a good and safe working condition.

3.2 Explanation of Signal Word and Possible Consequences

This safety alert symbol identifies important messages in this manual. READ AND UNDERSTAND THEM BEFORE INSTALLING OR OPERATING THIS EQUIPMENT.

Caution — Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.

Warning — Indicates a potentially hazardous situation, which, if not avoided, could result in serious injury or death and/or property damage.

3.3 Table of Warnings

Warning

- To reduce the risk associated with mechanical and electrical hazards:
- Read, understand, and follow all safety and operating instructions before operating or servicing the case sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.

Warning

- **To reduce the risk associated with hazardous voltage:**
- Position electrical cord away from foot and vehicle traffic.

Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn pneumatic and electrical supplies off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

Warning

- **To reduce the risk associated with pinches and entanglement hazards:**
- Do not leave the machine running while unattended.
- Turn the machine off when not in use.
- Never attempt to work on any part of the machine, load tape, or remove jammed boxes from the machine while the machine is running.

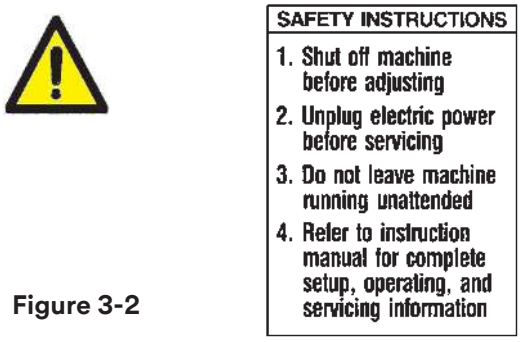


Figure 3-2

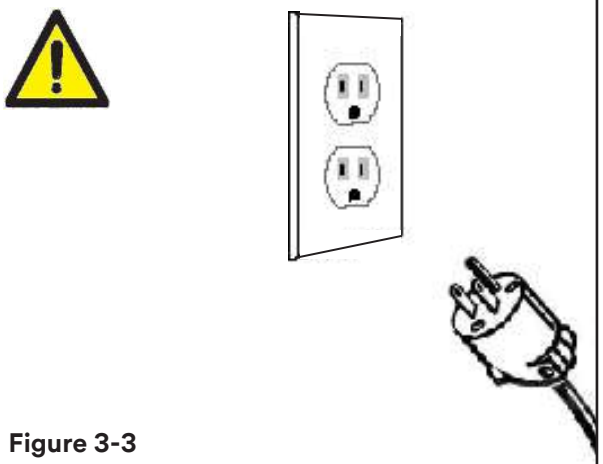


Figure 3-3

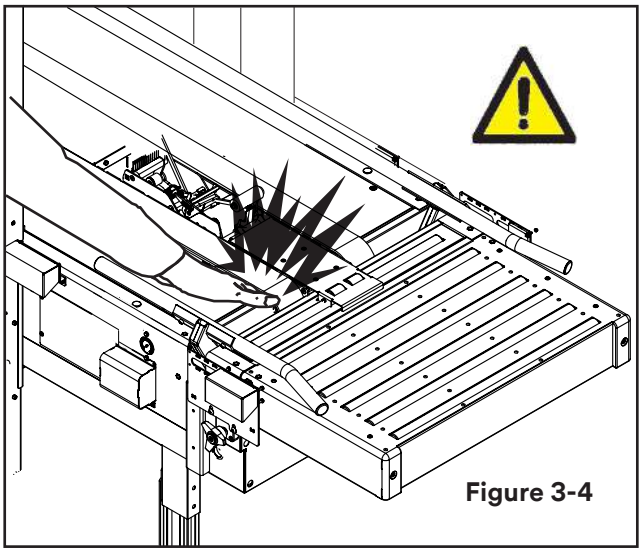


Figure 3-4

Important! Cavity in the conveyor bed. Never put your hands inside any part of the machine while it is working. Serious injury may occur (**Figure 3-4**).

Warning

- To reduce the risk associated with sharp blade hazards:
  - Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

Important! Tape cutting blade. Never remove safety device which covers blade on top and bottom taping units. Blades are extremely sharp. Any error may cause serious injuries **(Figure 3-5).**

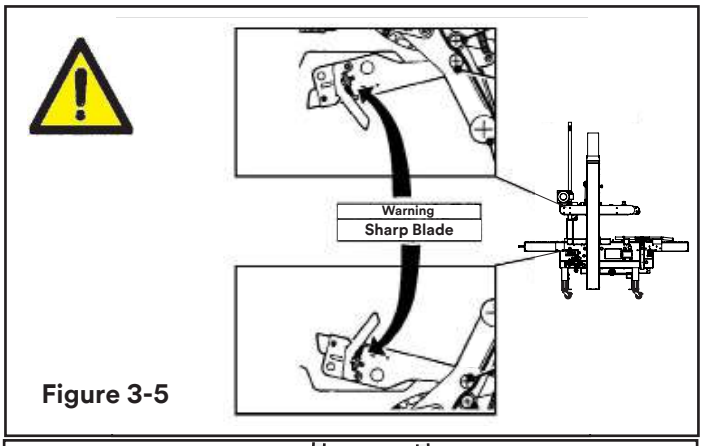


Figure 3-5

Warning

- To reduce the risk associated with fire and explosion hazards:
  - Do not operate this equipment in potentially flammable / explosive environments.

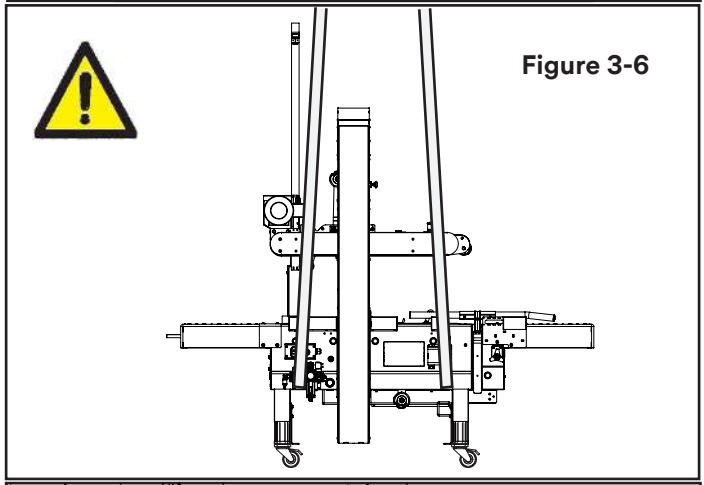


Figure 3-6

Warning

- To reduce the risk associated with muscle strain:
  - Use appropriate rigging and material handling equipment when lifting or repositioning this equipment.
  - Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift.

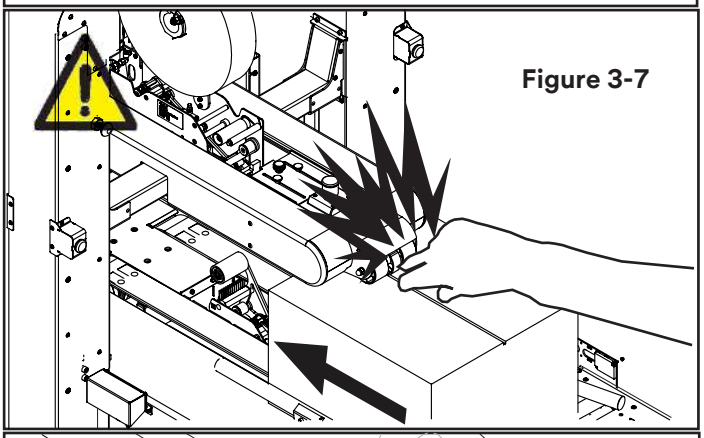


Figure 3-7

Caution

- To reduce the risk associated with pinch and entanglement hazards:
  - Keep hands clear of the upper head support assembly as boxes are transported through the machine.
  - Keep hands, hair, loose clothing, and jewelry away from box compression rollers and all moving parts.
  - Always feed boxes into the machine by pushing only from the end of box.

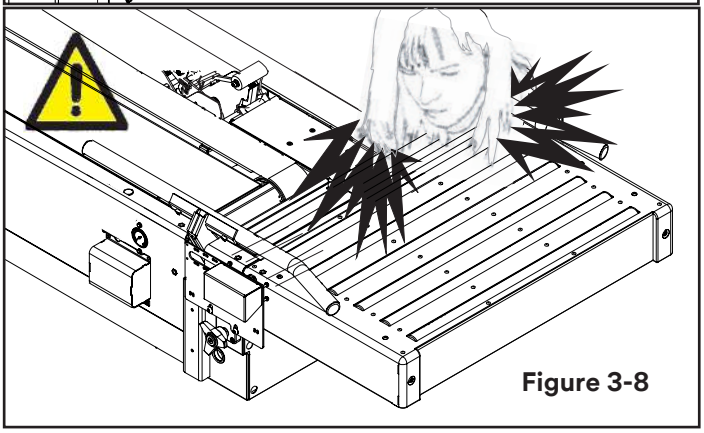


Figure 3-8

3.4 Operator's Qualifications

- Machine Operator
- Mechanical Maintenance Technician
- Electrical Maintenance Technician
- Manufacturer's Technician/Specialist **(See Section 3)**

3.5 Number of Operators

The operations described below have been analyzed by the manufacturer. The recommended number of operators for each operation provides the best and safest work performance.

Note: A smaller or greater number of operators could be unsafe.

3.6 Instructions for a Safe Use of the Machine / Definition of Operator's Qualifications

Only persons who have the skills described in the skill levels section should be allowed to work on the machine. It is the responsibility of the user to appoint the operators having the appropriate skill level and the appropriate training for each category of job.

3.7 Residual Hazards

The case sealer **7000r-7000r3 HS Pro** incorporates various safety protections which should never be removed or disabled. It is essential that the operator and service personnel be warned that hazards exist which cannot be eliminated:

3.8 Recommendations and Measures to Prevent Other Hazards which Cannot be Eliminated

- The operator must stay on the working position shown in the Operation Section. He must never touch the running driving belts or put his hands inside any cavity.
- The operator must pay attention to the blades during the tape replacement.

3.9 Personal Safety Measures

Safety glasses, safety gloves, safety helmet, safety shoes, air filters, ear muffs -

None are required except when recommended by the user.

3.10 Predictable Actions which are Incorrect and Not Allowed

- Never try to stop/hold the box while being driven by the belts.
- Never remove or disable the safety devices.
- Only authorized personnel should be allowed to carry out the adjustments, repairs or maintenance which require operation with reduced safety protections.
- During such operations, access to the machine must be restricted. When the work is finished, the safety protections must immediately be reactivated.
- The cleaning and maintenance operations must be performed after disconnecting the pneumatic system and electric power.
- Do not modify the machine or any part of it.
- Clean the machine using only dry cloths or light detergents. Do not use solvents, petrols, etc.
- Install the machine following the suggested layouts and drawings.

Warning

- **To reduce the risk associated with mechanical and electrical hazards:**
- Read, understand, and follow all safety and operating instructions before operating or servicing the case sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.

3.11 Operator's Skill Levels Required to Perform the Main Operations on the Machine

The Table shows the minimum operator's skill for each machine operation.

Important! The factory manager must ensure that the operator has been properly trained on all the machine functions before starting work.

Skill 1: Machine Operator

This operator is trained to use the machine with the machine controls, to feed cases into the machine, make adjustments for different case sizes, to change the tape and to start, stop and restart production.

Skill 2: Mechanical Maintenance Technician

This operator is trained to use the machine as the MACHINE OPERATOR and in addition is able to:

- Work with the safety protection disconnected
- Check and adjust mechanical parts
- Carry out machine maintenance operations/repairs

He is not allowed to work on live electrical components

Skill 2a: Electrical Maintenance Technician

This operator is trained to use the machine as the MACHINE OPERATOR and in addition is able to:

- Work with the safety protection disconnected
- Check and adjust mechanical parts
- Carry out machine maintenance operations / repairs / adjustments / repair electrical components

He is allowed to work on live electrical panels, connector blocks, control equipment, etc.

Skill 3: Specialist from the Manufacturer

Skilled operator sent by the manufacturer or its agent to perform complex repairs or modifications (on agreement with the customer).

Operator's Skill Levels Required to Perform the Main Operations on Machine

Operation	Machine Status	Required Operator Skill	Number of Operators
Machine installation and setup	Running with safety protections disabled	2 and 2a	2
Extraordinary mechanical maintenance		3	1
Extraordinary electrical maintenance		2a	1
Adjusting box size	Stopped by pressing the EMERGENCY STOP button	1	1
Tape replacement		1	1
Blade replacement	Electric power disconnected	2	1
Drive belt replacement		2	1
Ordinary maintenance		2	1

3.12 Component Locations

Refer to **Figure 3-9** below to acquaint yourself with the various components and controls of the case sealer. Also refer to Manual 2 for taping head components.

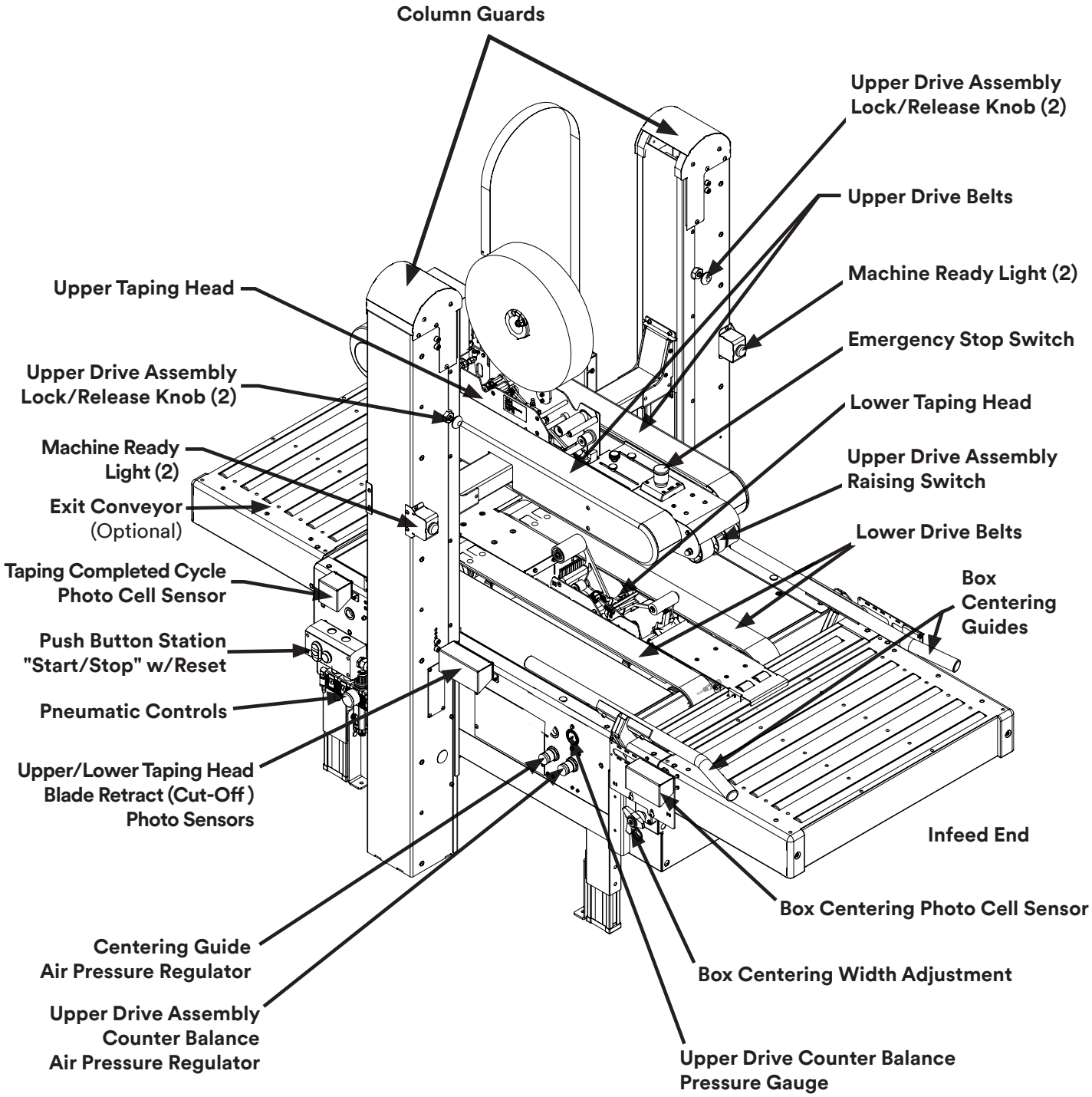


Figure 3-9 7000r-7000r3 HS Pro Case Sealer Components (Left Front View)

3.13 Table of Warnings and Replacements Labels

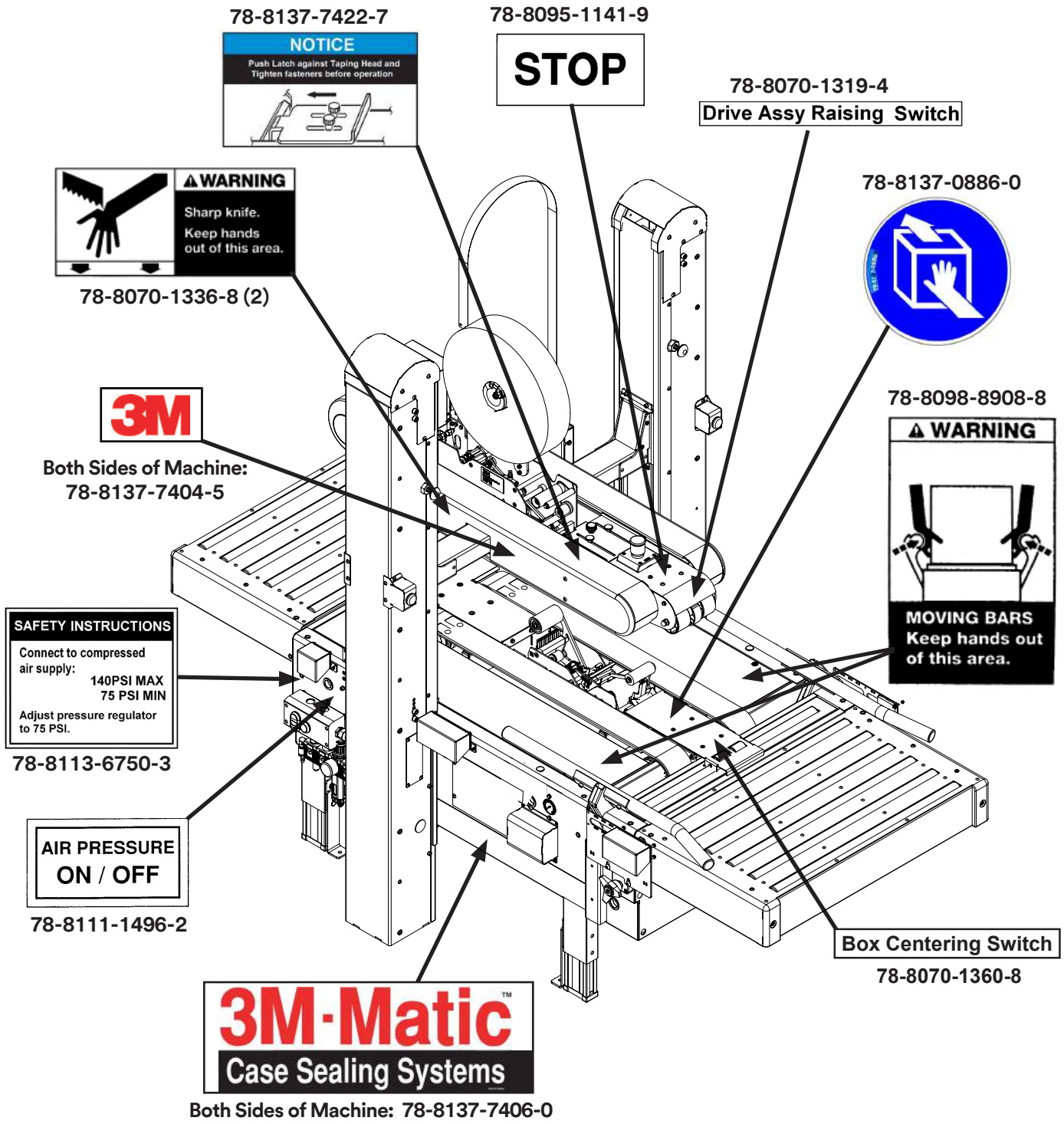


Figure 3-10 Replacement Labels / 3M Part Numbers

3.13 Table of Warnings and Replacements Labels

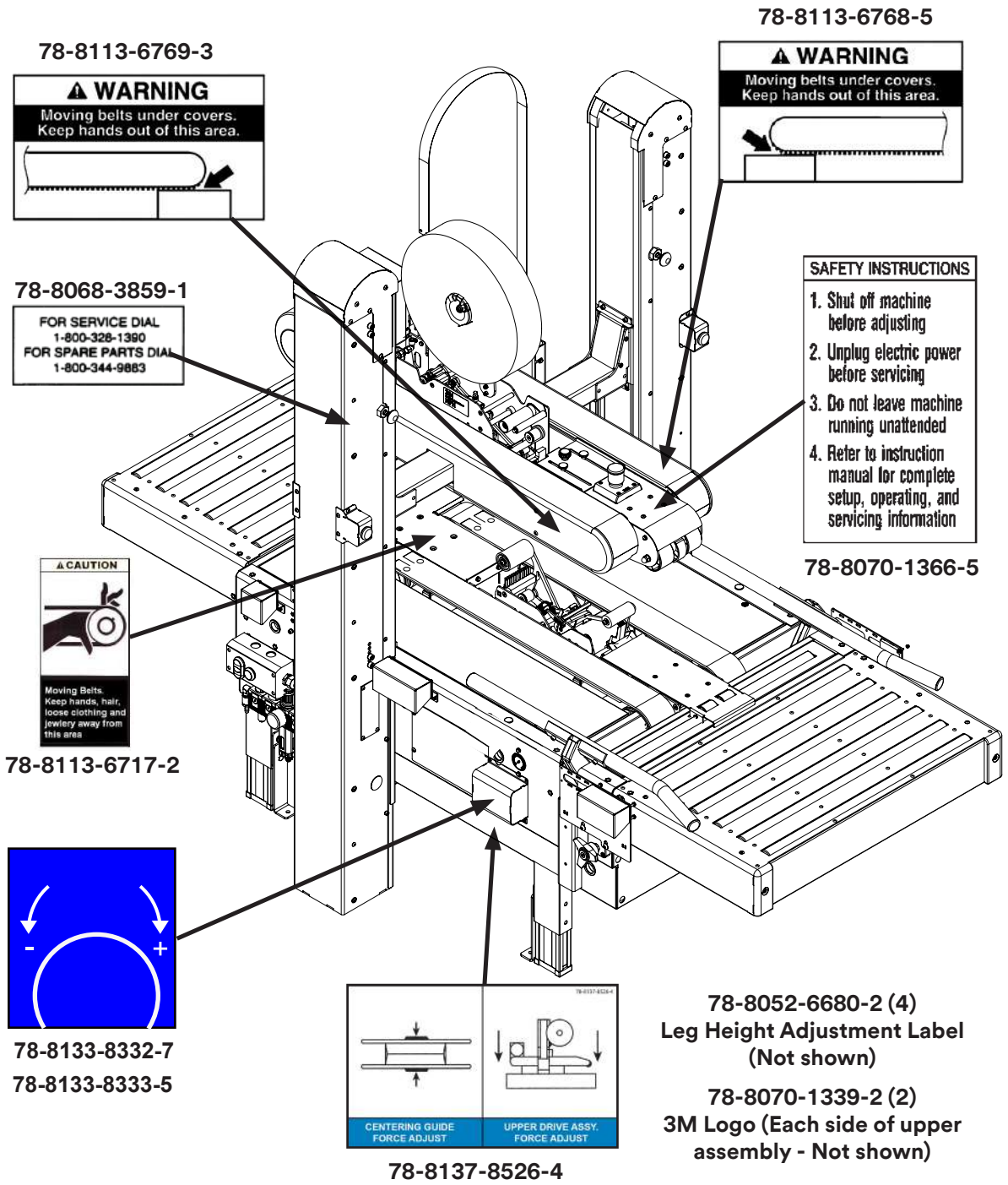


Figure 3-11 Replacement Labels / 3M Part Numbers

3.13 Table of Warnings and Replacements Labels *(continued)*

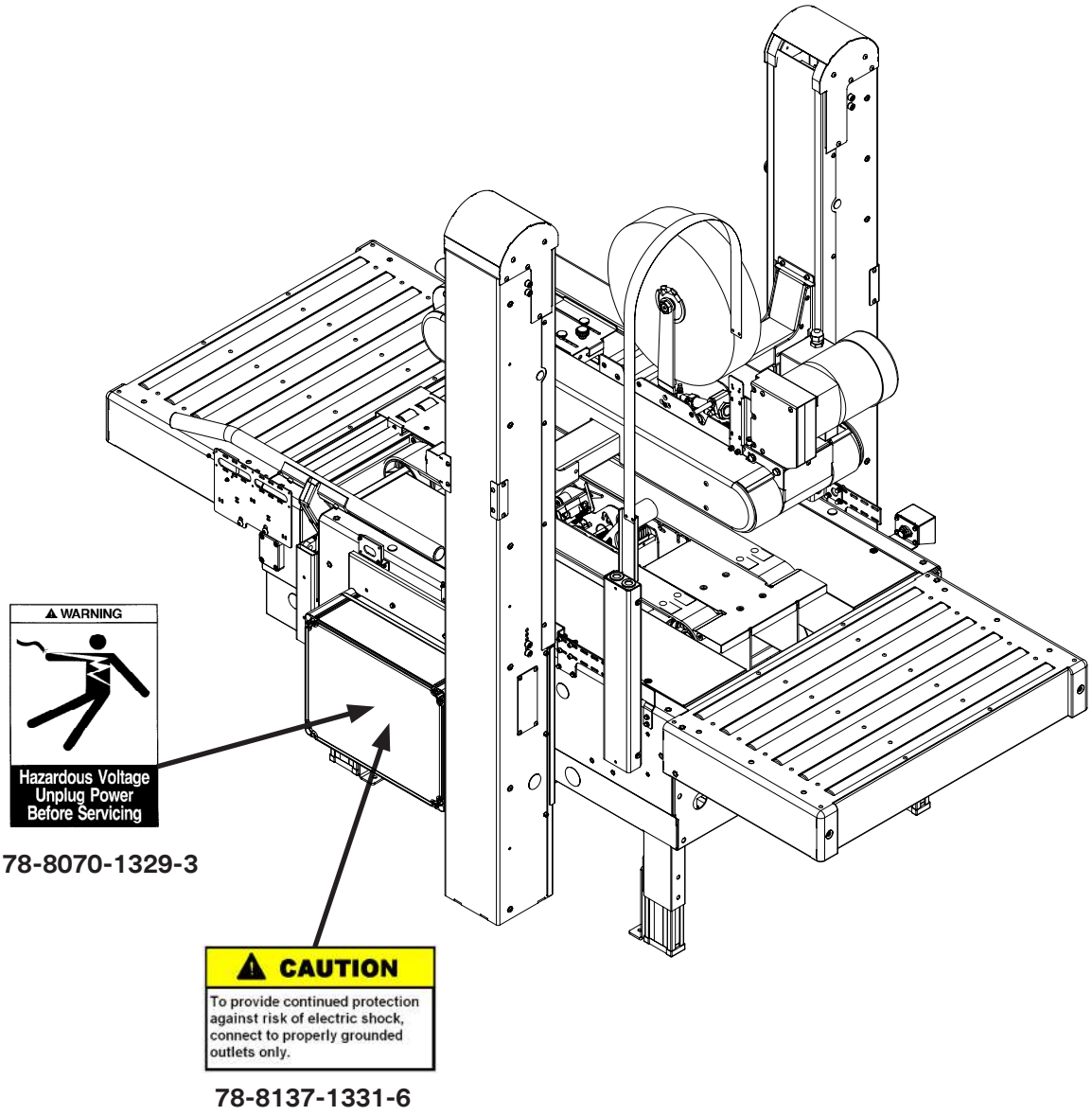


Figure 3-12 Replacement Labels / 3M Part Numbers (Reverse View)

4. Specifications

4.1 Power Requirements:

Electrical: 115 VAC, 60 Hz, 9.5 A , 1/2 hp (1140 watts)

Pneumatic: 90 PSIG [6.2 bar], 15 SCFM [425 L/Min @ 21°C/70° F] Peak Usage.

The machine is equipped with a 2.4m [8 foot] standard neoprene covered power cord and a grounded plug. Contact your 3M Representative for power requirements not listed above.

4.2 Operating Rate:

Belt speed is 0.76 m/s [150 F.P.M.]
Actual production rate is dependent on operator's dexterity.
Boxes must be 18 inches (457mm) apart (minimum).

4.3 Operating Conditions

Use in dry, relatively clean environments at 5° C to 50° C [40° F to 120° F] with clean, dry boxes.

Note: Machine should not be washed or subjected to conditions causing moisture condensation on components.

Warning

- To reduce the risk associated with fire and explosion hazards:
  - Do not operate this equipment in potentially flammable or explosive environments.

4.4 Tape

Scotch® pressure-sensitive film box sealing tapes.

4.5 Tape Width

50.8mm [2 inches] minimum to 76.2mm [3 inches] maximum

4.6 Tape Roll Diameter

Up to 405mm [16 inch] maximum on a 76.2mm [3 inch] diameter core.
(Accommodates all system roll lengths of **Scotch®** film tapes.)

4.7 Tape Width - Standard

48 or 72mm ±0.08mm [1.89 or 2.83 inch ±0.03 inch]

Tape Application Leg Length – Optional

50.8mm ± 6mm [2 inch ± 0.25 inch]

4.8 Box Board

Style – regular slotted containers – RSC
125 to 275 P.S.I. bursting test, single wall or double wall B or C flute.
23-44 lbs. per inch of width Edge Crush Test (ECT)

4.9 Box Weight and Size Capacities

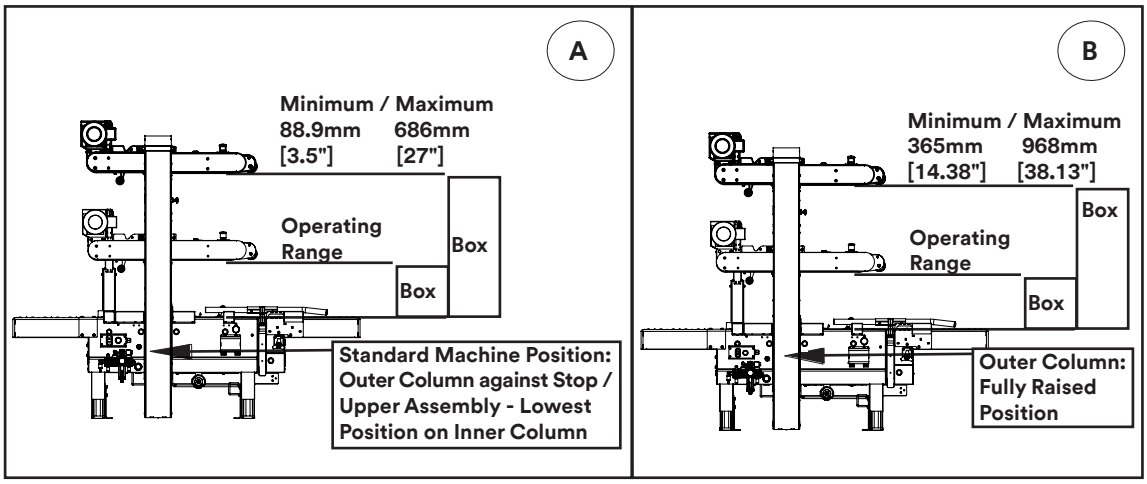
A. Box Weight, filled: 5 lbs.– 85 lbs. [2.3 kg–38.6 kg]. Contents must support flaps.
B. Box Dimensions for **7000r HS Pro** (Inches [mm])

* Boxes narrower than 8 inches [200mm] may require more frequent belt replacement because of limited contact area.

	Length	Width*	(A) Standard Pos. AG 4 Tape Leg (i.e. 2" [50.8])	(B) Fully Raised Pos.
Minimum	7" [178]	7" [178]	3.5" [88.9]	14.38" [365]
Maximum	N/A	26" [660]	27" [686]	38.13" [968]

4. Specifications *(continued)*

Minimum/Maximum Box Height Combinations
(To relocate upper frame or outer columns, see "Special Set-Up Procedure")



Note: Length of boxes in illustrations are not to scale.

Case Height Range Illustration:

A. Standard Machine Position: Outer Columns positioned against Stop with Upper Drive Assembly set to Lowest Position on Inner Columns. Tape Leg Length - 2" [50.8mm].

B. Raised Machine Position: Maximum Box Height (i.e. Outer Columns and Upper Drive Assembly in Highest Position - See Special Set-Up Procedure). Tape Leg Length - 2" [50.8mm].

Boxes narrower than 8" [200mm] may require more frequent belt replacement because of limited contact area.

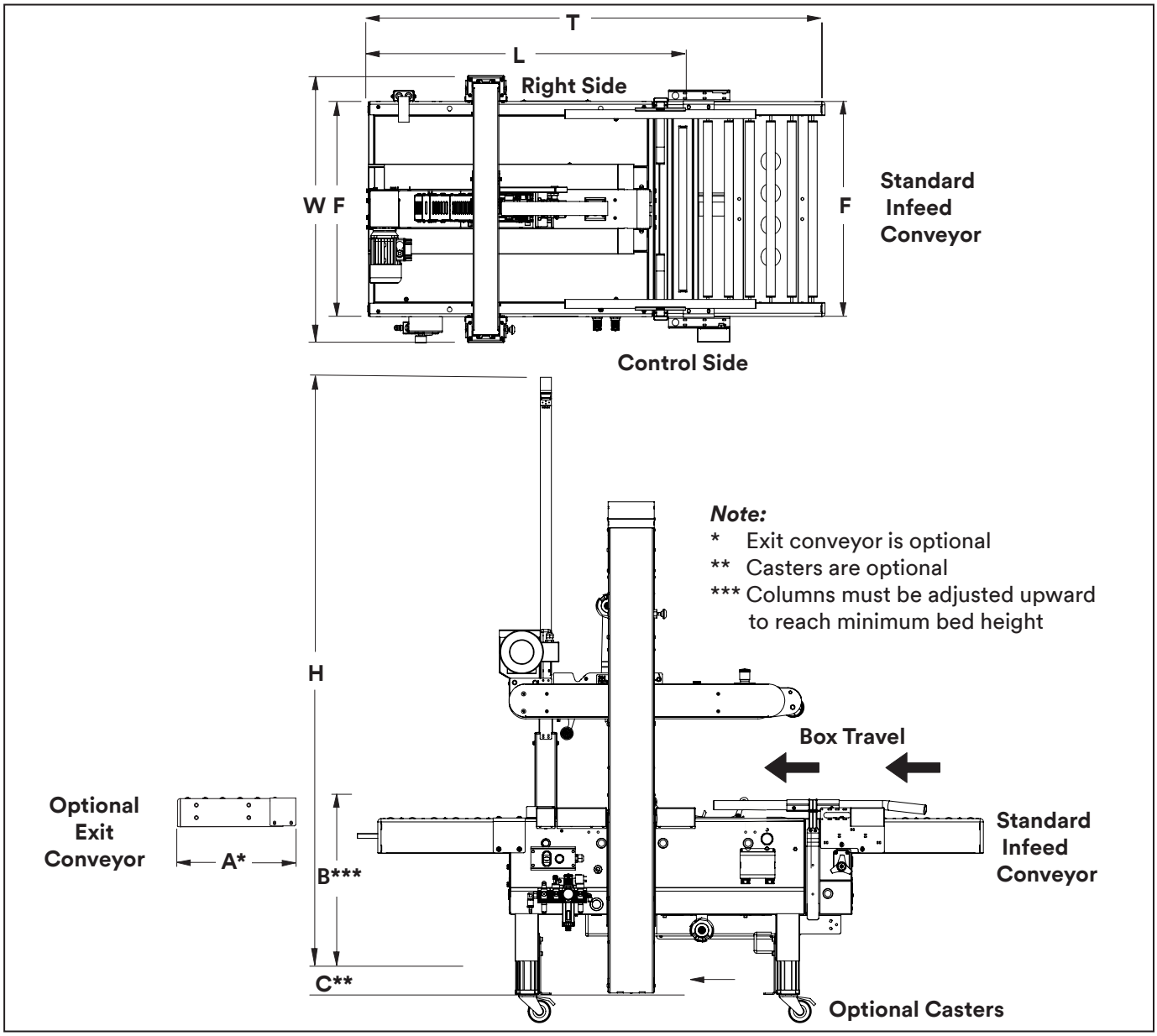
Special modifications may be available for carton sizes not listed on previous page. Contact your 3M Representative for information.

Note: The case sealer can accommodate most boxes within the size range listed above. However, if the box length (in direction of seal) to box height ratio is .6 or less, then several boxes should be test run to assure proper machine performance. Any box ratio approaching this limitation should be test run to assure performance.

DETERMINE THE BOX LIMITATIONS BY COMPLETING THIS FORMULA:

$$\frac{\text{BOX LENGTH IN DIRECTION OF SEAL}}{\text{BOX HEIGHT}} = \text{SHOULD BE GREATER THAN .6}$$

4. Specifications *(continued)*



4.10 Machine Dimensions:

	W	L	H	A	B	C	F	T
Minimum								
mm	1143	1180	1988	457*	597***	111**	768	1637
[Inches]	[45]	[46.5]	[78.25]	[18]	[23.5]	[4.38]	[30.25]	[64.5]
Maximum								
mm			2270		890			
[Inches]	- -	- -	[89.38]	- -	[35]	- -	- -	-

Packaged:
65.5" [1664] (H) x 51" [1295] (L) x 49" [1245] (W)

Weight: 245 kg [540 pounds] crated (approximate)
213 kg [470 pounds] uncrated (approximate)

4.11 Machine Noise Level:

78dB with tape roll inserted.

4.12 Set-Up Recommendations:

- Machine must be level.
- Supplied infeed and optional exit conveyors (if used) should provide straight and level box entry /exit.
- Optional exit conveyor (powered or gravity) can help move sealed boxes away from machine.

5. Shipment-Handling-Storage-Transport

5.1 Shipment and Handling of Packed Machine

- The machine is fixed on the pallet with four (4) bolts and can be lifted by using a fork truck.
- The package is suitable to travel by land and by air.
- Optional sea freight package is available.

Packaging Overall Dimensions (Figure 5-1)

See Specifications.

During the shipment it is possible to stack a maximum of 2 machines **(Figure 5-2).**

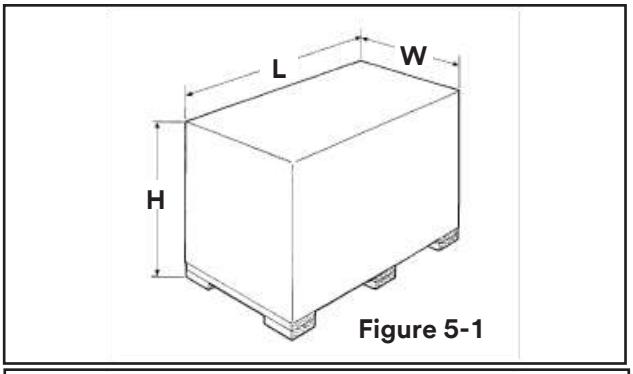


Figure 5-1

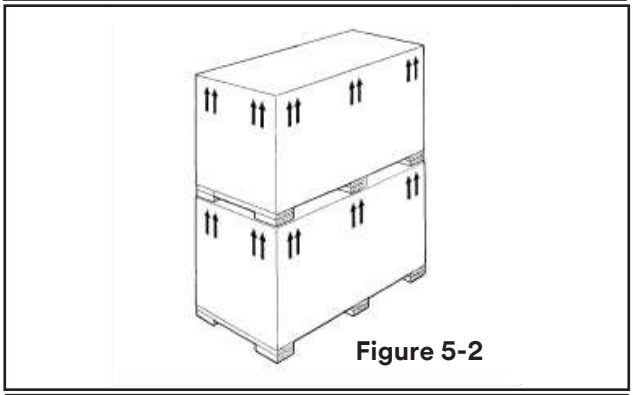


Figure 5-2

5.2 Packaging for Overseas Shipment (Optional - Figure 5-3)

The machines shipped by sea freight are covered by an aluminum/ polyester/polythene bag which contains dehydrating salts.

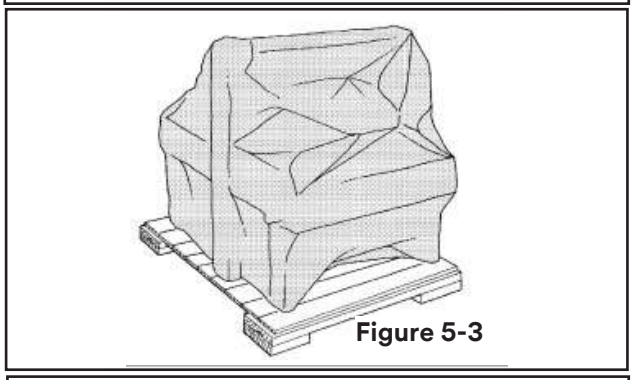


Figure 5-3

5.3 Handling and Transportation of Uncrated Machine

The uncrated machine should not be moved except for short distances and indoors ONLY. Without the supporting pallet, the machine is exposed to damage and may cause injuries.
To move the machine use belts or ropes, paying attention to place them in open areas using care that the straps do not interfere with controls or lower taping head **(Figure 5-4).**

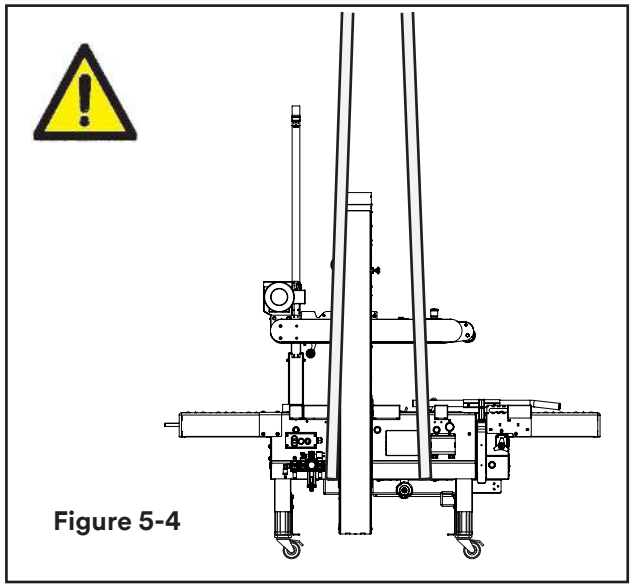


Figure 5-4

5.4 Storage of the Packed or Unpacked Machine

If the machine is not used for a long period, please take the following precautions:

- Store the machine in a dry and clean place.
- If the machine is unpacked it is necessary to protect it from dust.
- Do not stack anything over the machine.
- It is possible to stack a maximum of 2 machines (if they are in their original packing).

6. Unpacking

6.1 Uncrating

The envelope attached to shipping box contains the uncrating instructions of the machine **(Figure 6-1).**

Cut straps. Cut out staple positions along the bottom of the shipping box (or remove staples with an appropriate tool **- Figure 6-2).** After cutting out or removing the staples, lift the shipping box in order to clear the machine (two persons required).

Transport the machine with a forklift truck to the operating position. Lift the pallet at the point indicated in **Figure 6-3** (weight of machine + pallet = See Specifications).

Removal of Pallet

Loosen and remove nuts and brackets using the open end spanner supplied in the tool box **(Figure 6-4).**

A cardboard box is located under the machine body. Retrieve instruction manual for additional set-up procedures. The box also contains parts removed for shipping, spare parts and tools **(Figure 6-5)**

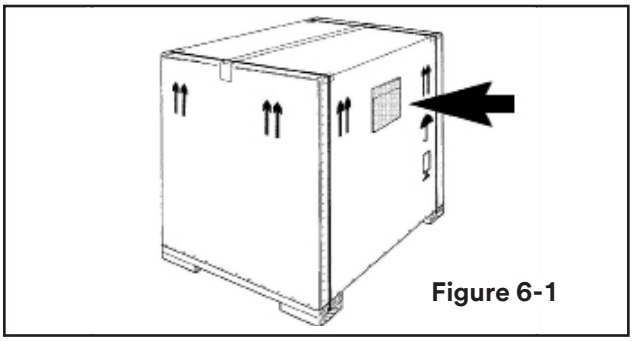


Figure 6-1

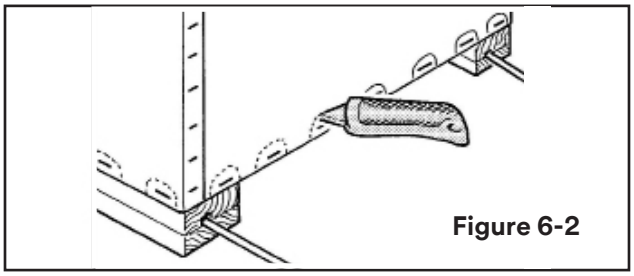


Figure 6-2

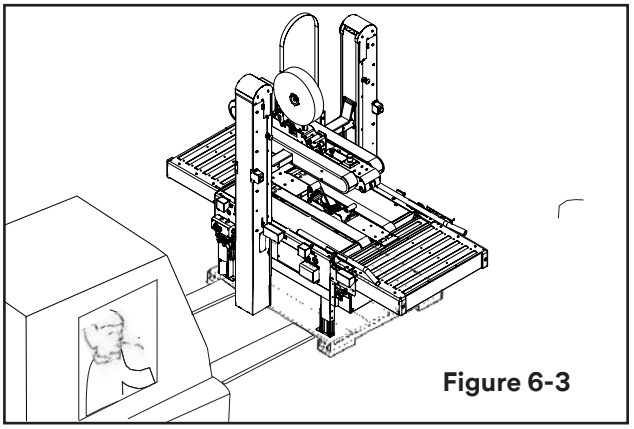


Figure 6-3

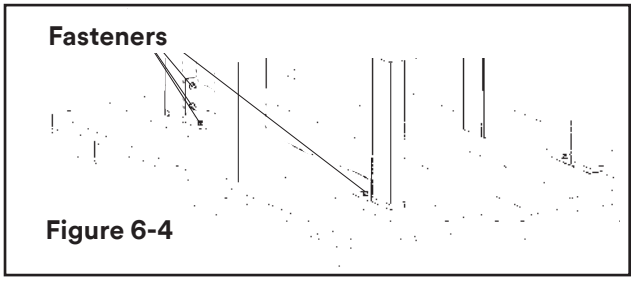


Figure 6-4

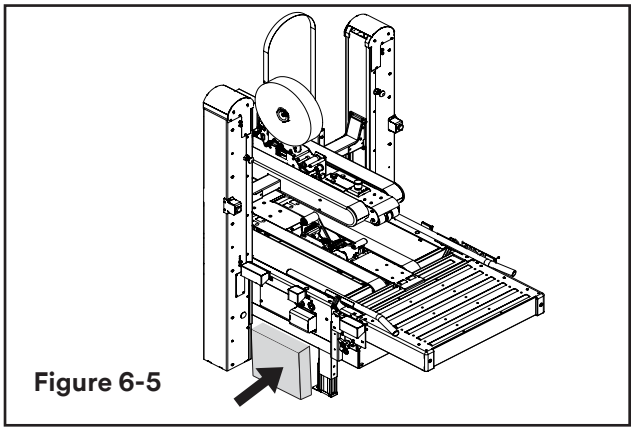


Figure 6-5

6.2 Disposal of Packaging Materials

The **7000r-7000r3 HS Pro** package is composed of:

- Wooden pallet
- Cardboard shipping box
- Wooden supports
- Metal fixing brackets
- PU foam protection
- PP plastic straps
- Dehydrating salts in bag
- Special bag of laminated polyester/ aluminium/Polyethylene (sea freight package only)
- Polyethylene protective material

For the disposal of the above materials, please follow the environmental directives or the law in your country.•

7. Installation

7.1 Operating Conditions

The machine should operate in a dry and relatively clean environment (See Specifications).

7.2 Space Requirements for Machine Operation and Maintenance Work

Minimum distance from wall **(Figure 7-1)**:

A = 1000mm.
B = 700mm.

Minimum height = 2700mm.

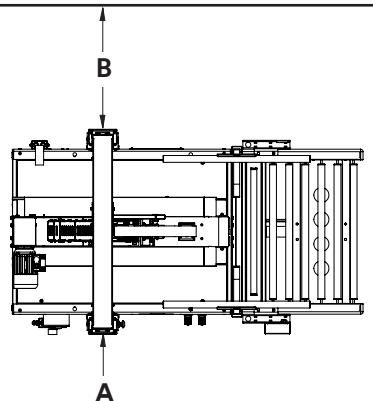


Figure 7-1

7.3 Tool Kit Supplied with Machine

A tool kit containing some tools are supplied with the machine. These tools should be adequate to set-up the machine, however, other tools supplied by the customer will be required for machine maintenance.

7.4 Machine Set-Up / Bed Height

1 - Lift the machine with belts or ropes paying attention to place the belts at points on frame to avoid any possible damage **(Figure 7-2).**

To set the machine bed height, do the following:

2 - Adjust machine bed height. The case sealer is equipped with four (4) adjustable legs that are located at the corners of the machine frame.

The legs can be adjusted to set different machine bed heights **(Figure 7-3)**.

Also refer to “Specifications”

3 - Lock the screws.

4 - Repeat the operation for all legs. (It is not necessary to fix or anchor the machine to the floor).

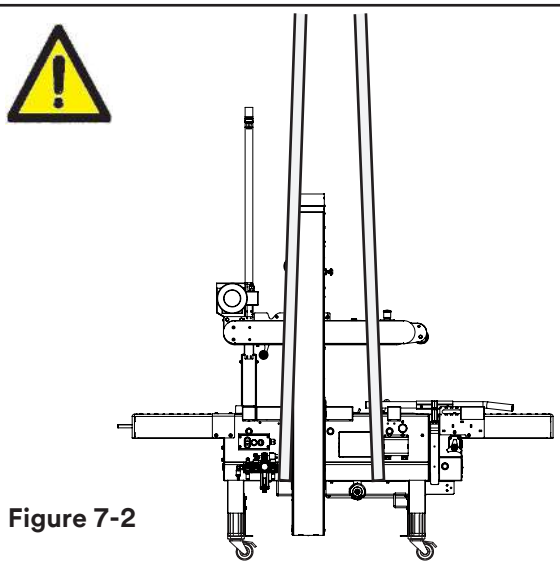


Figure 7-2

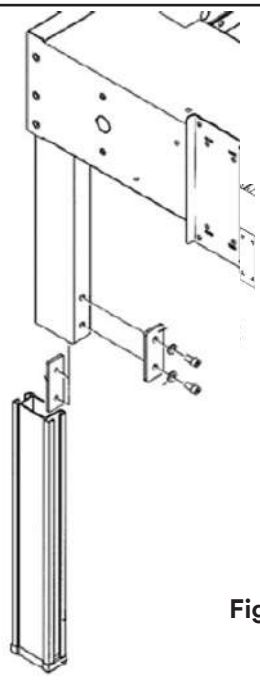


Figure 7-3

7.5 Removal of Plastic Ties

Cut the plastic which attaches the top head to the frame and remove the polystyrene blocks **(Figure 7-4).**

Cut the plastic strap which attaches the strip and the EMERGENCY STOP cable to the frame **(Figure 7-5).**

Cut the plastic ties holding the lower taping head in position **(Figure 7-6).**

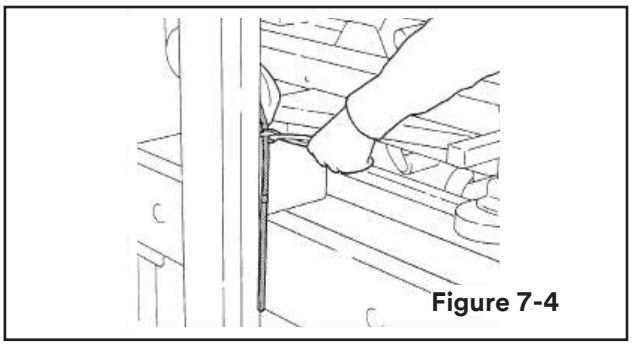


Figure 7-4

7.6 Assembly Completion / Machine Set-up

Note – A tool kit consisting of metric open end and hex socket wrenches is provided with the machine. These tools should be adequate to set-up the machine, however, other tools supplied by customer will be required for machine maintenance.

(see the Technical Documentation / Spare Parts-Order Section)

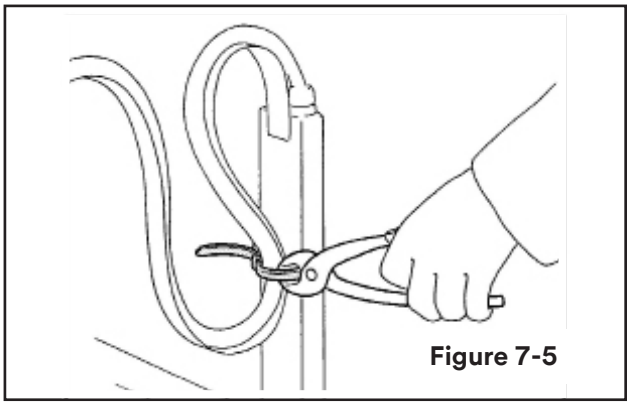


Figure 7-5

(continued on next page)

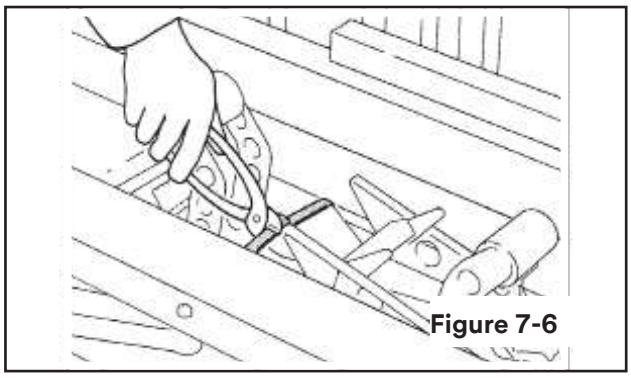


Figure 7-6

Machine Set-Up *(continued)*

The following instructions are presented in the order recommended for setting up and installing the case sealer, as well as for learning the operating functions and adjustments. Following them step by step will result in a thorough understanding of the machine and an installation in your production line that best utilizes the many features built into the case sealer.

Refer to **Figure 7-13** to identify the various components of the case sealer.

1. **Machine Cable Ties:**
   Cut cable ties securing upper assembly to machine bed on each side.
2. **Pneumatic connection:**
   a. Read and remove safety tag from pneumatic "On/Off" valve.
   b. Connect the main air supply line to the inlet side of the on/off valve using the barbed fitting and hose clamp provided **(See Figure 7-14)**.

   The customer supplied air hose (8mm [5/16 inch] must be clamped tightly to the barbed fitting.

   If another type of connector is desired, the barbed fitting can be removed and replaced with the desired 1/4-18 NPT threaded connector. Always turn the air valve **"Off"** when the air supply line is being connected or disconnected.
3. **Air Supply:**
   Turn the air supply on by turning the air on/off valve to SUP (On).
4. **Latches:**
   Raise and latch (2 latches) upper drive assembly in full "Up" position.

Note – Read "Operation – Mechanical Latch" before raising and latching upper drive assembly.

Important – Use care when working with compressed air.

Warning

- Allow only properly trained and qualified personnel to operate and service this equipment.

See Specifications for compressed air supply needs. As shown in **Figure 7-14**, an on/off valve, pressure switch, pressure regulators, and filter are provided to service the air supply.

Note – Precision regulators are used to balance the upper drive assembly and box centering guides.

Due to the self relieving feature of these regulators, a small amount of air will continually vent to the atmosphere. This is normal and amounts to approximately 3 litre/min. [0.1 SCFM].

The case sealer requires [90 PSIG], 6.2 bar [15 SCFM] 425 L/Min @ 21°C/70° F.

Warning

- To reduce the risk associated with impact hazards:
- Always use appropriate supporting means when working under the upper drive assembly

5. **Taping Head Cable Ties:**
   Hold taping head Buffing Roller and cut and remove cable tie that holds Upper and Lower Taping applying/ buffing arms retracted (Applying/ buffing rollers are held retracted for shipment - **Figure 7-6).** Allow buffing/ applying arms to extend slowly.
6. **Taping Heads:**
   Check for free action of both upper and lower taping heads. Push buffing roller into head to check for free, smooth action of taping heads.

⚠ Warning

- To reduce the risk associated with sharp blade hazards:
- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

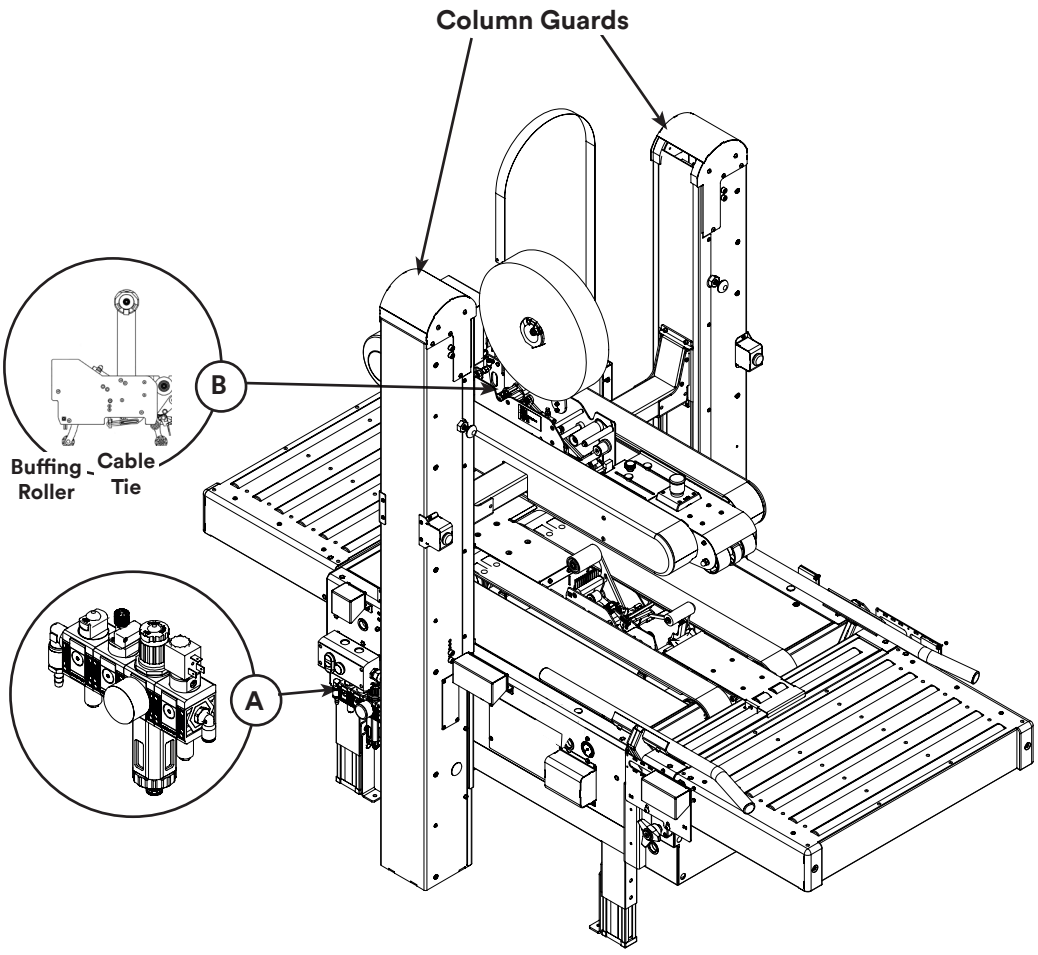


Figure 7-7 7000r-7000r3 HS Pro Frame Set-Up

7.7 Infeed Conveyor Assembly

1. Remove the conveyor and the package of parts from the carton.
2. Verify that package contains two (2) right angled cover plates, twelve (12) M8 × 15 hex head screws, and eight (8) M8 flat washers.
3. To assemble the infeed conveyor, refer to **Figure 7-8** and locate four (4) bolt holes on the infeed end of the case sealer frame.
4. Insert a M8 × 15 screw in each hole so that only a few threads take hold. **Do not use washers with these screws.**
5. Attach the infeed conveyor over the screws using the inverted keyholes in the end of the conveyor.

   Tighten all four (4) screws with a 13mm wrench.
6. Refer to **Figure 7-9.** Set the cover plates over the joint between the conveyor and the frame on each side and secure them with four (4) M8 × 15 screws and M8 washers.

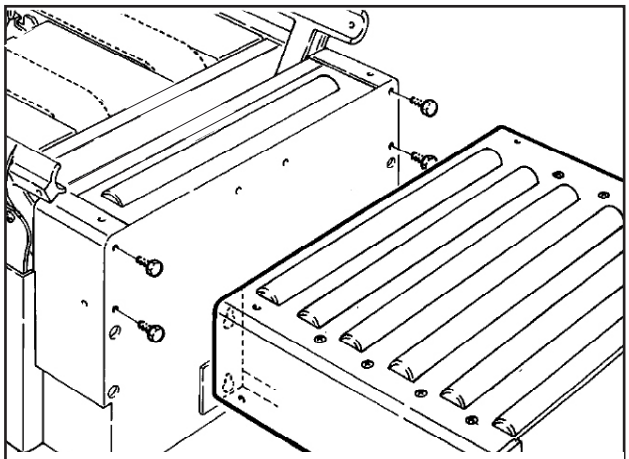


Figure 7-8 Infeed Conveyor

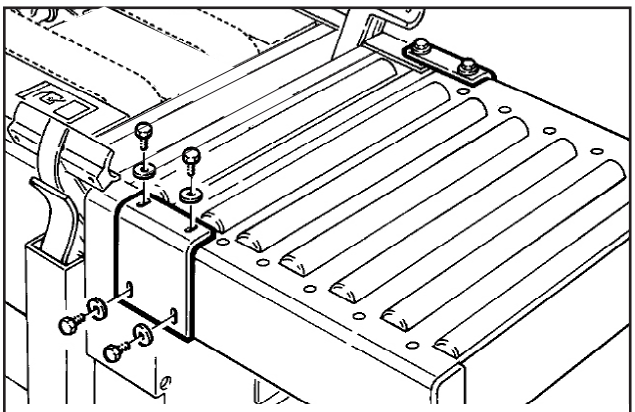


Figure 7-9 Cover Plates

7.8 Centering Guides

1. Remove the two centering guides and four (4) M6 × 20 socket head screws from the package.
2. Using a 5mm hex key wrench, attach the centering guides to the rails with four (4) M6 × 20 screws (two [2] in each guide) as shown in **Figure 7-10.**

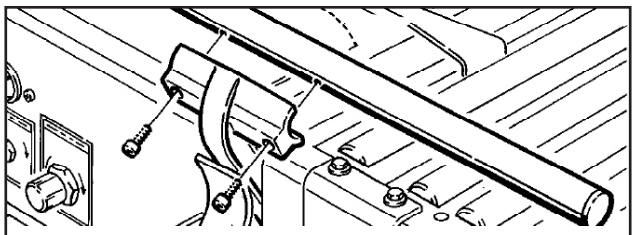


Figure 7-10 Centering Guides

7.9 Tape Leg Length

Taping heads are pre-set to apply 50.8mm [2 inch] long tape legs.

7.10 Electrical Connections and Controls

The electrical Push Button Station "Start/Stop" with reset are located on the left side of the machine frame (**Figure 7-11**). If desired, for operator convenience, this "Start/Stop" with reset station can be relocated to the right side of the machine frame. A standard three conductor power cord with plug is provided at the back of the electrical control box for electrical service **(See Specifications).** The receptacle providing this service shall be properly grounded. Before the power cord is plugged into outlet make sure that all packaging materials and tools are removed from the machine.

Do not plug electrical cord into outlet until ready to run machine.

Use of an extension cord is not recommended. However, if one is needed for temporary use, it must have a wire size of 1.6mm diameter [AWG14], have a maximum length of 7.5m [25 ft] and must be properly grounded.

7.11 Initial Start-Up of Case Sealer

After completing the "Installation and Set-Up" procedure, continue through "Operation" for tape loading and start-up to be sure case sealer is properly adjusted to run boxes.

Warning

- To reduce the risk associated with mechanical and electrical hazards:
- Read, understand, and follow all safety and operating instructions before operating or servicing the case sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.

Warning

- **To reduce the risk associated with hazardous voltage:**
- Position electrical cord away from foot and vehicle traffic.

Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn pneumatic and electrical supplies off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

7.12Controls, Valves, Switch Locations

1. Push Button Station "Start/Stop" w/Reset Button
Controls Box taping Cycle / Resets Controls / Starts and Stops Drive Belts.

The Circuit Breaker is preset and requires no further maintenance. If circuit is overloaded and trips, unplug machine from power source:

a) Determine and correct cause of overload.
b) Reconnect machine to power source.
c) The Push Button Station is used to turn machine On and Off. The Reset Button is used before initial startup or for clearing a fault condition (**Figure 7-11**).

Push Button Station w/Reset Button

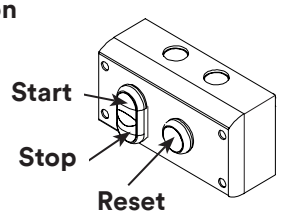


Figure 7-11

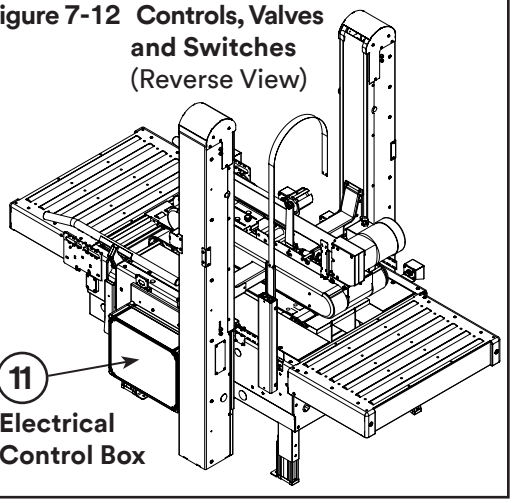
2. Main Air "On/Off" Valve/Pressure Regulator/ Filter/Exhaust Valve – Figure 7-14
This set of pneumatic components controls, regulates and filters plant air supply to two separate control circuits of the case sealer.
"On/Off" Valve – "On" turn to "SUP"– "Off" turn to "EXH".

Note – Turning air supply "Off" automatically bleeds air pressure from the case sealer air circuit.

Refer to **Figure 7-12 and 7-13** below to acquaint yourself with the various components and controls of the case sealer. Also see component locations in **Section 3** and **Manual 2** for taping head components.

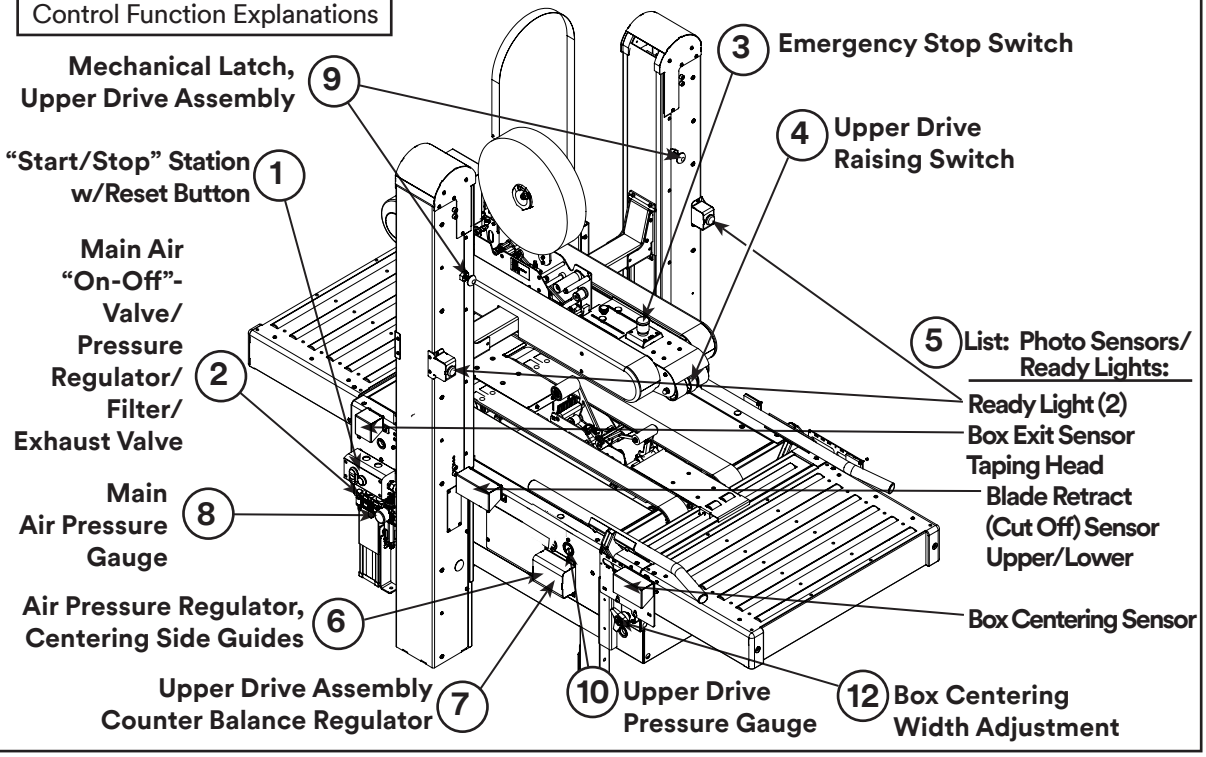
Important: Always turn the air "Off" when machine is not in use, when servicing the machine, or when connecting or disconnecting air supply lines.

Figure 7-12 Controls, Valves and Switches (Reverse View)



Note: See 7.12 Control Function Explanations

Figure 7-13 Controls, Valves and Switches



(continued)

3. **Emergency Stop Switch**
   The machine electrical supply can be turned off by pressing the latching emergency stop switch (releases switch latch). To restart machine, turn/release emergency stop, press reset button and then press "Start/Stop" Station Start Button.

4. **Raising Switch - Upper Drive Assembly**
   This switch, when touched by leading edge of a box, activates a switch that pneumatically raises the upper frame to allow insertion of the box under drive belts. As the box moves under the switch, the upper drive assembly descends on the box and drive belts convey the box through the machine.

   When switch is activated by hand, the upper drive assembly rises to its maximum height. Released, the upper drive assembly descends to its rest position.

5. **Photo Sensors/Ready Lights:**

   Ready Light (2) - indicates machine is clear/ready.

   Box Centering Sensor - This sensor controls the box centering guides. Sensor is activated when the box enters the case sealer and centering guides close (centering the box). Then, after box passes this sensor, Centering Guides are released (Guides return to original position ready for next box).
   Box Present/Lower Blade Retract Sensor - Sens es incoming box and retracts/releases blade for cut-off.
   Upper Blade Retract Sensor - Retracts/releases blade for cut-off. (The cut-off bracket is retracted to prevent premature tape cutting.)
   Box Exit Sensor - indicates completion of Box taping proces
   Box Exit Sensor - indicates completion of Box taping process.

6. **Air Pressure Regulator, Centering Guide Force Adjustment – Figure 7-15**
   This regulator is used to adjust Centering Guides according to weight of boxes. Pressure should be adequate to center boxes, but low enough to allow easy pushing of boxes under taping head.

. 7. **Air Pressure Regulator/Gauge, Upper Drive Counter Balance Adjustment – Figure 7-16**
   Set nominally to control "down" movement of upper drive assembly changed as necessary for the boxes being sealed to provide adequate drive belt pressure against the box which positively conveys boxes through the machine.

   This Pressure Regulator acts as a "counter balance force" that equalizes air pressure on the Column Cylinders and keeps the Upper Drive Assembly from dropping too quickly from the raised position. If the boxes stop or hesitate, decrease the Regulator pressure (which will increase drive belt force on the box for more friction between the box and drive belts). Adjust setting as needed to allow ease of movement of boxes through machine.

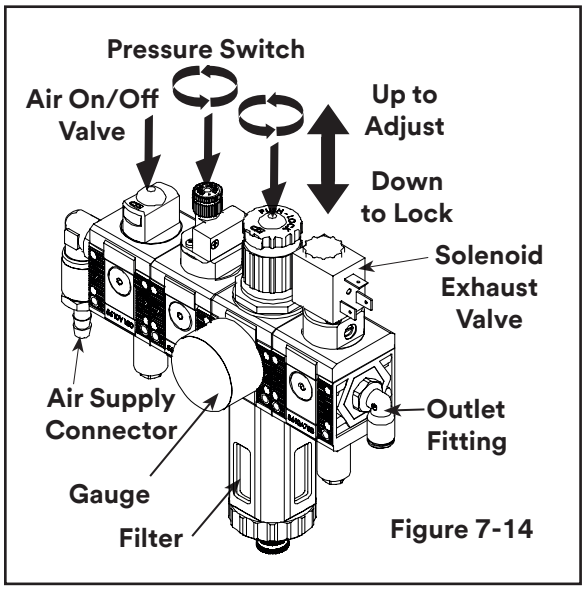


Figure 7-14

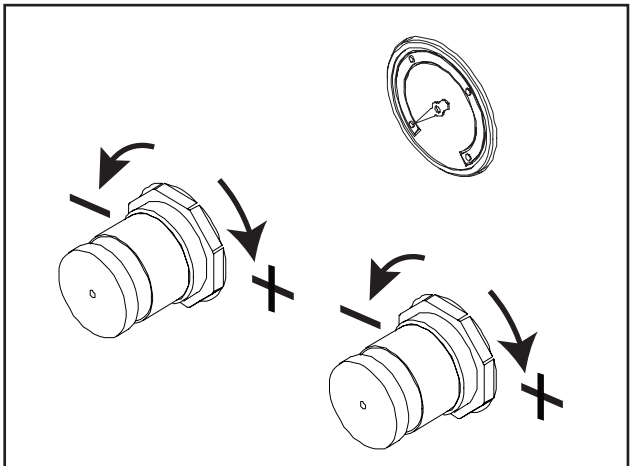


Figure 7-15
Air Regulator / Side Guides Centering Pressure

Figure 7-16
Air Regulator / Gauge / Upper Drive Counter Balance Pressure

For boxes which are fully packed with products that support the top flaps, adjustment of this regulator is not critical since the boxes can support pressure of upper frame at a wide range of regulator settings.

However, if under-filled or fragile boxes are to be sealed, this regulator can be used to set the upper frame to a higher pressure that is adequate for conveying boxes through the machine while also allowing upper assembly to descend on box (preventing box damage).

Note – A precision regulator is used to balance upper drive assembly. Due to the self relieving feature of this regulator a small amount of air will continually vent to atmosphere. This is normal and amounts to approximately 3 liter/min [0.1 SCFM].

8. **Main Air Pressure Gauge -** Indicates main air regulator pressure setting. Air regulator should be adjusted so gauge reads 6.2 bar gauge pressure [90 PSIG].

9. **Mechanical Latch, Upper Drive Assembly (Figure 7-17)**
Both columns have a mechanical latch to hold the upper drive assembly at the fully raised position for tape threading and maintenance.

   To raise and latch upper assembly:

   1. Push and hold upper frame raising switch “A”.
   2. Push and hold latching knob(s) “B”.
   3. Release switch “A”.
   4. Release knob(s) “B”.
   5. Shut off air supply.

   To release/lower the upper assembly:

   1. Turn on air supply.
   2. Push and release switch “A”.

10. **Upper Drive Pressure Gauge**
As indicated in Air Pressure Regulator / Gauge, Upper Drive Counter Balance Force Adjustment, Upper Drive Pressure Gauge is used as indicator of “counter balance force” that equalizes air pressure on the Column Cylinders and keeps Upper Assembly from dropping too quickly from raised position. Adjust force higher (+)/ Lower (-) to equalize and create balance.

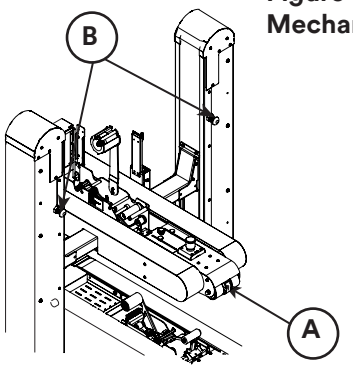


Figure 7-17
Mechanical Latch

Important – Before turning drive belts on, be sure no tools/objects are on the conveyor bed.

11. **Electrical Circuit Breaker/Fuse Box -** Houses DC Power Supply for Circuit Breaker, Fuse Box, Proximity Sensor, Machine and Tam (Option) Photo Sensors, Control Relays, Motor(s) Contactor, and Programmable Logic Controller (PLC) for Machine Control Functions.

12. **Box Centering Width Adjustment -** This knob limits the Side Guides from fully opening to more efficiently accomodate the width of box to be sealed. By limiting the Side Guides, the user is able to increase speed of the taping process. It is especially efficient if narrower boxes are being sealed. Turning the adjustment knob Clockwise (CW) limits the “maximum opening width” and turning the knob Counter Clockwise (CCW) increases the “opening width”.

⚠ Warning

- To reduce the risk associated with pinch and entanglement hazards:
- Keep hands clear of the upper head support assembly as boxes are transported through the machine.
- Keep hands, hair, loose clothing, and jewelry away from box compression rollers and all moving parts.
- Always feed boxes into the machine by pushing only from the end of box.

7.13 Box Sealing

1. Turn main air valve to “SUP” (On).
2. Release E-Stop Button. Press Reset Button. Press Start Button. This process starts the drive belts and pneumatic operations.
3. Feed boxes to machine allowing previous box to exit machine BEFORE feeding next box.
4. Turn electrical/pneumatic switches “Off” when machine is not in use.
5. Reload and thread tape as needed.
6. Be sure machine is cleaned and lubricated according to recommendations in **“Maintenance”** section of this manual.

7.14 Completion of Taping Heads

See **Manual 2** for Complete Instructions:

1. Place the Upper Taping Head in a convenient working position
2. Use **Figure 7-18** and tape threading label. Position the tape supply roll so the adhesive side of tape is facing the front of the taping head as it is pulled from the supply roll.
3. Thread tape over dancer arm roller (if dancer arm used). Guide tape around tension wrap roller **(Position 1)** then around one-way tension roller **(Position 2)**.
4. Pull it over knurled roller so adhesive side is in contact with this roller **(Position 3)**.
5. Pull tape down over tab adjustment roller. Pull it under knurled roller and between crescent tape guide and support pad **(Position 4)** The tape should extend ½”/ 13mm past the applying/compression roller)**.**
6. Cut away excess tape and repeat steps for Lower Taping Head.

Important – Do not cut against apply roller - roller damage could occur.

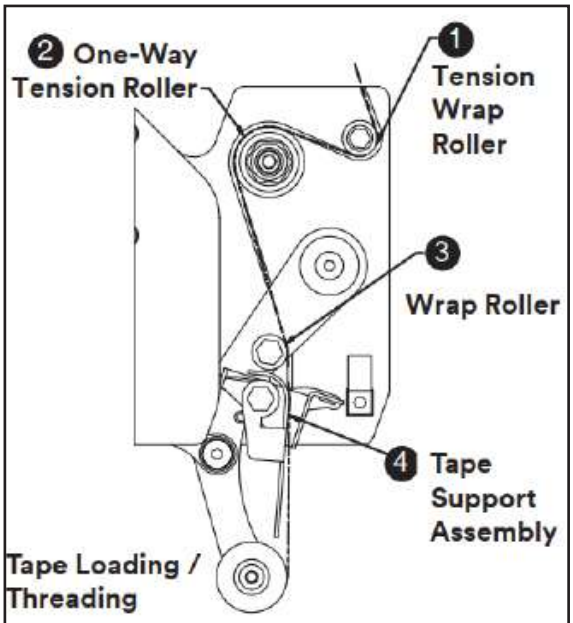


Figure 7-18

7.15 Preliminary Electric Inspection

Before connecting the machine to the mains please carry out the following operations:

7.15.1 Make sure that the socket is provided with an earth protection circuit and that both the mains voltage and the frequency match the specifications on the name plate.

7.15.2 Check that the connection of the machine to mains meets the safety regulations in your country.

7.15.3 Refer to the Machine Name Plate and

7.16 Machine Connection to the Mains

(For technical specifications: **See Section 4 - Specifications).**

- Push the LATCHING EMERGENCY STOP BUTTON.
- The main switch normally turned OFF.

Connect the power cord supplied to a wall socket using a plug which complies with safety regulations of your country.

7.17 Tape Application Monitor (TAM) Installation (Optional)

The Tape Application Monitor is an optional accessory that comes completely installed on your 3M-Matic case sealer at time of order. The TAM has 4 operational modes. It can be (1) turned off with no tape montitoring, (2) both top and bottom taping head monitoring, (3) top head only monitoring, (4) bottom head only monitoring.

The sensors are pre-set at the factory but can be repositioned to point at a new low tape roll change location according to production needs **(See Figure 7-19 and Section 8).**

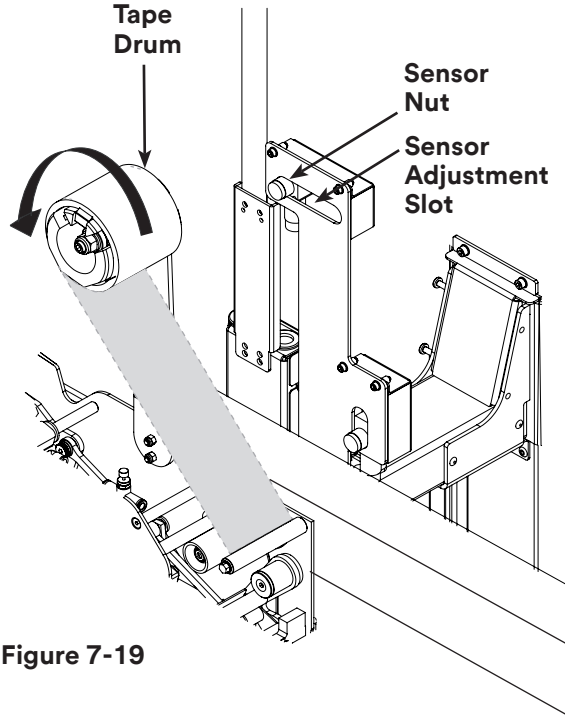


Figure 7-19

Warning

- To reduce the risk associated with mechanical and electrical hazards:
- Read, understand, and follow all safety and operating instructions before operating or servicing the case sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.

Changing TAM Function and Configuration:

Important: This operation is completed with the electrical enclosure open and must be completed by qualified personel.

1. Turn machine Off

Press the STOP push button. Ensure Reset button on start/stop station is illuminated

2. Locate the 2 TAM Toggle switches and light assembly (Fig 7-20, 7-21)

The toggle switches are located in lower left corner of the electrical enclosure. The multi-color light is located on the top of the column assembly. The TAM Enable switch provides the ability to disengage the monitoring function. The TAM Configuration switch provides the ability to change the monitoring functions to meet process requirements.

Electrical Panel

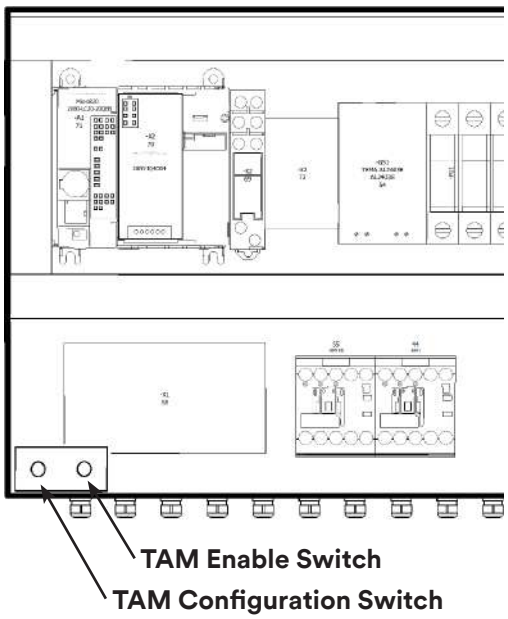


Figure 7-20

3. Enable the TAM Function

A steady green light on the column light assem bly will indicate the TAM is enabled when the machine is running. If the green light is not present, place the TAM enamble switch in the ON (UP) position to enable Tape Monitoring. Monitoring must be enabled to change the TAM configuration.

4. Determining the current TAM Mode

To determe or verify the current mode, watch the column light assembly on machine powerup. The light assembly will flash white with the num ber of flashes corresponding to the software revision level installed in the PLC. This will be fol lowed by a flashing color corresponding to the current TAM mode (See Chart)

NOTE: The program revision and mode will be indicated on on each instance of machine power-up and can also be observed on the On/Off push button station as well as the yel low lights mounted in the middle of the main col umns. (fig, 7-21)

5. Use the Configuration Toggle switch to change TAM mode

To change the mode, cycle the configuration toggle switch (Off>On>Off). The toggle switches are disabled while the light is flashing. The light must stop flashing before attempting to go to the next state. The light assembly will flash in the color corresponding to the mode. Repeat this process until the column light assemby flashes the color matching the monitoring required for your applica tion.

The selection process will step through the modes in order (1, 2, 3, 4, 1....) until the appropriate mode is reached.

IMPORTANT: Ensure the TAM Configuration Toggle switch is in the OFF/Down position after mode selection and when running the machine.

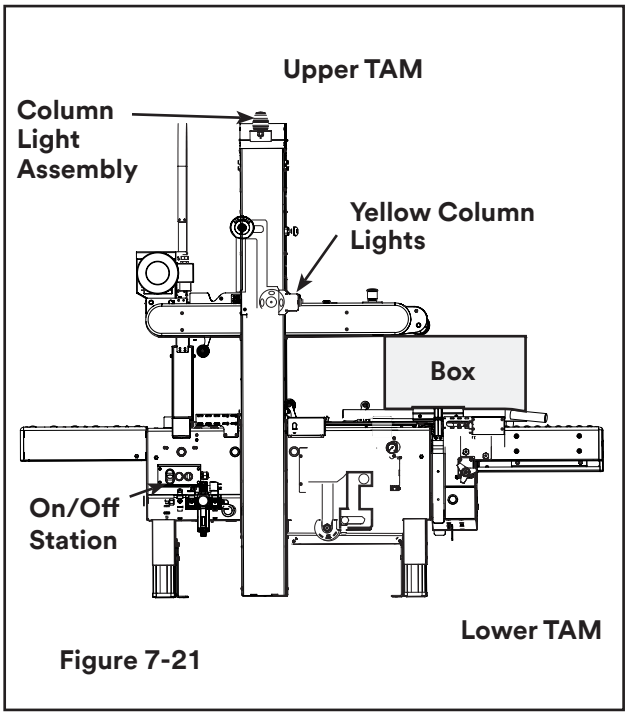


Figure 7-21

FLASHING	GREEN	BOTH Heads Enabled
FLASHING	RED	UPPER Head Only Enabled
FLASHING	PURPLE	LOWER Head Only Enabled

6. Low Tape Sensing and Indication

The machine is equipped with low tape sensing of the upper and lower taping head supply roll. The low tape sensing function will monitor the upper, lower or both tape supply rolls. This feature is determined by the current TAM mode setting and which tape sensor(s) are active. The low tape sensing function will remain active even when tape monitoring is disabled. The column light assembly will present a steady yellow light when the predetermined low tape condition is reached.

8. Theory of Operation

Description of the Working Cycle

8.1 Air Supply/Starting Machine/Operation

Air Supply:
The air supply powers movement of centering guides and upper drive assembly to automatically adjust the case sealer to the size of box being sealed.

Be sure that the air valve is rotated to "ON" position and main pressure gauge is reading 90 psi **(Figure 8-1)**.

Starting/Machine Operation:
- Check that E-Stop is released **(Figure 8-2)**. If E-Stop engaged, release E-Stop.
- Press Reset Button.
- Press Start Button (ready lights should illuminate indicating machine is ready for a box and lights turn off when box is in taping process **(Figure 8-3)**.

Note: In normal "Start/Stop"operations, using reset button is not necessary.

Reset:
A reset is required for the following:

- Powering up machine.
- After E-Stop has been engaged.
- After a fault occurs (i.e. box jam, taping issue, etc.).

Note: Ready Lights will automatically illuminate when machine is ready for next box.

8.2 Photo Sensors / Raising Switch

Box Centering Photo Sensor:
The Box Centering Photo Sensor is activated as box is presented and forwarded on infeed conveyor **(Figure 8-4)**.

The box centering system is triggered in the Programmable Logic Controller (PLC) located in the Electrical Control Box **(Figure 8-4)**.

(continued on next page)

Figure 8-1

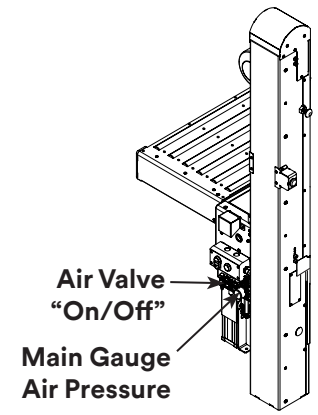


Figure 8-2

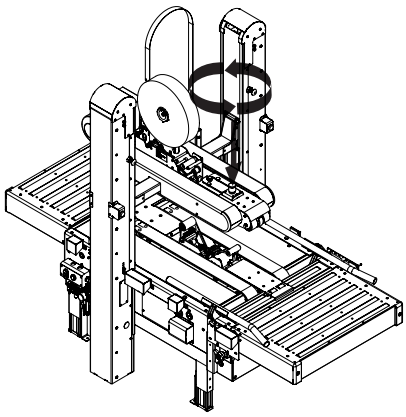
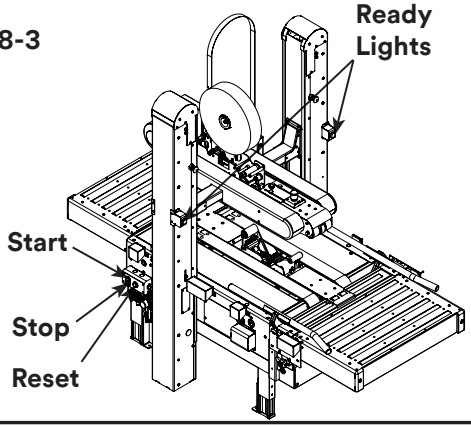
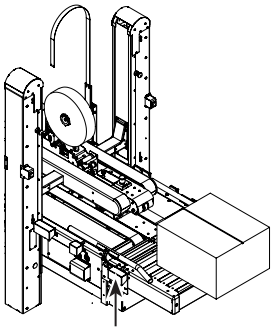


Figure 8-3





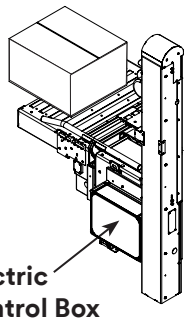


Figure 8-4

8. Theory of Operation

(continued)

The PLC **(Figure 8-5)** signals the centering guides solenoid valve causing the air cylinder Box Centering Guides to move inward and centering the box **(Figure 8-6).**

Note: Centering Guide force can be adjusted by the centering pressure regulator and flow controls **(See Adjustments Section 11 and Figure 8-6).**

Upper Assembly Raise Switch:
Once the box has been centered, push box forward against Upper Assembly Raise Switch **(Figure 8-7).**

The Programmable Logic Controller (PLC) also signals the upper assembly lift solenoid valve causing the air cylinder to raise the Upper Drive Assembly.

The Upper Drive Assembly lifts above box height so box can move forward under Upper Assembly **(Figure 8-8).**

Note: Lift force is controlled by the main air pressure setting **(See Adjustment Section).**

As box is pushed forward under Upper Drive Assembly, Upper Assembly Raise Switch releases and Programmed Logic Control (PLC) allows upper drive assembly to descend on top of box.

At this point, Drive Belts are triggered and automatically convey box into the machine **(Figure 8-8).**

Note: All Sensors on Machine are adjustable. Loosen, re-adjust, and re-tighten as needed to facilitate efficient box sealing results.

Also be sure to Sensor Cord is pointed downward / vertically.

(continued on next page)

Figure 8-5

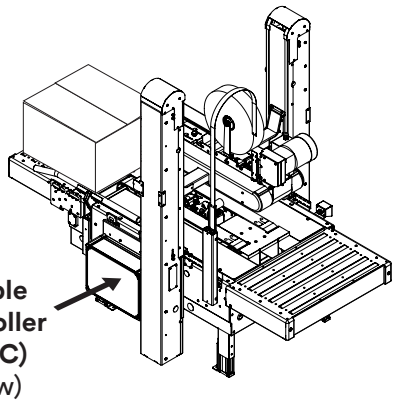


Figure 8-6

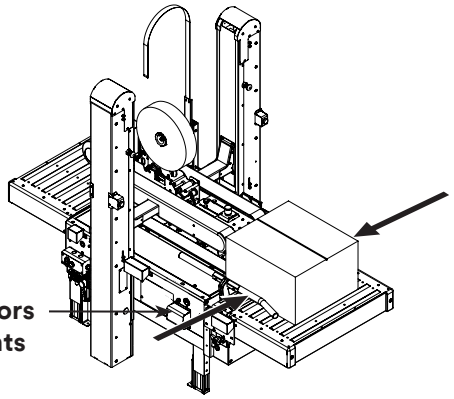


Figure 8-7

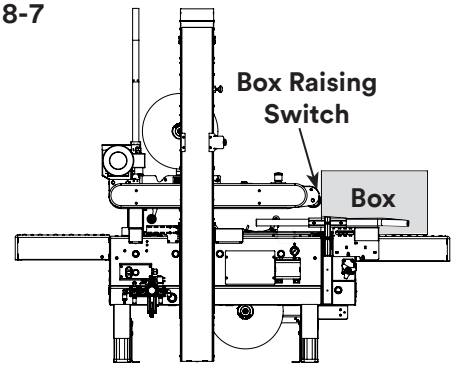
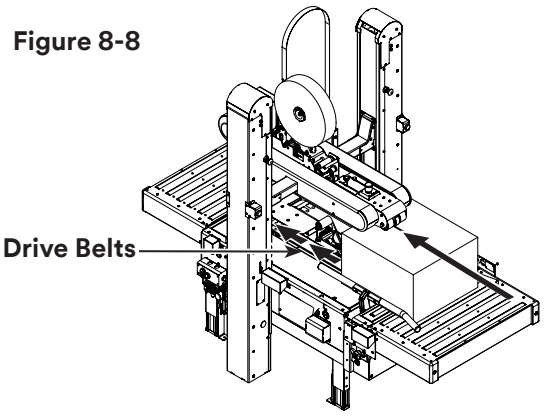


Figure 8-8



8. Theory of Operation

(continued)

Box Centering Photo Sensor:
As box proceeds through taping process and front edge of box passes the centering photo sensor, box centering guides are activated. As box trailing edge passes the box centering photo sensor, the guides are deactivated releasing centering solenoid valve **(Figure 8-9)**. The centering guides then are returned to their original open position **(Figure 8-10)**.

Note: For Longer Boxes, Centering Guides are automatically released after a set period of time.

Blade Retract (Cut-Off) Photo Sensors:
Detects the leading edge of the box. This signal is used by the PLC to retract the blade cut-off bracket preventing crushing of box and premature cutting of the tape. It also signals the start of the taping cycle. (**Figure 8-10**).

When the trailing edge of box is detected by Blade Retract (Cut-Off) Photo Sensors, the Programmable Logic Controller program (PLC) deactivates the blade retract solenoid valve cutting the tape which completes the taping process (**Figure 8-11**).

Note: Both Upper and Lower Taping Heads have a photo sensor. These sensors are spaced in direct proportion to the offset position of taping heads.

Box Exit Photo Sensor:
As the trailing edge of box passes the Box Exit Photo Sensor, a signal is sent to PLC that taping cycle has been completed **(Figure 8-12).**

Note: A Programmed (PLC) "Watch Dog" timer will stop machine:

1) Box taping cycle is not completed within set period of time.
2) Box Jam
3) Any abnormal "event"

A manually activated E-Stop (emergency stop) is also provided for any abnormal events.

Note: Also refer to **Manual 2** for Taping Head adjustments.

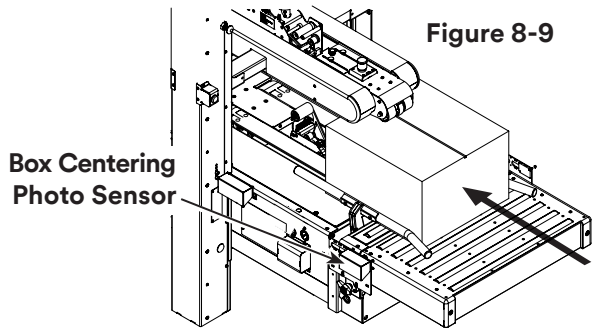


Figure 8-9

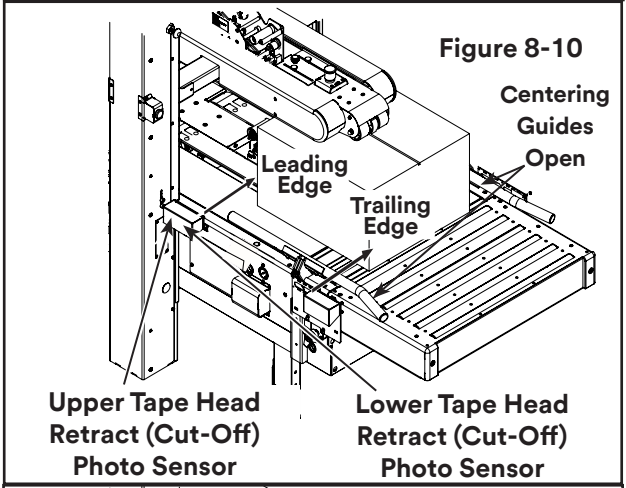


Figure 8-10

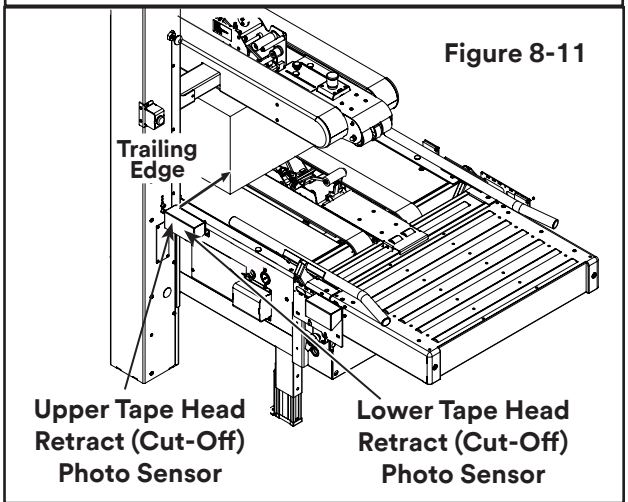


Figure 8-11

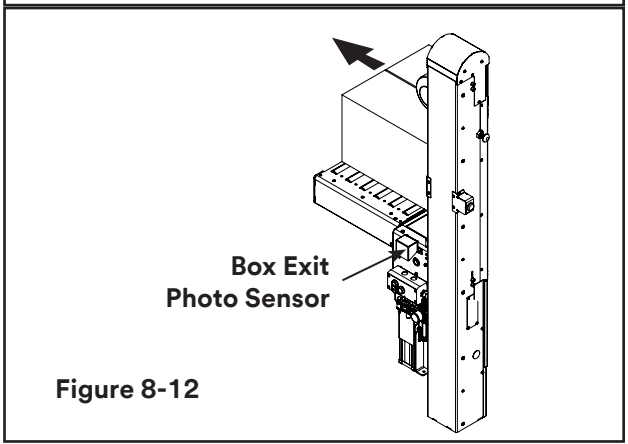


Figure 8-12

8. Theory of Operation

8.3 Tape Application Monitor (TAM) Operation (Optional)

To set the operational state of the Tape Moni toring System, refer to the “Installation” Sec tion of this manual

The Tape Application Monitor (TAM) provides a visual indication of faults that can occur during the tape application process.

These visually indicated faults include:

- improper tape application
- no tape applied
- broken or incomplete tape application
- tape was not cut at end of taping cycle

The Tape Application Monitor (TAM) will indicate the type of fault by a predesignated light beacon color **(See Chart).** The machine will stop operating when a fault is indicated (except with a low tape signal). TAM operations are controlled by information received in the Programmable Logic Control (PLC) from Five (4) sensors **(Figure 8-13):**

1) Box Present/Lower Cut-Off Retract (Position a)
2) Upper Cut-Off Retract (Position b)
3) Tape Dispensing (Position c)
4) Low Tape Sensor (Position d)

Two (2) of these Sensors, Box Present/Lower Cut-Off Retract and the Upper Cut-Off Re tract are located on the machine bed (**Figure 8-14**).
These sensors are responsible for standard machine control functions and are used in conjuction with the optional Tape Application Monitor (TAM) system (if installed).

The Box Present Sensor/Lower Cut-Off Re tract (a) signals the presence of a box and the start of taping cycle. This sensor as well as the Upper Cut-Off Retract Sensor (b) signal the end of the tape dispensing operation for each taping head - see Sensor Positions (**Figure 8-13 and 8-14**). When tape is dis pensed to the point where the roll no longer blocks the sensor, an indicator light is illumi nated on the Beacon Signal Light **(Figure 8-13).**

TAM Fault Signal Chart

Fault	Beacon Color	Beacon Signal
Lower Tape Head Fault	Purple	Flashing
Upper Tape Head Fault	Red	Flashing
Low Tape	Yellow	Solid
No Fault (running)	Green	Solid

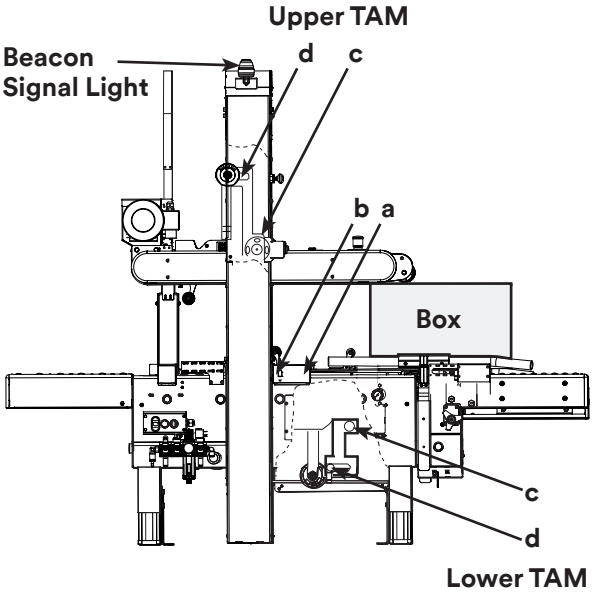


Figure 8-13

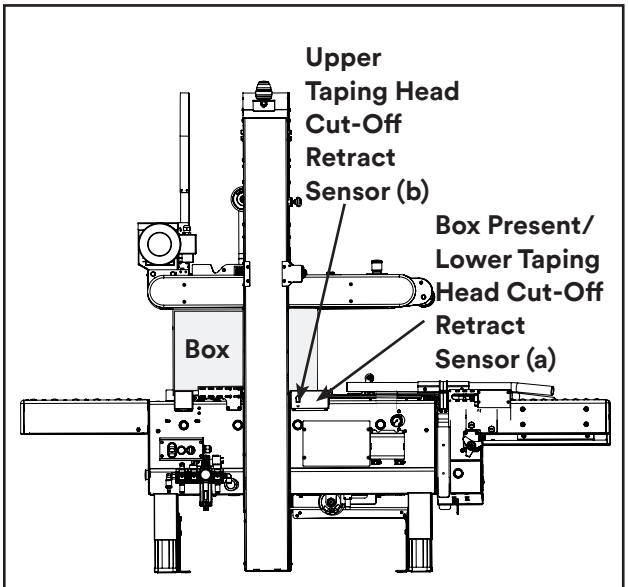
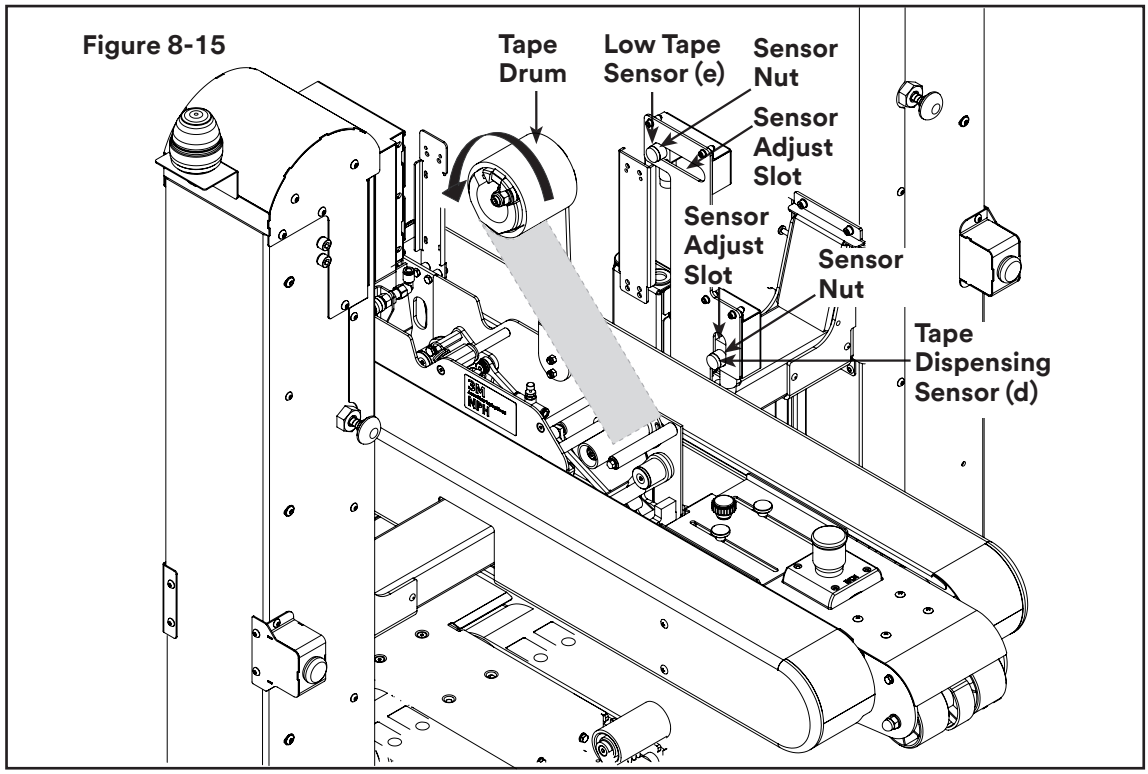


Figure 8-14

8. Theory of Operation

Figure 8-15



8.4 Tape Application Monitor (TAM) Sensors (Optional)

If a TAM is installed, two (2) photo sensors are installed on the Tape Application Monitor (TAM) Bracket. These sensors are located in close proximity to each taping head to be monitored and are pre-set at the factory. Both the Tape Dispensing/Application and Low Tape Sensors can be adjusted to meet production needs.

Tape Dispensing Sensor (Figures 8-13, 8-14, and 8-15):
The first sensor is a Tape Dispensing Monitor (c) that sends a pulsing signal as tape is being dispensed. This pulse is created by the sensor beam directed at the reflective disk mounted to the one way tension roller located oof the taping head.
The pulses are counted and registered from the beginning of the taping cycle, as the box is introduced at Box Present/Lower Cut-Off Retract Sensor (a) and until the trailing end of the box passes both this and the Upper Cut-Off Retract sensor (b). During proper tape applica tion, both the disk and roller turn sending pulses as tape is being applied. When the required pulse values do not meet expectations of a predetermined fault condition, a fault signal occurs and the taping process is stopped.

.

As explained above, the Tape Dispensing/Application Sensor beam is directed at the disk/hub located on the taping head. The reflective segments of the disk regiser a pulse as tape is being dispensed. The LED located on the sensor body will cycles on and off as tape is applied. if the LED is flashing as tape is dispensed, no adjustment is necessary, however, if the LED is not flashing on and off as tape is dispensed -

Re-Position the Tape Dispensing Sensor:

1). Loosen the sensor nut
2). Slide/Reposition sensor along the bracket slot
3). Tighten the sensor nut.

Re-adjust Tape Dispensing Sensor until LED properly switches on and off **(Figure 8-15).**

8. Theory of Operation

(continued)

Low Tape Sensor:
Indicating a low tape condition, the second TAM sensor (e) is a Low Tape Sensor which signals there is a low tape condition (only). This sensor is directed at the side of the tape roll. When tape is dispensed to a point where the roll no longer blocks the sensor, an indicator light illuminates the light beacon and signals the need to replace the existing roll with a new roll of tape **(Figures 8-15)**.

Positioning Low Tape Supply Sensor:
As explained, the low tape supply sensor looks at the side of the tape supply roll. Moving this sensor towards tape core allows more of the supply roll to be used before a low tape signal is illuminated. The amount of tape remaining on the roll is determined by the position of this sensor and should be set to production taping processes and tape replacement response time variables.

To Re-Position Low Tape Supply Sensor:

1). Loosen the sensor nut
2). Slide/Reposition sensor along the bracket slot
3). Tighten the sensor nut.

Re-adjust Low Tape Sensor as necessary to meet desired production needs **(Figure 8-15)**.

8.5 Clearing a Fault:

When a fault occurs, the machine automatically stops and a beacon light signals the type of fault **(See Fault Chart - Section 8.3).**

After removing the box, correct the fault and re-start machine by first pressing the reset button and then the start button **(Figure 8-16).**

Note: An E-Stop is provided for any emergency shut down of the machine.

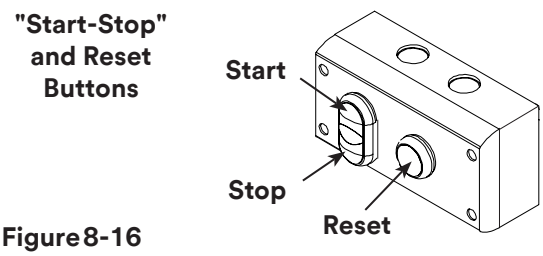


Figure 8-16

8.6 Box Spacing

If location of the box has not passed exit sensor before a new box has passed by the box present sensor. This creates a box spacing fault as shown in **Figure 8-17.**

Note: A minimum box 18" spacing must be maintained**.** Make necessary production adjustments to maintain minimum box spacing requirements.

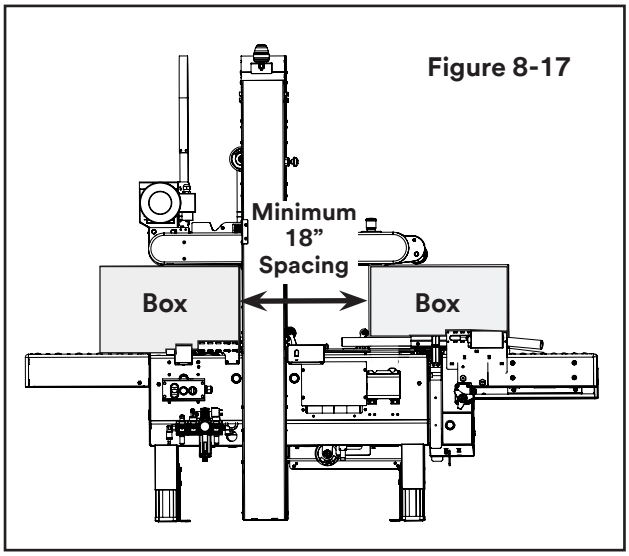


Figure 8-17

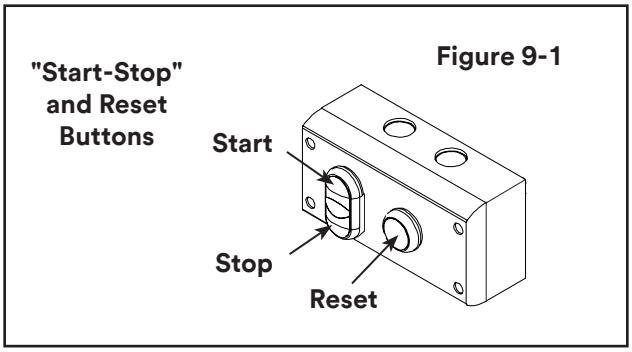
Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**

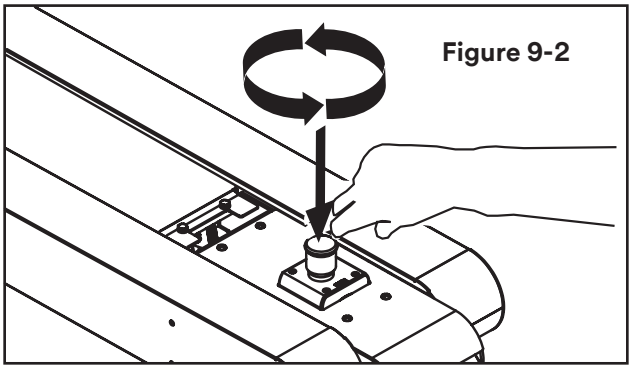
- Turn pneumatic and electrical supplies off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

9. Controls

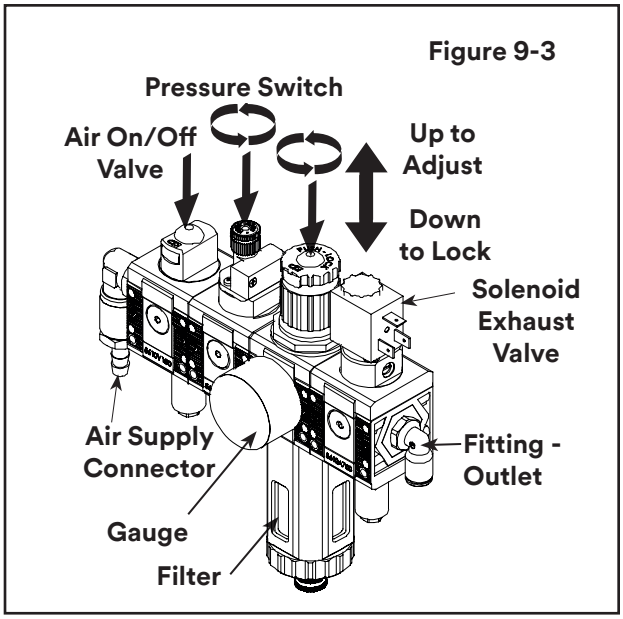
9.1 “Start/Stop” w/Reset Buttons



9.2 Latching Emergency Stop Button



9.3 Main Air On-Off Valve / Regulator / Filter



9.4 Upper Drive Box Raising Switch

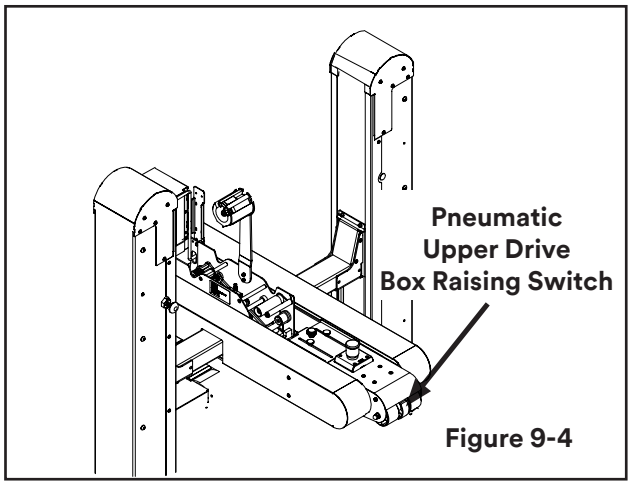


Figure 9-4

9.5 Operating Upper Drive Raising Switch
(activated by box pressure)

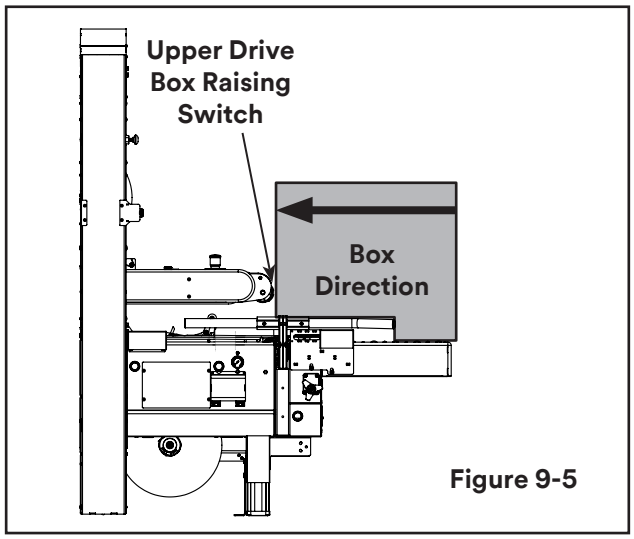


Figure 9-5

9.6 Air Pressure Regulator / Upper Drive Counter Balance Pressure Adjustment w/Gauge

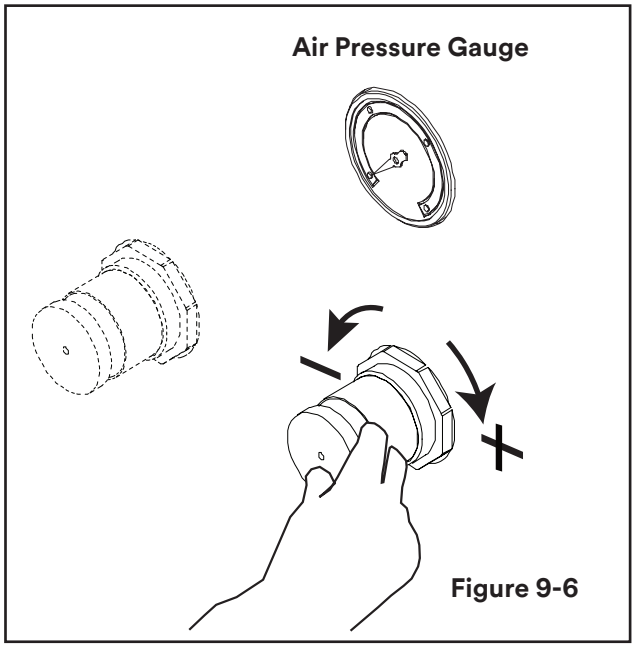


Figure 9-6

9.7 Air Pressure Regulator / Box Centering Side Guides Pressure Adjustment

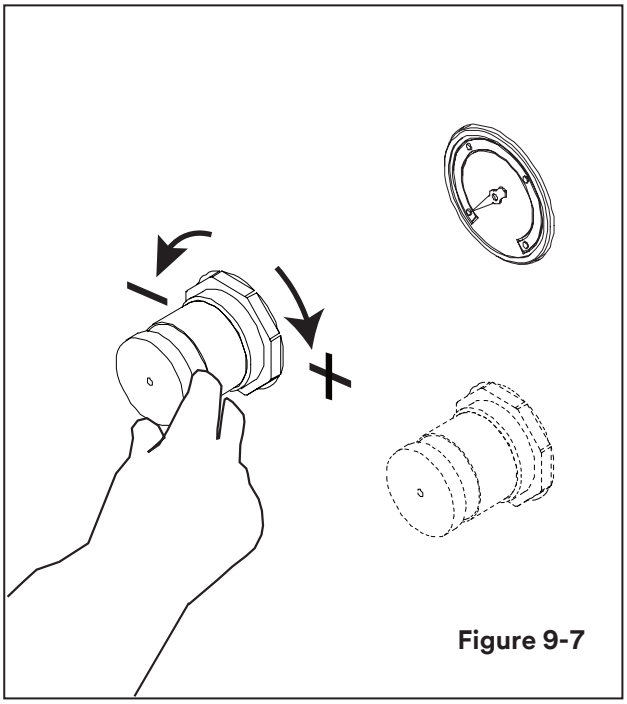


Figure 9-7

9.8 Box Conveying / Tape Seal Application

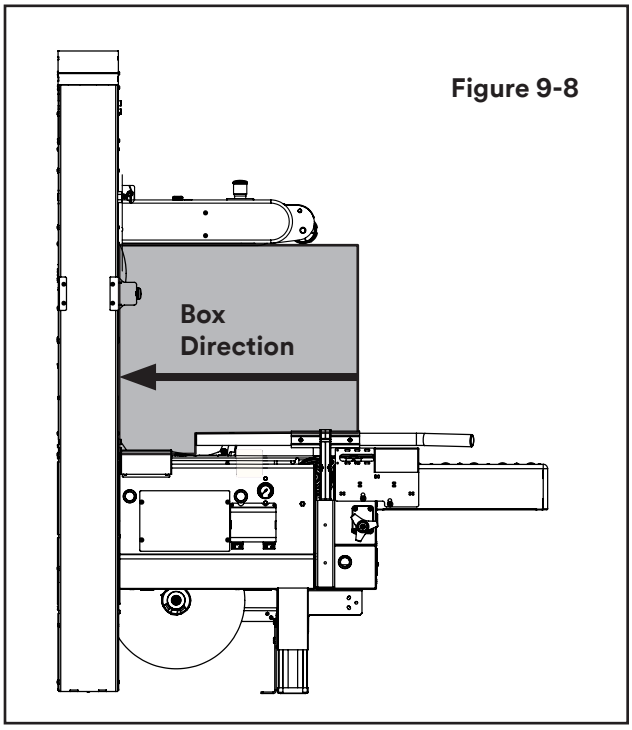


Figure 9-8

10. Safety Devices of the Machine

10.1 Blade Guards

Both the top and bottom taping units have a blade guard **(See Manual 2: AccuGlide™ 4 Taping Heads - 2" or 3").**

10.2 Emergency Stop Button

The box drive belts are turned on and off with the electric "Start/Stop" button on the side of the machine frame **(Figure 10-2).**

- To restart machine, rotate the emergency stop switch clockwise to release the switch latch **(Figure 10-1).**
- Then Press Reset Button **(Figure 10-2).**
- Then press the Station "Start" Button **(Figure 10-2).**

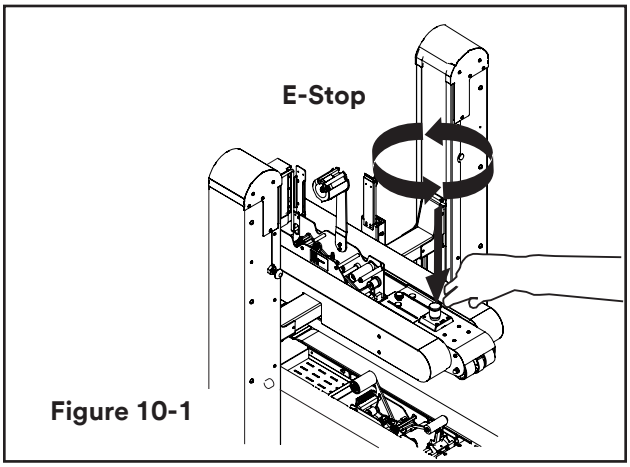


Figure 10-1

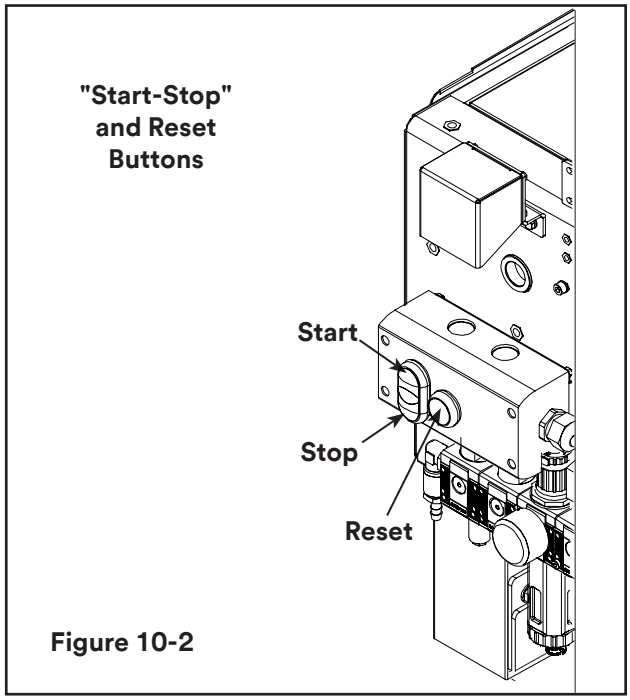


Figure 10-2

10.3 Electric System / Circuit Breaker

The electric system is protected by a ground wire whose continuity has been tested during final inspection. The system is also subject to insulation and dielectric strength tests.

Note: The case sealer has a circuit breaker located in the electrical enclosure on the machine frame. If circuit becomes overloaded and circuit breaker trips, unplug the machine electrical cord.

1. Determine cause of overload and correct.
2. Plug in machine.
3. Turn/Release E-Stop Button.
4. Press Reset and then "On" (I) Button to resume case sealing.

Important: The use of an extension cord is not recommended. However, if one is needed for temporary use, it must:

- Have a wire size of 1.6mm diameter [AWG 14]
- Have a maximum length of 7.5m [25 ft]
- Be properly grounded.

Warning

- To reduce the risk associated with hazardous voltage:
  - Position electrical cord away from foot and vehicle traffic.

Warning

- To reduce the risk associated with mechanical and electrical hazards:
  - Allow only properly trained and qualified personnel to operate and service this equipment.

11. Set-Up and Adjustments

11.1 Box Width Adjustment

Boxes are automatically centered by Side Guides. The Box Centering Guides are triggered by Box Centering Photo Sensor located on side of the infeed conveyor **(Figure 11-1).**

Side Guides air pressure adjustments can be made using Centering Guide Air Pressure Regulator **(Figure 11-1).**

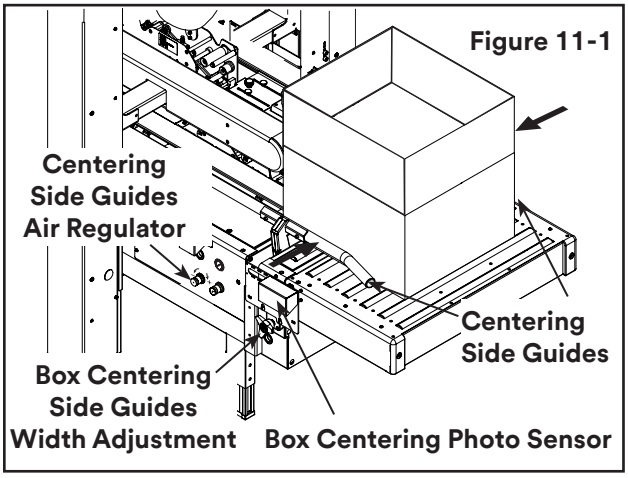


Figure 11-1

11.2 Box Height Adjustment

Box Height is automatically determined when the Upper Drive Assembly Box Raising Switch is activated by box pressure. The Box Raising Switch which located on the front of the Upper Drive Assembly **(See Figure 11-2).** Upper Drive air pressure adjustments can be made using the Air Counter Balance Pressure Regulator and Gauge for the Upper Drive Assembly **(See Figure 9-6).**

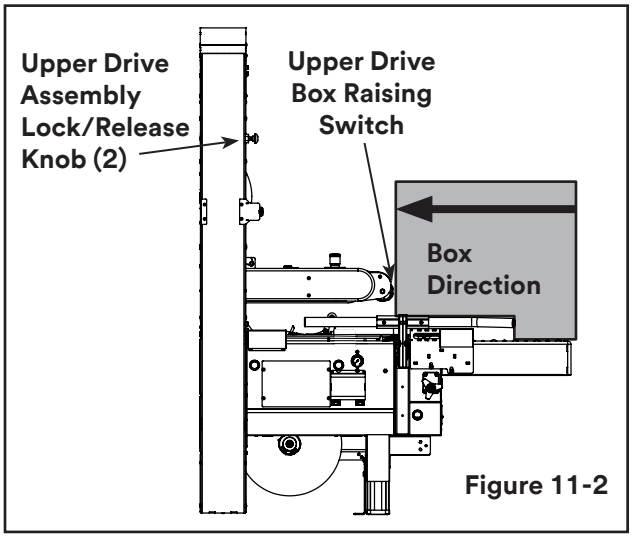


Figure 11-2

11.3 Box Centering Side Guides Width Adjustment

For Optimal Box processing speed, the maximum box width can be limited to width of boxes to be taped. Make this adjustment by turning the Adjusting Knob clockwise (decreasing maximum width) or Counterclockwise (increasing maximum width). This Knob Adjustment, in effect, allows for a "stop" that limits the Side Guides full position **(Figure 11-1).**

11.4 Removing Taping Heads

1. Activate Upper Drive Box Raising Switch to lift upper drive assembly. Use lock knobs to lock Upper Drive in raised position.
2. Turn off Electricity and Air Pressure.
3. Loosen plate knobs and slide Tape Head retaining plate forward **(Figure 11-3).**
4. Hold upper taping head applying and buffing arms from under upper assembly and slide tape head forward and down to remove**.**
5. For Lower Taping Head, slide head forward and lift.
6. Refer to **Manual 2** for additional taping head set-up instructions.
7. Replace taping heads reverse of disassembly before turning on air supply/electric power.
8. Unlatch Upper Drive Assembly and allowing Upper Drive to return to its rest position.

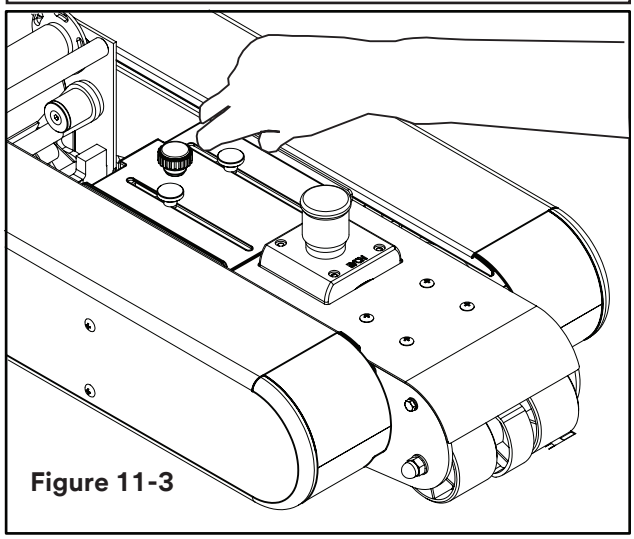


Figure 11-3

Warning

- To reduce the risk associated with sharp blade hazards:
  - Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

11.5 Run Boxes to Inspect Adjustment (Figures 11-4 and 11-5)

Important: Before starting machine, check to be sure no tools or other objects are on the conveyor bed.

Release E-Stop (if engaged), Press Reset Button, and then press Push Button Station "Start" **(Figure 11-4).** This starts the drive belts and engages the pneumatic air pressure system. Move box forward on the infeed conveyor until the Box Centering Photo Sensor is activated (which activates the Box Centering Side Guides and automatically centers the box - **Figure 11-5**). Continue moving the box forward until it contacts the Upper Drive Assembly Raise Switch (**Figure 11-5).** The Upper Drive Height adjustment adjusts automatically as the box is forwarded by the drive belts under the Upper Drive Assembly.

Note: Always push at the end of the box. If the box is not centered correctly or the Upper Drive Assembly does not contact the top of the box correctly, see pressure adjustment settings and/or the Troubleshooting Section.

Important – If drive belts are allowed to slip on box, excessive belt wear will occur.

Note - For belt replacement and tension specifications - refer to **Section 13 / Maintenance and Repairs.**

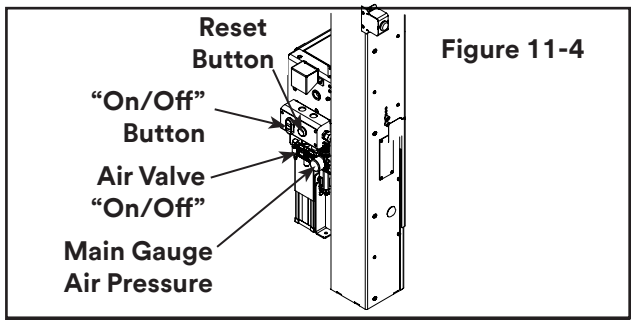


Figure 11-4

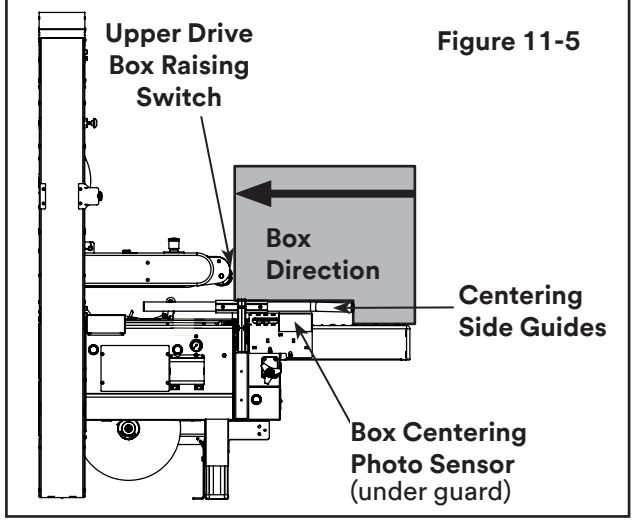


Figure 11-5

Warning

- To reduce the risk associated with pinch and entanglement hazards:
- Keep hands clear of the upper head support assembly as boxes are transported through the machine.
- Keep hands, hair, loose clothing, and jewelry away from box compression rollers and all moving parts.
- Always feed boxes into the machine by pushing only from the end of box.

11.6 Tape Application Monitor (TAM) Adjustments (Optional)

TAM Sensor Positioning adjustments can be "fine tuned" to help meet needed production requirements.

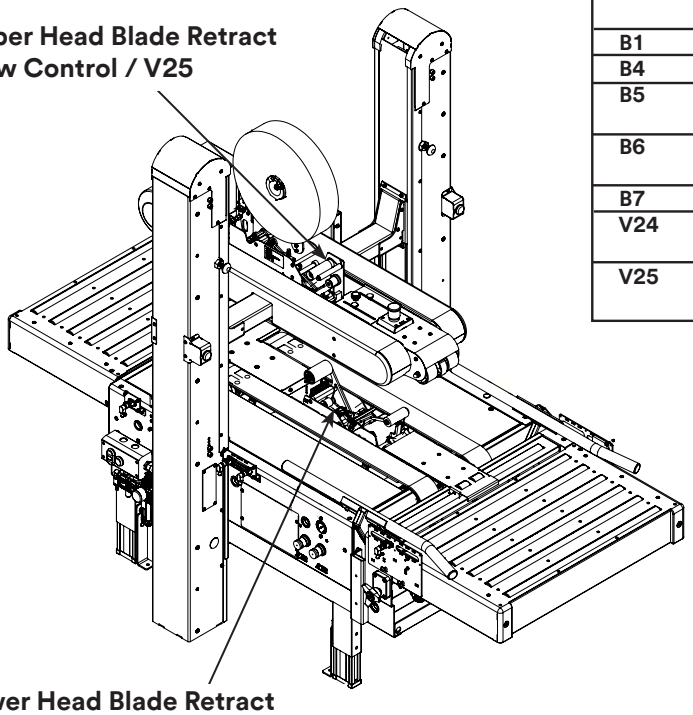
Warning

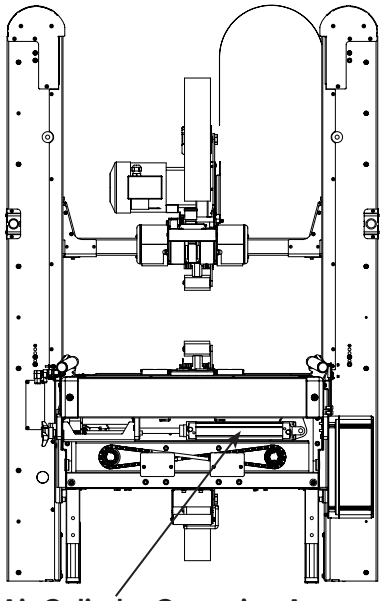
- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn pneumatic and electrical supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

11.7 Factory Settings

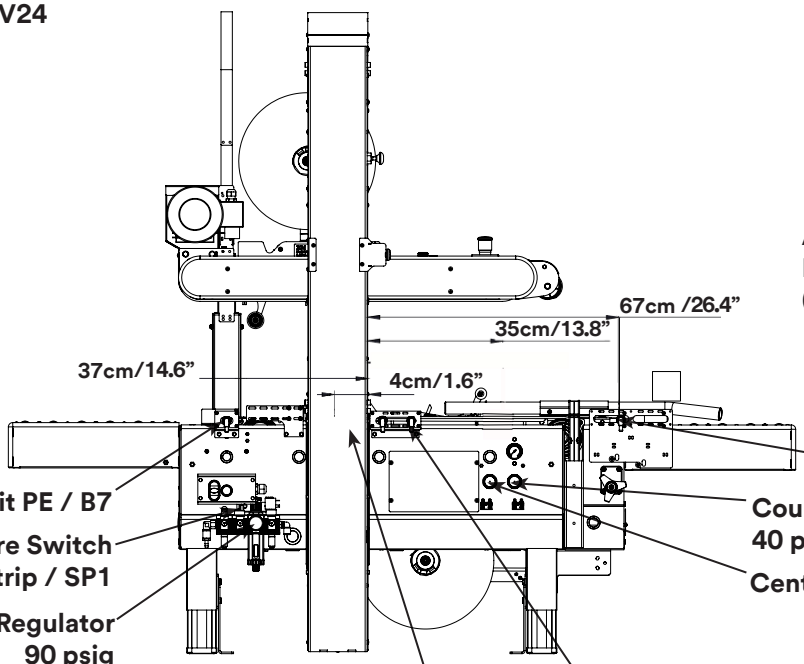
(also Refer to Electrical Schematics in **Section 16**)

Component Symbol	Description	Factory Setting
	Main Air Regulator	90 psig
R1	Counter Balance Regulator	30 psig
R2	Centering Arm Regulator	3.75 CW turns from full close (CCW position)
SP1	Main Pressue Switch	55 psig
V16	Air Cylinder Centering Arm - Flow Control - Guides open	2.5 CW turns from full open (CCW position)
V17	Air Cylinder Centering Arm - Flow Control - Guides closed	2.5 CW turns from full open (CCW position)
B1	Centering Arm PE	67cm/26.4" (front of column)
B4	Case Present PE	35cm/13.8 (front of column)
B5	Lower Head Blade Retract (Cut-Off) PE	11.5cm/4.5" (front of column)
B6	Upper Head Blade Retract ' (Cut-Off) PE	4cm/1.6" (behind column)
B7	Case Exit PE	37cm/14.6" (front of column)
V24	Lower Head Blade Retract Flow Control	3 turns CW from full open (CCW position)
V25	Upper Head Blade Retract Flow Control	3 turns CW from full open (CCW position)





Air Cylinder Centering Arm
Flow Control / V16 and V17
(Proper setting 12 - 12.5 lbf)



12. Operation

12.1 Operator's Working Position and Operational Flow (Figure 12-1).

Once the box has been filled, close its top flaps and push it between the top and bottom drive belts. Always keep hands in position as shown in **Figure 12-2.** The box will be automatically sealed with adhesive tape on top and bottom box seams. Box then finishes taping process and is released.

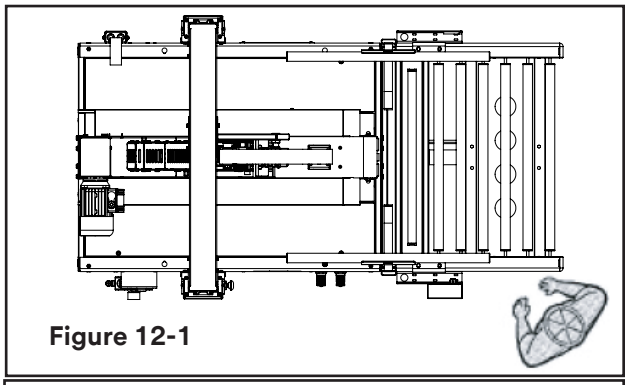


Figure 12-1

12.2 Starting the Machine

Important: Before starting the machine, be sure no tools or objects are on conveyor bed.

Let the machine run without cartons and check its safety devices.

Then start the working cycle.

12.3 Starting Production

After adjusting machine to box dimensions (height-width), let machine run without cartons and check safety devices.

Then start working cycle.

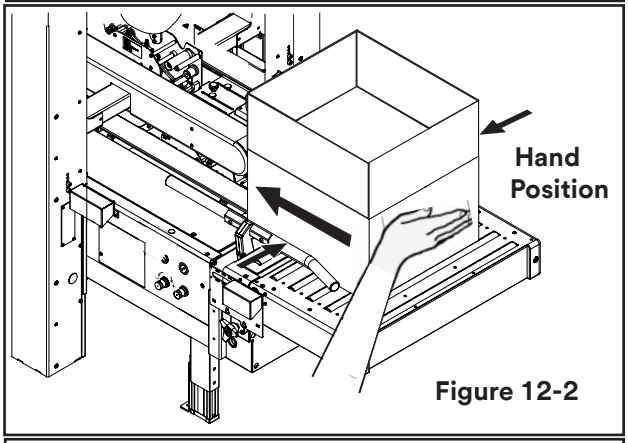


Figure 12-2

12.4 Tape Replacement and Threading

See Manual 2: AccuGlide™ 4 Taping Heads - 2 Inch or 3 Inch. Press the LATCHING EMERGENCY STOP BUTTON.

12.5 Box Size Adjustment

Repeat all the operations shown in **Section 11 - Set-Up/Adjustments.**

12.6 Cleaning

Before carrying out cleaning or maintenance operation, stop the machine by turning OFF (O) switch on main and disconnect pneumatic and electric power **(Figure 12-3).**

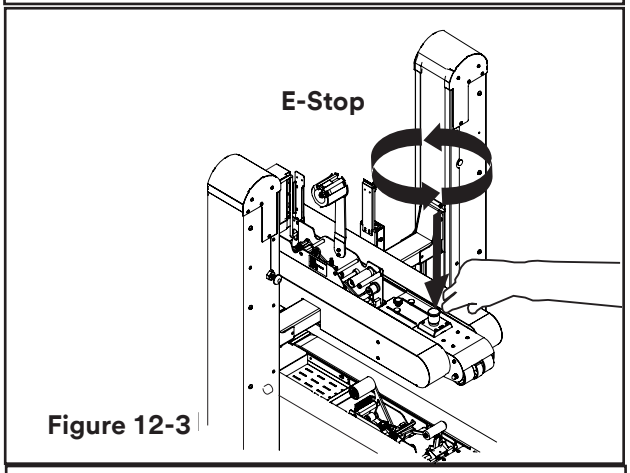


Figure 12-3

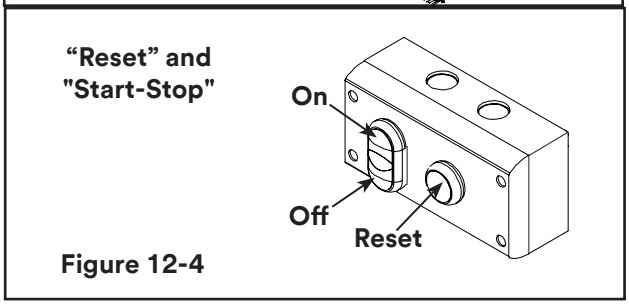


Figure 12-4

12.7 Table of Operation Adjustments - Operator Qualifications

1	Tape loading and threading	1
2	Tape web alignment	1
3	Adjustment/one way tension roller	1
4	Adjustment to box size (H and W)	1
5	Top flap compression rollers	1
6	Adjustment of tape applying spring	1
7	Conveyor bed height adjustment	1
8	Special Adjust-Changing tape leg	2
9	Special Adjust-Column re-position	2

12.8 Safety Devices Inspection

1. Taping units blade guard
2. Latching emergency stop button
3. STOP (OFF) (O) Button

12.9 Trouble Shooting Guide

(also Refer to Factory Settings in **Section 11**)

Problem	Cause	Correction
Drive Belts do not convey boxes	Narrow boxes	Check machine specifications. Boxes are narrower than recommended (causing slippage and premature belt wear).
	Worn Drive Belts	Replace Drive Belts
	Upper Taping Head does not apply enough pressure	Adjust the Upper Drive Assembly Counter Balance Regulator to increase force against top of box.
Drive Belts do not turn	Worn or missing Friction Rings	Replace Friction Rings
	Drive Belt tension too low	Adjust Drive Belt tension
	Electrical disconnect	Check power and electrical plug
	Circuit breaker not at correct setting	Set to correct current value
	Motor not turning	Evaluate problem and correct
Drive Belts break	Worn belt	Replace belt
Squeaking noise as boxes pass through machine	Dry Column Bearings	Lubricate Column Bearings
	Defective Column Bearings	Replace Column Bearings
Tape not centered on box seam	Tape Drum not centered	Reposition Tape Drum
	Centering Guides not centered	Adjust Centering Guides
	Box flaps not of equal length	Check box specifications
Upper Drive Assembly does not move up, moves up slowly or fails to operate	Main air pressure is too low	Disconnect the air supply. Make sure main pressure regulator reads zero. Reconnect air supply and adjust regulator to read 90 PSIG [6.2 bar].
	Defective or incorrect position setting Upper Drive Raising Switch.	Adjust/Replace Raising Switch
	Defective Upper Drive Raising Switch Solenoid Valve	Replace Upper Drive Raising Switch Solenoid Valve
Upper taping head does not move down at the end of Taping Cycle	Upper Assembly Counter Balance Pressure set too high	Adjust Counter Balance Pressure to reduce pressure
	Defective Upper Drive Assembly Counter Balance Regulator	Replace Regulator
	Defective One-Way Valve	Replace One-Way Valve
	Defective Head Raising Solenoid Valve	Replace Solenoid Valve

(*continued*)

12.9 Trouble Shooting Guide *(continued)*

Problem	Cause	Correction
Upper Drive Assembly comes down too fast/hard or fails to operate	Upper Drive Assembly Counter Balance Regulator pressure set too low Defective Upper Drive Assembly Counter Balance Regulator	Adjust Counter Balance Pressure to increase pressure Replace regulator
Centering Guides move slower than normal or fail to operate	Centering Guide Regulator pressure set too low Centering Guide Cylinder Speed Controls need correct adjustment Defective Centering Guide Solenoid Valve/photo eye sensor misaligned with sensor receptor	Adjust Centering Guide Regulator Adjust Speed Controls mounted on Centering Guide Cylinder Replace Valve / Realign Photo Eye Sensor and Sensor Receptacle
Centering Guides don't open 3 seconds after box removed from machine Machine Signals Case Fault Jam after Guides Fail to Open	Centering Guide Photo Eye Sensor "seeing" Guides as they close Centering Guide Photo Eye Sensor incorrect Height Setting	Adjust Height of Photo Eye Sensor lower than Centering Guides Adjust Closing Width of Centering Guides (minimum closing width = 7.124") Adjust Height of Photo Eye Sensor lower than Centering Guides when they are Completely Closed
Can't clear TAM Fault Condition	Sensor incorrect position Sensor Failed Absorption Pad damaged or missing	Re-Position Sensor Replace Replace
Yellow Column Lights Solid and Flashing (also see TAM instructions)	Low Tape (Solid Yellow) Box Jam (Flashing Yellow) Nose switch fault (Flashing Yellow) Exit PE misaligned	Replace Tape Remove jam Press blue reset button and restart machine

(*continued on next page*)

12.9 Trouble Shooting Guide (*continued*)

Problem	Cause	Correction
Tape Incorrectly Cutting	Tape tension too high or too low Tension Roller Binding Blades dull-loose/dry pad/damaged	Adjust Tape Head Tension Loosen or Lubricate Tension Roller Tighten Blade Screws/oil pad/replace blade
Tape Leg too long Tape Leg too long	Cutting Problems (see above) Arm Retract Photo Eye Sensor incorrectly set Arm Retract Photo Eye Sensor incorrectly set Cut-Off Bracket incorrectly releasing/ Timing off	(see above) Re-position Arm Retract Photo Eye Sensor (see above) Re-position Arm Retract Photo Eye Sensor Re-position Bed Senso Check Bracket for Binding
Boxes Damaged	Centering Arms not closing Centering Arms closing and not re-opening Centering Arms moving too slowly	Reduce Control Regulator Pressure Check Air Supply/adjust Check Photo Eye Function Check and Adjiust Air Supply / Flow Control

13. Maintenance and Repairs

13.1 Safety Measures (see section 3)

Carrying out maintenance and repairs may imply the necessity to work in dangerous situations.

13.2 Tools and Spare Parts Supplied with the Machine

See Spare Parts Order Section.

13.3 Recommended Frequency of Inspection and Maintenance Operations (Refer to the end of this section for additional detail)

Operation	Frequency	Qualification	Sections
Inspection safety features	daily	1	13.4
Cleaning of machine	weekly	1	13.5
Cleaning of cutter blade	weekly	2	13.6
Oiling of felt pad	weekly	2	13.7
Lubrication	monthly	2	13.7
Lubrication - Column Bearings	6 months	2	N/A
Blade replacement	when worn	2	See Manual 2

13.4 Inspections to be Performed Before and after every Maintenance Operation

Before every maintenance operation, Turn OFF (O) pneumatics and unplug machine power cord. During maintenance operations, only properly trained and qualified personnel must work on the machine. After every maintenance operation, check the safety devices.

Warning

- To reduce the risk associated with mechanical and electrical hazards:
- Read, understand, and follow all safety and operating instructions before operating or servicing the case sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.
- To reduce the risk associated with pinches, entanglement and hazardous voltage:
- Turn pneumatic and electrical supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

13.5 Check Efficiency of Safety Features

1. Blade guard assembly upper taping head
2. Blade guard assembly lower taping head
3. Latching Emergency stop button with mechanical lock (interrupt supply of electrical power)
4. Safety guards top drive belts

13.6 Cleaning of Machine

Qualification 1

A weekly cleaning with dry rags or diluted detergents is necessary. Cardboard boxes produce a significant quantity of dust and paper chips when processed or handled in case sealing equipment. If this dust is allowed to build up on machine components, it can cause component wear and over-heating of drive motors. The dust build up is best removed from the machine with a vacuum cleaner. Depending on the number of cartons processed, this cleaning should be done weekly. Excessive build-up that cannot be removed by vacuuming should be removed with a damp cloth.

13.7 Cleaning of Cutter Blade

Qualification 2

Should tape adhesive build-up occur, carefully wipe clean with oily cloth or brush. Oil prevents the build-up of tape adhesive

13.8 Recommended Lubrication

AFB-LF

13.9 Tape Application Monitor (Optional)

The Tape application monitor requires little maintenance. Sensors should be checked to ensure they are tight and free from dust. The sensor wheel on the taping head should also be checked to ensure it is clean and rotates with the one way tension roller.

13. Maintenance and Repairs (Cont.)

13.4 Inspections to be Performed Before and after every Maintenance Operation

Before every maintenance operation, Turn OFF (O) pneumatics and unplug machine power cord. During maintenance operations, only properly trained and qualified personnel must work on the machine. After every maintenance operation, check the safety devices.

13.6 Cleaning of Machine

Qualification 1

A weekly cleaning with dry rags or diluted detergents is necessary. Cardboard boxes produce a significant quantity of dust and paper chips when processed or handled in case sealing equipment. If this dust is allowed to build up on machine components, it can cause component wear and over-heating of drive motors. The dust build up is best removed from the machine with a vacuum cleaner. Depending on the number of cartons processed, this cleaning should be done weekly. Excessive build-up that cannot be removed by vacuuming should be removed with a damp cloth.

13.7 Cleaning of Cutter Blade

Qualification 2

Should tape adhesive build-up occur, carefully wipe clean with oily cloth or brush**.** Oil prevents the build-up of tape adhesive

13.8 Recommended Lubrication

AFB-LF

13.9 Tape Application Monitor (Optional)

The Tape application monitor requires little maintenance. Sensors should be checked to ensure they are tight and free from dust. The sensor wheel on the taping head should also be checked to ensure it is clean and rotates with the one way tension roller.

13.10 Box Drive Belt Replacement

Note – **3M** recommends replacement of drive belts in pairs, especially if belts are unevenly worn.

Lower Drive Belts - Figure 13-1

1. Remove and retain center plate **(A)** and four (4) screws.
2. Remove and retain side cover **(B)** and fasteners.
3. Loosen, but do not remove lock nut **(C)**.
4. Loosen tension screw **(D)** until all belt tension is removed.
5. Pull belt splicing pin **(E)** out and remove belt.
6. Place new belt over pulleys with laced splice at top. Insert splicing pin.

Note – Pin must not extend beyond edge of belt.

7. Adjust belt tension as explained in “Adjustments – Box Drive Belt Tension”.
8. Replace side cover and center plates and secure with original fasteners.

Upper Drive Belts - Figure 13-2

1. Remove and retain center plate **(A)** and four (4) screws and plain washers.
2. Loosen, but do not remove lock nut **(B)**.
3. Loosen tension screw **(C)** until all tension is removed from belt.
4. Remove four (4) screws on side of belt guard **(D)** and slide belt guard out to expose belt.
5. Pull belt splicing pin **(E)** out and remove belt.
6. Place new belt over pulleys with laced splice at top. Insert splicing pin.

Note – Pin must not extend beyond edge of belt.

7. Adjust belt tension as explained in “Adjustments – Box Drive Belt Tension”.
8. Replace front cover and belt

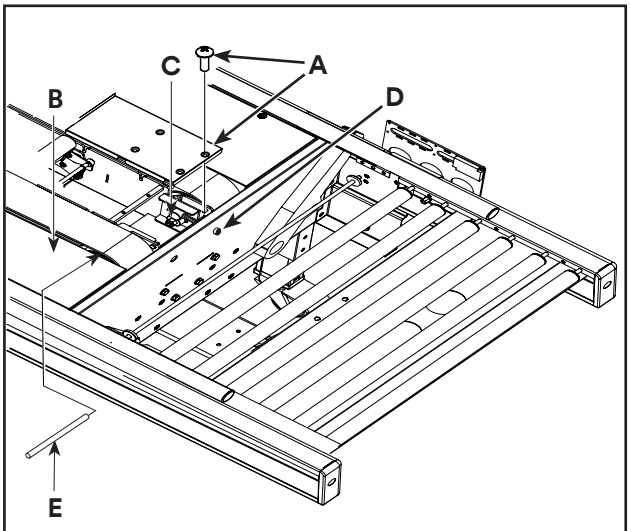


Figure 13-1 Lower Drive Belt Replacement

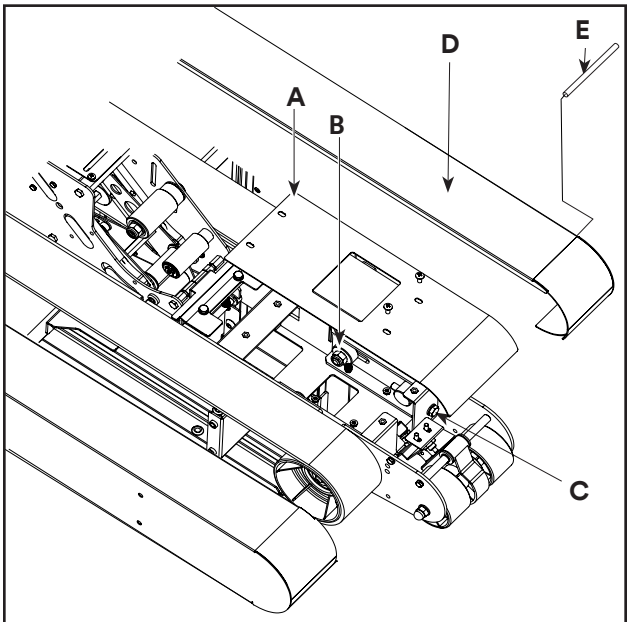


Figure 13-2 Upper Drive Belt Replacement

⚠ Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**

- Turn pneumatic and electrical supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

13. Maintenance and Repairs *(continued)*

13.11 Box Drive Pulley Rings

Before installing a new belt, check the orange plastic drive pulley rings for wear. If torn, broken, or worn smooth, replace the rings **(Figure 13-3).**

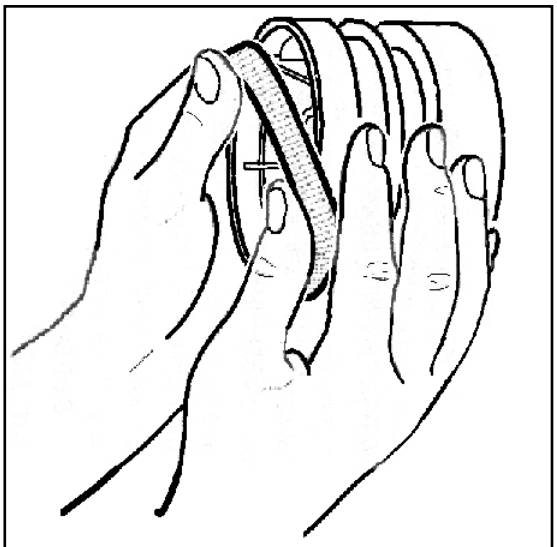


Figure 13-3

13.12 Box Drive Belt Tension

The four (4) continuously moving drive belts convey boxes through the tape applying mechanism. The box drive belts are powered by an electric gear motor.

Tension adjustment of these belts may be required during normal operation (for Belt Tension Adjustment - refer to **Box Drive Belt Replacement**). Belt tension must be adequate to positively move the box through the machine and the belts should run fully on the surface of the pulleys at each end of the frame. The idler pulleys on the infeed end are adjusted in or out to provide proper belt tension. Each belt is adjusted separately. Belt tension is obtained by tightening the adjustment screw so that a moderate pulling force of 3.5kg [7lbs.] applied at the mid span, as shown in **Figure 13-4,** will deflect the belt 25mm [1 inch]. This will assure positive contact between the belt and the drive pulley on the discharge end of the drive assembly.

⚠ Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn pneumatic and electrical supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

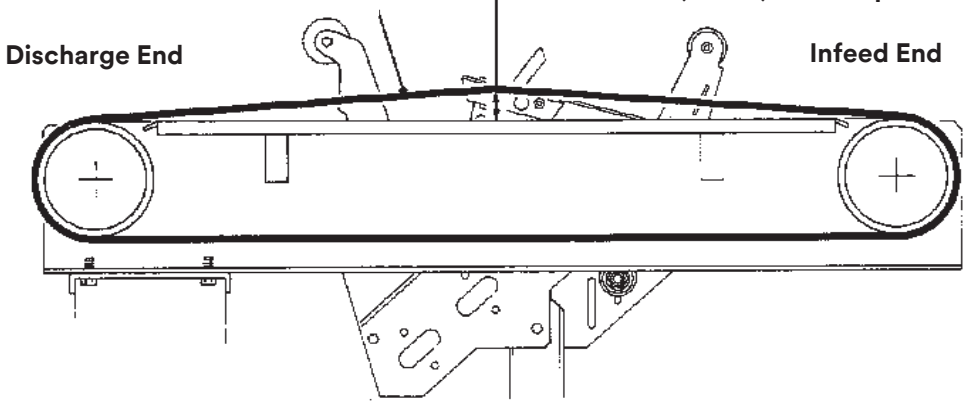


Figure 13-4 Box Drive Belt Tension Adjustment

Refer to **Figure 13-5 and 13-6** and adjust belt tension as follows:

1. Remove and retain center plates/ front cover and four (4) screws.
2. Loosen, but do not remove, the lock nut with an open end wrench.
3. Reset the tension on the drive belts as needed. Adjust the tension screws in (clockwise) to **increase** tension or out (counterclockwise) to **decrease** tension. Tighten lock nut to secure tension setting.
4. Replace center plates/front cover and secure with original screws.

Warning

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn pneumatic and electrical supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

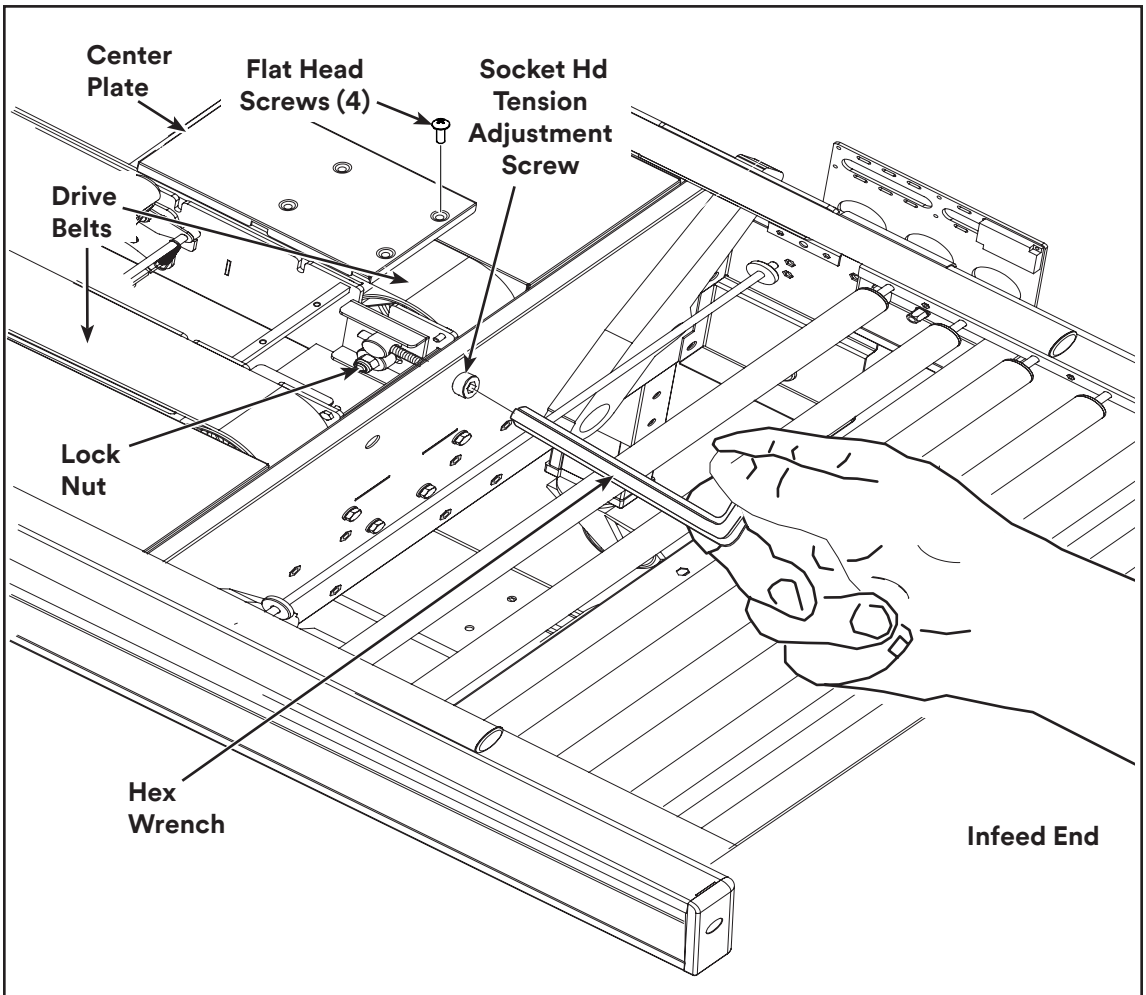


Figure 13-5 Box Drive Belt Tension Adjustment, Lower Belts (Infeed End)

Taping Head Adjustments –

Refer to Manual 2

Tape Web Alignment	– Manual 2
Tape Drum Friction Brake	– Manual 2
Applying Mechanism Spring	– Manual 2
One-Way Tension Roller	– Manual 2
Tape Leg Length Adjustment	– Manual 2
Extended Plate Bumper	– Manual 2

Warning

- **To reduce the risk associated with mechanical and electrical hazards:**
- Turn pneumatic and electrical supplies off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

Warning

- **To reduce the risk associated with sharp blade hazards:**
- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

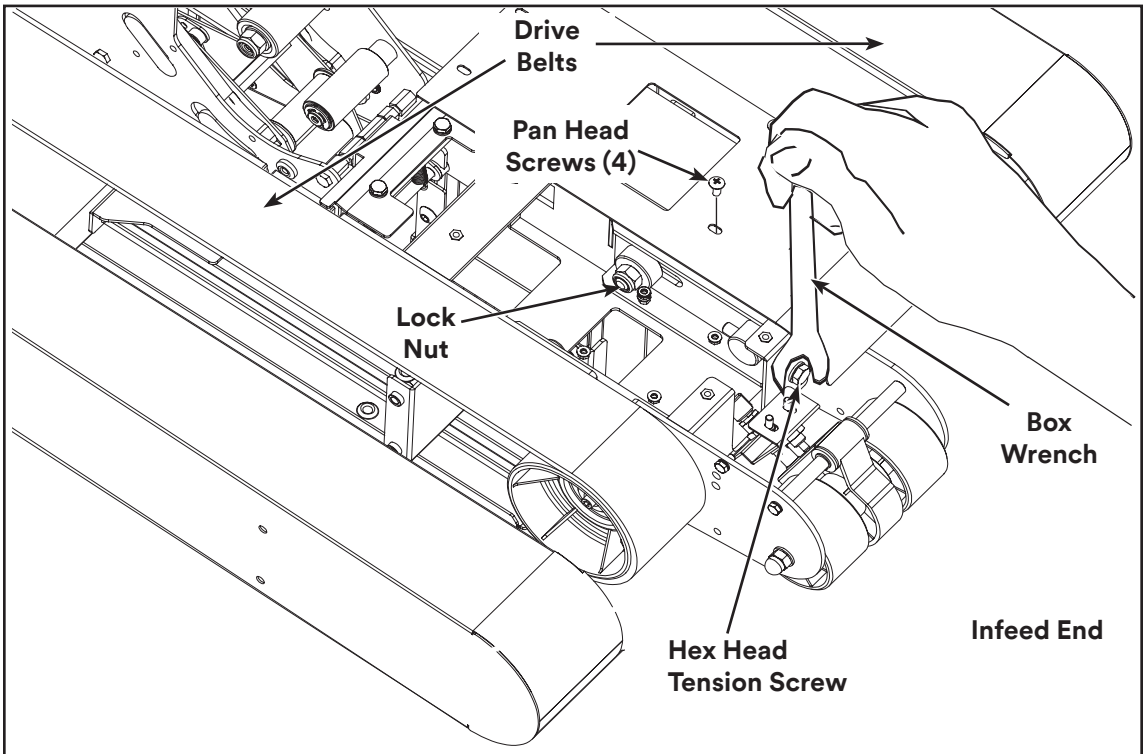


Figure 13-6 Box Drive Belt Tension Adjustment, Upper Belts (Infeed End)

13. Maintenance and Repairs *(continued)*

Inspection	Frequency	Skill Level	Lubricant
Safety Features	**Daily**	**2**	
1 Mechanical guarding (All) in place, not damaged			NA
2 E-stop properly working, not damaged.			NA
3 Mechanical safety latches Upper assembly - working, not damaged			NA
4 Power cords (All).			NA
5 Safety labels Visible, not damaged			NA
6 Main pneumatic exhaust valve, properly working, not damaged.			NA
Taping Head (*)	**Weekly**	**2**	
1Tension Roller, Proper setting, Binding			NA
2Tape Drum tension setting, Binding			NA
3 Cutter Blade, Clean (replace if worn)			NA
4 Felt Pad, Lubrication			Food Safe Grease
5 Wipers, (replace when worn)			NA
6 Spring Post(s) Cutoff bracket Spring, Lubrication			General Purpose Grease
7 Spring Post(s) Main mechanism Spring, Lubrication			General Purpose Grease
8 Rollers, Damage, Binding (replace when worn)			NA
9 Bumpers, Damage (replace when worn)			NA
General Machine	**Weekly**	**2**	
1Tape heads Proper threading, Proper installation			NA
Main spring with red stripe in lower position			NA
Main spring with no marking in upper position			NA
Upper head latch engaged			NA
2 Sensors and reflectors on the bed frame, properly functioning, not damaged			NA
TAM (if applicable) “tape dispensing” sensor beam centered on the reflective lobe of the disk, no damaged or missing reflective segments.			
3 Pneumatic regulators at recommended settings (main, box centering, upper assembly counter-balance)			NA
4 Box centering move freely through the set range (7.0” to preset Max.width)			NA
5 Drive Belts (Replace if worn or damaged)		NA	
6 Upper assembly actuator switch, proper functio, not damaged (replace if worn)			NA
operational test, depress head raise actuator switch, check for Smooth motion and expected rate when traveling up and down.			
7 Pushbuttons, Proper function, undamaged (Start/Stop, Reset)			NA
8 Run test, re-start machine, listen for unusual sounds (i.e. noisy drive system(s), air leaks, etc..)			
9 Box seal test, machine running, taping head(s) installed with tape, seal both an empty small box and a larger heavier box, inspect seal.			
Cleaning – Machine (**)	**Weekly**	**2**	
1 Upper Assembly			NA
2 Lower bed (i.e. bed covers, belts)			NA
3 Sensors			NA
4 Interior Base Frame			NA
Other			
1 Drive Sprockets and Chains (Lower/Upper) Lubricate	200 Hours	2	General Purpose Grease
2 Box Centering Sprocket and Chains Lubricate	600 Hours	2	General Purpose Grease
3 Column Bearings/Rails	6 months	2	NA
4 Orange Belt Friction Rings (Inspect when replacing Drive belts)	When Worn	2	NA

*** For high usage applications it’s recommended to replace complete new/rebuilds taping heads into the machine**
****Use vacuum to remove corrugate dust (Do not use compressed air for cleaning)**

13. Maintenance and Repairs *(continued)*

13.13 List of the Maintenance Operations

Date:	Description of Operation

14. Additional Instructions

14.1 Information for Disposal of Machine (ELV)

The machine is composed of the following materials:

- Steel structure
- Nylon rollers
- Drive belts in PVC
- Nylon pulleys

For machine disposal, follow the regulations published in each country.

14.2 Emergency Procedures

In case of danger/fire: Disconnect plug of power cable from power supply **(Figure 14-1).**

IN CASE OF FIRE

Use a fire extinguisher that is rated for electrical fires **(Figure 14-2).**

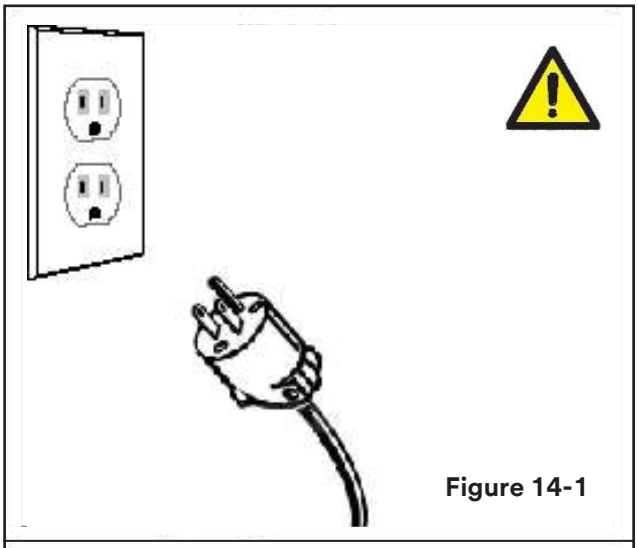


Figure 14-1

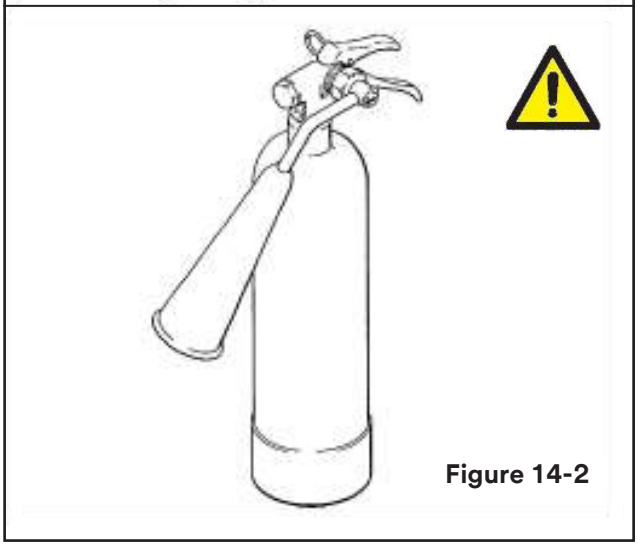


Figure 14-2

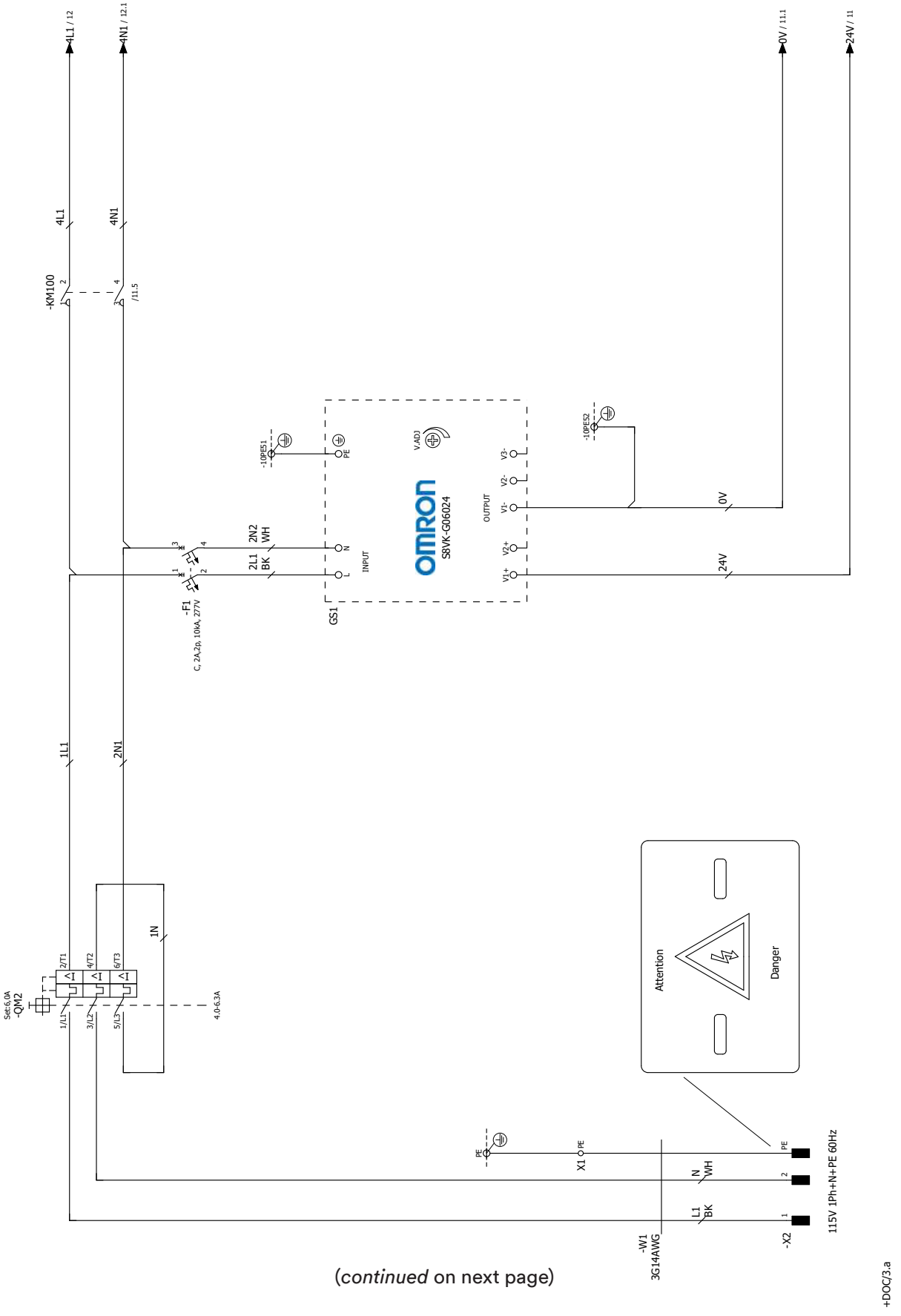
15. Additional Information

15.1 Statement of Conformity

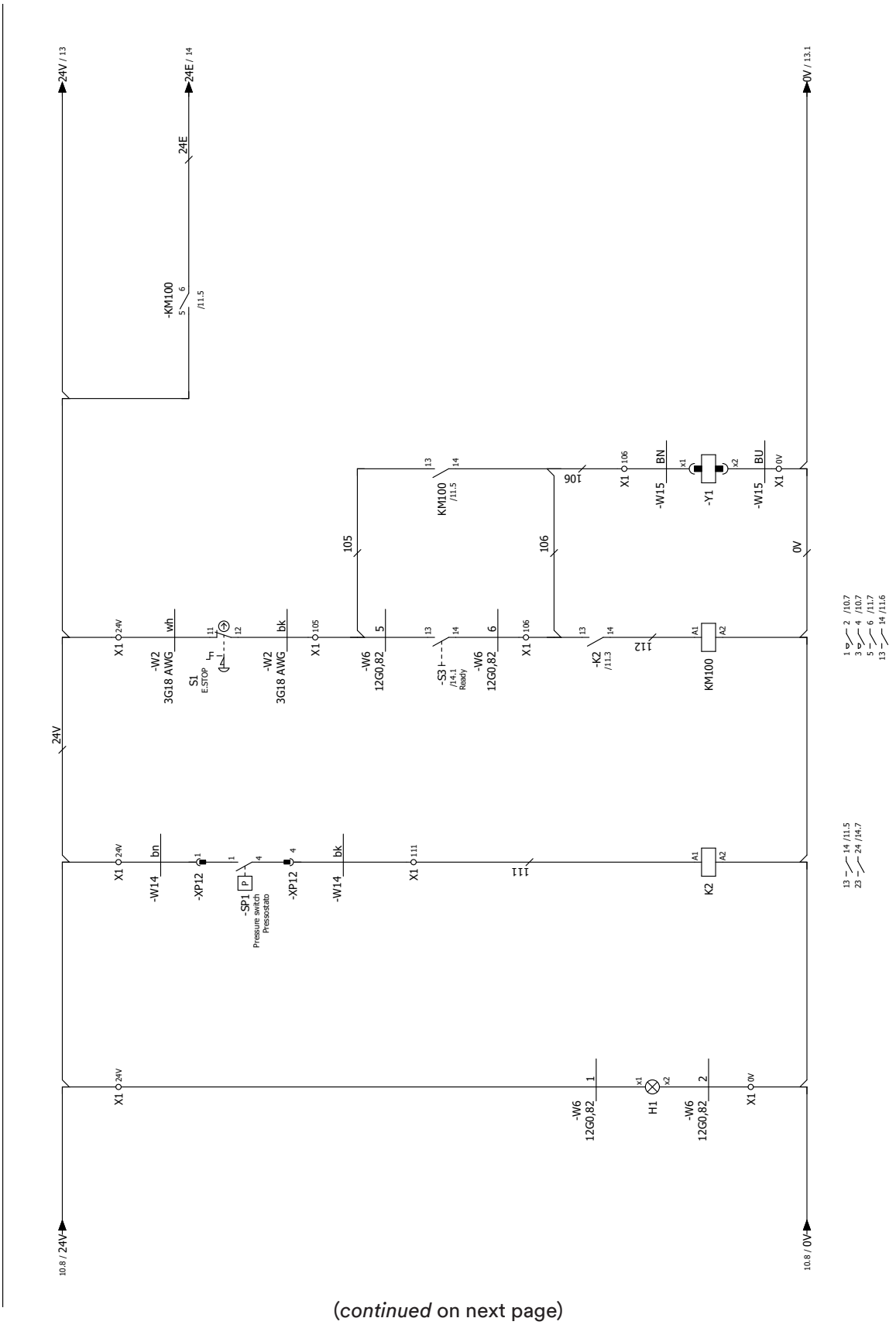
N/A

15.2 Emission of Hazardous Substances

Nothing to report



(*continued* on next page)



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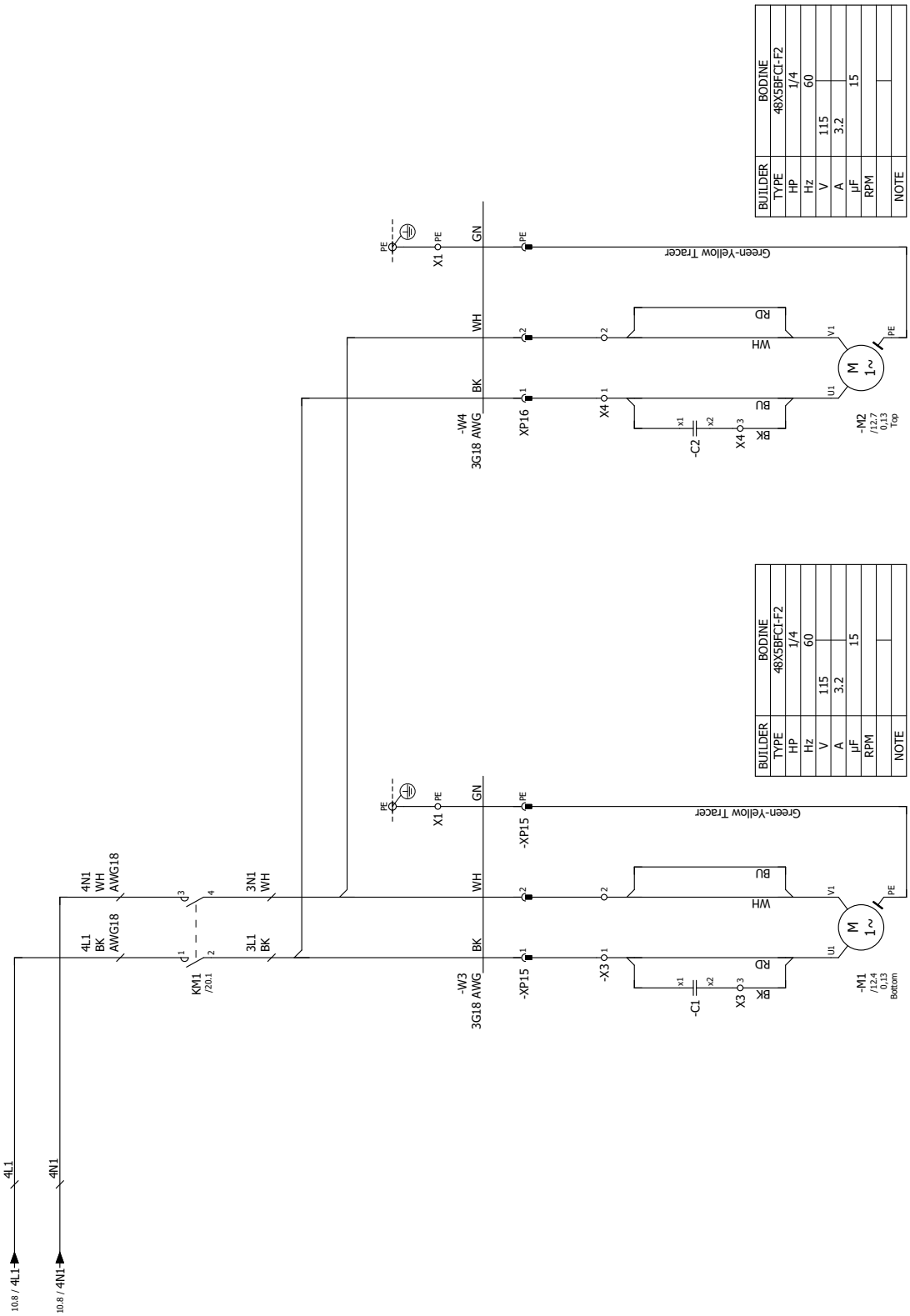

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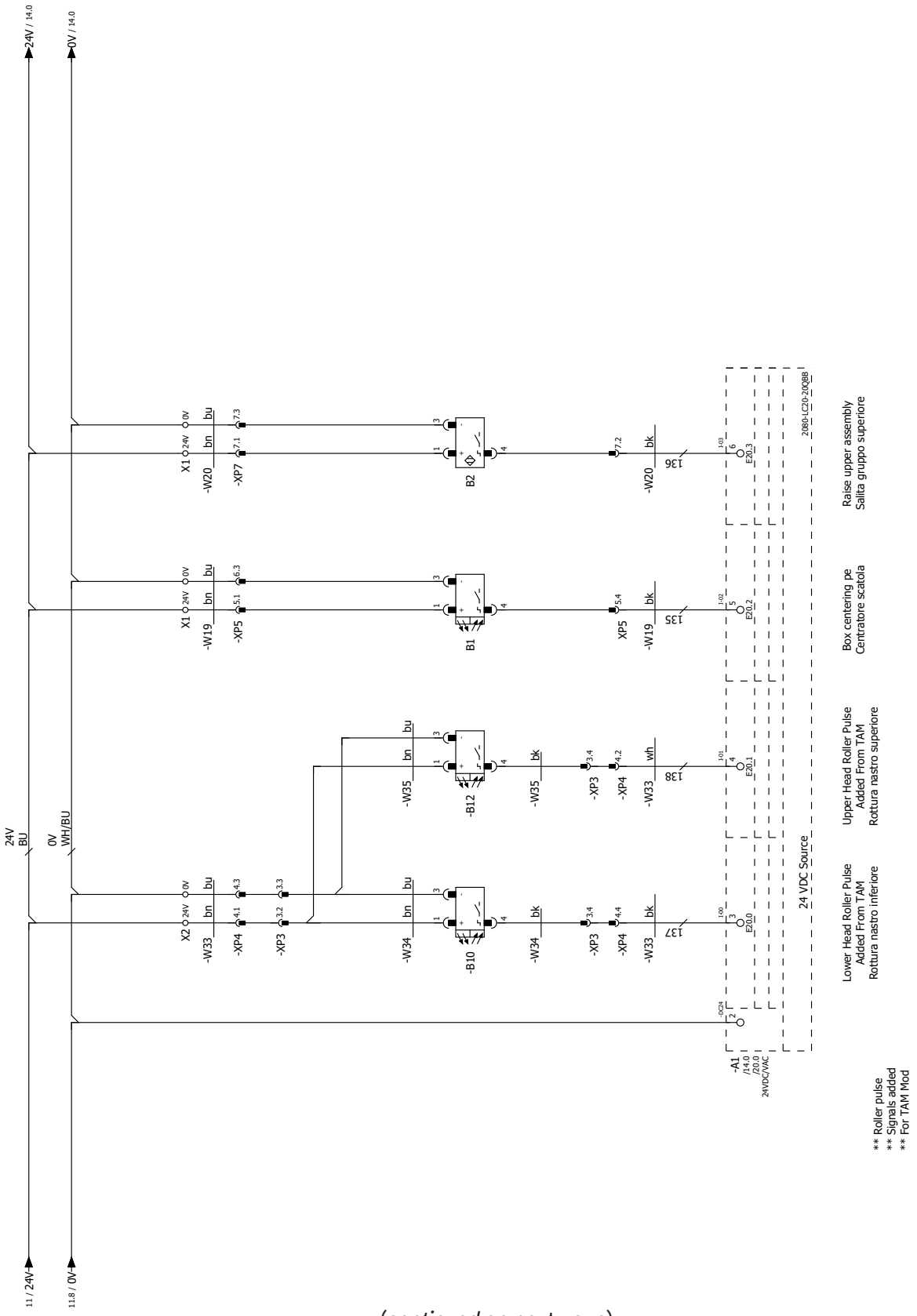

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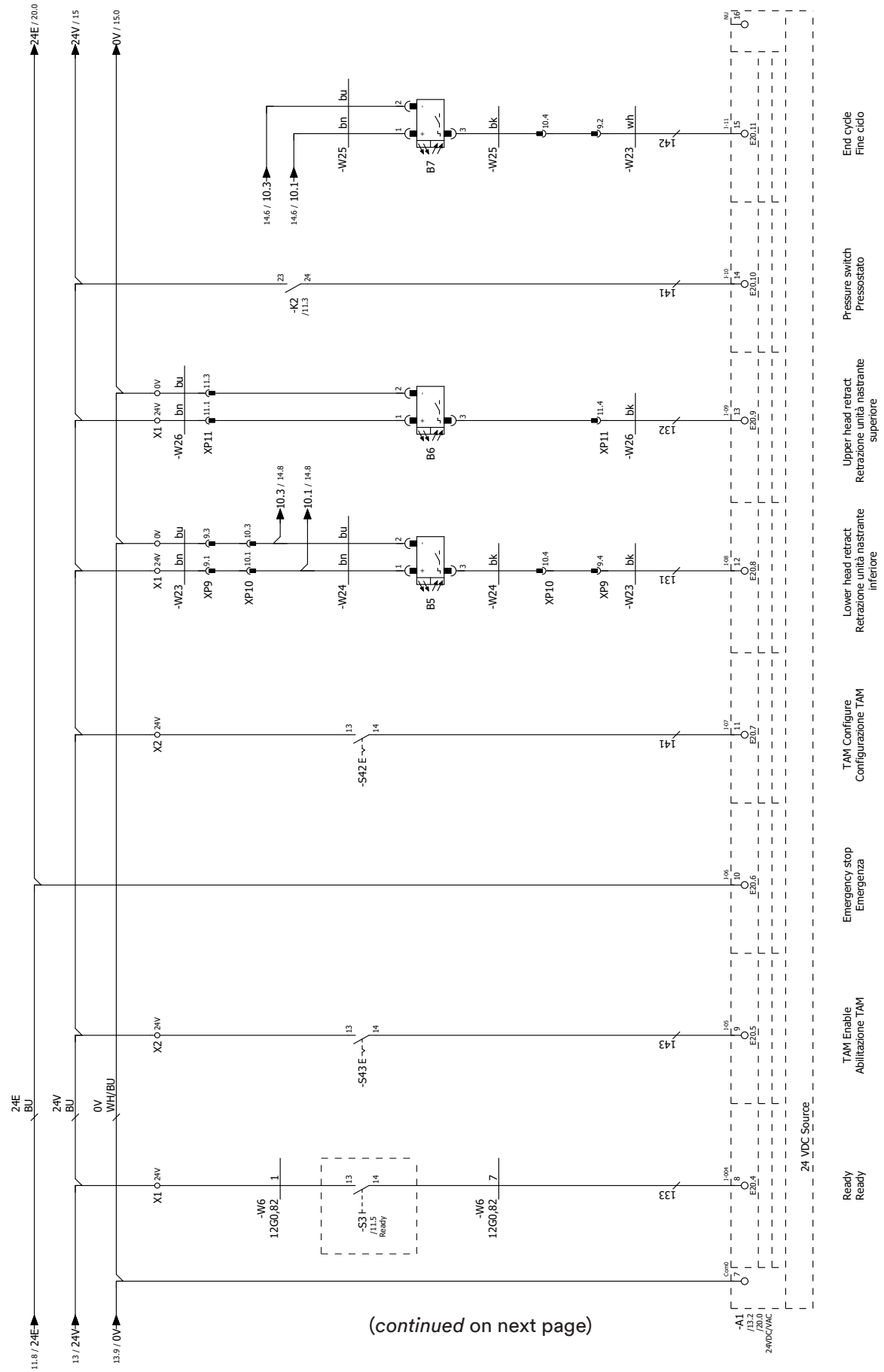
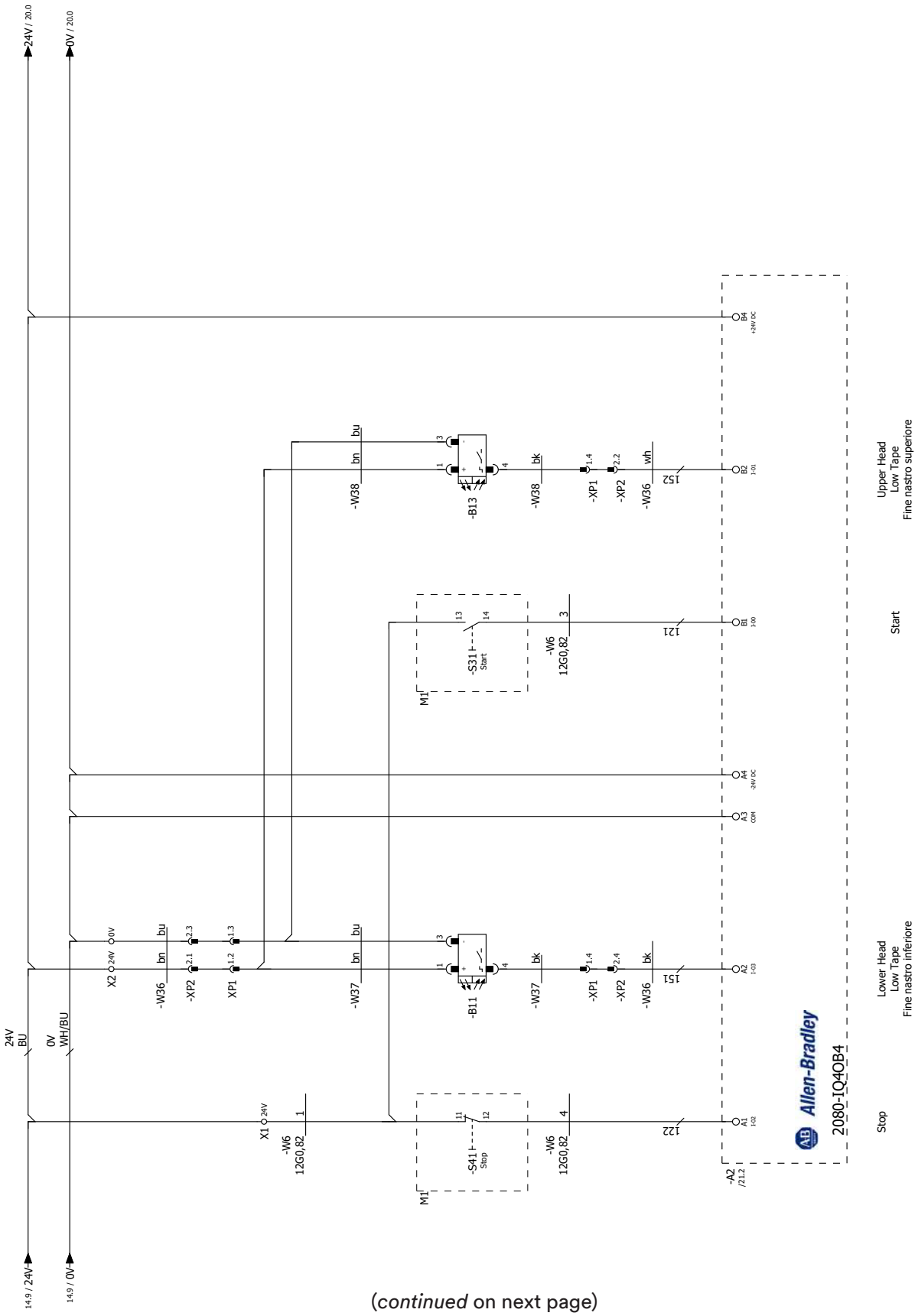


(*continued* on next page)



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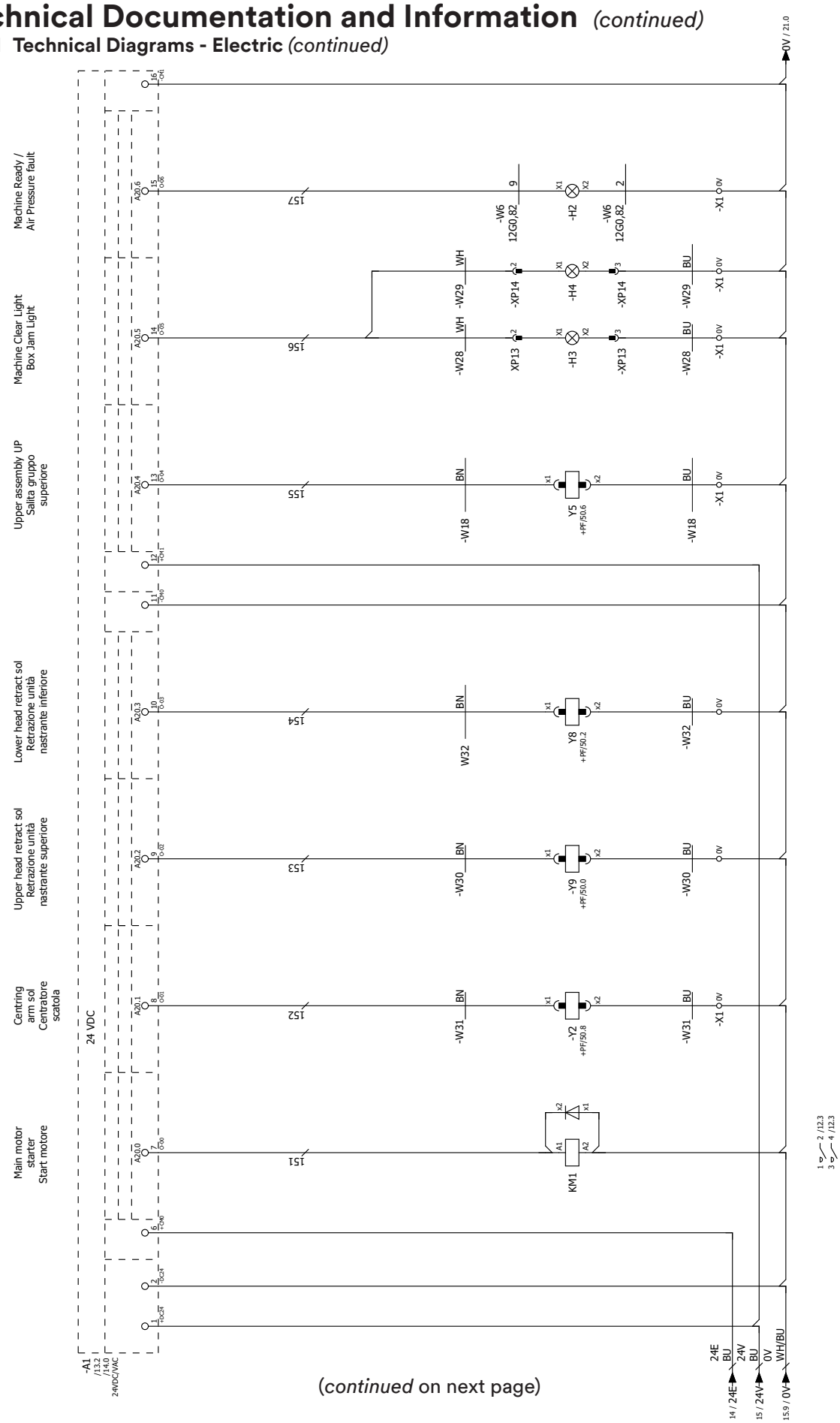
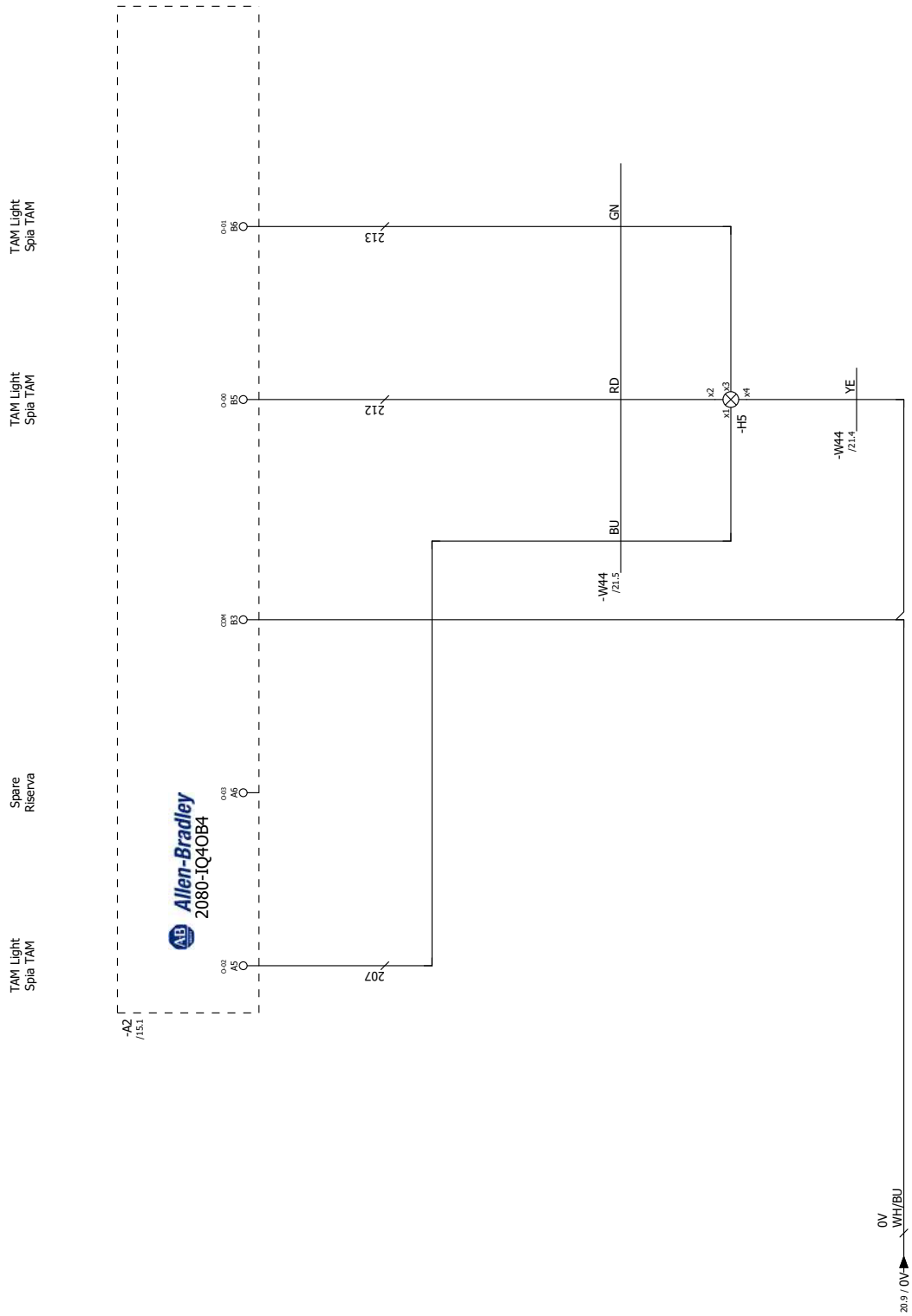
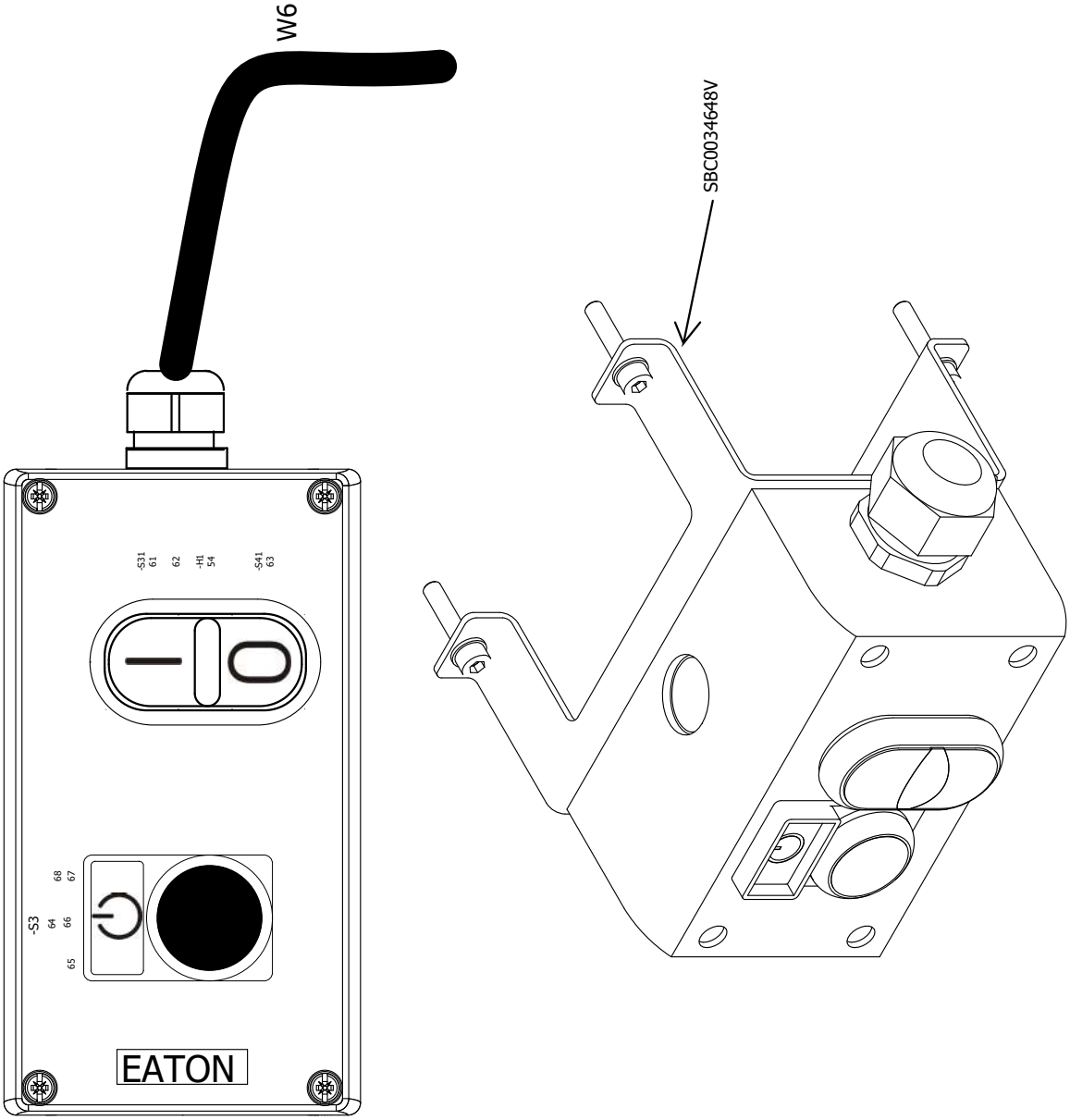

Machine Ready / Air Pressure fault
Machine Clear Light Box Jam Light
Upper assembly UP Salita gruppo superiore
Lower head retract sol Retrazione unità nastrante inferiore
Upper head retract sol Retrazione unità nastrante superiore
Centring arm sol Centratore scatola
Main motor starter Start motore
24 VDC
-A1
-H2
-H4
-H3
-Y5
-Y8
-Y9
-Y2
KM1
-W6 12G0,82
-W29
-W28
-W18
-W32
-W30
-W31
-XP14
-XP13
-X1
0V / 21.0
14 / 24E
15 / 24V
15.9 / 0V
24E BU
24V BU
0V WH/BU
(continued on next page)



(*continued* on next page)

16.1 Technical Diagrams - Electric *(continued)*



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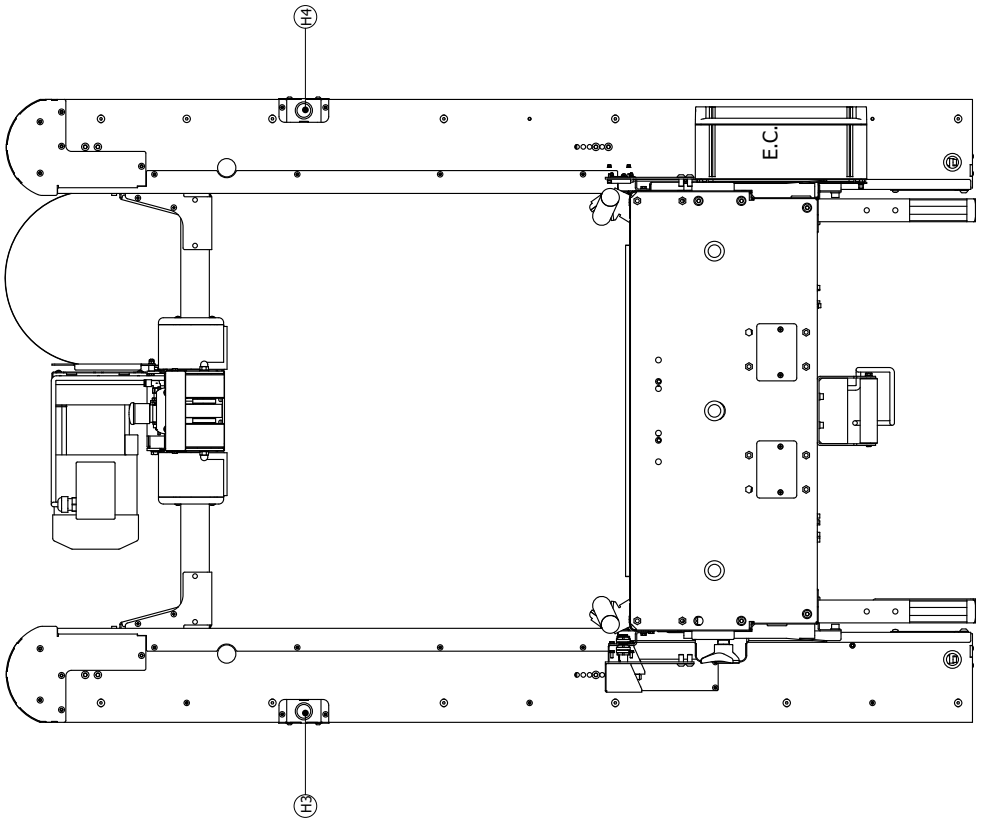

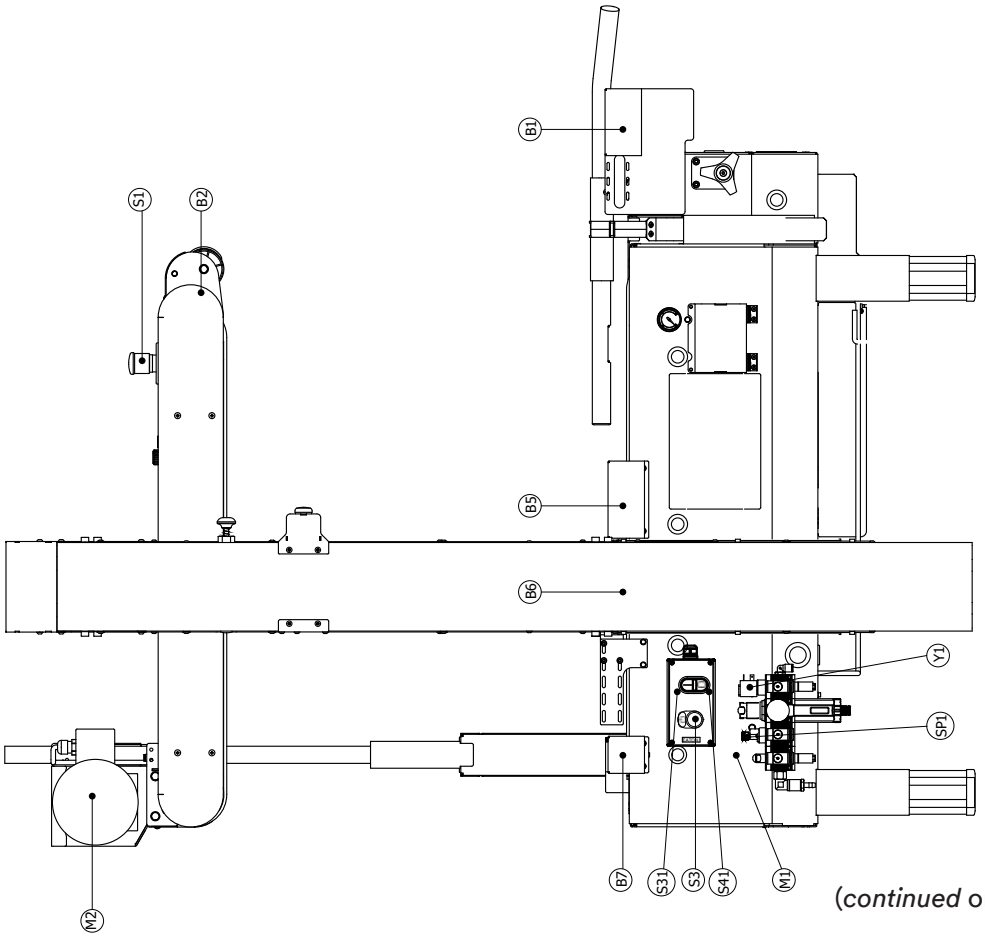

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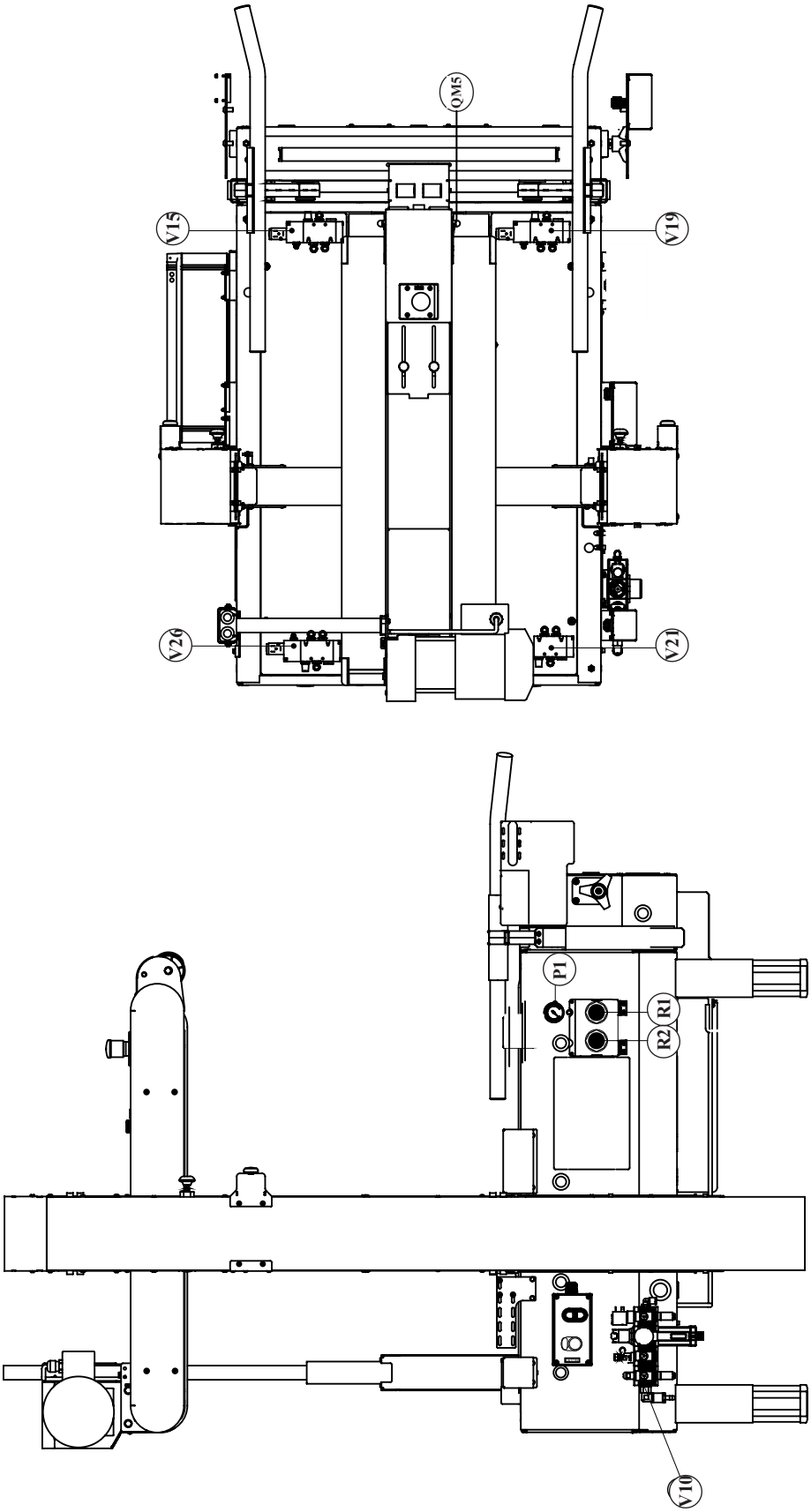
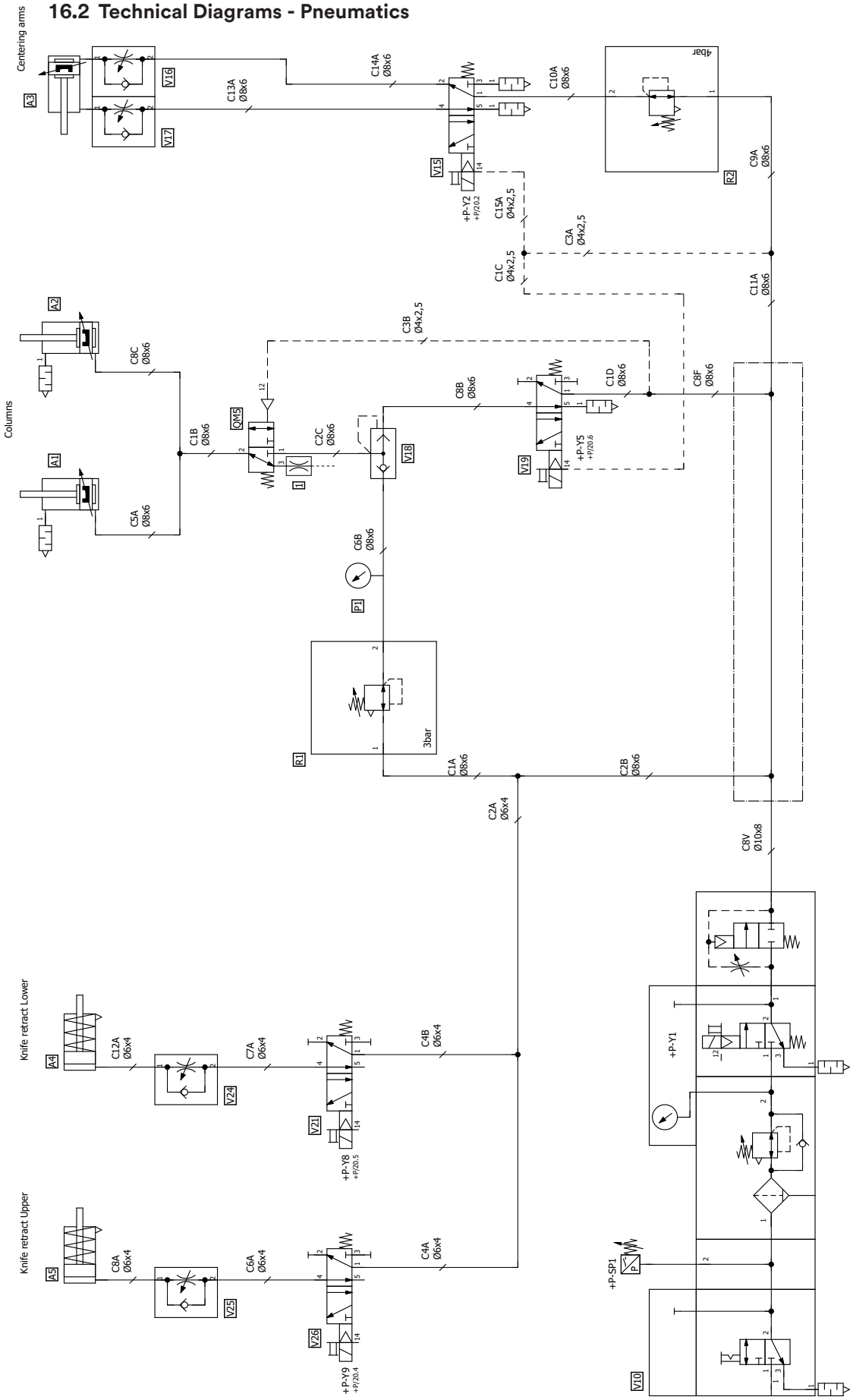
16.1 Technical Diagrams - Electric *(continued)*



(Pneumatics on next page)

16.2 Technical Diagrams - Pneumatics



16.3 Spare Parts Order

Replacement Parts Ordering Information and Service

Refer to the first page of this instruction manual “Replacement Parts and Service Information”.

Order parts by quoting the following information:

(Refer to the Identification Plate on the Machine)

- Machine Model
- Serial Number
- Figure Number
- Position
- 3M Part Number (11 Digits)
- Description
- Quantity

Refer to **Manual 2** for recommended taping head spare parts.

Important!
The machine is constantly revised and improved by our designers. The spare parts catalogue is also periodically updated. It is very important that all the orders of spare parts make reference to the serial number of the machine (located on the identification plate on the machine).

The manufacturer reserves the right to modify the machine at any time without notice.

Spare Parts:
7000r-7000r3 HS Pro
Random High Speed Case Sealer

It is suggested that the following spare parts be ordered and kept on hand:

7000r-7000r3 HS Pro

Qty.	3M-Part Number	Description
2	78-8137-6303-0	Belt-Drive w/Hook

Spare Parts Kit:

7000r HS - Part Number 78-0025-0236-3
7000r3HS - Part Number 78-0025-0237-1

Label Kit:

In the event that any labels are damaged or destroyed, they must be replaced to ensure operator safety. A label kit, part number 78-0025-0239-7, is available as a stock item. It contains all the safety labels used on the **7000r-7000r3 HS Pro** Random High Speed Case Sealer.

Tool Kit:

A tool kit, part number 78-0025-0238-9, is supplied with the machine as a stock item. The kit contains the necessary open end and hex socket wrenches for use with the metric fasteners on the case sealer.

A threading tool, part number 78-8076-4726-4 contained in above kit is also available as a replacement stock item.

Replacement Parts Ordering Information and Service:

Refer to the first page of this instruction manual “Replacement Parts and Service Information”.

7000r-7000r3 HS Pro Random High Speed Case Sealer, Type 22100 Frame Assemblies

To Order Parts:

1. Refer to first illustration, Frame Assemblies, for the Figure Number that identifies a specific portion of the machine.
2. Refer to the appropriate Figure or Figures to determine the parts required and the parts reference number.
3. The Parts List that follows each illustration, includes the Reference Number, Part Number and Part Description for the parts on that illustration.

Note – The complete description has been included for standard fasteners and some commercially available components. This has been done to allow obtaining these standard parts locally, if desired.

4. Order parts by Part Number, Part Description and Quantity required. Also include the model/machine name, machine type, and serial number that are located on the identification plate.
5. Refer to the first page of this instruction manual **"Replacement Parts and Service Information"** for replacement parts ordering information.

Important – Not all the parts listed are normally stocked items. Some parts or assemblies shown are available only on special order. Contact **3M**/Tape Dispenser Parts to confirm item availability.

Options and Accessories:

For additional information on the options and accessories listed below - contact your 3M Representative.

Part Number	Option / Accessory
70-0064-2998-2	Caster Kit Attachment
70-0067-5966-9	Conveyor Extension Attachment
70-0099-2003-7	Accuglide™ V HSP 3" Control Side w/Blade Retract
70-0099-2009-4	Accuglide™ V HSP 3" Opposite Side w/Blade Retract
70-0075-1426-1	7000r HS Tape Application Monitor (TAM - Factory Installed)

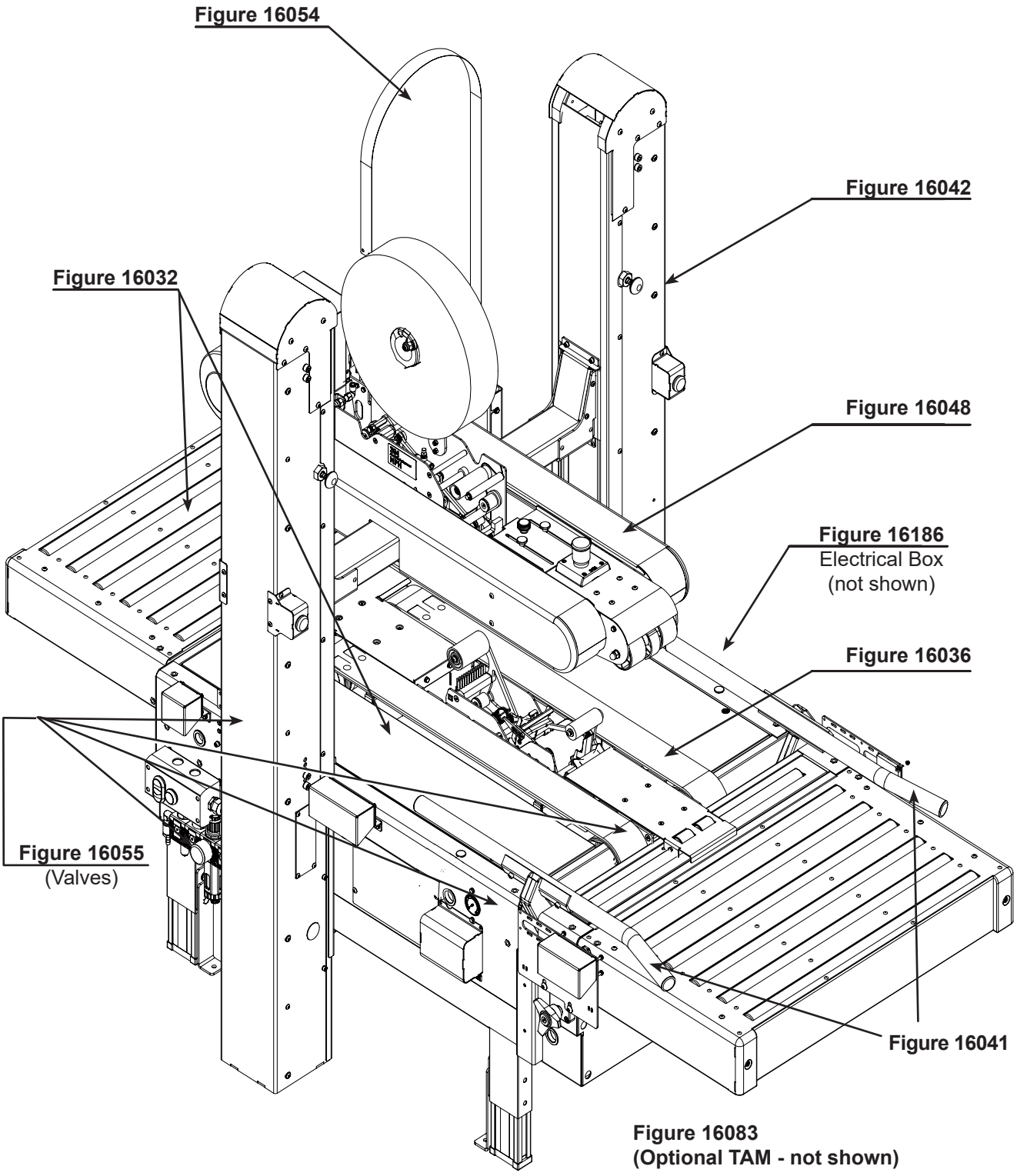


Figure 16083
(Optional TAM - not shown)

Frame Assemblies

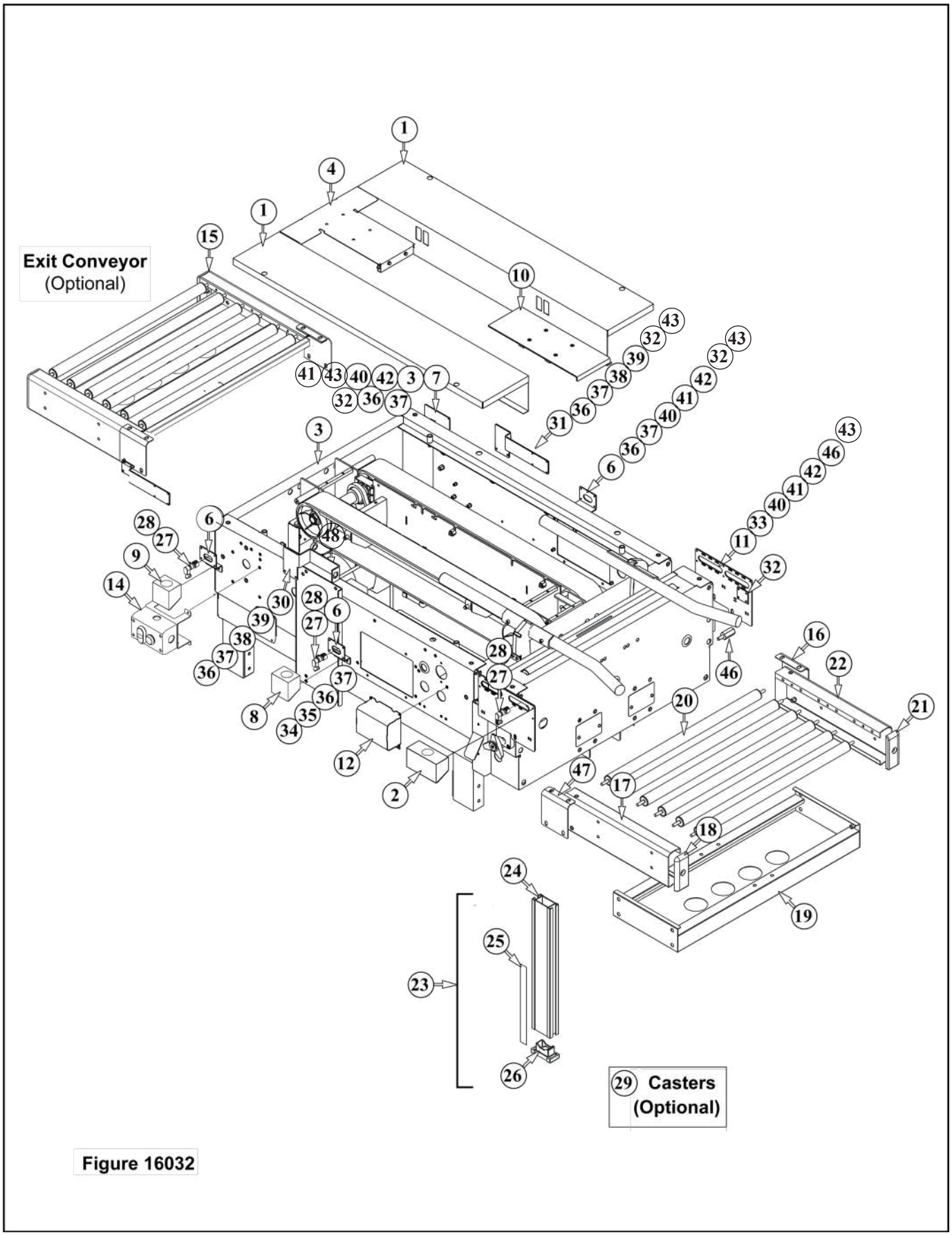


Figure 16032

Figure 16032

Ref. No.	3M Part No.	Description
16032-1	78-8137-6329-5	Side Sliding Plane
16032-2	78-8137-7729-5	Cover W/Nutsers
16032-3	78-8137-8452-3	Machine Frame
16032-6	78-8137-8241-0	Support - Photocell
16032-7	78-8137-8243-6	Bracket - Photocell
16032-8	78-8137-8263-4	Cover - Photocell
16032-9	78-8137-8253-1	Cover - Photocell
16032-10	78-8137-7997-8	Infeed Plate
16032-11	78-8137-8455-6	Bracket
16032-12	78-8137-8456-4	Cover
16032-14	78-8137-8402-8	Pushbutton Station
16032-15	78-8137-7723-8	Rollers Bed Assembly
16032-16	78-0025-655-4	Bracket - Joining
16032-17	78-8137-7869-9	Shoulder - Left
16032-18	78-8076-4512-8	Cap - Front Left
16032-19	78-8137-3600-2	Bracket - Roller Assembly
16032-20	78-8137-3601-0	Roller Assembly
16032-21	78-8076-4511-0	Cap - Front Right
16032-22	78-8137-7867-3	Right Shoulder
16032-23	78-8137-6373-3	Leg – Inner Assembly
16032-24	78-8137-6287-5	Leg - Inner
16032-25	78-8060-8481-6	Label - Height
16032-26	78-8137-0641-9	Pad - Foot
16032-27	78-8137-7958-0	Photo eye - Polarized
16032-28	78-8137-7714-7	Fitting - Photo Eye
16032-29	70-0064-2998-2	Casters / 80 (Optional)
16032-30	78-0025-0751-1	Bracket - Photocell
16032-31	78-0025-0752-9	Bracket - Photocell
16032-32	78-8076-5057-3	Reflector
16032-33	78-8129-6124-7	M8 X 16 Fastener
16032-34	78-8005-5740-3	M4 Flat Washer
16032-35	78-8010-7157-8	M4 X 10 Fastener
16032-36	78-8005-5741-1	M5 Washer
16032-37	26-1003-5820-4	M5 X 12 Fastener
16032-38	78-8100-0952-8	M5 X 14 Fastener
16032-39	78-8010-7417-6	Nut M5
16032-40	78-8076-4538-3	M3 Flat Washer
16032-41	78-0025-0614-1	M3 X 12 Fastener
16032-42	78-8059-5517-2	M3 Self-Locking Nut
16032-43	78-8137-3716-6	M3 X 10 Fastener
16032-44	78-8094-6381-9	M4 X 15 Fastener
16032-45	78-8010-7416-8	M4 Nut
16032-46	78-0025-0654-7	Spacer - Hex Photo Eye Bracket
16032-47	78-0025-0656-2	Bracket - Conveyor 7000r-HS LH
16032-48	78-8137-8530-6	Sensor - Right Angle

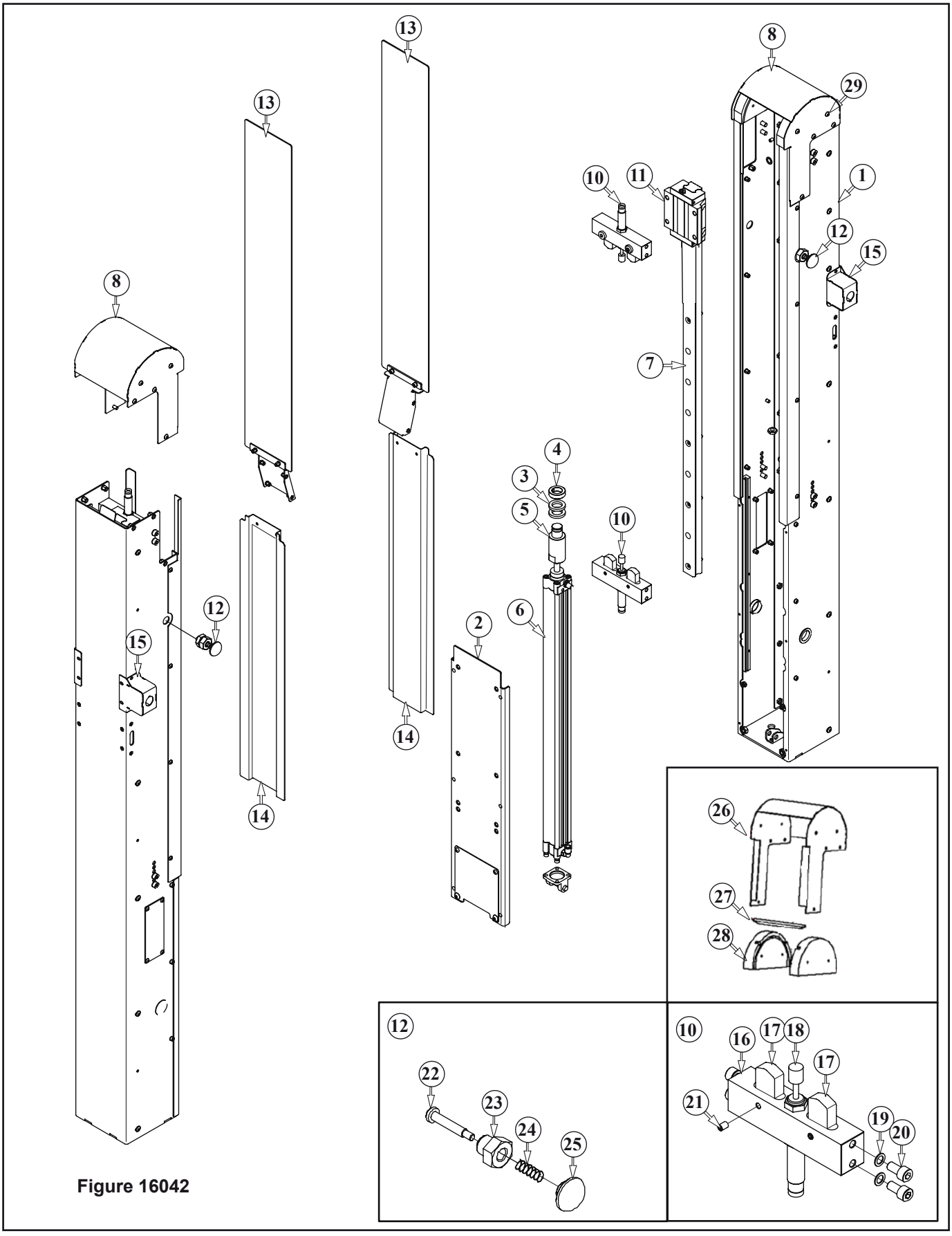


Figure 16042

Figure 16042

Ref. No.	3M Part No.	Description
16042-1	78-8137-8476-2	Column
16042-2	78-8137-8518-1	Bracket
16042-3	78-8054-8823-2	Washer 22/35X5
16042-4	78-8076-4552-4	Ring - Locking
16042-5	78-8137-8519-9	Pin
16042-6	78-8137-6382-4	Cylinder
16042-7	78-8137-8488-7	Linear Guide
16042-8	78-8137-8479-6	Upper Cover - Assembly
16042-10	78-8137-8520-7	Bumper Assembly
16042-11	78-8137-8482-0	Bracket - Sliding
16042-12	78-8137-8472-1	Pivot - Column Lock
16042-13	78-8137-8521-5	Cover - Upper
16042-14	78-8137-8473-9	Cover - Lower
16042-15	78-0025-0754-5	Light Assembly - Column 7000r HS
16042-16	78-8137-8489-5	Bumper Support
16042-17	78-8137-8490-3	Bumper - Columns
16042-18	78-8137-8491-1	Bumper
16042-19	78-8094-6227-4	Washer - Special/8
16042-20	26-1003-7963-0	Screw - M8X16 Soc. Hd.
16042-21	78-8137-8492-9	Screw - M6X10
16042-22	78-8076-4544-1	Pivot
16042-23	78-8137-8524-9	Bushing
16042-24	78-8076-4545-8	Spring
16042-25	78-8100-0954-4	Knob
16042-26	78-0025-0635-6	Cap - Column Top Weldment
16042-27	78-0025-0637-2	Bar - Cross Column Top
16042-28	78-0025-0636-4	Block - Guard Belt Guide Upper
16042-29	78-0025-0547-3	Fastener - M6 X 20mm BHSCS Plt

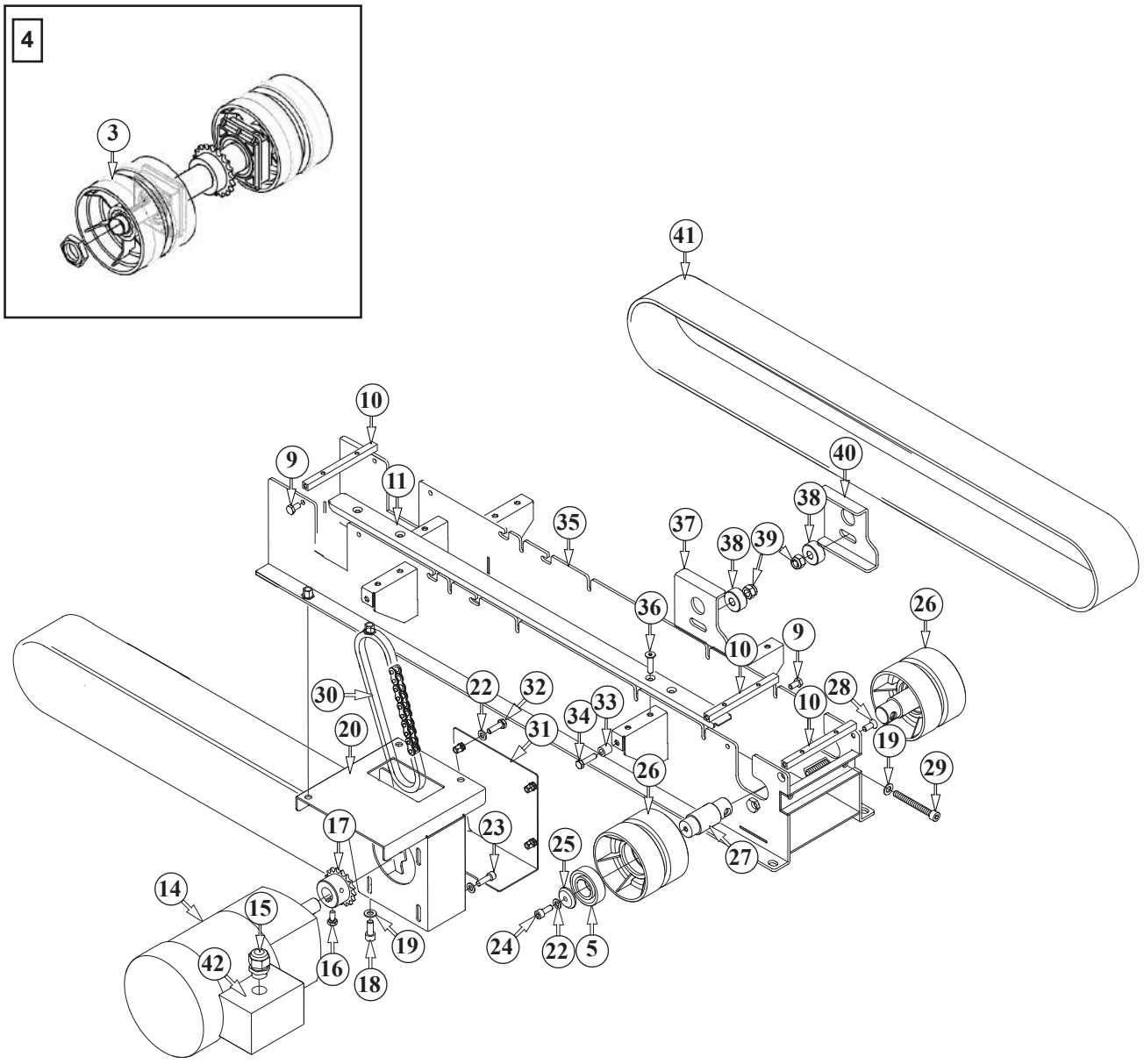


Figure 16036

Figure 16036

Ref. No.	3M Part No.	Description
16036-3	78-8052-6713-1	Ring - Polyurethane
16036-4	78-0025-0734-7	Assembly - Drive W/Pulleys
16036-9	26-1003-5829-5	Screw - M6X12 Hex Hd.
16036-10	78-8137-0568-4	Spacer
16036-11	78-8137-6297-4	Sliding Guide - Drive Belt
16036-14	78-8091-0596-4	Gearmotor - Bodine 48X5BFCI-F2 x KS
16036-15	78-8137-0607-0	Gland - Cable
16036-16	78-0025-0674-5	Fastener - M6X20 HHC G8
16036-17	78-8137-8222-0	Pinion - Z=25 P=3/8 d=19.05
16036-18	26-1003-7964-8	Screw - M8X20 Soc. Hd.Hex Soc.Dr.,
16036-19	78-8017-9318-9	Washer - 8mm Plain
16036-20	78-8137-8008-3	Support - Motor
16036-22	26-1000-0010-3	Washer - M6 Flat
16036-23	78-8070-1523-1	Screw - 1/4 28 FIL.X 3/4
16036-24	26-1003-7957-2	Screw - M6X16 Soc. Hd. Hex Hd.
16036-25	78-8052-6709-9	Washer - Special
16036-26	78-8052-6710-7	Pulley
16036-27	78-8137-8009-1	Pin - Idler Pulley
16036-28	26-1001-9843-6	Screw - M6X16 Flat Soc. Hd.
16036-29	78-8070-1519-9	Screw - M8X70 Soc. Hd. Hex Hd.
16036-30	78-8137-8449-9	Chain - 3/8” 58p
16036-31	78-8137-8011-7	Cover - Motor
16036-32	78-8010-7193-3	Screw - M6X20 HexHd.
16036-33	78-8070-1534-8	Stud - Side Plate
16036-34	78-8060-8488-1	Screw - M5X20 Hex Hd.
16036-35	78-8137-7983-8	Frame - Bottom Drive w/Nutzers
16036-36	26-1005-4757-4	Screw - M5X20 Flat Hd, Soc. Dr.
16036-37	78-8137-8012-5	Tensioner - Bottom Drive Belt
16036-38	78-8070-1518-1	Spacer - Shaft
16036-39	26-1003-6918-5	Nut - M10 Plastic Hex Flange
16036-40	78-8137-8013-3	Tensioner - Bottom Drive Belt
16036-41	78-8137-6303-0	Drive Belt w/Hook 75x1914+-3.5
16036-42	26-1011-8828-7	Capacitor (Not Shown)

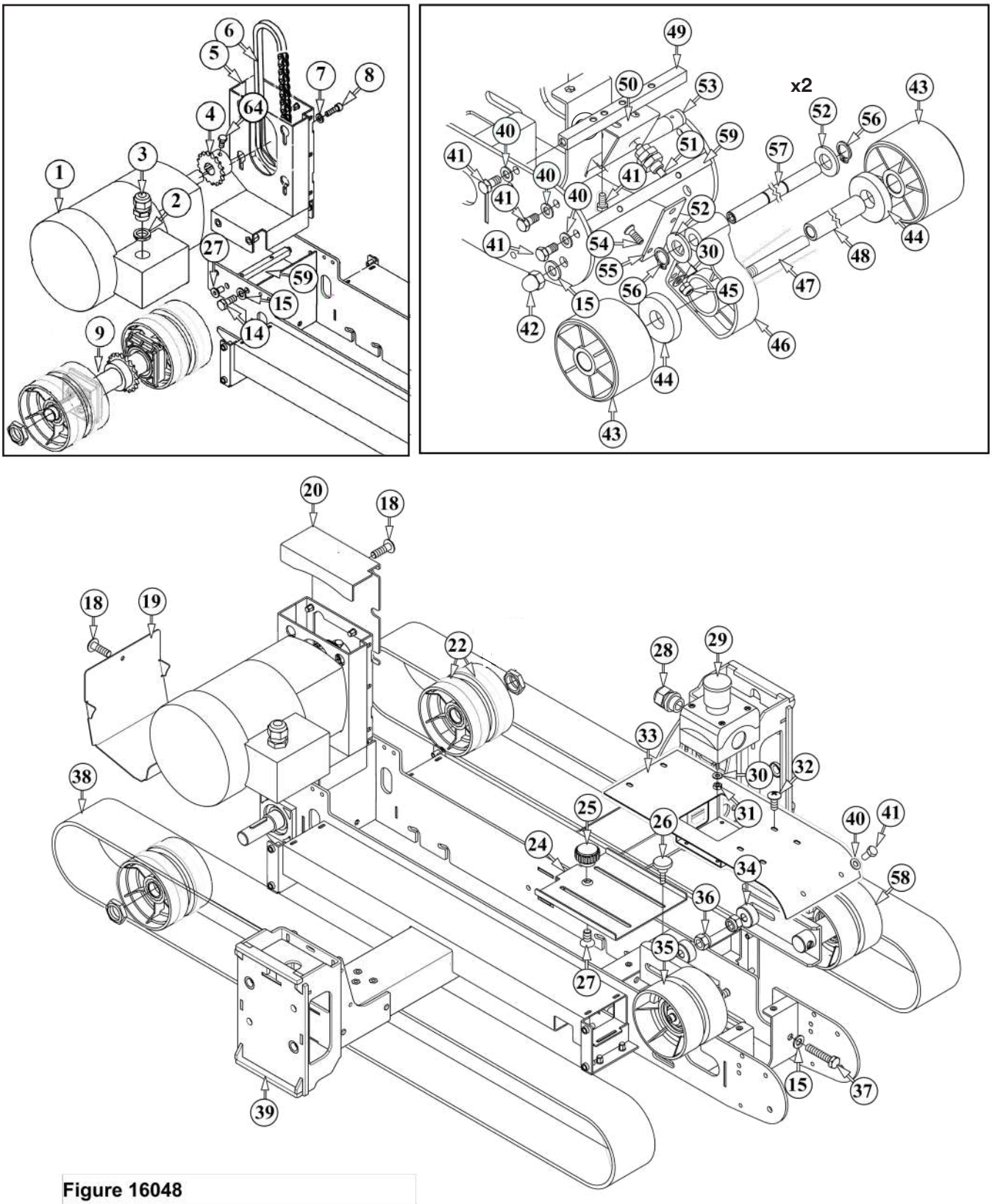


Figure 16048

Figure 16048

Ref. No.	3M Part No.	Description
16048-1	78-8091-0596-4	Motor - Bodine 48X5BFCI-F2 x KS
16048-2	78-8076-5211-6	Nut - Set GMP13.5
16048-3	78-8076-4715-7	Grip - Cord
16048-4	78-8137-8222-0	Sprocket - Z=25 P=3/8 d=19.05
16048-5	78-8137-8522-3	Support - Upper
16048-6	78-8137-8226-1	Chain - 64p 3/8"x7/32"
16048-7	26-1000-0010-3	Washer - M6 Flat
16048-8	78-8070-1523-1	Screw - 1/4 28 Fil.X 3/4
16048-9	78-0025-0734-7	Assembly - Drive Shaft W/Pulleys
16048-18	78-8076-4625-8	Screw - M5X16 Special
16048-19	78-0025-1725-4	Cover - Motor
16048-20	78-8137-8220-4	Bracket - Motor Support
16048-22	78-8052-6713-1	Ring - Polyurethane.
16048-24	78-8137-6357-6	Plate - Top
16048-25	78-8137-8017-4	Knob - B.193/25 B-M6
16048-26	78-8137-6355-0	Knob - DIN 464 M5X16 Elesa
16048-27	26-1002-5830-5	Screw - M6X12 Hex Hd.
16048-28	78-8137-0607-0	Gland - Cable
16048-29	78-8137-7893-9	Box - Yellow M22-IY1
	78-8137-6353-5	Emergency Button
	78-8137-8085-1	Block - Contact, 1NC
16048-30	78-8005-5740-3	Washer - M4 Galvanized
16048-31	78-8010-7416-8	Nut - M4 Hex Steel
16048-32	78-8017-9066-4	Screw - M5X12
16048-33	78-8137-6352-7	Cover - Emergency Button
16048-34	78-8070-1518-1	Spacer - Shaft
16048-35	78-8052-6710-7	Roller - Idler
16048-36	26-1003-6918-5	Nut - M10 Plastic Hex Flange
16048-37	26-1002-5949-3	Screw - M8x60 Hex Hd.
16048-38	78-8137-6303-0	Driving Belt w/Hook 75x1914+-3.5
16048-39	78-8137-8499-4	Frame - Upper
16048-40	78-8005-5741-1	Washer - 5mm
16048-41	78-8010-7163-6	Screw - TE M5X10 Galvanized
16048-42	78-8100-1132-6	Nut - M8 Special
16048-43	78-8052-6641-4	Infeed Roller
16048-44	78-8137-7715-4	Infeed Rollers Spacer
16048-45	26-1003-6914-4	Nut – Plastic Insert, M4
16048-46	78-8137-8019-0	Lever
16048-47	78-8137-0535-3	Pin - Infeed Rollers
16048-48	78-8137-0536-1	Tube - Infeed Rollers
16048-49	78-8137-0521-3	Spacer
16048-50	78-8137-8225-3	Bracket - Sensor
16048-51	78-8137-7719-6	Spring - Positioning Pistons
16048-52	26-1004-5510-9	Washer - M10 Galvanized
16048-53	78-8137-7720-4	Proximity Sensor - M12 PNP NO 5MM E2B
16048-54	78-8017-9317-1	Screw - M4X12 Allen FH
16048-55	78-8137-8387-1	Bracket - Support
16048-56	78-8016-5855-6	Ring - Stop 10 DIN 471 Burnished
16048-57	78-8137-0591-6	Pin
16048-58	78-8100-1236-5	Tensioner - Right Belt
16048-59	78-8137-0568-4	Spacer, 3"
16048-60	26-1011-8828-7	Capacitor (not shown)
16048-61	78-8137-8496-0	Cover - Belt L/H (Not Shown)
16048-62	78-8137-8497-8	Cover - Belt L/H (Not Shown)
16048-63	78-0025-0543-2	Washer - Lock M5
16048-64	78-0025-0674-5	Fastener - M6X20 HHC, G8

Figure 16041

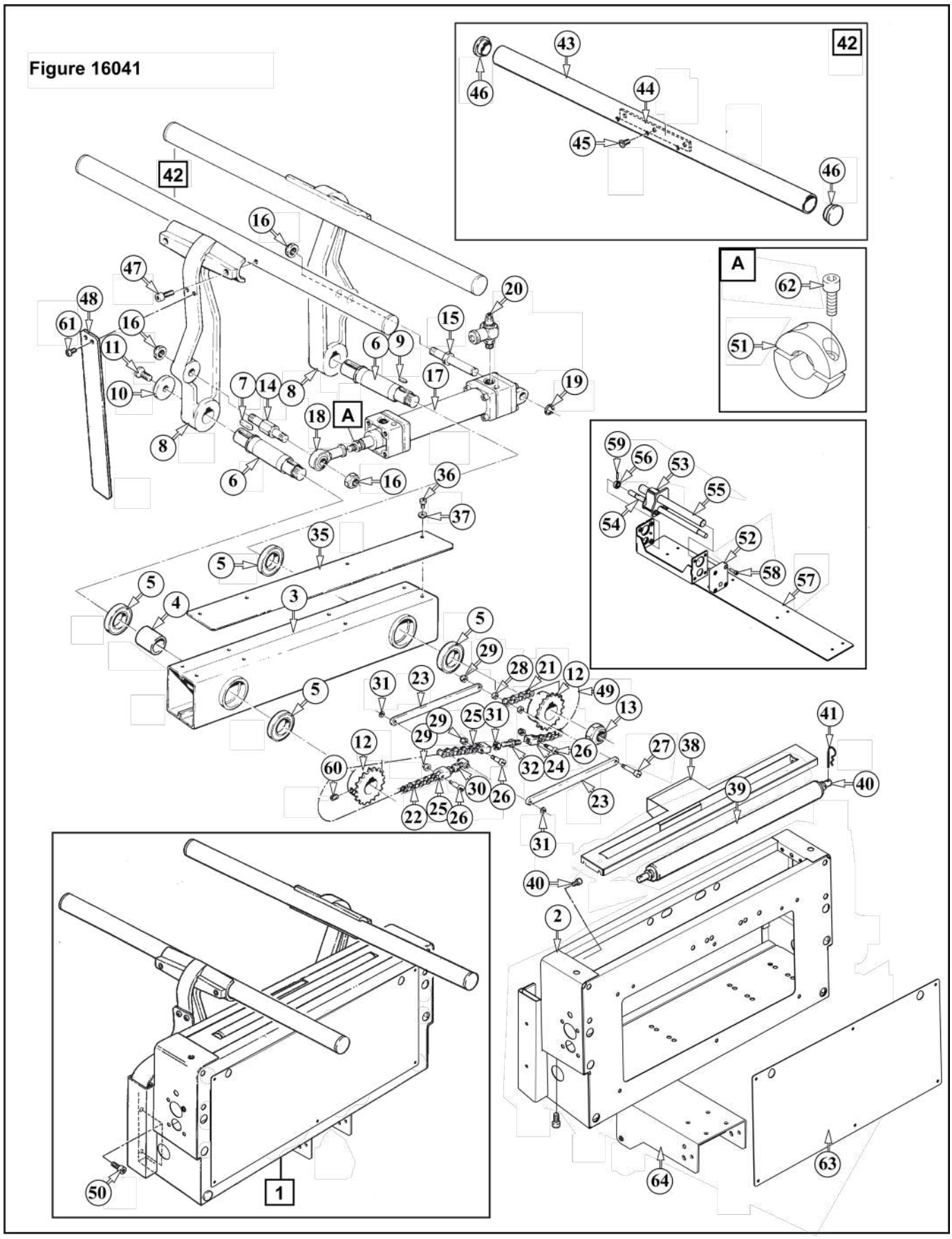


Figure 16041

Ref. No.	3M Part No.	Description
16041-1	78-8137-8514-0	Centering Assembly
16041-2	78-8137-8464-8	Frame - Centering
16041-3	78-8137-0992-6	Frame
16041-4	78-8076-4518-5	Spacer - Bearing
16041-5	78-8023-2551-0	Bearing - 6005-2RS
16041-6	78-8076-4567-2	Pivot - Infeed
16041-7	78-8076-4568-0	Key - 7X8X25
16041-8	78-8100-1158-1	Lever - Infeed
16041-9	78-8076-4570-6	Key - 6X6X15
16041-10	78-8054-8588-1	Washer - 8,5/40X6
16041-11	78-8054-8567-3	Screw - Soc. Hd. Special
16041-12	78-8076-4571-4	Sprocket - Z=20
16041-13	78-8060-8416-2	Nut - Special M20X1
16041-14	78-8076-4572-2	Stud - Joint
16041-15	78-8076-4573-0	Pin - Air Cylinder
16041-16	78-8091-0555-0	Nut - M12 Special
16041-17	78-8137-7709-7	Cylinder
16041-18	78-8057-5747-9	Mount - Cylinder
16041-19	78-8056-3965-1	Ring - 8 DIN 6799
16041-20	78-8137-3766-1	Regulator - Speed
16041-21	78-8137-7948-1	Chain - 3/8” P=37
16041-22	78-8055-0718-9	Chain - 3/8” Pitch,55 Pitch
16041-23	78-8054-8787-9	Bracket - Chain Link
16041-24	78-8054-8788-7	Connector - Chain
16041-25	78-8054-8786-1	Connector - Chain
16041-26	78-8060-7520-2	Screw - M3X20
16041-27	78-8060-7519-4	Screw - M3X25
16041-28	78-8054-8783-8	Washer - Special
16041-29	78-8059-5517-2	Nut - M3 Self Locking Zinc PL.
16041-30	78-8054-8784-6	Block- Chain
16041-31	78-8056-3945-3	E-Ring - M4
16041-32	78-8054-8785-3	Rod - Threaded
16041-33	78-8010-7418-4	Nut - M6 Hex Steel
16041-34	26-1003-7963-0	Screw - M8X16 Soc. Hd.
16041-35	78-8137-0995-9	Cover - Chain
16041-36	26-1002-5753-9	Screw - Self Tapping 7SPX8
16041-37	78-8005-5740-3	Washer - 4mm Plain Nickel
16041-38	78-8137-7981-2	Cover
16041-39	78-8114-5073-9	Roller - 32x1.2x580
16041-40	78-8137-0997-5	Shaft - Roller
16041-41	78-8137-8436-6	Pin
16041-42	78-8137-8454-9	Guide Assembly
16041-43	78-8137-8516-5	Guide- Infeed
16041-44	78-8076-4650-6	Plate - Guide
16041-45	26-1002-5830-5	Screw - M6X12 Hex Hd.
16041-46	78-8054-8779-6	Cap - End
16041-47	78-8010-7210-5	Screw - M6X20 Soc. Hd. Hex Soc.
16041-48	78-8100-1162-3	Strap - Safety
16041-49	78-8137-7707-1	Gear Assembly
16041-50	26-1003-7964-8	Screw - M8X20 Soc. Hd. Hex Soc. Dr.
16041-51	78-8137-0566-8	Collar - Locking
16041-52	78-8137-8076-0	Support
16041-53	78-8137-8468-9	Slider
16041-54	78-8137-8469-7	Screw
16041-55	78-8137-8470-5	Shaft
16041-56	78-8129-6113-0	Bushing - Screw
16041-57	78-8137-8471-3	Bracket - Support
16041-58	78-8010-7210-5	Screw - M6X20 Soc. Hd. Hex Soc.
16041-59	78-8137-0922-3	Set Screw - 4X20
16041-60	78-8023-2479-4	Screw - M6X10 Set w/End Cup
16041-61	78-8032-0375-7	Screw - M6X16 Hex Hd.
16041-62	26-1003-7957-2	Screw - M6X16 Soc. Hd. Hex Hd.
16041-63	78-0025-0611-7	Plate - Cover

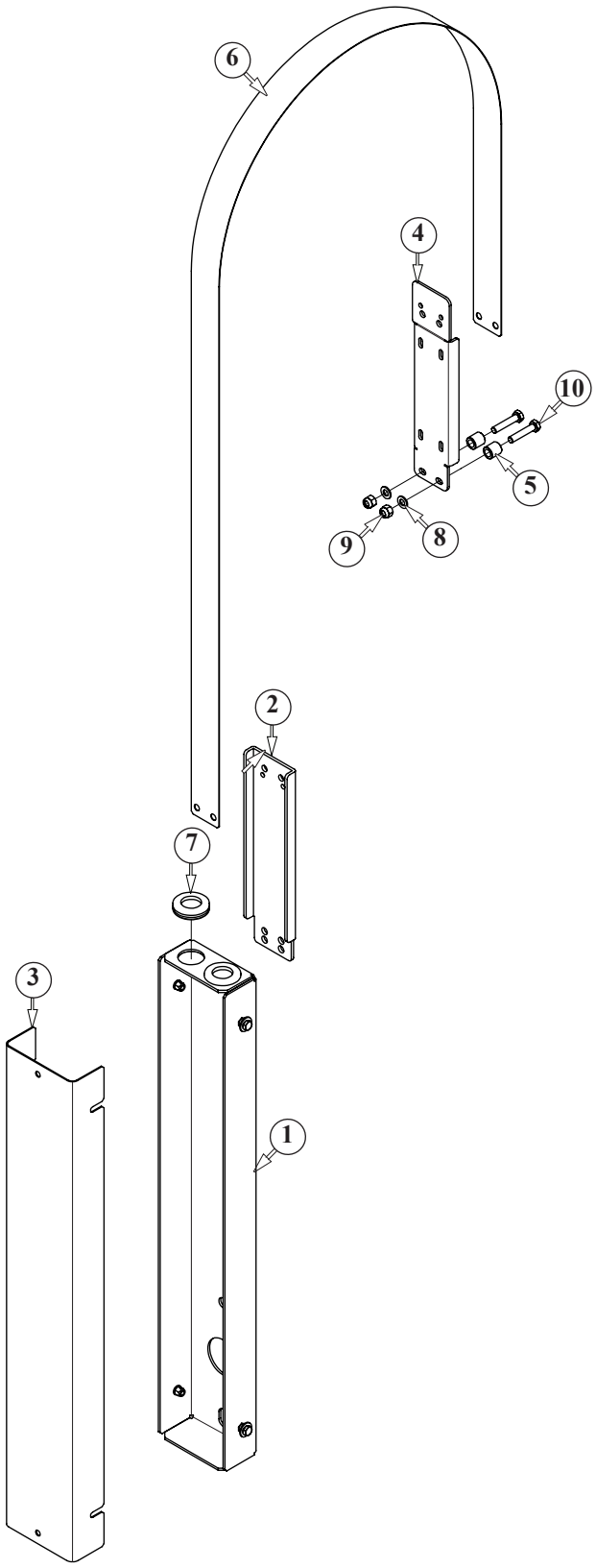


Figure 16054

Figure 16054

Ref. No.	3M Part No.	Description
16054-1	78-8137-8153-7	Housing
16054-2	78-8137-7982-0	Bracket - Cable Chain
16054-3	78-8137-7853-3	Cover - Grey Housing
16054-4	78-8137-8528-0	Bracket - Cables
16054-5	78-8055-0640-5	Spacer - Collar 6.5/10X10.5
16054-6	78-8137-5949-1	Strap - Wire
16054-7	78-8060-7785-1	Grommet
16054-8	78-8005-5741-1	Washer - M5 Flat
16054-9	26-1005-6859-6	Nut - M5 Self Locking
16054-10	78-8018-7616-6	Screw - M5X25 Hex Hd.

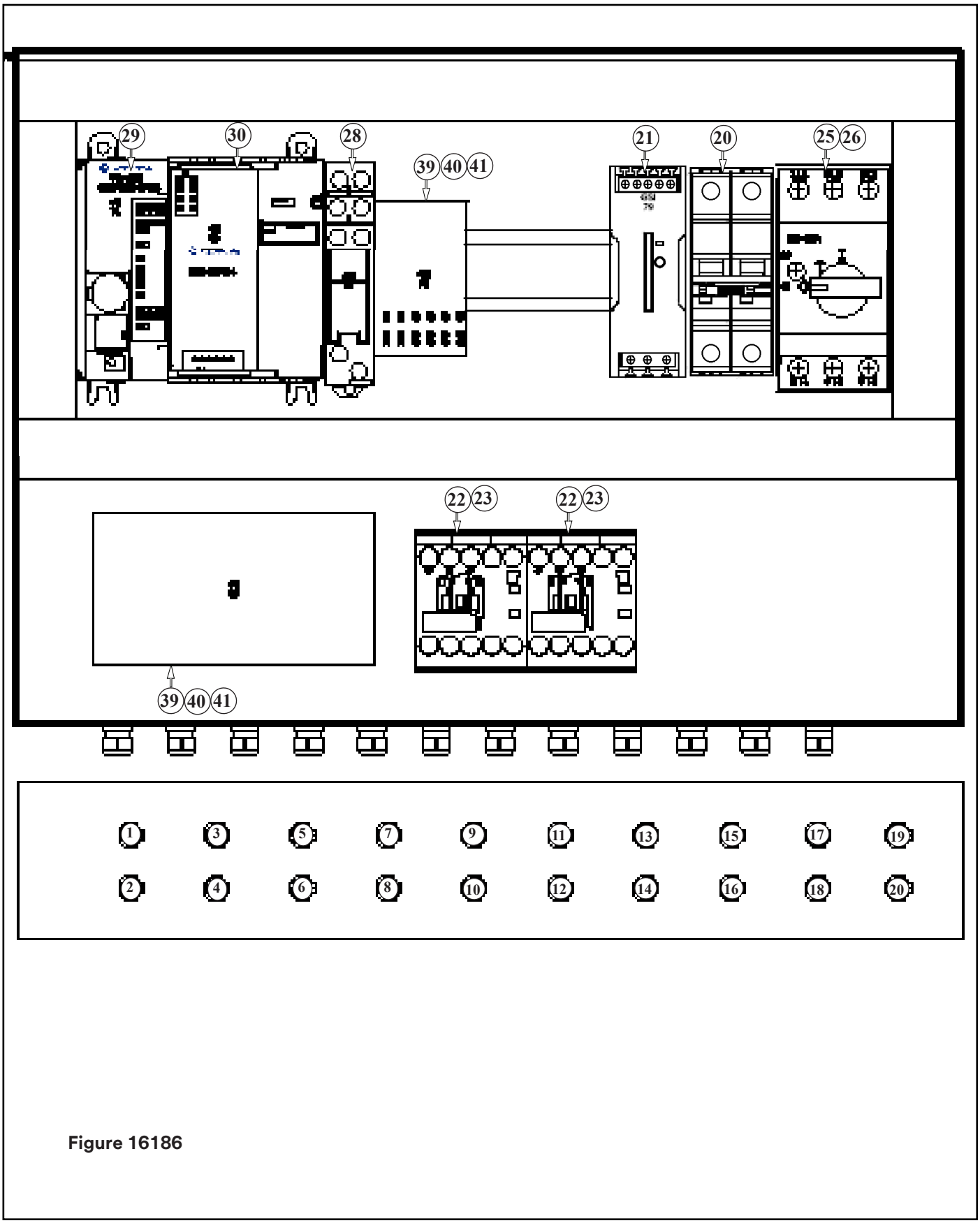


Figure 16186

Figure 16186

Ref. No.	3M Part No.	Description
16186-1	78-8137-8587-6	Cable W29 connector M8 4 direct supply length 2.5mt
16186-2	78-8028-7909-4	Cable W1 Supply
16186-3	78-8137-8587-6	Cable W14 connector M8 3 poly length 2.30mt
16186-4	78-8137-5956-6	Cable W2 3G AWG18 length 1.3mt
16186-5	78-8137-8589-2	Cable W30 Y9 MP1+LED+VDR 24V/Cable L=2.00 MT.
16186-6	78-8137-5956-6	Cable W3 3G AWG18 length 1.9mt
16186-7	78-8137-5956-6	Cable W4 3G AWG 18 length 1.20
16186-8	78-8137-8592-6	Cable W6 12G 0.85 Olflex Tray II 221812 length 2.20+pushbutton
16186-9	78-8137-7714-7	Cable W19 Connector M12 RT
16186-10	78-8137-7714-7	Cable W20 Connector M12 RT
16186-11	78-8137-7714-7	Cable W23 Connector M12 RT
16186-12	78-8137-8590-0	Cable W26 connector M12 direct 4 poly length 2.7mt
16186-13	78-8137-8589-2	Cable W15 Y1 MP1+LED+VDR 24V/Cable L=2.30 MT.
16186-14	78-8137-8587-6	Cable W28 connector M8 4 poly direct length 3.70
16186-15	78-8137-8589-2	Cable Sol W18 Y5 MP1+LED+VDR 24V
16186-16	78-8137-8589-2	Cable Sol W31 Y2 MP1+LED+VDR 24V
16186-17	78-8137-8589-2	Cable Sol W32 Y8 MP1+LED+VDR 24V
16186-18	78-8137-8593-4	Ground Wire / 2.5 Length 0.7 mt.+Eyelet Terminal (Not Shown)
16186-19	78-8137-8587-6	Cable W28 connector M8 4 poly direct length 3.70
16186-20	78-0025-0854-3	Circuit Breaker F1 2A v
16186-21	78-8137-0765-1	Supply - Power, 240/110 VAC, 24VDC
16186-22	78-8137-7734-5	Contactor - 24VDC DILM7-10
16186-23	78-8137-8354-1	Suppressor 24 VDC
16186-24	78-8137-0618-2	Cable W24/W25 Connector M12 Split
16186-25	78-8137-0780-5	Switch - 4-6,3 A
16186-26	78-8137-0782-1	Spacer
16186-28	78-8137-8351-7	Relay - G2R-2-SND 24Vdc
16186-29	78-8137-8270-9	Controller - 12 IN-7 Out 2080-LC20-20QB
16186-30	78-0025-0330-4	Card - Exp Micro 820 PLC 41/40
16186-31	78-0025-0333-8	Cord Grip - PG11
16186-32	78-8076-4645-6	Lock Nut - PG11
16186-33	78-0025-0409-6	Switch - Toggle (On/Off) 10A
16186-34	78-0025-0506-9	Screw - M3 x 5/8” HHCS (16mm) PLT
16186-35	78-8059-5517-2	Nut - M3 x 0.5 Nylock
16186-36	78-8076-4538-3	Washer - M3 Flat
16186-37	78-0025-0488-0	Bracket - TAM Switch
16186-38	78-0025-0490-6	Fitting - 1/2” NPT Cord Grip
16186-39	78-0025-0485-6	Block - 5mm Spring Clamp
16186-40	78-0025-0486-4	Barrier - 5mm End 2 Tier
16186-41	78-0025-0487-2	Jumper - 10 Pole Terminal - High Density
16186-42	78-0025-1623-1	Label - TAM States (Not Shown)
16186-43	78-0025-0541-6	Key - Enclosure (Not Shown)

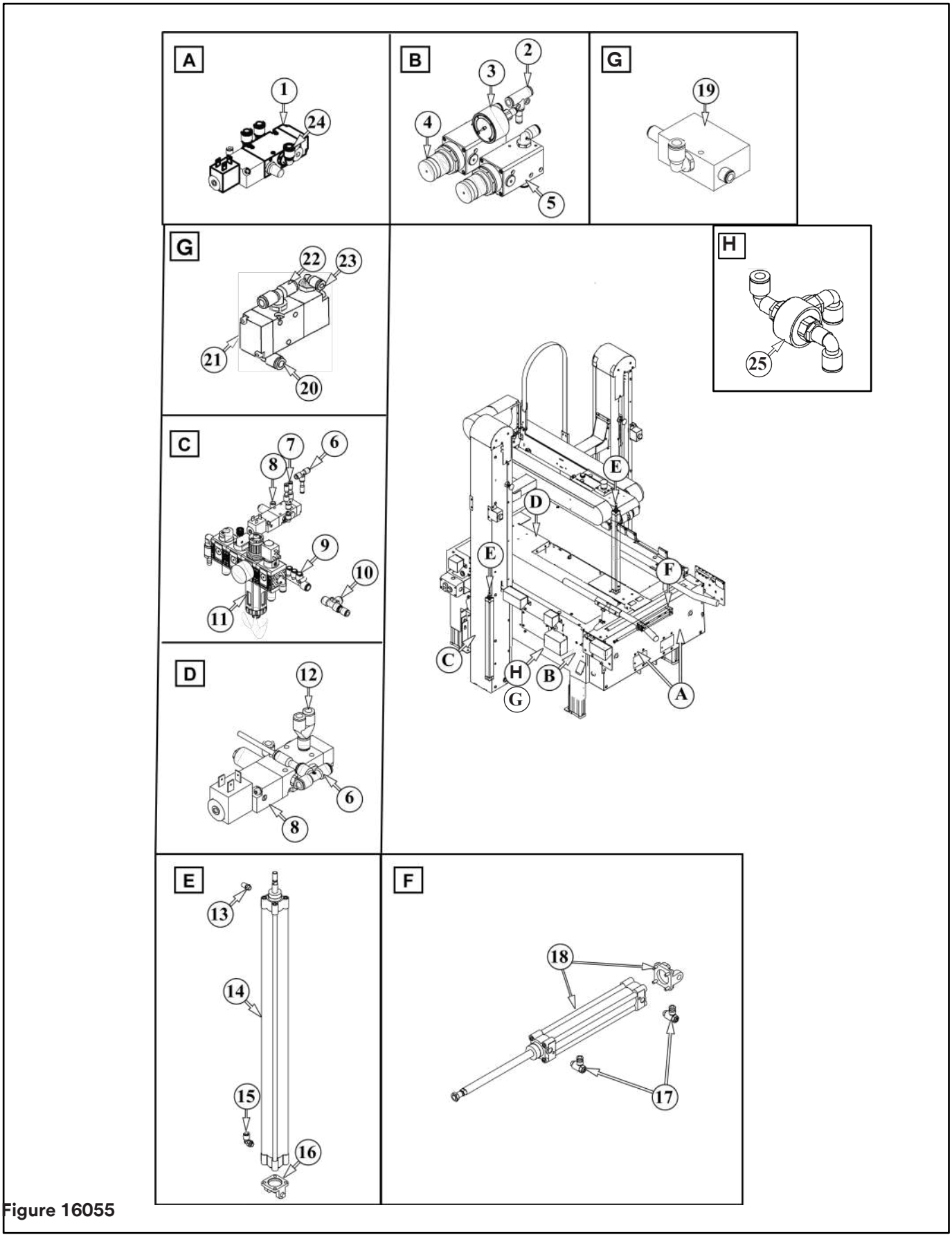


Figure 16055

Figure 16055

Ref. No.	3M Part No.	Description
16055-1	78-0025-0625-7	Valve - Solenoid - 1/4”
16055-2	78-8094-6277-9	Union - TE, 31040800
16055-3	78-8076-4671-2	Gauge - Pressure
16055-4	78-8137-8508-2	Control - Centering Device
16055-5	78-8137-8509-0	Control - Columns
16055-6	78-8057-6170-3	Tee - 6mm Tubing
16055-7	78-8057-5735-4	Fitting - Reducer
16055-8	78-8137-8254-3	Valve - Solenoid
16055-9	78-8119-8618-7	Union - Multiple, 33041008
16055-10	78-8137-8510-8	Joint - 10 10 10 31041000
16055-11	78-8137-8248-5	Filter Assembly
16055-12	78-8094-6079-9	Union - Female
16055-13	26-1005-6890-1	Muffler
16055-14	78-8137-6382-4	Cylinder - ISO 15552 Serie 3
16055-15	78-8091-0313-4	Elbow- 3199.08.10
16055-16	78-8137-6383-2	Hinge - D5032A SMC
16055-17	78-8137-3766-1	Regulator - Flow
16055-18	78-8137-8467-1	Cylinder - Centering
16055-19	78-8137-7951-5	Valve - Check
16055-20	78-8076-4890-8	Fitting - Elbow, 6mm
16055-21	78-0025-0770-1	Valve - Relief, E-Stop
16055-22	78-8060-8183-8	Fitting - Tee, 6mm
16055-23	78-8076-4888-2	Fitting - Elbow, 4mm
16055-24	78-8094-6276-1	Cap -14 ISO
16055-25	78-0025-0857-6	Valve - Shuttle 1/4 Iso W/fittings

Optional: Tape Application Monitor (TAM)

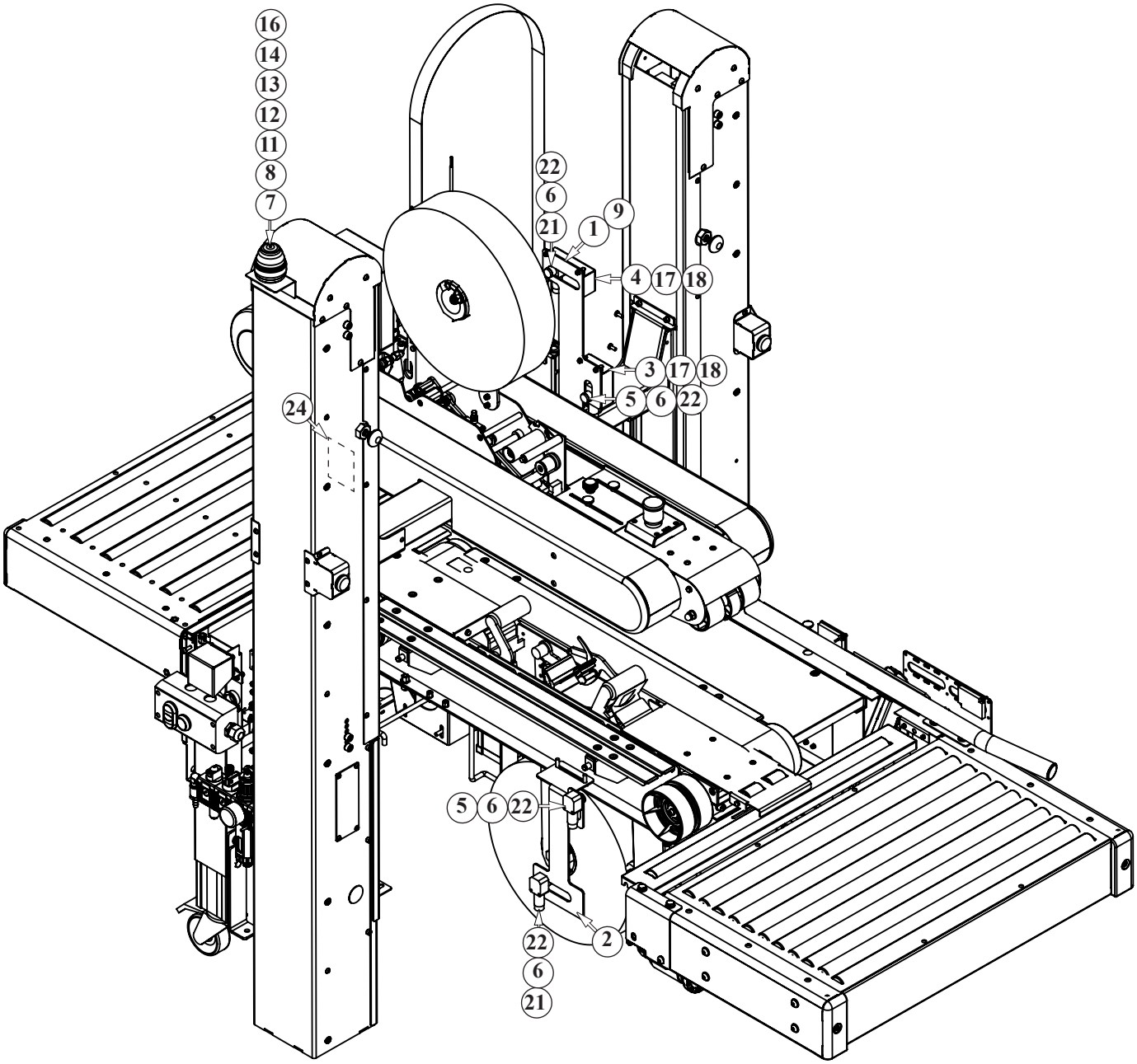


Figure 16083

Figure 16083

Ref. No.	3M Part No.	Description
16083-1	78-0025-0404-7	Weldment - Upper TAM Bracket
16083-2	78-0025-0405-4	Weldment - Lower TAM Bracket
16083-3	78-0025-0399-9	Cover - TAM Switch (Upper)
16083-4	78-0025-0400-5	Cover - TAM Switch (Upper - Low Tape)
16083-5	78-0025-0406-2	PE - Retro Laser M12 QD
16083-6	78-0025-0407-0	Cord - QD 4C Micro AB 10mm (W33, W34, W36, W37)
16083-7	78-0025-0333-8	Light - Signal (Mulit-Color)
16083-8	78-0025-0334-6	Adapter - NPT 16 - 1/2 NPT (Signal Light)
16083-9	26-1014-8756-4	Fastener - M6 X 1.0 X 20mm SCHS
16083-10	26-1000-0010-3	Washer - M6 Flat
16083-11	78-0025-0336-1	Bracket - Light Mount
16083-12	78-0025-0337-9	Fitting - Cord Grip
16083-13	78-0025-0338-7	Lock Nut - Zinc Plate Steel
16083-14	78-0025-0395-7	Fitting - Coupling 1/2” Pipe Galvanized
16083-16	78-0025-0335-3	Pipe - 1/2” NPT 10” Aluminum
16083-17	78-8032-0379-9	Screw - M4 X 16 Soc Head, Hex Head
16083-18	26-1016-2496-8	Washer - M4 Plain
16083-21	78-0025-0421-1	PE _Diffuse 500mm QD
16083-22	78-0025-0420-3	Washer - Lock Star 3/4 in.
16083-24	78-0025-0494-8	Label - Tam (legend)

3M Science. Applied to Life.™

Instructions and Parts List

3M-Matic™ Accuglide™ V HSP

Type 12000

Taping Heads

3 Inch

Serial #: _____

For reference, record machine serial number here.

Important Safety Information

BEFORE INSTALLING OR OPERATING THIS EQUIPMENT
Read, understand and follow all safety and operating instructions.

Spare Parts

It is recommended you immediately order the spare parts listed in the “Spare Parts/Service Information” section. These parts are expected to wear through normal use, and should be kept on hand to minimize production delays.

Replacement Parts and Service Information

To Our Customers:

This is the 3M-Matic™/AccuGlide™/Scotch® equipment you ordered. It has been set up and tested in the factory with Scotch® Tapes.

Included with each machine is an Instructions and Parts List manual.

Technical Assistance / Replacement Parts and Additional Manuals:

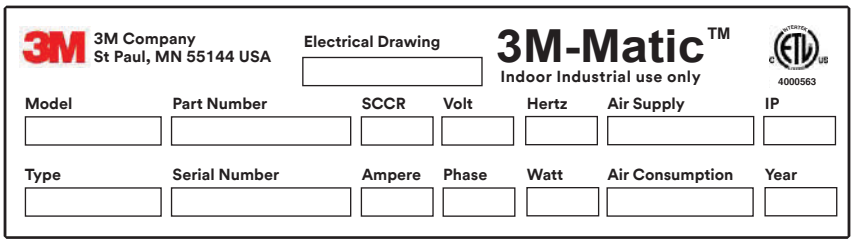
For technical assistance, contact our help line at 1-800-328-1390. Provide the customer support coordinator with the model/machine name, machine type, and serial number that are located on the identification plate (For example: Model - Accuglide V HSP 3 Inch - Type 12000

To order replacement parts, contact us:

CSPD division of Combi Packaging Systems LLC.
6299 Dressler Road NW
North Canton, OH 44720
store.combi.com/CSPD/PublicStore/

Phone: 1-800-344-9883
Fax: 1-877-847-5883
e-mail: CSPD-CSR@combi.com
www.combi.com

Identification Plate



Minimum billing on parts orders will be $50.00.
Replacement part prices available on request.
There will be a 15% restocking fee per invoice on returned parts.

Note: For replacement part information and ordering outside the U.S. contact the local 3M representative or subsidiary.

To Our Customers:

This is the 3M-Matic™/AccuGlide™/Scotch® equipment you ordered.
It has been set up and tested in the factory with Scotch® tapes.

Included with each machine is an Instructions and Parts List Manual.

Service, replacement parts, and additional manuals available direct from:

Order parts by part number, part description, and quantity required.
Also, when ordering parts or additional manuals, include model/machine name, machine type, and serial number that are located on the identification plate.

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Accuglide™ V HSP Taping Head Manual - 3 Inch - Type 12000 **Page**

Warranty

Warranty

Equipment Warranty and Limited Remedy: THE FOLLOWING WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, A CUSTOM OR USAGE OF TRADE:

3M sells its **3M-Matic™ Accuglide V HSP Taping Head, Type 12000** with the following warranties:

1. The Taping Head blade, springs and rollers will be free from defects in material and manufacture for ninety (90) days after delivery.
2. All other Taping Head parts will be free from defects in material and manufacture for three (3) years after delivery.

If any part is defective within this warranty period, your exclusive remedy and 3M's and seller's sole obligation shall be, at 3M's option, to repair or replace the part. 3M must receive actual notice of any alleged defect within a reasonable time after it is discovered, but in no event shall 3M have any obligation under this warranty unless it receives such notice within five (5) business days after the expiration of the warranty period. All notices required hereunder shall be given to 3M solely through the 3M-Matic™ Help line. To be entitled to repair or replacement as provided under this warranty, the part must be returned as directed by 3M to its factory or other authorized service station designated by 3M. If 3M is unable to repair or replace the part within a reasonable time after receipt thereof, 3M, at its option, will replace the equipment or refund the purchase price. 3M shall have no obligation to provide or pay for the labor required to remove any part or equipment or to install the repaired or replacement part or equipment. 3M shall have no obligation to repair or replace those parts failing due to normal wear, inadequate or improper maintenance, inadequate cleaning, non-lubrication, improper operating environment, improper utilities, operator error or misuse, alteration or modification, mishandling, lack of reasonable care, or due to any accidental cause.

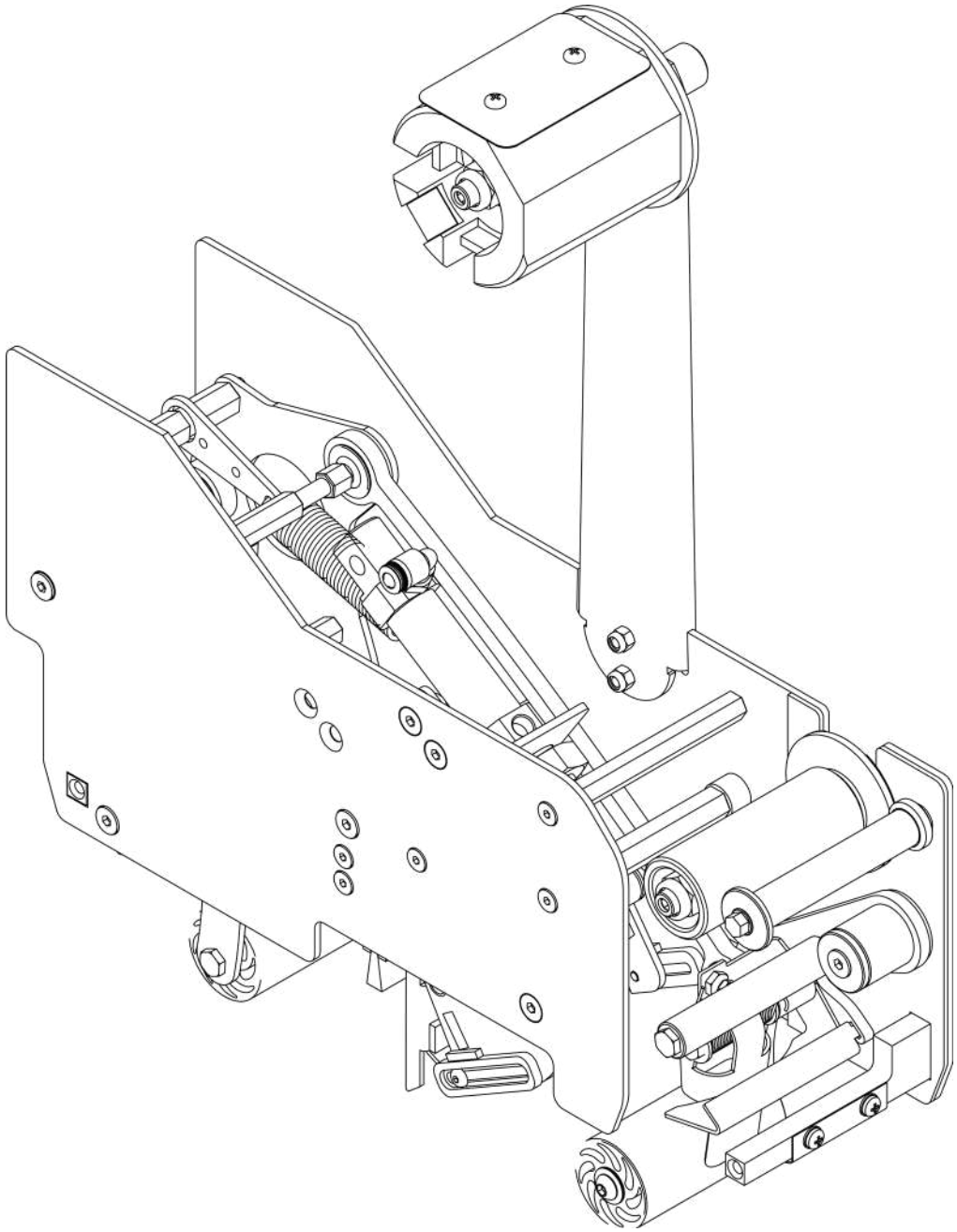
Limitation of Liability: Except where prohibited by law, 3M and seller will not be liable for any loss or damage arising from this 3M equipment, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including breach of warranty, breach of contract, negligence, or strict liability.

Note: The foregoing Equipment Warranty and Limited Remedy and Limitation of Liability may be changed only by a written agreement signed by authorized representatives of 3M and seller.

Intended Use

The intended use of the **V HSP 3 Inch - Type 12000 Upper and Lower Taping Heads** is to apply a "C" clip of Scotch® pressure-sensitive film box sealing tape to the top and/or bottom center seam of regular slotted containers. The compact size and simplicity of the taping head makes it suitable for mounting in box conveying systems other than **3M-Matic™** case sealers. This includes replacement of other types of taping, gluing or stapling heads in existing case sealing machines.

The **V HSP 3 Inch - Type 12000 Upper and Lower Taping Heads** have been designed and tested for use with Scotch® pressure-sensitive film box sealing tape.



AccuGlide™ V HSP Taping Head - 3 Inch, Type 12000

Taping Head Contents

AccuGlide™ V HSP - 3 Inch - Type 12000 Upper and Lower Taping Heads consist of:

Qty.	Part Name
1	Taping Head Assembly
1	Tape Drum and Bracket Assembly
1	Hardware and Spare Parts Kit

General Information

This instruction manual covers safety aspects, handling and transport, storage, unpacking, preparation, installation, operation, set-up and adjustments, technical and manufacturing specifications, maintenance, troubleshooting, repair work and servicing, electric diagrams, warranty information, disposal (ELV), a glossary with a definition of symbols, plus a parts list of the 3M-Matic™ Accugllide V HSP (3 Inch - Type 12000) 3M Industrial Adhesives and Tapes Division 3M Center, Bldg. 220-5E-06 St. Paul, MN 55144-1000 (USA) Edition September 2020/Copyright 3M 2020. All rights reserved The manufacturer reserves the right to change the product at any time without notice. Publication © 3M 2020. 44-0009-2157-5

How to use this Manual

The manual is an important part of the machine; all information contained herein is intended to enable the equipment to be maintained in perfect condition and operated safely. Ensure that the manual is available to all operators of this equipment and the manual is kept up to date with all subsequent amendments. Should the equipment be sold or disposed of, please ensure that the manual is passed on with the machine. Electrical and pneumatic diagrams are included in the manual. Equipment using PLC controls and/or electronic components will include relevant schematics or programs in the enclosure (or will be delivered separately as needed)

Keep the manual in a clean and dry place near the machine. Do not remove, tear or rewrite parts of the manual for any reason. Use the manual without damaging it. However, if the manual has been lost or damaged, ask your after sale service for a new copy (if it is possible, please have the manual name, part number, and revision information and/or model/machine name, machine type, and serial number) that are located on the identification plate **(For example: V HSP 3" - Type 12000).**

Note: All the important Warning notes related to the operation of the machine are identified by the symbol:

Updating the Manual

Modifications to the machine are subject to manufacturer's internal procedures. The user may receive pages or parts of the manual which contain amendment made after its first publication. The user must use them to update this manual.

Important Safeguards

Explanation of Signal Word and Possible Consequences

This safety alert symbol identifies important messages in this manual. READ AND UNDERSTAND THEM BEFORE INSTALLING OR OPERATING THIS EQUIPMENT.

Caution — Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.

Warning — Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.

Warning

- **To reduce the risk associated with mechanical hazards**
  - Read, understand and follow all safety and operating instructions before operating or servicing the case sealer
  - Allow only properly trained and qualified personnel to operate and or service this equipment

Caution

- **To reduce the risk associated with muscle strain:**
  - Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift
- **To reduce the risk associated with impact hazards**
  - Place the taping head on a smooth level surface when maintaining or servicing this equipment

Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**
  - Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
  - Never attempt to work on the taping head or load tape while the box drive system is running

Warning

- **To reduce the risk associated with sharp blade hazards:**
  - Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

(Important Safeguards *continued* on next page)

Important **-** In the event the following safety labels are damaged or destroyed, they must be replaced to ensure operator safety. See "Replacement Parts Illustrations and Parts Lists" for label part numbers.

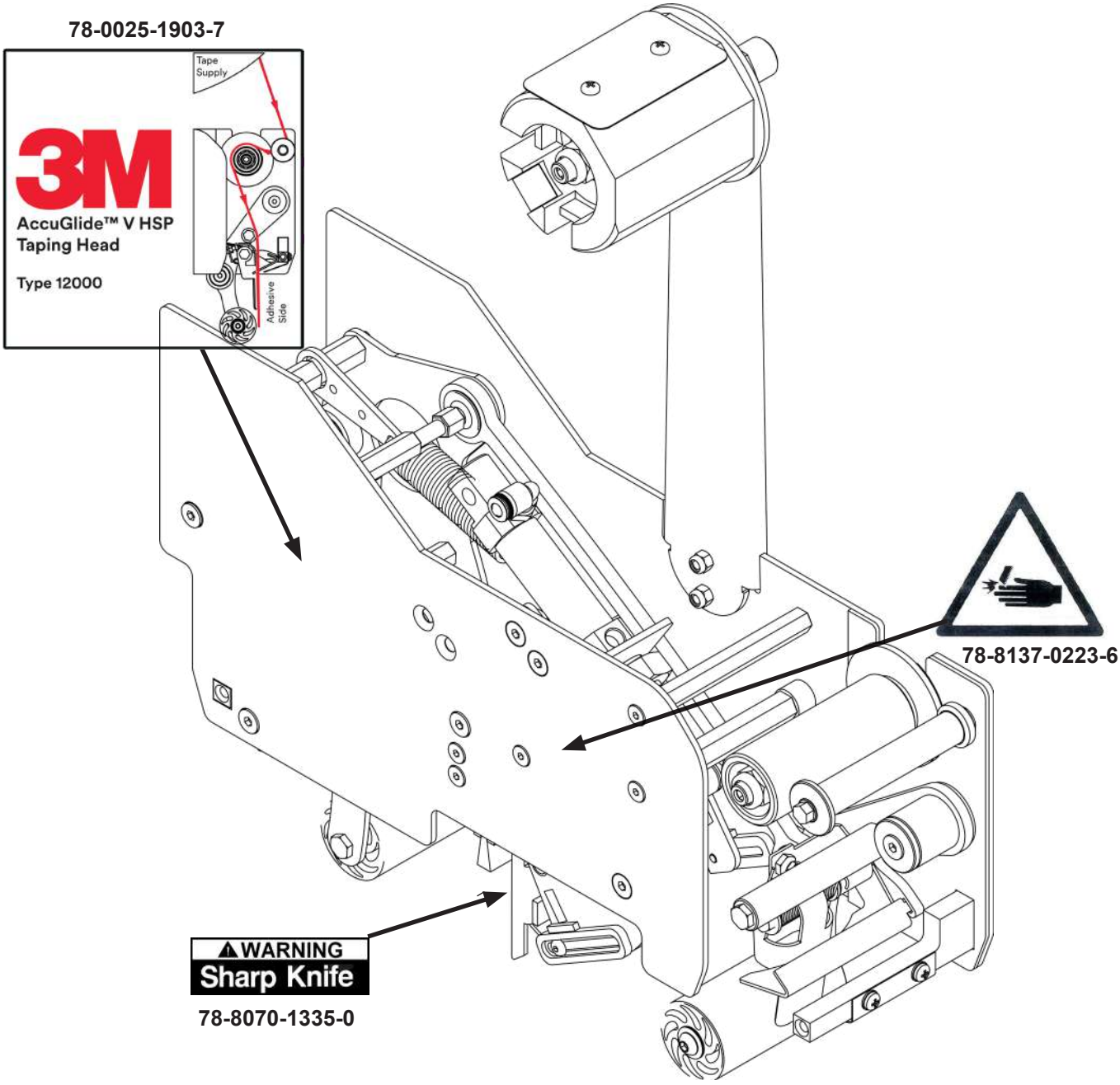


Figure 1-1 Replacement Labels/3M Part Numbers

Specifications

1. **Tape:**

   For use with Scotch® pressure-sensitive film box sealing tapes.

2. **Tape Width:**

   36mm or 1-1/2 inches minimum to 48mm [2 inches] maximum.

3. **Tape Roll Diameter:**

   Up to 405mm [16 inches] maximum on a 76.2mm [3 inch] diameter core. (Accommodates all system roll lengths of Scotch® film tapes.)

4. **Tape Application Leg Length - Standard:**

   50.8mm ± 6mm [2 inches ± 1/4 inch]

5. **Box Size Capacities:**

   For use with center seam regular slotted containers.

   Length ***** – 150mm [6 inches]

   Height * – 101mm [4 inches]

   Width ***** – 150mm [6 inches]

   **** Note:*** Box size capacities may also be determined by the case conveying system used.

6. **Operating Conditions:**

   Use in dry, relatively clean environments at 5° to 40°C [40° to 105°F] with clean dry boxes.

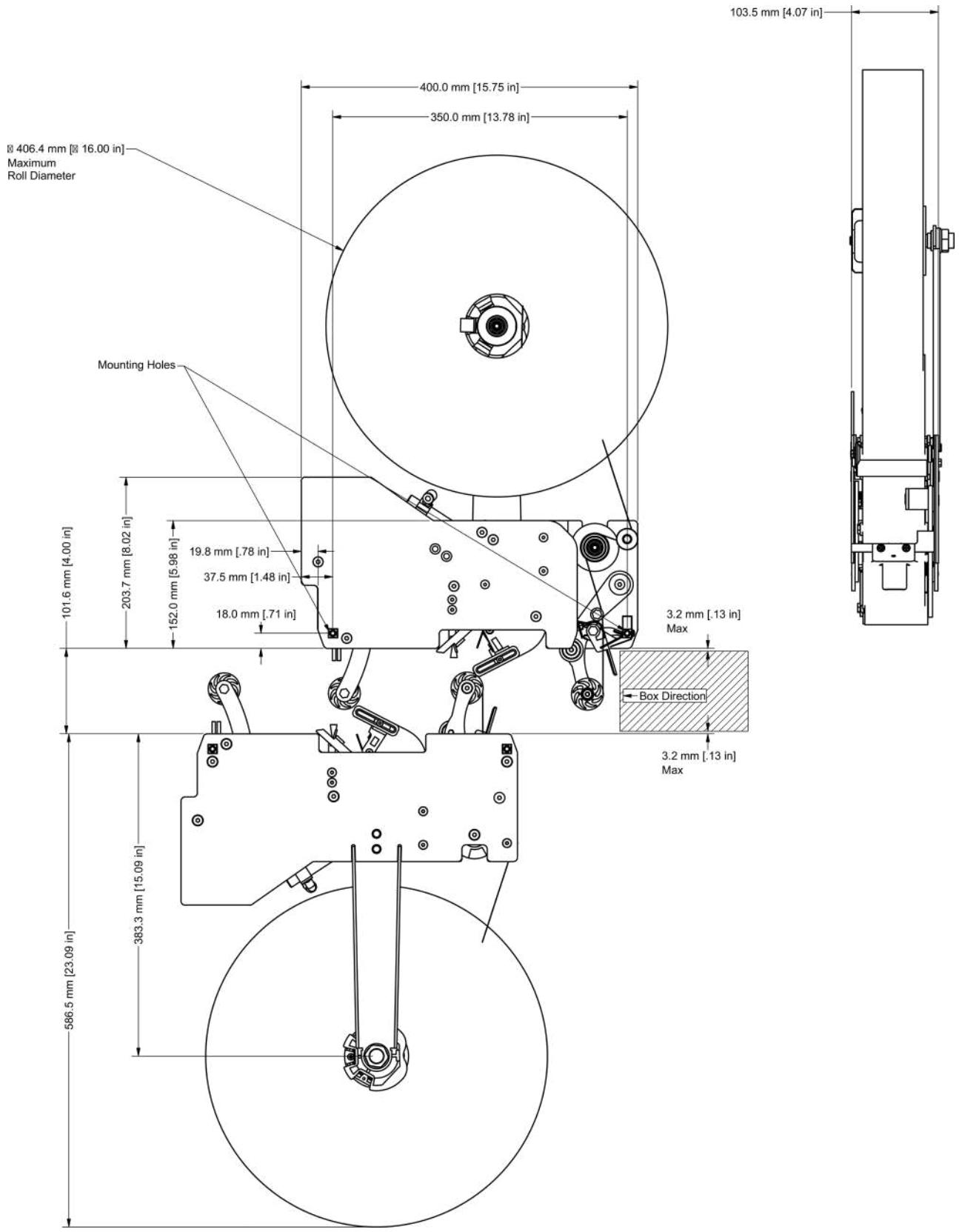
   Important – Taping heads should not be washed down or subjected to conditions causing moisture condensation on components.

7. **Taping Head Dimensions:**

   Length – 400mm [15.75 inches]
   Height – 586.5mm [23.1 inches] (with tape)
   Width – 103.5mm [4.07 inches] (without mounting spacers)
   Weight – Packaged: 5.9kg [13 lbs.] Unpackaged: 4.8kg [10.5 lbs.]

(Specifications *continued* on next page)

Specifications *(continued)*



Warning

- **To reduce the risk associated with sharp blade hazards:**

- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

Receiving And Handling

After the taping head assembly has been unpackaged, examine the unit for damage that might have occurred during transit. If damage is evident, file a damage claim immediately with the transportation company and also notify your 3M Representative.

Installation Guidelines

The taping head assembly can be used in converting existing or in custom made machinery.
It can be mounted for top taping or bottom taping. Refer to "Box Size Capacities," as well as **Figure 2-1** in the Specifications section, for following points making installations:

Important – Always conduct a hazard review to determine appropriate guarding requirements when the installation is in an application other than 3M-Matic™ equipment

1. The box conveying system must positively propel the box in a continuous motion (see specifications) past the taping head assembly since the box motion actuates the taping mechanism.

Caution

- **To reduce the risk associated with muscle strain:**

- Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift

2. If a pusher/cleated conveyor is used, steps should be taken in conveyor to prevent pusher from contacting applying or buffing roller arms (resulting in damage to taping head).
3. **Figure 2-1** illustrates the typical mounting relationship for opposing taping head assemblies to allow taping of box heights (see specifications). The taping heads must be completely staggered so only one tape seal is being applied at one time.
4. Mounting studs are provided with the taping head, but special installations may require alternate mounting means.
5. Box hold-down/guide skis should be provided and taping head mounted so that side plates are 6mm [1/4 inch] maximum away from the ski surface on which the box rides.

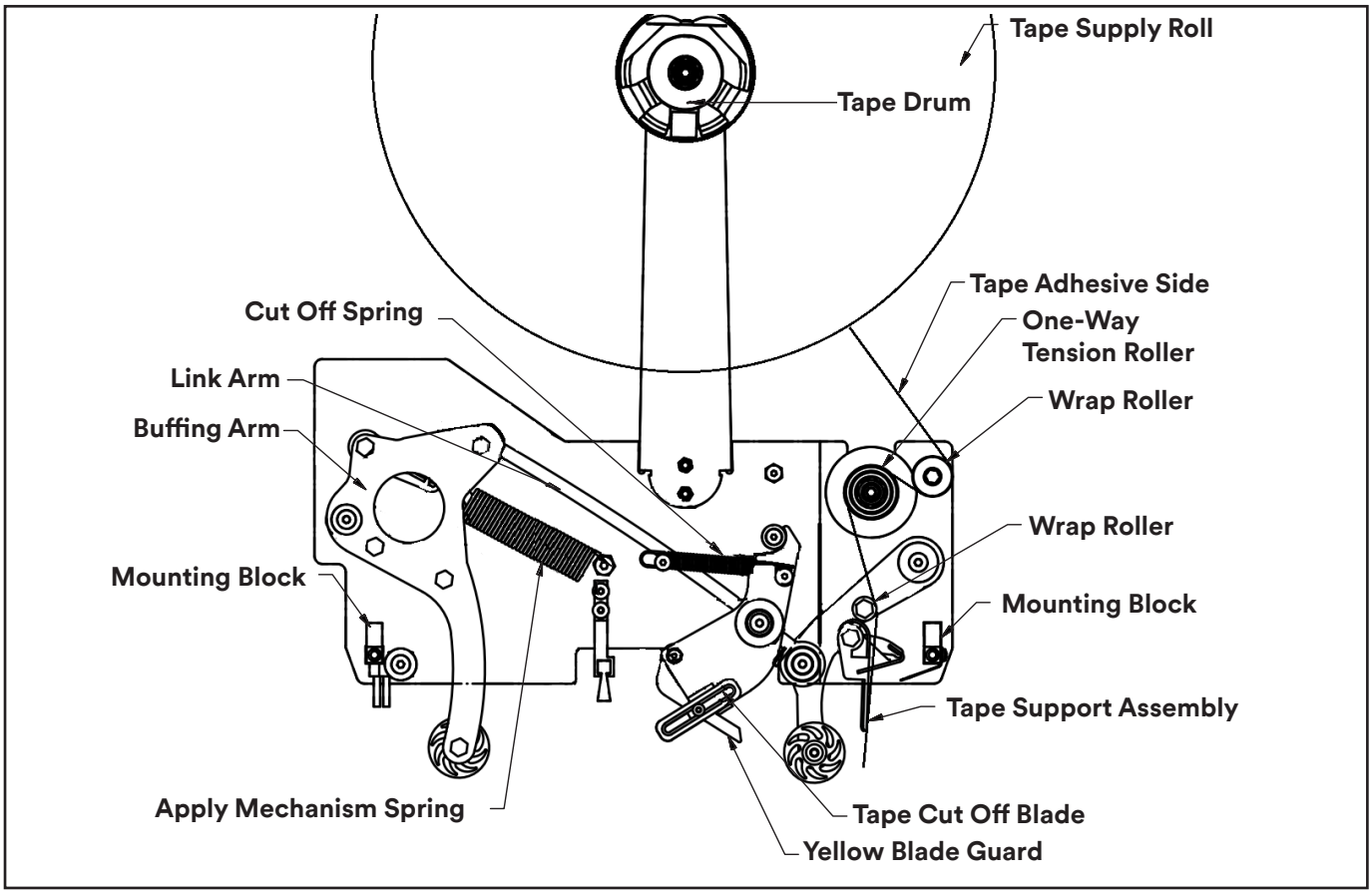
Tape Leg Length

Taping heads are factory set to apply 58mm [2 inches] tape legs.

Tape Width Adjustment

Taping heads are factory set to apply 48mm [2 inch] wide tape. If it is necessary to align the tape or to apply narrower tapes, refer to "Adjustments – Tape Web Alignment" set-up procedure.

Figure 3-1 Taping Head Components/ Threading Diagram - Upper Head (Left Side View)



⚠ Warning

- **To reduce the risk associated with sharp blade hazards:**

- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

It is recommended that the detailed instructions and sketches in this manual be referred to the first few times the taping head is loaded/threaded until the operator becomes thoroughly familiar with the tape loading operation.

Note – Remove tape roll before removing taping head from machine to minimize weight.

Tape Loading – Taping Head

1. Place the Taping Head in a convenient working position.
2. Use **Figures 3-3/3-5** and tape threading label. Position tape roll so adhesive side of tape faces front of taping head as it's pulled from supply roll.
3. Guide the tape around the tension wrap roller (Position 1) then back around the one-way tension roller (Position 2).
4. Continue pulling the tape down and past the wrap roller (Position 3) and through the Tape Support Assembly.
5. Pull the tape down past the applying roller (Position 4). When properly threaded the adhesive side of the tape should be facing the tension roller at position 2 and away from the guide roller at position 3.
6. Cut away any excess tape.

Important – Do not cut against apply roller - roller damage could occur.

Tape Loading – Lower Taping Head

1. Remove the lower taping head from the conveyor bed or associated equipment and place it a convenient working position.
2. Lower taping head is loaded and threaded in same manner as upper head.

⚠ Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**

- Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
- Never attempt to work on the taping head or load tape while the box drive system is running

⚠ Caution

- **To reduce the risk associated with muscle strain:**

- Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift

- **To reduce the risk associated with impact hazards**

- Place the taping head on a smooth level surface when maintaining or servicing this equipment

Figure 3-3

Insert threading needle through rollers in direction indicated by arrows.

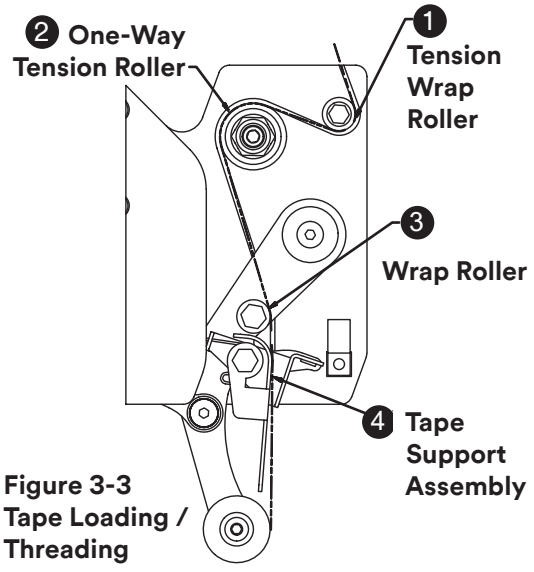


Figure 3-3
Tape Loading / Threading

Figure 3-4

Place tape roll on tape drum to dispense tape with adhesive side forward. Seat tape roll fully against back flange of drum. Adhere tape lead end to threading needle as shown.

Manually turn tape roll to create slack tape while pulling threading needle through tape applying mechanism until needle is through and tape is in alignment with applying roller.

Excess tape can be cut with a scissors at applying roller.

Warning

- **To reduce the risk associated with sharp blade hazards:**
- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

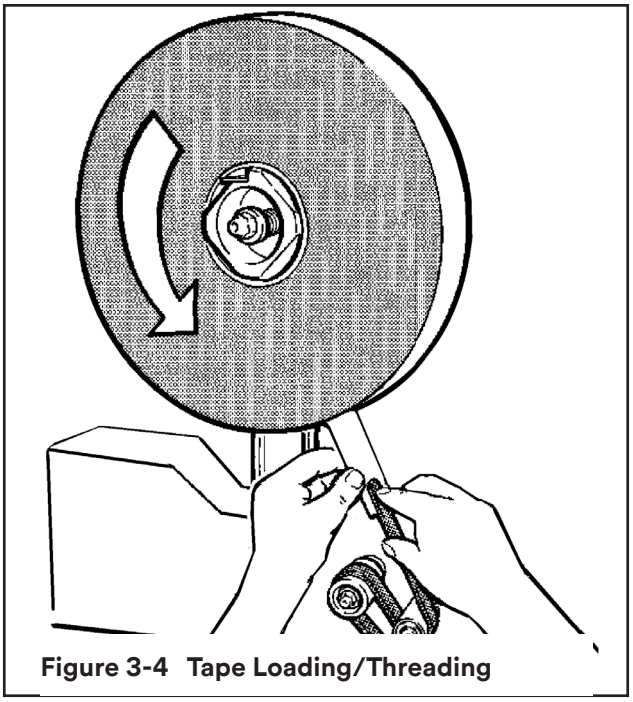


Figure 3-4 Tape Loading/Threading

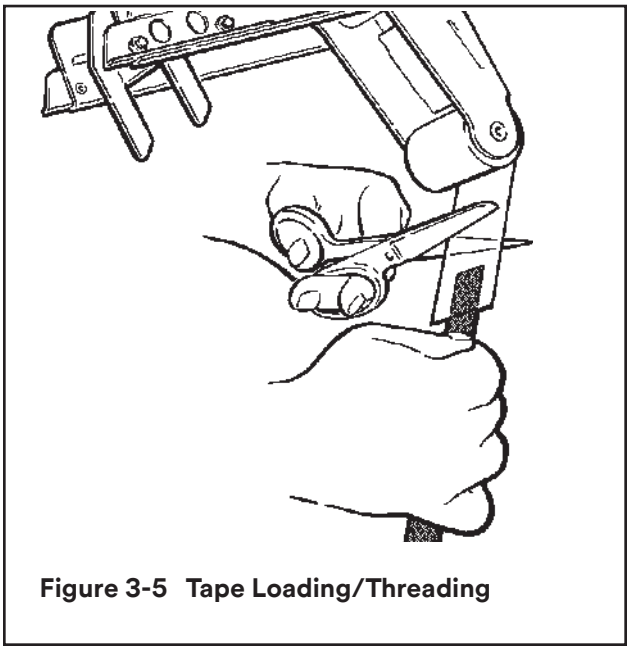


Figure 3-5 Tape Loading/Threading

Maintenance

The AccuGlide™ V HSP 3 Inch Taping Head has been designed for long, trouble free service. The taping head will perform best when it receives routine maintenance and cleaning. Taping head components that fail or wear excessively should be promptly repaired or replaced to prevent damage to other portions of the head or to the product.

Blade Replacement, Upper and Lower Taping Heads – **Figure 4-1**

1. Loosen, but do not remove, the blade screws (A). Remove and discard old blade.
2. Mount the new blade (B) with the beveled side away from the blade holder.
3. Bottom the blade slots against the screws (this will position the blade at the correct angle.) Tighten the blade screws to secure the blade.

Note – Check the blade position to insure proper clearance between blade and guard by slowly pivoting blade guard back.

Blade Guard

The blade guard covers the blade whenever a box is not being taped. Periodically check to be sure the blade guard is functioning properly and returning to cover the blade. Replace any defective parts.

Blade Oiler Pad

To reduce adhesive build-up, the taping heads are equipped with a factory pre-lubricated felt oiler pad that provides a film of oil on the cutting edge of the blade. Blade maintainance should include keeping the felt oiler pad saturated with Silicone.

Should tape adhesive build-up occur on blade, carefully wipe clean with an oily cloth.

⚠ Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**
- Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
- Never attempt to work on the taping head or load tape while the box drive system is running

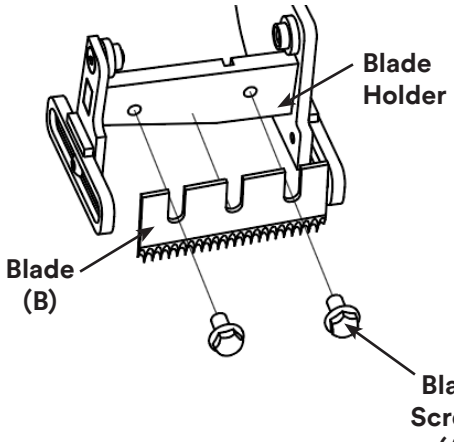


Figure 4-1 Blade Replacement

⚠ Warning

- **To reduce the risk associated with sharp blade hazards:**
- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

(Maintenance *continued* on next page.)

Cleaning

Regular slotted containers produce a great deal of dust and paper chips when conveyed through taping heads. If this dust is allowed to build-up on the heads, it can cause wear on the moving parts. Excessive dirt build-up should be wiped off with a damp cloth. Cleaning should be done once per month, depending on the number and type of boxes used. If the boxes used are dirty, or if the environment in which the heads operate is dusty, cleaning on a more frequent basis may be necessary.

Note – Never attempt to remove dirt from taping heads by blowing it out with compressed air. This can cause the dirt to be blown inside components onto sliding surfaces. Dirt in these areas can cause serious equipment damage. Never wash down or subject taping heads to conditions causing moisture condensation on components. Serious equipment damage could result.

Applying / Buffing Roller Replacement

Replacing roller requires removal of the mounting screw **(Figure 4-2 - also see Parts List).**

Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**
- Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
- Never attempt to work on the taping head or load tape while the box drive system is running

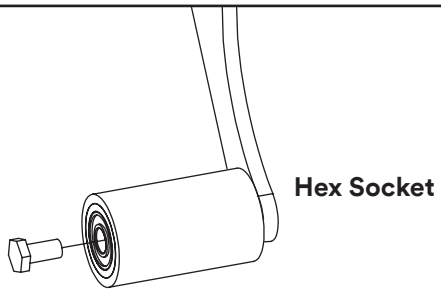


Figure 4-2 Applying Roller

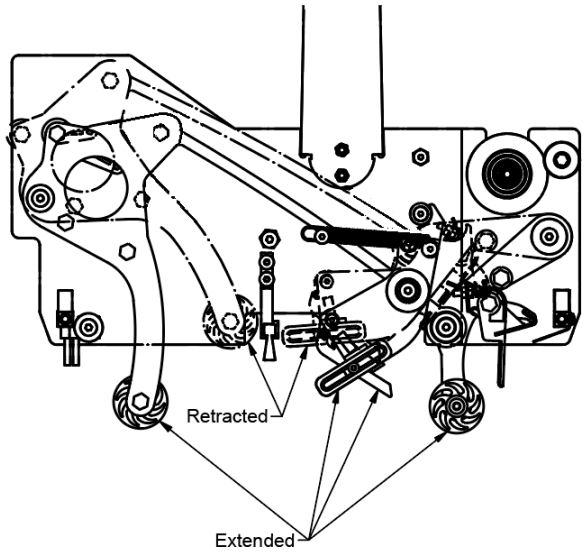


Figure 4-3 Applying / Buffing Roller Positions

Warning

- **To reduce the risk associated with sharp blade hazards:**
- Keep hands and fingers away from tape cutoff blades under orange blade guards. The blades are extremely sharp.

Adjustments

Tape Latch Alignment – Figure 5-1

The Latching tape drum assembly is pre-set to accommodate 48mm [2 inch] wide tape. Tape drum assembly is adjustable to provide alignment of narrower tapes.

To move the latch to a position that corresponds to a new tape core width **(Figure 5-1):**

1. Remove screw from the latch.
2. Move latch to position that corresponds to the tape core width.
3. Replace screw in new latch location.

To adjust or center tape width on centerline of taping head (and box center seam - **Figure 5-2):**

1. Loosen locking hex nut behind tape drum bracket on tape drum shaft. Use an adjustable wrench or 25mm open end wrench.
2. Using 5mm Hex Wrench, turn tape drum shaft in/out to center tape web.
3. Tighten locking hex nut to secure the adjustment.

No other components require adjustment for tape web alignment.

Tape Drum Friction Brake – Figure 5-3

The tape drum friction brake on taping head is pre-set for normal operation to prevent tape roll over travel. Should tension adjustment be required, turn self-locking nut on shaft to vary spring compression. Turn nut clockwise to increase braking force, and counterclockwise to decrease braking force. Adjust brake to minimum tension to prevent tape roll over travel.

Note – Excess braking force will cause poor tape application and may lead to tape tabbing on trailing tape leg.

Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**
- Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
- Never attempt to work on the taping head or load tape while the box drive system is running

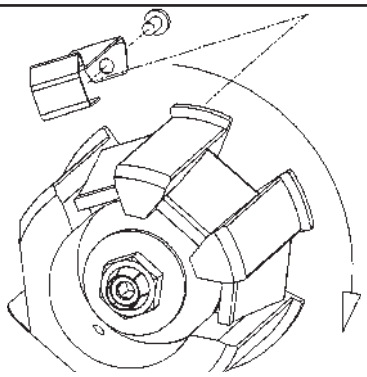


Figure 5-1 Tape Latch Alignment

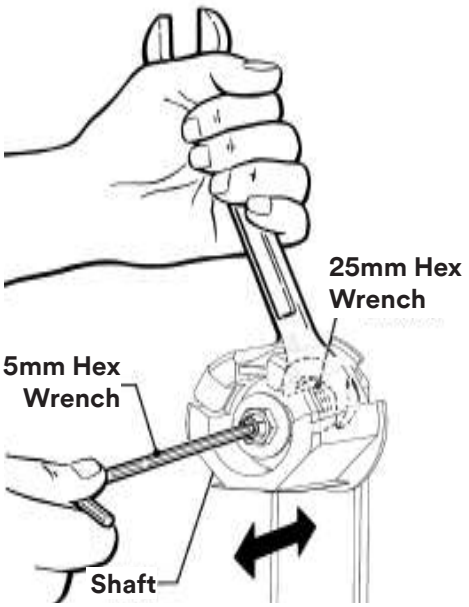


Figure 5-2 Tape Web Alignment

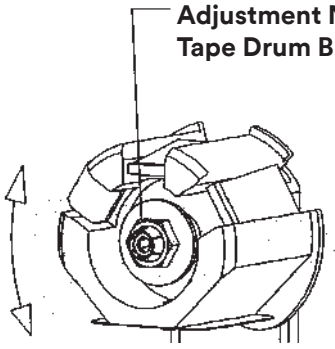


Figure 5-3 Tape Drum Friction Brake

(adjustments *continued* on next page.)

Applying Mechanism Spring

The applying mechanism spring, shown in **Figures 5-4,** controls applying and buffing roller pressure on the box and returns the mechanism to the reset position. The spring pressure is pre-set for normal operation.

One-Way Tension Roller
Figure 5-5

The one-way tension roller is factory set. When replacing this assembly, the roller must have 0,5 kg [1 lb.] min. tangential force when turning.

To Adjust Tension:

1. Wrap a cord or small strap (non-adhesive) 4-6 turns around the tension roller.
2. Attach a spring scale to the end of the cord or strap.
3. Turn adjusting nut (with socket wrench provided) until required force of approximately 0.5 kg to 0.9 kg [1 to 2 lbs.] is reached to turn roller pulling on spring scale.

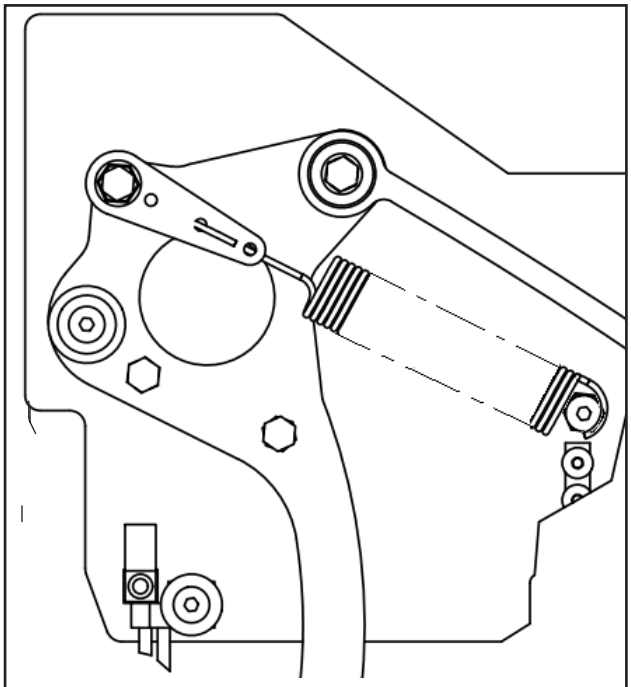


Figure 5-4 Applying Mechanism Spring

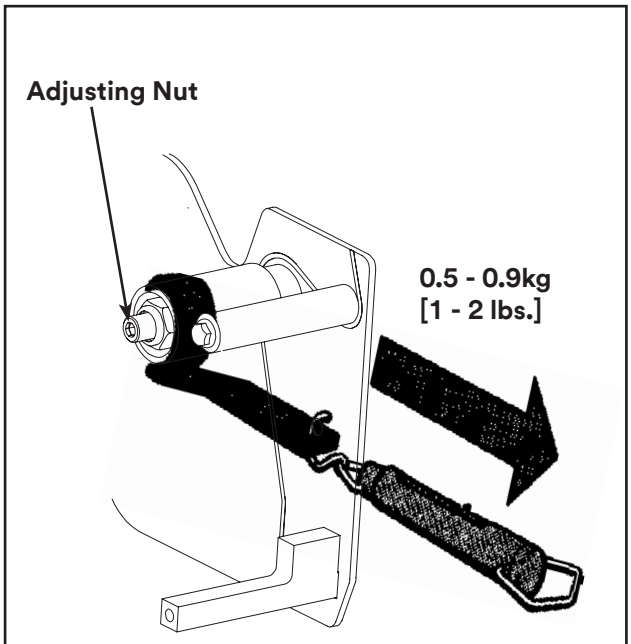


Figure 5-5 One-Way Tension Roller

⚠ Warning

- **To reduce the risk associated with shear, pinch, and entanglement hazards**
- Turn air and electrical supplies off on associated equipment before performing any adjustments, maintenance, or servicing the taping heads
- Never attempt to work on the taping head or load tape while the box drive system is running

(Adjustments *continued* on next page.)

Notes:

Toubleshooting

Troubleshooting Guide

Problem	Cause	Correction
The tape leg on the front of the case is too long	The tape is threaded incorrectly	The tape must go around the wrap roller before going around the one-way tension roller
	The tape tension is too low	Adjust the one-way tension roller
	Tape tracks to one side or drags on the support tabs of applying frame	Adjust the tape web alignments
	The one-way tension roller is not correctly positioned	Position the roller in its mounting slot so that the tape extends just beyond the centerline of the applying roller
	Taping head is not set up properly	Check leg length adjustments
	The blade is dull and/or has broken teeth	Replace the blade
The blade does not cut tape or tape end is jagged/shredded	Tape tension is insufficient	Increase tape tension by adjusting the one-way tension roller
	Adhesive has built up on blade	Clean and adjust the blade
	The blade is not positioned properly	Make sure the blade is bottomed out against the mounting bolts
	The blade is dry	Lubricate the blade oiler pad on the blade guard
	The blade is in backwards	Mount the blade so that the beveled edge is away from the entrance of the head
	One or both cutter springs are missing or stretched	Replace the defective spring(s)
	Tension roller surface is not fully contacting the taping head frame	Make sure one-way bearing is below the surface of the tension roller. If not, press bearing further into roller or replace roller.
	Taping Head not positioned properly	Adjust Taping Head so there is less than 1/8” gap between case and upper assembly

Toubleshooting *(continued)*

Troubleshooting Guide

Problem	Cause	Correction
Tape is tabbing on the trailing leg on the back of the box	There is excess tension on the tape drum assembly and/or the one-way tension roller assembly	Adjust the one-way tension roller and/or the tape drum assembly
	Rollers in the tape path do not rotate freely	Clean adhesive deposits from the surface, ends, and shafts of the rollers. Then lubricate roller shafts. Remove all lubricant from roller surfaces.
	The blade is not cutting tape properly	Refer to tape cutting problems
	The tape is threaded incorrectly	Re-thread the tape
	Applying mechanism spring has too little tension	Move spring hook to next tighter hole
The tape end does not stay in application position in front of the applying roller	The tape is incorrectly threaded	Re-thread the tape Adjust tension roller position in mounting slot to lengthen tape leg
	Applying roller overruns on return of applying mechanism to its rest position	There should be a slight drag when rotating the applying roller. If not, check friction springs and/or friction pins and replace if necessary
	The one-way tension roller is defective	Replace the one-way tension roller
Tape not centered on box seam	Tape drum not centered	Reposition tape drum
	Centering guides not centered	Adjust centering guides
	Box flaps not of equal length	Check box specifications

Spare Parts/Service Information

Recommended Spare Parts

Listed below are tools that are included with tape head. These parts should be kept in a convenient location to assist in routine maintenance and set-up of the tape head.

Accuglide V HSP 3" Taping Head - Type 12000

Qty.	Part Number	Description
1	78-8176-4522-7	Tube Wrench (17mm)
1	78-8091-0405-8	Wrench - Open End 19/25

In addition to the tools included with the taping head are a list of suggested spare parts that should be ordered and kept on hand. These parts will require replacement under normal wear of the tape head. The recomended parts are included in 78-0025-1959-9 (SPK - Spare Parts AccuGlide V HSP 3") which includes the following:

Qty.	Part Number	Description
2	78-0025-1924-3	Roller - Apply/Buff AG V HSP 3"
1	78-8113-7030-9	Spring - Torsion Blade Guard
1	78-8137-6966-4	Blade 3"
1	78-0025-1814-6	Upper Spring (Silver)
1	78-0025-1815-3	Lower Spring (Black)
2	78-8052-6602-6	Spring - Cutter
1	78-8137-7135-5	Brush Assembly 3" (End)
1	78-0025-1746-0	Brush Assembly 3" (Middle)

Replacement Parts and Service

Refer to the first page of this instruction manual **“Replacement Parts and Service Information".**

Replacement Parts Illustrations and Parts Lists

Description	Part Number
Accuglide™ V HSP 3" Control Side w/o Blade Retract	70-0099-2001-1
Accuglide™ V HSP 3" Control Side w/Blade Retract	70-0099-2003-7
Accuglide™ V HSP 3" Opposite Side w/o Blade Retract	70-0099-2007-8
Accuglide™ V HSP 3" Opposite Side w/Blade Retract	70-0099-2009-4
Accuglide™ V HSP 3" Control Side w/Blade Retract LD	70-0099-2005-2
Accuglide™ V HSP 3" Opposite Side w/Blade Retract LD	70-0099-2011-0

1. Refer to the Taping Head Assemblies Figure to find all the parts illustrations identified by figure numbers.

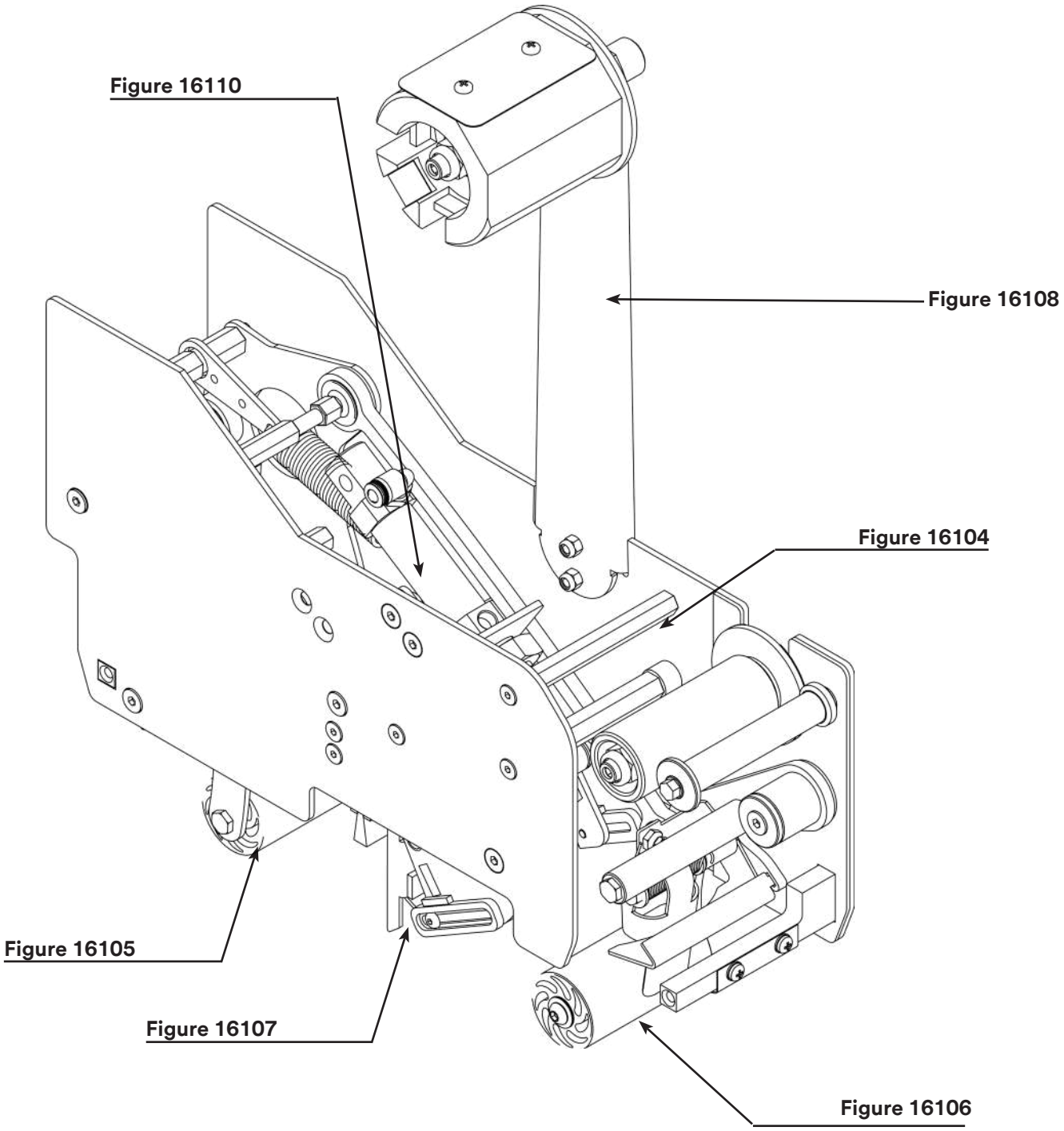
2. Refer to the figure or figures to determine the individual parts required and the parts reference number.

3. The replacement parts list, that follows each illustration, includes the part number and part description for the parts in that illustration.

Note – The complete description has been included for standard fasteners and some commercially available components. This has been done to allow obtaining these standard parts locally, should the customer elect to do so.

4. Refer to the first page of this instruction manual "Replacement Parts and Service Information" for replacement parts ordering information.

Important – Not all the parts listed are normally stocked items. Some parts or assemblies shown are available only on a special order basis. Contact 3M/Tape Dispenser Parts to confirm item availability.



Taping Head Assembies - AccuGlide™ V HSP 3 Inch - Type 12000

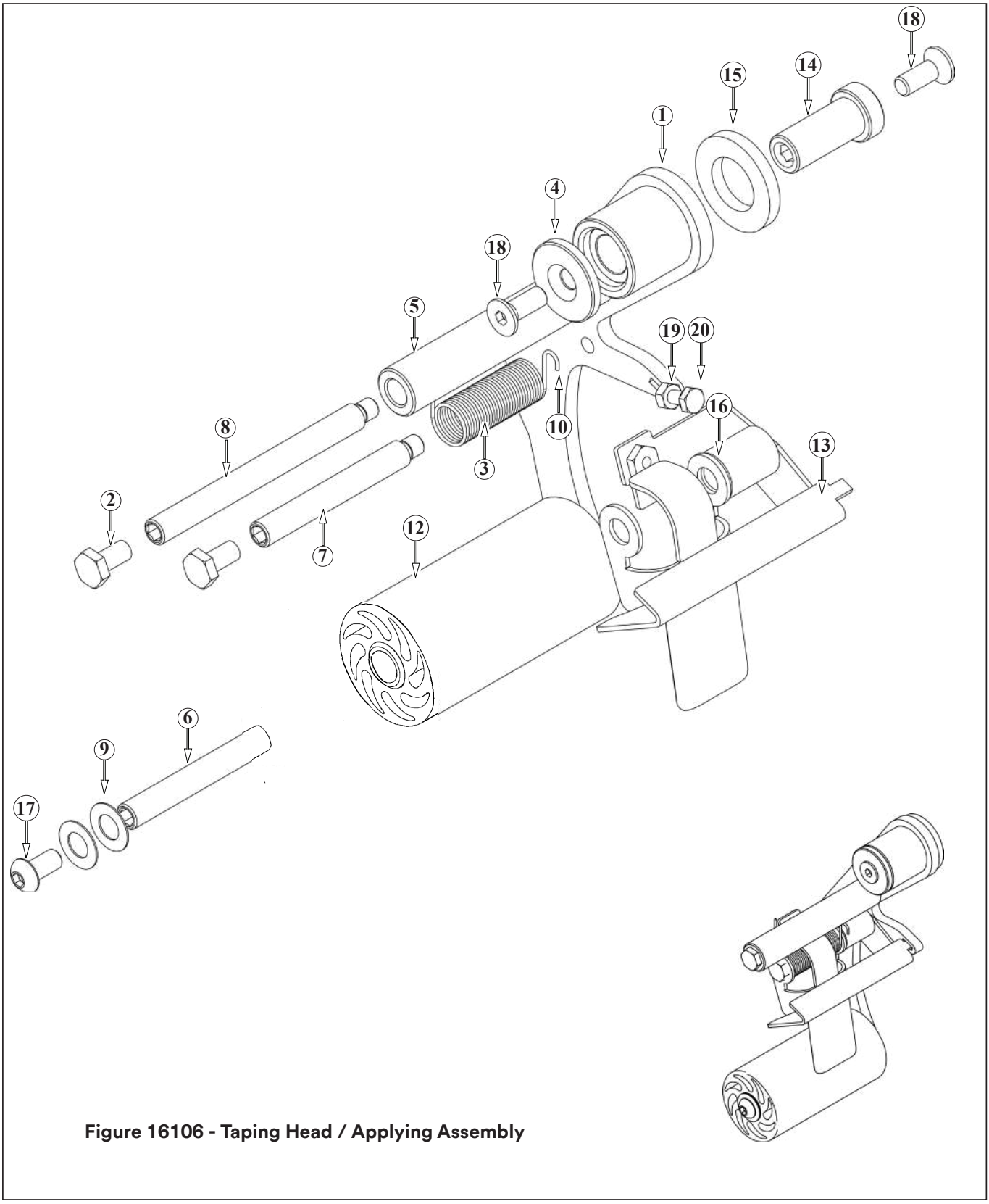


Figure 16106 - Taping Head / Applying Assembly

Figure 16106 - Taping Head / Applying Assembly

Ref. No.	3M Part No.	Description
16106-1	78-0025-1797-3	Arm Assy - Apply AG V HSP
16106-2	26-1003-5829-5	Screw - Hex Hd M6 × 12 - Low Profile
16106-3	78-8113-7030-9	Spring - Torsion Blade Guard
16106-4	78-8137-5684-4	Cap - Pivot
16106-5	78-8137-6954-0	Roller - Wrap Swivel
16106-6	78-8137-6953-2	Shaft - Roller Apply
16106-7	78-8137-5696-8	Shaft - Finger Pivot
16106-8	78-8137-6950-8	Shaft - Wrap Swivel
16106-9	78-8137-5753-7	Washer - Friction Plastic
16106-10	78-8137-7136-3	Spacer - Roller
16106-12	78-0025-1924-3	Roller - Apply/Buff AG V HSP 3"
16106-13	78-0025-1800-5	Fork - Formed AG V HSP Cntrl Side 3"
16106-14	78-0025-1801-3	Shaft - Pivot Apply AG V HSP
16106-15	78-0025-1802-1	Brg - Thrust Apply AG V HSP
16106-16	78-8137-7057-1	Finger - Tape Support
16106-17	78-8076-4503-7	Screw - Butt Soc Hd,M6-1×12,Zinl Plated
16106-18	26-1001-9843-6	Screw - Flat Soc Hd, M6 × 16
16106-19	78-8010-7416-8	Nut - Hex, M4
16106-20	26-1003-5707-3	Fastener - HHCS M4 X 16mm Lg Znc. Plt

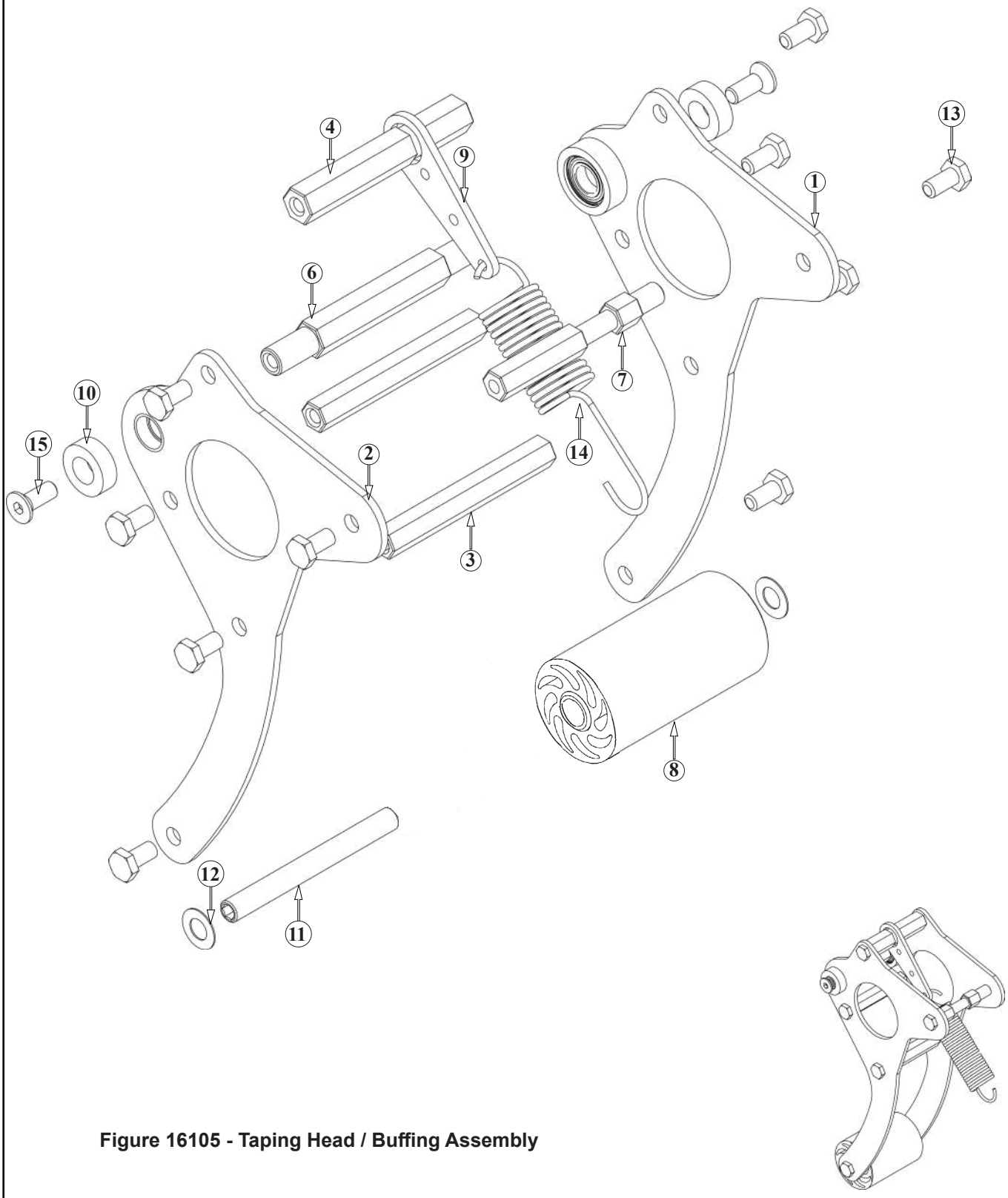


Figure 16105 - Taping Head / Buffing Assembly

Figure 16105 - Taping Head / Buffing Assembly

Ref. No.	3M Part No.	Description
16105-1	78-0025-1768-4	Arm Assy - Buffing AG V HSP Right
16105-2	78-0025-1763-5	Arm Assy - Buffing AG V HSP Left
16105-3	78-0025-1756-9	Shaft Spacer Buffing AG V HSP 3"
16105-4	78-0025-1757-7	Shaft - SpringBuffing AG V HSP 3"
16105-6	78-0025-1758-5	Shaft - Pivot Buffing AG V HSP 3"
16105-7	78-0025-1759-3	Shaft - Link Arm Mount AG V HSP 3"
16105-8	78-0025-1924-3	Roller - Apply/Buff AG V HSP 3"
16105-9	78-0025-1761-9	Plate - Spring Hldr AG V HSP
16105-10	78-0025-1762-7	Spacer - Brz Buffing AG V HSP
16105-11	78-8137-6953-2	Shaft - Roller Apply
16105-12	78-8137-5753-7	Washer - Friction Plastic
16105-13	26-1003-5829-5	Screw - Hex Hd M6 x 12 - Low Profile
16105-14	78-0025-1814-6	Spring-UpperAGVHSP
16105-15	26-1001-9843-6	Screw - Flat Soc Hd, M6 x 16

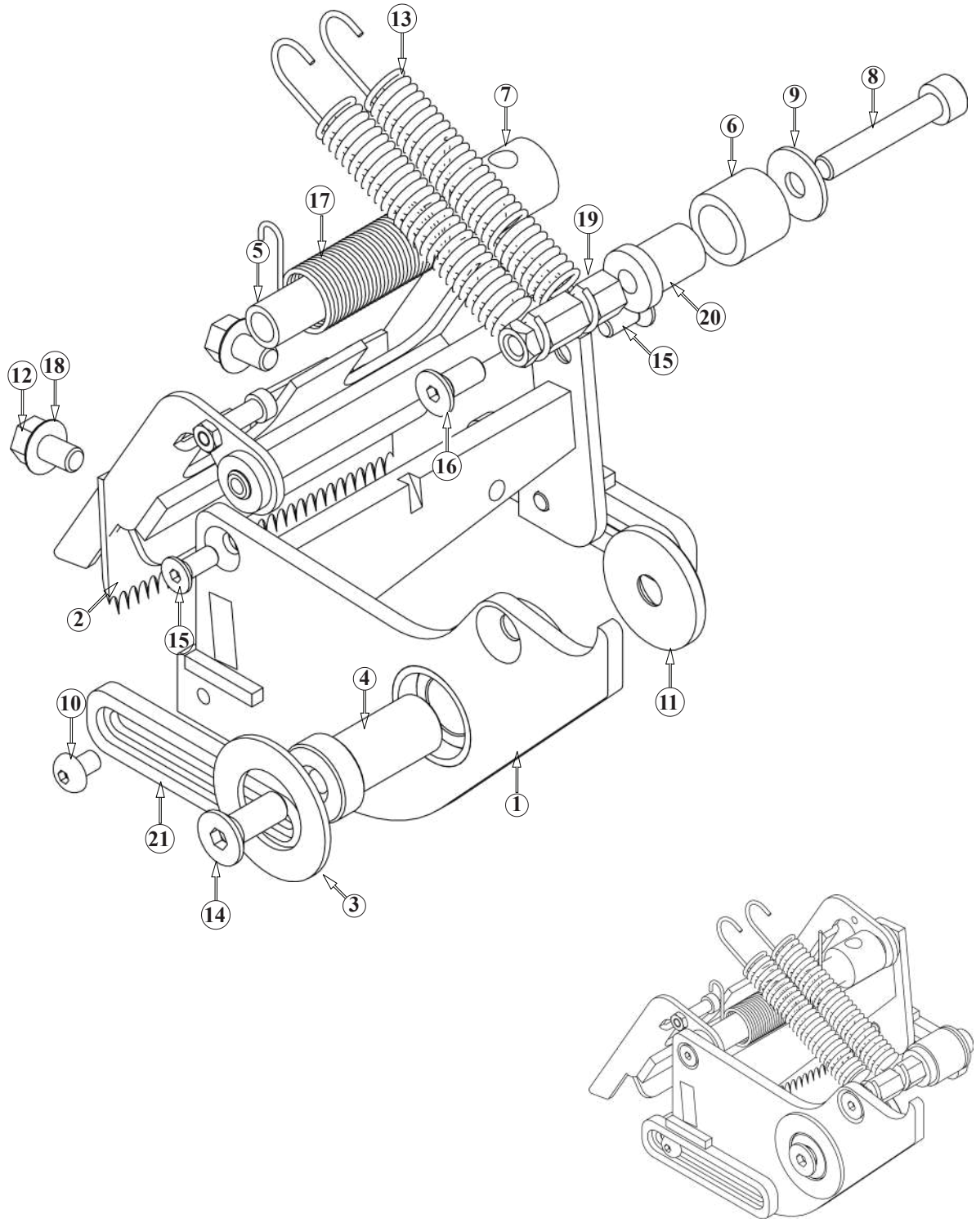
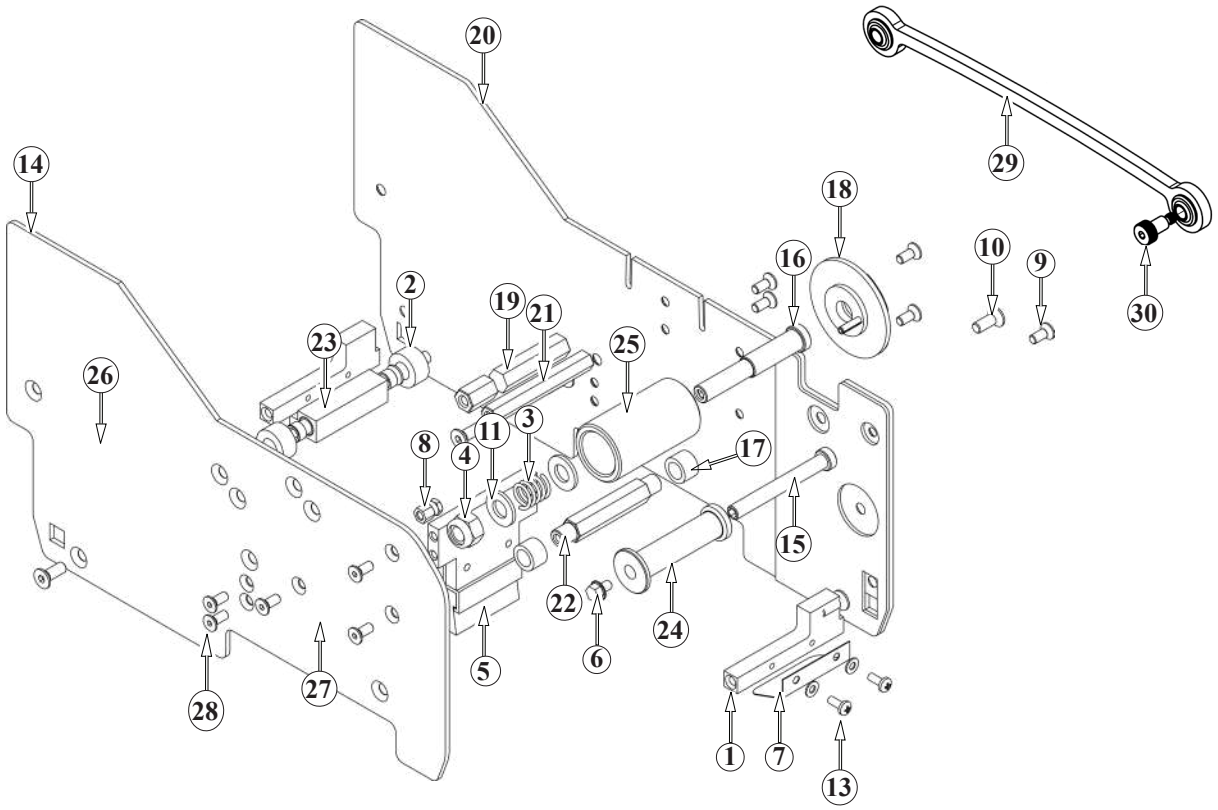


Figure 16107 - Taping Head / Blade Guard Assembly

Figure 16107 - Taping Head / Blade Guard Assembly

Ref. No.	3M Part No.	Description
16107-1	78-0025-1782-5	Arm Assy - Cut Off AG V HSP 3"
16107-2	78-8137-6966-4	Blade - 3 inch
16107-3	78-0025-1771-8	Brg - Thrust Cut Off AG V HSP
16107-4	78-0025-1772-6	Shaft - Pivot Cut Off AG V HSP
16107-5	78-0025-1781-7	Shaft - Pivot Blade Guard AG V HSP 3"
16107-6	78-0025-1780-9	Roller - Retract Cut Off AG V HSP
16107-7	78-8137-6969-8	Bushing - 72.7 mm Long
16107-8	26-1003-7953-1	Screw - Soc Hd, M5 x 30
16107-9	78-8028-8214-8	Washer - Triple, M5
16107-10	78-8137-7093-6	Screw - Butt Soc Hd,M4-.07 x 6, Zinc Plt
16107-11	78-8137-5684-4	Cap - Pivot
16107-12	26-1003-8596-7	Screw - Hex Hd M5 x 8 w/ Ext Tth Lck Wsh
16107-13	78-8052-6602-6	Spring - Cutter
16107-14	26-1001-9843-6	Screw - Flat Soc Hd, M6 x 16
16107-15	26-1005-4758-2	Screw - Flat Hd, Soc Dr, M4 x 10
16107-16	26-0001-5862-1	Screw - Flat Hd Soc M5 x 12
16107-17	78-8113-7030-9	Spring - Torsion Blade Guard
16107-18	78-0025-1773-4	Guard Assy - Blade AG V HSP Cntrl Side 3"
16107-19	78-8137-6986-2	Post - Spring Cut Off Dual
16107-20	78-0025-1779-1	Sleeve - Retract AG V HSP
16107-21	78-0025-1778-3	Plate - Cut Off Ski AG V HSP

Version 1



Version 2 "LD"

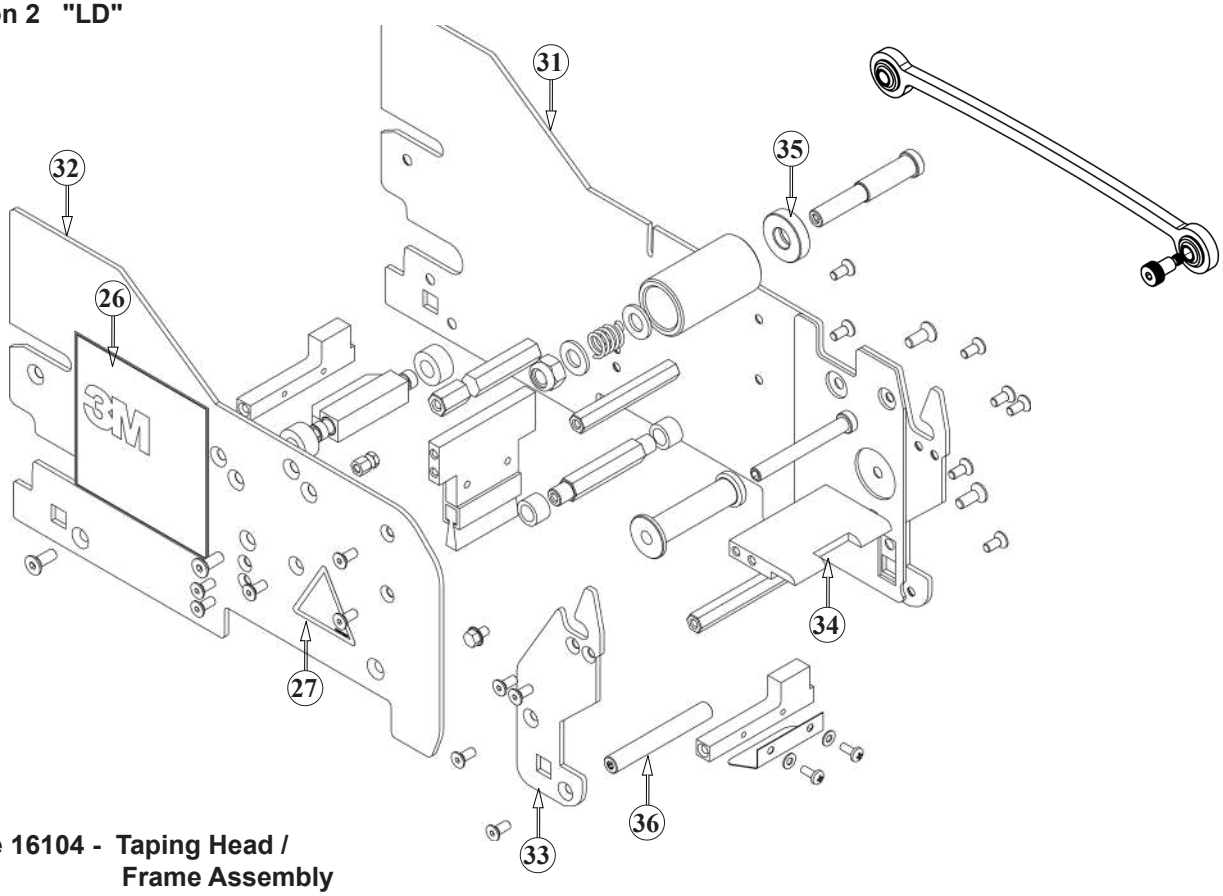


Figure 16104 - Taping Head / Frame Assembly

Figure 16104 - Taping Head / Frame Assembly

Ref. No.	3M Part No.	Description
Version 1 and Version 2:		
16104-1	78-8137-6973-0	Spacer - Mounting Block
16104-2	78-8137-5724-8	Bumper- Stop 10 x 20 x 10L
16104-3	78-8052-6567-1	Spring - Compression
16104-4	78-8017-9077-1	Nut - Self-locking, M10 x 1
16104-5	78-0025-1746-0	Brush Assy - Mid AG V HSP 3"
16104-6	26-1003-8596-7	Screw - Hex Hd M5 x 8 w/ Ext Tth Lck Wsh
16104-7	78-8137-7055-5	Plate - Front Flap Guide
16104-8	78-8137-6986-2	Post - Spring Cut Off Dual
16104-9	26-1001-5862-1	Screw - Flt Hd Hex Dr M5 x 12
16104-10	26-1001-9843-6	Screw - Flat Soc Hd, M6 x 16
16104-11	26-1004-5510-9	Washer - Plain M10
16104-12	78-8005-5740-3	Washer - Plain 4mm
16104-13	78-8017-9257-9	Screw - Phillips Hd, M4 x 10
16104-14	78-0025-1732-0	Frame - Front AG V HSP Cntrl Side
16104-15	78-0025-1733-8	Shaft - Roller Wrap AG V HSP
16104-16	78-0025-1734-6	Shaft - Tension Roller AG V HSP
16104-17	78-8137-5897-2	Bumper- Stop 10 x 15 x 10L
16104-18	78-0025-1736-1	Disk Assy - TAM AG V HSP
16104-19	78-0025-1739-5	Shaft - Spring Main AG V HSP
16104-20	78-0025-1740-3	Frame - Wldmnt AG V HSP Cntrl Side
16104-21	78-0025-1744-5	Shaft - Cross Frame AG V HSP 3"
16104-22	78-0025-1745-2	Shaft - Cross Bumper AG V HSP 3"
16104-23	78-8137-7135-5	Brush Assembly 3 in NPH
16104-24	78-0025-1749-4	Roller - Wrap Flanged AG V HSP 3"
16104-25	78-0025-1743-7	Roller Assy - Tension 3" CCW AG V HSP
16104-26	78-0025-1903-7	Label - Tape Thread AG V HSP Cntrl Side
16104-27	78-8137-0223-6	Label - Warning "Sharp Knife"
16104-28	26-1002-3866-1	Screw - Flat Soc Hd, M5 x 10
16104-29	78-0025-1912-8	Arm - Link w/Bearing
16104-30	78-0025-1753-6	Fastener - 8mm x 12mm Sholder Bolt Mod
Version 2 Only	(see illustration):	
16104-31	78-0025-1810-4	Frame - Wldmnt AG V HSP Cntrl Side LD
16104-32	78-0025-1807-0	Frame - Front AG V HSP Cntrl Side LD
16104-33	78-0025-1808-8	Frame Front Entry AG V HSP Cntrl Side LD
16104-34	78-0025-1809-6	Block - LDX RTB MTG AG V HSP 3"
16104-35	78-0025-1816-1	Spacer - Ten Roller No TAM AG V HSP
16104-36	78-8137-6977-1	Shaft - Spacer

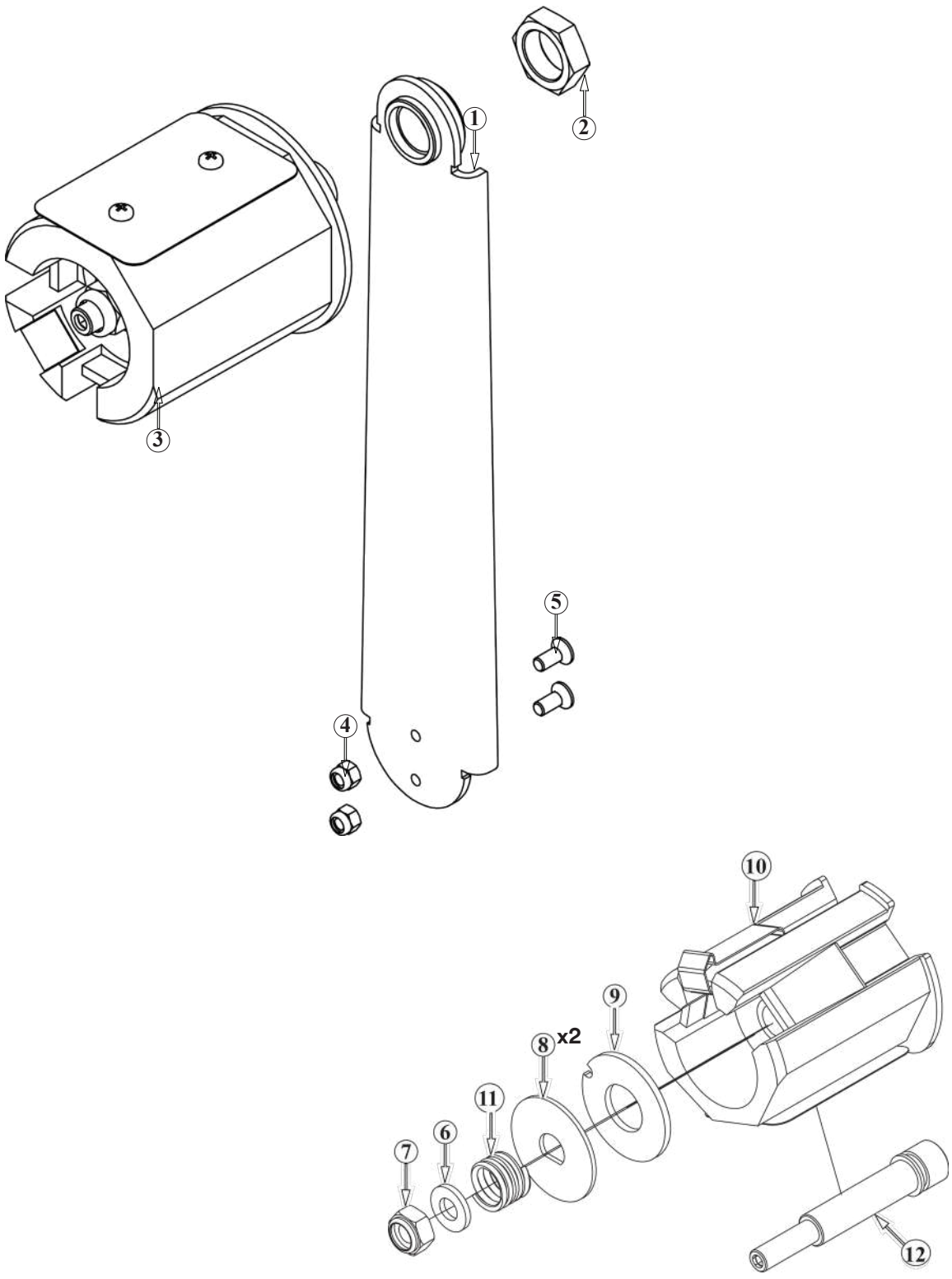
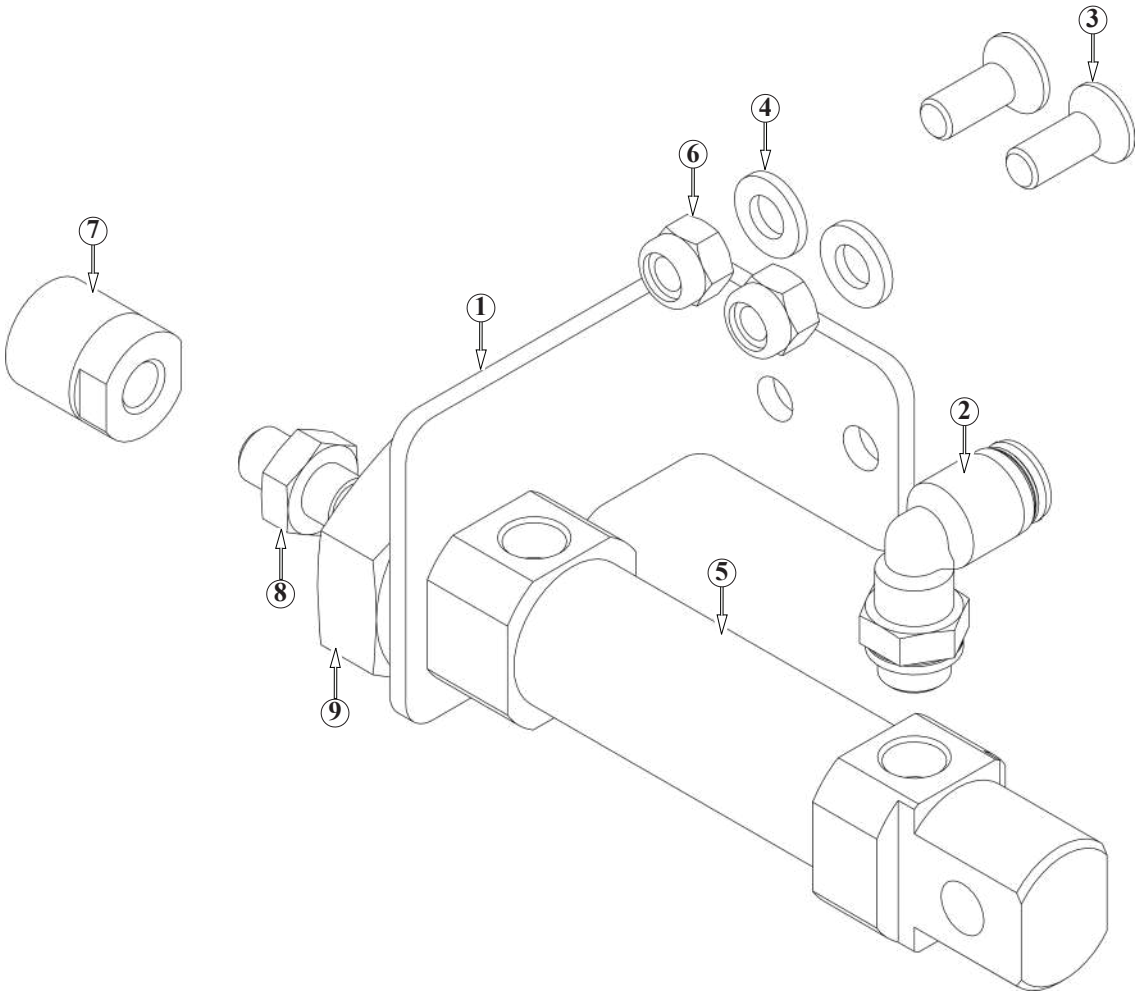


Figure 16108 - Upper and Lower Taping Head / Tape Drum/Arm Assembly

Figure 16108 - Upper and Lower Taping Head / Taping Head Assembly

Ref. No.	3M Part No.	Description
16108-1	78-0025-1794-0	Arm Assy - Tape w/Bushing AG V HSP
16108-2	78-8017-9169-6	Nut - M18x1(3877-7,3894-7,4046-16)
16108-3	78-0025-1910-2	Latching Tape Drum 3"
16108-4	26-1005-6859-6	Nut - Self-Locking, M5
16108-5	26-0001-5862-1	Screw - Flat Hd Soc M5 x 12
16108-6	26-1004-5510-9	Washer - Plain, M10 X 20 X 2.5
16108-7	78-8017-9077-1	Nut - Self Locking, M10 X 1
16108-8	78-8052-6271-0	Washer - Tape Drum
16108-9	78-8060-8172-1	Washer - Friction
16108-10	78-8098-8829-6	Tape Drum Sub-Assembly - 3 Inch
16108-11	78-8100-1048-4	Spring - Core Holder
16108-12	78-0025-1909-4	Shaft - Drum



⑩ Air Line Assembly (Not Shown)

Figure 16110 - Upper and Lower Taping Head / Blade Retract Assembly

Ref. No.	3M Part No.	Description
16110-1	78-0025-1790-8	Bracket - Cylinder Support 58 x 40
16110-2	78-0025-0499-7	Fitting - 6 mm x 1/8" 90 Elbow Male NPT
16110-3	26-0001-9843-6	Screw - Flat Soc Hd, M6 X 16
16110-4	26-1000-0010-3	Washer - Plain, M6
16110-5	78-0025-1791-6	Cylinder - ISO 6432 D=20 C=25 C85N20-25
16110-6	78-8091-0418-1	Nut - Self-Locking, M6
16110-7	78-0025-0497-1	Bumper - 1/4-28 Female Round
16110-8	78-0025-0498-9	Nut - 1/4-28 Hex Jam PLT
16110-9	70-8000-5374-9	Nut - 1/2-13 Hex Jam
16110-10	78-0025-1928-4	Air Line Assembly AccuGlide V HSP (Not Shown)