Instructions and Parts List

Scotch®
BRAND

3M-Matic
7R
Random Case Sealer

Model 48400

IMPORTANT
It is recommended you immediately order the spare parts listed on page 33. These parts are expected to wear through normal use, and should be kept on hand to minimize production delays.

34-7004-7347-2(B57.015)R1

Litho in U.S.A.

3M Packaging Systems Division
Building 220-8W-01, 3M Center
St. Paul, MN 55144-1000

3M

To Our Customers:

This is the "3M-Matic"/"AccuGlide"/"Scotch"/"Opta-Pak" brand Equipment you ordered. It has been set up and tested in the factory with "Scotch" Brand tapes. If any problems occur when operating this equipment, and you desire a service call, or phone consultation, call the 3M National Service Center on 1-800/328 1390 (Twin Cities Metro Area call 731 6507). Please provide the customer support coordinator with the machine catalog number and serial number. If you have a technical question that does not require an immediate response, you may Fax it to 612/731 6650.

Replacement Parts

Order parts by **part number, part name,** quantity required, **machine name, number** and **model number.**

Replacement parts and parts prices available from:

Dispenser Parts
Route 4, Box 5B
Amery, WI 54001

715/268 8126 (WI)
800/344 9883 (Outside WI)
FAX# 715/268 8153

34-7004-7364-7(G201)R2 XY

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3M Packaging Systems Division
3M Center Bldg. 220-8W-01
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3M

Instruction Manual
7R Random Case Sealer
Model 48400

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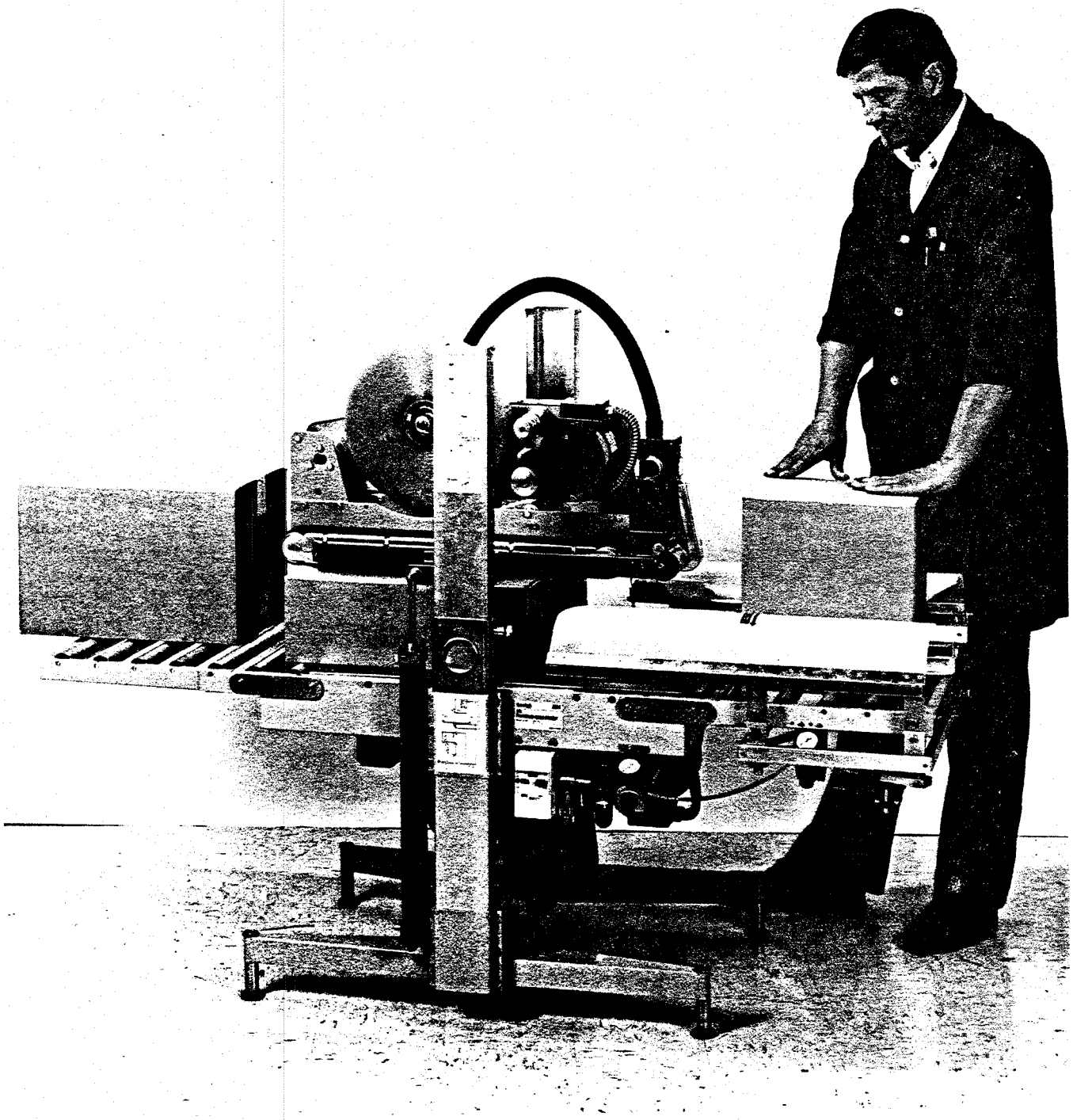


7R Random Case Sealer - Model 48400

Description -

The 7R Case Sealer is designed to apply a "C" clip of pressure sensitive tape to the top and bottom center seams of regular slotted containers. The 7R will automatically adjust itself to a wide range of random box sizes (see box size specifications). The box size range of operation can be manually adjusted for runs of uniform size boxes or to minimize cycle time for random size boxes.

Receiving And Handling

After the machine has been uncrated, examine the Case Sealer for damage that might have occurred during transit. If damage is evident, file a damage claim immediately with the transportation company and also your 3M Representative.

Spare parts, tools, and oil can are provided in a small plastic case. Remove and keep with Case Sealer for use in set-up, operation, and maintenance.

Several machine components are tied down to prevent damage during transit. Remove these before proceeding with following set-up instructions.

Warranty

Important Notice To Purchaser: The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: The only obligation of the seller and manufacturer of "Scotch" Brand equipment shall be to repair or replace any mechanical part proved to be defective, provided the defect occurs within 90 days after date of purchase, and the so-purchased item is returned immediately to the 3M factory or to an authorized service station designated by the manufacturer. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use of or the inability to use the "Scotch" Brand equipment.** No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

"Scotch", "Scotchpar" and "Scotchpro" are registered trademarks for the pressure-sensitive tapes and dispensers of 3M, St. Paul, Minnesota 55144-1000.

Specifications

1. **Power Requirements:**

   115V, 60 Hz., 5 A.
   70 PSIG [585 kPa gauge pressure], 2.5 SCFM [4.25 m^3/h 21^oC, 101 kPa] maximum at maximum random cycle rate.
   A pressure regulator-filter-lubricator is included.

2. **Machine Dimensions:**

		Overall Dimensions	For Shipping Purposes
A.	Length	- 65.7 inches [1665 mm]	40.2 inches [1020 mm]
B.	Width	- 28.6 inches [725 mm]	
C.	Height	- 48.8 inches [1240 mm]	
D.	Conveyor Bed Height	- Adjustable up and down from factory set height of 24.6 inches [625 mm]. Refer to Box Height Capacity Chart as affected by conveyor bed height, page 4, for further specifications.	
E.	Weight	- 420 pounds [190 kg] crated 330 pounds [150 kg] uncrated	

(Specifications continued on next page.)

Specifications (Continued)

3. **Operating Rate:**

   Up to 12 boxes per minute depending on box size, weight, and operator capability. Higher rates are possible through box size range of fixed size adjustments provided.

4. **Operating Conditions:**

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

   IMPORTANT SAFEGUARD

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

5. **Tape:**

   "Scotch" Brand Pressure-sensitive Film Box Sealing Tapes.

6. **Tape Width:**

   1-1/2 inches or 36 mm minimum to 2 inches [50 mm] maximum.

7. **Tape Roll Diameter:**

   Up to 14 inches [355 mm] maximum on a 3 inch [76.2 mm] diameter core. (Accommodates "Scotch" Brand Film tapes - 1,000 yard rolls.)

8. **Box Board:**

   125 to 275 P.S.I. bursting test, single wall A, B, or C flute.

9. **Box Weight and Size Capacities:**

   A. Box weight, filled - up to 65 pounds [30 kg]

   B. Box size:

	Minimum	**Maximum**
Length -	6.0 inches or 150 mm	unlimited
Width -	5.6 inches or 140 mm	20.7 inches or 525 mm
Height -	5.2 inches or 130 mm	†19.8 inches or 500 mm

† Maximum box height of 26 inches or 660 mm can be attained by using Auxiliary Tape Roll Mount Attachment, P/N 78-8017-9417-9, on bottom taping head and lowering roller conveyor bed as discussed on page 21. Refer to Box Height Capacity Chart as affected by conveyor bed height, page 4, for further specifications.

(Specifications continued on next page.)

9. **Box Weight and Size Capacities** (Continued)

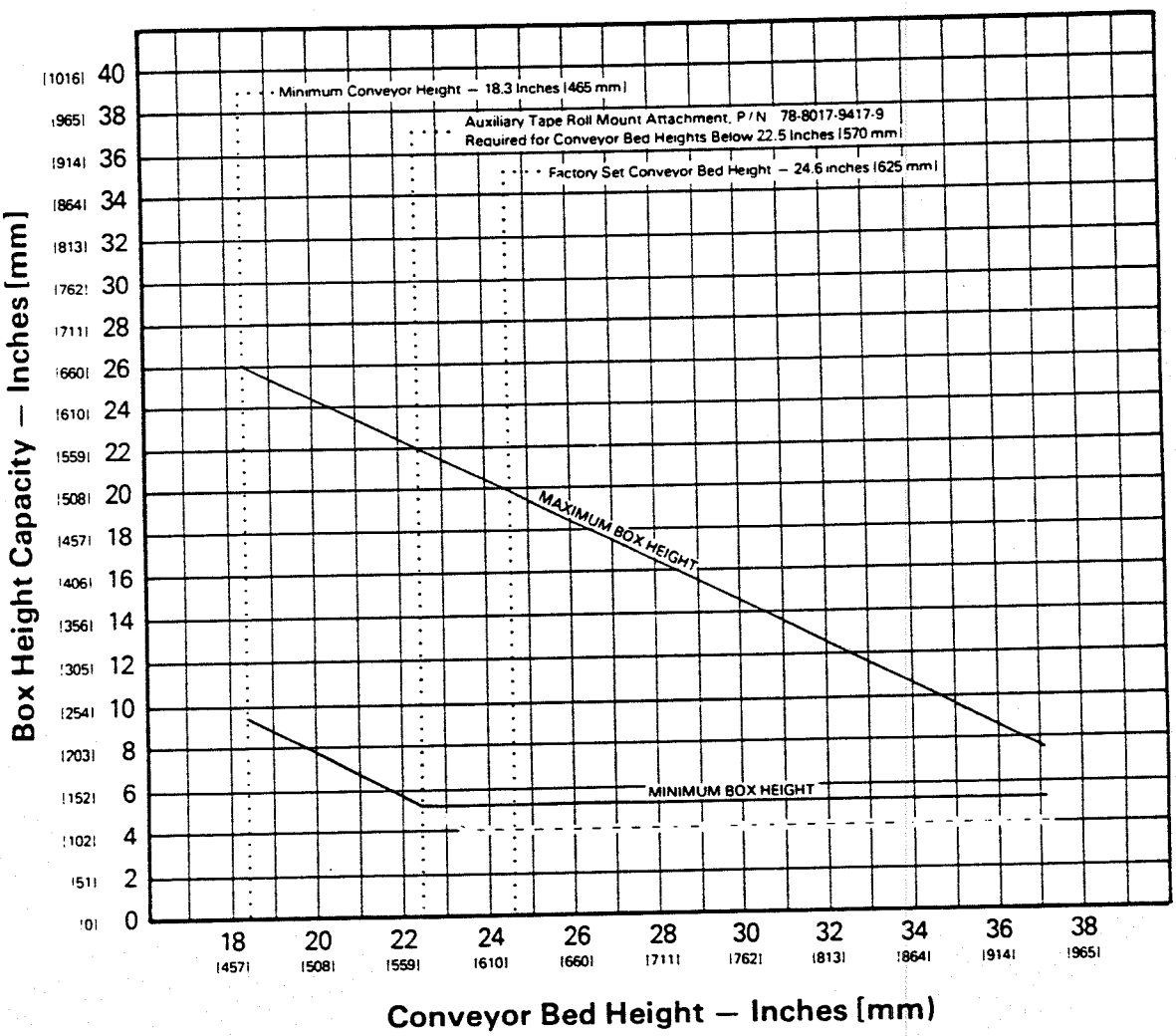
Note: The Case Sealer can accommodate most boxes within the size range listed above. However, if the box length (in direction of seal) to box height ratio is .5 or less, then several boxes should be test run to assure proper machine performance.

DETERMINE THE BOX LIMITATIONS BY COMPLETING THIS FORMULA:

$$\frac{\text{BOX LENGTH IN DIRECTION OF SEAL}}{\text{BOX HEIGHT}} \quad \text{MUST BE GREATER THAN .5}$$

Any box ratio approaching this limitation should be test run to assure performance.

10. **Box Height Capacity As Affected By Conveyor Bed Height**



- - - - Minimum Box Height with Knife Guards Removed and Top Taping Head Bumpers Reduced 1 2 Inches (30 mm) in Height

Set-Up Instructions

It is recommended that the Case Sealer be set-up and tried before placing it in the production line. This approach will allow your thorough review and familiarization with the unit before subjecting it and operating personnel to a production situation where time for set-up, adjustments, and operator training usually becomes limited.

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

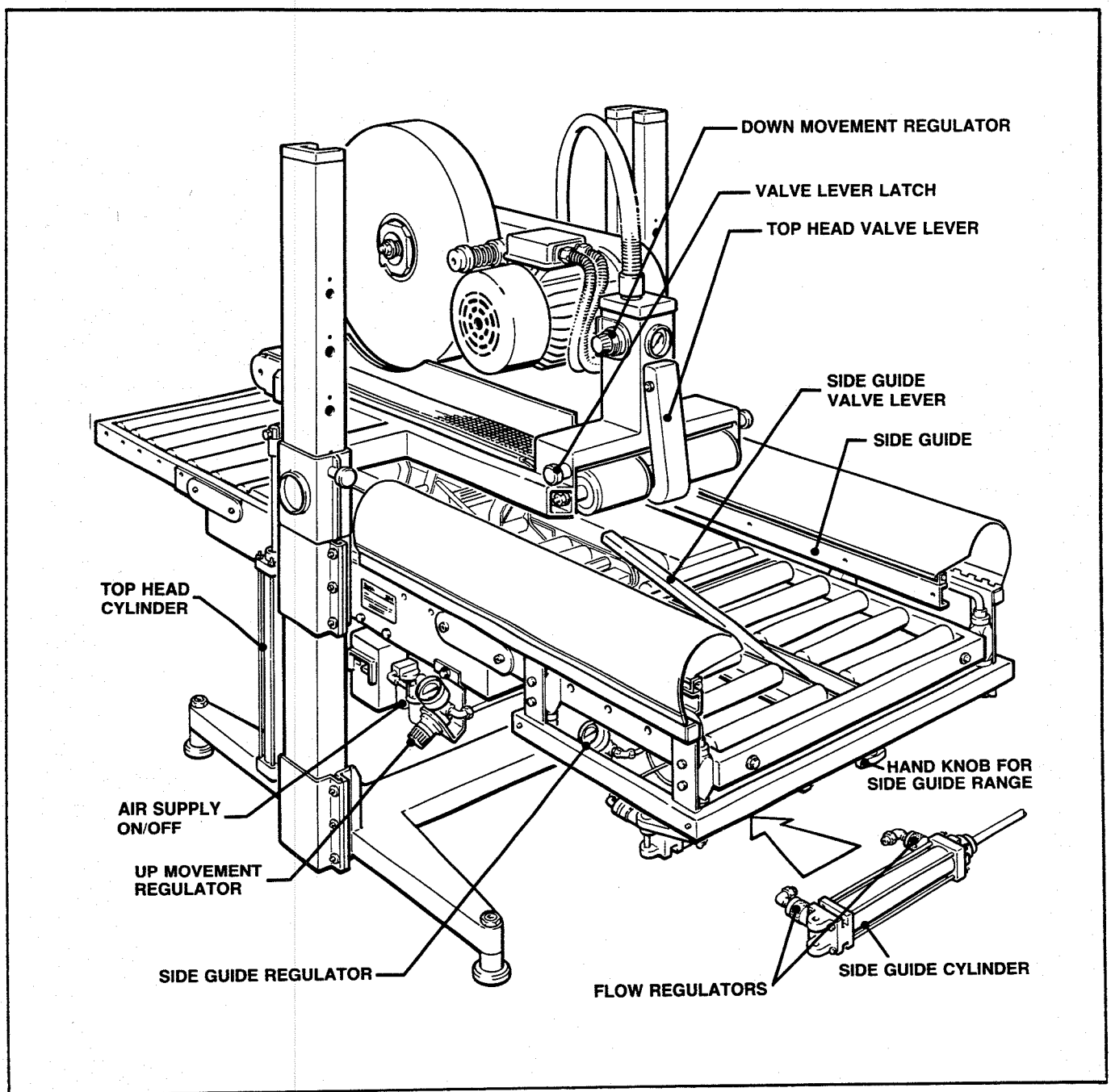


Figure 1 - Set-Up Instructions - Case Sealer Components - Left Front View

Set-Up Instructions

Infeed And Discharge Conveyors

The infeed and discharge conveyors are folded down for shipping purposes, as shown in Figure 2 and using figures 3-5 as a guide, should be erected into operating position as follows:

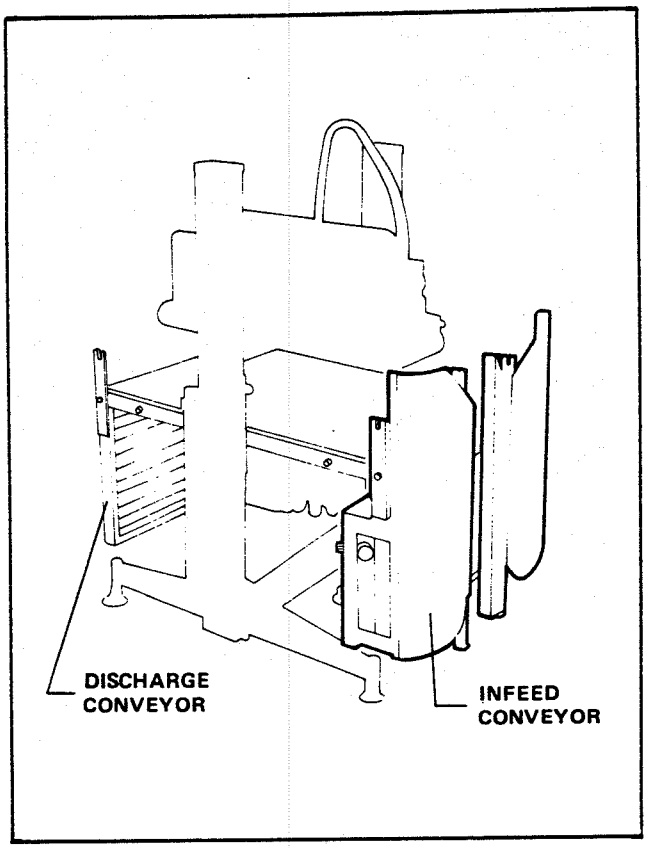


Figure 2 - Infeed & Discharge Conveyor Set-Up

Discharge Conveyors

Loosen the two M8 x 20 socket head screws on each side of the conveyor frame. The conveyor can then be pivoted up, as shown in Figure 3, with the slotted brackets inserted under the heads of the inside screws. Tighten screws to hold conveyor in the operating position.

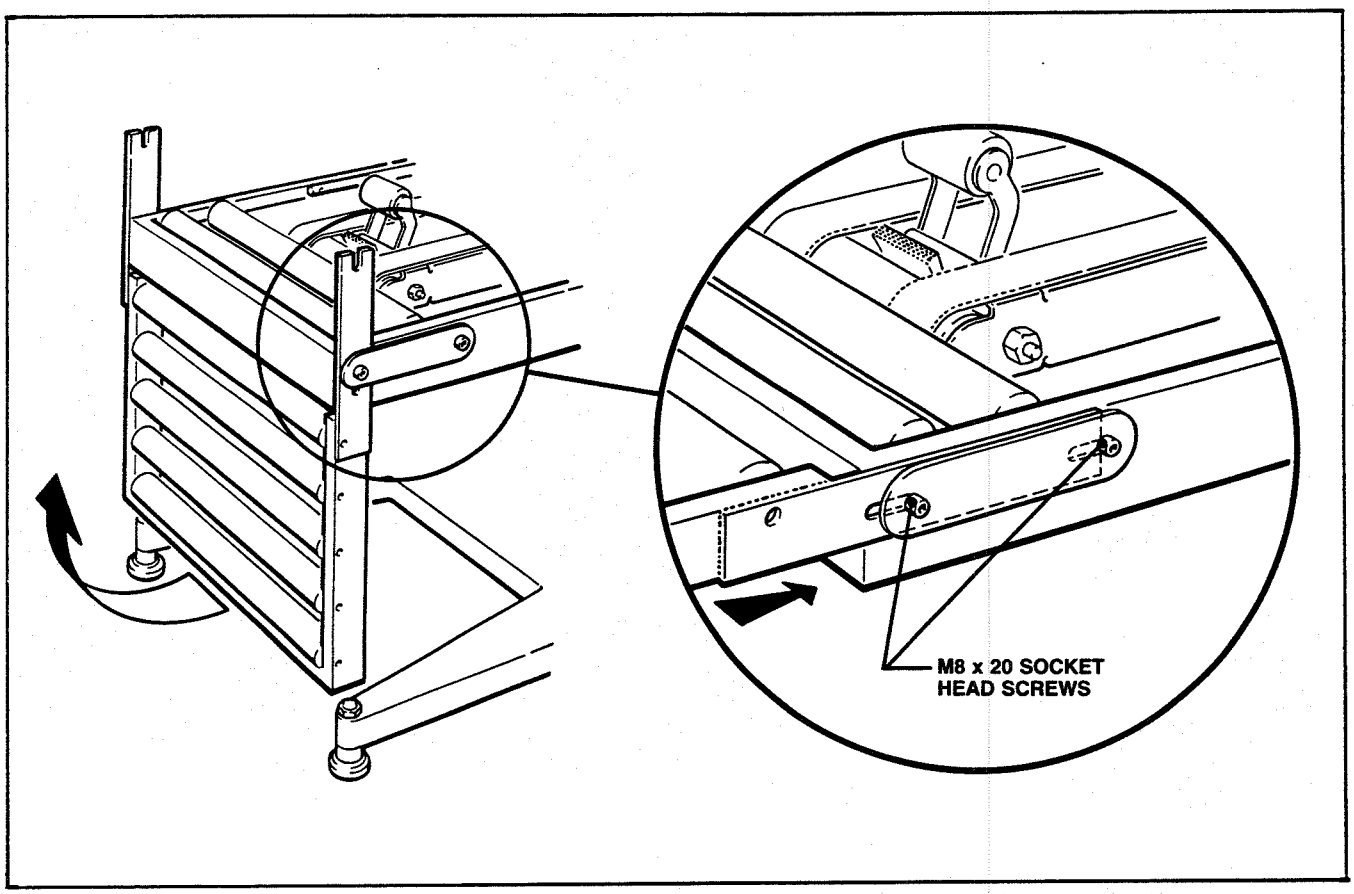


Figure 3 - Discharge Conveyor

Set-Up Instructions (Continued)

Infeed Conveyor - Before erecting the infeed conveyor, it is necessary to open the side guides which are shipped in the closed position to minimize crate size. Manually open side guides by lifting both simultaneously allowing them to pivot to the open position.

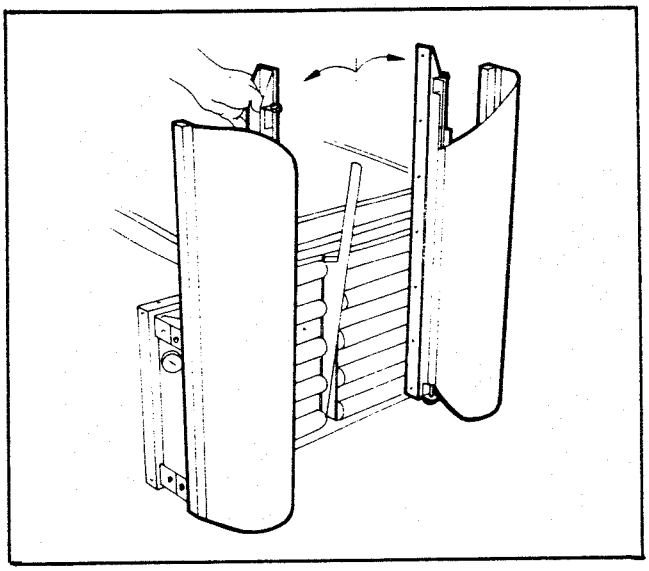


Figure 4 - Infeed Side Guides

Loosen the two M8 x 20 socket head screws on each side of the conveyor frame. The infeed conveyor can then be pivoted up with the slotted brackets inserted under the heads of the inside screws. Hold conveyor in operating position while tightening screws. If resistance is felt when pivoting the conveyor up, check to be sure that air tubing on underside of infeed conveyor is not catching on bottom taping head.

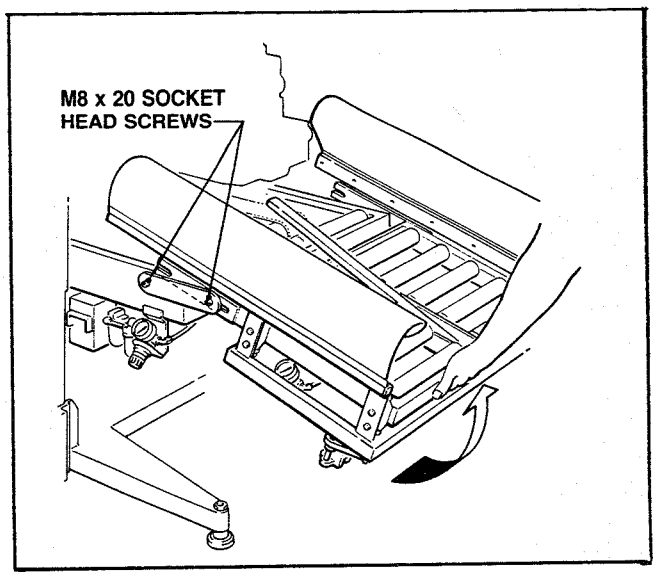


Figure 5 - Infeed Conveyor Set-Up

Conveyor Bed Installation

Insert panel into (2) locating pins (see Figure 6) and pivot into locking plates and secure (4) locking screws with wrench provided.

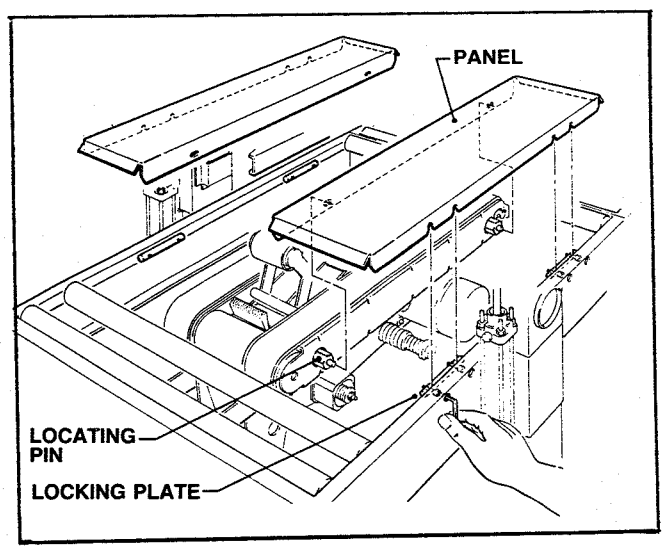


Figure 6 - Conveyor Bed Panels

Machine Leveling

The base is equipped with four leveling pad feet, as shown in Figure 7, which can be used to level the machine or to adjust to an uneven floor once it is placed in the production line. Each foot is adjustable as follows:

1. Loosen by 1/4 turn M6 x 10 socket head lock screw with hex socket wrench provided in tool kit.
2. Using same wrench inserted in hex socket in top of the foot assembly, foot pad can be extended by turning wrench counterclockwise, retracted by turning wrench clockwise. Maximum extension of foot pad is 1 inch [25 mm].
3. After adjusting pad extension to level machine, lock in place by tightening M6 x 10 socket head lock screw.

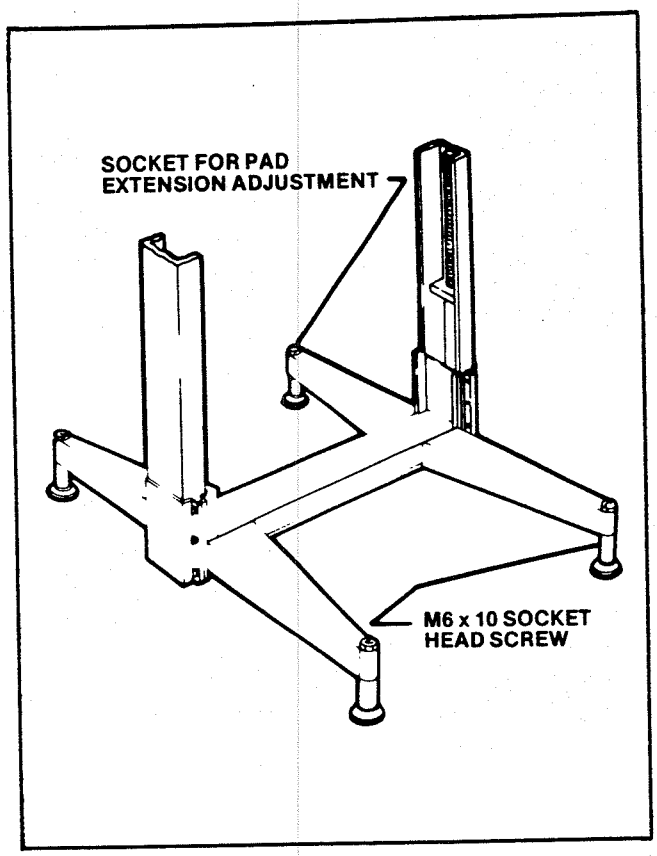


Figure 7 - Machine Leveling

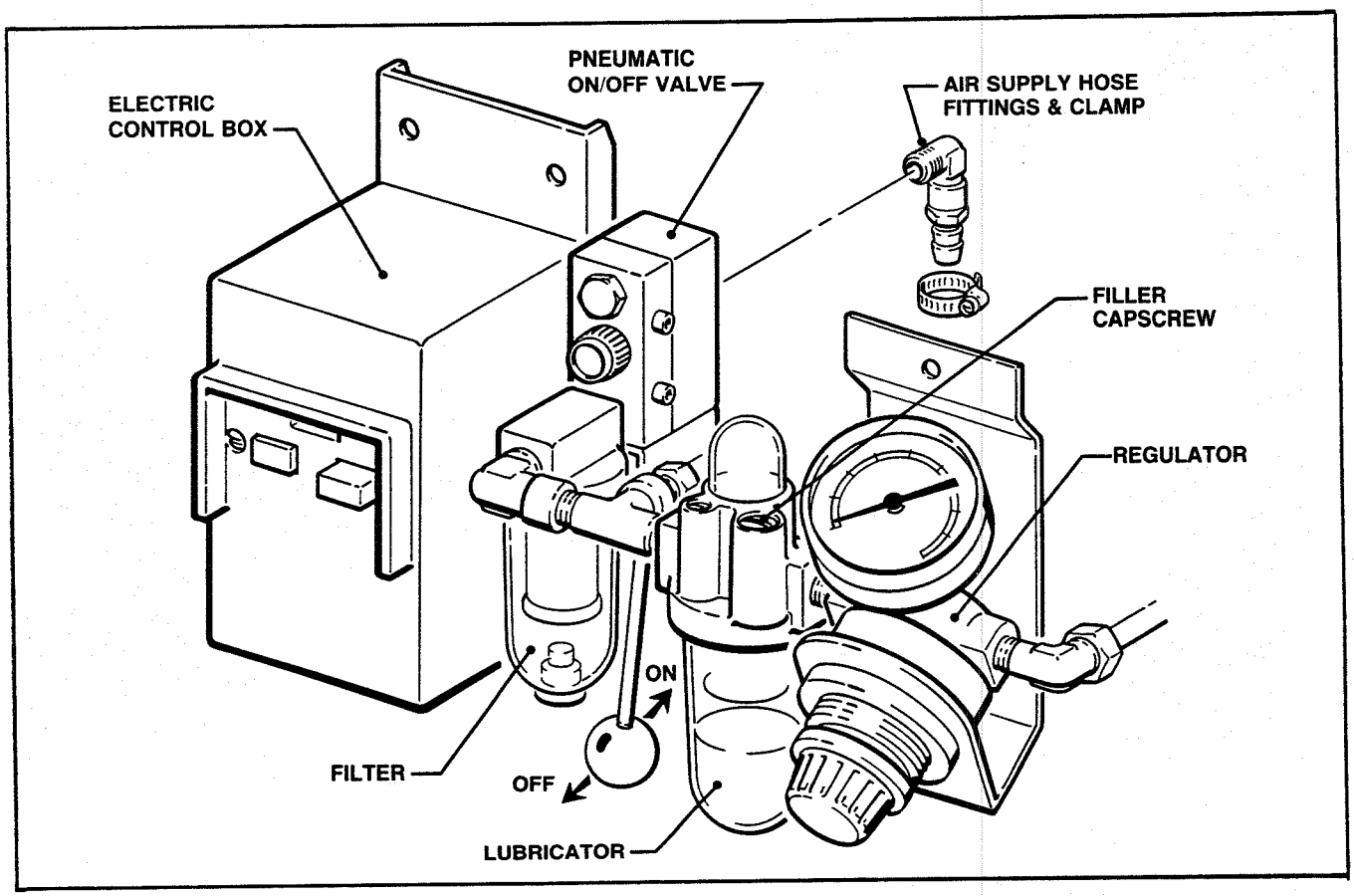


Figure 8 - Electrical - Pneumatic Connections

Set-Up Instructions (Continued)

Electrical Connection

The electrical control box, shown in Figure 8, contains the **"On-Off"** switch with pre-set circuit breaker and can be located on either side of the main conveyor for customer operating convenience. A standard three conductor power cord with plug is provided at the back of the electrical control box for 115 Volt, 60 Hz, 5 amp electrical service. The receptacle providing this service shall be properly grounded. The electrical power supply is turned **"On"** by pressing the **Green** button, **"Off"** by pressing the **Red** button. Before the power cord is plugged into a 115 Volt, 60 Hz outlet, make sure the **Red** button is depressed and that all packaging materials and tools are removed from the machine.

Pneumatic Connection

The Case Sealer requires a 70 PSIG [585 kPa gauge pressure], 2.5 SCFM [4.25 m^3/h 21^o C, 101 kPa] compressed air supply. As illustrated in Figure 8, an on/off valve, filter, lubricator, and regulator are provided to service the air supply.

The air supply line should be connected to the hand lever operated on/off valve by means of the union fitting and hose clamp provided on the inner side of the on/off valve as illustrated. The customer supplied air hose should be slipped over the union ferrule and clamped tightly in place.

If another type of connector between the air supply line and on/off valve is desired, the union fitting and/or elbow can be removed and replaced with desired connector. The on/off valve inlet port has 1/8-28 British Standard pipe threads.

The hand lever is utilized to turn the air supply to the pneumatic components on and off once the air supply line is connected and energized. The air supply is turned on when the lever is pushed back, off when the lever is pulled forward. Always turn the valve off by pulling the lever forward when the air supply line is being connected or disconnected.

Before energizing the air supply line, check to be sure that the air lubricator has an adequate supply of oil in the bowl. If necessary, fill the bowl to the level indicated with **light weight spindle oil** rated 100 SSU at 100^o F [38^o C] **or SAE #5 non-detergent oil.** Oil can be added by removing filler capscrew or bowl. After filling, replace capscrew or bowl and securely tighten.

Remove all packaging materials and tools from the machine. Turn the valve off by pulling the hand lever forward, and connect the air line. Check that the air lubricator bowl is filled before the air supply is energized. Push the hand lever back to energize the pneumatic components.

Pneumatic Component Controls

In addition to the hand lever operated on/off valve described in the preceeding "Pneumatic Connection" Section, the pneumatic components have several controls and settings which will be covered in this section.

To provide independent adjustment of the side guide and top taping head movements, the air supply is routed through the main filter-lubricator assembly and then split into two separate circuits. Both the side guide and top taping head circuits have controls and settings as follows: (refer to Figures 9A - 11).

> **Note:** All air pressure regulators discussed below have a red lock ring behind the adjustment knob, as shown in Figure 9A. The red lock ring should be pulled toward the knob to unlock the knob for air pressure adjustment, pushed back against the regulator body to lock the knob after adjustment if desired.

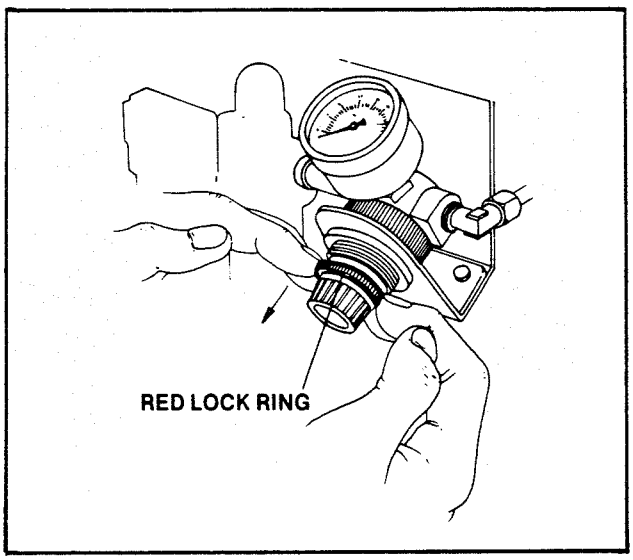


Figure 9A - Regulator Locking Ring

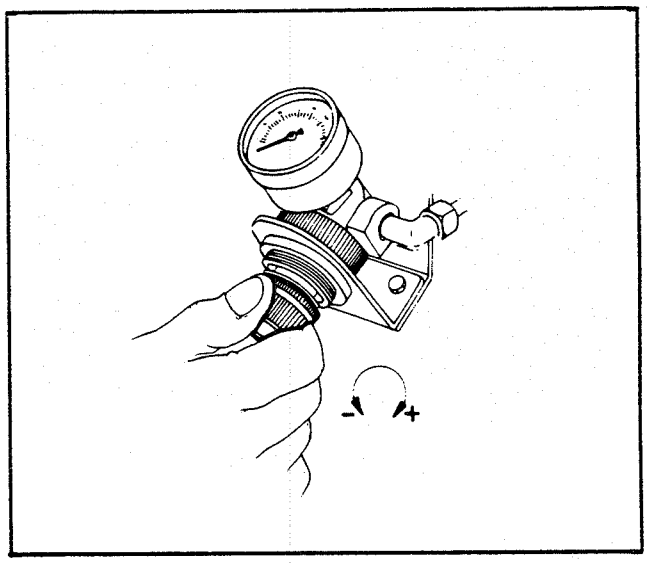


Figure 9B - Pressure Regulator

Side Guide Movement Circuit

1. **Air Pressure Regulator** (Item 1, Figure 10) - Set nominally at 50 PSIG [3.5 Kg/cm^2 gauge pressure], but adjust according to weight of the boxes being sealed to provide adequate pressure to positively center the boxes, but low enough to allow easy pushing of the boxes under the top taping head. This operator function takes place with the side guides pressing against the box.

2. **Air Cylinder Flow Regulator** (Refer to Figure 1) - Flow regulators are located on the ports of the air cylinder that powers the side guides. These control the speed with which the side guides close and open. The regulator on the clevis end of the cylinder controls the closing speed and the regulator on the rod end of the cylinder controls the opening speed. The movement speed is decreased by screwing the regulator knurled collar towards the cylinders, increased by screwing the regulator knurled collar away from the cylinder.

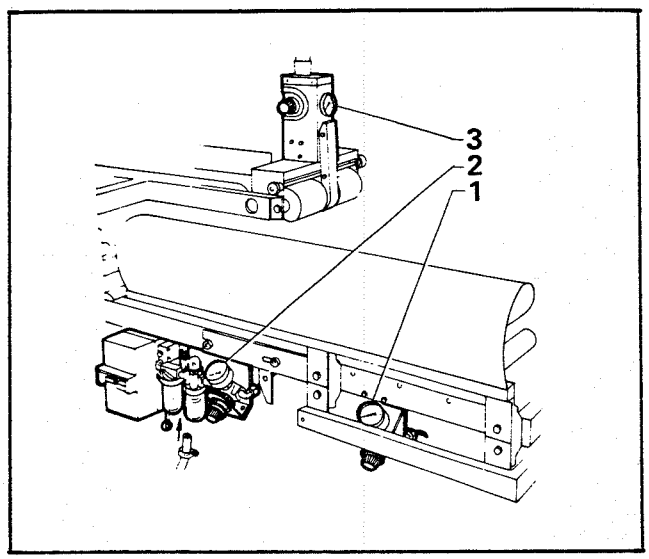


Figure 10 - Pneumatic Regulators

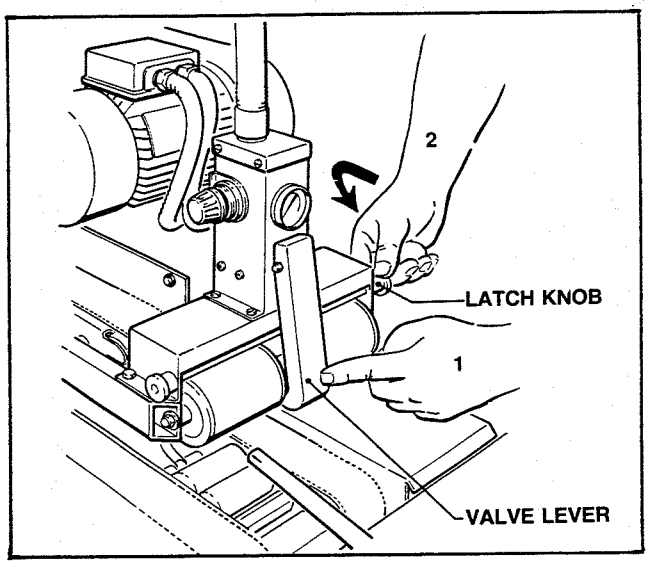


Figure 11 - Valve Lever Latch

Top Taping Head Movement Circuit

1. **"UP" Movement Air Pressure Regulator** (Item 2, Figure 10) - Set at 70 PSIG [5 Kg/cm^2 gauge pressure] to power the "up" movement of the top taping head.

2. **"Down" Movement Air Pressure Regulator** (Item 3, Figure 10) - Set nominally at 25 PSIG [1.8 Kg/cm^2 gauge pressure] to control "down" movement of top taping head and the top taping head pressure exerted against the box. The regulator setting is changed as necessary for the boxes being sealed to provide adequate top taping head pressure against the box to positively convey the boxes through the machine. If the boxes stop or hesitate while being conveyed, decrease the regulator pressure which will increase the top taping head pressure on the box for more friction between the box and drive belts. Adjust setting as necessary to get continuous movement of boxes through machine.

   For boxes which are fully packed with products that support the top flaps, the adjustment of this regulator is not critical since the boxes can support the pressure of the top taping head at a wide range of regulator settings. However, if underfilled or fragile boxes are sealed, this regulator can be used to set the top taping head pressure to a minimum that is still adequate to positively convey the box and to prevent damage of boxes.

Top Taping Head Valve Lever Latch (Refer to Figure 11)

To hold the top taping head at the fully raised position for tape threading and maintenance, a latch is provided to hold the valve lever closed. To engage the latch, manually rotate the knob (2) on either side of the valve lever forward and hold there, manually depress valve lever (1), and then release knob. Top taping head will then be held at the fully raised position. As an added safety precaution, refer to Figure 20 and raise the stop collars to the last red dot position just below stopped position of the top taping head. To lower top taping head, lower stop collars then release latch by manually rotating the knob forward and then release. Top taping head will then descend.

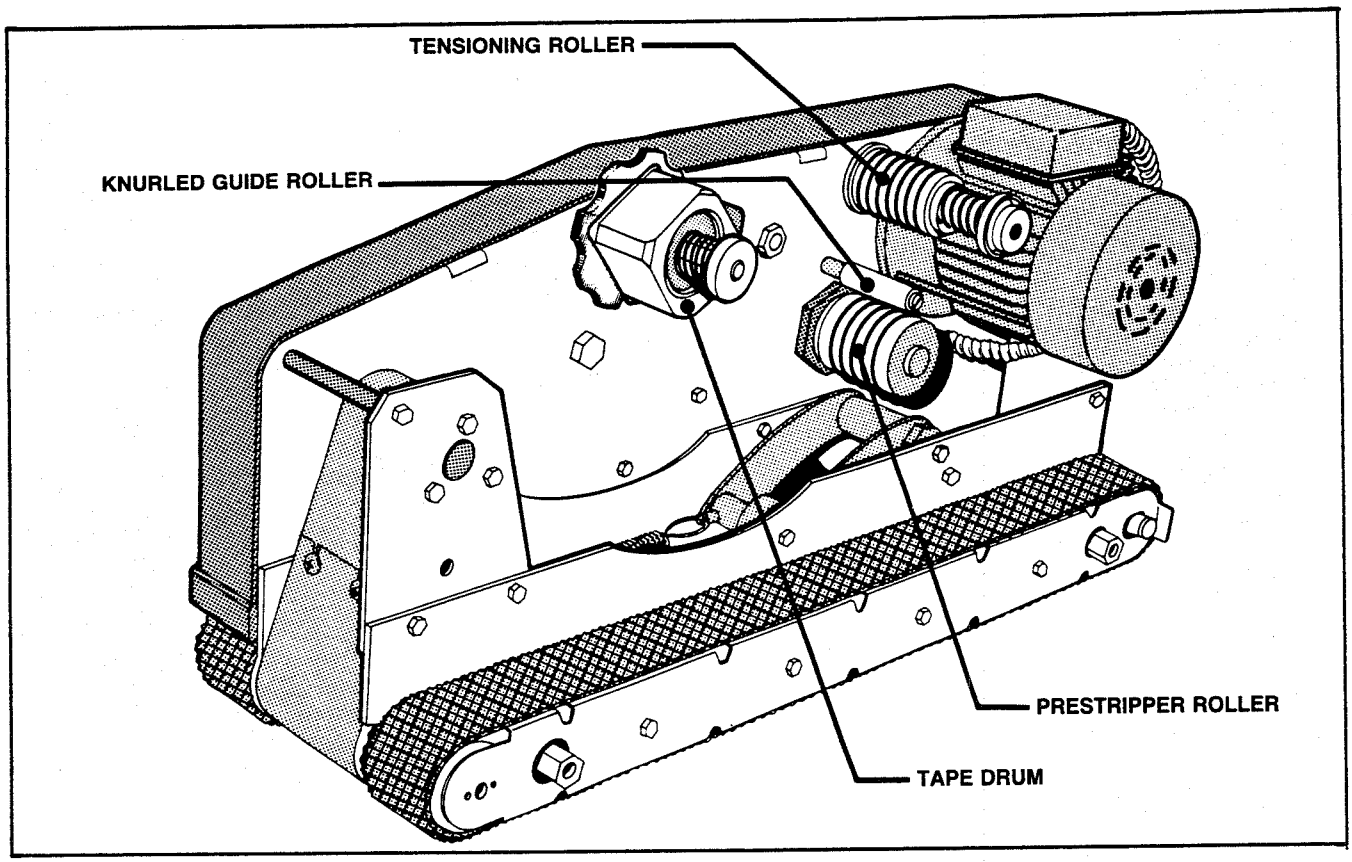


Figure 12 - Tape Supply And Control Components

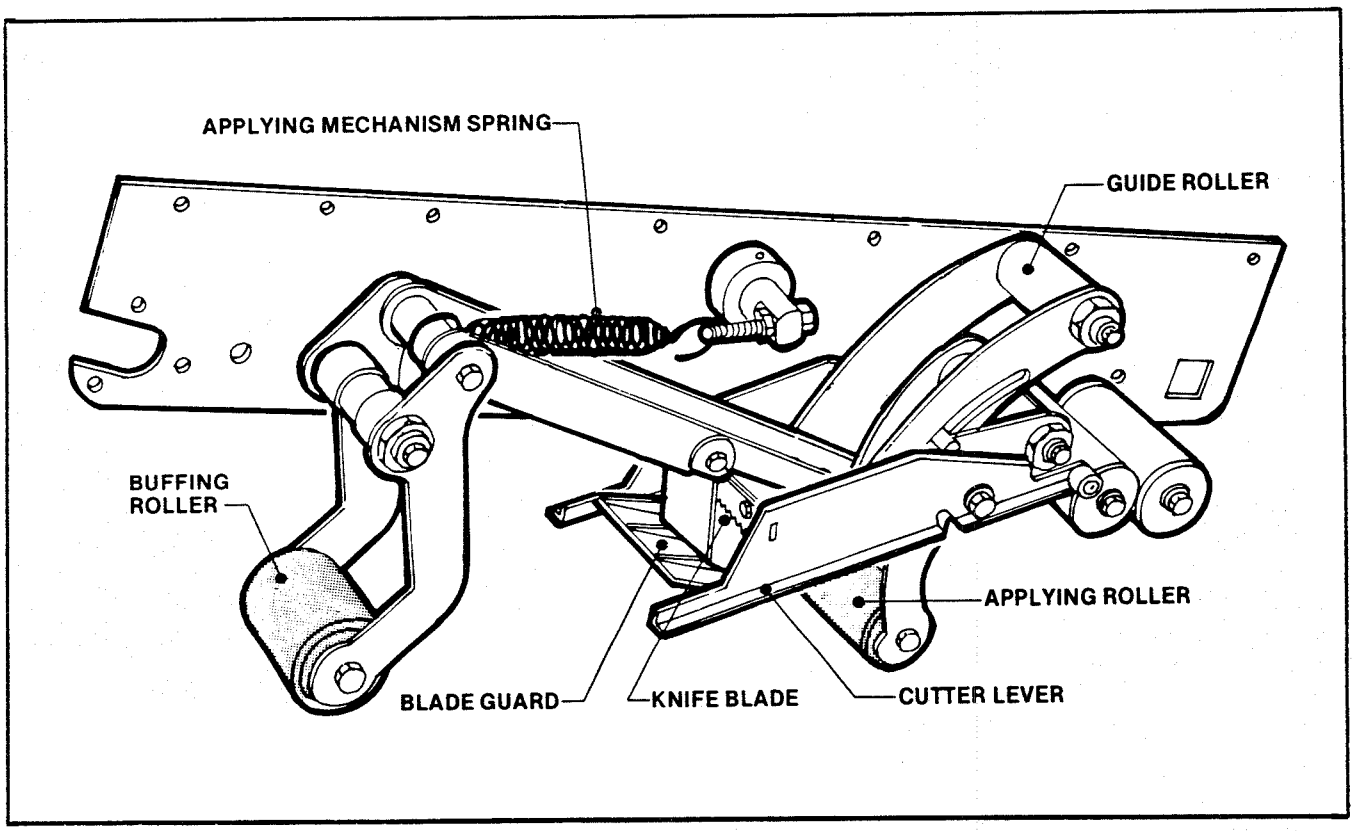


Figure 13 - Tape Applying Mechanism

Tape Applying Components

Figures 12 and 13 illustrate the tape applying components utilized on the top and bottom taping heads. The tape supply and control components are readily visible on both the taping heads. The tape applying mechanism is somewhat hidden between the taping head side plates and drive belts. Visually locate these components on both the top and bottom taping heads of the Case Sealer.

IMPORTANT SAFEGUARDS

1. **BOTH THE TOP AND BOTTOM TAPING HEADS UTILIZE EXTREMELY SHARP KNIFE BLADES ON THE ORANGE CUTTER LEVER ASSEMBLY AND WHICH ARE LOCATED UNDER THE GREY PLASTIC BLADE GUARD WHICH HAS THE "CAUTION - SHARP KNIFE" LABEL. BEFORE WORKING WITH THE TAPING HEADS OR ATTEMPTING TO LOAD THE TAPE, REFER TO FIGURES 14A & 15A AND IDENTIFY THE BLADE LOCATION. KEEP HANDS OUT OF THESE AREAS EXCEPT AS NECESSARY TO SERVICE THE TAPING HEADS.**

2. **NEVER MANUALLY PUSH THE APPLYING ROLLER ARM DOWN AS THIS WILL RETRACT THE BLADE GUARD AND PUT YOUR HAND IN MOTION TOWARDS THE TEETH OF THE SHARP KNIFE BLADES. REFER TO FIGURES 14A & 15A AND IDENTIFY THE APPLYING AND BUFFING ROLLERS. WHEN NECESSARY TO MANUALLY ACTUATE THE TAPE APPLYING MECHANISM, ALWAYS PUSH THE BUFFING ROLLER ARM AS IT WILL NOT DIRECT YOUR HAND TOWARD THE KNIFE BLADE TEETH.**

3. **NEVER ATTEMPT TO WORK ON THE TAPING HEADS OR LOAD TAPE WHEN THE BOX DRIVE BELTS ARE RUNNING. MACHINE DAMAGE OR OPERATOR INJURY CAN POTENTIALLY RESULT.**

Blade Oiler Pad

The taping heads are equipped with a blade oiler pad that provides a film of oil on the cut-off blade to reduce adhesive build-up. Locate the oiler pad attached to the blade guard assembly, shown in Figures 14A & 15A, and apply **SAE #30 non-detergent oil** as needed. **Do not saturate.**

Tape Loading

The taping heads have been pre-set to accommodate 2 inch [50 mm] wide tape rolls. To apply 1-1/2 inch or 36 mm or 1-3/4 inch or 42 mm wide tapes, refer to "Adjustments" Section for set-up information. Two temporary threading needles are shipped in threaded positon for initial tape loading convenience.

Two red plastic threading needles were provided with the spare parts and tools included with the Case Sealer. Retain these for continued use in the tape loading operation. For operator assistance, a threading diagram has been applied to the taping heads. However, it is recommended that the more detailed instructions and sketches in this manual be referred to the first few times the unit is loaded until the operator becomes thoroughly familiar with the tape loading operation.

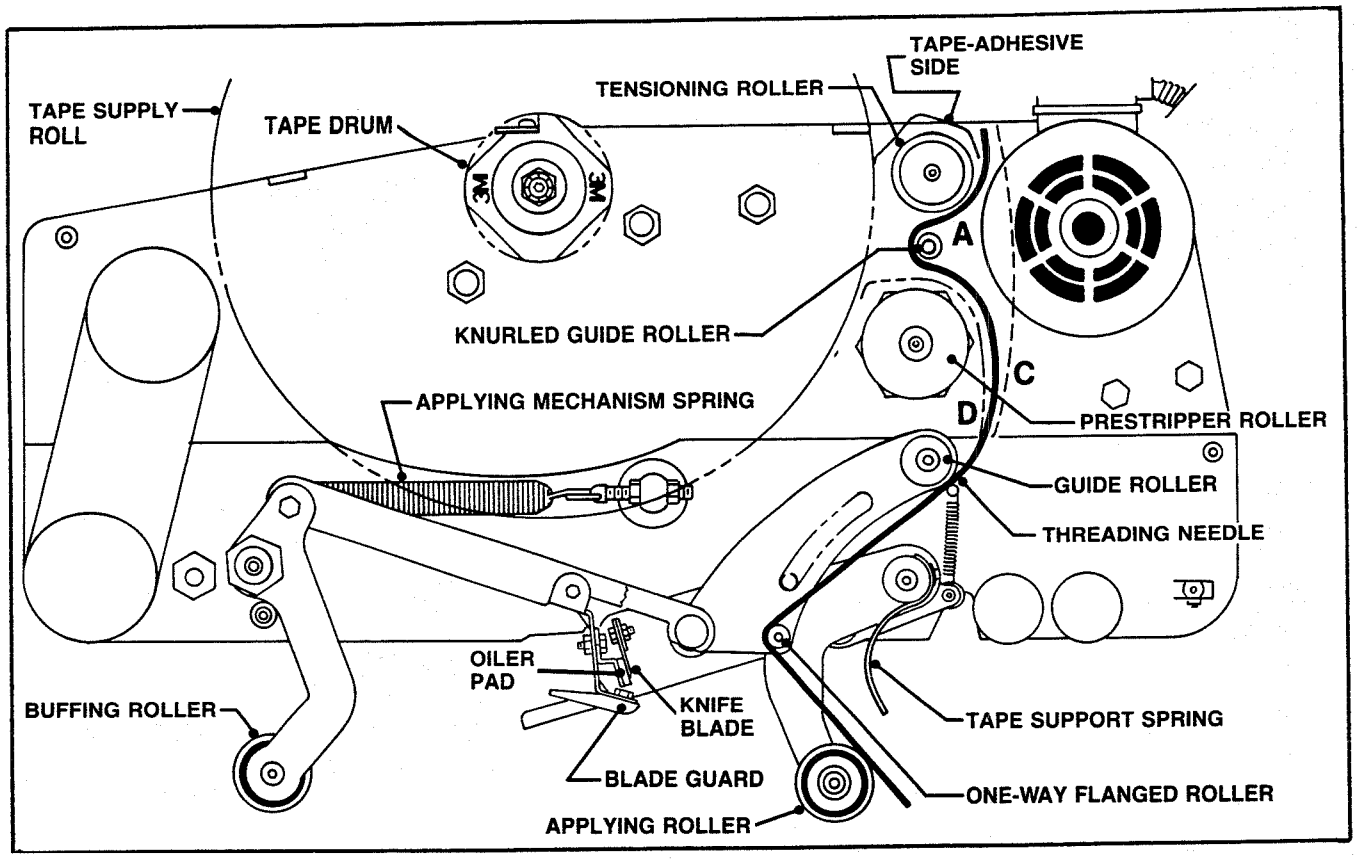


Figure 14A - Tape Threading Diagram - Top Taping Head - Left Side View

Tape Loading - Top Taping Head

WARNING - NEVER ATTEMPT TO WORK ON THE TAPING HEADS OR LOAD TAPE WHEN THE BOX DRIVE BELTS ARE RUNNING. PERSONNEL INJURY OR EQUIPMENT DAMAGE CAN POTENTIALLY RESULT.

1. To load tape, it is first necessary to raise the top taping head. Utilize the top taping head lever latch to raise the top taping head to the fully raised position.

2. With the temporary threading needle already in position, as shown in Figure 14A, follow the tape loading procedure from Figure 14C to complete the tape threading with this exception; thread tape around tensioning roller, knurled guide roller and prestripper roller in one of three paths depending on the application.

   Path A - Recommended for most applications.

   Path C - Permits by-pass of pre-strip roller and tighter taping of heavy boxes with heavy duty tapes.

   Path D - Permits by-pass of all tension producing rollers and aids in taping light boxes with light duty tapes.

3. For subsequent tape loading operations, use the red plastic threading needle and follow the loading procedures given in Figures 14B, C and D to complete the tape threading.

Set-Up Instructions (Continued)

Figure 14B - Insert red plastic needle downward around one-way flanged roller as illustrated.

Thread upper end of needle around guide roller and through path A, C or D as shown in figure 14A.

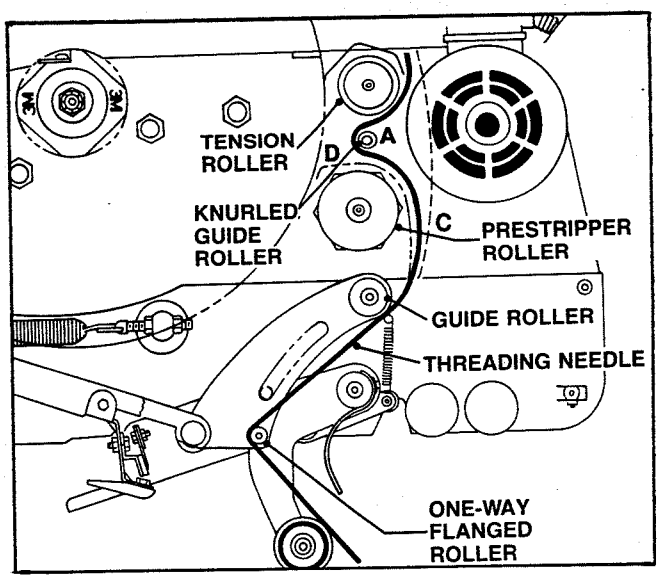


Figure 14B

Figure 14C - Place tape roll on drum to dispense tape from bottom of roll toward guide roller with tape adhesive side up. Seat tape roll fully against back flange of drum. Adhere tape lead end to upper end of threading needle as shown.

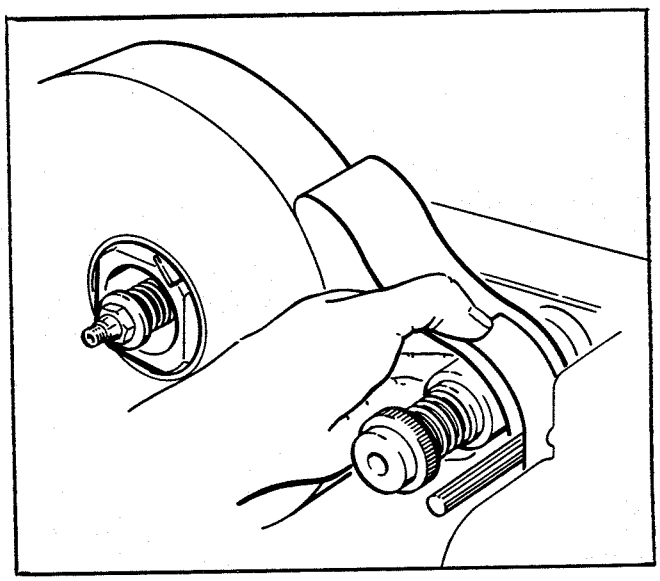


Figure 14C

Figure 14D -

WARNING - USE CARE WHEN WORKING NEAR BLADES AS BLADES ARE EXTREMELY SHARP. IF CARE IS NOT TAKEN, SEVERE INJURY TO PERSONNEL COULD RESULT.

Manually turn prestrip roller clockwise, drawing tape from roll while pulling threading needle through tape applying mechanism, until tape is in alignment with applying roller.

Excess tape can be cut with a scissors or knife at applying roller, or as shown, by manually depressing buffing roller arm to expose knife blade and then passing tape across knife blade. Allow buffing roller to slowly return to its rest position after cutting tape so that tape end will stay on applying roller.

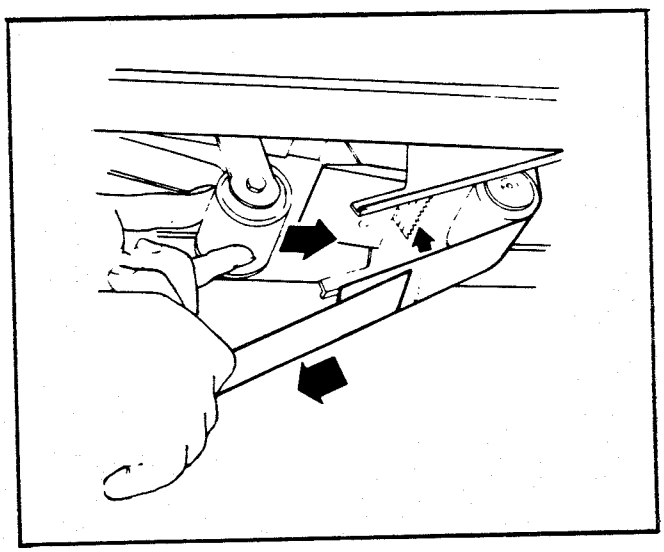


Figure 14D

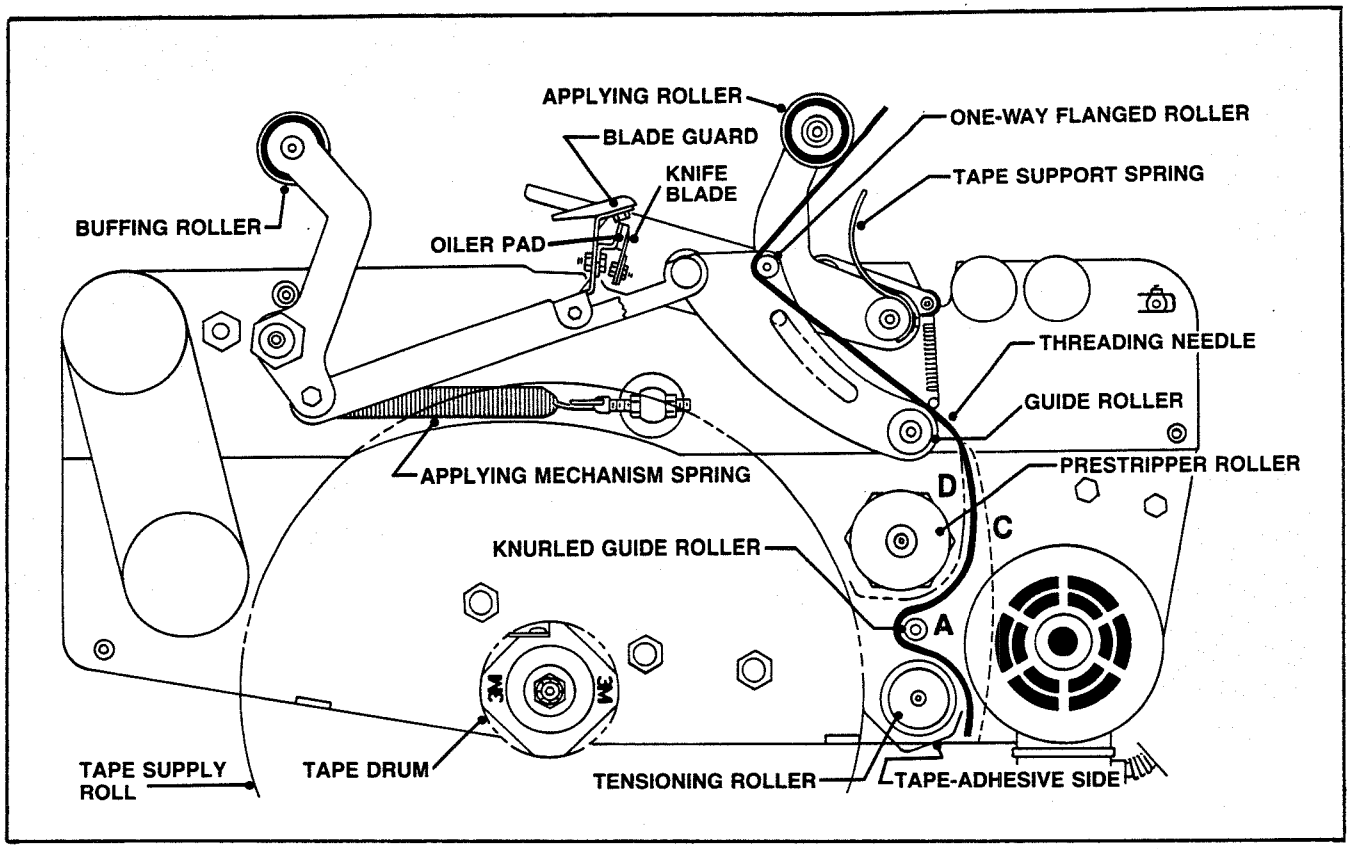


Figure 15A Tape Threading Diagram - Bottom Taping Head - Left Side View

Tape Loading - Bottom Taping Head

WARNING - NEVER ATTEMPT TO WORK ON THE TAPING HEADS OR LOAD TAPE WHEN THE BOX DRIVE BELTS ARE RUNNING. PERSONNEL INJURY OR EQUIPMENT DAMAGE CAN POTENTIALLY RESULT.

1. With the temporary threading needle already in position, as shown in Figure 15A, follow the tape loading procedure from Figure 15C to complete the tape threading with this exception; thread tape around tensioning roller, knurled guide roller and prestripper roller in one of three paths depending on the application.

   Path A - Recommended for most applications.

   Path C - Permits by-pass of pre-strip roller and tighter taping of heavy boxes with heavy duty tapes.

   Path D - Permits by-pass of all tension producing rollers and aids in taping light boxes with light duty tapes.

2. For subsequent tape loading operations, use the red plastic threading needle and follow the loading procedures given in Figures 15B, C and D to complete the tape loading.

Set-Up Instructions(Continued)

Figure 15B - Insert red plastic needle downward around one-way flanged roller as illustrated.

Thread lower end of needle around guide roller as shown in Figure 15A and through path A, C, or D.

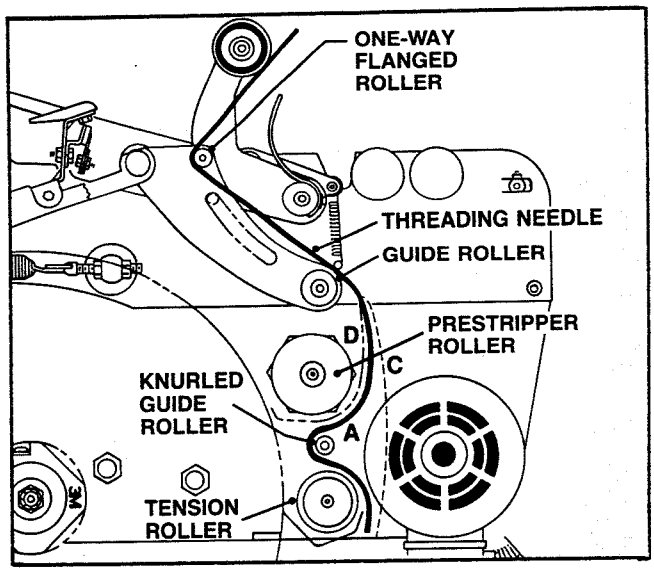


Figure 15B

Figure 15C - Place tape roll on drum to dispense tape from top of roll toward guide roller with tape adhesive side down. Seat tape roll fully against back flange of drum. Adhere tape lead end to lower end of threading needle as shown.

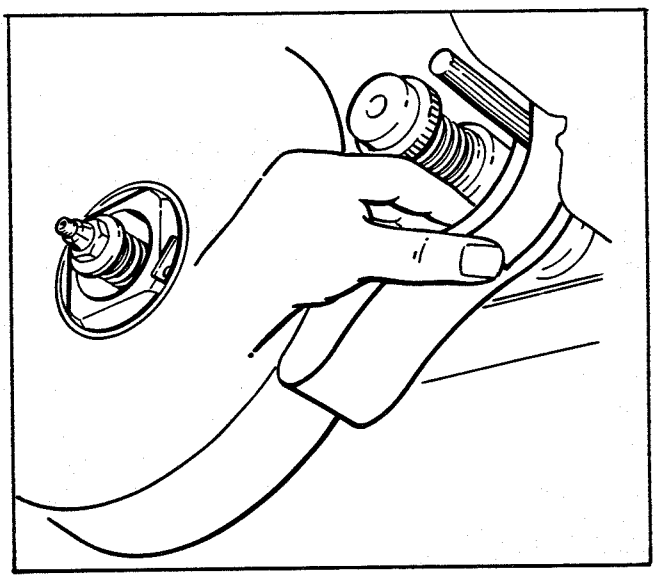


Figure 15C

Figure 15D

WARNING - USE CARE WHEN WORKING NEAR BLADES AS BLADES ARE EXTREMELY SHARP. IF CARE IS NOT TAKEN, SEVERE INJURY TO PERSONNEL COULD RESULT.

Manually turn prestrip roller counter-clockwise, drawing tape from roll while pulling threading needle through tape applying mechanism, until tape is in alignment with applying roller.

Excess tape can be cut with a scissors or knife at applying roller, or as shown by manually depressing buffing roller arm to expose knife blade and then passing tape across knife blade. Allow buffing roller to slowly return to its rest position after cutting tape so that tape end will stay on applying roller.

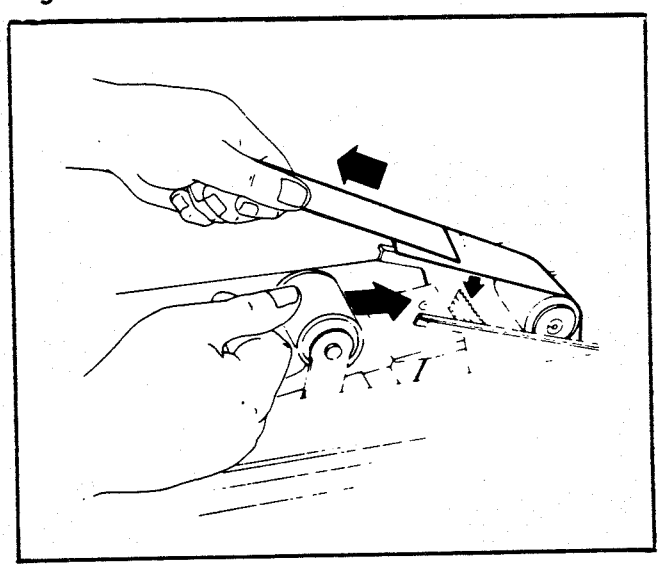


Figure 15D

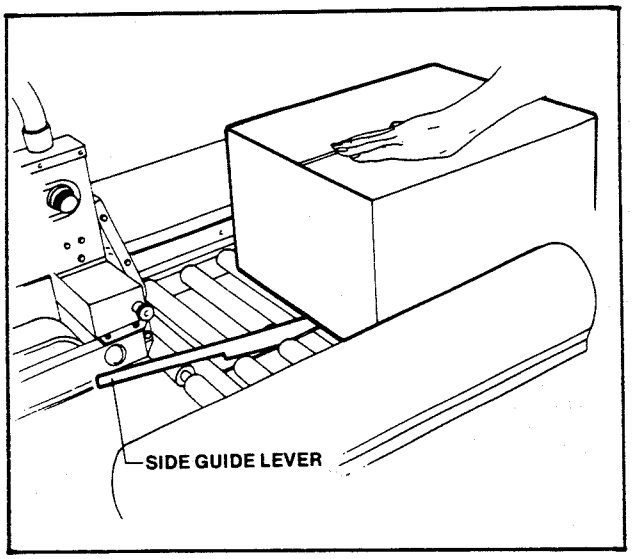


Figure 16 - Side Guide Valve Lever

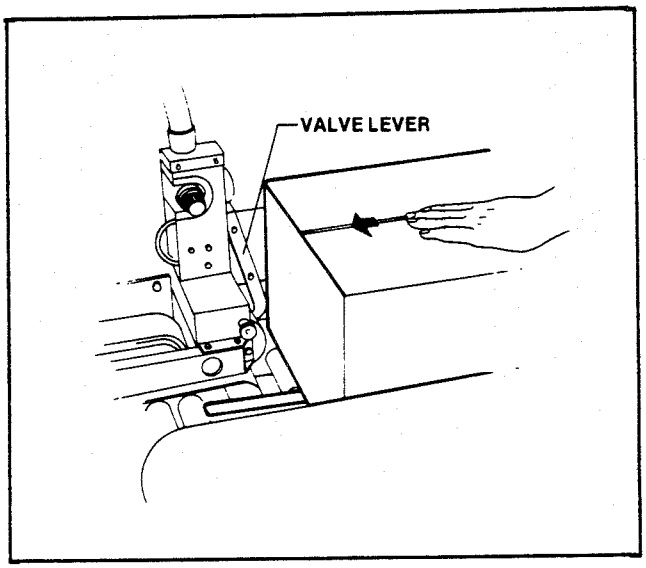


Figure 17 - Top Taping Head Valve Lever

Pneumatic Components Function

The air supply powers movement of the side guides and top taping head to automatically adjust the Case Sealer to the box size being sealed as follows (refer to Figures 16-18):

1. A valve lever in the center of the infeed roller conveyor actuates movement of the side guides. When the operator pushes a box onto the infeed conveyor, as shown in Figure 16, the lever is depressed causing the air cylinder powered side guides to move inward, therefore centering the box.

2. Once the box is centered by the side guides, the operator pushes the box against the valve lever on the top taping head, as shown in Figure 17, causing the top taping head to be raised by two air cylinders. The top taping head will continue to rise above the box height so the operator can insert the box underneath the top taping head drive belts.

3. Once the box is pushed under the top taping head, the top taping head valve lever is released causing the top taping head to descend onto the box top, as shown in Figure 18, allowing the drive belts to convey the box through the top and bottom taping heads for application of the tape seals.

4. As the box is conveyed through the machine, the side guide valve lever is released causing the side guides to return to their full open position, ready for insertion of the next box.

5. Once the box is conveyed from under the top taping head, the top taping head descends to its rest position, ready for insertion of the next box.

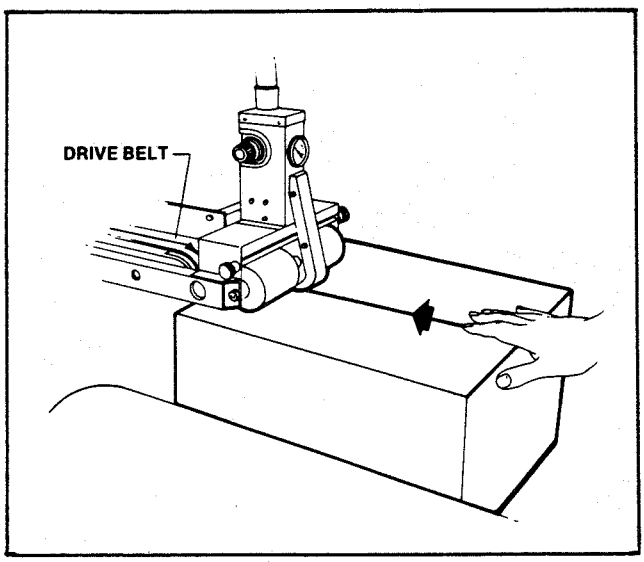


Figure 18 - Drive Belts

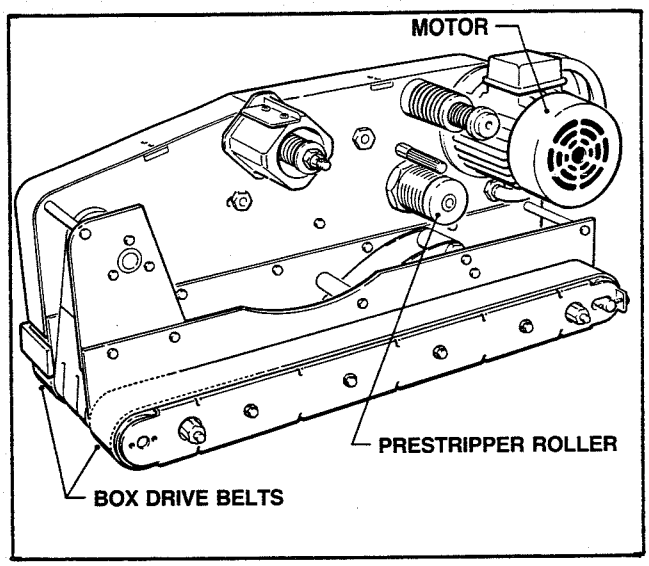


Figure 19 - Upper Taping Head Drive Components

Electrical Components Function

A motor and timing belt drive on both the top and bottom taping head, the box drive belts and tape prestripper roller shown in Figure 19 perform the following functions:

1. A pair of box drive belts on both the top and bottom taping heads convey the box through the taping head components for application of the tape seals.

2. The tape prestripper roller helps pull tape from the tape supply roll so tape is presented to the applying rollers under low tension, thereby assuring a uniform tape seal.

At this point it is recommended that the side guide and top taping head valve levers be manually actuated to understand the functions described above. Depressing the side guide valve lever causes the side guides to close, releasing the valve lever causes the side guides to open. Depressing the top taping head valve lever causes the top taping head to rise, releasing the valve lever causes the top taping head to descend.

Once the pneumatic component functions are understood, it is recommended that the electrical supply also be turned on and pre-taped boxes fed through the Case Sealer following the pneumatic component sequence 1 through 5. This will insure that the operating sequence and powered component functions are understood.

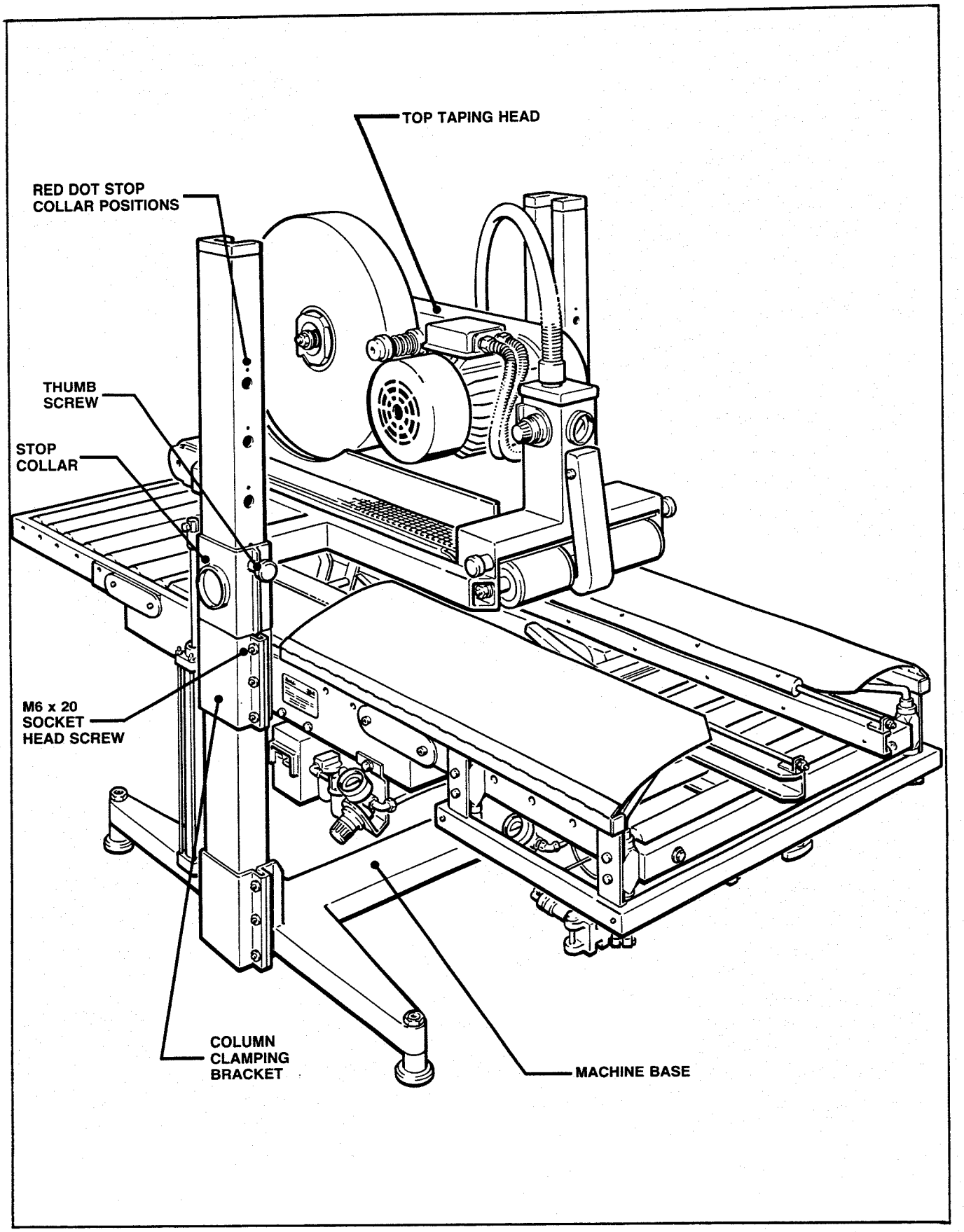


Figure 20 - Conveyor Height, Box Height Range, And Box Width Range

Special Use Set-Up Instructions (Continued)

Conveyor Bed Height Location - The conveyor bed height can be located up and down on the two vertical frame columns to match production line conveyor heights, to present the boxes at a comfortable level for the operator, or to provide additional box height capacity. The setting is made as follows, but before proceeding, review the affect on box height capacity comments immediately following this set-up procedure (refer to Figure 7):

1. Raise top taping head and hold at fully raised position by means of top taping head valve lever latch (See "Pneumatic Component Controls" Section).

2. Completely loosen the thumb screw on the to taping head stop collar on each frame column so the collars move freely up and down.

3. Utilizing two additional personnel or block up conveyor to prevent it from dropping, loosen the six M6 x 20 socket head screws of the column clamping bracket on each side of the conveyor bed with socket wrench provided in the tool kit. Loosen only enough to allow movement of the conveyor bed up and down on the frame columns.

4. Raise or lower conveyor bed to desired height. Measure on each side to insure that both sides have been raised or lowered equally. Measurements should be made from the top of the machine base to the conveyor bed rather than from the floor.

5. Secure the column clamping brackets against the frame columns by tightening the M6 x 20 socket head screws. Recheck measurements to be sure that each side of conveyor frame is an equal distance from the machine base.

6. Top taping head can then be released to normal rest postion.

Box Height Capacity (as affected by Conveyor Bed Height)

The conveyor bed height discussed above also affects the box height capacity of the Case Sealer since the conveyor bed is being adjusted in relationship to the top taping head adjustment range as well as the base. Before making any adjustments of the conveyor bed height, review the box heights to be sealed and determine how the conveyor bed height will affect the capacity of the Case Sealer, by means of the specification chart on page 4, so the Case Sealer can be properly set-up for your box sealing application:

1. As shown by the chart, if the conveyor bed is lowered more than 2 inches [51 mm], the maximum tape roll diameter capacity for the bottom taping head is reduced. Therefore, the Auxiliary Tape Roll Mount Attachment, P/N 78-8017-9417-9, described in attachments section of manual, should be used to reposition the tape roll. With this attachment, the conveyor bed can be lowered to a height of 18.3 inches [465 mm] to provide a maximum box height capacity of 26 inches [660 mm].

2. Also, if the conveyor bed height adjustments, necessary to provide the box height capacity required, makes it impossible to utilize the adjustment to match production line conveyor heights, it is recommended that the operation conveyor bed height be established by placing the Case Sealer on a pedestal.

Special Use Set-Up Instructions (Continued)

Box Height Range - The operating range of the top taping head can be adjusted to minimize its movement to the range of box heights being sealed. Therefore, the operating speed can be significantly increased. The range is established by limiting the lowest positon of the top taping head through positioning the top taping head stop collars shown in Figure 21 at different levels on the frame columns. After establishing the minimum box height to be sealed, position the collars as follows:

1. Completely loosen thumb screws on both top taping head stop collars.
2. Feed minimum height box into Case Sealer and while it is still being conveyed under top taping head, shut off electrical power so box is stopped under top taping head establishing lowest position for your application.
3. Raise stop collars to red dot position just below stopped position of top taping head.
4. Align top edge of stop collars with center of red dot and tighten thumb screw so it fits into hole on frame column.
5. Be sure to adjust both stop collars.
6. Turn on electrical power to complete conveying of box through Case Sealer. Top taping head will then descend to lowest position necessary to accommodate your range of box heights.

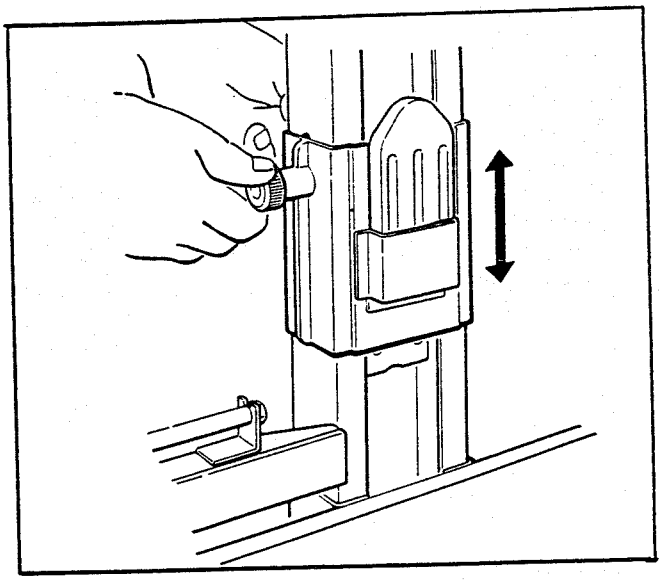


Figure 21 - Stop Collar

Special Use Set-Up Instructions (Continued)

Box Holding Feature - The side guides can be used as an effective holder for empty boxes to facilitate their packing. Once the operator squares up the box and folds the bottom flaps, it can be placed on the infeed conveyor to actuate the closing of the side guides. The side guides will then positively hold the empty box in an open condition for packing. Once the box is filled, the operator merely closes the top flaps and inserts the box under the top taping head for application of top and bottom tape seals. This feature makes the infeed conveyor a very effective box filling station which should be considered when determining the positon of the Case Sealer in your production line.

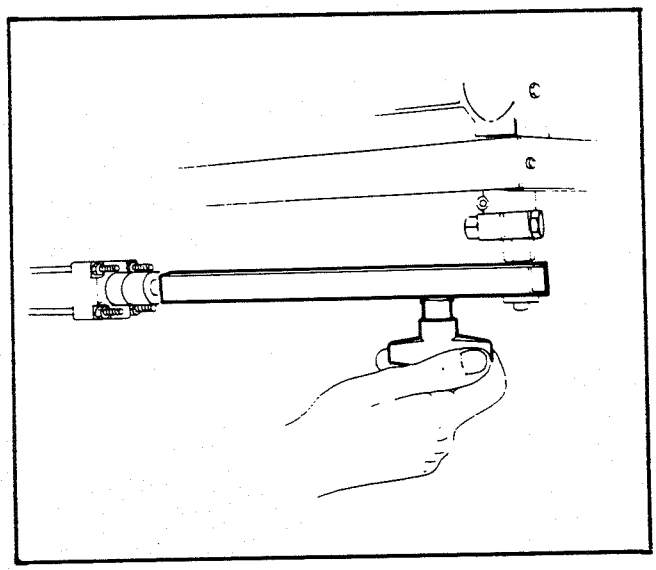


Figure 24 - Hand Knob

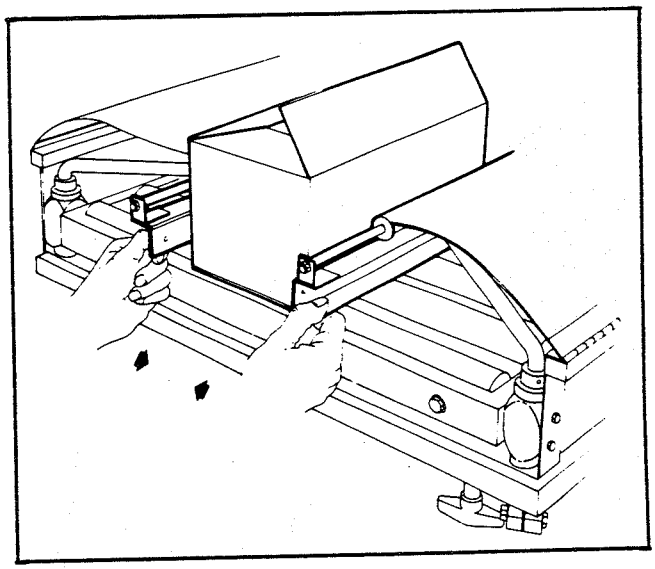


Figure 25 - Side Guides

Box Width Range - The operating range of the side guides can be reduced to minimize their movement to the range of box widths being sealed. Therefore, the operating speed can be significantly increased. The range is established by limiting the open position of the side guide air cylinder. After establishing the maximum box width, position the side guides as follows (refer to Figure 24 and 25):

1. Turn off the air supply by means of the hand lever operated on/off valve.
2. Loosen the hand knob, shown in Figure 24, on the air cylinder rod which is located under the infeed conveyor.
3. Place the widest box to be sealed on the infeed conveyor between the side guides.
4. Manually move the side guides to within approximately 1 inch or 25 mm of each side of the box when the box is centered on the infeed conveyor, as shown in Figure 25. Do not push against box sides as some clearance is necessary for feeding boxes onto infeed conveyor.
5. While holding side guides in this position, push hand knob to the right (away from air cylinder body) as far as possible and securely tighten.
6. The air supply can then be turned on to make the side guides operational in the range necessary for your box widths.

Tape Drum Assembly

In addition to holding the tape supply roll, the tape drum assembly provides adjustable friction brake to prevent tape roll over travel and provides adjustment for tape web alignment as follows:

1. **Friction Brake** - Refer to Figure 26. Adjustable by turning self locking nut on shaft to vary compression of spring. Clockwise turning of nut increases braking force to prevent tape roll over travel, counterclockwise turning decreased braking force. Adjust to minimum drag that prevents excessive tape roll over travel.

2. **Tape Web Alignment**
   Refer to Figure 27.
   The tape drum assembly on each taping head is preset to accommodate 2 inch [50 mm] wide tape, but is adjustable to provide alignment of narrower tapes. If adjustment is necessary to center the tape width on the centerline of the taping head, (and therefore box center seam), make adjustment as follows:

   a) Loosen hand knob behind tape drum on tape drum shaft.

   b) **Turn tape drum shaft** in or out to center the tape web.

   c) Tighten hand knob to secure the adjustment.

   No other components require adjustment for tape web alignment.

Tensioning Roller Assembly

Tape web tension is controlled by adjustment of friction brake by means of knurled nut (Figure 28) which varies compression of spring. Clockwise turning of knurled nut increases tape web tension, counterclockwise turning decreases tape web tension. Adjust as necessary to obtain consistent alignment of tape through tape applying mechanism, consistent position of tape end at applying roller, and tight, uniform tape seals on boxes.

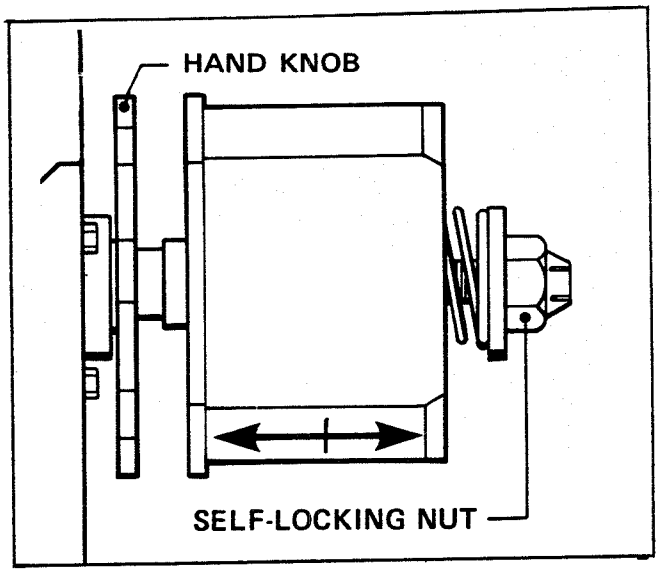


Figure 26

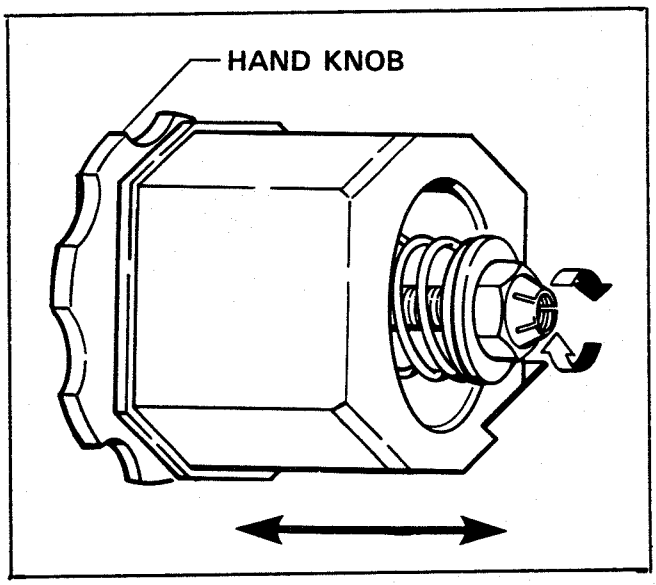


Figure 27

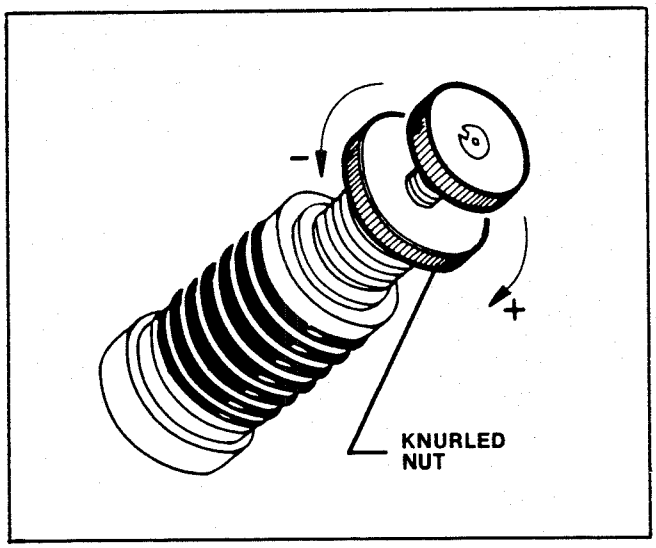


Figure 28

Adjustment Instruction (Continued)

Tape Support Spring

The S-shaped tape support spring, shown in Figures 14A & 15A, holds the lead end of tape in a controlled position at the applying roller. Its position is adjustable by loosening the phillips head screw on the mounting shaft, moving the spring by pivoting it around the shaft, and tightening the phillips head screw. The spring position should be adjusted so its tip is approximtely 1/8 to 1/4 inch or [3 to 6 mm] away from the tape when it is stretched straight between the one-way roller and applying roller.

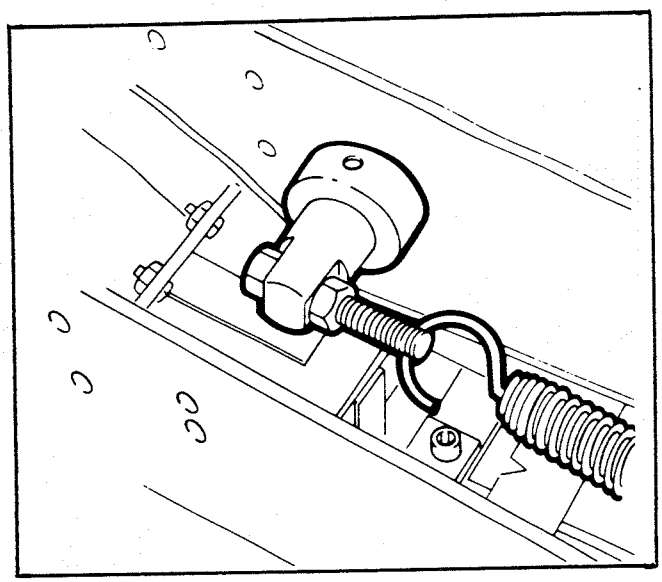


Figure 29

Applying Mechanism Spring

The applying mechanism spring , shown in Figures 14A & 15A, controls applying and buffing roller pressure on the box and returns the mechanism to the reset position. The spring pressure is preset for normal operation but is adjustable by means of the mounting screw.

Decrease spring pressure by adjusting mounting screw as shown in Figure 29.

Increase spring pressure by adjusting mounting screw as shown in Figure 30.

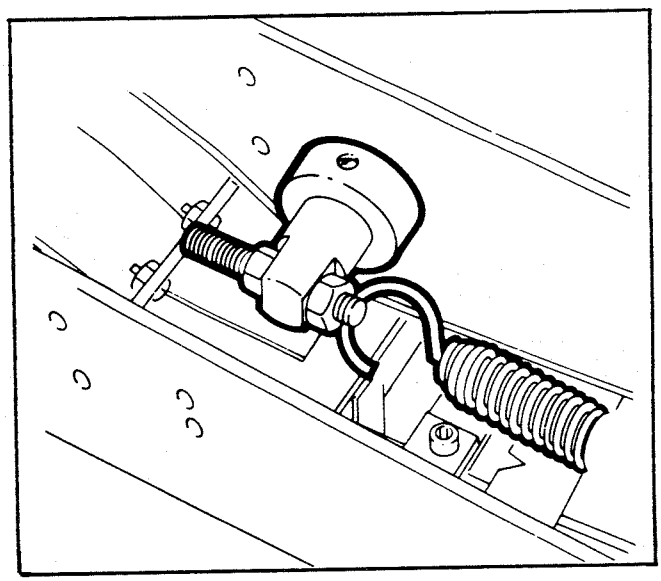


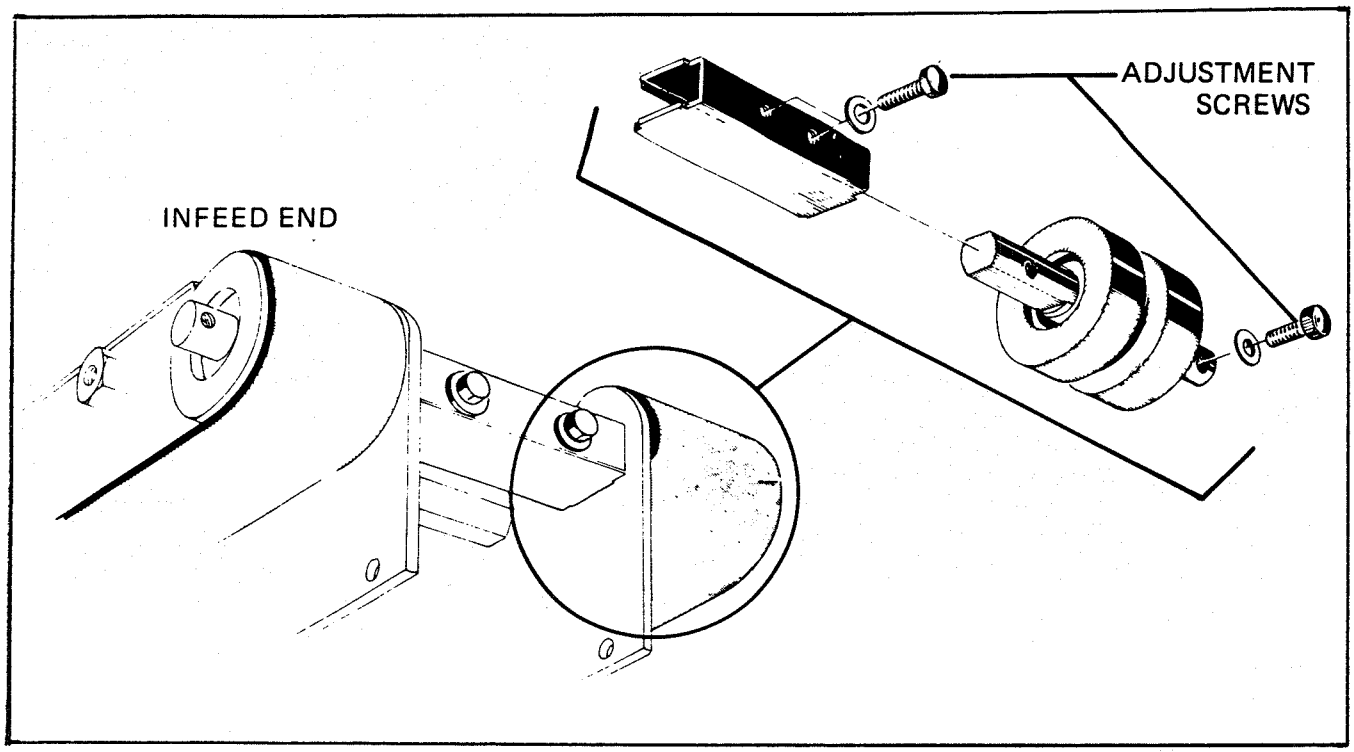
Figure 30

Box Drive Belts

The two continuously moving box drive belts provided on the taping head, convey boxes through the tape applying mechanism. The box drive belts are powered by the electric motor through a timing belt/roller chain transmission.

Tension and tracking adjustments of these belts may be required during normal operation. Belt tension must be adequate to positively move the box through the machine and they should run fully on the surface of the pulleys at each end of the taping head. The idler pulleys on the infeed end of the taping head are positioned by adjustment screws shown in Figure 31A. Adjustment of these screws can be made by using the following steps to provide proper tension and tracking. Each belt is adjusted separately. The adjustments and components are the same for both taping heads.

CAUTION - IF DRIVE BELTS ARE ALLOWED TO SLIP ON BOX, EXCESSIVE BELT WEAR WILL OCCUR.



Figures 31A - Box Drive Belts - Lower Taping Head Shown

Box Drive Belts (Continued)

Step 1. Tension is obtain by uniform tightening of the adjustment screws so that a moderate pulling force of 7 to 8 lbs. [3.0 to 3.5 kg] applied at the midspan will deflect the belt 1/2 inch [13 mm]. Refer to Figure 31B.
This will assure positive contact between the belt and the drive pulley on the discharge end of the taping head.

Step 2. Belt tracking is adjusted by using the same adjustment screws. Start the drive motor and observe belt tracking. Tighten the belt adjustment screw on the side away from which the belt should move using the offset box wrench provided in the tool kit. Tighten only 1/6 turn at a time and wait for the belt to walk to its new positon before making a further adjustment. If the belt moves too far, loosen the adjustment screw slightly or tighten the other adjustment screw to bring it back. **Avoid continued alternate tightening of screws or excessive belt tension can result.**

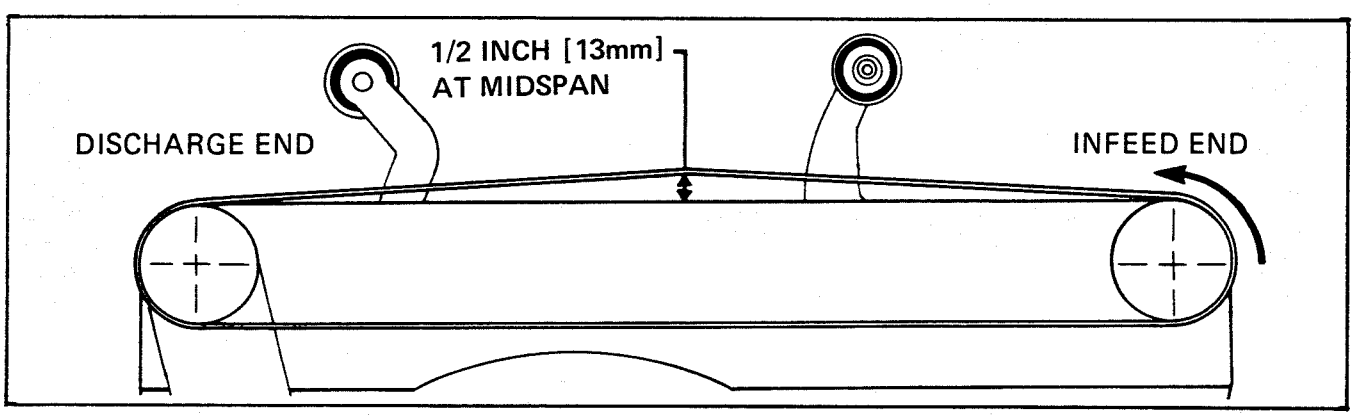


Figure 31B - Box Drive Belt Tension Adjustment - Lower Taping Head Shown

Maintenance

The Case Sealer has been designed for long, trouble free service. The machine will perform best when it receives routine maintenance and cleaning. Machine components that fail or wear excessively should be promptly repaired or replaced to prevent damage to other portions of the machine or to the product.

Tool Kit

Since the Case Sealer utilizes **metric fasteners**, a tool kit consisting of the necessary wrenches is provided with the machine. Retain these with the machine or in a secure location for set-up, adjustment, and maintenance work.

An oil can for lubrication is also provided as a convenience item for your preventive maintenance program.

IMPORTANT SAFEGUARDS

1. **TURN OFF AIR AND ELECTRICAL POWER SUPPLIES BEFORE BEGINNING MAINTENANCE.**
2. **DISCONNECT POWER CORD FROM ELECTRICAL SUPPLY BEFORE BEGINNING MAINTENANCE.**
3. **IF DESIRABLE TO KEEP TOP TAPING HEAD RAISED FOR MAINTENANCE WORK, UTILIZE STOP COLLARS ON EACH FRAME COLUMN AT TOP RED DOT POSITION. BEFORE TURNING OFF AIR SUPPLY, RAISE TOP TAPING HEAD TO FULLY RAISED POSITON AND HOLD THERE BY MEANS OF TOP TAPING HEAD VALVE LEVER LATCH. POSITION BOTH STOP COLLARS AT TOP RED DOT POSITION BY MEANS OF THUMB SCREW. RELEASE TOP TAPING HEAD VALVE LATCH SO HEAD DESCENDS TO STOP COLLARS WHERE IT WILL BE MECHANICALLY HELD IN RAISED POSITION. AIR SUPPLY CAN THEN BE TURNED OFF BEFORE BEGINNING MAINTNEANCE.**

CLEANING OF THE MACHINE

CAUTION - NEVER ATTEMPT TO REMOVE DIRT BY BLOWING IT OUT WITH COMPRESSED AIR. THIS CAN CAUSE THE DIRT TO BE BLOWN INSIDE THE MOTOR, AND SLIDING SURFACES. DIRT IN THESE AREAS CAN CAUSE SERIOUS EQUIPMENT DAMAGE.
NEVER WASH DOWN OR SUBJECT EQUIPMENT TO CONDITIONS CAUSING MOISTURE CONDENSATION ON COMPONENTS. SERIOUS EQUIPMENT DAMAGE COULD RESULT.

Regular slotted containers produce a great deal of dust and paper chips when processed or handled in equipment. If this dust is allowed to build up on machine components, it can cause component wear and overheating of drive motor. The dust build up can best be removed from the machine by a shop vacuum. Depending on the number and type of boxes sealed in the Case Sealer, this cleaning should be done approximately once per month. If the boxes sealed are dirty, or if the environment in which the machine operates is dusty, cleaning on a more frequent basis may be necessary. Excessive dirt build up that cannot be removed by vacuuming should be wiped off with a damp cloth.

WARNING - TURN OFF ELECTRICAL POWER SUPPLY AND DISCONNECT POWER CORD FROM ELECTRICAL SUPPLY BEFORE BEGINNING MAINTENANCE. IF POWER CORD IS NOT DISCONNECTED, SEVERE INJURY TO PERSONNEL COULD RESULT. USE CARE WHEN REPLACING BLADES AS BLADES ARE EXTREMELY SHARP. IF CARE IS NOT TAKEN, SEVERE INJURY TO PERSONNEL COULD RESULT.

Replacing Box Drive Belts:

1. **Top taping head must be removed** to replace top box drive belts.
2. Remove top taping head from frame assembly by disconnecting electrical plug provided and loosen four mounting screws. Make sure taping head has adequate support before screws are removed.
3. **DO NOT REMOVE BOTTOM TAPING HEAD.** Remove conveyor panels when replacing bottom box drive belts.
4. Loosen belt adjustment screws with offset box wrench provided in tool kit and remove old belt.
5. Install new belts and adjust belt tension by following Step 1 under adjustments.
6. Reinstall taping head into frame assembly and complete belt installation by adjusting belt tracking following **Step 2 under adjustments.**

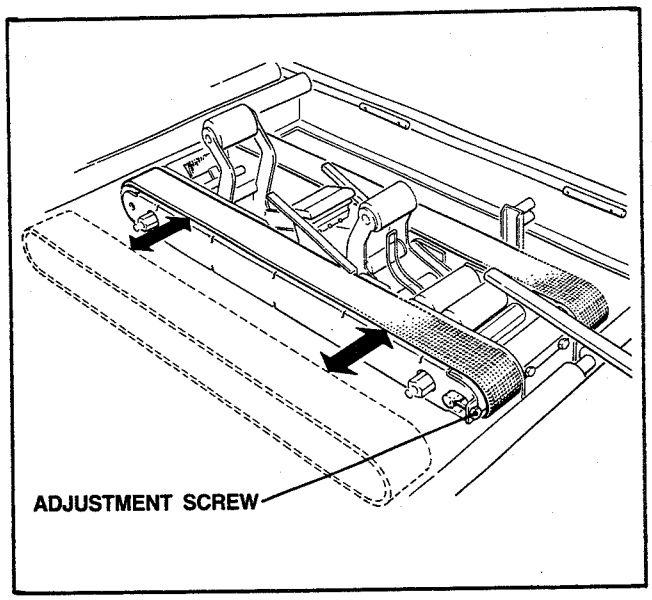


Figure 31C - Box Drive Belt Replacement-Bottom Taping Head

Blade Replacement: Refer to yellow pages, Parts Illustration, Figure 14.

1. Loosen, but do not remove, blade screws (14-13) and washers (14-14) holding blade. Remove old blade.
2. Position new blade with beveled side **away from** blade holder as shown in Figure 14. Tighten blade screws (with one washer next to screw head as shown).
   Note: Seat blade, as shown in Figure 32, (one end of cutting edge 1/8 inch [3 mm] lower). Blade setting must not interfere with blade guard and oiler pad.

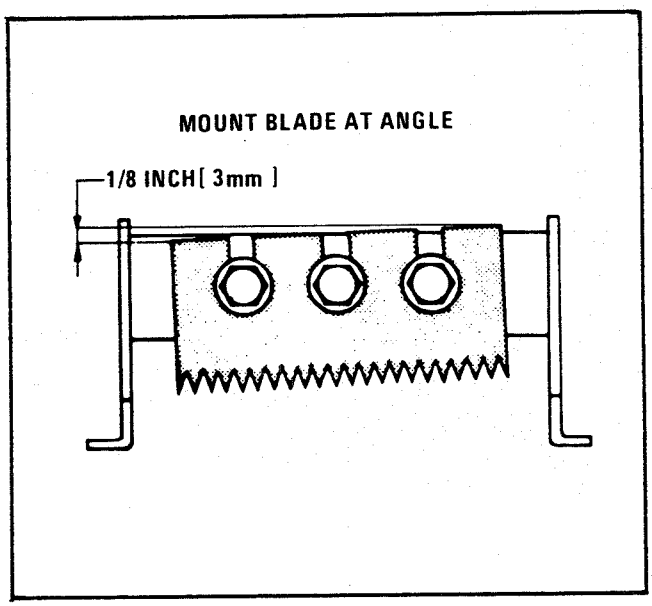


Figure 32 - Blade Replacement

The same steps are followed on Top and Bottom Taping Heads.

Cut-Off Blade:

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

Maintenance (Continued)

Lubrication - Pneumatic System

Maintain **light weight spindle oil** rated 100 SSU at 100°F (38°C) **or SAE #5 non-detergent oil** at the proper level in the air line lubricator bowl. Oil can be added by removing filler capscrew or bowl, as shown in Figure 33A. After filling, replace capscrew or bowl and securely tighten. Adjust socket head set screw in top of oiler, shown in Figure 33B, to meter out one drop of oil per 10 to 12 machine cycles. **Counter-clockwise turning of screw decreases rate of oil drops, clockwise turning increases rate of oil drops.**

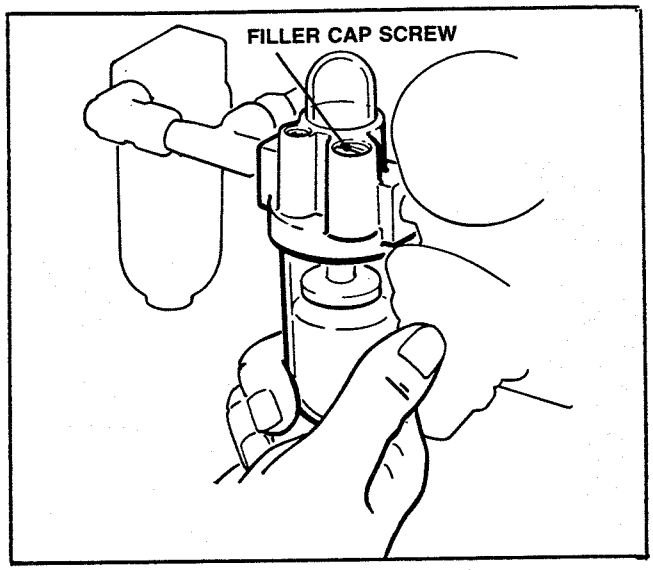


Figure 33A - Air Line Lubricator

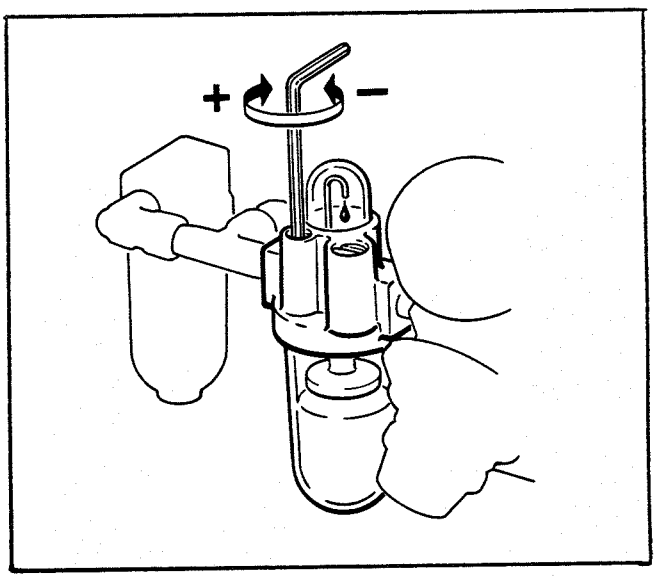


Figure 33B - Air Line Or Regulator

Air line Filter

Periodically check the air line filter, shown in Figure 34, to drain water and clean as necessary. Do not allow the water to go above the filter element.

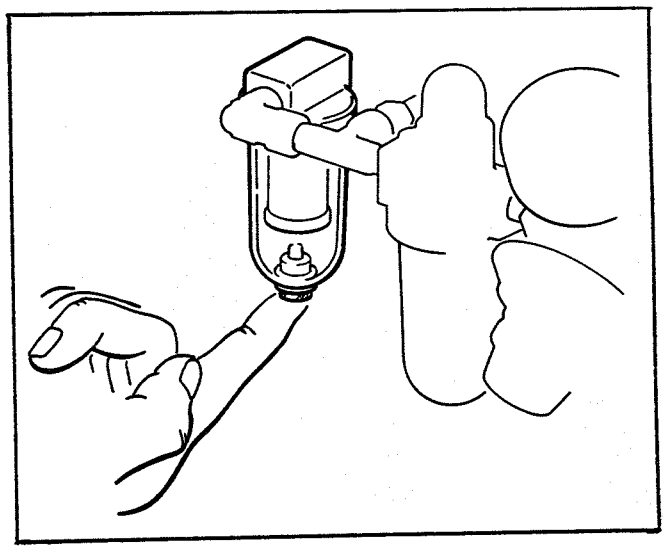


Figure 34 - Air Line Filter

Lubrication-Mechanical

Like most other equipment, the Case Sealer must be properly lubricated to insure long, trouble/free service. Most of the machine bearings are permanently lubricated and sealed and do not need to be greased. The drive motor is also permanently lubricated and should not require additional lubrication. The timing belt/pulley transmission does not require any lubrication.

Figure 35 and similar labels on the machine illustrate the taping head and frame points which should be lubricated every 250 hours of operation. The oil can supplied with the Case Sealer can be utilized to lubricate the rotating and pivoting points noted by the arrows with **SAE #30 non-detergent oil.** Apply light coat of SAE #30 non-detergent oil to roller chain drive between timing belt/pulley transmission and box drive belt shaft. At the same time, a small amount of multipurpose grease should be applied to the end of each spring where the loop is secured at an eyelet, post, or hole.

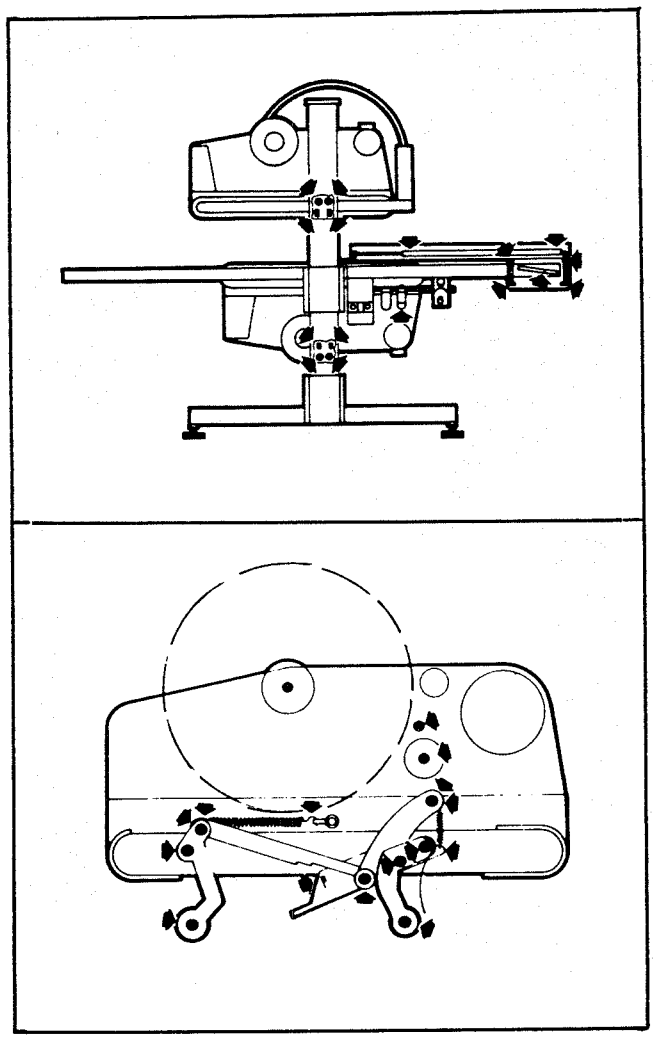


Figure 35 - Lubrication Points

CAUTION - WIPE OFF EXCESS OIL AND GREASE; IT WILL ATTRACT DUST AND DIRT WHICH CAN CAUSE PREMATURE EQUIPMENT WEAR AND JAMMING. TAKE CARE THAT OIL AND GREASE ARE NOT LEFT ON THE SURFACE OF ROLLERS AROUND WHICH TAPE IS THREADED, AS IT CAN CONTAMINATE THE TAPE'S ADHESIVE.

Pneumatic Schematic

WARNING - TURN OFF ELECTRICAL POWER AND AIR SUPPLY AND DISCONNECT POWER CORD FROM ELECTRICAL SUPPLY BEFORE BEGINNING MAINTENEANCE. IF POWER CORD IS NOT DISCONNECTED, SEVERE PERSONNEL INJURY OR EQUIPMENT DAMAGE COULD RESULT.

Figure 36 illustrates the pneumatic system of the Case Sealer. Adjustments for the components are covered in the "Pneumatic Component Controls" and "Lubrication" sections. A similar pneumatic schematic is mounted on the machine.

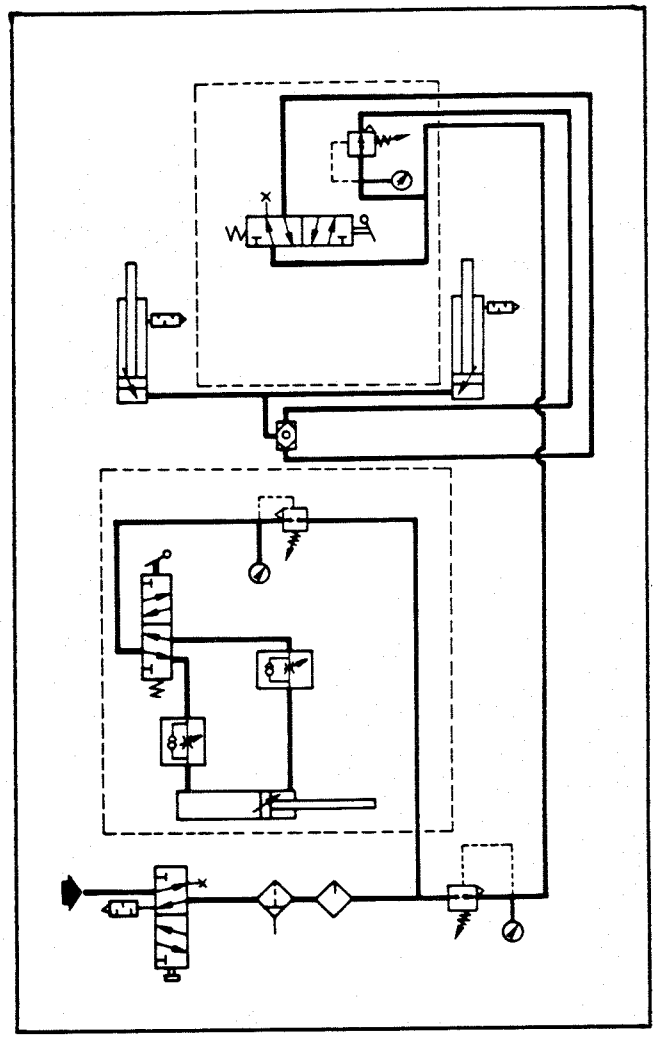


Figure 36 - Pneumatic Schematic

WARNING - TURN OFF ELECTRICAL POWER AND AIR SUPPLY AND DISCONNECT POWER CORD FROM ELECTRICAL SUPPLY BEFORE BEGINNING MAINTENANCE. IF POWER CORD IS NOT DISCONNECTED, PERSONNEL COULD BE EXPOSED TO DANGEROUS VOLTAGES. SEVERE INJURY OR EQUIPMENT DAMAGE COULD RESULT.

Electrical System

The electrical system of the Case Sealer is illustrated in Figure 37. The motor may be reversed by removing the terminal cover and relocating the jumper strips as illustrated in Figure 38. The motor capacitor, which is under the plastic cover on the backside of the taping head, is shown in Figure 2 of the Parts Illustration section. No adjustments to the electrical system is required.

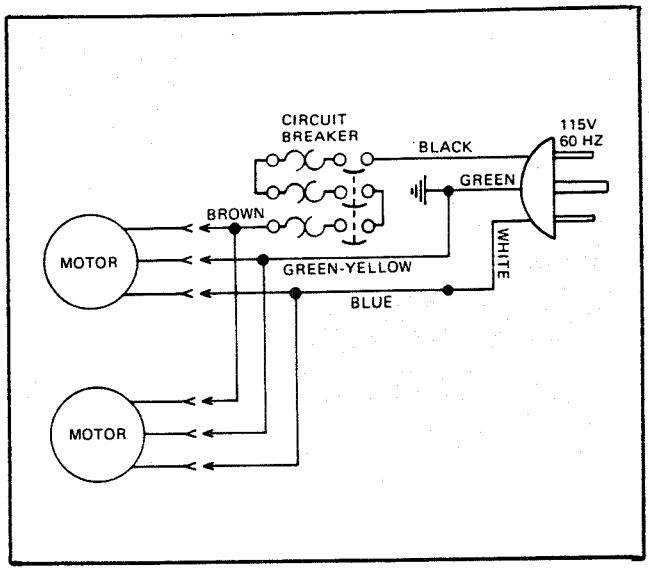


Figure 37

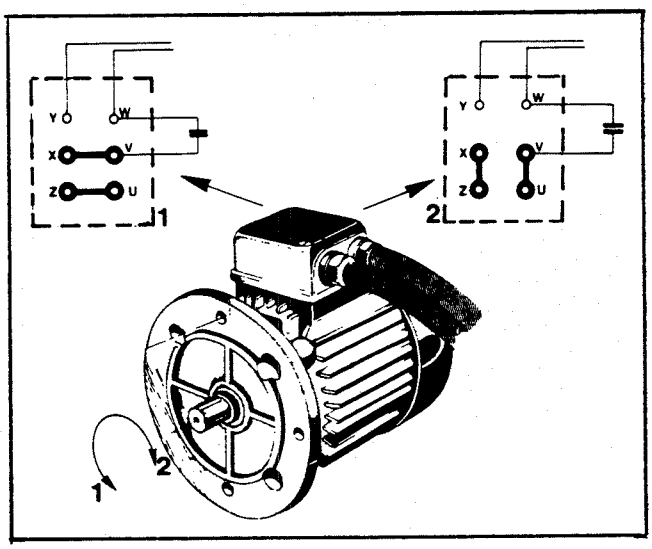


Figure 38

Circuit Breaker

The Case Sealer is equipped with a circuit breaker which trips the "On-Off" switch to "Off" position. Located inside the electrical control box on the side of the main frame just below the conveyor bed, the circuit breaker has been pre-set for 5 amps and requires no further maintenance. Should the circuit breaker be replaced, check the calibrated amp setting , as shown in Figure 39, before installation. It should be set at 5 amps.

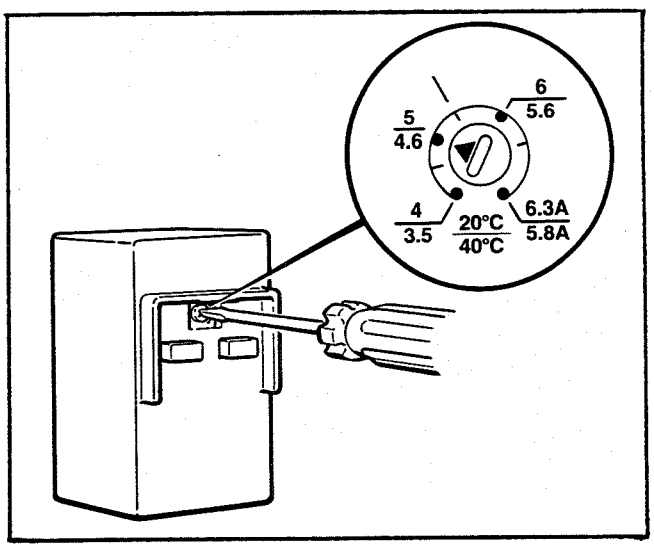


Figure 39 Circuit Breaker

Replacement Parts And Service Information

Spare Parts

A set of spare parts that will periodically require replacement due to normal wear or breakage is supplied with the Case Sealer. The set includes the following which should be reordered as consumed to keep the Case Sealer in production:

Qty.	Ref. No.	3M Part Number	Description
1	13-02	78-8017-9119-1	Spring - Main, Top Head, Zinc Pl.
1	13-20	78-8017-9424-5	Spring - Main, Bottom Head
4	14-10	78-8017-9136-5	Spring - Cutter
2	14-12	78-8017-9173-8	Blade - 2.56 inch/65mm

In addition to the above minimum spare parts, it is suggested that the following spare parts be ordered and kept on hand:

Qty.	Ref. No.	3M Part Number	Description
1	2-01	78-8001-7176-7	Belt - Timing 225L050
5	5-06	78-8017-9062-3	Washer - O-Ring 150 mm
2	8-10	78-8017-9049-0	Belt - Box Drive
7	9-21	78-8017-9175-3	Washer - O-Ring, 138 mm
1	11-11	78-8017-9101-9	Roller - Applying
1	11-19	78-8017-9272-8	Spring - Tape Support
1	15-08	78-8017-9140-7	Roller - Buffing

Tool Kit

The tool kit, P/N 78-8023-2604-7, provided with the Case Sealer, is available as a replacement stock item. The kit contains the necessary wrenches, an oil can and the first set of spare parts listed above. (Threading tool contained in above kit - Part No. 78-8017-9433-6.) Refer to **"How To Order Replacement Parts"** for ordering information.

How To Order Replacement Parts

1. Order parts by **part number, part name, machine catalog number, model number** and **part quantity** required.

> **Minimum billing on parts orders will be $10.00.**
>
> **Replacement part prices available on request.**

2. Replacement parts and part prices available direct from:

Dispenser Parts
Route 4, Box 5B
Amery, WI 54001

3. Refer to the front of the instruction manual for **3M equipment repair service** information.

Attachments

Additional information on the attachments listed below is included with the manual.

Part Number	Attachment Name
78-8017-9417-9	Auxiliary Tape Roll Mount Attachment
78-8017-9160-5	Caster Attachment

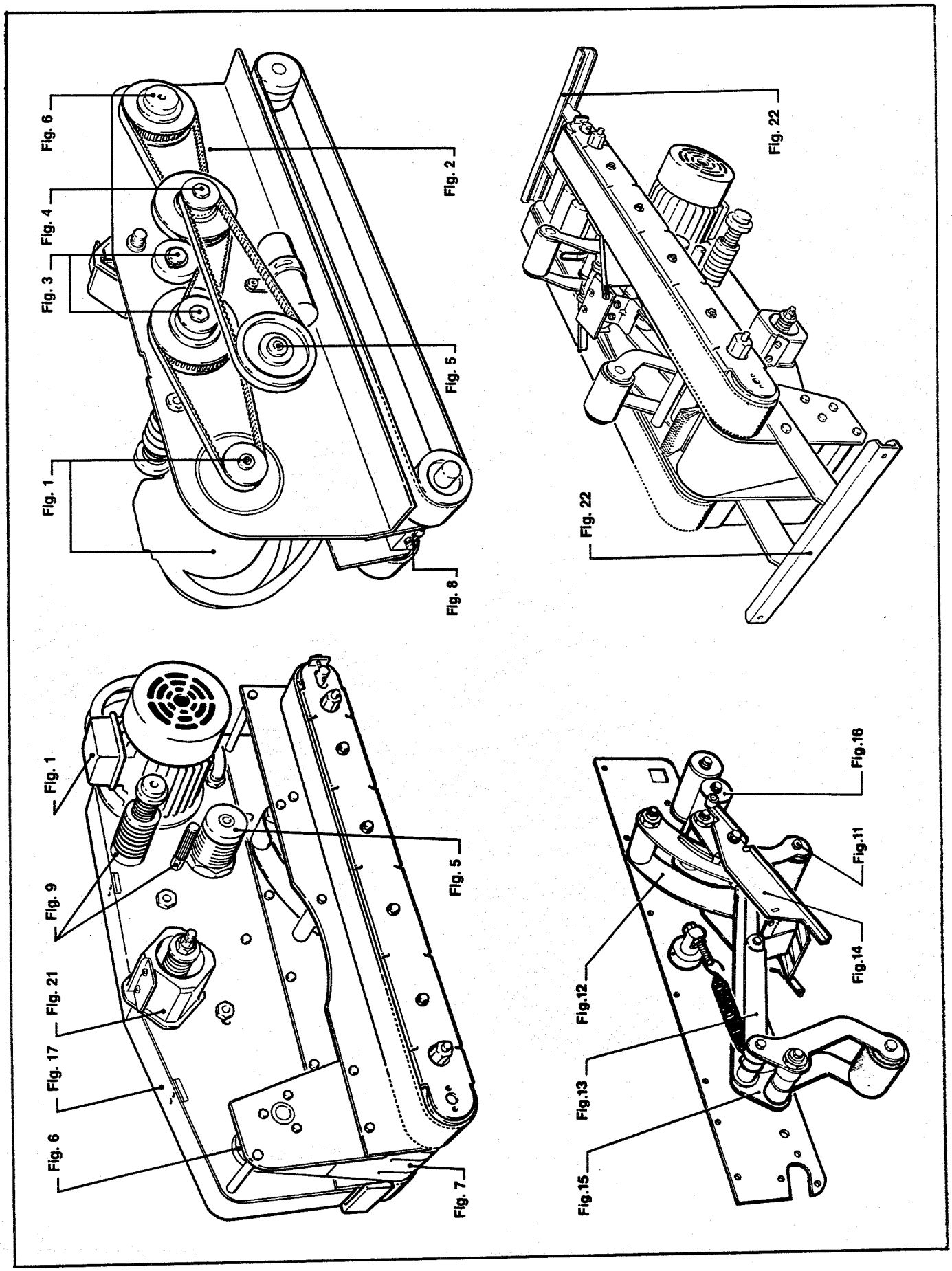
1. Refer to Taping Head Assemblies figures to find all the parts illustrations identified by figure numbers.

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 page 33 - **"Replacement Parts and Service Information"** of this manual for replacement parts ordering information.



TAPING HEAD ASSEMBLIES

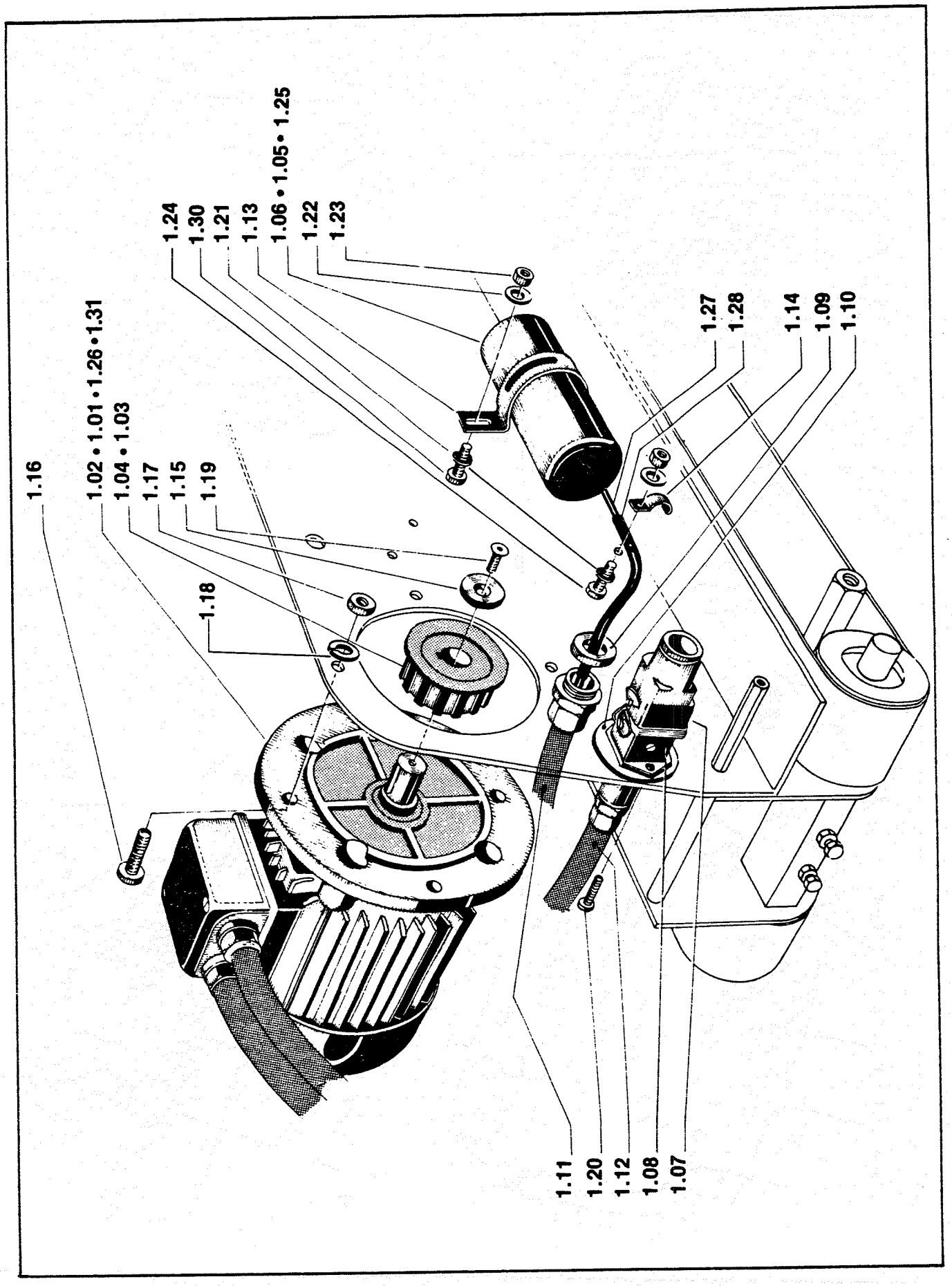

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FIGURE 1

Ref. No.	3M Part No.	Description
1-01	78-8017-9057-3	Motor - Single Phase, 240V, 50 Hz., 0.18 HP, B5
1-02	78-8017-9009-4	Motor - Single Phase, 110V, 60 Hz, 0,18 HP, Type B5
1-03	78-8017-9010-2	Pulley - Timing Belt for 220/240V Motor, z-14
1-04	78-8017-9011-0	Pulley - Timing Belt for 110V Motor, z-12
1-05	78-8017-9163-9	Capacitor - 5 MFD, 240V, 50 Hz
1-06	78-8017-9012-8	Capacitor - 20 MFD, 110V, 60 Hz
1-07	78-8017-9013-6	Plug
1-08	78-8017-9014-4	Receptacle
1-09	78-8017-9015-1	Nut
1-10	78-8017-9016-9	Washer - Insulating
1-11	78-8017-9164-7	Sleeving - Length 30cm
1-12	78-8017-9165-4	Sleeving - Length 23.5cm
1-13	78-8017-9166-2	Clip - Capacitor
1-14	78-8017-9167-0	Clip - Cable
1-15	78-8017-9033-4	Washer - 20 mm
1-16	78-8017-9301-5	Screw - Hex Head M8 x 25
1-17	26-1000-1347-8	Nut - Hex Regular M81-18
1-18	78-8005-5736-1	Lockwasher - for M8 screw
1-19	78-8017-9161-3	Screw - Allen FH M4 x 10
1-20	78-8017-9425-2	Screw - Self-Tapping, 8 x 13 mm
1-21	78-8010-7435-8	Washer - Metric, Lock Spr. Stl. M6
1-22	78-8023-2478-6	Washer - Metric, 6,2 ID x 18 OD x 1,5 mm thk.
1-23	26-1000-0010-3	Nut - Metric, Hex, Stl., M6
1-24	78-8010-7193-3	Screw - Metric, M6 x 20 Hex Hd. Cap, Stl, Black Zinc
1-25	78-8017-9056-5	Capacitor - 6.3 Mfd. 220V, 50 Hz
1-26	78-8017-9008-6	Motor - Single Phase, 220V, 50 Hz, 0,18 HP, Type B5
1-27	78-8017-9369-2	Cable Assembly - Motor to Capacitor
1-28	78-8017-9371-8	Sleeving - Plastic
1-30	78-8032-0375-7	Screw - Hex Hd. M6 x 16, Nick, Pl.
1-31	78-8018-7889-9	Motor - 220/380V, 50 HZ, 3-Phase, 0.25 HP

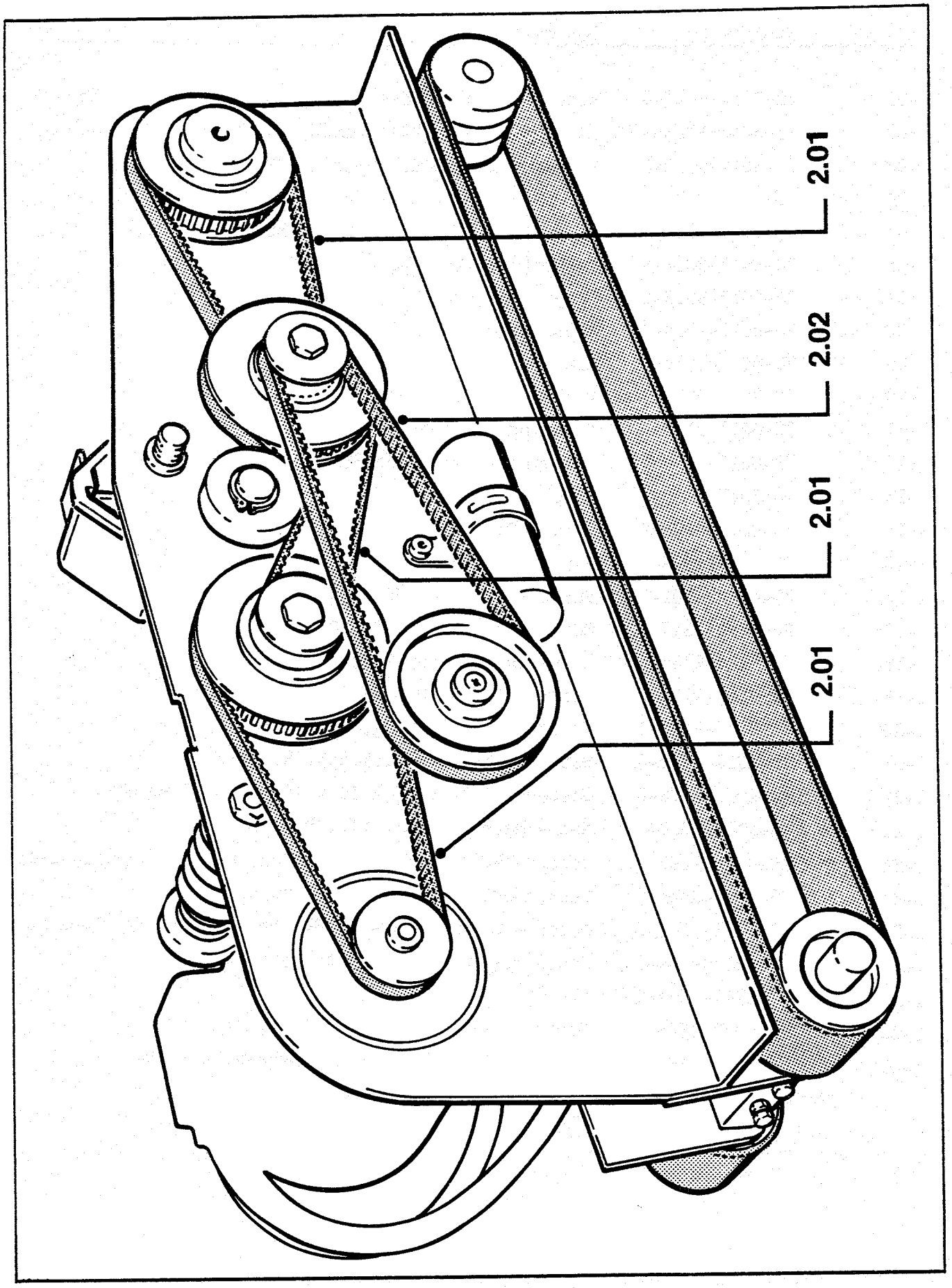

FIGURE 2

Ref. No.	3M Part No.	Description
2-01	78-8001-7176-7	Belt - Timing, 225L050
2-02	12-7997-4978-8	Belt - Timing, 255L050

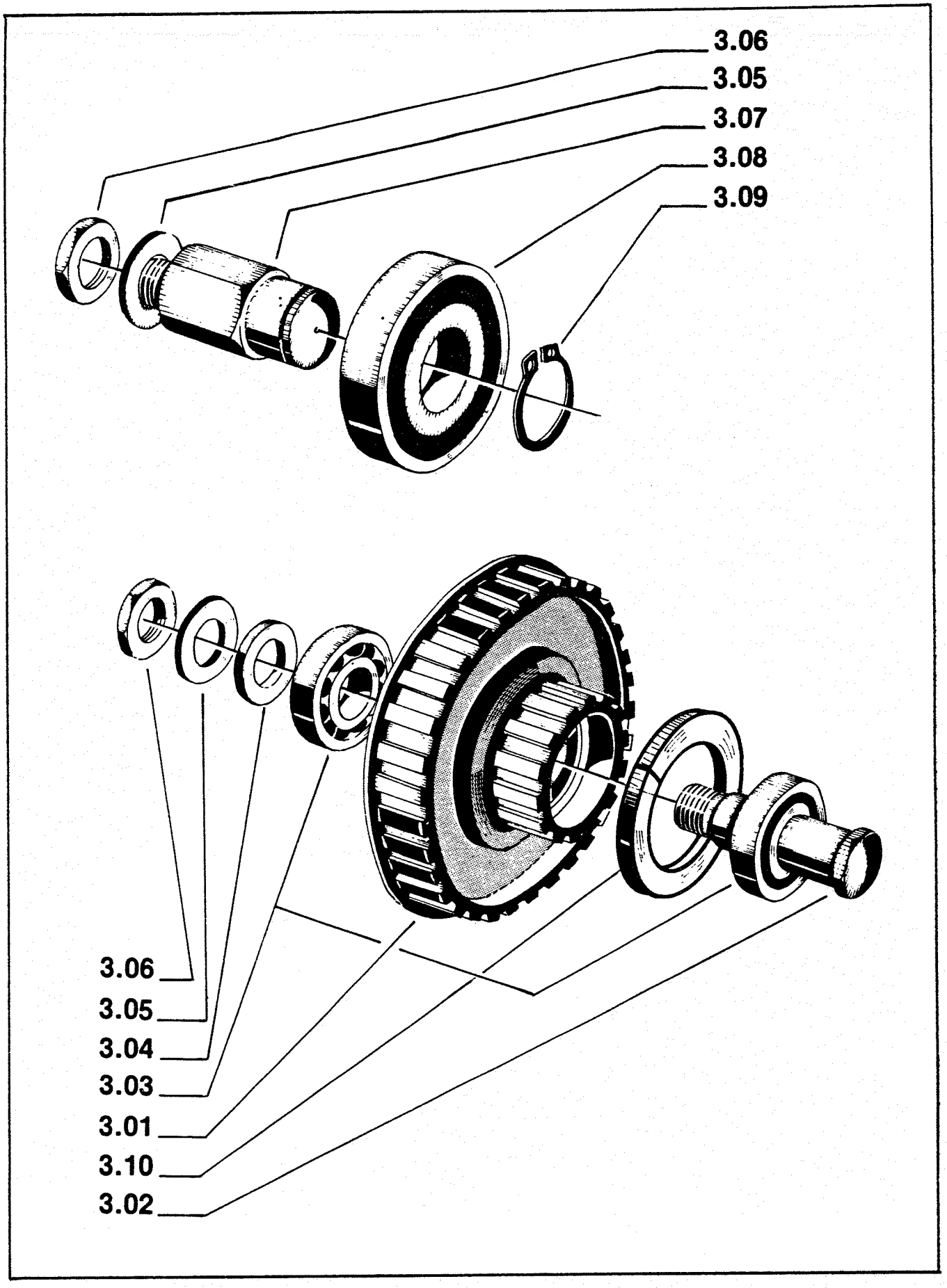

FIGURE 3

Ref. No.	3M Part No.	Description
3-01	78-8017-9019-3	Pulley - Timing Belt Z-32/14
3-02	78-8017-9020-1	Shaft - Pulley
3-03	26-1000-4350-9	Bearing - 6002-2RSC
3-04	78-8017-9021-9	Washer - Special, 25 mm x 12 mm
3-05	78-8017-9059-9	Washer - Flat for M12 Screw
3-06	78-8017-9022-7	Nut - Special, M12 x 1
3-07	78-8017-9023-5	Shaft - Tensioning
3-08	78-8017-9060-7	Bearing - 6304-2RS
3-09	78-8017-9061-5	Snap Ring - for 20 mm Shaft
3-10	78-8017-9025-0	Washer - Nylon

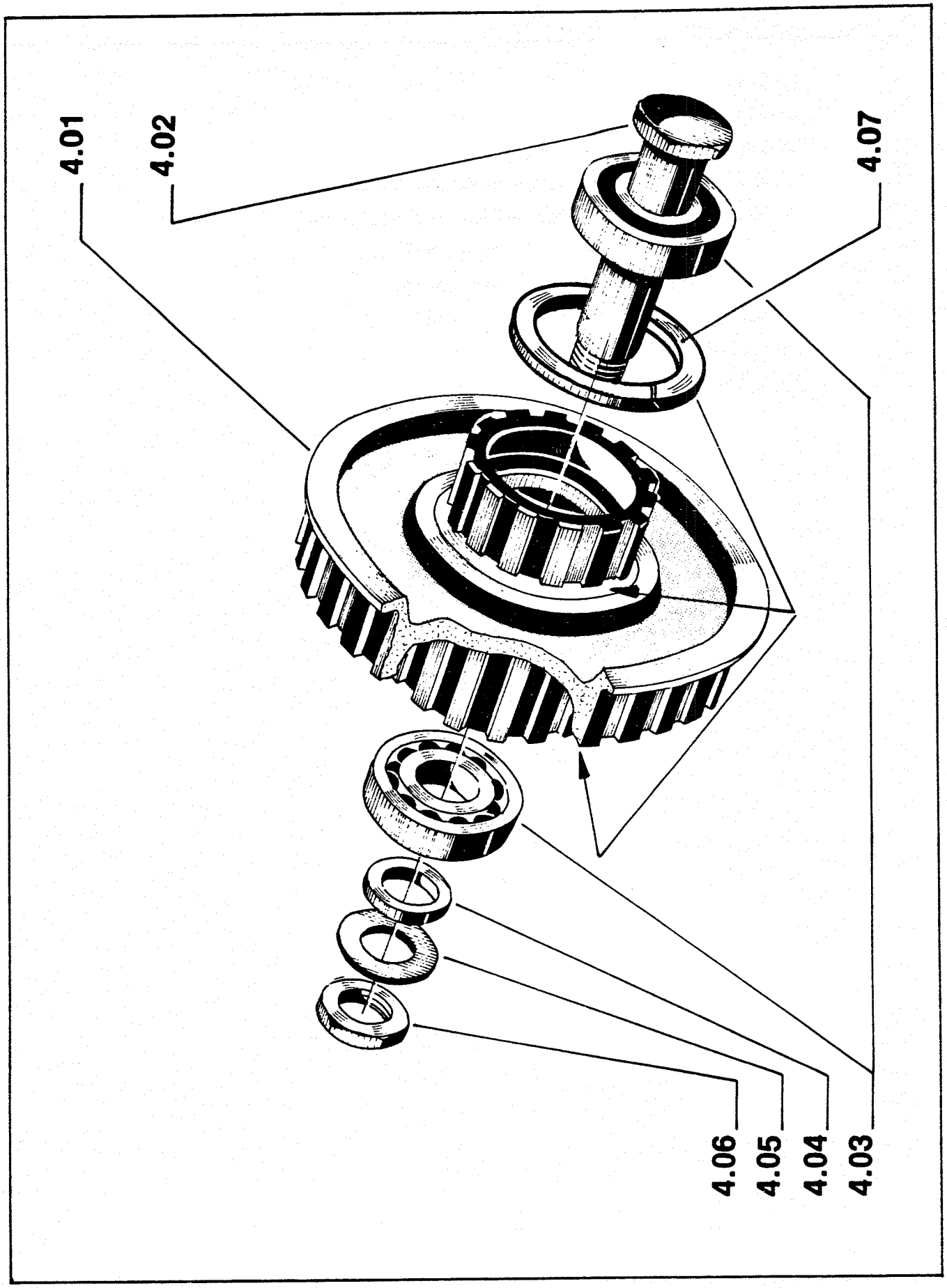

FIGURE 4

Ref. No.	3M Part No.	Description
4-01	78-8017-9024-3	Pulley - Timing Belt, Z-14/32/14
4-02	78-8017-9026-8	Shaft - Pulley
4-03	26-1000-4350-9	Bearing - 6002-2RS
4-04	78-8017-9021-9	Washer - Special, 25 mm 12 mm
4-05	78-8017-9059-9	Washer - for M12 Screw
4-06	78-8017-9022-7	Nut - Special, M12 x 1
4-07	78-8017-9025-0	Washer - Nylon

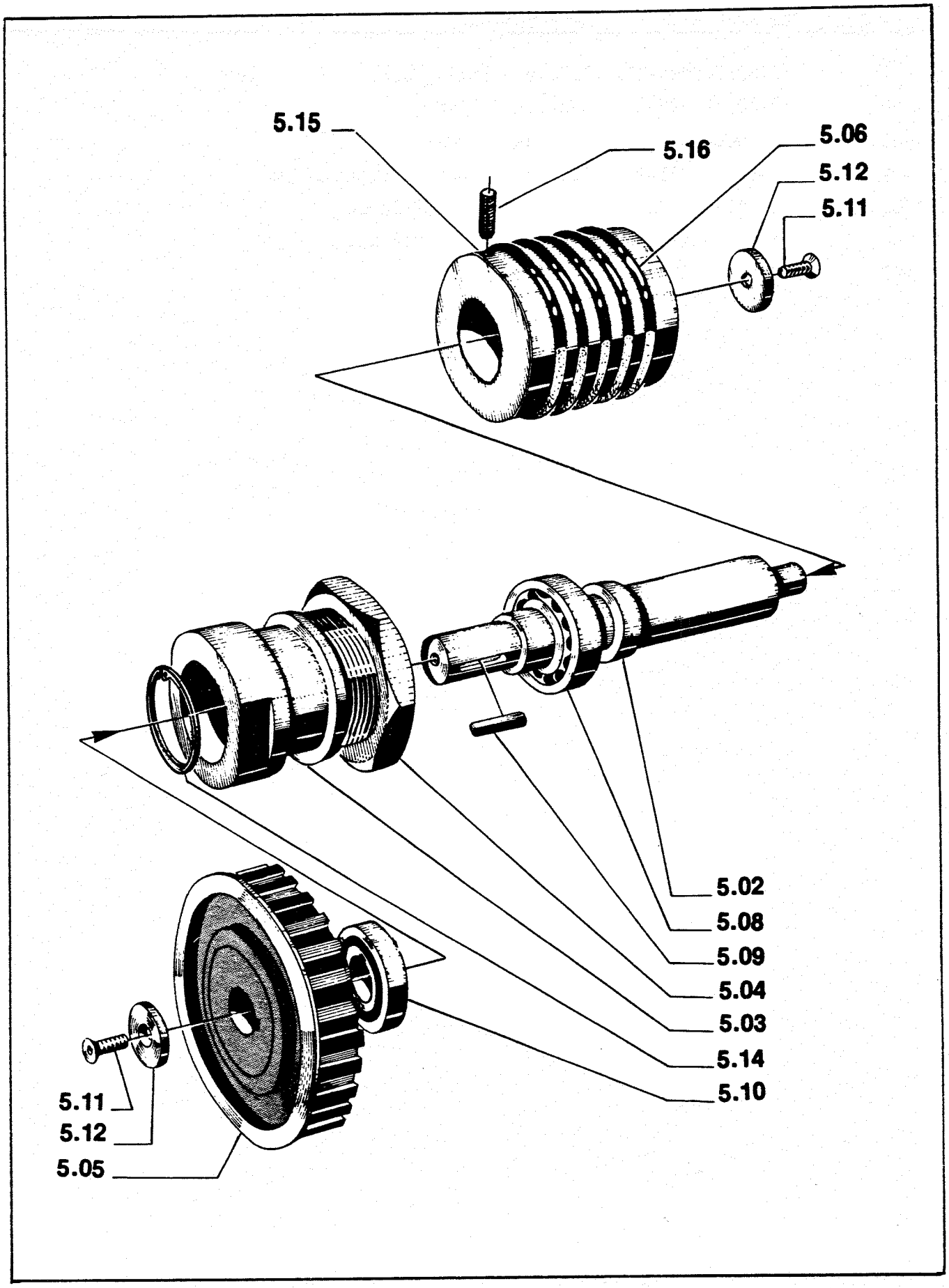

FIGURE 5

Ref. No.	3M Part No.	Description
5-02	78-8017-9029-2	Shaft - Tape Prestripper
5-03	78-8017-9030-0	Hub - Eccentric Prestripper
5-04	78-8017-9031-8	Nut - Hub Attachment
5-05	78-8017-9032-6	Pulley - Prestripper Z-28
5-06	78-8017-9062-3	Washer - O-Ring 150 mm
5-08	26-1000-6036-2	Bearing - 6003-2RS
5-09	78-8017-9064-9	Key - 5 x 5 x 15 mm
5-10	26-1000-4350-9	Bearing - 6002-2RS
5-11	78-8017-9161-3	Screw - Allen FH M4 x 10
5-12	78-8017-9033-4	Washer - 20 mm
5-14	78-8017-9419-5	Ring - Snap for 32 mm Hole
5-15	78-8023-2565-0	Roller - Tape Prestripper
5-16	78-8023-2479-4	Screw - Set w/end Cup, M6 x 10

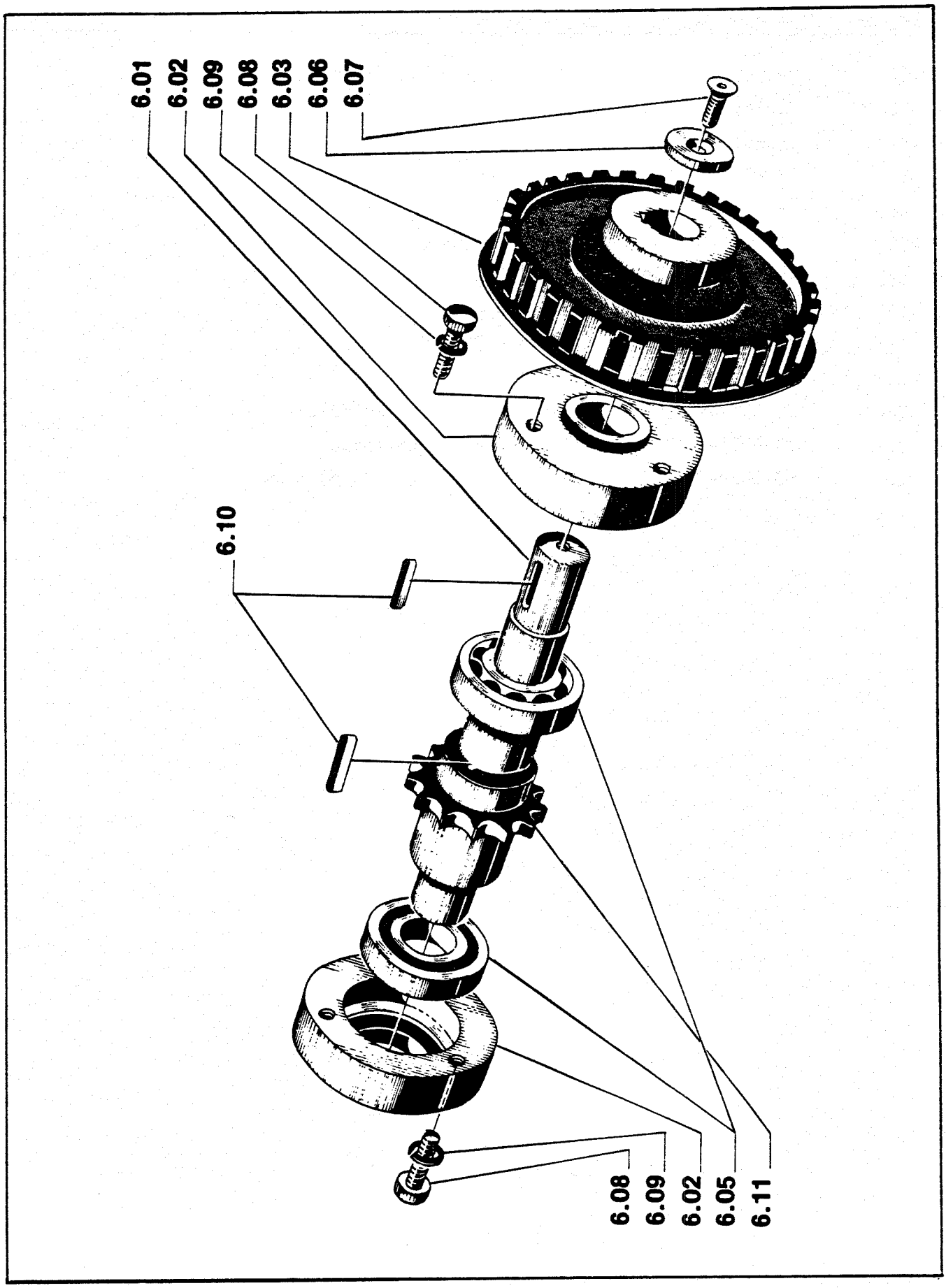

FIGURE 6

Ref. No.	3M Part No.	Description
6-01	78-8017-9035-9	Shaft - Transmission
6-02	78-8017-9036-7	Hub - Shaft Support
6-03	78-8017-9037-5	Pulley - Timing Belt, Z-32
6-05	26-1000-6036-2	Bearing 6003-2RS
6-06	78-8017-9033-4	Washer - 20 mm
6-07	78-8017-9161-3	Screw - Allen FH M4 x 10
6-08	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap, Steel, Nick Pl.
6-09	78-8010-7435-8	Washer - Metric, Lock, Spr., M6
6-10	78-8017-9064-9	Key - 5 x 5 x 15 mm
6-11	78-8018-7708-1	Sprocket - Metric, 13 Teeth

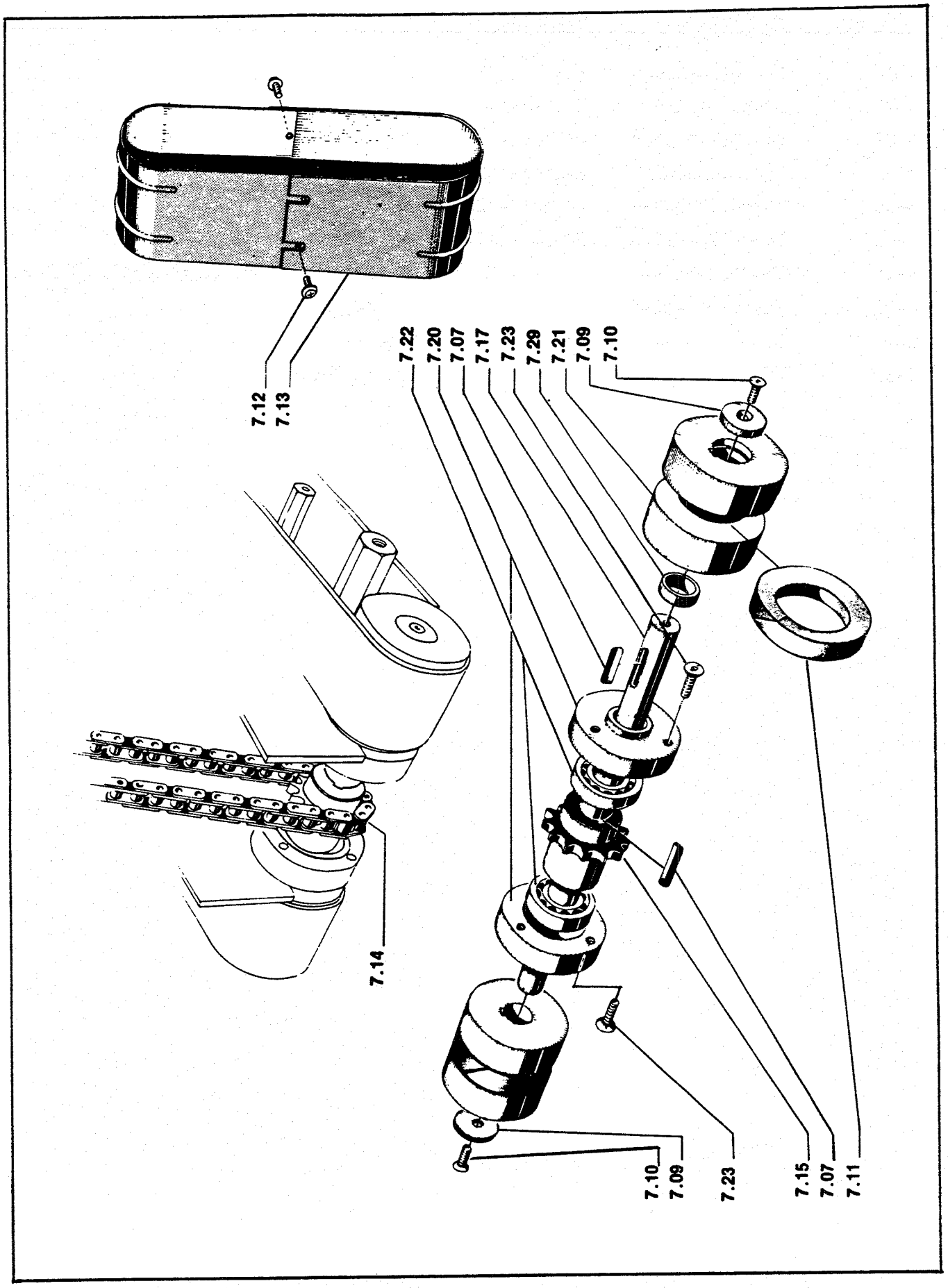
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FIGURE 7

Ref. No.	3M Part No.	Description
7-07	78-8017-9064-9	Key - 5 x 5 x 15 mm
7-09	78-8017-9033-4	Washer - 20 mm
7-10	78-8017-9161-3	Screw - Allen FH M4 x 10
7-11	78-8017-9043-3	Ring - Friction
7-12	78-8017-9066-4	Screw - Special M5 x 10
7-13	78-8017-9044-1	Guard - Belt
7-14	78-8018-7709-9	Chain - Roller, Metric, 48 Links
7-15	78-8018-7710-7	Sprocket - Metric, 15 Teeth
7-17	78-8018-7802-2	Shaft - Drive Pulley
7-20	78-8023-2542-9	Hub - Shaft Support
7-21	78-8023-2543-7	Pulley - Keyed
7-22	78-8023-2544-5	Bearing - 6203-2RS
7-23	78-8017-9333-8	Screw - Allen FH, M5 x 15
7-29	78-8023-2480-2	Spacer - Drive Shaft

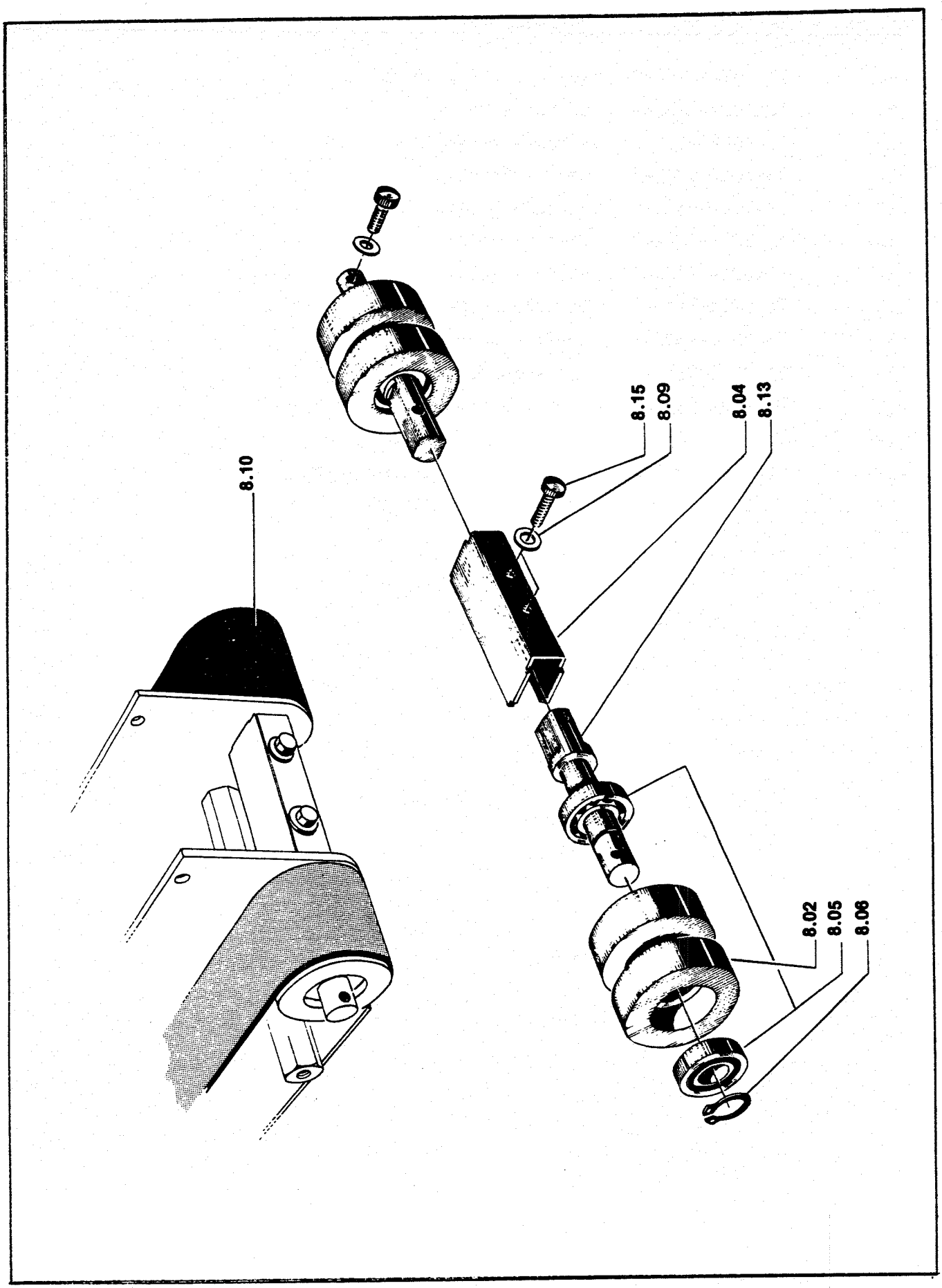

FIGURE 8

Ref. No.	3M Part No.	Description
8-02	78-8017-9046-6	Pulley - Grooved
8-04	78-8017-9048-2	Bracket - Pivot
8-05	26-1000-4350-9	Bearing - 6002-2RS
8-06	78-8017-9079-7	Ring - Snap for 15 mm Shaft
8-09	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel; M6
8-10	78-8017-9049-0	Belt - Box Drive
8-13	78-8023-2545-2	Shaft - Idler Pulley
8-15	78-8018-7725-5	Screw - Hex Hd., M6 x 35, Nick. Pl.

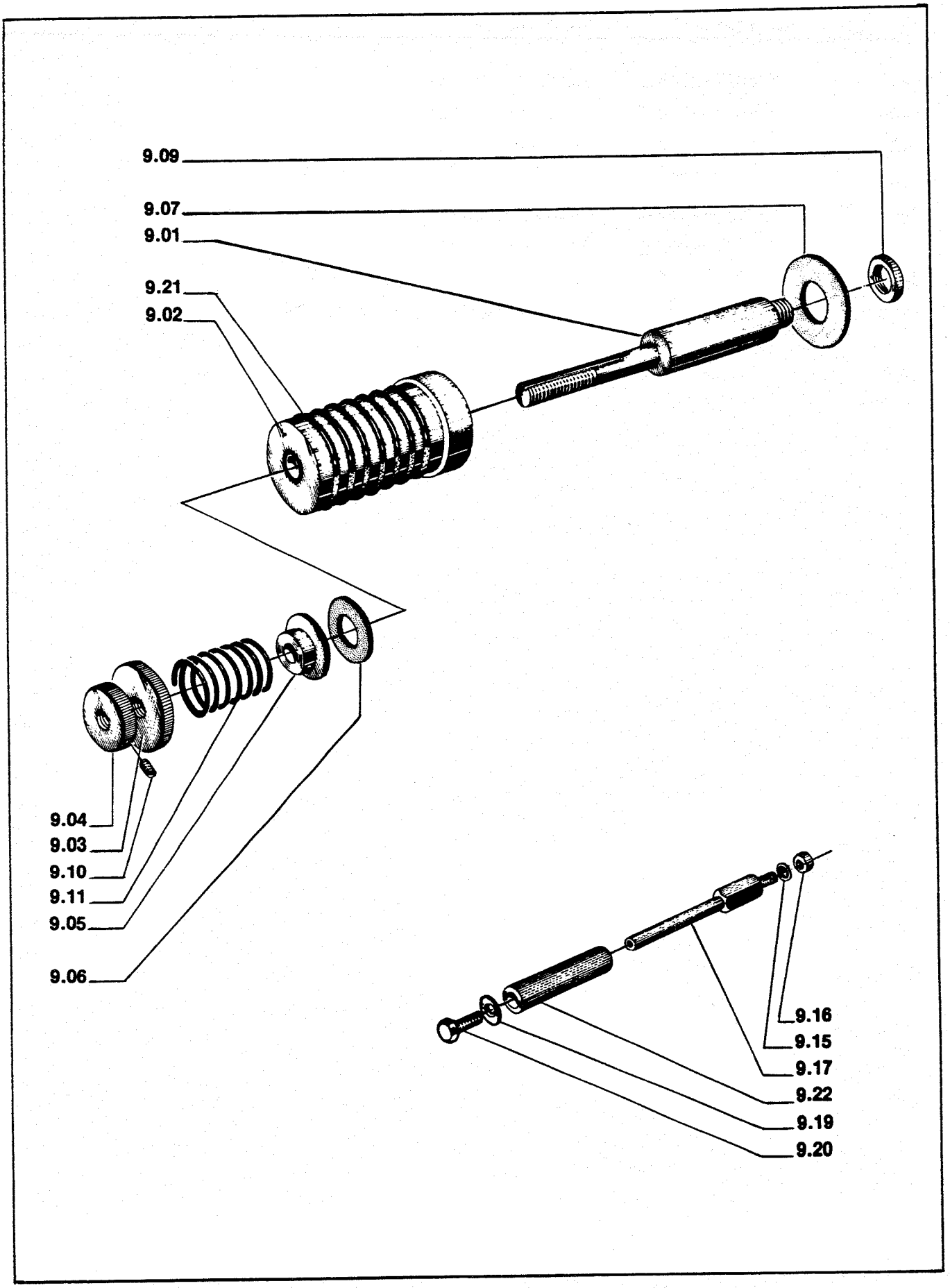
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FIGURE 9

Ref. No.	3M Part No.	Description
9-01	78-8017-9050-8	Shaft - Tensioning Roller
9-02	78-8017-9051-6	Roller Assembly - Tensioning
9-03	78-8017-9053-2	Nut - Round, Adjusting
9-04	78-8017-9054-0	Nut - Round, Locking
9-05	78-8017-9055-7	Holder Assembly - Friction Washer
9-06	78-8017-9067-2	Washer - Friction, 30 mm
9-07	78-8017-9068-0	Washer - Friction, 44 mm
9-09	78-8017-9022-7	Nut - Special, M12 x 1
9-10	78-8017-9073-0	Screw - Set, Allen M4 x 8
9-11	78-8017-9071-4	Spring
9-15	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel M6
9-16	26-1000-0010-3	Nut - Metric, Hex, Steel, M6
9-17	78-8017-9085-4	Shaft - Knurled Roller
9-19	78-8017-9018-5	Washer - Metric, Plain, Steel M4 (Special)
9-20	78-8010-7157-8	Screw - Hex Head M4 x 10
9-21	78-8017-9175-3	Washer - O-Ring 138 mm
9-22	78-8023-2481-0	Roller Assembly - Knurled

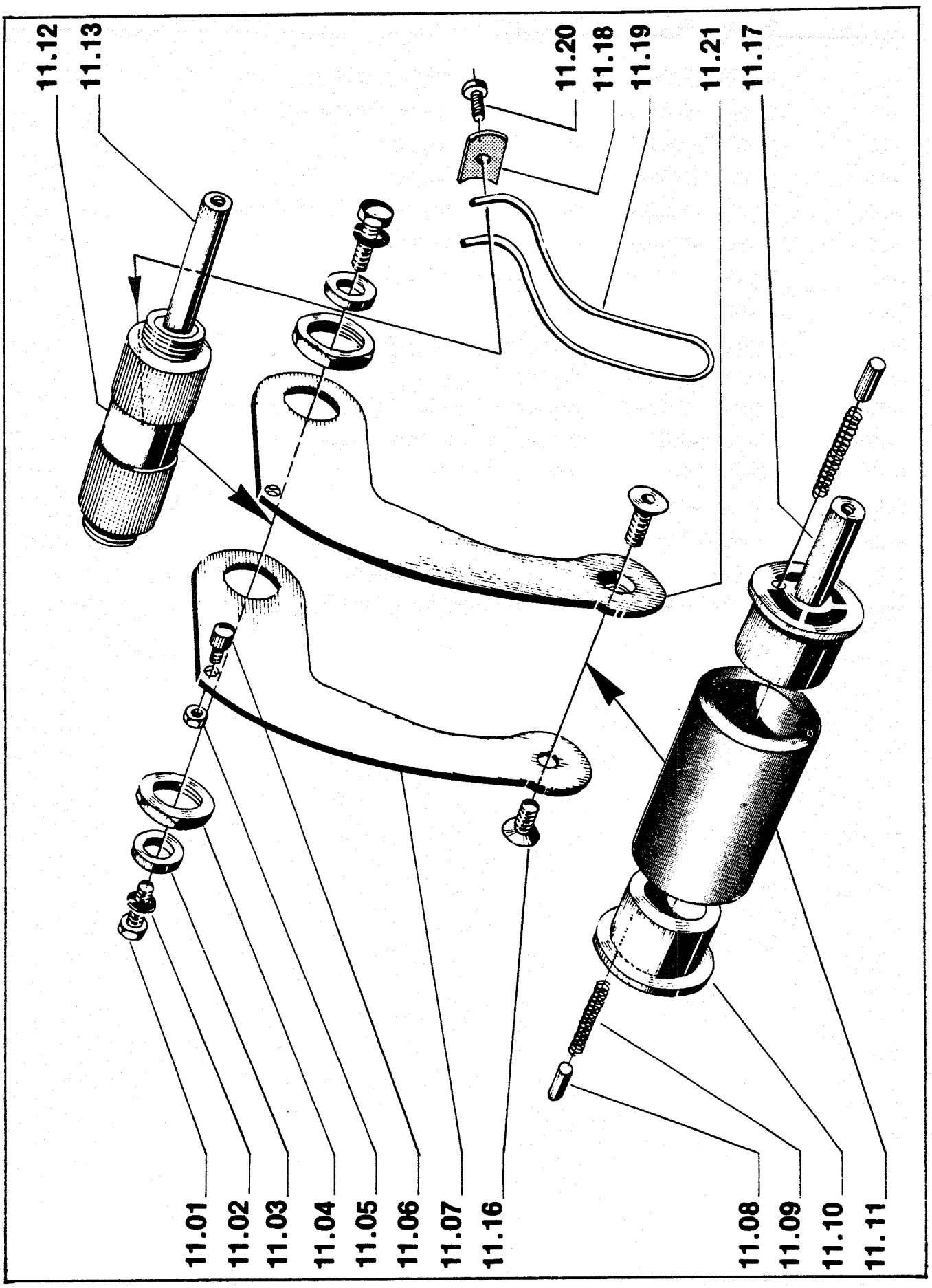
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FIGURE 11

Ref. No.	3M Part No.	Description
11-01	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap, Steel-Nick. Pl.,
11-02	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel M6
11-03	78-8017-9095-3	Spacer
11-04	78-8017-9096-1	Nut - Special M18 x 1
11-05	78-8010-7417-6	Nut - Metric, Hex, Steel, M5
11-06	78-8017-9097-9	Pin - Follower
11-07	78-8017-9430-2	Arm - Applying Roller, Left Side
11-08	78-8017-9098-7	Pin - Friction, 5 mm
11-09	78-8017-9100-1	Spring - Friction
11-10	78-8017-9099-5	Bushing - Applying Roller
11-11	78-8017-9101-9	Roller - Applying
11-12	78-8017-9102-7	Spacer Assembly - Applying Roller Arms
11-13	78-8017-9109-2	Shaft - 10 x 90 mm
11-16	78-8017-9162-1	Screw - Allen FH, M6 x 12
11-17	78-8017-9105-0	Shaft - 10 x 66 mm
11-18	78-8017-9364-3	Clamp - Tape Support Spring
11-19	78-8017-9272-8	Spring - Tape Support
11-20	78-8017-9257-9	Screw - Phllips Head, M4 x 10
11-21	78-8017-9076-3	Arm - Applying Roller, Right Side

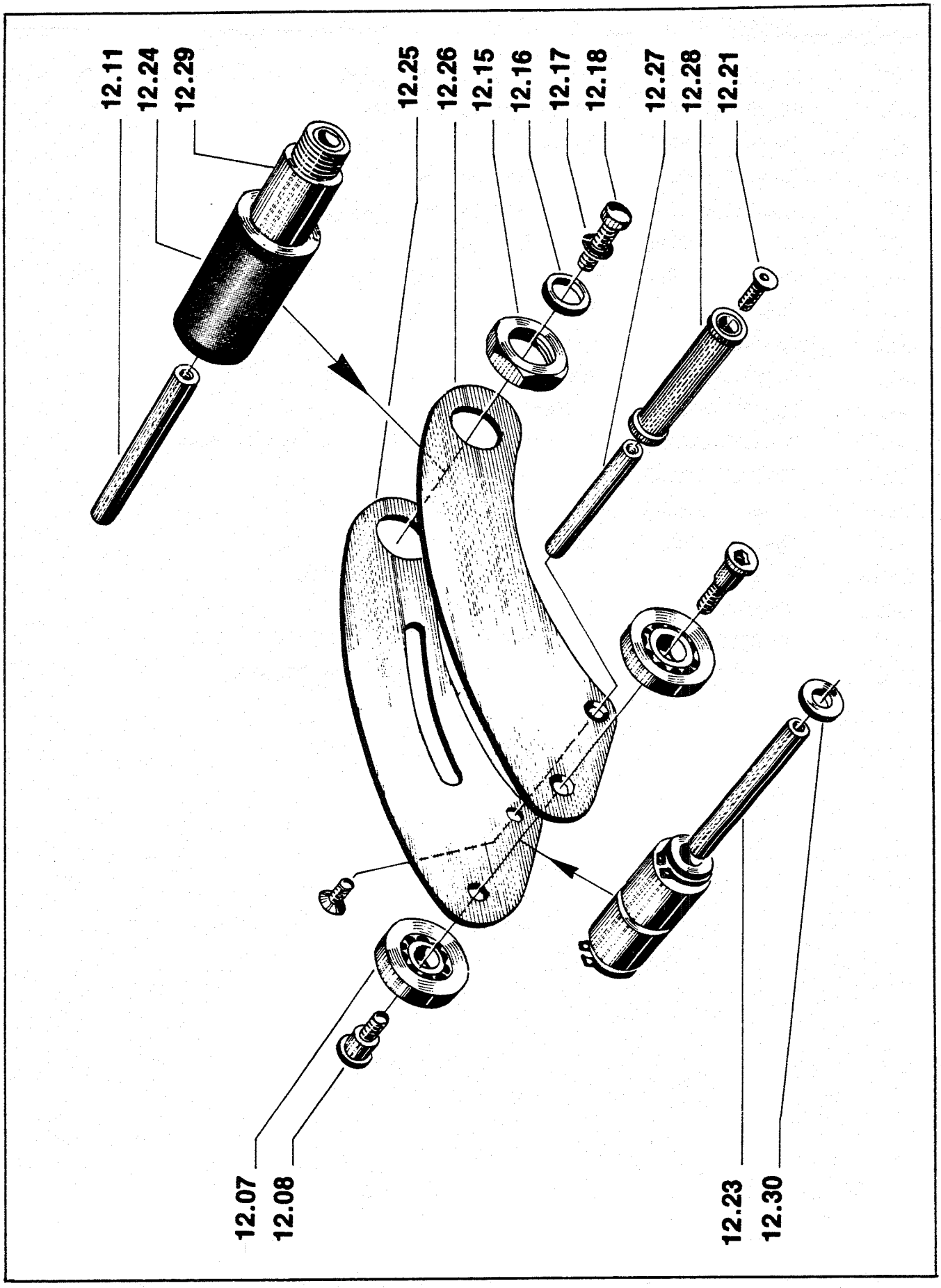
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FIGURE 12

Ref. No.	3M Part No.	Description
12-07	78-8017-9082-1	Bearing - Special 30 mm
12-08	78-8017-9106-8	Screw - Bearing Shoulder
12-11	78-8017-9109-2	Shaft 10 x 90 mm
12-15	78-8017-9169-6	Nut - M18 x 1
12-16	78-8017-9095-3	Spacer
12-17	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel M6
12-18	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap Steel, Nick Pl.
12-21	78-8017-9170-4	Screw - Phillips FH, M4 x 8
12-23	78-8018-7847-7	Shaft - 10 x 57 mm
12-24	78-8018-7848-5	Roller Assembly - Tape Guide
12-25	78-8018-7849-3	Side Plate - w/Slot - One Way Roller Left
12-26	78-8018-7850-1	Side Plate - One Way Roller Right
12-27	78-8018-7851-9	Shaft - 8 x 57 mm
12-28	78-8018-7852-7	Roller Assembly - One Way - Knurled
12-29	78-8018-7853-5	Shaft Assembly - Tape Guide Roller
12-30	78-8018-7854-2	Spacer

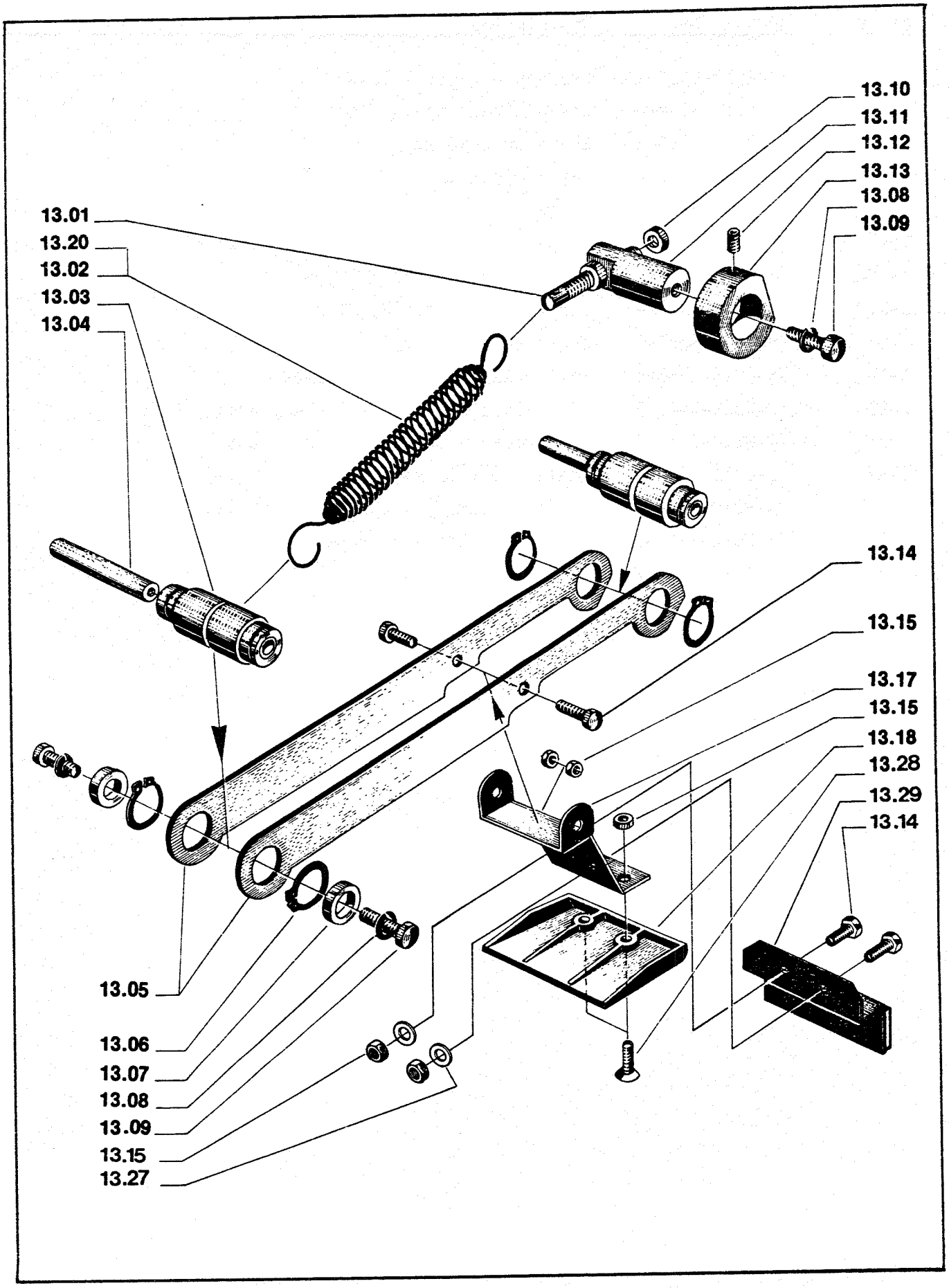
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FIGURE 13

Ref. No.	3M Part No.	Description
13-01	78-8017-9118-3	Screw - Spring Tensioner
13-02	78-8017-9119-1	Spring - Main, Top Head, Zinc Pl.
13-03	78-8017-9120-9	Roller Assembly - Grooved
13-04	78-8017-9105-0	Shaft - 10 x 66 mm
13-05	78-8017-9122-5	Lever
13-06	78-8017-9171-2	Ring - Snap for 18 mm
13-07	78-8017-9123-3	Spacer
13-08	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel M6
13-09	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap, Steel Nick. Pl.
13-10	26-1000-1347-8	Nut - Metric Hex Stl., M8
13-11	78-8017-9124-1	Holder - Main Spring
13-12	78-8005-4230-6	Screw - Set, Allen M6 x 10
13-13	78-8017-9125-8	Collar - Retainer
13-14	78-8010-7163-6	Screw - Hex Head, M5 x 10, Nick. Pl.
13-15	78-8010-7417-6	Nut - Metric, Hex, Steel, M5, Nick. Pl.
13-17	78-8017-9126-6	Bracket - Blade Guard
13-18	78-8017-9127-4	Guard - Blade
13-20	78-8017-9424-5	Spring, Main, Bottom Head
13-27	78-8005-5741-1	Washer, Plain - M5
13-28	26-0001-5862-1	Screw - Allen Fl. Hd. M5 x 12
13-29	78-8052-6285-0	Blade - Oiler

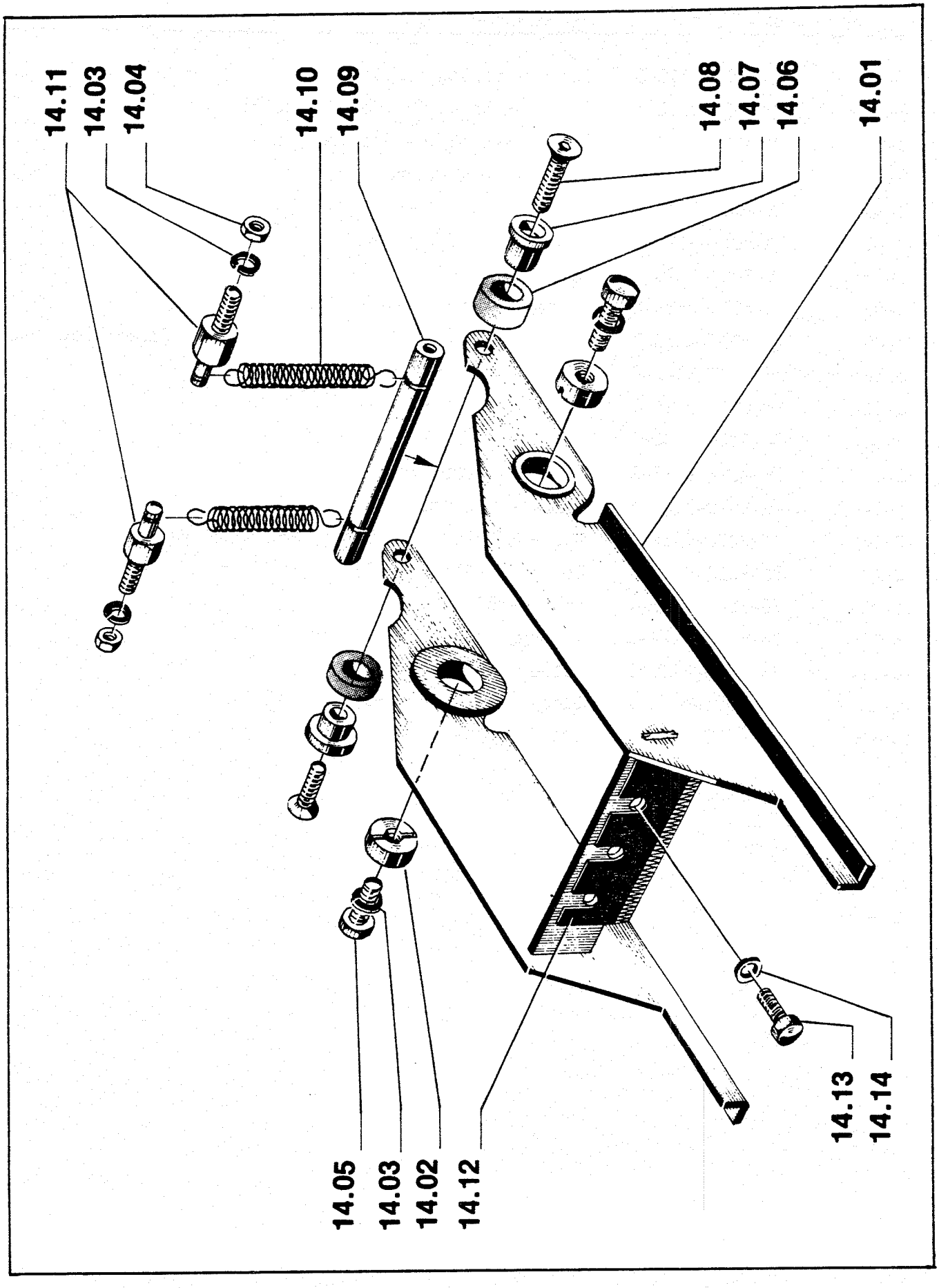
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FIGURE 14

Ref. No.	3M Part No.	Description
14-01	78-8017-9128-2	Lever Assembly - Cutter
14-02	78-8017-9132-4	Pivot - Cutter Lever
14-03	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel - M6
14-04	26-1000-0010-3	Nut - Metric, Hex, Steel, M6
14-05	78-8010-7169-3	Screw - Metric, M6 x 12, Hex Hd. Cap, Steel, Nick Pl.
14-06	78-8017-9133-2	Bumper
14-07	78-8017-9134-0	Bushing - Bumper
14-08	78-8017-9172-0	Screw - Allen FH, M5 x 20
14-09	78-8017-9135-7	Pin - Spring Holder
14-10	78-8017-9136-5	Spring - Cutter
14-11	78-8017-9137-3	Holder - Cutter Spring
14-12	78-8017-9173-8	Blade - 2.56 inch/65 mm
14-13	78-8010-7163-6	Screw - Metric, M5 x 10, Hex Hd. Cap. Steel, Nick Pl.
14-14	78-8005-5741-1	Washer - Metric, Plain, Steel, M5

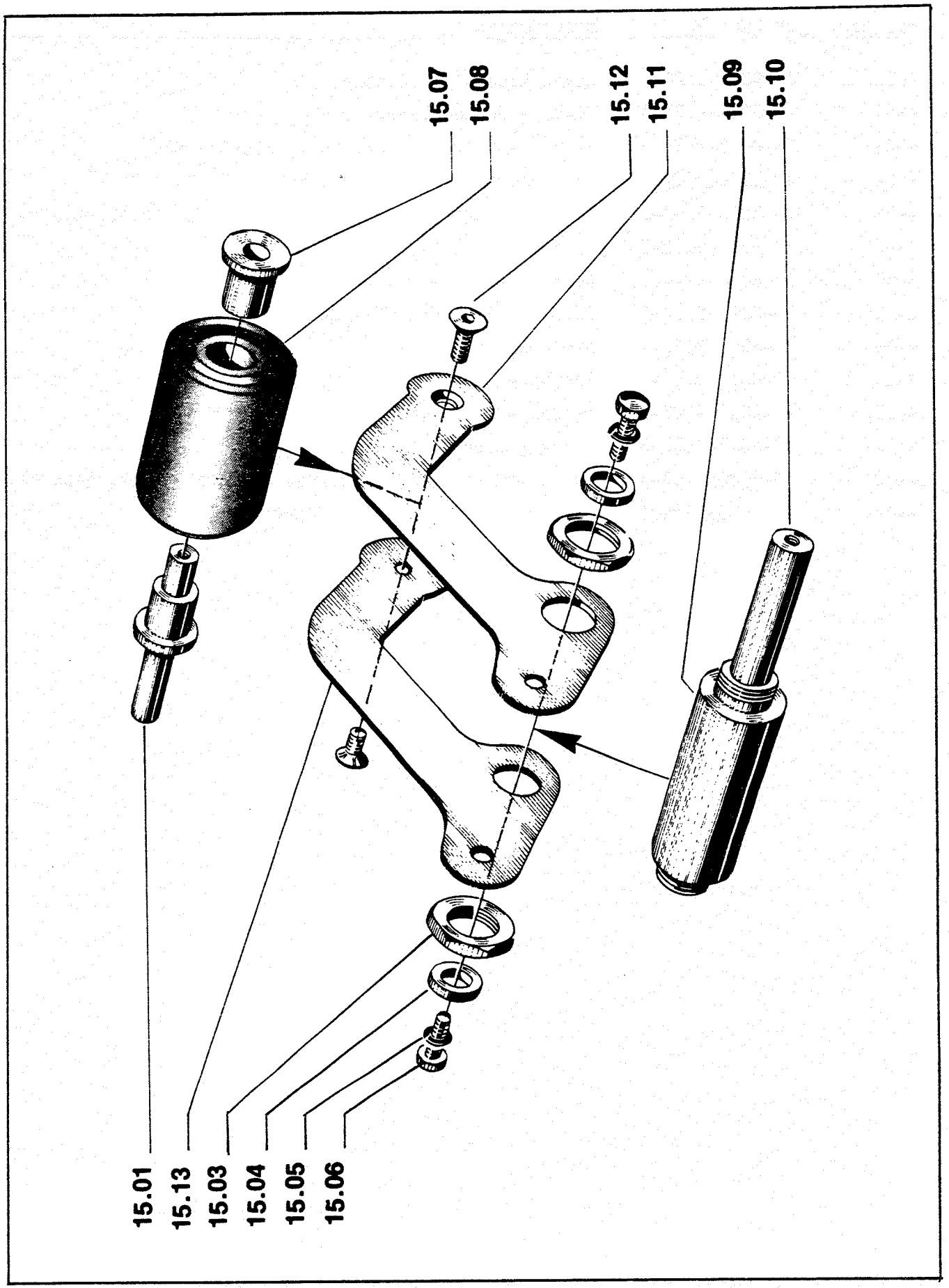

FIGURE 15

Ref. No.	3M Part No.	Description
15-01	78-8017-9105-0	Shaft - 10 x 66 mm
15-03	78-8017-9096-1	Nut - Special, M18 x 1
15-04	78-8017-9095-3	Spacer
15-05	78-8010-7435-8	Washer - Metric, Lock, Spr. Steel - M6
15-06	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap, Steel Nick Pl.
15-07	78-8017-9139-9	Bushing - Buffing Roller
15-08	78-8017-9140-7	Roller - Buffing
15-09	78-8017-9141-5	Spacer Assembly - Buffing Roller Arms
15-10	78-8017-9109-2	Shaft - 20 x 90 mm
15-11	78-8018-7608-3	Arm - Buffing Roller, Left
15-12	78-8017-9162-1	Screw - Allen FH, M6 x 12
15-13	78-8018-7609-1	Arm - Buffing Roller, Right

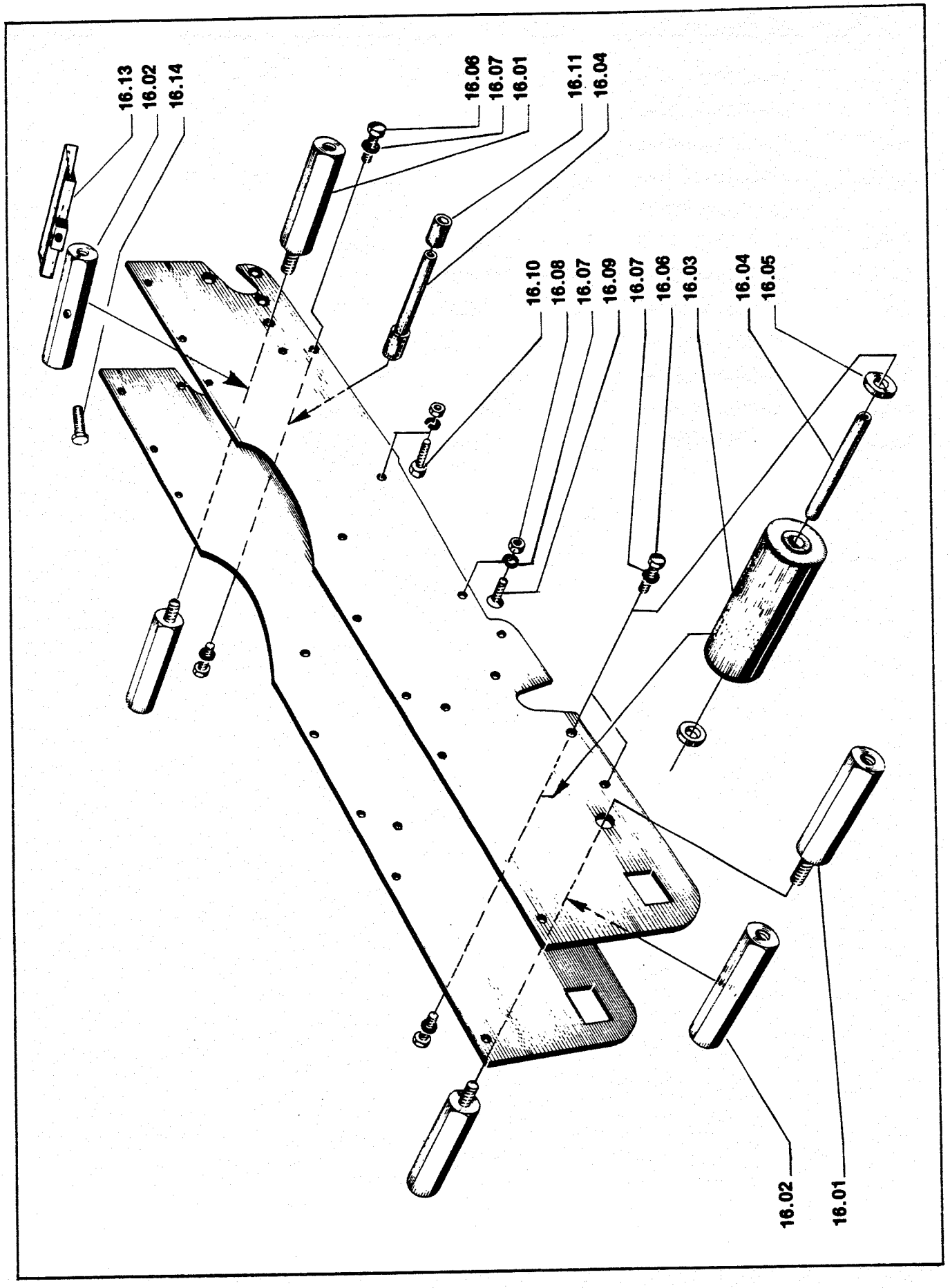
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FIGURE 16

Ref. No.	3M Part No.	Description
16-01	78-8017-9143-1	Pin - Attachment
16-02	78-8017-9144-9	Spacer - Hexagonal
16-03	78-8017-9145-6	Roller Assembly - 38 mm Diameter
16-04	78-8017-9109-2	Shaft - 10 x 90 mm
16-05	78-8017-9095-3	Spacer
16-06	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd Cap, Steel, Nick Pl.
16-07	78-8010-7435-8	Washer - Metric, Lock, Spr., Steel - M6
16-08	26-1000-0010-3	Nut - Metric, Hex Steel, M6
16-09	78-8017-9334-6	Screw - Allen FH, M6 x 20
16-10	78-8010-7193-3	Screw - Metric, M6 x 20, Hex Hd. Cap Steel, Black Zinc
16-11	78-8017-9148-0	Bumper - Buffing Arm
16-13	78-8018-7617-4	Brush - Assembly - Buffing
16-14	78-8018-7616-6	Screw - Metric, M5 x 25, Hex Hd. Cap

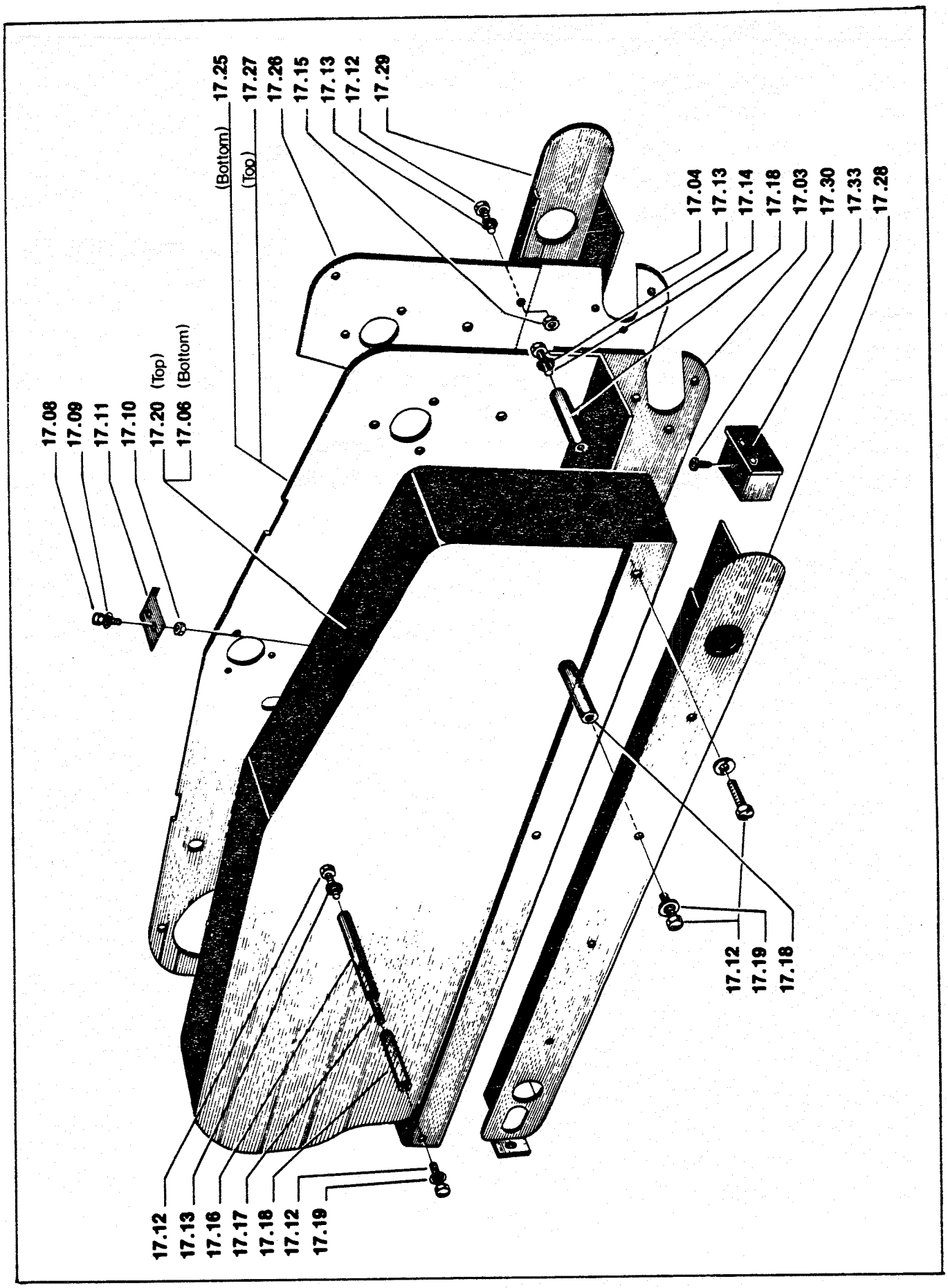
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FIGURE 17

Ref. No.	3M Part No.	Description
17-03	78-8017-9153-0	Sideplate - Right Side
17-04	78-8017-9154-8	Sideplate - Left Side
17-06	78-8017-9176-1	Cover - Main Drive Belts, Bottom Head
17-08	78-8010-7157-8	Screw - Hex Head, M4 x 10
17-09	78-8005-5740-3	Washer - Metric Plain, Steel M4
17-10	78-8010-7416-8	Nut - Metric, Hex, Steel, M4
17-11	78-8017-9156-3	Retaining Clip - Main Belt Cover
17-12	78-8032-0375-7	Screw - Metric, M6 x 16, Hex Hd. Cap, Steel Nick. Pl.
17-13	78-8010-7435-8	Washer - Metric, Lock, Spr., Stl., M-6
17-14	78-8010-7193-3	Screw - Metric, M6 x 20, Hex Hd, Cap, Steel Black Zinc
17-15	26-1000-0010-3	Nut - Metric, Hex, Steel, M6
17-16	78-8017-9109-2	Shaft - 10 x 90 mm
17-17	78-8017-9174-6	Set Screw - Allen, M6 x 30
17-18	78-8017-9157-1	Pin - Hexagonal, .55 mm lg.
17-19	78-8023-2478-6	Washer - Metric, 6.2 ID x 18 OD x 1.5 mm thk.
17-20	78-8017-9158-9	Cover - Main Drive Belt, Top Head
17-25	78-8018-7715-6	Sideplate Assembly - Main Bottom Head
17-26	78-8018-7716-4	Sideplate - Short
17-27	78-8018-7717-2	Sideplate Assembly - Main Top Head
17-28	78-8023-2546-0	Belt - Support Right
17-29	78-8023-2547-8	Belt - Support Left
17-30	78-8017-9425-2	Screw - Self-Tapping, 8 x 13 mm
17-33	78-8052-6291-8	Guard - Drive Belt

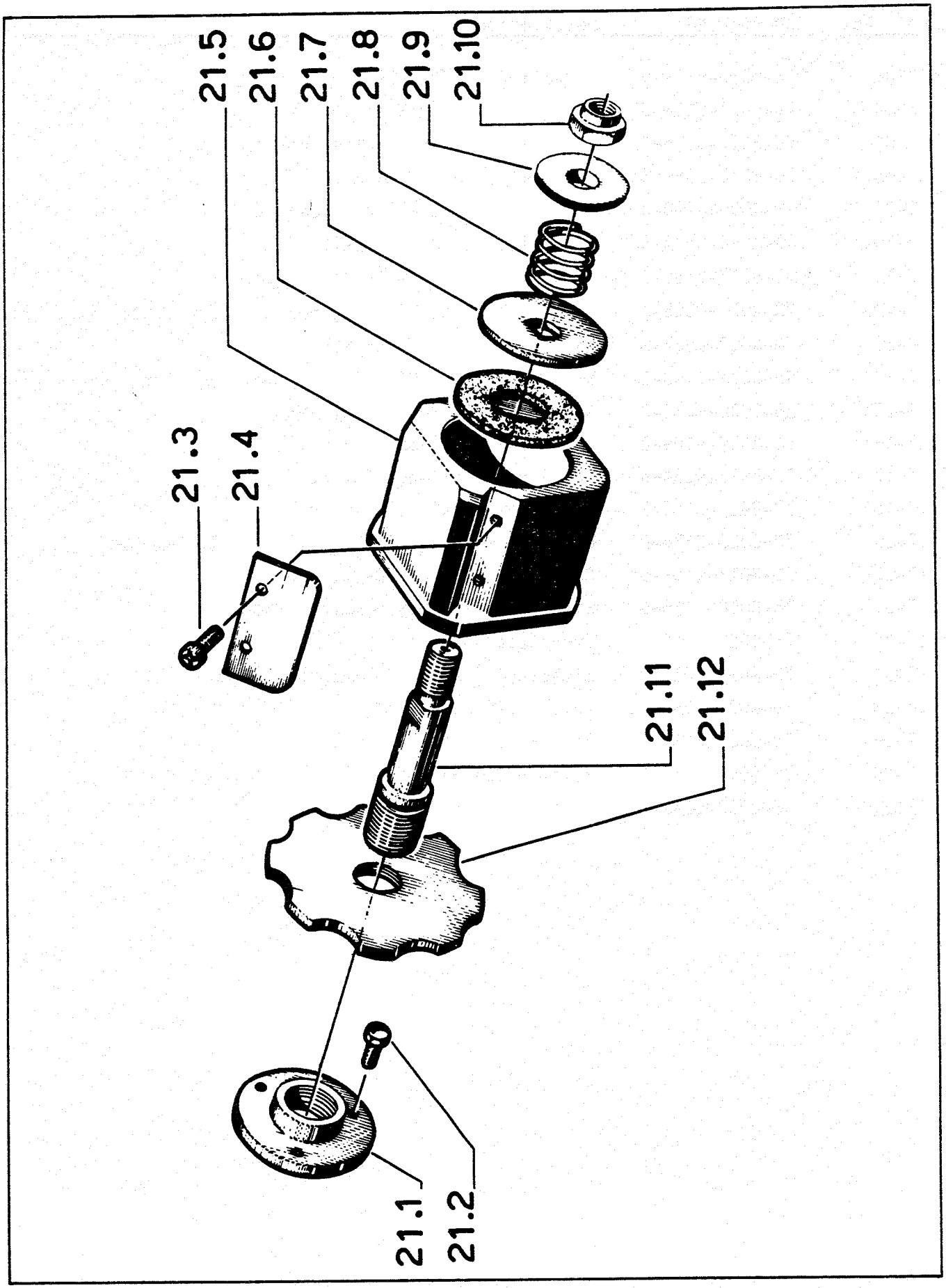


FIGURE 21

Ref. No.	3M Part No.	Description
21-01	78-8017-9090-4	Flange - Tape Drum Shaft Support
21-02	78-8010-7157-8	Screw - Hex Head M4 x 10
21-03	26-1002-5753-9	Screw - Self Tapping
21-04	78-8052-6268-6	Leaf Spring
21-05	78-8052-6269-4	Tape Drum
21-06	78-8052-6270-2	Washer - Friction
21-07	78-8052-6271-0	Washer - Tape Drum
21-08	78-8017-9017-4	Spring
21-09	78-8017-9094-6	Washer - Spring Holder
21-10	78-8017-9077-1	Nut - Self Locking M10
21-11	78-8052-6272-8	Shaft - Tape Drum
21-12	78-8017-9091-2	Plate - Locking, Tape Drum Shaft

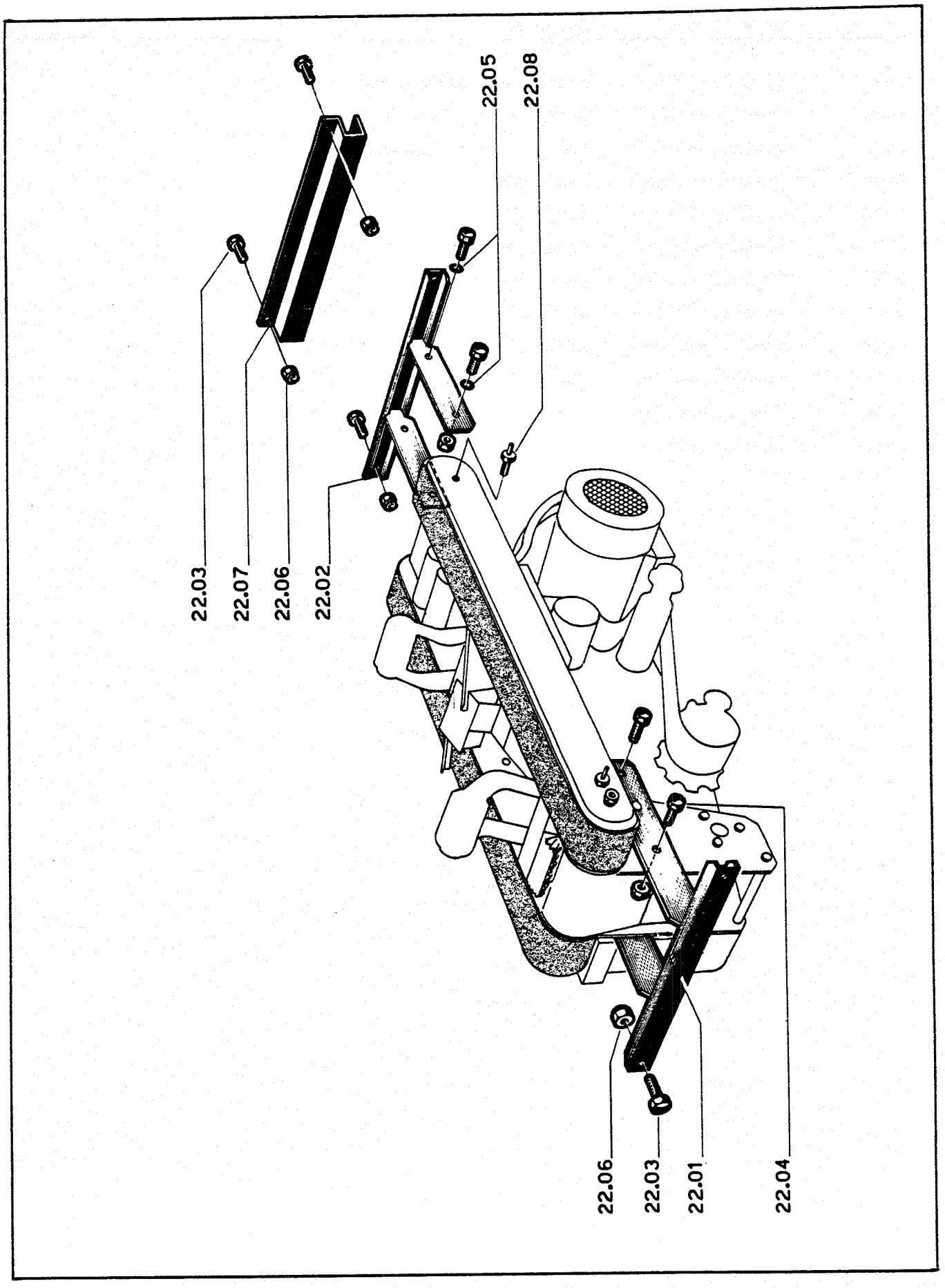


FIGURE 22

Ref. No.	3M Part No.	Description
22-01	78-8052-6305-6	Head - Support Rear
22-02	78-8052-6306-4	Head - Support Front
22-03	78-8010-7169-3	Screw - Cap Metric Hex Head
22-04	78-8017-9331-2	Screw - Hex Hd., M6 x 20
22-05	78-8042-2905-8	Washer M6
22-06	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
22-07	78-8052-6307-2	Guard - Electric
22-08	78-8052-6308-0	Pin - Conveyor

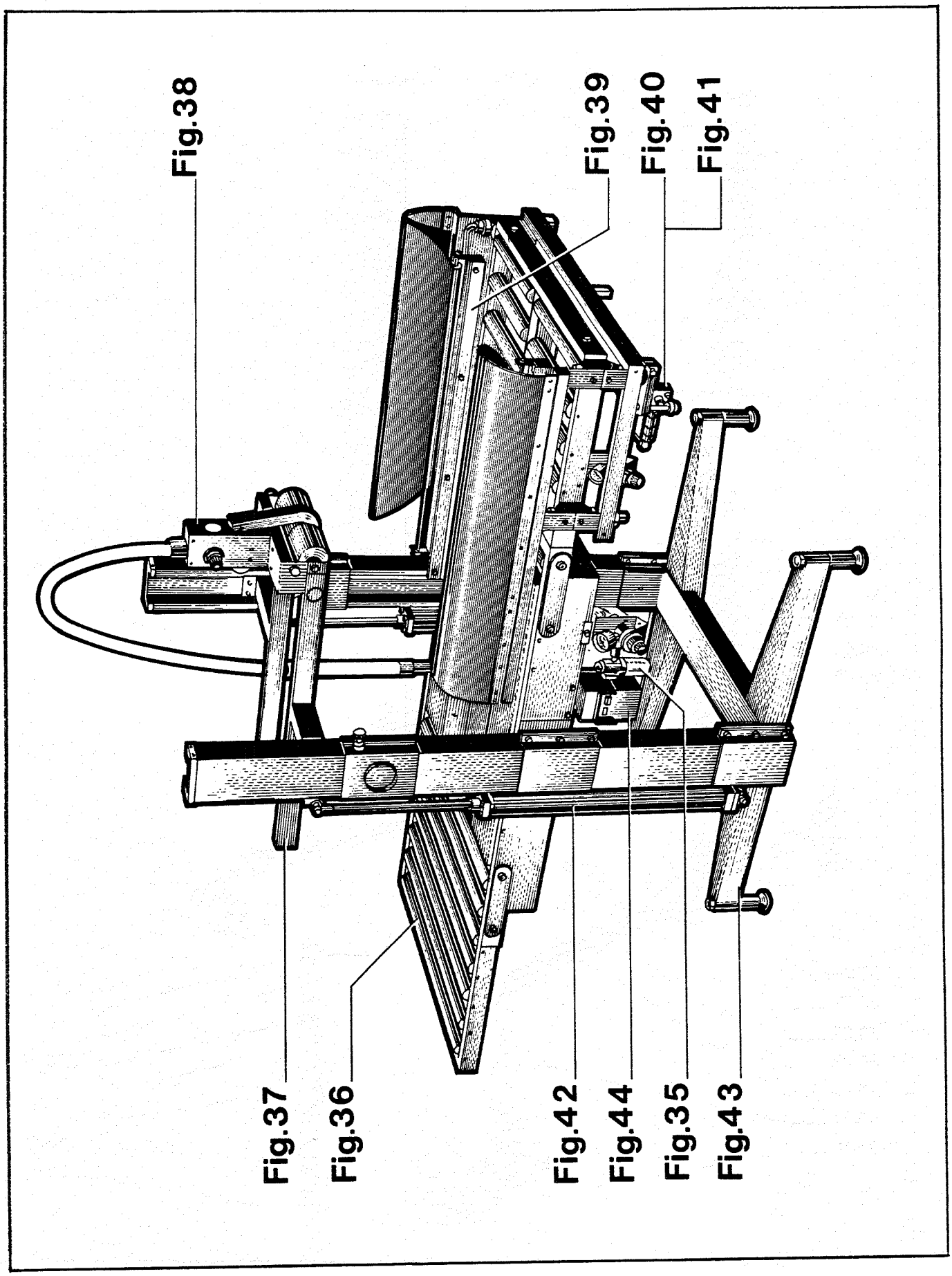
1. Refer to Frame Assemblies figure to find all parts illustrations identified by figure numbers.

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 the 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 page 33 - **"Replacement Parts and Service Information"** of this manual for replacement parts ordering information.



FRAME ASSEMBLIES

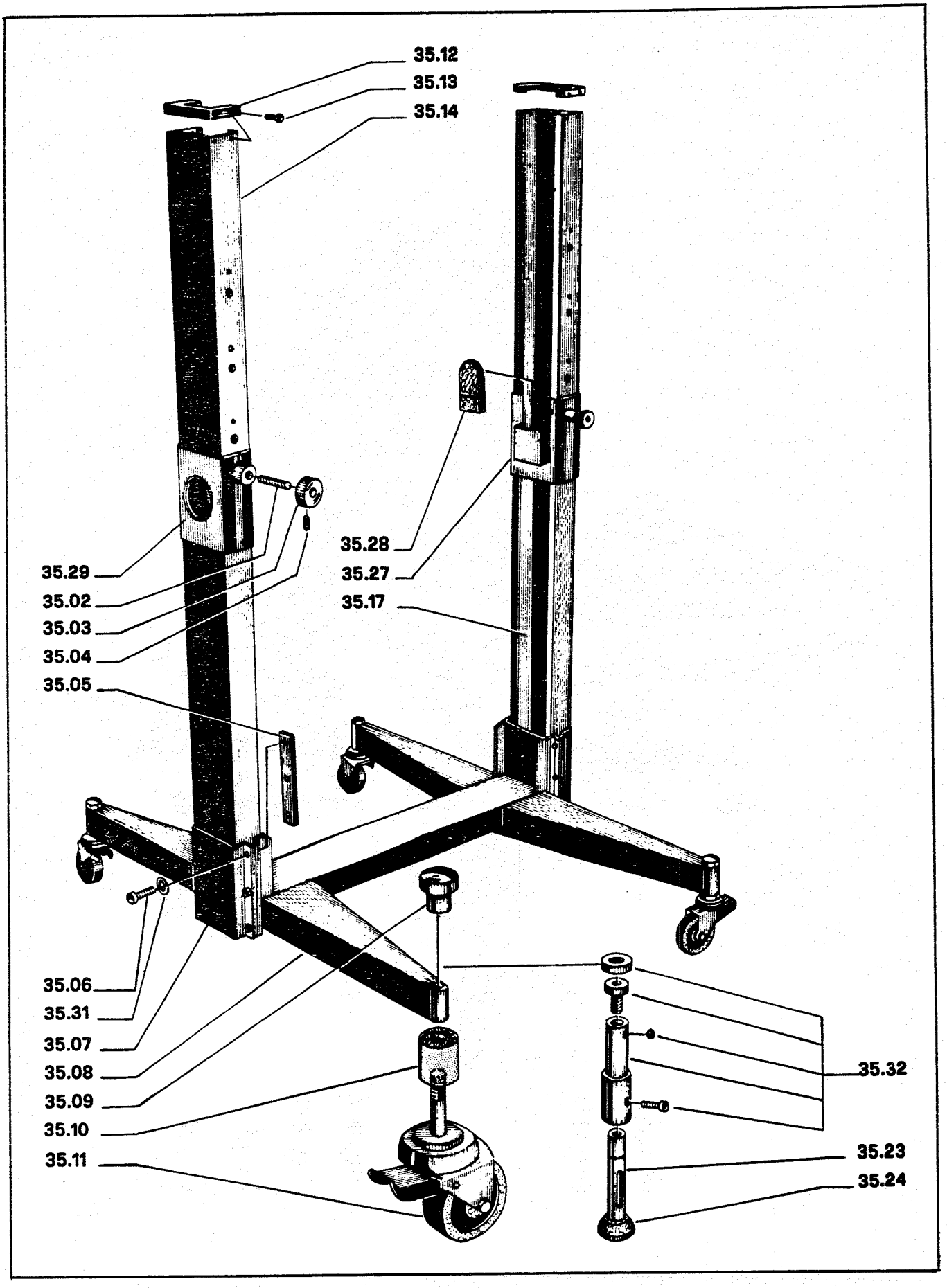

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FIGURE 35

Ref. No.	3M Part No.	Description
35-02	78-8017-9180-3	Screw - Stop
35-03	78-8017-9264-5	Knob
35-04	78-8023-2479-4	Set Screw - W/End Cup, M6 x 10
35-05	78-8017-9181-1	Plate - Threaded
35-06	78-8010-7210-5	Screw - Soc. Hd., Hex Soc. Dr., M6 x 20 Nick. Pl.
35-07	78-8017-9182-9	Bracket - Column Clamping Attachment
35-08	78-8017-9183-7	Base Weldment Assembly - Box Sealer
35-09	78-8017-9261-1	Nut - Special
35-10	78-8017-9214-0	Bushing - Rubber
35-11	78-8017-9262-9	Caster - w/Wheel Lock
35-12	78-8017-9184-5	Cover - Column Top
35-13	78-8017-9265-2	Screw - Self Tapping, 3.5 x 10, Nick Pl.
35-14	78-8017-9185-2	Column - Left Side
35-17	78-8017-9187-8	Column - Right Side
35-23	78-8017-9189-4	Shaft - Foot
35-24	78-8017-9212-4	Pad - Foot
35-27	78-8018-7612-5	Collar Weldment Assy.- Adj. Stop, Right Side
35-28	78-8018-7610-9	Bumper - Top Head
35-29	78-8018-7613-3	Collar Weldment Assy. - Adj. Stop, Left Side
35-31	78-8018-7799-0	Washer - Special, M6
35-32	78-8018-7665-3	Bushing - Foot - Assembly

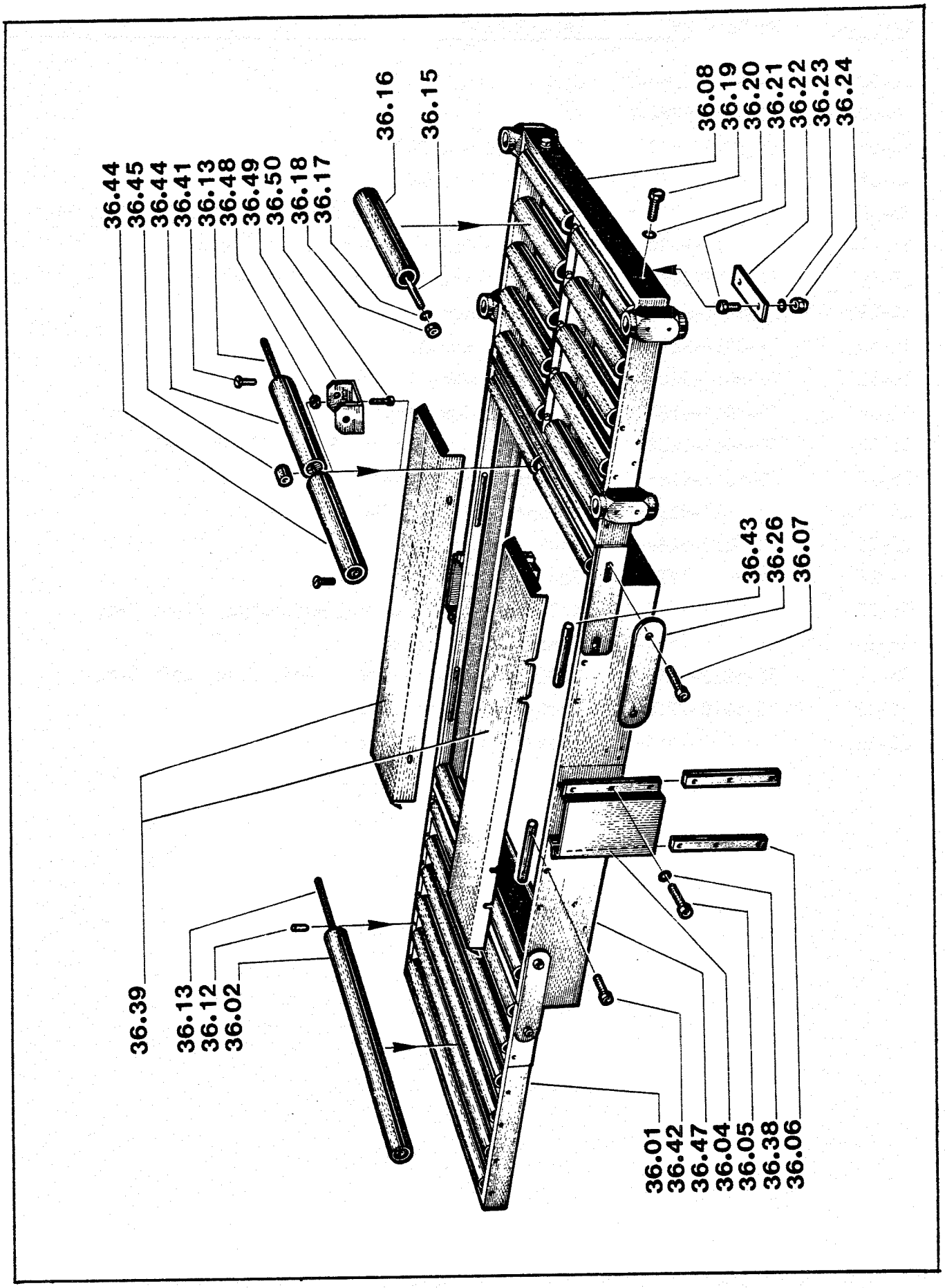
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FIGURE 36

Ref. No.	3M Part No.	Description
36-01	78-8017-9190-2	Frame Weldment Assembly-Discharge Conveyor
36-02	78-8017-9215-7	Roller - Conveyor, 32 x 563 mm
36-04	78-8017-9182-9	Bracket - Column Clamping
36-05	78-8010-7210-5	Screw - Cap Hex Hd. Metric M6
36-06	78-8017-9181-1	Plate - Threaded
36-07	78-8017-9302-3	Screw - Soc. Hd., Hex Soc. Dr. M8 x 20, Nick. Pl.
36-08	78-8017-9193-6	Frame Weldment Assy. - Infeed Conveyor
36-12	78-8010-7458-0	Pin Spring - Metric Slotted 3 Dia. x 10 mm Stl.
36-13	78-8017-9219-9	Shaft - for 32 x 563 mm Roller
36-15	78-8017-9221-5	Shaft - for 32 x 259 mm Roller
36-16	78-8017-9222-3	Roller - 32 x 259 mm
36-17	78-8005-5741-1	Washer - Plain Metric
36-18	78-8010-7417-6	Nut, Hex Metric M5
36-19	78-8017-9324-7	Screw - Hex Hd., M8
36-20	78-8017-9318-9	Washer - Plain Metric, 8 mm
36-21	78-8017-9325-4	Screw - Hex Hd., Metric M6
36-22	78-8017-9194-4	Plate - Nylon
36-23	26-1000-0010-3	Washer - M6
36-24	78-8017-9307-2	Nut - Self Locking, M6
36-26	78-8018-7747-9	Plate - Conveyor Guide
36-38	78-8018-7799-0	Washer - Special, M6
36-39	78-8052-6309-8	Conveyor Top
36-41	78-8017-9265-2	Screw - Self Tapping, Metric 10 mm
36-42	78-8032-0383-1	Screw - Cap Hex Soc. Hd. Metric M6
36-43	78-8052-6310-6	Conveyor - Clamp
36-44	78-8052-6311-4	Roller - Conveyor
36-45	78-8017-9217-3	Spacer
36-47	78-8052-6312-2	Frame - Conveyor
36-48	78-8017-9309-8	Nut - Self Locking, Metric M4
36-49	78-8052-6313-0	Support - Roller
36-50	78-8042-2969-4	Screw - Soc. Hd. M4

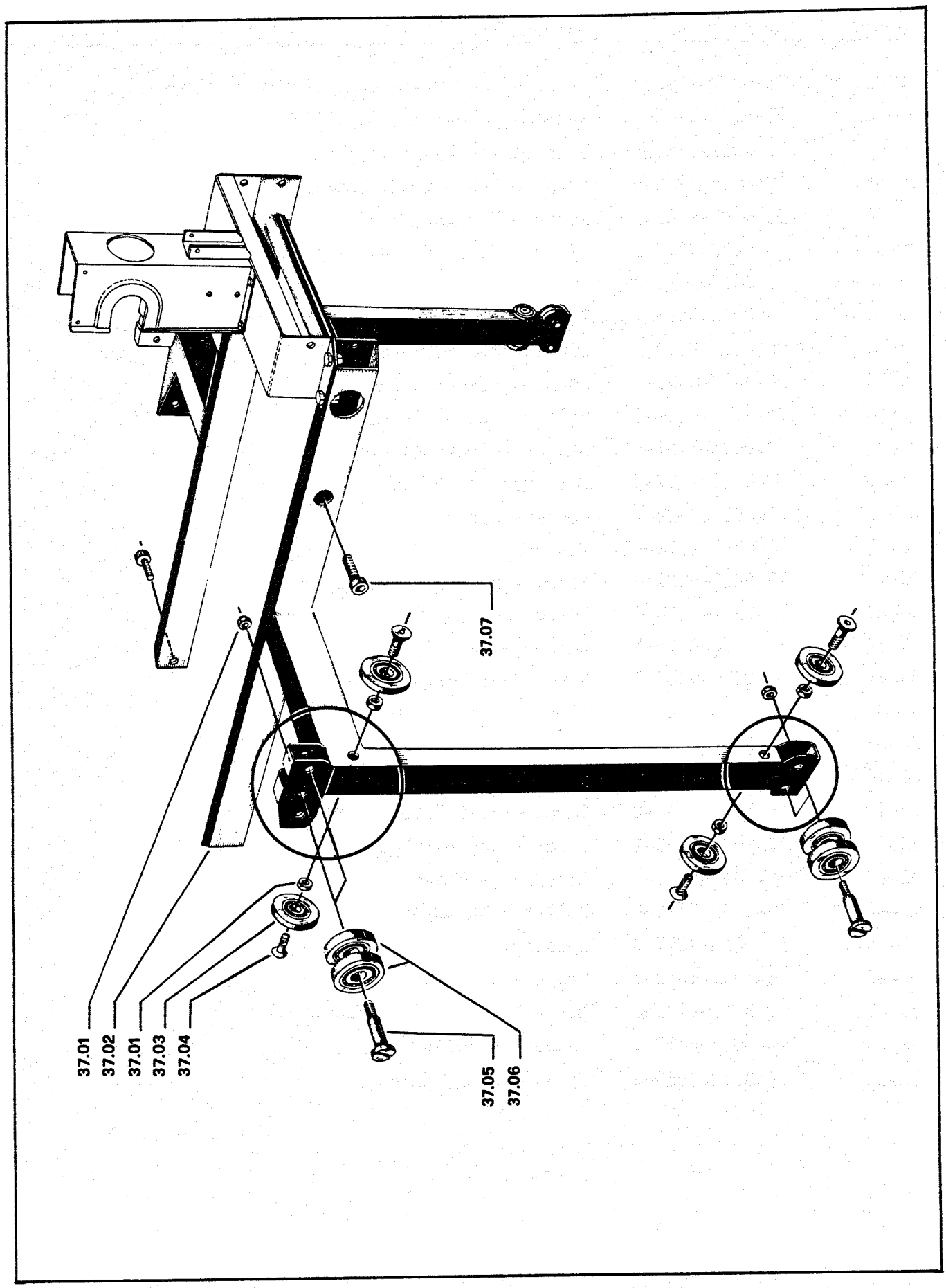

FIGURE 37

Ref. No.	3M Part No.	Description
37-01	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
37-02	78-8017-9195-1	Support Weldment Assembly - Top Taping Head
37-03	78-8017-9298-3	Bearing 25 x 6 mm
37-04	78-8017-9306-4	Screw - Allen FH M6 x 20
37-05	78-8017-9297-5	Screw - Shoulder, For Bearing
37-06	78-8017-9299-1	Bearing - 33 x 6 mm
37-07	78-8017-9303-1	Screw - Soc. Hd., Hex Soc. Dr., M10 x 20, Nick. Pl.

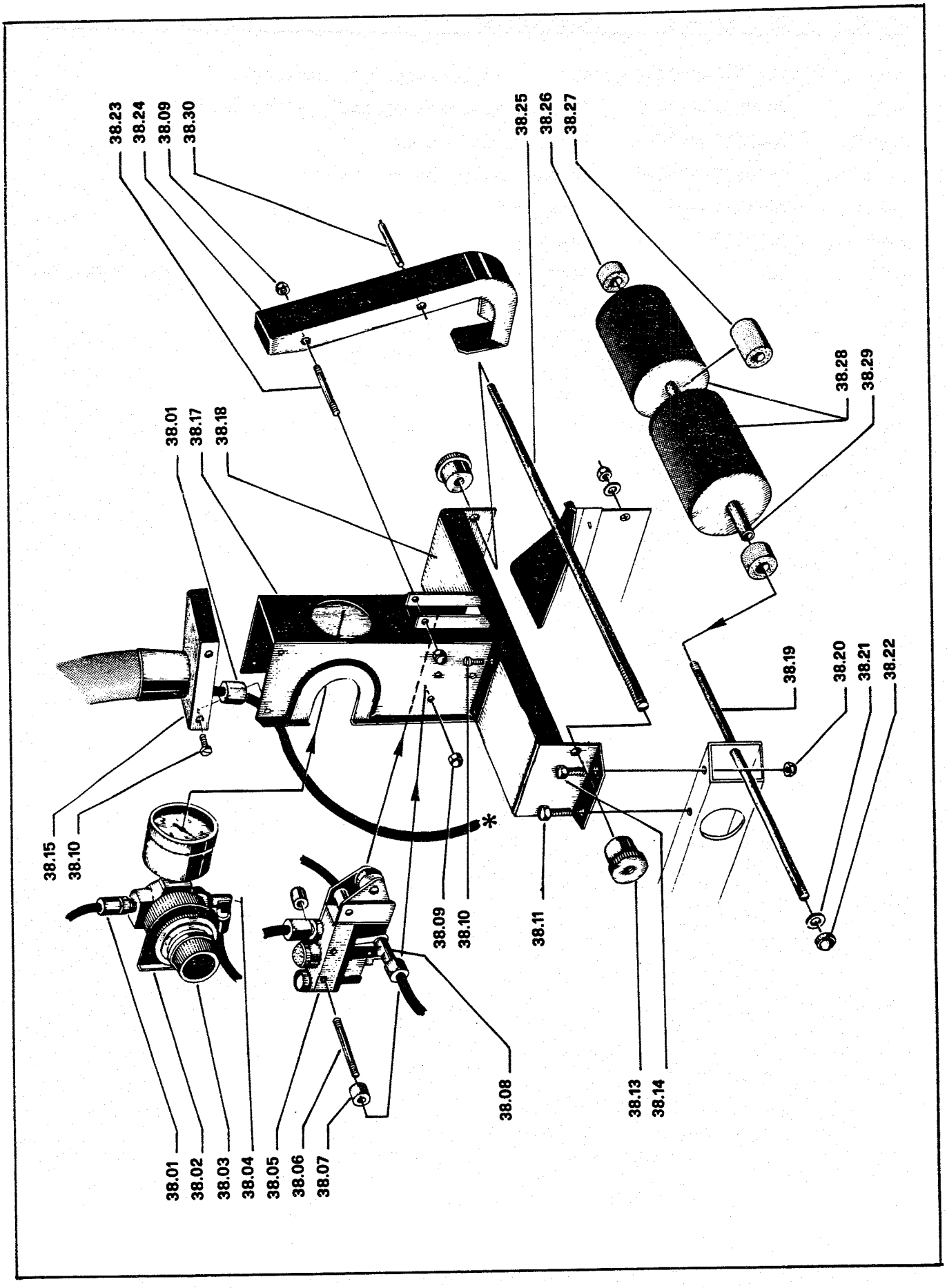
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FIGURE 38

Ref. No.	3M Part No.	Description
38-01	78-8017-9267-8	Connector - Straight, For 6 mm Tubing
38-02	78-8017-9196-9	Plate - Air Regulator Holder
38-03	78-8017-9268-6	Regulator - Air Pressure, 0 to 4 ATM
38-04	78-8017-9426-0	Elbow - 90^{o}, For 6 mm Tubing
38-05	78-8017-9270-2	Valve - 4-way, C48R
38-06	78-8017-9197-7	Pin - threaded, 4 x 60 mm
38-07	78-8017-9209-0	Spacer
38-08	78-8017-9271-0	Connector - Tee, for 6 mm Tubing
38-09	78-8017-9308-0	Nut - Cap, M4
38-10	78-8017-9265-2	Screw - Self Tapping, 3.5 x 10, Nick. Pl.
38-11	78-8017-9325-4	Screw - Hex Hd., M6 x 15, Nick. Pl.
38-13	78-8017-9266-0	Knob
38-14	78-8010-7169-3	Screw - Hex Hd., Metric M6 x 12 Stl. Nick. Pl.
38-15	78-8017-9198-5	Cover - Regulator/Valve Support
38-17	78-8017-9200-9	Support - Regulator/Valve
38-18	78-8017-9213-2	Bracket - Regulator/Valve
38-19	78-8017-9201-7	Shaft - Roller Sleeve
38-20	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
38-21	26-1000-0010-3	Washer - Metric, Plain 6 mm, Stl., Nick. Pl.
38-22	78-8017-9310-6	Nut - Cap, M6, Nick. Pl.
38-23	78-8017-9202-5	Pin - Threaded 4 x 40 mm
38-24	78-8017-9203-3	Actuator - Top Taping Head
38-25	78-8017-9204-1	Latch Weldment Assembly - Actuator, Top Taping Head
38-26	78-8017-9205-8	Spacer - 10/20 x 15 mm
38-27	78-8017-9206-6	Spacer - 20/32 x 10 mm
38-28	78-8017-9207-4	Roller - 60 x 82 mm
38-29	78-8017-9208-2	Bushing - Roller Sleeve
38-30	78-8017-9368-4	Pin - Metric, Tension, Stl., Black, 4 x 35 mm

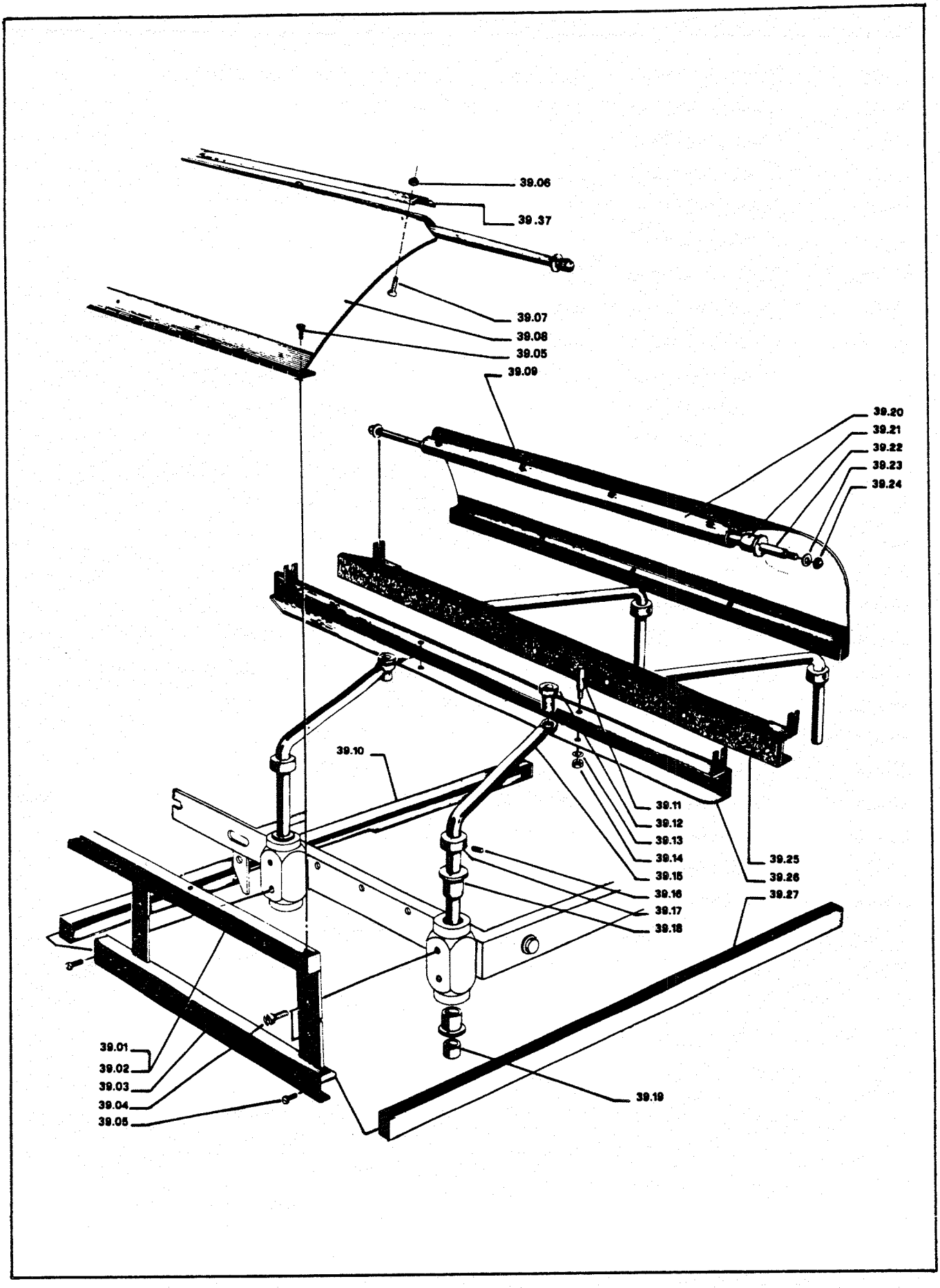
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FIGURE 39

Ref. No.	3M Part No.	Description
39-01	78-8017-9224-9	Support Weldment Assembly - Left Guard
39-02	78-8017-9225-6	Support Weldment Assembly - Right Guard
39-03	78-8017-9226-4	Guard Weldment Assembly - Chain
39-04	78-8010-7208-9	Screw - Soc. Hd., Hex Soc. Dr., M6 x 10, Nick Pl.
39-05	78-8017-9265-2	Screw - Self-Tapping, 3.5 x 10, Nick. Pl.
39-06	78-8017-9309-8	Nut - Self Locking, M4, Nick. Pl.
39-07	78-8017-9317-1	Screw - Allen, FH, M4 x 12, Black Zinc
39-08	78-8017-9227-2	Guard Assembly - Left Side Guide
39-09	78-8017-9228-0	Guard Asembly - Right Side Guide
39-10	78-8017-9229-8	Cover - rear Chain
39-11	78-8017-9230-6	Pivot - Box Guide
39-12	78-8017-9231-4	Bushing - Flanged
39-13	78-8005-5741-1	Washer - Metric Plain 5 mm, Stl, Nick. Pl.
39-14	78-8017-9311-4	Nut - Self Locking, M5, Nick. Pl.
39-15	78-8017-9232-2	Arm - Side Guide
39-16	78-8017-9258-7	Set Screw - Hex Soc. Dr., M6 x 6, Black Zinc
39-17	78-8017-9273-6	Collar - Stop
39-18	78-8017-9192-8	Bushing - Flanged
39-19	78-8017-9274-4	Spacer - Nylon
39-20	78-8017-9233-0	Sleeve - Side Guide Cover
39-21	78-8017-9275-1	Bushing - Flanged, Nylon
39-22	78-8017-9234-8	Shaft - Side Guide Sleeve
39-23	78-8017-9330-4	Washer - Special
39-24	78-8017-9310-6	Nut - Cap, M6, Nick. Pl.
39-25	78-8017-9235-5	Guide Assembly Weldment - Right Side
39-26	78-8017-9236-3	Guide Assembly Weldment - Left Side
39-27	78-8017-9237-1	Cover - Front Chain
39-37	78-8028-8168-6	Clamp - Side Guide Cover

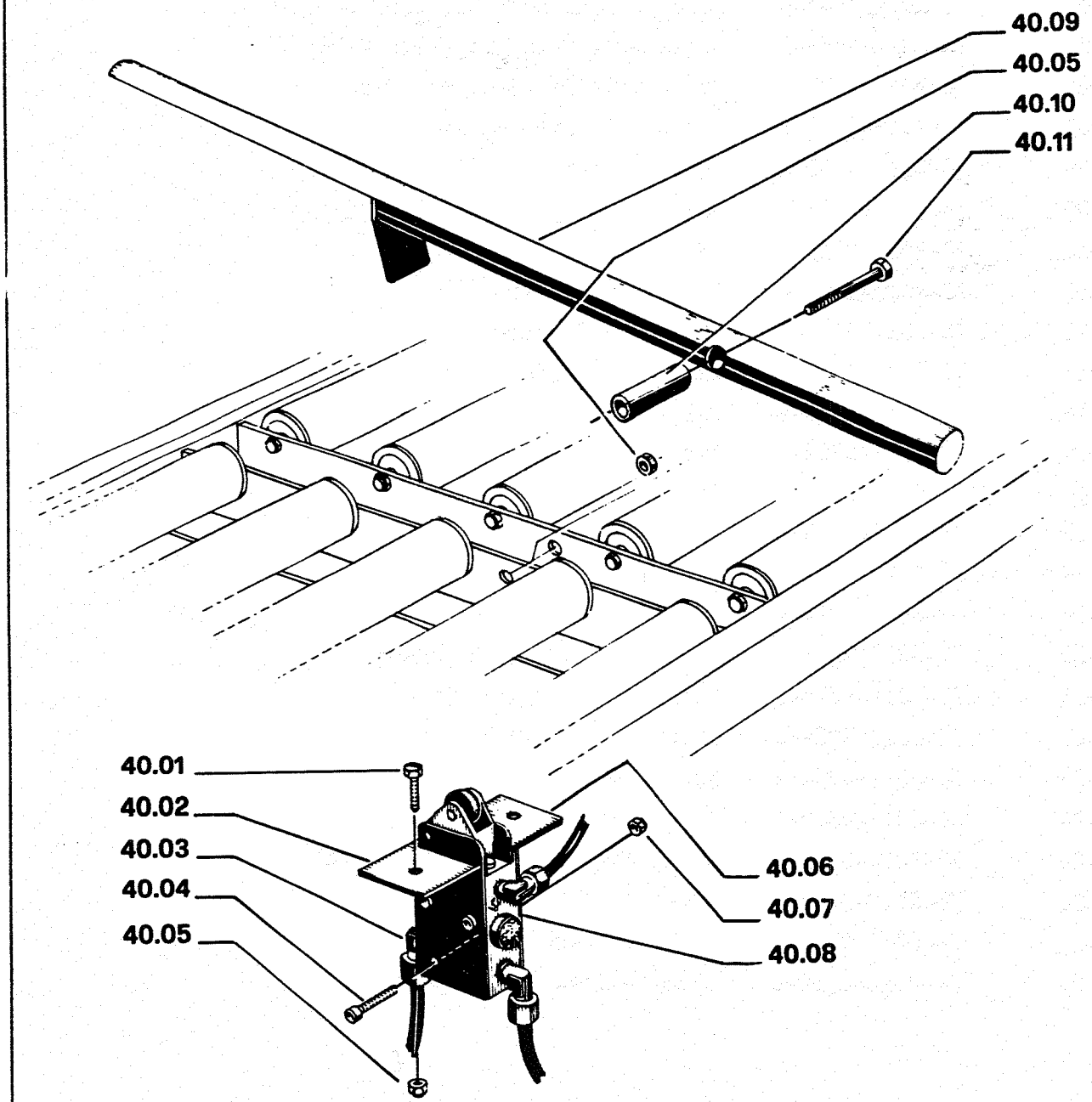

FIGURE 40

Ref. No.	3M Part No.	Description
40-01	78-8017-9325-4	Screw - Hex Hd., M6 x 15, Nick. Pl.
40-02	78-8017-9238-9	Bracket - Valve, Left Side
40-03	78-8017-9426-0	Elbow - 90^{o}, For 6 mm Tubing
40-04	78-8017-9447-6	Screw - Soc. Hd., Hex Soc. Dr., M4 x 30, Nick. Pl.
40-05	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
40-06	78-8017-9239-7	Bracket - Valve, Right Side
40-07	78-8017-9309-8	Nut - Self Locking, M4, Nick. Pl.
40-08	78-8017-9270-2	Valve - 4-Way, C48R
40-09	78-8017-9240-5	Lever Weldment Assembly - Guide Closing
40-10	78-8017-9335-3	Bushing
40-11	78-8017-9326-2	Screw - Hex Hd., M6 x 50, Nick Pl.

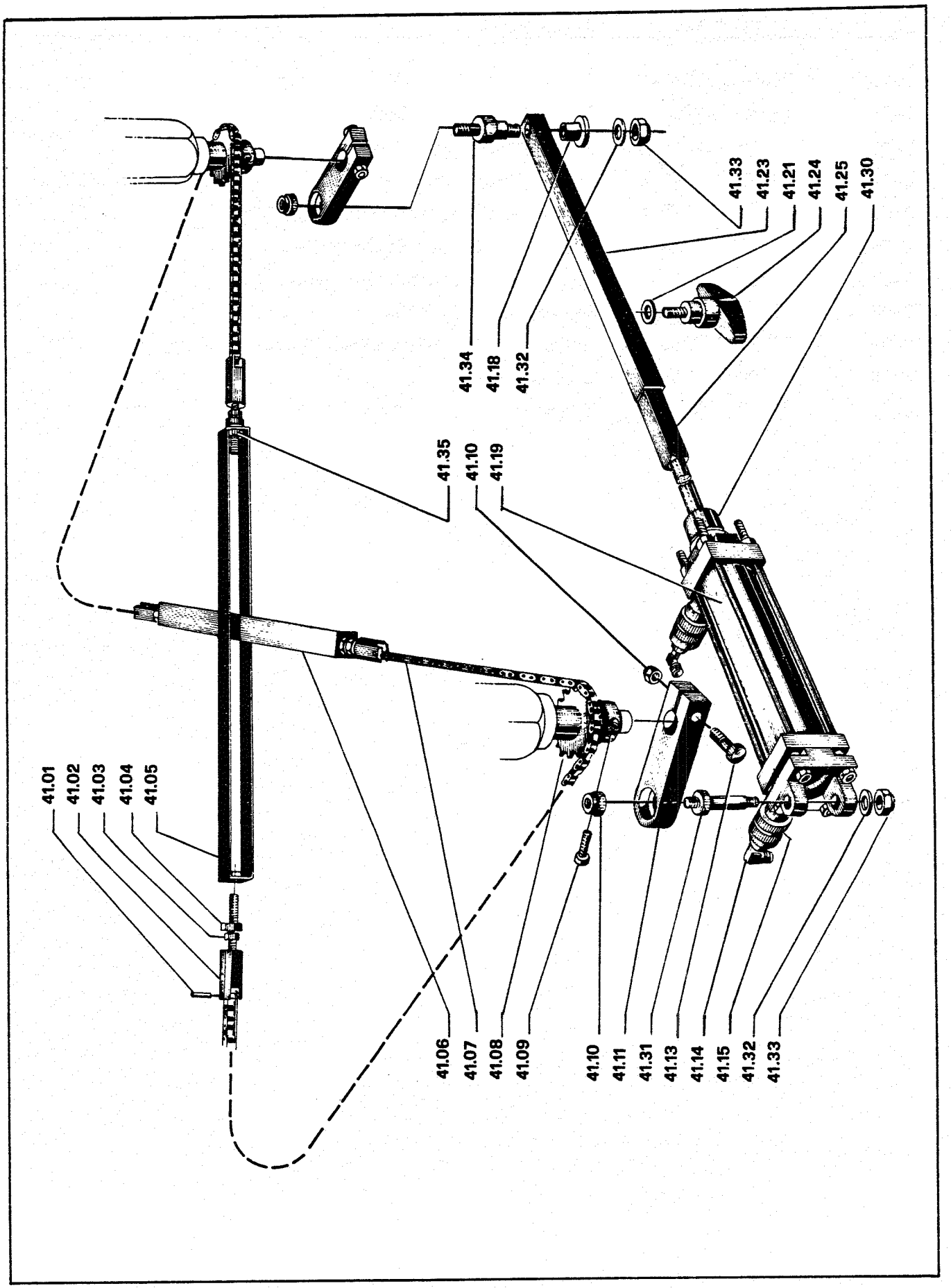
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FIGURE 41

Ref. No.	3M Part No.	Description
41-01	78-8017-9259-5	Pin - Roll, 3 x 13 mm - Metric
41-02	78-8017-9241-3	Holder - Chain
41-03	78-8017-9242-1	Rod - Threaded
41-04	78-8017-9312-2	Nut - M8, Nick. Pl.
41-05	78-8017-9243-9	Connector Weldment Assembly - Chain, Open
41-06	78-8017-9244-7	Connector Weldment Assembly - Chain, Closed
41-07	78-8017-9276-9	Chain - Metric
41-08	78-8017-9277-7	Sprocket - Split Hub - Metric
41-09	78-8010-7210-5	Screw - Soc. Hd., Hex Soc. Dr., M6 x 20 Nick. Pl.
41-10	78-8017-9313-0	Nut - Self Locking, M8, Nick. Pl.
41-11	78-8017-9245-4	Lever
41-13	78-8017-9322-1	Screw - Hex Hd., M8 x 40, Nick. Pl.
41-14	78-8017-9426-0	Elbow - 90^{o}, For 6 mm Tubing
41-15	78-8017-9279-3	Regulator - Flow
41-18	78-8017-9275-1	Bushing - Flanged, Nylon
41-19	78-8017-9281-9	Cylinder - Air, 32 x 125 mm
41-21	78-8017-9319-7	Washer - Flat, 10 mm, Nick. Pl.
41-23	78-8017-9246-2	Tube - Square
41-24	78-8017-9392-4	Knob
41-25	78-8017-9247-0	Rod - Square
41-30	78-8018-7791-7	Bushing - Cylinder
41-31	78-8018-7772-7	Pin - Air Cylinder Clevis
41-32	26-1000-0010-3	Washer - Plain, Metric 6 mm, Nick. Pl.
41-33	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
41-34	78-8018-7801-4	Pin - Mounting
41-35	78-8023-2283-0	Nut - Square M8
41-99	78-8017-9406-2	Seal Kit - For Air Cylinder for 41-19

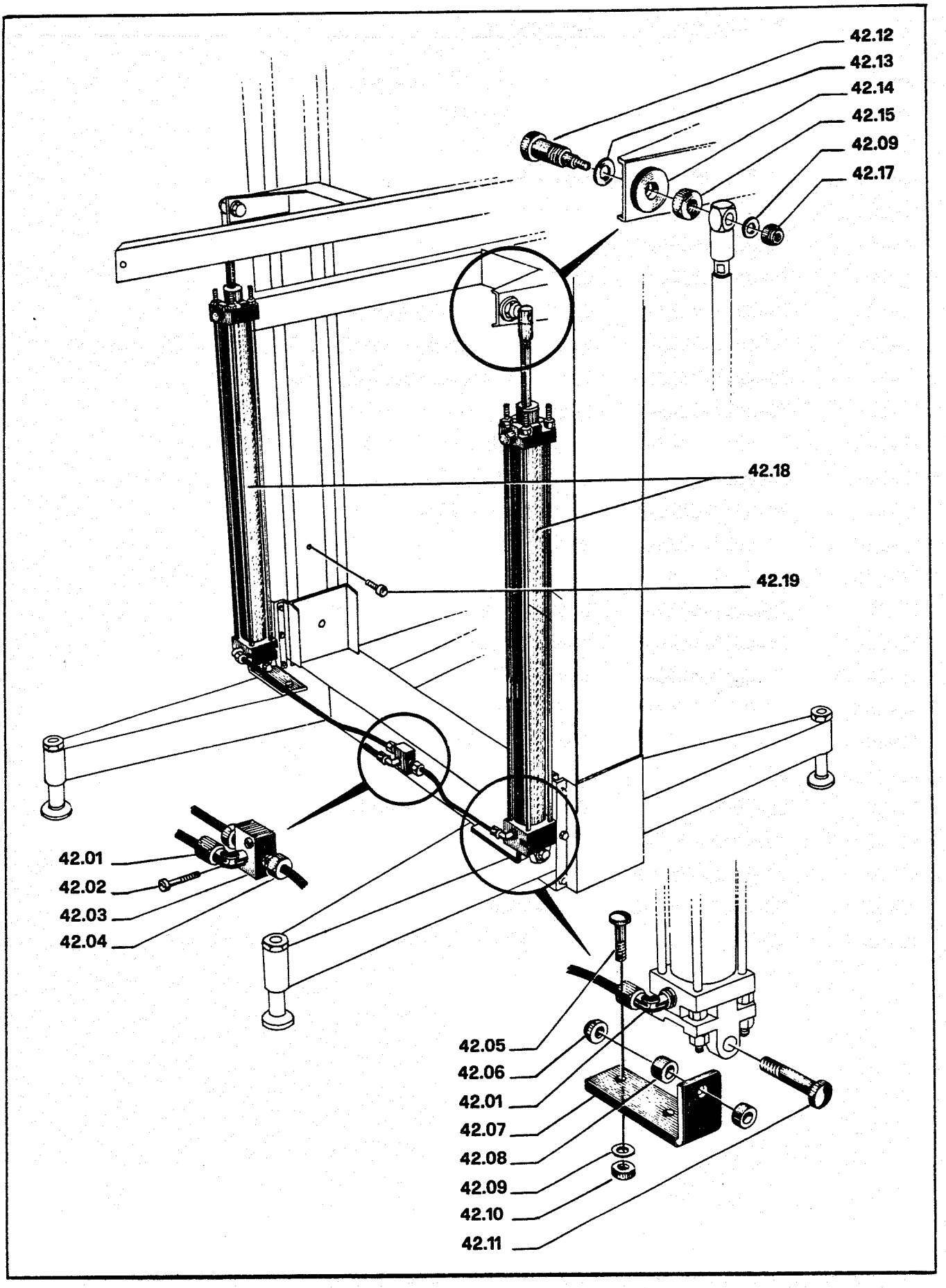
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FIGURE 42

Ref. No.	3M Part No.	Description
42-01	78-8017-9426-0	Elbow - 90°, For 6 mm Tubing
42-02	78-8010-7201-4	Screw - Soc. Hd., Hex Soc. Dr., M4 x 25 Nick. Pl.
42-03	78-8017-9285-0	Distributor - Air
42-04	78-8017-9267-8	Connector - Straight, For 6 mm Tubing
42-05	78-8017-9331-2	Screw - Hex Hd., M6 x 20, Nick. Pl.
42-06	78-8017-9313-0	Nut - Self Locking, M8, Nick. Pl.
42-07	78-8017-9248-8	Bracket - Air Cylinder
42-08	78-8017-9345-2	Spacer
42-09	26-1000-0010-3	Washer - Flat, 6 mm, Nick. Pl.
42-10	78-8017-9307-2	Nut - Self Locking, M6, Nick. Pl.
42-11	78-8017-9323-9	Screw - Hex Hd., M8 x 55, Nick. Pl.
42-12	78-8017-9286-8	Pin - Air Cylinder Rod
42-13	78-8017-9319-7	Washer - Flat 10 mm, Nick. Pl.
42-14	78-8017-9316-3	Washer - Special
42-15	78-8023-2229-3	Nut - M10, Nick. Pl.
42-17	78-8017-9310-6	Nut - Cap, M6, Nick. Pl.
42-18	78-8017-9287-6	Cylinder - Air, 32 x 440 mm
42-19	78-8010-7203-0	Screw - Soc. Hd., Hex Soc. Dr., M5 x 10, Nick. Pl.
42-99	78-8017-9406-2	Seal Kit - For Air Cylinder 42-18

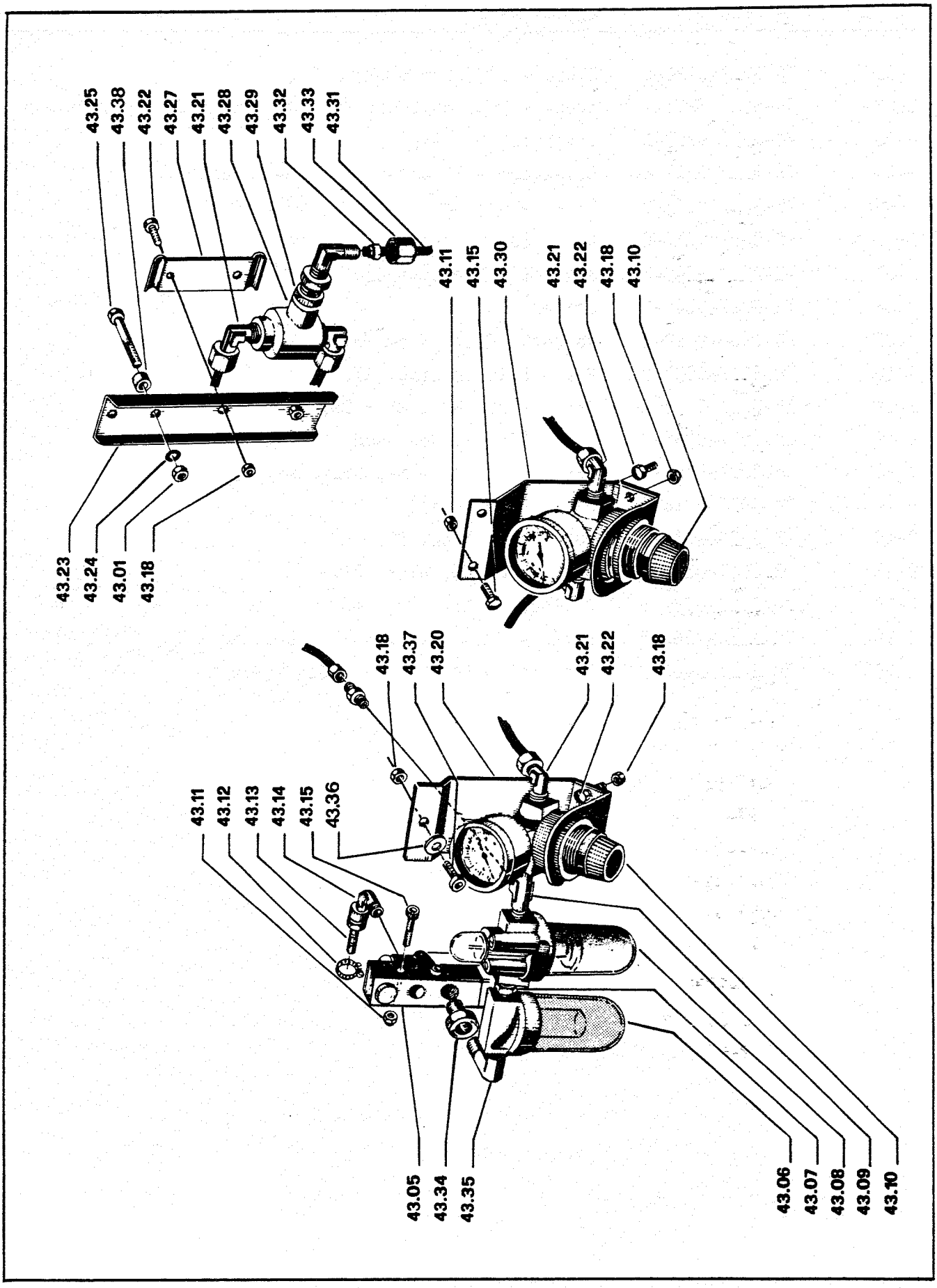
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FIGURE 43

Ref. No.	3M Part No.	Description
43-01	78-8017-9307-2	Nut - Self Locking, M6 Nick. Pl.
43-05	78-8017-9289-2	Valve - Pneumatic On/Off
43-06	78-8017-9290-0	Filter - Air
43-07	78-8017-9291-8	Nipple - Straight, Metric
43-08	78-8017-9292-6	Lubricator - Air
43-09	78-8017-9343-7	Tee - Running Metric 6 mm Tubing
43-10	78-8017-9294-2	Regulator - Air Pressure 0-10 ATM
43-11	78-8017-9309-8	Nut - Self Locking, M4 Nick. Pl.
43-12	78-8017-9295-9	Clamp - Tubing
43-13	78-8017-9296-7	Union - Air Supply Hose
43-14	78-8017-9427-8	Elbow 90^{o} Metric
43-15	78-8017-9667-6	Screw - Soc. Hd. Hex. Soc. Dr., M4 x 30 Nick. Pl.
43-18	78-8017-9311-4	Nut - Self Locking, M5 Nick. Pl.
43-20	78-8017-9251-2	Bracket - Pressure Regulator
43-21	78-8017-9426-0	Elbow - 90^{o}, for 6 mm Tubing
43-22	78-8010-7163-6	Screw - Cap Metric Hex. HD Steel M5 x 10 L Nick Pl.
43-23	78-8017-9336-1	Bracket - Quick Exhaust Valve
43-24	26-1000-0010-3	Washer M6
43-25	78-8017-9337-9	Screw - Hex Hd., M6 x 45 Nick. Pl.
43-27	78-8017-9339-5	Clamp Tubing
43-28	78-8017-9340-3	Valve - Quick Exhaust
43-29	78-8017-9341-1	Adapter - Metric
43-30	78-8017-9342-9	Bracket Pressure Regulator
43-31	78-8017-9346-0	Tubing - 6 mm x 3 m
43-32	78-8017-9347-8	Collar - Tubing For Air Fittings
43-33	78-8017-9348-6	Nut - Tubing for Air Fittings
43-34	78-8017-9423-7	Union Metric (Serial number 7R-1205 and above)
43-36	78-8017-9330-4	Washer - Special
43-37	78-8042-2910-8	Screw Hex. HD M5 x 16
43-38	78-8052-6314-8	Spacer

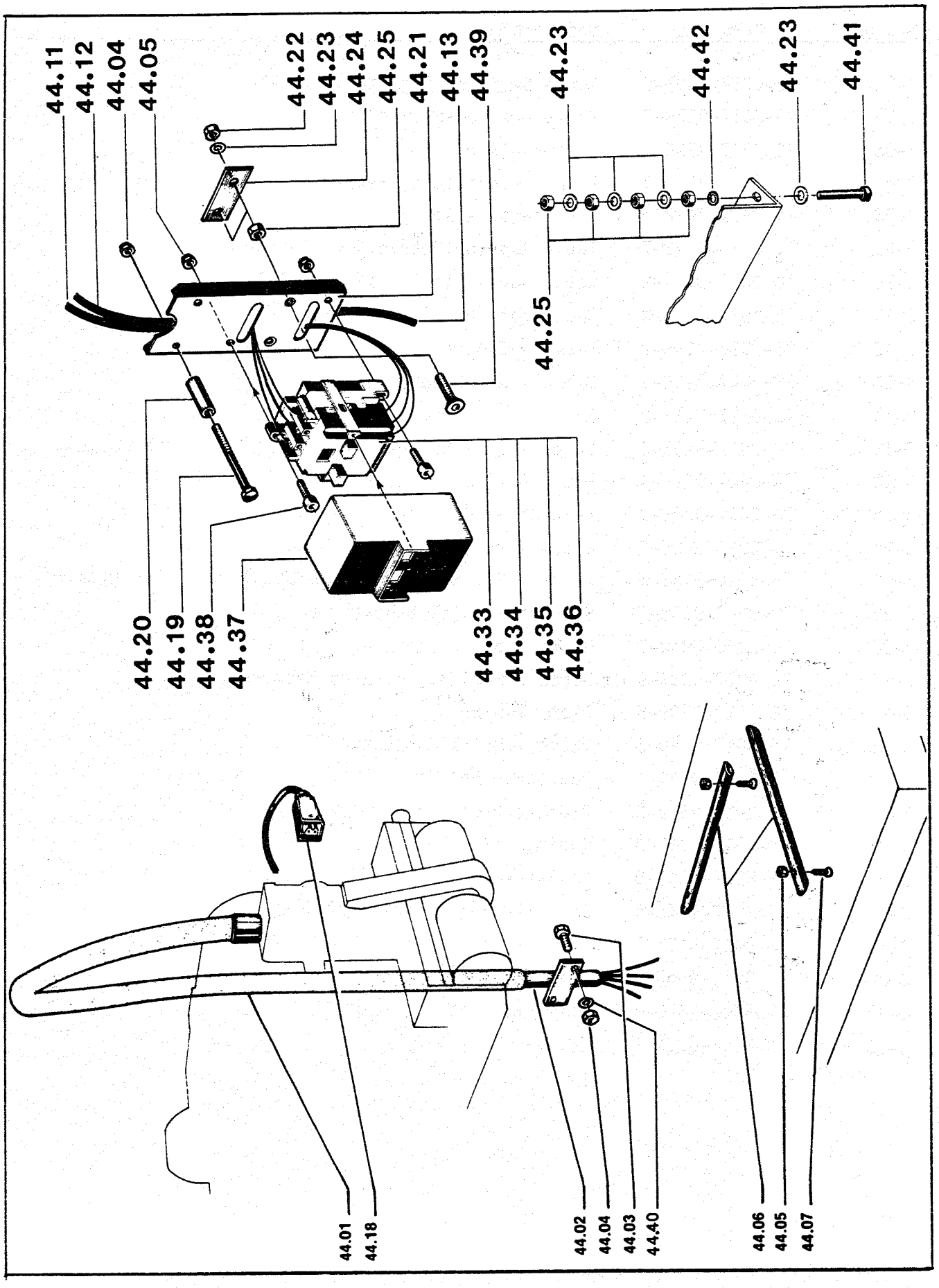
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FIGURE 44

Ref. No.	3M Part No.	Description
44-01	78-8017-9428-6	Sleeving - 29 mm Dia., 1500 mm Lg.
44-02	78-8017-9429-4	Holder Weldment Assembly - Sleeving
44-03	78-8017-9305-6	Screw - Soc. Hd., Hex Soc. Dr. M6 x 35
44-04	78-8017-9307-2	Nut - Self Locking, M6
44-05	78-8017-9309-8	Nut - Self Locking, M4
44-06	78-8017-9383-3	Tube - Cable
44-07	78-8017-9384-1	Screw - Allen Flat Hd. M4 x 12
44-11	78-8017-9374-2	Cable - 1.3 m
44-12	78-8017-9375-9	Cable - 3.5 m
44-13	78-8005-7933-2	Power Cord - U.S.
44-18	78-8017-9013-6	Plug
44-19	78-8017-9400-5	Screw - M6 x 60
44-20	78-8017-9401-3	Spacer
44-21	78-8017-9405-4	Plate - Switch Mounting
44-22	78-8017-9311-4	Nut - Self Locking, M5
44-23	78-8005-5741-1	Washer - Plain, Metric, M5
44-24	78-8017-9402-1	Plate - Clamp
44-25	78-8010-7417-6	Nut - Hex Metric M5
44-33	78-8046-8225-6	Switch On/Off M-611 .63-1.0 Amp
44-34	78-8046-8226-4	Switch On/Off M-611 1.0-1.6 Amp
44-35	78-8046-8227-2	Switch On/Off M-611 1.6-2.5 Amp
44-36	78-8046-8228-0	Switch On/Off M-611 2.5-4A
44-37	78-8046-8224-9	Switch Box
44-38	78-8032-0379-9	Screw - Cap Hex Soc. Hd. Metric M4
44-39	26-1002-3870-3	Screw - Mach. F H Phil. Metric M5 x 25
44-40	78-8042-2905-8	Washer M6
44-41	78-8010-7206-3	Screw Cap Hex. Soc. Hd. Metric M5
44-42	78-8046-8217-3	Washer - Special
44-99	78-8017-9404-7	Power Cord - European
†	78-8053-0421-1	on/off switch M611 4.0-6.3Amps