



TIPPER TIE®

A **DOVER** INDUSTRIES COMPANY

P.O. BOX 866 LUFKIN ROAD
APEX, N.C. USA 27502-0866
(919) 362-8811 or 1-800-331-2905
FAX: (919) 362-8667

**Clipper Manual
Model AZ4100LM**

Manual No. 80-1204
Revision No. 03
8-2-01

Tipper Tie Model AZ4100LM

Table of Contents

Chapter 1: Machine Description and Specifications	
1.1 Description	4
1.2 Applications	4
1.3 Machine specifications	5
Chapter 2: Safety Instructions	
2.1 International Safety signs	6-7
2.2 Safety Instructions	8-9
2.3 Danger Areas	10
Chapter 3: Delivery and Inspection	
3.1 Delivery and inspection	11
3.2 Unpacking equipment	11
Chapter 4: Air Connections and Lubrication	
4.1 Air Connections	12
4.2 Filter/ Regulator	12
4.3 Air regulator Assembly	13
4.4 Lubricator adjustment	14
Chapter 5: Operating instructions	
5.1 Preparation	15
5.2 Operation of machine	15
5.3 Crimp control	16
5.4 Clipper cycle	17
Chapter 6: Cleaning Procedure	
6.1 U.S. Department of Agriculture Guidelines	18-19
6.2 Cleaning Procedure	20
Chapter 7: Maintenance	
7.1 General maintenance Checklist	21
7.2 Lubricator Maintenance	22
7.3 Filter / Regulator Maintenance	22
Chapter 8: Trouble shooting guide	23
Chapter 9: Spare parts list	
9.1 Recommended spare parts	24
9.2 Loose parts list	24
Chapter 10: Assembly drawings	25

Chapter 1: Machine Description and Specifications

1.1 Description

The **AZ4100LM** clipper mounts upright onto the **CVW (Clipper VAC)** machine. The clipper is designed to work well with all assorted bag sizes and materials.

For each clipper cycle, the machine will:

- * *DRAW A VACUUM ON PACKAGE*
- * *GATHER THE BAG NECK*
- * *APPLY A SECURE VACUUM TIGHT CLIP*
- * *TRIM EXCESS MATERIAL FROM BAG TAIL*

This clipper along with the **CVW, (Clipper VAC)** is designed to package a variety of products, red meats, processed meats, poultry, cheeses, etc.

This clipper is designed to operate with the Tipper Tie Z400 Series clips.

Z401 Clips cover barrier bags (3 mil), 8"-18" flat width

Z410 Clips cover barrier bags (3 mil), 8"-18" flat width

Z411 Clips cover barrier bags (3 mil), 10"-23" flat width

1.2 Applications

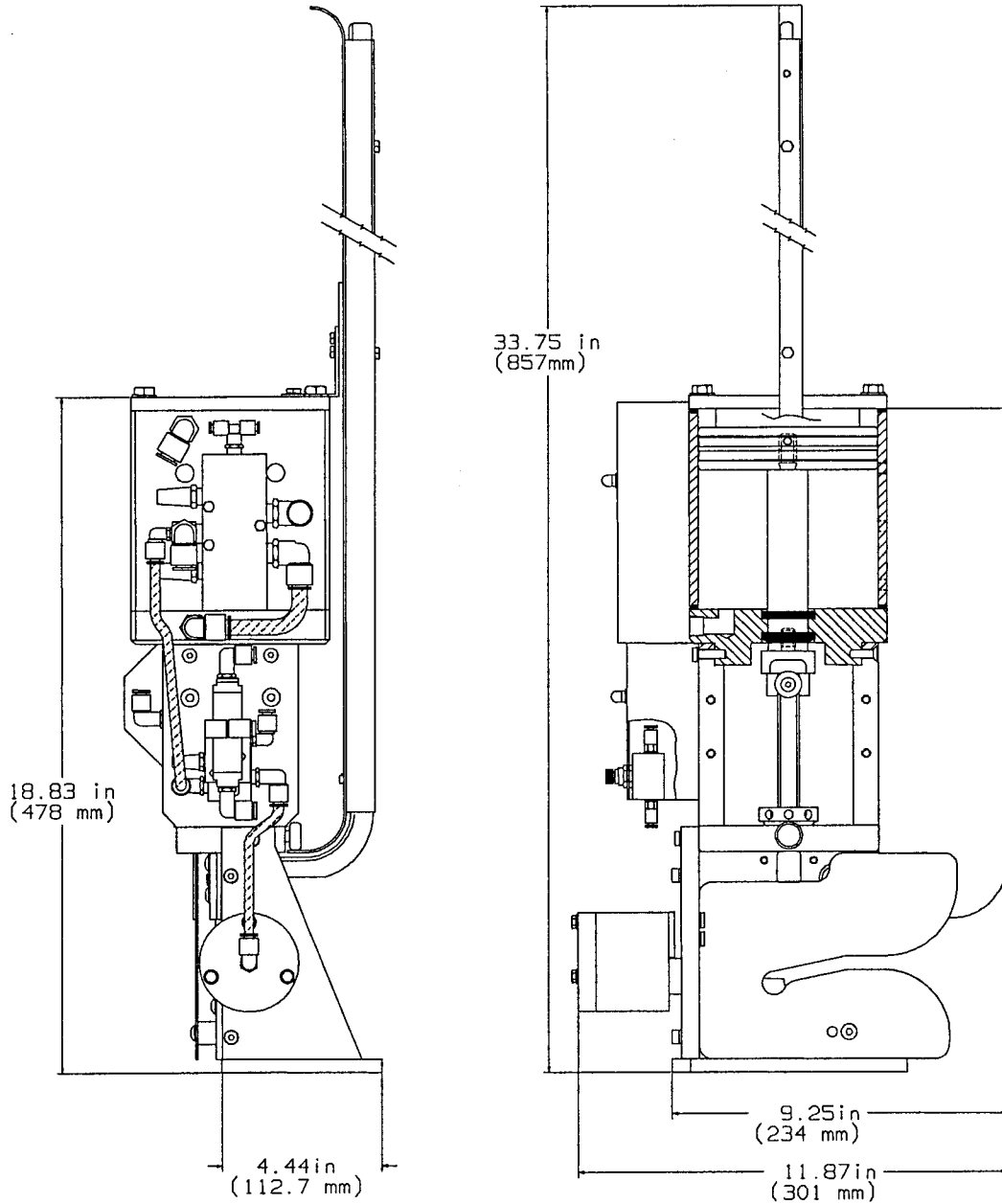
The clipper is designed to provide one-step closing for a variety of food products, such as beef, poultry, cheeses, or a wide assortment of non-food products.

1.3 Machine Specifications

Air Consumption: 6.2 cubic feet per minute [175.6 liters] @20 cycles per minute
Air Requirements: .80-100 psi [5.5-6.8 bar]

Clip rail capacity: 3 clip sticks [234 clips]

Machine weight: 42 LBS [19.05 kg]
Shipping weight: .47 LBS [21.3 kg]

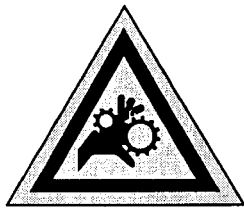


Chapter 2: Safety Instructions

2.1 International Safety Signs

INTERNATIONAL SAFETY SIGNS USED TO COMMUNICATE HAZARD INFORMATION USED WITH APPROPRIATE MACHINE FUNCTIONS

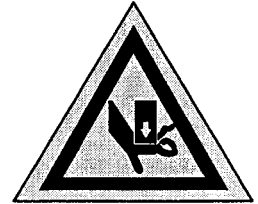
- THE YELLOW TRIANGLE SIGNS WARN OF EXISTING HAZARDOUS CONDITIONS
- THE BLUE CIRCULAR SIGNS DEFINE MANDATORY ACTIONS REQUIRED



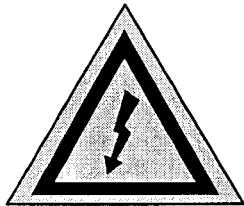
WARNING: DANGER OF CRUSHING



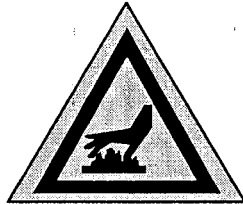
WARNING: EXPLOSIVE ATMOSPHERE



WARNING: KEEP HANDS AWAY FROM PINCH AREA



WARNING: DANGEROUS ELECTRICAL CURRENT



WARNING: HOT SURFACE



WARNING: KEEP HANDS AWAY FROM KNIFE AREA



WARNING:



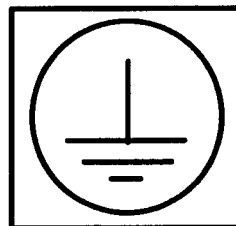
INSERT SAFETY LOCKOUT



CONSULT SERVICE MANUAL



ELECTRICAL LOCKOUT REQUIRED



PROTECTIVE EARTH GROUND

2.1 International Safety Signs continued:



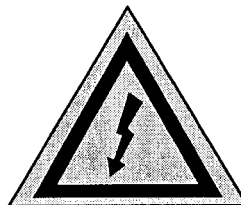
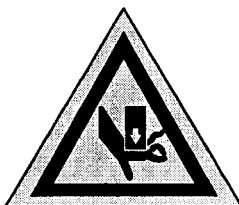
WARNING:

When using this machine, all operating instructions, safety instructions and precautions must be followed and strictly adhered!

Do not attempt to install, setup or operate this machine before you have read and understood this manual and any accompanying supplier's manuals.



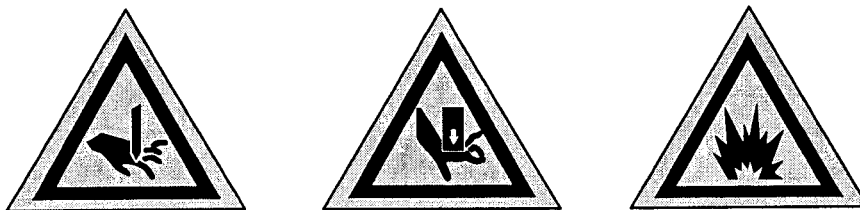
Follow all warnings and safety instructions in this manual. Failure to comply with safety instructions could result in serious injury.



2.2 Safety Instructions

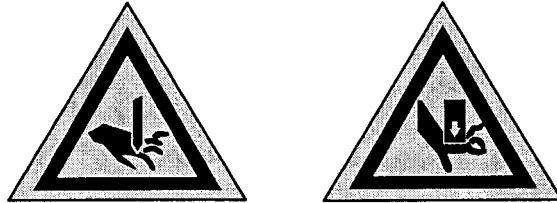
With the use of this machine, the following safety precautions must be obeyed:

- Before installing and first operating the machine, this manual must be read and understood. Follow all operating and safety instructions and exercise extreme care.
- This machine must be installed securely, and permanently attached to a solid surface before starting and operating.
- This machine must be operated only by trained personnel. Training must be repeated at regular intervals.
- Safety devices must be checked each day to ensure proper operation. Safety features should be examined once each year by experts.
- All guards, protective covers and shields must be in place before operating the machine. Do not modify, remove, disable or bypass the guards. Operating this machine with guards, covers and shields removed could result in serious injury. **Never operate this machine without safety devices.**
- **The maximum working pressure for this machine is 100 psi, (6,9 bars)**
Air pressure greater than this could cause an explosive rupture in any of the air lines or pneumatic components. Failure to adhere to this caution could result in personal injury or damage to the machine.
- Keep hands and fingers clear of the punch, die and knife areas at all times. Never touch these areas while the machine is in operation. Do not allow fingers, hands, jewelry or clothes around moving parts during operation of this machine.



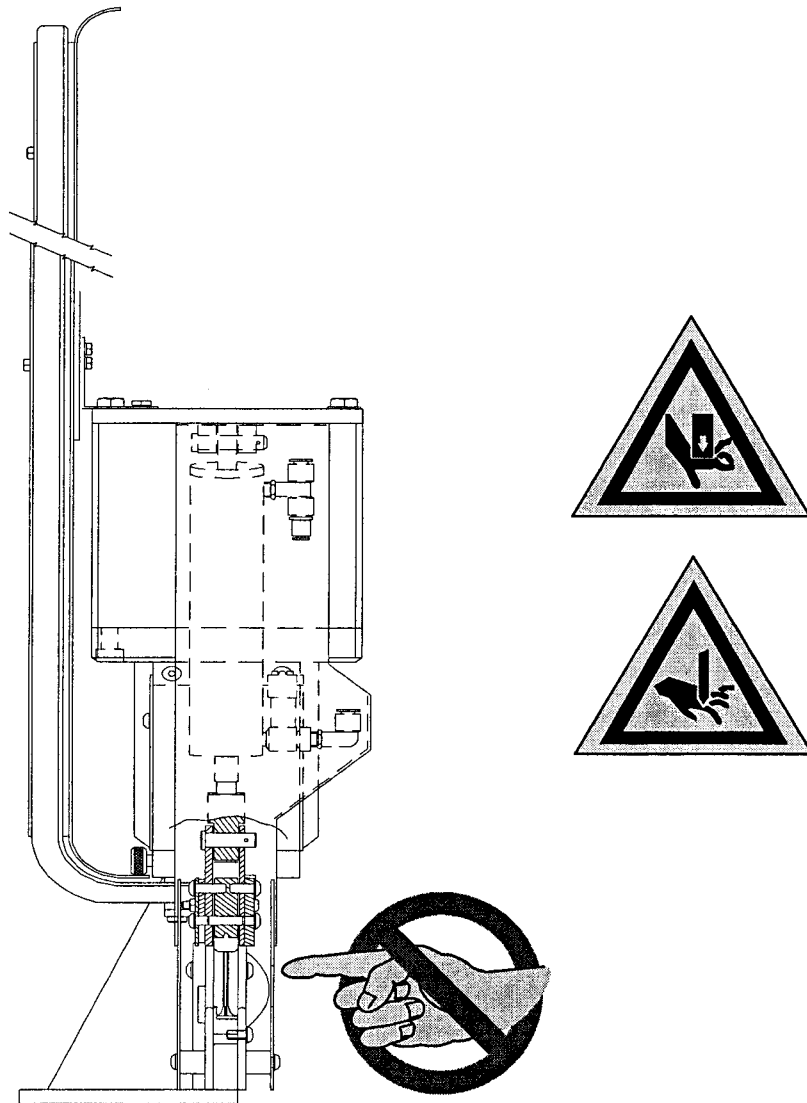
2.2 Safety Instructions continued:

- Immediately report any malfunction to the person in charge
- Stop machine to correct malfunctions.
- Disconnect air supply prior to servicing or moving the machine. The main air supply line must be disconnected from the machine before performing any service operation or maintenance.
- When this machine is not in operation, the air supply must be disconnected at the plant / regulator junction or at the quick disconnect on the machine. Failure to disconnect the air supply from this machine creates serious risk of injury. To prevent unauthorized personnel from operating this machine, rotate the red emergency stop valve 1/4 turn clockwise. Attach a padlock through the holes.
- When moving the machine, keep hands and fingers clear of punch, die and knife areas.
- Use only original spare parts and accessories.
- If the machine is sold, the manual must be supplied to the new owner.



2.3 Danger areas

Warning:
Keep hands and fingers clear of die,
punch, and knife areas.



Chapter 3: Delivery and Inspection

3.1 Delivery

Upon delivery, inspect the shipping container and equipment for damages due to shipping and handling. If damage is found or suspected, contact the shipping agent immediately. In order that the carrier may have an opportunity to inspect goods and thereby properly verify claims, any loss or damage discovered after delivery should be reported to the agent of the delivering line immediately or within 15 days after receipt of goods.

In many instances, the original container is not opened and the contents not examined before reshipment to final destination. Therefore, under (SUBPART C: CLAIMS FOR LOSS OR DAMAGE: SECTION 1226.200 NATIONAL MOTOR FREIGHT CLASSIFICATION), 9 months are allowed for filing claims for loss or damages.

The shipping agent or carrier will help you in processing your claim. Remember to report all suspected damages immediately. If additional assistance is required, TIPPER TIE will gladly help in settling your claim. However, first contact the carrier or his agent involved.

WITH ALL CORRESPONDENCE, INCLUDE THE FOLLOWING:

- * Original bill of lading or copy thereof. *
- * Vendor invoice, or certified copy, when claim is based on weight or valuation of shipment has been improperly described.
- * Catalog pages or product information.
- * Original packing slip or receiving reports.
 - * or copy of electronic bill of lading manifest.

3.2 Unpacking Equipment

For ease of shipping, partial disassembly of the machine sometimes is necessary. Check the shipping list and loose parts list to ensure that all items have been received. Do not discard packing materials until machine is assembled and operation. notify **Tipper Tie** immediately if any component is missing or if additional assistance is required.

Refer to the installation and operating instructions before starting to operate the equipment. Add all required oils and fluids, and make all machine adjustments as instructed before starting machine. Failure to do so may result in equipment damage or personal injury, and voids product warranty.

Chapter 4: Air Connections and Lubrication

4.1 Air connections

Recommended clipper working pressure setting is 55 psi (3,8 Bar). Before operating, check clipper air line connections as set at factory. If lines have become disconnected, reassemble as shown per pneumatic schematic. Air pressure can be regulated from the air regulator assembly. The air regulator assembly consists of filter, regulator, and oiler. Please note incoming air direction. (plant air flow)

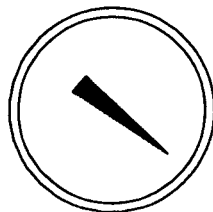
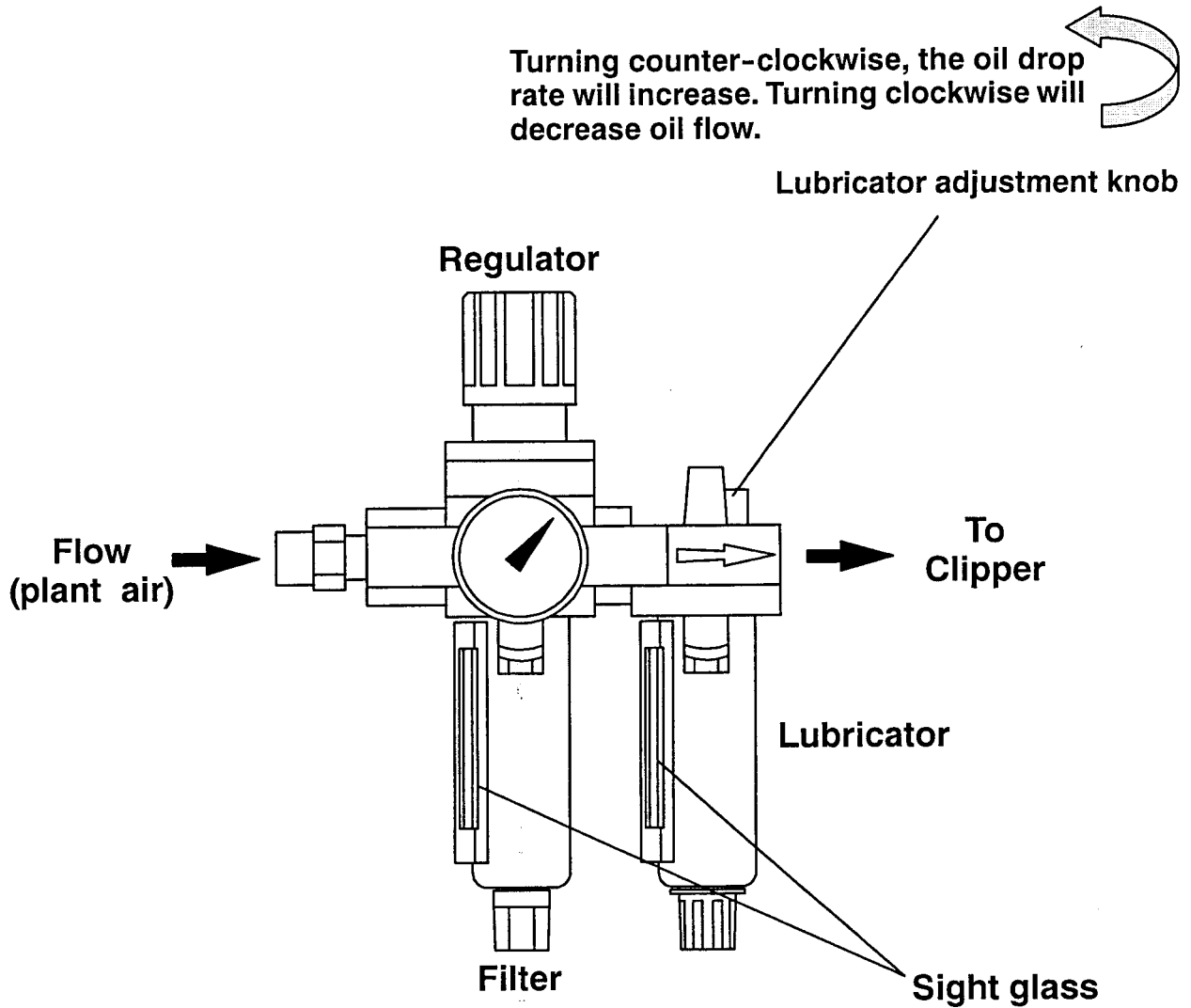
Assemble the factory air supply to the air regulator assembly by means of the quick-disconnect, connector. This quick-disconnect provides a means of removing the air supply for servicing and clean-up. The quick-disconnect must be attached with the check valve half (female), to the supply side of the air circuit.

4.2 Filter / Regulator

The filter must be kept clean to maintain maximum filtering efficiency. Open drain cock, under the filter periodically and drain off any bowl accumulation before it reaches level of lower baffle. A visible coating of dirt or condensate on the filter element surface or an excessive pressure drop is an indication that cleaning is necessary. To clean, turn-off air supply, and depressurize. Loosen locking collar and remove bowl. Clean all parts with denatured alcohol and blow-out the inside with compressed air.

To regulate air pressure, pull the locking type adjustment knob away from the body of the regulator until the orange band is visible. Rotate knob to regulate air pressure (clockwise to increase pressure / counter-clockwise to decrease the pressure). When adjustment is complete, push the knob back into the body of the regulator.

4.3 Air Regulator Assembly

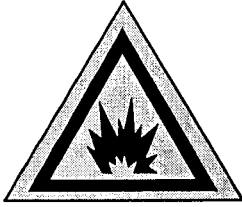


**Recommended Pressure Setting:
55 psi, (3,8 bar)**



**Warning:
Do not set air pressure
above 100 psi, (6,9 bar)**

4.4 Lubricator Adjustment



Do not attempt to add oil to the lubricator while under pressure. Disconnect the air pressure supply and purge pressure from the system before filling with lubrication fluids.

The lubricator cannot be filled while under pressure.

LUBRICATION:

For average operating conditions, the use of SAE #10 (SUV > 150–200 SEC @ 100 degrees F) oil is recommended. Other lubrications may be used if not heavier than SAE #40 (SUV 800 SEC @ 100 degrees F).

FILLING:

The lubricator cannot be refilled under pressure. Always **shut off** the air pressure supply and purge pressure from the system before refilling with lubricating fluids.

ADJUSTMENT:

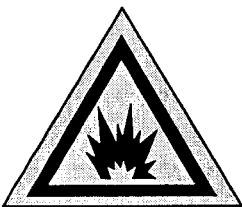
Lubricator oil flow is adjusted by turning the front needle valve. By turning counter-clockwise, the oil drop rate will increase. Turning clockwise will decrease oil flow.

To check lubrication, hold a mirror of similar material near the equipment exhaust. A heavy film discharge indicates over-lubrication. The oil drop rate should be reduced by turning the knob to a lower setting, decreasing oil drop rate.

If no oil drips through the sight glass with the needle valve open, proceed as follows:

- Make certain there is sufficient oil in the bowl.
- Check to determine whether there is air pressure ahead of the lubricator.
- Check the air flow from the lubricator.

If oil still does not drip through the sight glass, an accumulation of dirt in the lubricator is indicated. The lubricator will need to be cleaned.



It is recommended that air pressure remain between 43.5–87 psi (3–6 bar)

Always keep air pressure below 100 psi (6,9 bar)

Chapter 5: Operating instructions

5.1 Preparation

Before operating, check all air connections. If they have become disconnected, reassemble as shown in the pneumatic schematic. Adjust incoming air to the recommended pressure of 55psi (3,8 bar) and check for any air leakage. If leakage is present, correct before continuing. Load the stick clips onto the clip rail. Check for proper feeding, and for any obstructions at the punch, knife, and die areas.

5.2 Operating the Machine

- When the operator valve located on the **CLIPPER VAC MODEL CVW** cabinet is activated, the gate air cylinder pressurizes, closing the front gate. The air continues through the stroke sensor and punch valve into the main cylinder body.
- The clip punch attached to the punch piston drives down, taking a clip from magazine rail through the die support plate, and continues to the clip forming die.
- The clip forms around the product in the die-gate, completing the closure.
- Air continues thru the flow control into the air volume chamber. It continues through the flow valve, allowing adjustment as needed for cut-off knife timing and speed. The cut-off knife extends to trim off excess bag tail.
- With the release of the operator valve, **(on Clipper VAC Cabinet)** the cut-off knife and punch return for another cycle. Punch moves up, knife-retracts, and gate opens
- Knife stroke is controlled by air pressure from the main piston chamber, flow control and air volume chamber. The machine is designed to complete the clip closure before the cut-off knife extends. The knife will cycle after closure is formed to cut-off the extra material, (tail) left on the product. The flow control valve may be used to adjust the timing and speed of the knife extension.
- Machine is ready for another cycle.



Warning!

If a clip jams in the die area, do not attempt to cycle the machine again until the jam is cleared. Follow all safety procedures! Turn off the air supply, lock-out the emergency stop valve, before attempting to remove the clip or other obstruction from the die area.

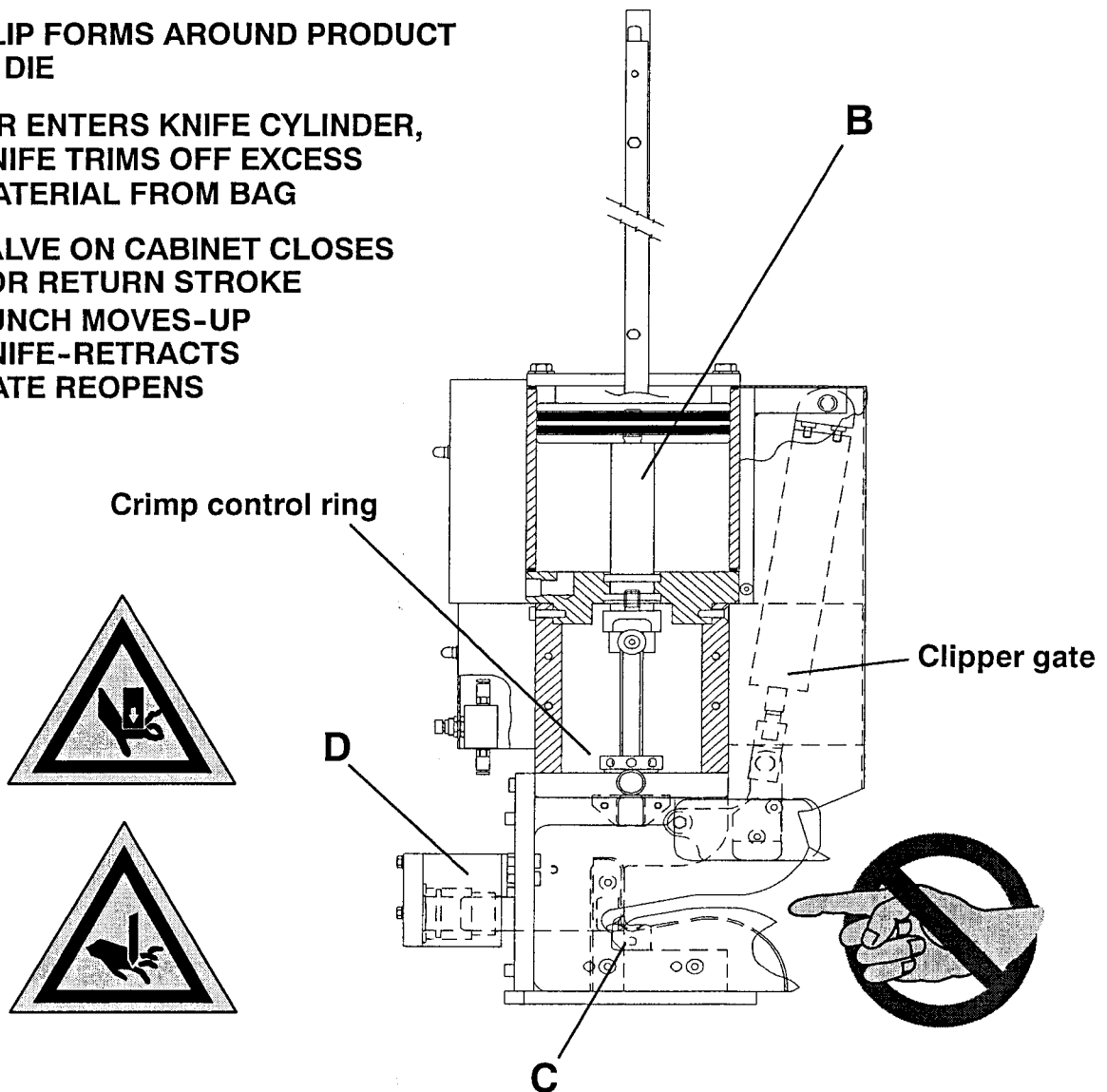
5.3 Crimp Control

- Remove the Crimp control guard on the side of the clipper for access to the Crimp control ring located inside. The crimp control ring is attached to the support base, encircling the punch.
- Before adjusting, loosen the knurled locking knob.
- By turning the crimp control ring counter-clockwise a looser clip crimp will result. clockwise a tighter crimp. After adjusting, lock into position with the knurled knob, and replace guards before operating.

Adjustments to the air pressure and crimp control are required to set the machine for the best closure. Differences in casing and bag sizes require adjustments to be made as outlined for optimum closing and sealing.

5.4 Clipper Cycle

- A** GATE CYLINDER ACTIVATED BY VALVE ON CABINET, CLOSING GATE AROUND PRODUCT
- B** AIR ENTERS CYLINDER, DRIVES PUNCH/PISTON DOWN, CLIP IS TAKEN FROM MAGAZINE RAIL
- C** CLIP FORMS AROUND PRODUCT IN DIE
- D** AIR ENTERS KNIFE CYLINDER, KNIFE TRIMS OFF EXCESS MATERIAL FROM BAG
- E** VALVE ON CABINET CLOSES FOR RETURN STROKE PUNCH MOVES-UP KNIFE-RETRACTS GATE REOPENS



Chapter 6: Cleaning Procedure

6.1 U.S. Department of Agriculture Guidelines

**APPROVED CLEANING COMPOUNDS:
U.S. DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND INSPECTION SERVICE
(REFERENCE AGRICULTURE HANDBOOK NO. 562)**

This publication is intended to assist in applying approved cleaning methods under the USDA meat and inspection program. Cleaning materials used must be in compliance with the USDA. Compliance with the requirements set forth in the publication does not, in itself constitute authorization. Users must submit application with the USDA for consideration of suitability of preparations and their safety for use as directed.

Submit requests for such evaluation to :

Compounds Evaluation Unit, CPS
Product Safety Branch
Food Ingredient Assessment Division, Science, FSQS
U.S. Department of Agriculture
Building 396, Room 300, Barc-East
Beltsville, MD 20705
Tel (301) 344-2566

**U.S. Department of Agriculture Food Safety and Inspection Service
Handbook No. 562 Part 5, Section 5.1 Cleaning Compound**

(A) GENERAL USE CRITERIA

- (1) Neutral or mildly alkaline preparations consisting of any combination of soaps, detergents, wetting agents, emulsifiers, solubilizers, and common inorganic builders may be used on any surface in and department
- (2) Strongly alkaline preparations (those containing in excess of 20 percent caustic soda or other ingredients with the equivalent causticity thereof) may be used only in soak tanks or with steam or mechanical cleaning devices in any department
- (3) Acidic preparations consisting of mineral acids, organic acids, or acidic salts may be used in any department for the removal of rust, corrosion, scale, or other deposits which are not readily removed by alkaline preparations.

(B) RESTRICTIONS OF USE

- (1) Before using any cleaning preparation, food products and packaging materials must be removed from the room or carefully protected. After using such preparations, all surfaces must be thoroughly rinsed with potable water.
- (2) Preparations having a characteristic odor of fragrance as diluted for use may, in the opinion of the **USDA**, interfere with sanitary inspection of food contact surfaces may not be used on food contact surfaces. They may be authorized for limited use on floors and walls only.
- (3) Preparations containing abrasive materials such as silica, pumice, etc. may be used on food contact surfaces only if care is taken to remove all odors or residues resulting from their use by thorough rinsing with potable water.
- (4) Boric acid and salts thereof, may be used in such preparations only at concentrations up to 90 percent in association with strong acids, strong alkalis, soaps, or synthetic detergents.

6.2 Cleaning procedure

After use of machine, the clipper must be cleaned to remove all residues (food products) from the throat, punch, knife and die areas, (*food contact zone*). Also check all other machine surfaces and surrounding work station for material residues or contamination. All surfaces must be cleaned using the recommended materials and procedures as outlined by the U.S. Department of Agriculture Food and Inspection Service Handbook No. 562. A copy of Part 5, Section 5.1, Titled: Cleaning Compounds: is included with this manual. Cleaning product approval, in writing is required, as outlined in the copy provided.

Remember, before cleaning the clipper, ensure that the air supply has been disconnected from the clipper, and all lock-out procedures have been followed.

Never attempt to clean the clipper while it is attached to the air supply!

- Turn off factory air and disconnect the air line from the clipper with the "Quick disconnect" attached on the rear of the clipper.
- Remove all guards to expose all surfaces for cleaning.
- Clean all surfaces as outlined by the U.S. Department of Agriculture Handbook.
- After cleaning, (FDA food contact approved) light mineral should be applied to all pivot areas. The internal moving parts are lubricated by the filter / regulator / lubricator.
- After cleaning and lubricating, reassemble all guards and check for safe function. Check for and tighten all loose connections and screws before returning machine to operation. Check for and remove all burrs around die pocket.
- While cleaning the clipper, inspect for worn or damaged components needing replacement. For replacement parts refer to the list of recommended spare parts, and assembly drawing.

Chapter 7: Maintenance

7.1 General Maintenance Checklist

- Check regularly for loose screws.
- Check the oil level in the lubricator regularly
- Check the air filter on a regular basis
- Check the knife for signs of chipping
- Check the end of the punch for burrs
- Check guards for safe function

Check for and tighten all loose connections and screws before returning machine to operation. Check for and remove any burrs around die pockets.

While cleaning the clipper, inspect for worn or damaged components needing replacement. For replacement parts refer to the list or recommended spare parts and assembly drawings.

7.2 Lubricator Maintenance

The oil level in the lubricator must never be allowed to drop below the end of the dip tube. To replenish oil, first shut off the air supply, lock-out the system. Remove the slotted filler plug and fill to oil level mark. Replace and tighten plug.

Normally, the lubricator should require only occasional cleaning, provided clean oil is used, and the air supply is kept clean by the filter system. However, if no oil drips through the sight glass, and the oil supply has been replenished, the lubricator requires cleaning.

Check the following before cleaning the lubricator:

- Make sure there is sufficient oil in the bowl.
- Check to determine whether there is air pressure ahead of the lubricator
- Check the air flow from the lubricator

If each of these areas are functioning properly, continue to clean the lubricator.

7.3 Filter / Regulator / Maintenance

The air filter should be cleaned periodically to maximize filter efficiency. Open the drain cock under the filter periodically and drain off any bowl accumulation before it reaches its over flow level. A visible coating of dirt on the filter's elements surface or an excessive pressure drop is an indication that cleaning is necessary.

To clean the filter, turn off air supply, lock out system, and depressurize. Loosen locking collar and remove bowl. Clean all parts with denatured alcohol and blow out the inside with compressed air.

To clean the regulator, turn off air supply, lock out system, and depressurize. Remove the bottom plug, spring, and disk. Clean all parts with denatured alcohol. Wipe off seat and blow out regulator body with compressed air. Reassemble the filter / regulator unit. Before tightening the plug, make certain the disk is centered.

After cleaning and servicing, the air regulator may need adjusting. Adjust the incoming air to the recommended pressure settings of 43.5-87 psi, (3-6 bar). Always keep air pressure below 100 psi, (6,9 bar).

Always check the air muffler for oil build up and blockage. A muffler caked with oil or accumulated contamination will restrict the porting of the used air into the atmosphere, and slow down the machine. Always check the mufflers when servicing the filter / regulator unit, and replace as required.

Chapter 8: Trouble Shooting Guide

Symptoms

Solution

Clipper has no power

Air connection may be loose. Check all air connections.

- or Regulator may be turned off. Check the regulator unit.
- or Water may be in the system. Drain and change the filter.

Clipper is slow

Water may be in the system. Drain the water and change the filter.

- or Muffler may be clogged. Replace the muffler.
- or Pressure to the clipper is low. Check the pressure setting and increase if necessary.
- or Air lines are pinched. Replace the air lines.
- or Cylinder is stuck. First check for pinched air line and check the air pressure. If cylinder is still stuck, disconnect air line and check for broken or worn parts. Replace bad parts or air cylinder.

Punch does not retract

Knife blade housing may be jammed with product residue. Disassemble and clean.

Knife does not cut

Check knife for nicks and sharpen as needed.

Malformed clips

Punch or die may be damaged. Replace as necessary.

- or Air pressure may be too low or too high. Check air pressure and adjust if necessary.

Clips are loose and seal poorly

Check crimp control and adjust if needed.

- or Air pressure is too low. Check air pressure and adjust if necessary.
- or Punch and die may be worn down. Check for wear on punch and die, and replace if needed.

Chapter 9: Spare parts List

When ordering replacement or spare parts, always include the following:

Machine model number and date of purchase:

Identifying part numbers stamped on part:

Part number or numbers on spare parts list,
or identifying item numbers on assembly drawings:

9.1 Recommended Spare parts

Item	Part No.	Description	Qty.
1	05-0072	Die	1
2	13-2102	Punch	1
3	17-0742	Spring, knife cylinder	1
4	21-0164	Punch valve	1
5	21-0165	Knife valve	1
6	21-0210	Valve	1
7	41-0050	U-cup, punch piston	1
8	41-0802	U-cup, knife	1
9	41-1726	U-cup shaft	1
10	62-0005	O-ring, knife cylinder	1
11	62-0033	O-ring, punch cylinder cap	1
12	99-1725	Shaft wiper	1

The above items may be ordered by individual part numbers
or they may be ordered as a kit: No. 55-0091

9.2 Loose Parts List

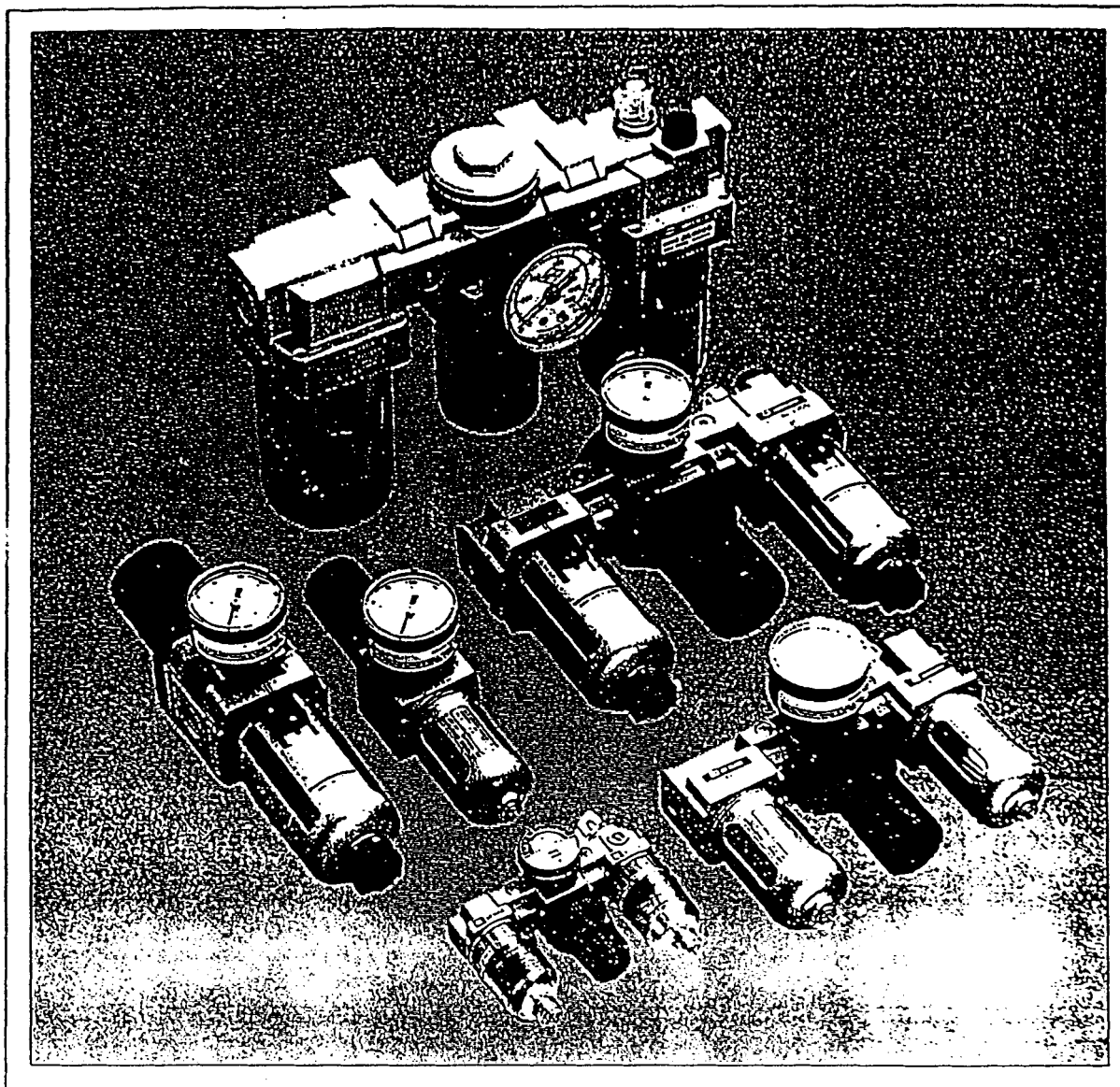
Item	Part No.	Description	Qty.
1	24-9930	White oil (ISO VG32 Equivalent)	1
2	80-1204	Model Operators Manual	1

Chapter 10: Assembly Drawings

AZ4100LM	Clipper assembly drawing
00-0522	Rail assembly
00-0523	Gate assembly L.H.
63-0071	Pneumatic schematic

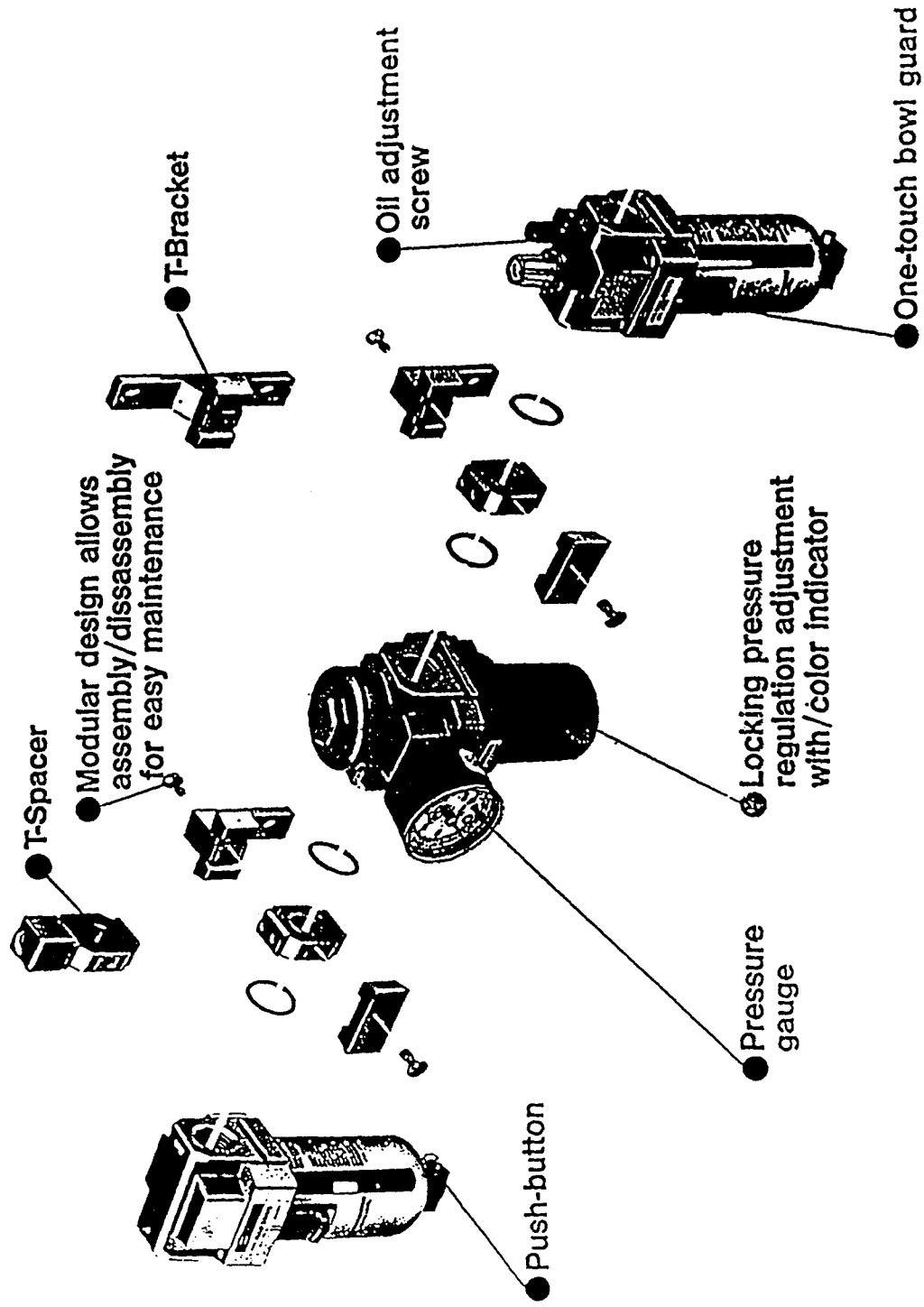
Modular Type F.R.L. Combination

Filter • Regulator • Lubricator • Filter/Regulator
Mist Separator • Micro Mist Separator



 **SMC**
SMC Pneumatics, Inc.

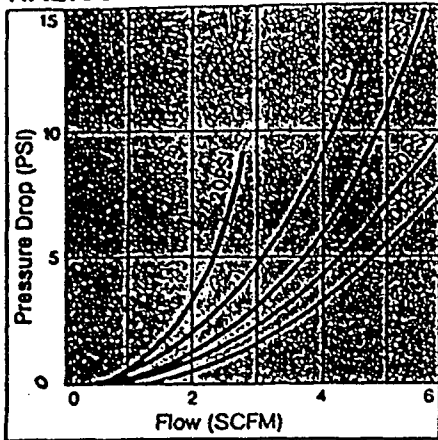
Modular Type F.R.L. Combination



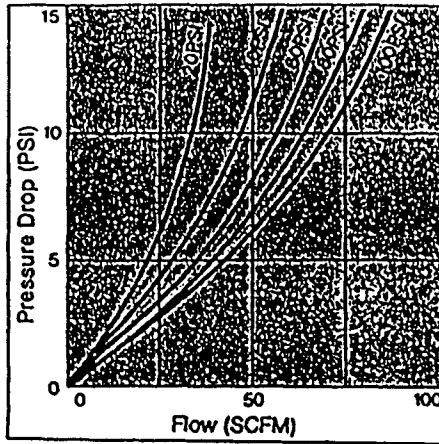
Flow Characteristics

Operating Pressure: 100 PSI

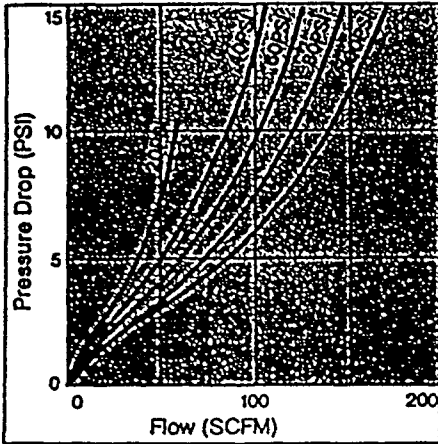
NAL1000



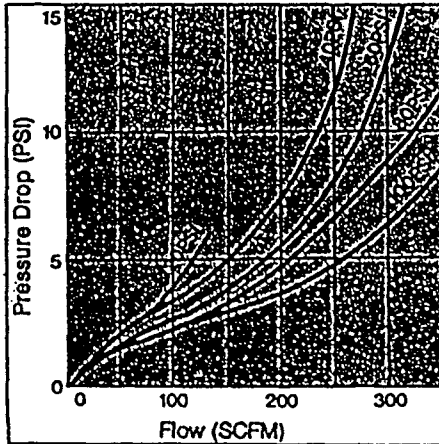
NAL2000



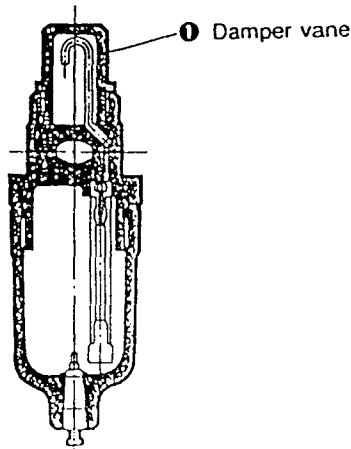
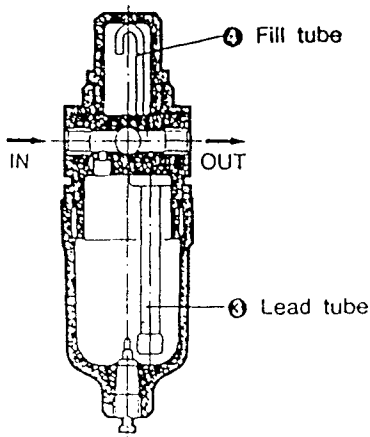
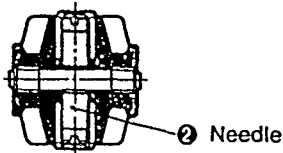
NAL3000



NAL4000



NAL1000



Precautions

Installation

- ① Recommended oil is ISO VG32,
- ② Flush piping before installation.
- ③ If intended for use with power presser, please consult SMC factory

Atmosphere

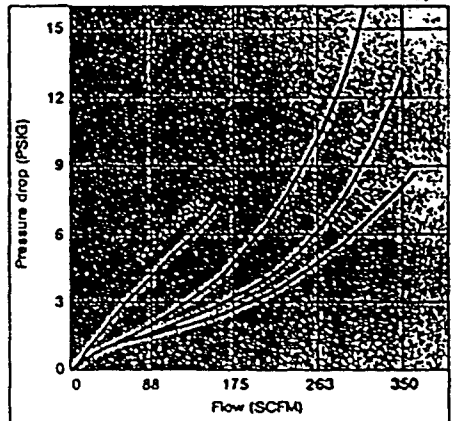
- ① Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. If used above atmosphere a metal bowl is recommended.

Roll

- ① A minimum air flow is required for proper operation. (see specifications). Please sure the minimum requirements are met.
- ② NAL1000, 2000 type lubricators cannot be refilled under pressure. Shut off air pressure before refilling.

NAL4000-N06

3/4

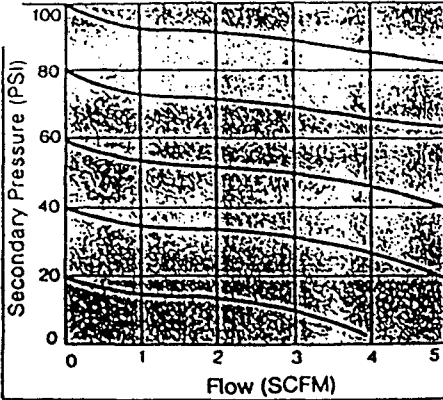


Air entering from the inlet port pressurizes the surface of the oil then flows through the needle valve to the outlet port. As a result of the differential pressure between the pressure in the bowl and the pressure in the damper vane, oil is passed through the lead tube and dropped out of the fill tube into the flow path of the air. Oil flow is adjusted by turning the front needle. Clockwise turns will increase oil drop rate and counter-clockwise will decrease oil drop rate. Leave the backside needle fully open.

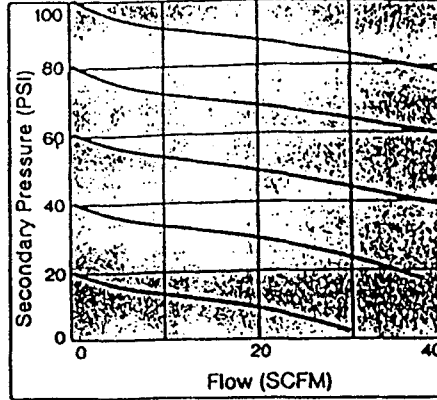
Flow Characteristics

* Operating pressure: 100PSI (7kgf/cm²)

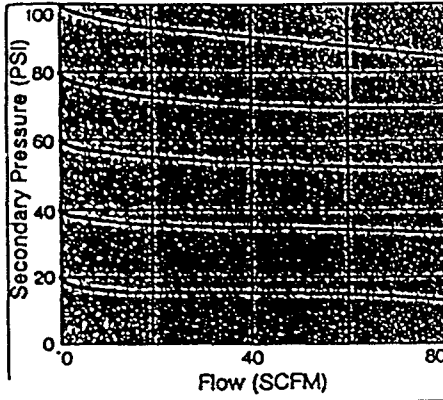
NAW1000



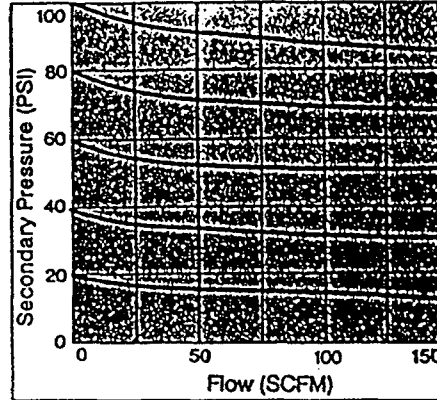
NAW2000



NAW3000



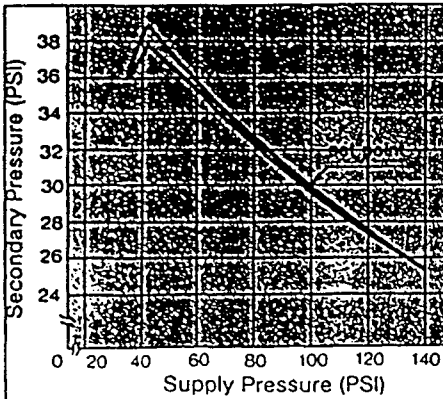
NAW4000



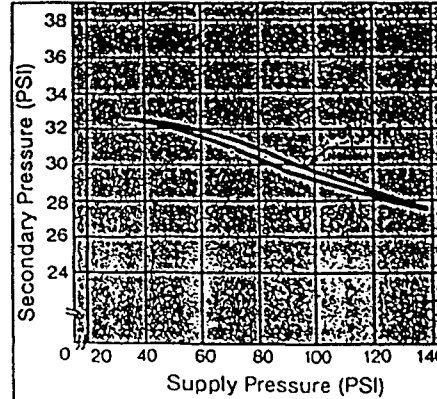
* Operating pressure: 100PSI (7kgf/cm²)
Secondary Pressure: 30PSI (2kgf/cm²)
Flow rate: 0.7SCFM (20Nl/min)

Pressure Characteristics

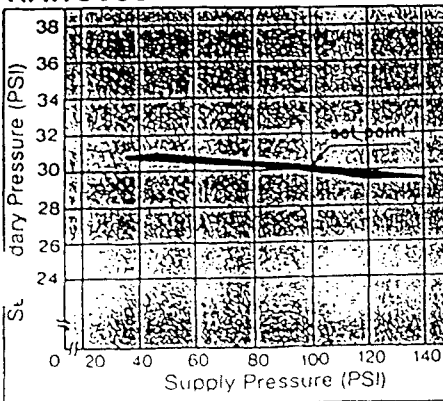
NAW1000



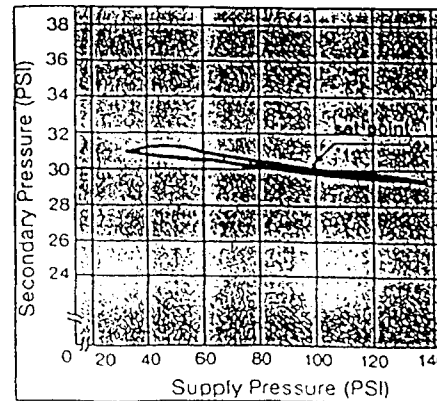
NAW2000



NAW3000



NAW4000



Setting

① The adjustment knob is a locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.

Orange band



② Turning the adjustment knob clockwise increases the pressure and turning the knob counterclockwise reduces the pressure.

Precautions

Installation

- ① Flush piping before installation.
- ② The use of piping adapters will make installation easier.
- ③ Must be installed with the knob up because the filter must be facing down.

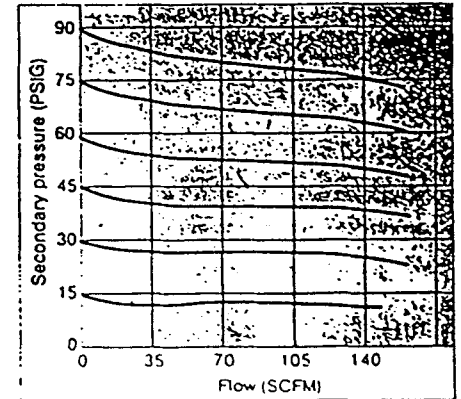
Maintenance

- ① Filter element should be changed after 1 year or when a pressure drop of 15 PSI (1 kgf/cm²) is reached.

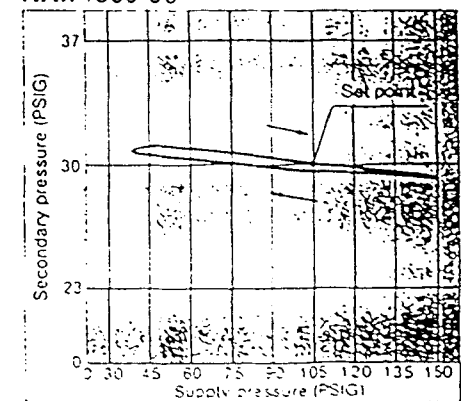
Auto Drain

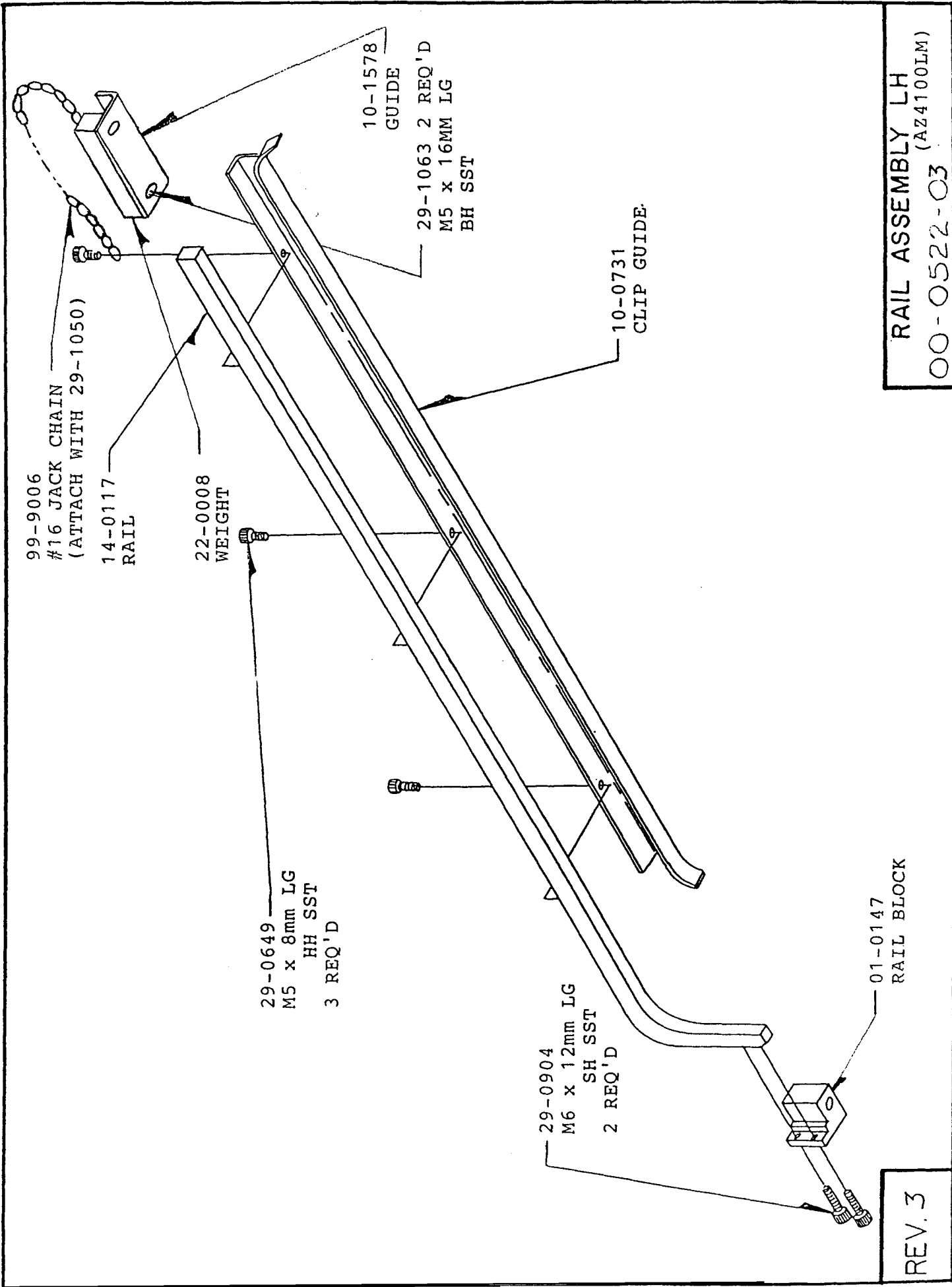
- ① Drain line should be 1/2 inch (6mm) O.D. or more and should be less than 16.5 ft. (5m) long. Be sure not to have any upward turns in the drain line which could prevent drainage.
- ② Unsuitable for flow below 3.5 SCFM (100Nl/min).
- ③ Operating pressure is more than 15 PSI (1kgf/cm²).
- ④ Soft nylon tube of more than 1/2 inch (ø2.5) O.D. is recommended for drain pipe. The length should be less than 16.5 ft. (5m) long.
- ⑤ Should be installed vertically.

NAW4000-06



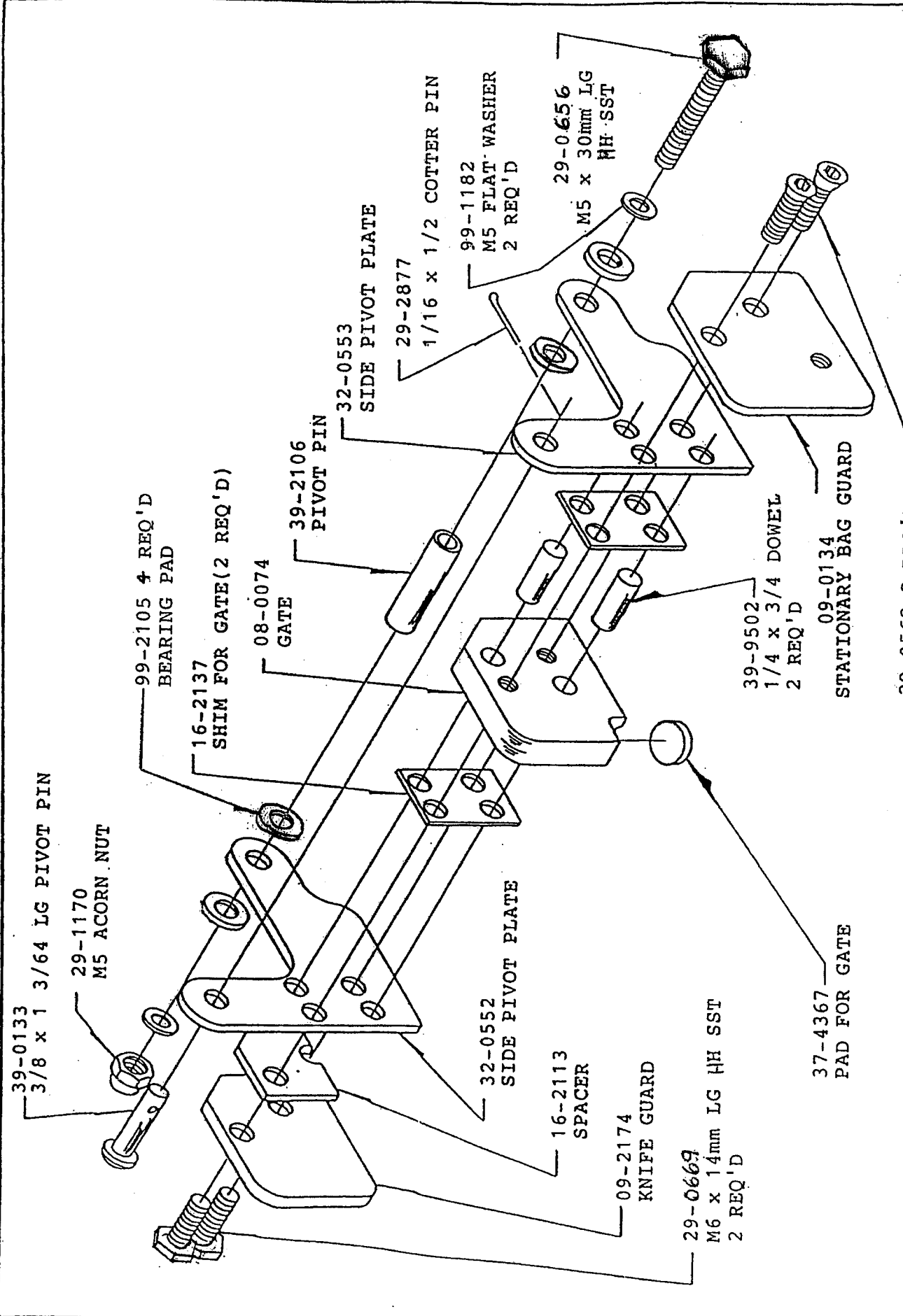
NAW4000-06





RAIL ASSEMBLY LH
 (AZ4100LM)
 00-0522-03

REV. 3



GATE ASSEMBLY L.H. (AZ4100LM)
00-0523-04

NOTE: INSTALL ALL M6 SCREWS
WITH #271 LOCTITE.

REV.4

NO.	DATE	BY	CHKD.	APP'D.	REV.
1	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	1
2	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	2
3	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	3
4	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	4
5	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	5
6	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	6
7	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	7
8	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	8
9	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	9

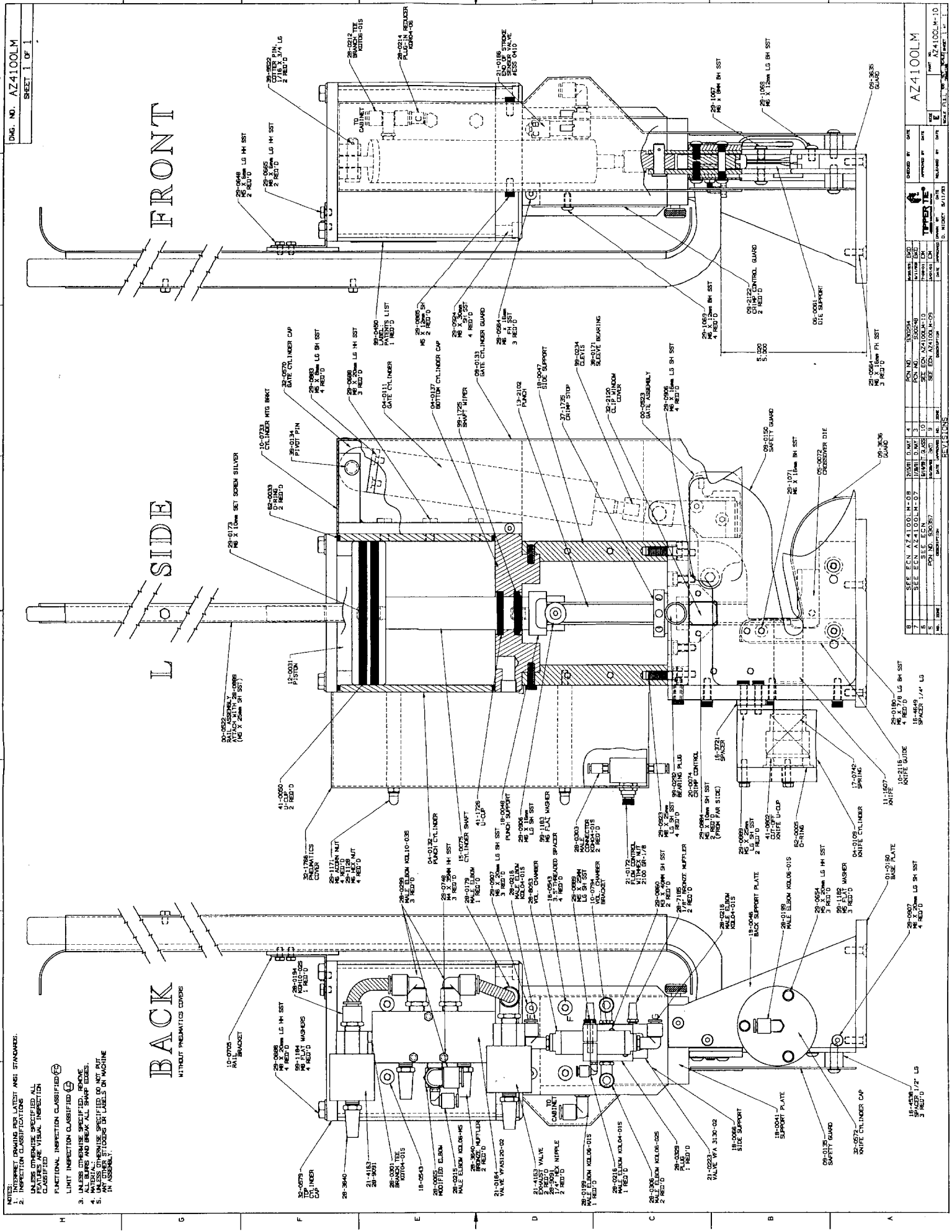
NO.	DATE	BY	CHKD.	APP'D.	REV.
1	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	1
2	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	2
3	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	3
4	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	4
5	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	5
6	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	6
7	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	7
8	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	8
9	08/20/00	J. L. HARRIS	J. L. HARRIS	J. L. HARRIS	9

FRONT

L SIDE

BACK
WITHOUT PLUMBING COVERS

- NOTED:
1. DIMENSIONS SHOWN FOR LATEST ANSI STANDARDS.
 2. INSPECTION CLASSIFICATIONS UNLESS OTHERWISE SPECIFIED. ALL FEATURES ARE VISUAL INSPECTION CLASSIFIED.
 3. LIMIT INSPECTION CLASSIFIED.
 4. UNLESS OTHERWISE SPECIFIED, REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
 5. UNLESS OTHERWISE SPECIFIED, DO NOT PUT IN ASSEMBLY LOGS ON LABELS ON MACHINE.



- NOTES:
 1. INTERPRET DRAWING PER LATEST ANSI STANDARDS.
 2. INSPECTION CLASSIFICATIONS

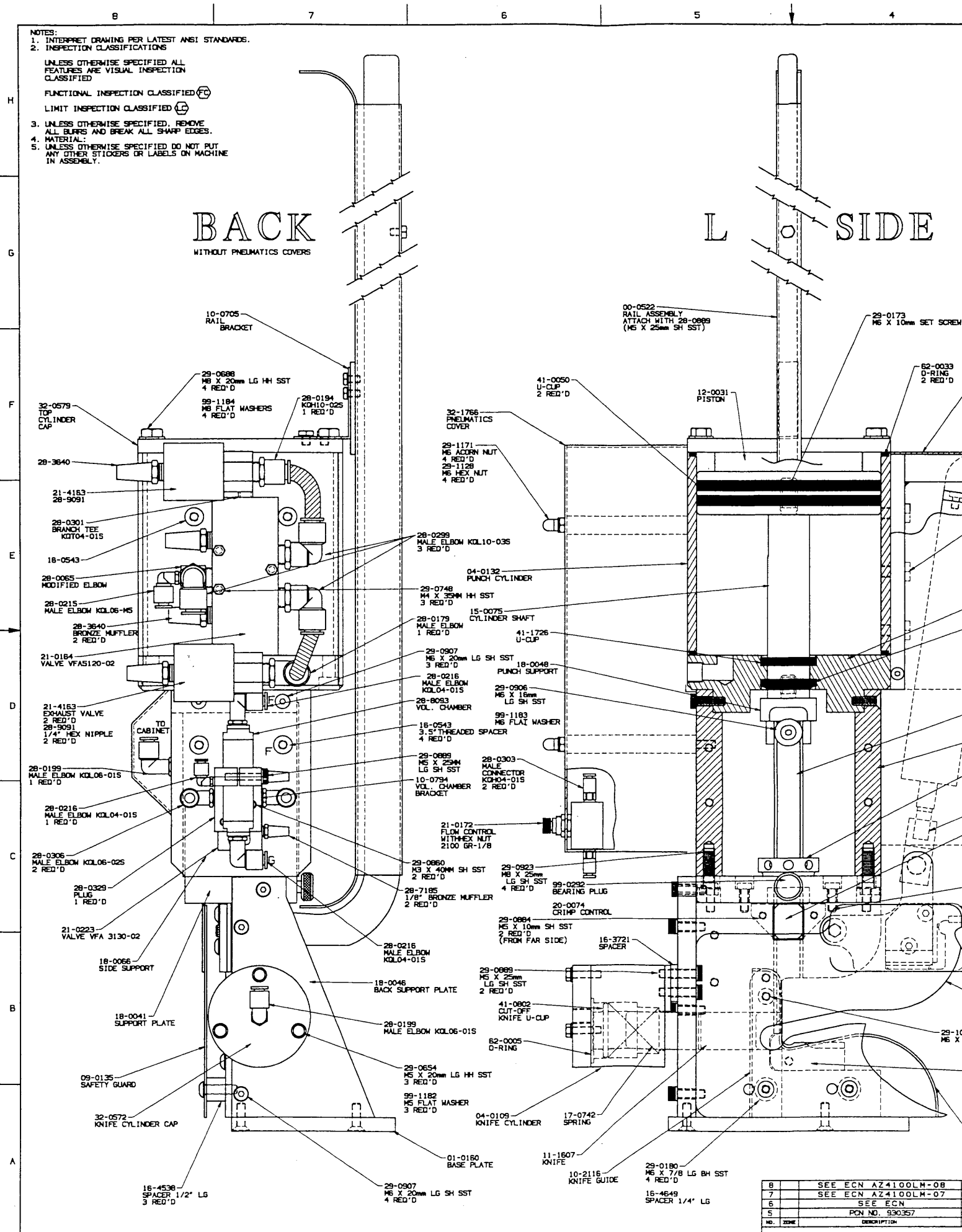
UNLESS OTHERWISE SPECIFIED ALL FEATURES ARE VISUAL INSPECTION CLASSIFIED

FUNCTIONAL INSPECTION CLASSIFIED (FC)
 LIMIT INSPECTION CLASSIFIED (LC)

3. UNLESS OTHERWISE SPECIFIED, REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
 4. MATERIAL:
 5. UNLESS OTHERWISE SPECIFIED DO NOT PUT ANY OTHER STICKERS OR LABELS ON MACHINE IN ASSEMBLY.

BACK
 WITHOUT PNEUMATICS COVERS

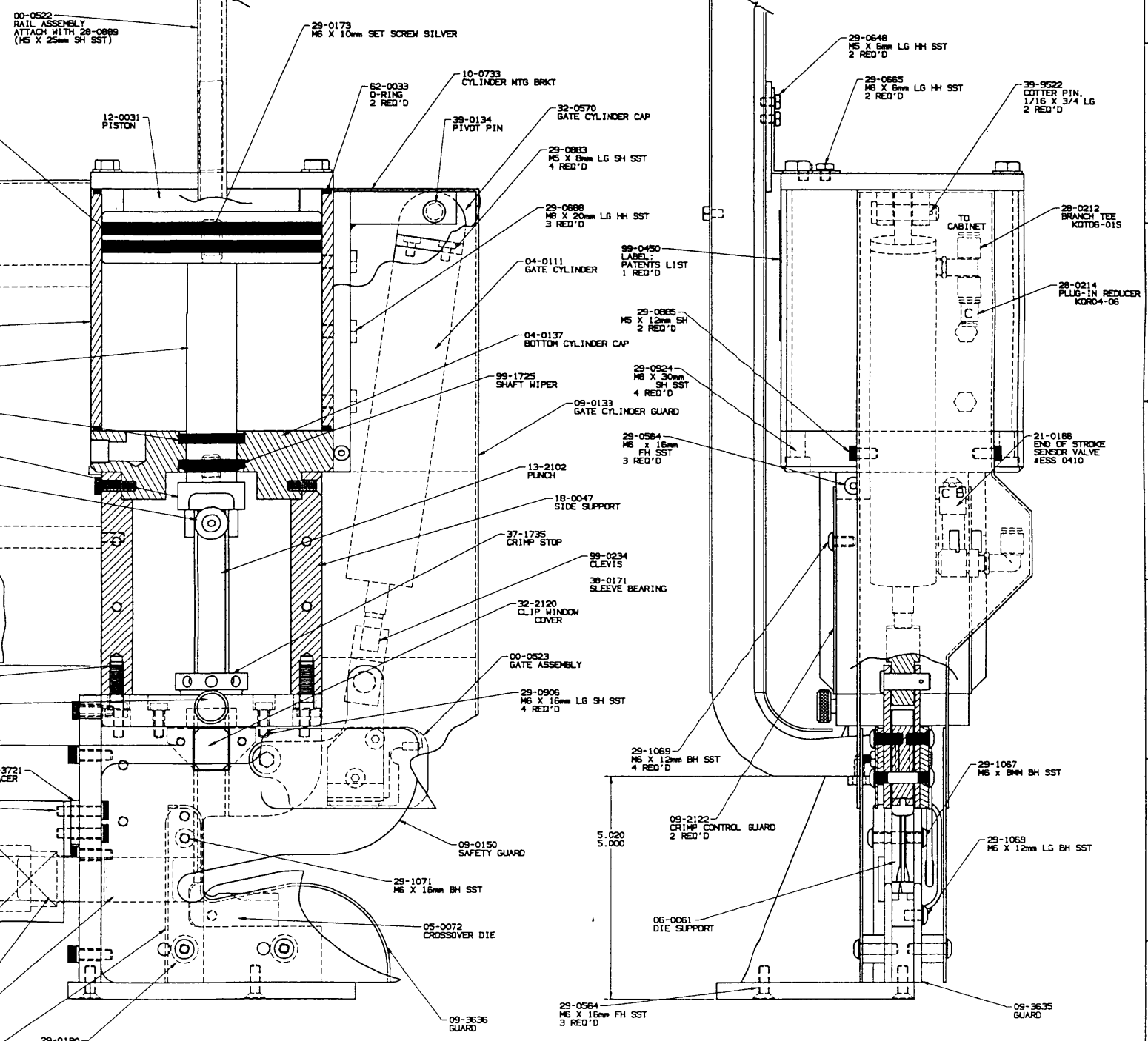
L SIDE



8	SEE ECN AZ4100LH-08	2/15/11
7	SEE ECN AZ4100LH-07	1/28/11
6	SEE ECN	8/14/10
5	PCN NO. 930357	10/24/10
NO. 229E	DESK/PT124	DATE

L SIDE

FRONT



NO.	ZONE	DESCRIPTION	DATE	APPROVED	NO.	ZONE	DESCRIPTION	DATE	APPROVED	NO.	ZONE	DESCRIPTION	DATE	APPROVED	NO.	ZONE	DESCRIPTION	DATE	APPROVED																				
8		SEE ECN AZ4100LM-08	2/15/01	D.MAY	4		PCN NO. 930294	8/15/01	EKD																														
7		SEE ECN AZ4100LM-07	1/20/01	D.MAY	3		PCN NO. 930248	8/11/01	EKD																														
6		SEE ECN	8/14/01	T. GLASS	10		SEE ECN AZ4100LM-10	7-28-01	DM																														
5		PCN NO. 930357	8/28/01	EKD	9		SEE ECN AZ4100LM-09	5/21/01	DM																														
REVISIONS										<table border="1"> <tr> <td>NO.</td> <td>ZONE</td> <td>DESCRIPTION</td> <td>DATE</td> <td>APPROVED</td> <td>NO.</td> <td>ZONE</td> <td>DESCRIPTION</td> <td>DATE</td> <td>APPROVED</td> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										NO.	ZONE	DESCRIPTION	DATE	APPROVED	NO.	ZONE	DESCRIPTION	DATE	APPROVED	1					1				
NO.	ZONE	DESCRIPTION	DATE	APPROVED	NO.	ZONE	DESCRIPTION	DATE	APPROVED																														
1					1																																		



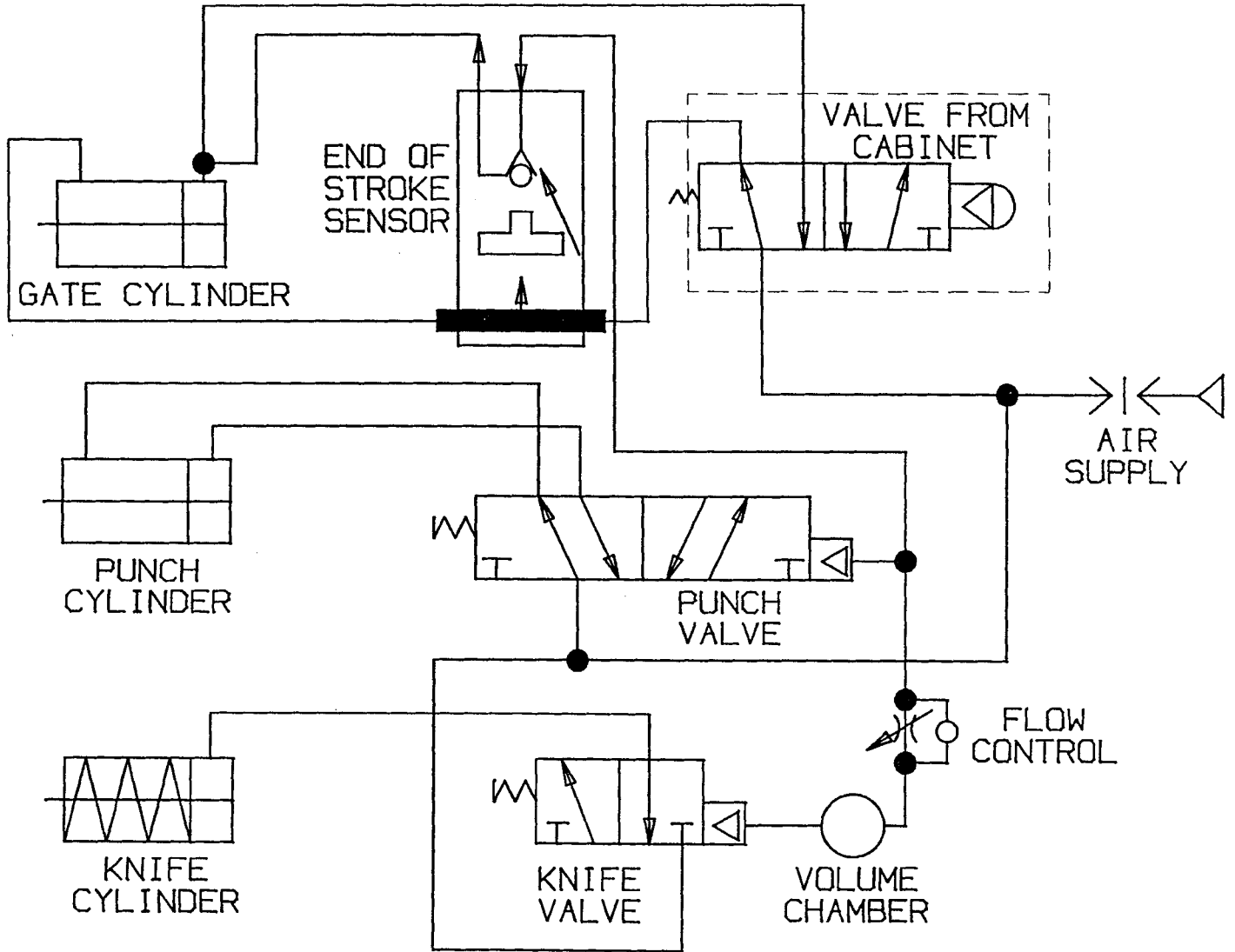
AZ4100LM


PART NO. AZ4100LM-10
SCALE FULL SIZE

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED	NO.	DESCRIPTION	DATE	APPROVED

1. INTERPRET DRAWING PER LATEST ANSI STANDARDS.
2. UNLESS OTHERWISE NOTED, REMOVE ALL BURRS AND BREAK ALL EDGES.
3. MATERIAL:



 TIPPER TIE [®] <small>ADDER INDUSTRIES COMPANY</small>	CHECKED BY	DATE	PNEUMATIC SCHEMATIC	
	APPROVED BY	DATE	SIZE	PART NO.
DRAWN BY	DATE	RELEASED BY	DATE	63-0071-00
B.DIGESO	11/11/93			SCALE NTS DO NOT SCALE DRAWING SHEET 1 of 1