Series 2600 Peeler/Washer
Parts and Service Manual

Vanmark Series 2600 Peeler/Washers are designed and built to provide long years of service with minimal maintenance. Operation is simple and easy to learn. However, it is important that operators be properly trained and that they use care to prevent injury to themselves and damage to the equipment.

This manual is provided with your Series 2600 Peeler/Washer as a guide for operation and as a maintenance aid. Please read and understand this manual before attempting to install, operate, service or repair your machine. Always shut-off and lock-out electrical power before performing maintenance. Drawings, parts and instructions are identified as right or left when facing the inlet of the machine or the direction of product flow. Parts, drawings, photographs and text are subject to change.

If any items are unclear or difficulties are encountered, please contact Vanmark Equipment at 1-800-523-6261 or www.vanmarkequipment.com Vanmark does not assume any responsibility for work on the equipment by unauthorized personnel.

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1.1000 DATA SHEET

SERIES 2600 PEELER/WASHER

Model No. _____ Serial No. _____

Purchaser

Name: _____

Address: _____

_____

_____

Application_____ _____

Selected Options

• Drive

___ Mechanical Variable Drive (Hand Wheel) - Six (6) Rolls

___ Mechanical AC Inverter Variable Drive - Six (6) Rolls

___ Mechanical Variable Drive (Hand Wheel) - Eight (8) Rolls

___ Mechanical AC Inverter Variable Drive - Eight (8) Rolls

• Options

___ Pan

___ Permanently Reversing Roll

___ Reversing Roll

___ Tumbling Unit

PLEASE REFER TO THIS INFORMATION IN USING YOUR MANUAL. IN ANY COMMUNICATIONS TO VANMARK EQUIPMENT FOR PARTS OR SERVICE, USE THIS MODEL AND SERIAL NUMBER.

1.2000 SPECIFICATIONS

1.2100 SERIES 2600 PEELER/WASHER

Equipment Specifications

Weight ..... 1800 Lbs. (990 Kg.)

Overall Dimensions

Length .....107.50" (2730 mm)

Width .....34.50" (876 mm)

Height.....66.00" (1676 mm)

Discharge

Gate Only

Drive System

Roller Speed, Mechanical Drive (Std).....100 to 500 RPM

Roller Speed, AC Inverter Drive (Opt).....120 to 520 RPM

Motor, Mechanical..... 10.0 HP, 230/460 Volts, 3 Phase, 60 Hertz

Motor, AC Invert ..... 10.0 HP, 230/460 Volts, 3 Phase, 60 Hertz

Mechanical Variable Speed Drive Hand Wheel (Std)

AC Inverter Variable Speed Drive (Opt)

- Digital Readout
- Soft Start/Stop
- NEMA 4 Enclosure Mounted in Peeler Motor Compartment or Locate Inverter Remote with On/Off Speed Control on Peeler

Tumbler Unit

Speed .....Up to 27 RPM

Motor ..... 1.0 HP, 230/460 Volts, 3 Phase, 60 Hertz

Mechanical Variable Speed Drive Hand Wheel (opt)

Spray Bar

Water Flow

@ 40 PSI..... 26.8 GPM (101 Liter/Min)

@ 60 PSI..... 32.6 GPM (123 Liter/Min)

Water Connection ..... 1.00" (Nominal) FPT

Solenoid Valve Control ..... 115 Volts, 3 Phase, 60 Hertz

1.2200 Lubricants

All bearings are sealed and require no external lubrication.

The variable speed units are largely maintenance free. The drive case itself does not require oil, since it is a dry traction drive.

Consult Section 8.0000 Component Bulletins, for further information on maintenance and lubrication of variable speed units.

1.2400 SERIES 2600 HALF LENGTH PEELER/WASHER

Equipment Specifications

- Weight ..... 950 Lbs. (432kg.)
- Overall Dimensions
  - Length .....89.00" (2260 mm)
  - Width .....34.50" (876 mm)
  - Height.....66.00" (1676 mm)

Discharge

- Gate Only

Drive System

- Roller Speed, AC Inverter Drive (Opt).....120 to 520 RPM
- Motor, AC Invert ..... 5.0 HP, 230/460 Volts, 3 Phase, 60 Hertz
- AC Inverter Variable Speed Drive (Std)
  - Digital Readout
  - Soft Start/Stop
  - NEMA 4 Enclosure Mounted in Peeler Motor Compartment or Locate Inverter Remote with On/Off Speed Control on Peeler

Spray Bar

- Water Flow
  - @ 40 PSI ..... 26.8 GPM (101 Liter/Min)
  - @ 60 PSI ..... 32.6 GPM (123 Liter/Min)
- Water Connection ..... 1.00" (Nominal) FPT
- Solenoid Valve Control ..... 115 Volts, 3 Phase, 60 Hertz

1.2500 Lubricants

All bearings are sealed and require no external lubrication.

The variable speed units are largely maintenance free. The drive case itself does not require oil, since it is a dry traction drive.

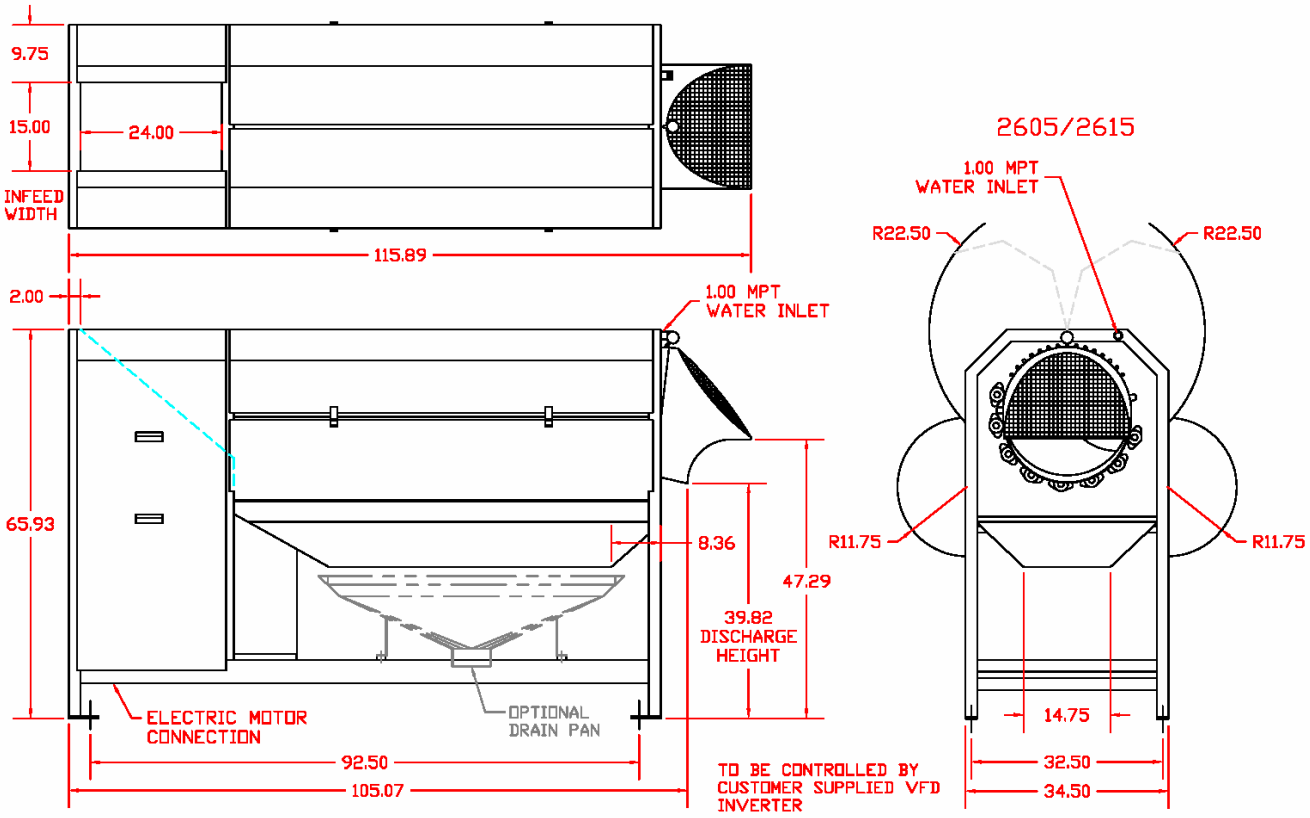
Consult Section 8.0000 Component Bulletins, for further information on maintenance and lubrication of variable speed units.

1.3000 MACHINE DESCRIPTION

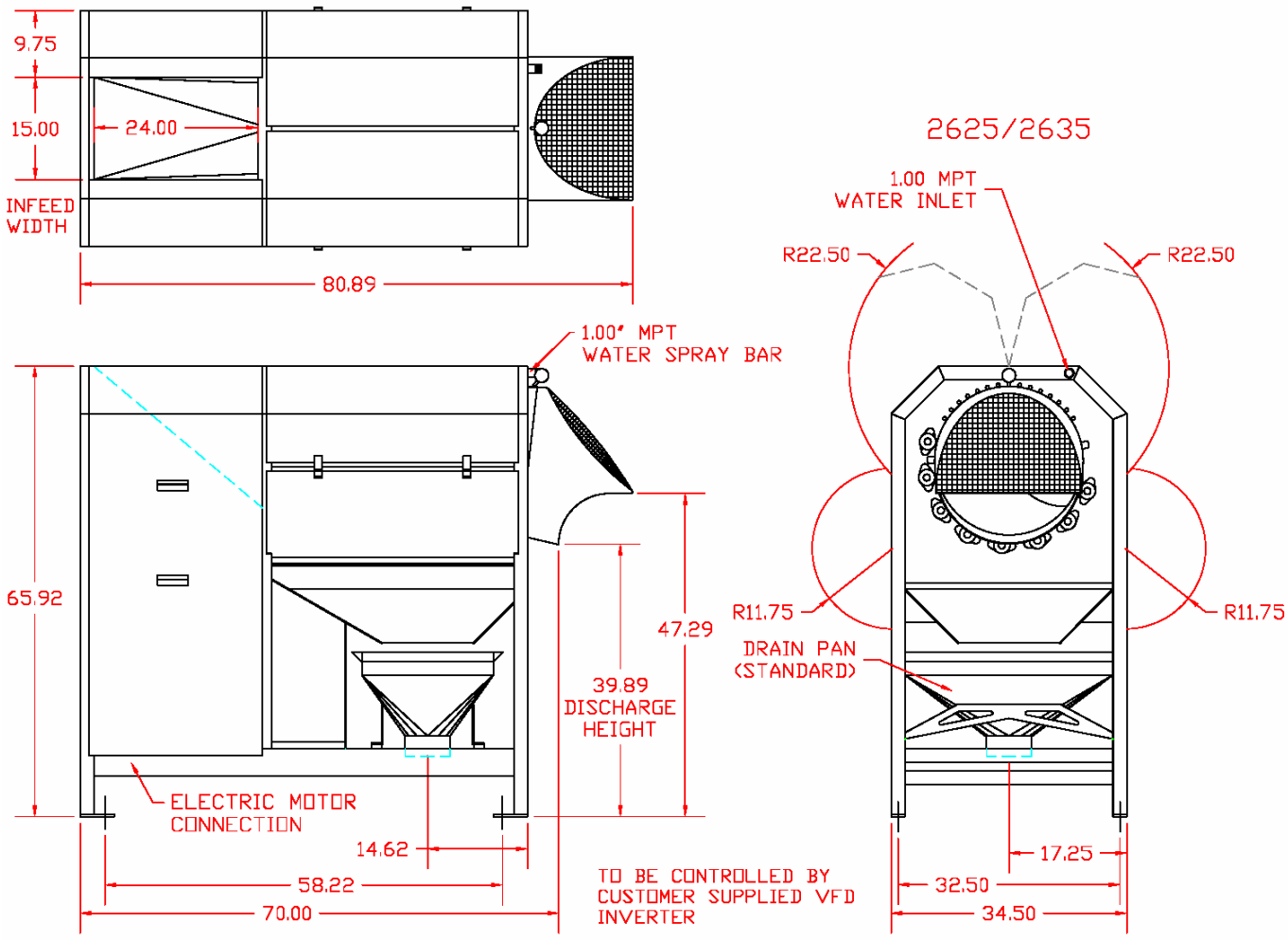
1.3001 Vanmark Peeler/Washers are designed and built to provide long years of service with minimal maintenance. The Series 2600 is constructed of all stainless steel parts, allowing easy cleaning.

1.3002 Special maintenance features include an end-plate design for easy shaft removal or replacement, drive end and discharge end non-lubricated bearings.

1.3100 This is the full length Vanmark 2600 series machine featuring a 10hp inverter driven motor, stainless steel drive case and either a 6 roll or 8 roll configuration. Drain pan is optional.



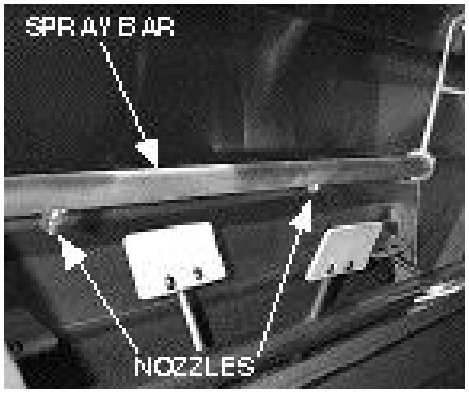
1.3200 This is the half length Vanmark 2600 series machine featuring a 5 hp inverter driven motor, stainless Steel drive case and either a 6 or 8 roll configuration. Built for lower capacity peel lines or limited floor space, the 2600 half length can add versatility to any peel or wash line. Drain pan is standard.



1.3300 Peeling Rolls

The peeling chamber consists of six (6) or eight (8) rolls with three (3) types of surface coverings. Roller types include: ABRASIVE in varied grit sizes, available in sinewave, straight and lift rolls; NYLON BRUSHES of varied stiffness; and RUBBER PINTLES in straight and sinewave. The sinewave double contoured rollers aredesigned to create a natural tumbling action for consistent peel removal. The sinewave design helps prevent flat spots, even in irregularly shaped vegetables. This means less waste and a clean finished product.

1.3310 Wash System



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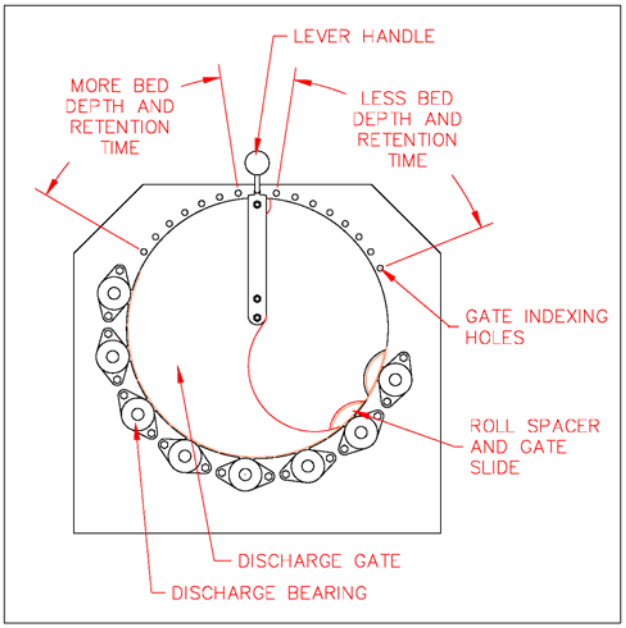
Do not operate without guards in place.

A centralized water wash system is located on the top side of the peeling chamber. The water spray bar has nozzles located along its length, and provides a constant spray of water as the product is being processed. Special nozzles are fitted to provide maximum bed and product coverage, while still using a minimum amount of water. (See Section 1.2000.)

1.3320 Discharge Gate



The product depth in the peeling bed is regulated at the discharge end of the machine with a gate controlling the effect of the rollers on the product. The discharge gate is manually adjustable with a lever and indexing holes.

1.3400 Roller Drive System – Inverter Drive

The drive system of the Vanmark 2600 is separated from the product chamber to prevent contamination. The roller drive is powered by an inverter driven electric motor located below the roller drive case with power being transmitted through a belt and pulley system. 2600 half length machines have a 5 hp motor, and 2600 full length machines have a 10hp motor. The desired roll rpm is achieved with an inverter which will vary the electrical current being fed to the motor thereby adjusting the rpm of the rolls. Specific inverter settings will have to be found through trial and error as each electrical hookup and machine installation is unique. As a rule, it is best to achieve desired product finish with as little roll rpm as possible. Options appearing in photo may not match those of your machine.

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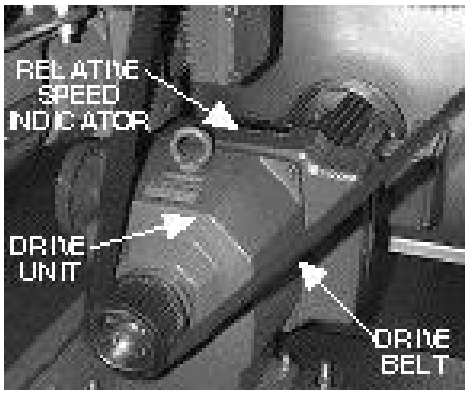
Do not operate without guards in place.

1.3410 Roller Drive System – Mechanical Speed Control

The roller drive system consists of an electrically powered variable speed drive unit that is coupled to a belt drive which is mounted on the lowest roller shaft of the peeling rolls. Movement of the rolls is accomplished with a progressive belt and pulley drive arrangement. The speed of the drive system is easily adjusted for varying product conditions.



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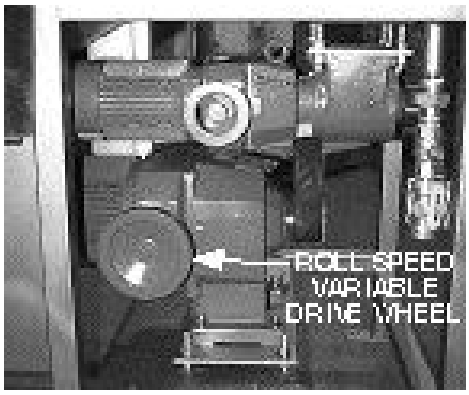

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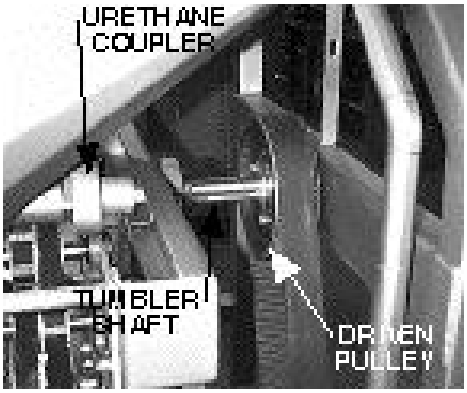
1.3420 Tumbling Unit Drive System

The tumbling unit drive system consists of either a 1 HP electrically powered variable speed drive unit that is coupled to a belt drive which is mounted on a jack shaft, or a 1 HP inverter driven motor. These have a urethane coupler mounted on one end. The tumbling unit shaft fits into this coupler. Tumbling units were available on machines built before 2004.



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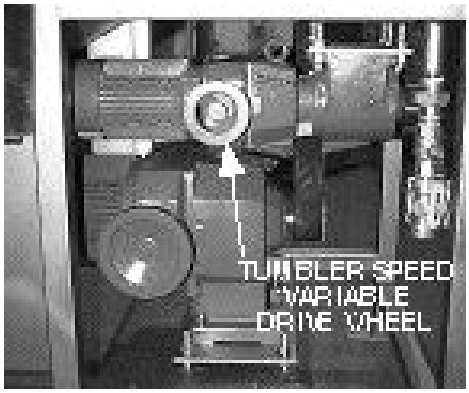

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Do not operate without guards in place

2.1000 RECEIVING AND POSITIONING

2.1001 Inspection - Inspect machine for shipping damage and make carrier claims immediately, if necessary. Use section 1.300 for dimensional information regarding machine.

2.1002 Uncrating - Remove four (4) .50" bolts that go through the foot pads of frame into skid and lift machine off skid. Remove any hold-down straps or vertical bracing by cutting and discarding.

2.1003 Locating - Position machine over a waste trench or other disposal system to provided for disposal of water and product waste. Leave adequate clearance to other equipment, access to covers, removal of discharge gate, and ventilation at drive compartment.

2.1004 Leveling - Check that machine is level and shim underneath foot pads as needed.

IMPORTANT: Machine must be level for proper operation.

2.1005 Anchoring - Anchor machine to the floor through four (4) .88" diameter holes in hold-down pads of the frame.

IMPORTANT: Floor anchors <u>are not</u> supplied.

2.1006 Stand Mounting - If mounting machine on stand or elevated framework, level machine as previously described and then anchor it by bolting or welding it to stand.

2.1007 Fasteners - Check that all fasteners are tight.

2.1008 Removing Plastic - Peel off any plastic film from sheet metal covers.

2.1009 Cleaning Covers - Use high pressure spray or a cleaning solution with cloth to clean covers.

IMPORTANT: During high pressure cleaning, <u>do not</u> aim steam directly into drive compartment or onto bearings.

2.2000 UTILITY AND HYDRAULIC CONNECTIONS

2.2001 Scope of Supply - Vanmark does not supply any material or labor for utility connections.

2.2002 Utility Requirements - See Specifications Section 1.2000 and Schematics Section 7.300 and 7.4000 for utility requirements relating to size required components.

2.2100 ELECTRICAL CONNECTION - All connections shall be permanent water-tight and shall conform to National and Local electrical codes. When routing cables and conduit, do not interfere with access to machine covers and other moving or removable parts.

2.2101 Electrical Power to Drive - Make connection between drive motor and starter in control area. Use flexible conduit at motor. Vanmark additionally recommends installation of an emergency shutoff in an easily accessible area of the production line.

IMPORTANT: Motor starter, circuit breaker, and control circuitry are required.

2.2102 Electrical Power to Water Solenoid - Make connection between drive motor control circuitry and water solenoid for spray bar.

2.2200 WATER CONNECTION - When routing water piping, do not interfere with access to machine covers and other moving or removable parts.

2.2201 Water to Spray Bar - Connection to spray bar is made at 1.00" (nominal) FPT fitting, located in the drive compartment.

3.0000 TRAPPED KEY SAFETY SYSTEM

Safety System Purpose

- Prevent the machine from being enabled/started unless all safety conditions are met:
  - All guards closed and locked
  - All guard keys in the exchange panel
  - Master key in the Solenoid Release Unit (SRU) and turned
- Prevent opening a guard door unless the drive motor has been stopped

Safety Keys

Each peeler in each location will be issued unique codes for the primary and secondary keys to prevent unlocking of one peeler using another peeler's key. Vanmark uses double letter key sets, A101 – Primary key, B201 – Secondary keys; each key is uniquely machined so that only that key will work in its specific lock or switch.

Solenoid Release Unit (SRU)

The SRU is wired into the plant control system, requiring an external voltage signal to energize a solenoid to release the primary key. Removing the primary key mechanically activates 4 NC "key position" contacts that are available for signaling to the plant control system that the machine is in a condition in which the doors could be open.

3.0000 TRAPPED KEY SAFETY SYSTEM

Key Exchange Unit

The key exchange operating principle is such that no secondary key can be removed from the unit until all primary keys have been inserted, rotated and trapped. The primary key remains trapped until all secondary keys have been re-inserted, rotated and trapped.

After the primary key has been released from the SRU it must be inserted into the key exchange and rotated which allows the secondary key to be rotated and removed. The secondary keys may be used to unlock the guard locks on the doors. The keys in each stage are trapped when inserted and turned into each respective component.

Guard Locks

The guard locks are designed to allow access to a potentially hazardous area when the appropriate key is inserted into the switch. The locks are mechanically designed so that the latch handle cannot be released until a key is inserted, rotated and trapped, allowing the guard to be opened. The key cannot be removed until the latch handle is inserted back into the lock and rotated.

3.0000 TRAPPED KEY SAFETY SYSTEM

Safety Logic

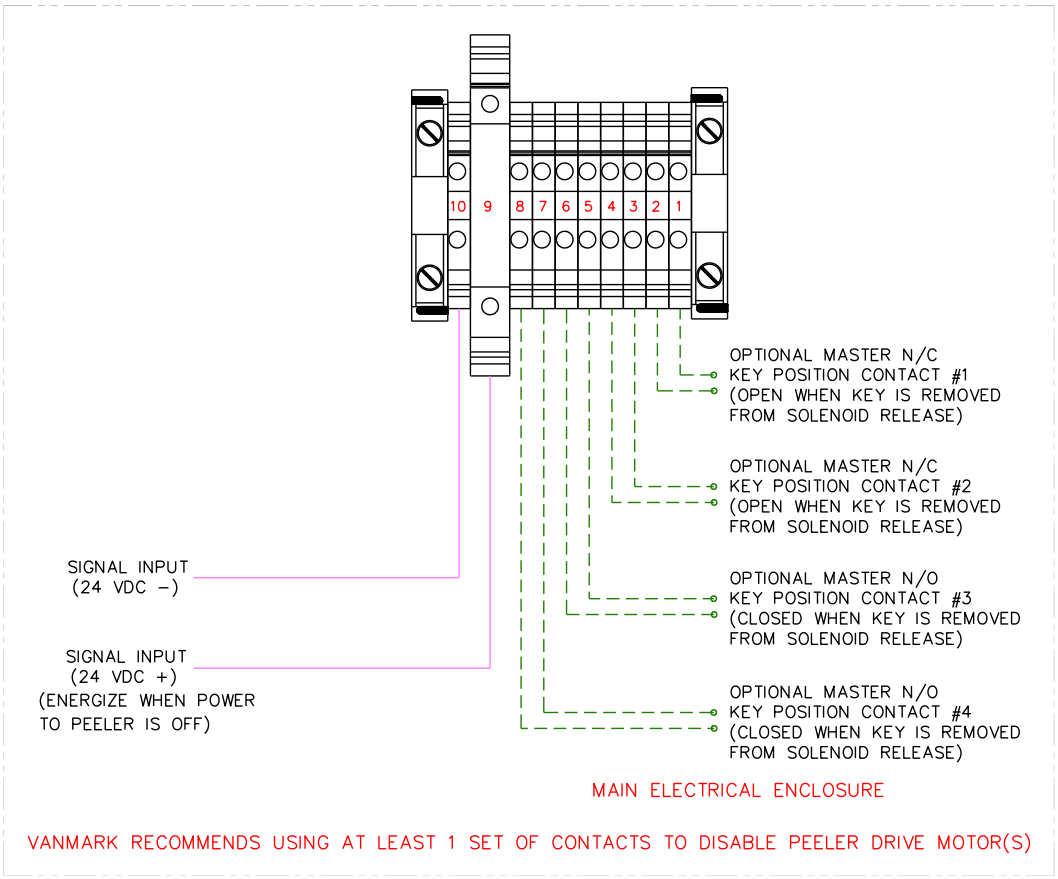
Wiring of the SRU to the plant control system may differ, depending on how each plant provides external power and any signal feedback to their machines.

Vanmark recommends that the plant control system remove power to all the drives on the Vanmark machine and any adjoining equipment, deeming the equipment safe to enter. Then a designated voltage signal can be used to energize the solenoid release unit, releasing the primary key. After the key is rotated and removed it needs to be used in the exchange unit to release the secondary keys. Vanmark recommends using one to four of the normally closed "key position" contacts, which is part of the SRU, for feed back to the plant controls telling the system not to energize any of the drive motors as long as the "key position" contact remains open. The secondary keys can then be used to open all doors and do any service that is required.

After service is complete the handle on the guard locks must be inserted and rotated to re-secure the locks and to release the secondary keys. All secondary key(s) must be returned to the exchange unit and rotated to release the primary key. The primary key is then inserted and rotated to actuate the "key position" contacts signaling that the machine is secure and ready to start. The external signal is then removed from the SRU before the drive motors can be re-energized and the machine put back in service.

The wiring scheme described here is one example of multiple connection options. It is the sole responsibility of the user to integrate the safety system and verify proper functionality with their control system.

See section 7.000 in User Manual for full schematic



3.1000 INITIAL START-UP

3.1001 Lubrication - Not needed as bearings are non-lubricated. Check Section 8.0000 for component bulletins about lubrication of variable speed units.

3.1002 Discharge - Close discharge gate.

3.1003 Drive System - Speed indicator plate for variable speed drives for rolls and tumbling unit, if so equipped, should be at lowest setting.

3.1004 Loose Equipment - Check that all chutes or other loose items are in their proper place.

3.1005 Peeling Chamber - Check that peeling chamber masking does not contain any loose items.

3.1006 Covers - Close and latch all covers.

3.1007 Personnel - Check that all people are clear of machine.

3.1008 Power-Drive System - Turn on power.

3.1009 Motor Rotation - Check that shaft rotation of drive unit is clockwise when viewed from inlet end of machine and rear of drive unit.

3.1010 Correct Rotation - When viewed from the discharge end of machine, the following rotations are correct:
- Rollers turn counterclockwise.
- Tumbling Unit paddle shaft turns clockwise.

3.1011 Water - Turn on water to spray bar at machine or ahead of solenoid valve.

3.1012 Drive System
- For roller drive, engage setting to low or middle range on indicator.
- For tumbling unit drive, engage setting on indicator until paddle speed is slightly greater than product speed.

3.1013 Product Tests - Machine is now ready to run with product.

3.1014 Filling Bed - Allow peeler/washer chamber to fill with a deep bed of product. Product fed to peeler should be controlled to flow evenly.

3.1015 Discharge Gate - Open the discharge gate manually until the product depth levels at a point needed to accomplish good peel removal or wash.

NOTE: See Section 3.2000 Adjustments

3.1016 End of Test - See Section 3.4000 for shut-down sequence of operation.

3.1017 Set Screws - Tighten set screws on bearings and sprockets.

3.1018 Daily Operation - Machine is now ready for production. See Section 3.3000 for start-up sequence of operation.

3.2000 ADJUSTMENTS

3.2001 Three major factors that affect continuous peeling efficiency are:

1. Effect of roller surface on product.
2. Amount of roller surface moving past product.
3. Retention time of product in peeling chamber.

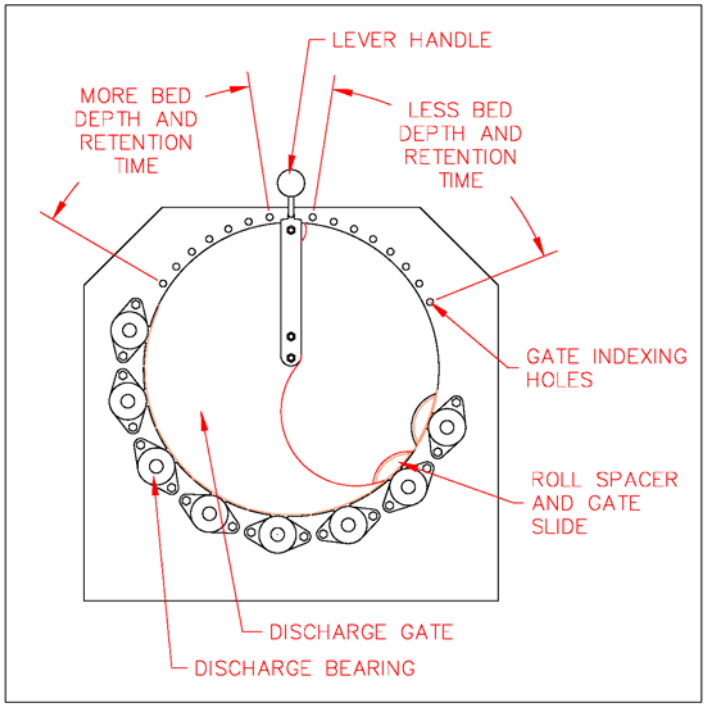
Discharge Gate position will control product load level and retention time. Product load level will determine how much force is applied to the product on the roll surface and will effect tumbling action. A good tumbling action will produce a more evenly peeled product. Retention time is how long the product is in contact with the rolls inside the machine. These adjustments work hand in hand with roll speed.

Roll speed is a very important factor in how well your peeler/washer performs. It is very easy to run the rolls at a higher rpm than required to achieve proper peeling/washing. Roll over speed will cause increased peel loss and product damage, and an inconsistent peel removal. After machine installation, take some time to determine proper bed depth and tumbling action with as little roll rpm as possible. For best results a steady inlet flow of product is necessary for consistent machine operation.

3.2002 Adjustments are a judgment of the operator that is made by examining the product when it reaches the inspection table. Speed of rolls and discharge gate opening should compliment each other. Different products and product condition will determine ultimate machine setup.

Remember - - too much peel removal creates excess product loss. Proper adjustment is essential for efficient operation of machine.

3.2100 DISCHARGE GATE

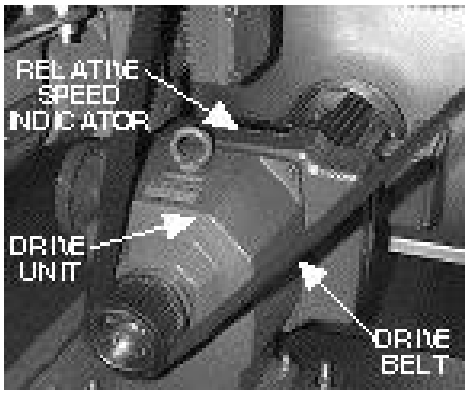


To adjust discharge opening, pull lever handle to release gate from indexing holes. Move lever handle until desired position of gate is reached. Release lever handle over an indexing hole to retain position.

3.2101 DISCHARGE GATE REMOVAL

To remove gate, disassemble handle lever bushing from handle and remove two bolts in the center of the gate to remove lever. Lift gate out of discharge opening.

3.2200 DRIVE SPEED CONTROL - Rollers



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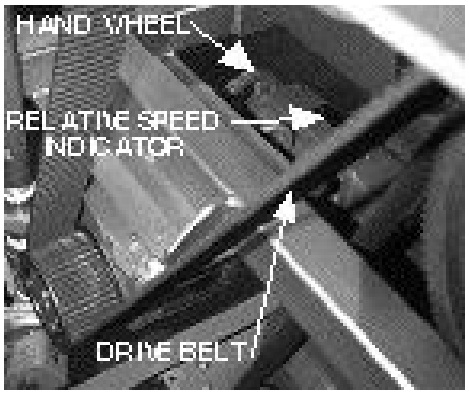
Do not operate without guards in place.

To adjust roll speed, vary the electrical current to the roll motor with an inverter. See sections 1.300 and 3.2001 for adjustment parameters. Roll speed on a mechanical variable speed drive is adjusted by turning the hand wheel on the drive. Turn counterclockwise to increase speed and clockwise to decrease speed.

DO NOT turn handle to adjust speed unless motor is running on mechanical variable speed drives.

3.2300 DRIVE SPEED CONTROL - Tumbling Unit



Shown for illustration purposes only.
Do not operate without guards in place.

To adjust speed of tumbling unit mechanical drive, turn hand wheel counterclockwise to increase speed and clockwise to decrease speed.

Numbers, seen opposite arrow, indicate the position relative to minimum and maximum speed.

DO NOT turn handle to adjust speed unless motor is running.

3.3000 START-UP

3.3001 Loose Equipment - Check that all chutes or other loose items are in their proper place.

3.3002 Discharge - Manually close the discharge gate.

3.3003 Covers - Close and latch all covers.

3.3004 Power - Turn on power to roller and tumbling unit, if so equipped, drive systems.

3.3005 Water: - Turn on water to spray bar ahead of solenoid valve.

3.3006 Drive System - Engage settings to low or middle range on the indicator.

NOTE: See Section 3.2000 Adjustments

3.3007 Filling Bed - Allow peeler/washer chamber to fill with a deep bed of product. Product fed to peeler should be controlled to flow evenly.

3.3008 Tumbling Unit - After product bed is established adjust speed range indicator so paddle speed is slightly greater than product speed.

3.3009 Discharge Gate - Open the discharge gate manually until the product depth levels at a point needed to accomplish good peel removal or wash.

NOTE: See Section 3.200 Adjustments.

3.4000 SHUT-DOWN

3.4001 Product Flow - Stop product flow to machine.

3.4002 Empty Bed - Slow peeling rollers to minimum speed. Allow all product to discharge from bed.

3.4003 Water - Shut off water to spray bar manually at gate valve by machine ahead of solenoid valve.

3.4004 Cleaning - Wash down peeling chamber. Make sure that all product residue is removed from rolls.

IMPORTANT: During high pressure cleaning do not aim steam directly into drive compartment or onto bearings.

3.4005 Power - Shut off electric power to drives and spray bar water solenoid.

3.4006 Water - Open water valve to spray bar.

3.4007 Covers - Close all covers.

3.4008 Clean exterior of machine - High pressure spray or a cleaning solution used with a cloth, is recommended.

IMPORTANT: During high pressure cleaning do not aim steam directly into drive compartment or onto bearings.

3.4009 Loose Equipment - Check that all chutes and other loose items are in their proper place.

4.1000 ROUTINE SERVICING

4.1001 Your Vanmark Peeler/Washer is designed and constructed for efficient operation, but it does require service and maintenance. A major breakdown can be expensive. Therefore, it is economical to follow this routine servicing program to assure that problems can be detected and corrected.

4.1002 Service schedule is estimated based on eight (8) hours of production per day, five (5) days per week under normal operating conditions. Schedule may require adjustments if production time and operating conditions are different.

4.1100 Daily

- Clean peeling chamber.
- Check condition of peeling rolls.
- Check for clogged nozzles on spray bar.
- Check for line up-time (amount of time for continuous infeed of product to peeler per hour). (Maximum number of shutoff not to exceed three (3) times/hour with 85-90% line up-time.)

4.1200 Weekly

- Check for loose or binding hardware.
- Check bearings for wear.
- Wipe off drive belts.
- Clean abrasive rolls with diluted muratic acid. Let stand approximately two (2) hours, depending upon the amount of starch and peel build up. Scrub abrasive surface with stiff brush and rinse thoroughly with water at 90° F or less. Hotter water may cause adhesive failure on the rolls. (Personnel should wear protective clothing as recommended by cleaning agent manufacturer or employer.)

4.1300 Monthly

- Check drive belts for wear and proper tension.
- Check for proper set screw tension in bearings and pulleys.

4.2000 TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Poor Peel Removal	Tumbling (mixing) action in peeling chamber is slow	Increase roller speed - See Section 3.2200 Replace worn rollers
	Too much product in peeling chamber	Adjust discharge gate - See Section 3.2100 Maintain even infeed
	Poor line up-time	Control product flow evenly - See Section 3.2001
	Abrasive rollers have starch build-up or are worn	Clean or replace
	Not enough water	Check spray bar nozzles for clogging and adjust water flow
	Brush rollers are worn	Replace
	Brushes installed backwards	Reverse rolls end for end
	Sequence and type of rollers is not effective with product	Contact Vanmark for recommendation
	Roller rotation is clockwise at discharge end	Change electric motor rotation
Product loss from peeling chamber	Roller surfaces worn	Replace
	Splash guards improperly aligned	Realign by lifting the masking over roll and adjusting the splash guard bolts
Not all rollers turning	Belt loose or broken	Repair or replace
Rollers run unevenly	Discharge gate obstructed	Remove obstruction by opening discharge gate. Reset to desired setting
Rollers not turning	Product or foreign item jammed in bed	Turn off power to peeler. Remove obstruction. Restart

4.2000 TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Rollers run clockwise at discharge end	Drive motor rotation is counterclockwise	Change motor rotation
Electric drive or tumbling unit motors do not run	Power is off	Turn on power
	Wiring loose or disconnected at motor or motor starter	Check wiring
	Motor defective	Replace motor
	Breaker off or tripped	Reset breaker. Turn off power to peeler. Check peeler bed, tumbler, drive case, belts, etc. for obstruction that may have caused breaker to trip. Reset breaker, turn on peeler. If breaker continues to trip, check for proper breaker size, based on motor amp draw.
Roller drive motor runs, rollers do not	Belts or pulleys worn, misaligned, broken or loose	Replace and adjust
No water to spray bar	Manual valve closed	Open valve
	Nozzles on spray bar clogged	Clean
	Solenoid defective or incorrectly wired	Replace solenoid
	Drive motor is off	Turn on motor

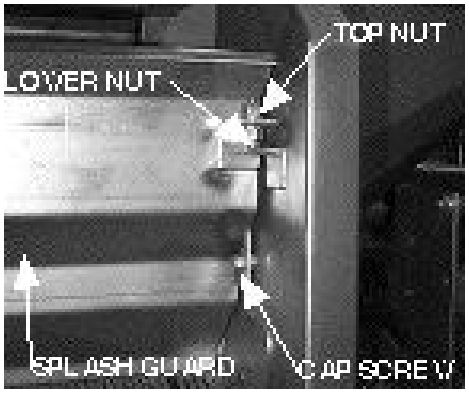
4.3000 PEELING CHAMBER AND ROLLERS

4.3100 PEELING ROLLER REMOVAL - Removal is required to change shaft arrangement, replace roller bearings or when work is required to drive compartment. This could include drive coupling replacement, or replacing belts, shafts and bearings in drive case. To work on roller related drive components with roller still in machine is nearly impossible.

4.3101 Expose the peeling rolls by unlatching the side cover masking. Lower the bottom masking while holding onto it. It should not be allowed to flop down unassisted. Raise the top masking and rotate the prop rod until it sits into the bend in the masking

4.3102 Splash Guard Removal - Splash Guard removal is not necessary to remove the rollers, however, it is more convenient to remove it before work is started on roller removal.

1. Remove cap screws and lock washers at bottom end of splash guard.



Shown for illustration purposes only.
Do not operate without guards in place.

2. Remove top nuts at the top end of splash guard. If possible, do not disturb lower nuts that splash guards rest on. Clearance between the bottom of the splash guard and the roller will not change if these nuts are not moved.

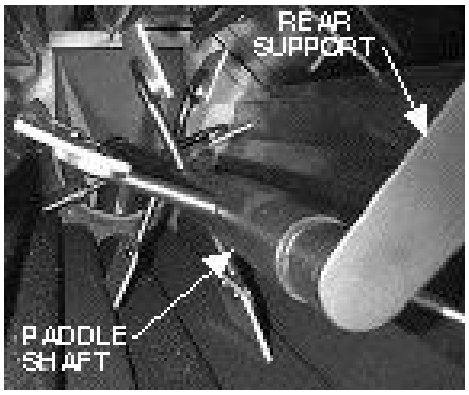
3. Remove splash guards by lifting up to clear mounting studs. Splash guards are designed right and left; they will not interchange.

4. Reverse procedure to reassemble. Lower portion of splash guards should clear roller by no more than
.125”. Adjust lower nut on stud to obtain proper clearance. Rotate roller by hand one full turn to assure complete freedom of rotation.

4.3103 Discharge Chute - Removal of discharge chute is required before changing rolls. Remove the three (3) bolts securing the chute to the discharge plate.

4.3104 Tumbling Unit Removal - Removal of Tumbling Unit paddle shaft is recommended before work is started

on roller removal.



Shown for illustration purposes only.
Do not operate without guards in place.

1. Support rear end of paddle shaft while removing cap screw which attaches rear support of paddle shaft to machine.

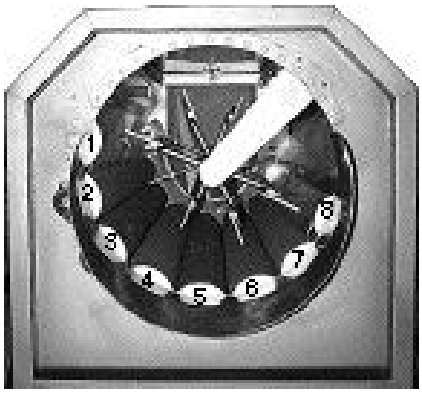
2. Remove rear support from end of paddle shaft assembly.

3. Slide paddle shaft assembly out of motor drive coupling and remove out discharge end of machine.

4. Reverse procedure to reassemble. Check that front V-Ring seal on paddle shaft is .25" from rear end of water seal cylinder and lip of rear seal is touching rear bearing sleeve.

4.3000 PEELING CHAMBER AND ROLLERS

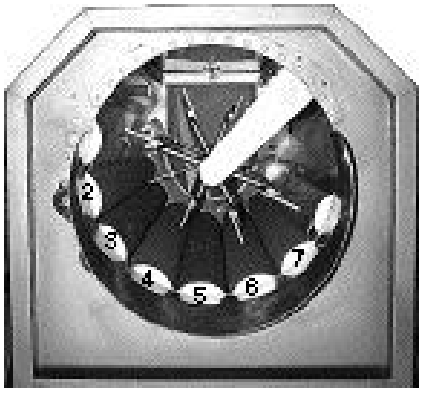
4.3105 Identifying Peeling Rollers



Eight (8) Roller Units
Shown for illustration purposes only.
Do not operate without guards in place.

1. Eight (8) Roller Units: Before removing any roller shafts in chamber, identify the kind and position of roller by numbering them from 1 through 8. Rollers must be reassembled in the same position as they were originally installed or peeling efficiency will be effected.

Ref: Section 7.1000 Peeling Roll Configuration.

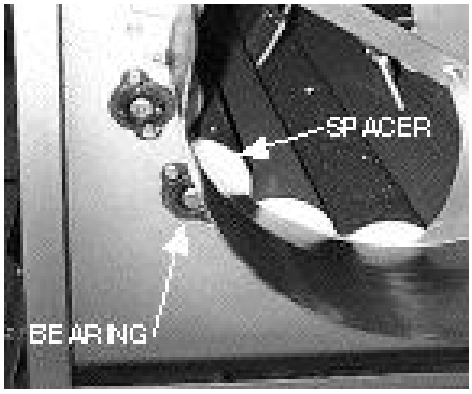


Six (6) Roller Units
Shown for illustration purposes only.
Do not operate without guards in place.

2. Six (6) Roller Units: Before removing any roller shafts, identify the kind and position of roller by numbering them from 2 through 7. No. 1 and 8 rollers are not used. Rollers must be reassembled in the same position as they were originally installed or peeling efficiency will be effected.

Ref: Section 7.1000 Peeling Roll Configuration.

4.3106 Removing Bearing and Spacers



Shown for illustration purposes only.
Do not operate without guards in place.

1. Using a 9/64 Allen wrench, loosen the collar on the bearing.

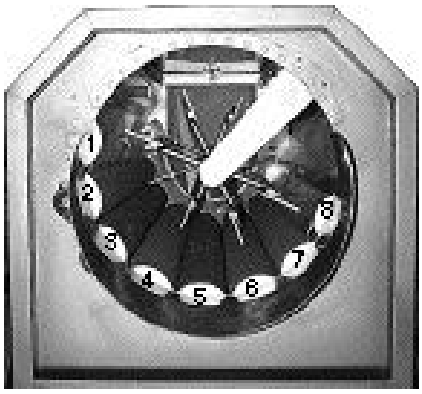
2. Remove the bolts from the bearings. They are threaded into the white plastic spacer at the end of the rolls.

3. Remove bearings.

4. Lift out spacer.

4.3000 PEELING CHAMBER AND ROLLERS

4.3107 Removing Peeling Roller



Shown for illustration purposes only.
Do not operate without guards in place.

1. From side of machine, support shaft with both hands, lift discharge end of roll high enough so roller will clear end plate. At the same time, apply lateral pressure together with a slight twisting (rocking) motion to help release inlet (drive end) from drive coupler. Remove the shaft from machine. Repeat procedure for each remaining roller.

4.3108 Reassembly of Peeling Rollers

1. Clean bearing and components.

IMPORTANT: Food grade anti-seizant is applied at the factory to all bearing bores, bearing shaft, and cap screw threads in this assembly at the time of assembly. It is strongly recommended that this procedure be followed to prevent seizure of any components.

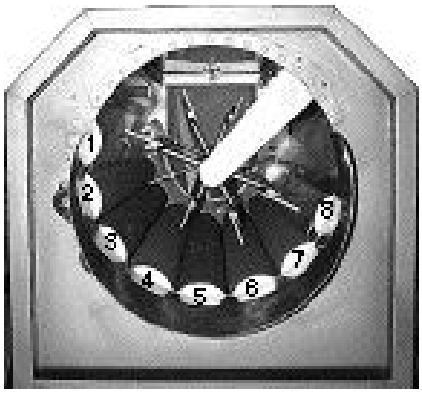
2. To reassemble, reverse procedure. Rollers should be replaced in No. 4 and 5 positions first, working outward to each side. Install rollers in pairs.

NOTE: Consult notes relating to original shaft arrangement.

3. Guide square end of roller shaft into drive coupling until end of shaft "bottoms out". Do not use force - firm hand pressure is sufficient. Once the roll is bottomed out, allow roll to sit in the slot of the end plate.

4. Check the spacers for signs of damage. Replace if necessary. Place a spacer over each roll shaft.

5. Place a bearing on a shaft and lift the shaft and bearing while inserting a bolt. Then thread it into the insert. Repeat until all bearings are attached.



Shown for illustration purposes only.
Do not operate without guards in place.

6. Snug down the bearings. Do not over tighten.

7. Push the roll to the discharge end of the peeler until it is almost touching the plastic spacer.

8. Tighten the locking collar to secure the shaft.

9. Reinstall the discharge gate.

4.3000 PEELING CHAMBER AND ROLLERS

4.3109 Timing Drive Roller - Timing or coordinated rotation of rollers is only possible in machines using mechanical drive cases. Only sinewave abrasive rollers are timed.

1. To time sinewave abrasive rollers, rotate mechanical drive case so that the sides of the square openings in couplings are in a horizontal and vertical position.

2. Install abrasive rollers into drive case checking that word “left” or “right” on segment closest to bearing is in the same position. Position of the word on the first shaft installed in unimportant, but keeping all the words of succeeding rollers in same position as the first is of paramount importance.

4.3200 ABRASIVE ROLLERS

Disassembly

1. Remove 1.38 - 6 locking nut with 2” aluminum socket provided with machine.

2. Remove shaft from assembly by pulling out from drive (square) end.

3. Remove polyurethane fixture from each end of roller.

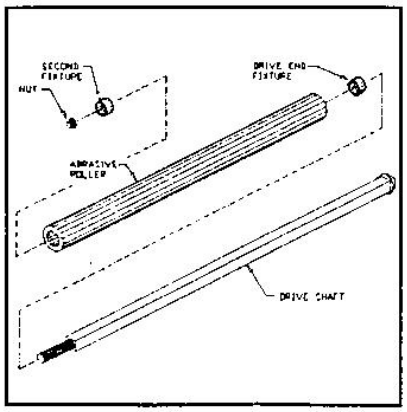
4. Clean all components thoroughly and inspect for abnormal wear or damage. If questionable, replace now.

NOTE: Vanmark will recondition abrasive rollers. Worn rollers are thoroughly cleaned and a new coat of abrasive added.

Reassembly

1. Install polyurethane fixture in drive end of roller. Check that roller drive lugs are nested in fixture recess.

NOTE: For rollers having more than one grade of abrasive "grit", use the larger (coarsest) abrasive on the drive end. This end is mounted at the inlet or drive end of machine. Other rollers are not directional; either end can be used as drive.



2. Install shaft through fixture and roller. Care should be taken to not damage threads on bearing shaft by striking roller tube lugs.

3. Slide second polyurethane fixture over bearing end of drive shaft. Elevate shaft to center of roller. Align polyurethane fixture recesses with roller lugs and push fisture “home”.

4. Install the 1 3/8 – 6 nut. Before tightening nut securely, center polyurethane fixture in roller for smoother operation.

4.3000 PEELING CHAMBER AND ROLLERS

4.3300 SINEWAVE ABRASIVE ROLLERS

Disassembly

1. Remove 1.38-6 locking nut with 2" aluminum socket provided with machine.

2. Place board of suitable size on floor. With bearing (threaded) end facing down, strike board with entire roller assembly. This should loosen segments from shaft. Repeat procedure if segments do not come loose the first time.

NOTE: Do not strike bearing shaft on bare floor or with hammer. Resulting damage might require dressing down or replacement.

3. Remove segments from bearing end of shaft. Stop washer prevents removal from drive (square) end.

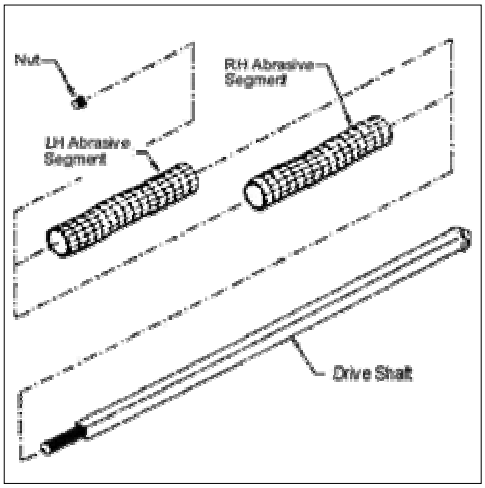
4. Clean all components thoroughly and inspect for abnormal wear or damage. If questionable replace now.

NOTE: Vanmark will recondition abrasive rollers. Worn segments are thoroughly cleaned and new coat of abrasive added. If chunks of the rubber core are missing, replace that segment.

Reassembly

1. Stand abrasive segments on end so that stamped word (either right or left) is facing up. If more than one grade of abrasive segment is installed on same shaft, large (coarsest) grit segments ordinarily go next to the drive (square) end of shaft and are put on first.

2. Rest drive end of shaft on floor and support the bearing end. Place segments on shaft with the stamped word towards you. Slide it toward drive end until the stop washer is seated in recess of segment.



3. Repeat the procedure to install the remaining four (4) segments. Always keep the stamped word towards you and in direct line with the word on the segment previously installed. Do not install right and left segments on same shaft.

NOTE: Segment can be determined right or left handed by looking along its length from either end. If helix or "high" part of wind curves to your left, it is left hand; if it curves to the right, it is right hand.

4. Install 1.38-6 nut and tighten securely. Segments must not appear to be loose on shaft; however, do not over tighten as damage to segments can occur.

4.3000 PEELING CHAMBER AND ROLLERS

4.3400 BRUSH ROLLERS

Disassembly

1. Remove 1.38-6 locking nut with 2" aluminum socket provided with machine.

2. Remove shaft from brush roller assembly by pulling out from drive (square) end.

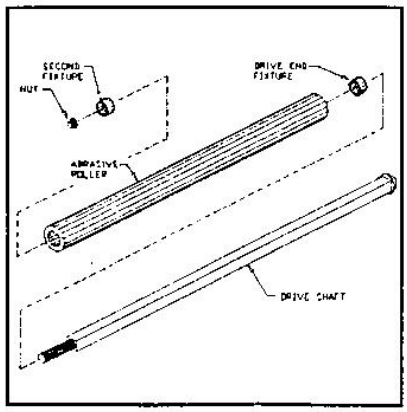
3. Remove polyurethane fixture from each end of roller.

4. Clean all components thoroughly and inspect for abnormal wear or damage. If questionable, replace now.

Reassembly

Brush rollers can not be reconditioned. They must be replaced when worn. Black band of bristles, at one end of new brush, identifies drive end. Bristles are slanted five (5) degrees in direct relationship to the wrap of the bristles on the tube.

1. Install polyurethane fixture in drive (black bristled) end of brush. Check that roller drive lugs are nested in fixture recesses.



2. Install shaft through fixture and brush roller. Care should be taken not to damage threads on bearing shaft by striking lugs on brush tube.

3. Slide second polyurethane fixture over bearing end of drive shaft. Elevate shaft to center of roller. Align polyurethane fixture recesses with roller lugs and push fixture "home".

4. Install 1.38-6 nut. Before tightening nut securely, center polyurethane fixture in roller for smoother operation.

4.3500 PINTLE ROLLERS

PINTLE ROLLERS: Use disassembly and assembly instructions for sinewave abrasive rollers. Disregard reconditioning statement in disassembly instructions. Right and left notations in assembly instructions are for sinewave pintle segments. Straight segments do not require timing. All pintle segments are separated by a rigid spacer. See Section 5.2000.

4.4000 DRIVE - ROLLER DRIVE COUPLING

4.4100 ROLLER DRIVE COUPLING - Drive coupling provides support for drive end of each roller and connection between power source and the peeling bed rollers. No maintenance or adjustment is required for day-to-day operation. Visual inspection on a regular basis should be made for cracks in the casting, loose or missing set screws and looseness of the coupling on its drive shaft. When any peeling rollers are removed from machine, careful inspection of urethane mold should be made. Check for square opening to be excessively worn (or egg shaped), softness of urethane mold, and that the urethane is firmly adhered to casting. Replace coupling if any one of these conditions are found.
Drive couplings are bored to a very close tolerance. Couplings are installed on the shaft through a heat-shrink process.

WARNING: DO NOT:

- **A. Increase bore diameter of coupling.**
- **B. Decrease (dress down) overall size of output shaft.**
- **C. Overheat casting to point of melting, or otherwise destroying urethane mold.**
- **D. Use undue force when mounting coupling.**

Disassembly

1. Shutoff and lockout power.

2. Remove rollers from peeler.

3. Loosen the main drive belt.

4. Remove bolts (4) holding the drive case to the peeler frame.

5. Loosen the set screw in the drive coupling being replaced. Remove coupling from shaft using a gear puller, if required.

Reassembly

1. Check key in output shaft keyway for nicks. Replace if necessary.

2. Clean any foreign material from surface of output shaft. Do not reduce overall diameter of shaft.

3. Remove any nicks or burrs from bore and keyway of coupling. Do not enlarge inside bore diameter.

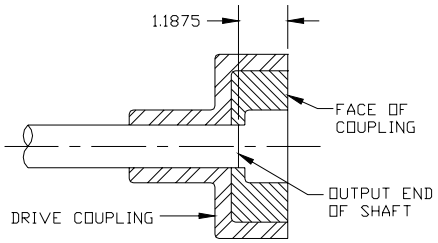
4. Remove set screws from coupling.

5. Place coupling on work area with urethane down. Apply heat with torch for a few moments to external part of bore. Do not overheat. Rotate coupling to distribute heat evenly.

WARNING: Always wear appropriate eye protection. Use heavy gloves as aluminum couplings become too hot to handle with bare hands.

4.4000 DRIVE - ROLLER DRIVE COUPLING

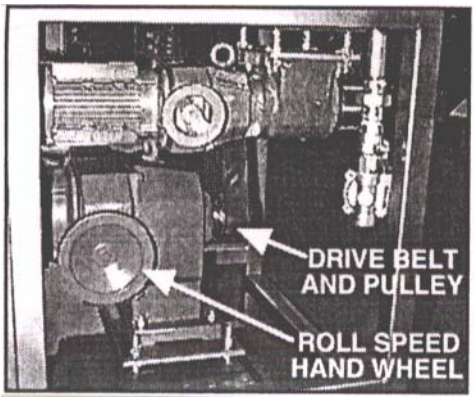
4.4100 ROLLER DRIVE COUPLING (Continued)



6. Align keyways of shaft and coupling. Push the heated coupling on shaft. Correctly heating casting and speed in installing will allow coupling to "slip" onto its mating shaft quite easily. Immerse coupling in coolant immediately after installation to preserve urethane and its bond to casting.

7. Place drive coupling on mechanical drive and driven shafts; output end of shaft should be 1.1875” from face of coupling, measured from end of shaft inside coupling bore.

4.4200 ROLLER VARIABLE SPEED DRIVE



Variable speed drive consists of drive unit, belt drive, and pulleys.

Shown for illustration purposes only.
Do not operate without guards in place.

4.4201 Front Cover Removal - When removing roller or tumbling unit’s complete drive unit, remove front cover for easier access.

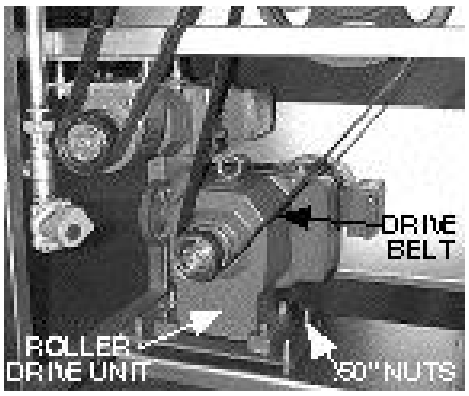
1. Remove upper side covers.
2. Open lower side covers.
3. Remove fasteners holding the vertical end panels together at the junction of the panels.
4. Lift panels from frame for access to drive components.

4.4000 DRIVE - ROLLER DRIVE COUPLING

4.4300 ROLLER DRIVE UNIT REMOVAL

1. SHUT-OFF AND LOCK-OUT ELECTRIC POWER to prevent accidental starting.

2. Remove front cover as described in Section



Shown for illustration purposes only.
Do not operate without guards in place.

3. Remove drive belt as described in Section 4.4401.

4. Remove four (4) .50-13 nuts holding the drive unit base plate to the frame mounting plate.

5. Remove drive unit from frame.

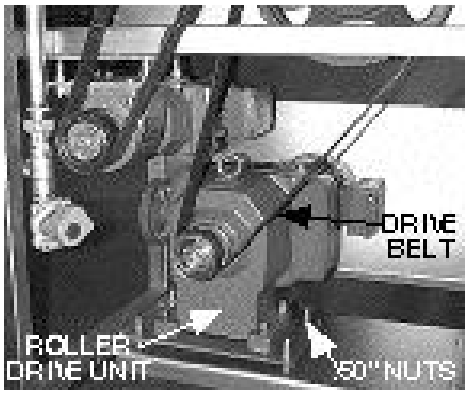
6. If replacing drive unit, remove drive sprocket and hub from shaft as described in Section 4.4402.

7. Reverse this procedure to reassemble.

4.4400 BELT DRIVE - Consists of drive sprocket with hub, driven pulley with hub and poly chain belt. Belt drive must be disassembled to remove drive unit, to change or replace roller No. 4 and 5, or to replace belt drive parts on roller No. 4 and No. 5 drive shafts.

4.4401 Replace Belt

Disassembly



Shown for illustration purposes only.
Do not operate without guards in place.

1. SHUTOFF AND LOCKOUT ELECTRIC POWER to prevent accidental starting.

2. Loosen or remove four (4) .50” nuts above drive unit base.

3. Raise drive unit enough to loosen belt.

4. Remove belt.

Reassembly

1. Place belt on pulleys. Do not pry or force the belt onto the pulleys as this can result in permanent damage to the belt.

2. Drop drive to tighten belt. Belt should fit snug, neither too taut nor too loose.

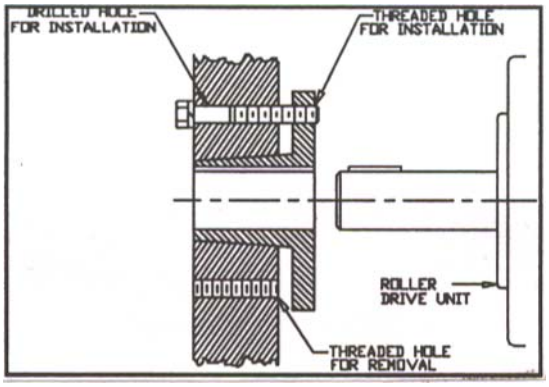
3. Tighten four (4) .50” nuts.

4.4402 Replace Pulleys of Pulley Hub Bushings

Disassembly

1. SHUT-OFF AND LOCK-OUT ELECTRICAL POWER to prevent accidental starting.

2. Remove front cover as described in Section 4.4201.



3. Remove belt as described in Section 4.4401.

4. Loosen and remove cap screws in bushing.

5. Insert cap screws in tapped removal holes and progressively tighten each one until pulley is loose on bushing.

6. Remove pulley from bushing.

7. Remove bushing from shaft.

Reassembly

1. Thoroughly inspect bore of mating part and tapered surface of bushing. Any paint, dirt, oil, or grease must be removed. NOTE: Do not use lubricants.

2. Insert bushing into pulley,

3. Loosely insert cap screws into bushing and pulley.

4. With key in keyseat of shaft, slide assembly onto shaft. If it is difficult to slide bushing onto shaft, wedge screwdriver blade into saw cut to overcome tightness.

5. Position the assembly on shaft so belt will be in alignment when installed. To align, place a straightedge against the outside edge of pulleys. Move pulleys until the straightedge touches two (2) outside and two (2) inside edges of pulleys. (Straightedge should cross pulleys as near shafts as possible.)

6. Tighten cap screws evenly and progressively until obtaining correct torque. There must be a gap between bushing flange and mating hub when installation is complete.

7. Replace drive belt as described in Section 4.4401 and replace covers.

4.4500 REPLACE DRIVEN SHAFTS, PULLEYS, BELTS OR SHAFT BEARINGS

1. See Section 4.3108 to remove those peeling rollers driven by shafts to be removed.

2. Remove outer shafts first (No. 1 and 8 rollers) by loosening hardware holding bearings.

3. Progress inward (No. 2 and 7 roller, etc.) until item to change or replace is reached.

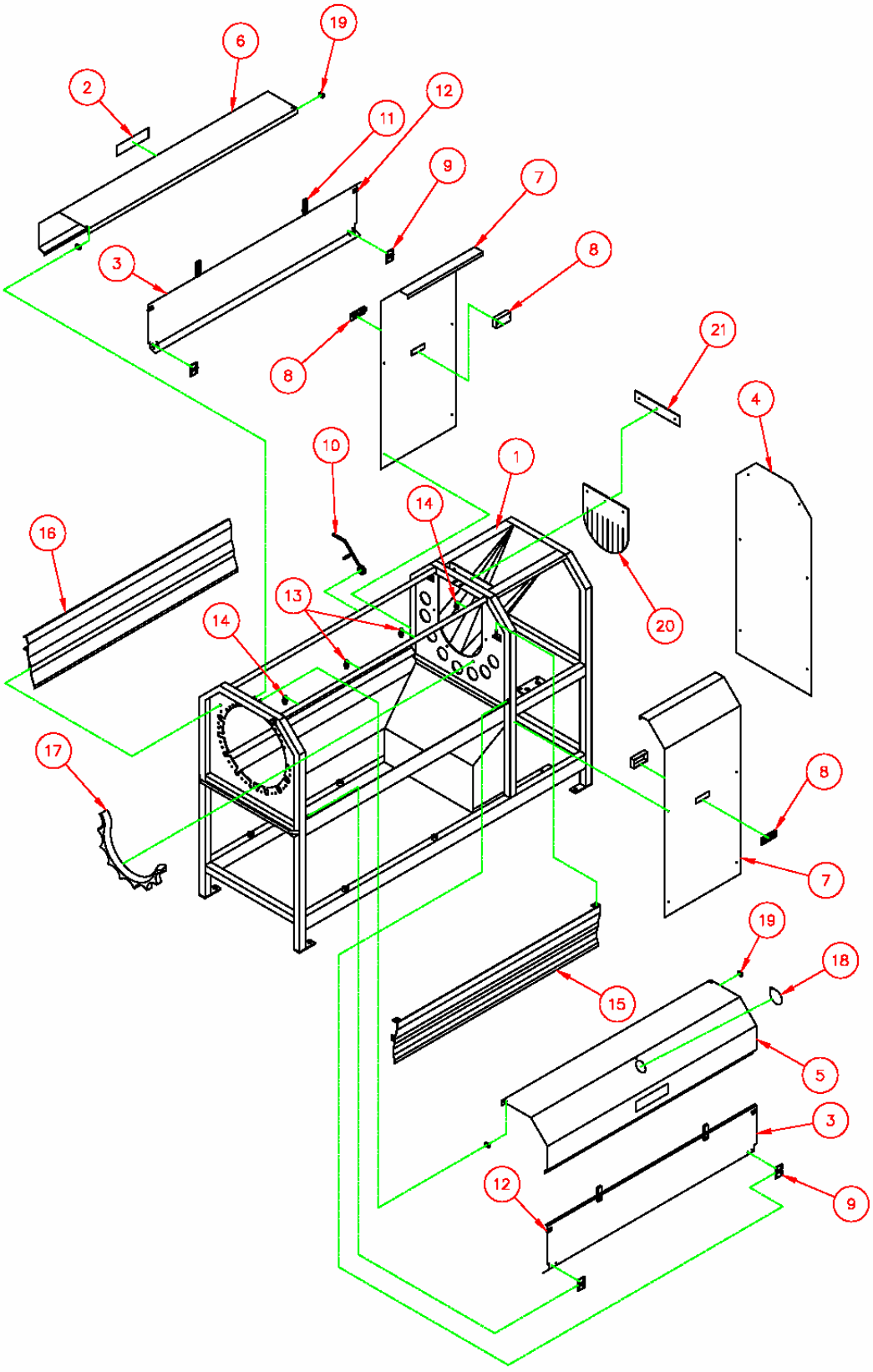
4. Reverse this procedure to reassemble.

5.1000 MAIN FRAME AND COVERS

M2615 Shown

5.1000 MAIN FRAME AND COVERS

M2605



5.1000 MAIN FRAME AND COVERS

M2605

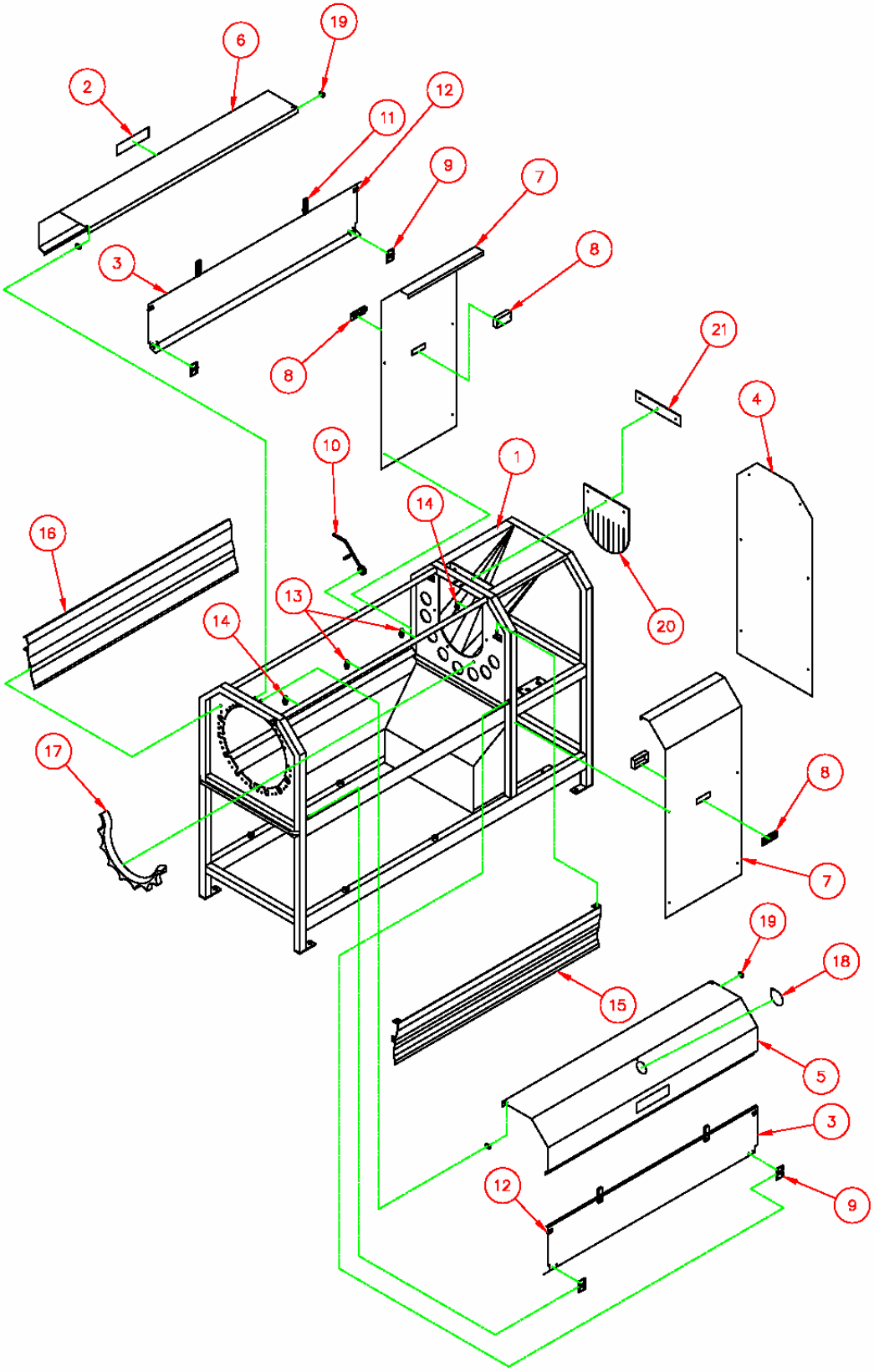
Ref. No.	Part Number	No. Req.	Description
1	25298-01-5	1	FRAME, 2600
2	40476-01-9	2	LEGEND, Vanmark
3	38281-01-5	2	MASKING, Peel Chamber side
4	38896-01-5	1	MASKING, Drive End
5	38820-01-5	1	MASKING, Peeling Chamber Top w/hole
6	38820-02-5	1	MASKING, Peeling Chamber Top
7	38895-01-5	2	MASKING, Drive Side
8	43157-01-9	2	PULL, Pocket
9	38282-01-5	4	HINGE, Door
10	24026-01-5	2	DOOR SUPPORT
11	42797-01-5	4	LATCH, Draw
12	43401-01-9	6	LATCH, Slam
13	42195-03-9	2	NOZZLE, Spray – Full - Center
14	42477-02-9	2	NOZZLE, Spray – Vee – Inlet and Discharge
15	23273-02-6	1	GUARD, Splash LH – 6 Roll
16	23068-04-5	1	GUARD, Splash RH – 6 Roll
17	41431-01-9	1	PRODUCT PROTECTOR, Inlet End
18	38821-01-5	1	DOOR, Viewing
19	38818-01-9	4	HINGE
20	38951-01-9	1	DRAPE, Product Retention
21	38952-01-5	1	CLAMP, Product Retention Drape

5.1100 DRAIN PAN

	24664-01-5	1	DRAIN PAN – Center Drain
	38626-01-5	1	STRAINER – Drain Pan

5.1000 MAIN FRAME AND COVERS

M2615



5.1000 MAIN FRAME AND COVERS

M2615

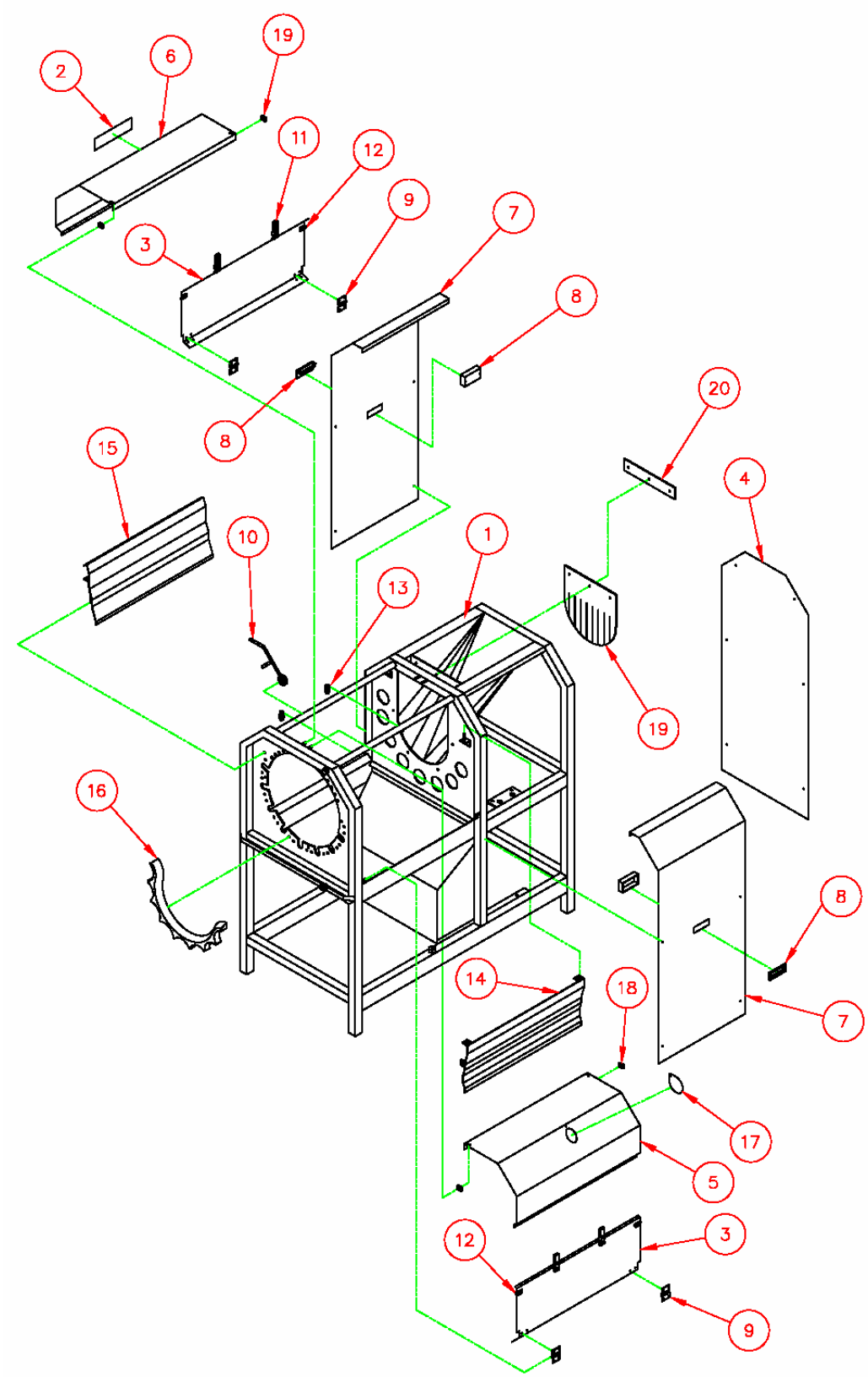
Ref. No.	Part Number	No. Req.	Description
1	25298-01-5	1	FRAME, 2600
2	40476-01-9	2	LEGEND, Vanmark
3	38281-01-5	2	MASKING, Peel Chamber side
4	38896-01-5	1	MASKING, Drive End
5	38820-01-5	1	MASKING, Peeling Chamber Top w/hole
6	38820-02-5	1	MASKING, Peeling Chamber Top
7	38895-01-5	2	MASKING, Drive Side
8	43157-01-9	2	PULL, Pocket
9	38282-01-5	4	HINGE, Door
10	24026-01-5	2	DOOR SUPPORT
11	42797-01-5	4	LATCH, Draw
12	43401-01-9	6	LATCH, Slam
13	42195-03-9	2	NOZZLE, Spray – Full - Center
14	42477-02-9	2	NOZZLE, Spray – Vee – Inlet and Discharge
15	23273-01-5	1	GUARD, Splash LH – 8 Roll
16	23068-03-5	1	GUARD, Splash RH – 8 Roll
17	41431-01-9	1	PRODUCT PROTECTOR, Inlet End
18	38821-01-5	1	DOOR, Viewing
19	38818-01-9	4	HINGE
20	38951-01-9	1	DRAPE, Product Retention
21	38952-01-5	1	CLAMP, Product Retention Drape

5.1100 DRAIN PAN

	24664-01-5	1	DRAIN PAN – Center Drain
	38626-01-5	1	STRAINER – Drain Pan

5.1000 MAIN FRAME AND COVERS

M2625



5.1000 MAIN FRAME AND COVERS

M2625

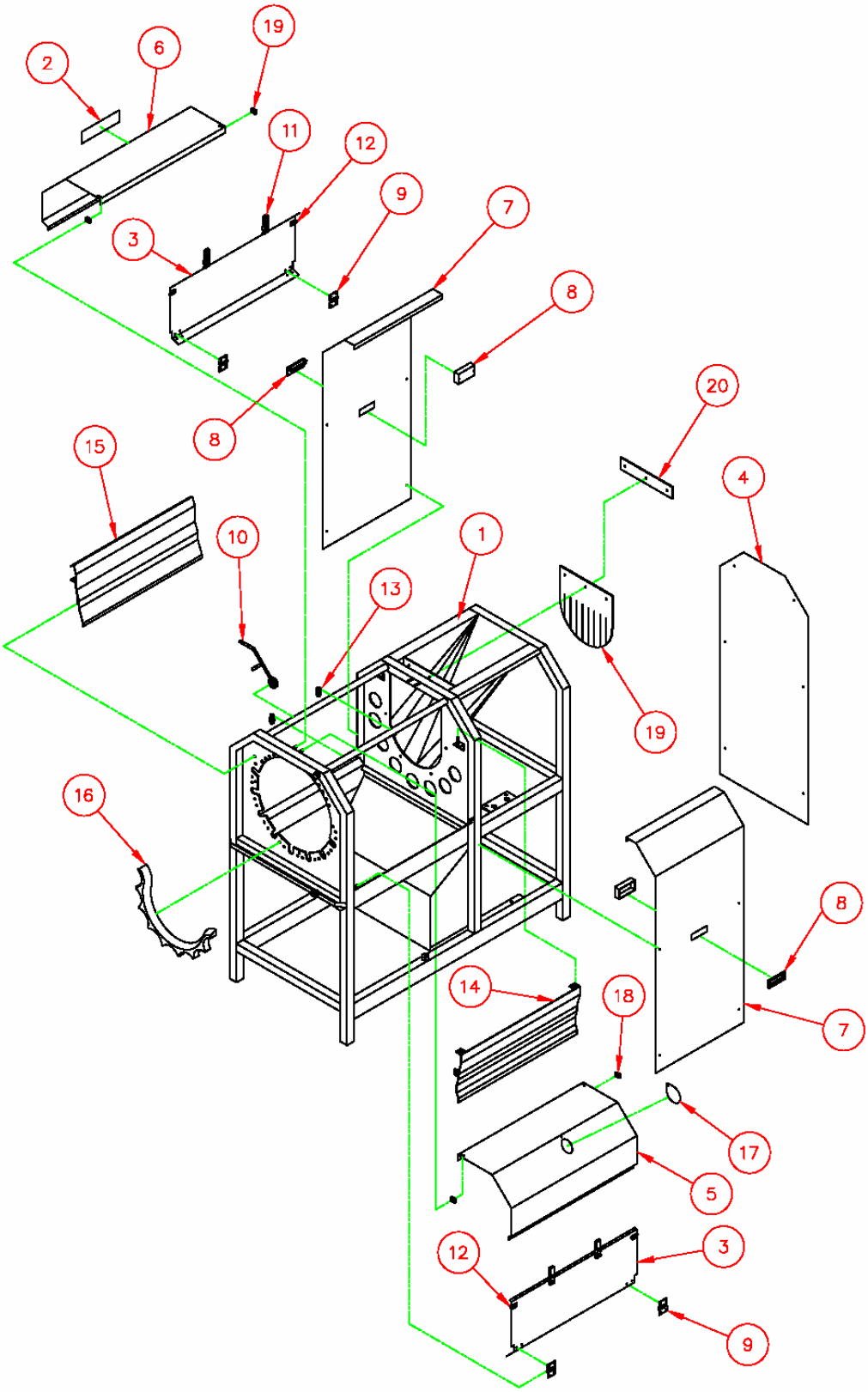
Ref. No.	Part Number	No. Req.	Description
1	25258-01-5	1	FRAME, 2600 ½ Length
2	40476-01-9	2	LEGEND, Vanmark
3	38821-03-5	2	MASKING, Peel Chamber side
4	38896-01-5	1	MASKING, Drive End
5	38820-03-5	1	MASKING, Peeling Chamber Top w/hole
6	38820-04-5	1	MASKING, Peeling Chamber Top
7	38895-01-5	2	MASKING, Drive Side
8	43157-01-9	2	PULL, Pocket
9	38282-01-5	4	HINGE, Door
10	24026-01-5	2	DOOR SUPPORT
11	42797-01-5	4	LATCH, Draw
12	43401-01-9	6	LATCH, Slam
13	42195-03-9	2	NOZZLE, Spray – Full - Center
14	23273-04-5	1	GUARD, Splash LH – 6 Roll
15	23068-06-5	1	GUARD, Splash RH – 6 Roll
16	41431-01-9	1	PRODUCT PROTECTOR, Inlet End
17	38821-01-5	1	DOOR, Viewing
18	38818-01-9	4	HINGE
19	38951-01-5	1	DRAPE, Product Retention
20	38952-01-5	1	CLAMP, Product Retention Drape

5.1100 DRAIN PAN

	25275-01-5	1	DRAIN PAN – Center Drain

5.1000 MAIN FRAME AND COVERS

M2635



5.1000 MAIN FRAME AND COVERS

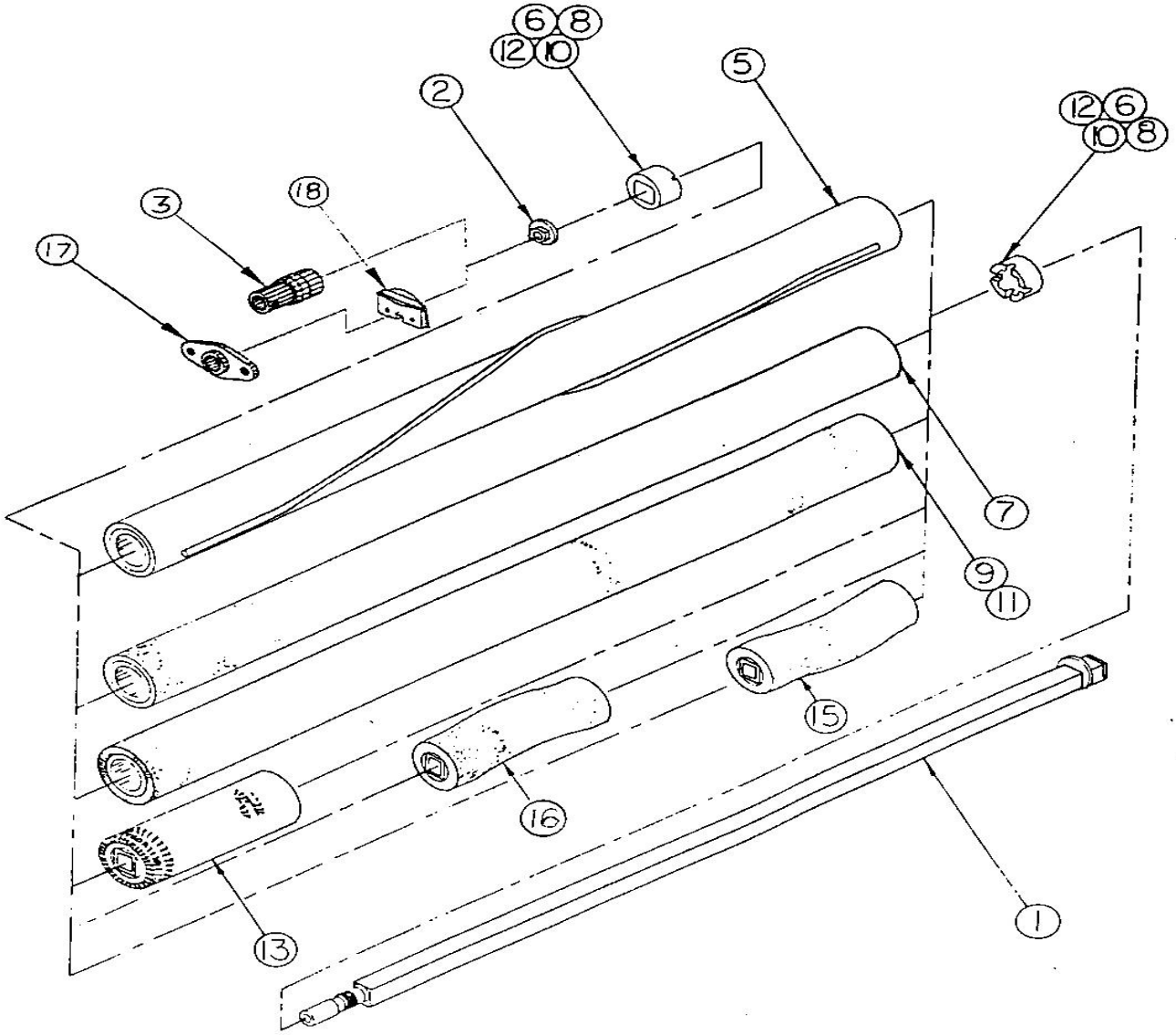
M2635

Ref. No.	Part Number	No. Req.	Description
1	25258-01-5	1	FRAME, 2600 ½ Length
2	40476-01-9	2	LEGEND, Vanmark
3	38281-01-5	2	MASKING, Drive Compartment side
4	38952-01-5	1	MASKING, Drive End
5	38820-01-5	1	MASKING, Peeling Chamber Top w/hole
6	38820-02-5	1	MASKING, Peeling Chamber Top
7	38895-01-5	2	MASKING, Drive Side
8	43157-01-9	2	PULL, Pocket
9	38282-01-5	4	HINGE, Door
10	24026-01-5	2	DOOR SUPPORT
11	42797-01-5	4	LATCH, Draw
12	43401-01-9	6	LATCH, Slam
13	42195-03-9	2	NOZZLE, Spray – Full - Center
14	23273-03-5	1	GUARD, Splash LH – 8 Roll
15	23068-07-5	1	GUARD, Splash RH – 8 Roll
16	41431-01-9	1	PRODUCT PROTECTOR, Inlet End
17	38821-01-5	1	DOOR, Viewing
18	38818-01-9	4	HINGE
19	38951-01-9	1	DRAPE, Product Retention
20	38952-01-5	1	CLAMP, Product Retention Drape

5.1100 DRAIN PAN

	25275-01-5	1	DRAIN PAN – Center Drain

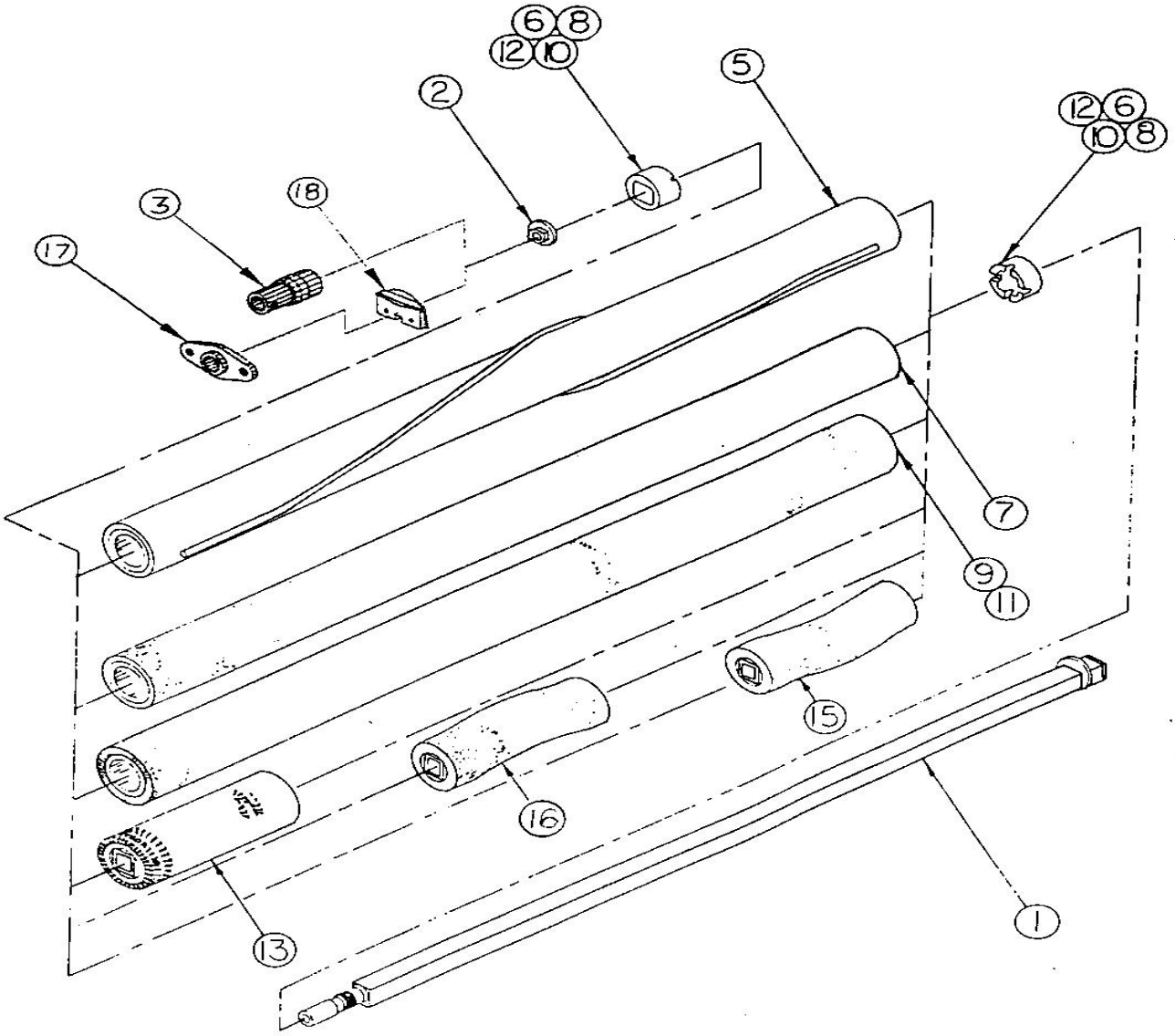
5.2000 PEELING ROLLS



5.2000 PEELING ROLLS

Ref. No.	Part Number	No. Req.	Description
1	20779-02-5	6, 8	SHAFT, Peeling Roll
2	20249-01-1	6, 8	NUT ASSEMBLY
3	31126-01-9	Req.	SOCKET, Nut Assembly
5	20750-02-5	Req.	ROLL, Smooth
5	20750-01-5	Req.	ROLL, Lift - LH - 4.50 OD
5	29336-01-5	Req.	ROLL, Lift - Abr - #10 Grit
5	29336-02-5	Req.	ROLL, Lift - Abr - #20 Grit
5	29336-03-5	Req.	ROLL, Lift - Abr - #36 Grit
5	29337-01-5	Req.	ROLL, Lift - Abr - .50- #10 & .50- #20 Grit
6	32485-01-9	Req.	ROLL, Lift End Fixture - 2 Per Roll
7	29252-02-1	Req.	ROLL, Abr - .50- #10 & .50- #20 Grit - 4.75 OD
7	29252-04-1	Req.	ROLL, Abr - .75- #10 & .25- #20 Grit - 4.75 OD
7	29316-02-1	Req.	ROLL, Abr - #10 - 4.75 OD
7	29316-01-1	Req.	ROLL, Abr - #20 - 4.75 OD
7	29252-03-1	Req.	ROLL, Abr - .50- #36 & .50- #60 Grit - 5.00 OD
7	29252-05-1	Req.	ROLL, Abr - .50- #60 & .50- #80 Grit - 5.00 OD
7	29207-01-1	Req.	ROLL, Abr - #20 Grit - 5.00 OD
7	29207-05-1	Req.	ROLL, Abr - #30 Grit - 5.00 OD
7	29207-02-1	Req.	ROLL, Abr - #36 Grit - 5.00 OD
7	29207-03-1	Req.	ROLL, Abr - #60 Grit - 5.00 OD
7	29207-06-1	Req.	ROLL, Abr - #80 Grit - 5.00 OD
7	29319-01-1	Req.	ROLL, Abr - .67-#20 Grit & .33-#36 Grit - 5.00 OD
8	41129-01-9	Req.	ROLL, Abr End Fixture - 2 Per Roll
9	41329-02-9	Req.	BRUSH, .014 - Black
9	40261-03-9	Req.	BRUSH, .022 - Natural Bristles w/Black Ring
9	40260-02-9	Req.	BRUSH, .045
9	40347-03-9	Req.	BRUSH, Nylon - .022/.036 60-40
9	43034-01-9	Req.	BRUSH, Abr Tynex A - .022 - #120 Epoxy Filled
10	40259-02-9	Req.	BRUSH, End Fixture - 2 Per Roll
11	41566-01-9	Req.	BRUSH, .022 - Random Trim - 3.12 ID
11	42699-01-9	Req.	BRUSH, Abr Tynex A - .040 - #120 - 3.12 ID
12	33740-01-9	Req.	BRUSH, 3.12 ID End Fixture - 2 Per Roll
13	40369-01-9	Req.	SEGMENT, Pintle Straight Rbr - 5 Per Roll
13	40369-02-9	Req.	SEGMENT, Pintle Straight Ntrl - 5 Per Roll
13	40242-01-9	Req.	SEGMENT, Pintle Sine RH Rbr - 5 Per Roll
14	32118-01-5	Req.	SPACER RING, 3.00 OD x 1.44 - 4 Per Roll
15	31990-01-9	Req.	SEGMENT, Abr Sine - LH - #10 - 5 Per Roll
15	31156-01-9	Req.	SEGMENT, Abr Sine - LH - #20 - 5 Per Roll
15	33658-01-9	Req.	SEGMENT, Abr Sine - LH - #36 - 5 Per Roll
16	31991-01-9	Req.	SEGMENT, Abr Sine - RH - #10 - 5 Per Roll
16	31157-01-9	Req.	SEGMENT, Abr Sine - RH - #20 - 5 Per Roll
16	33659-01-9	Req.	SEGMENT, Abr Sine - RH - #36 - 5 Per Roll
17	43131-01-1	Req.	BEARING, 2 Bolt Flg 1.00 Bore (Cast Iron Bearing Pre 2004) 3.00" B.C.
17	59323-01-9	Req.	BEARING, 2 Bolt Flg 1.00 Bore (Composite Bearing) 3.91" B.C.
18	59011-01-9	Req.	SPACER, Roll w/Shaft Hole (Cast Iron Bearing Pre 2004) 3.00" B.C.
18	59011-02-9	Req.	SPACER, Roll w/o Shaft Hole (Cast Iron Bearing Pre 2004) 3.00" B.C.
18	59312-03-9	Req.	SPACER, Roll w/Shaft Hole (Composite Bearing) 3.91" B.C.
18	59312-04-9	Req.	SPACER, Roll w/o Shaft Hole (Composite Bearing) 3.91" B.C.

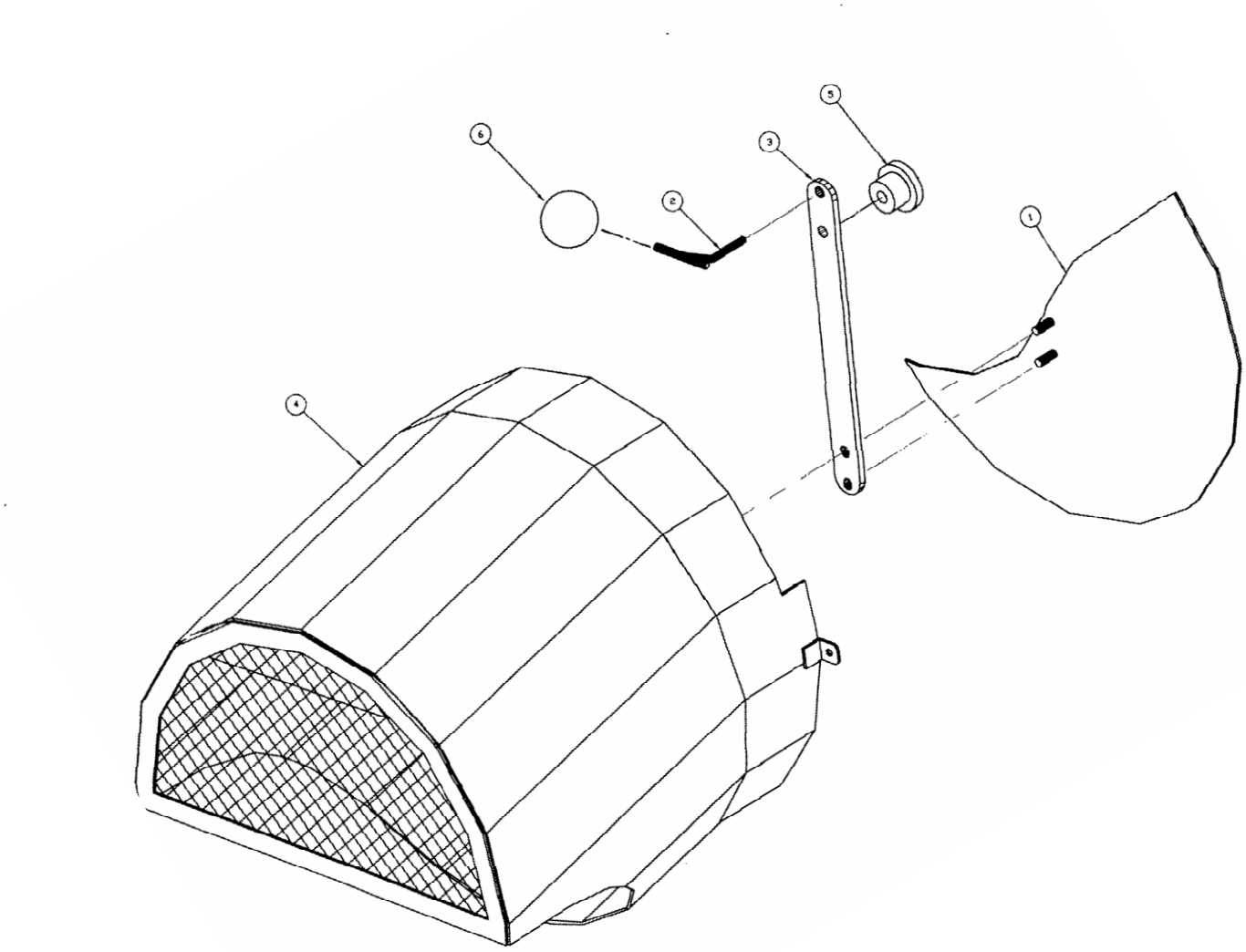
5.2000 PEELING ROLLS



5.2000 PEELING ROLLS / HALF LENGTH

Ref. No.	Part Number	No. Req.	Description
1	20779-03-5	6, 8	SHAFT, Half Length Peeling Roll
2	20249-01-1	6, 8	NUT ASSEMBLY
3	31126-01-9	Req.	SOCKET, Nut Assembly
9	41329-04-9	Req.	BRUSH, .014 - Black
9	40261-07-9	Req.	BRUSH, .022 - Natural Bristles w/Black Ring
11	41566-03-9	Req.	BRUSH, .022 - Random Trim - 3.12 ID
12	33740-01-9	Req.	BRUSH, 3.12 ID End Fixture - 2 Per Roll
17	59323-01-9	Req.	BEARING, 2 Bolt Flg composite, 1.00 Bore
18	59312-03-9	Req.	SPACER, Roll w/Shaft Hole
18	59312-04-9	Req.	SPACER, Roll w/o Shaft Hole

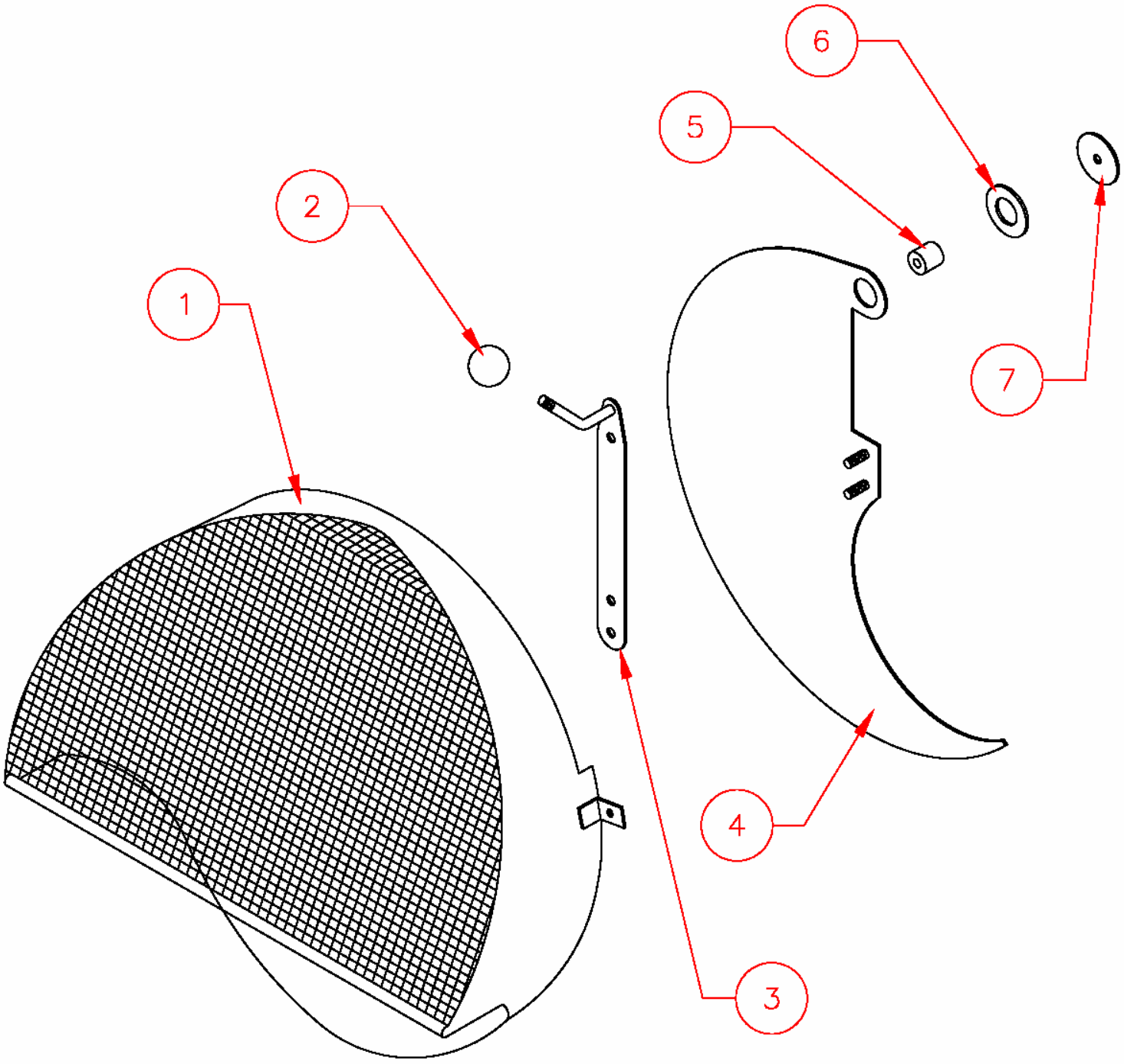
5.3000 DISCHARGE GATE AND CHUTE



5.3000 DISCHARGE GATE AND CHUTE

Ref. No.	Part Number	No. Req.	Description
1	24114-01-5	1	DISCHARGE GATE
	48019-01-5	3	Cap Screw, .31-18 x 1.00 and LW
2	24024-01-5	1	HANDLE, Discharge Gate
3	38289-02-5	1	LEVER, Discharge Gate
	48063-01-5	4	Nut- .38-16 Lock
4	24678-01-5	1	CHUTE, Discharge
	48019-01-5	3	Cap Screw, .31-18 x 1.00 and LW
5	38854-01-9	1	BUSHING, 1.50 x .38 I.D.
6	40198-01-9	1	BALL HANDLE

5.3000 DISCHARGE GATE AND SHROUD



5.3000 DISCHARGE GATE AND SHROUD

Ref. No.	Part Number	No. Req.	Description
1	25324-01-5	1	SHROUD, Easy Flow Discharge
	48063-01-5	3	Nut, .38 – 16 Hex Lock SS Nylon
2	40198-01-9	1	BALL HANDLE
3	25139-01-5	1	LEVER, Discharge Gate
4	25316-01-5	1	GATE, Easy Flow Discharge
	48063-01-5	2	Nut, .38 – 16 Hex Lock Nylon
5	38430-01-9	1	BUSHING, 1.00 x .38 I.D.
6	38928-01-9	1	WASHER, Discharge Gate UHMW
7	38929-01-9	1	WASHER, SS Discharge Gate

5.4000 ROLLER VARIABLE SPEED DRIVE

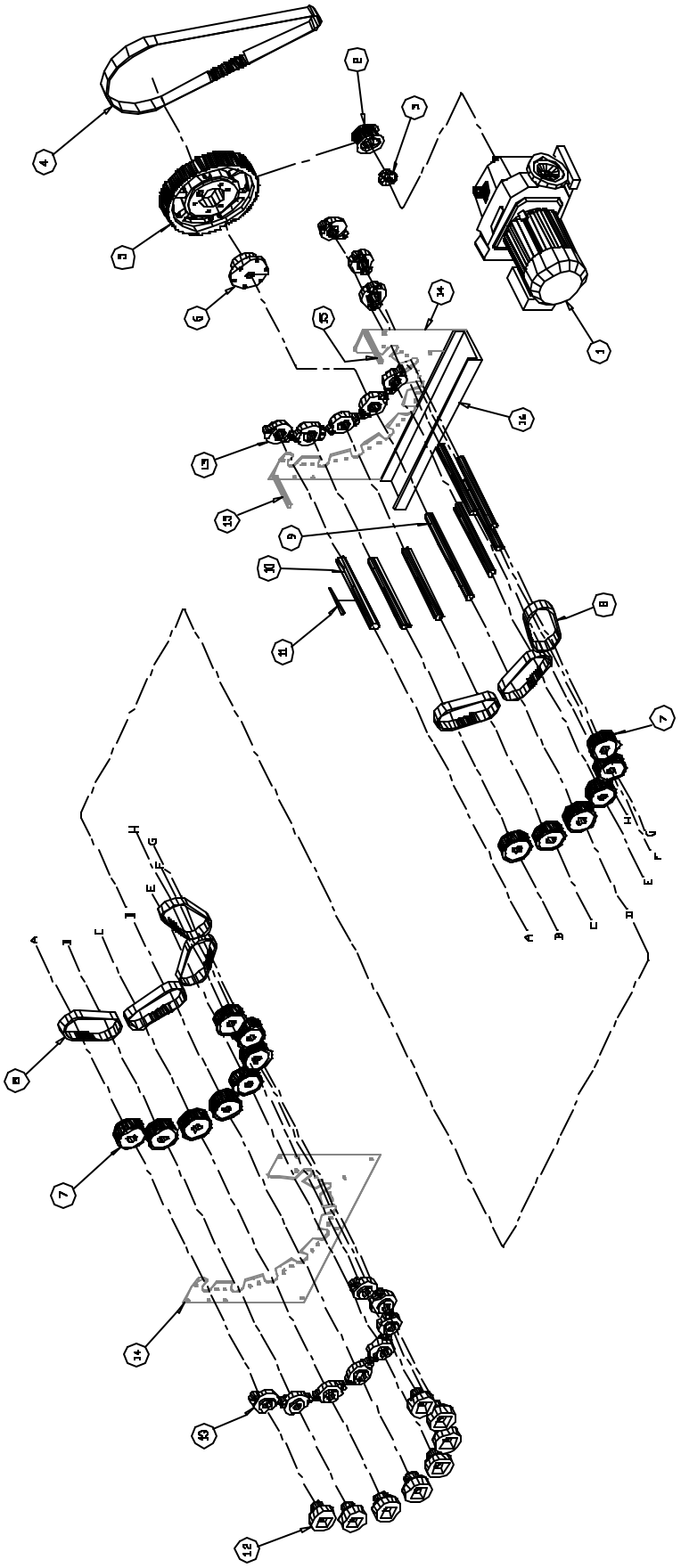
M2605

Ref. No.	Part Number	No. Req.	Description
1	41710-10-9	1	GEARMOTOR, 5.4 HP – 405 - 2025 RPM - 230/460/3/60
1	41710-11-9	1	GEARMOTOR, 5.4 HP - 337 - 1683 RPM 380/3/50
1	41710-13-9	1	GEARMOTOR, 5.4 HP - 405 - 2025 RPM 208/3/60 EURO
2	41366-08-9	1	PULLEY, HTD 36T - Drive
3	40958-01-1	1	BUSHING, QD #SH - 1.12 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	10	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	5	BELT, Timing - 1.50 Wide
9	38277-01-5	1	SHAFT, Drive
10	38277-03-5	5	SHAFT, Driven
11	34185-29-1	6	KEY, .25 sq x 5.25 long
12	41208-01-9	6	COUPLER, Drive Shaft to Peeling Roll - 1.25 Bore
13	40917-04-9	12	BEARING, MRC 2 Bolt Flange - 1.25 Bore
14	38899-01-5	2	PLATE, DRIVE CASE
15	34463-06-5	2	MOTOR MOUNT, Spacer
16	38276-02-5	1	DRIVE CASE, Base

M2615 (Purchased 1/91 to 11/04)

Ref. No.	Part Number	No. Req.	Description
1	41710-10-9	1	GEARMOTOR, 5.4 HP - 405-2025 RPM - 230/460/3/60
1	41710-11-9	1	GEARMOTOR, 5.4 HP 337-1683 RPM 380/3/50
1	41710-13-9	1	GEARMOTOR, 5.4 HP 405 – 2025 RPM 208/3/60 EURO
2	41366-08-9	1	PULLEY, HTD 36T - Drive
3	40958-01-1	1	BUSHING, QD #SH - 1.12 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	14	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	7	BELT, Timing - 1.50 Wide
9	38277-01-5	1	SHAFT, Drive
10	38277-03-5	7	SHAFT, Driven
11	34185-29-1	8	KEY, .25 sq x 5.25 long
12	41208-01-9	8	COUPLER, Drive Shaft to Peeling Roll - 1.25 Bore
13	40917-04-9	16	BEARING, MRC 2 Bolt Flange - 1.25 Bore
14	38899-01-5	2	PLATE, DRIVE CASE
15	34463-06-5	2	MOTOR MOUNT, Spacer
16	38276-02-5	1	DRIVE CASE, Base

5.4000 ROLLER VARIABLE SPEED DRIVE



5.4100 INVERTER ROLL DRIVE

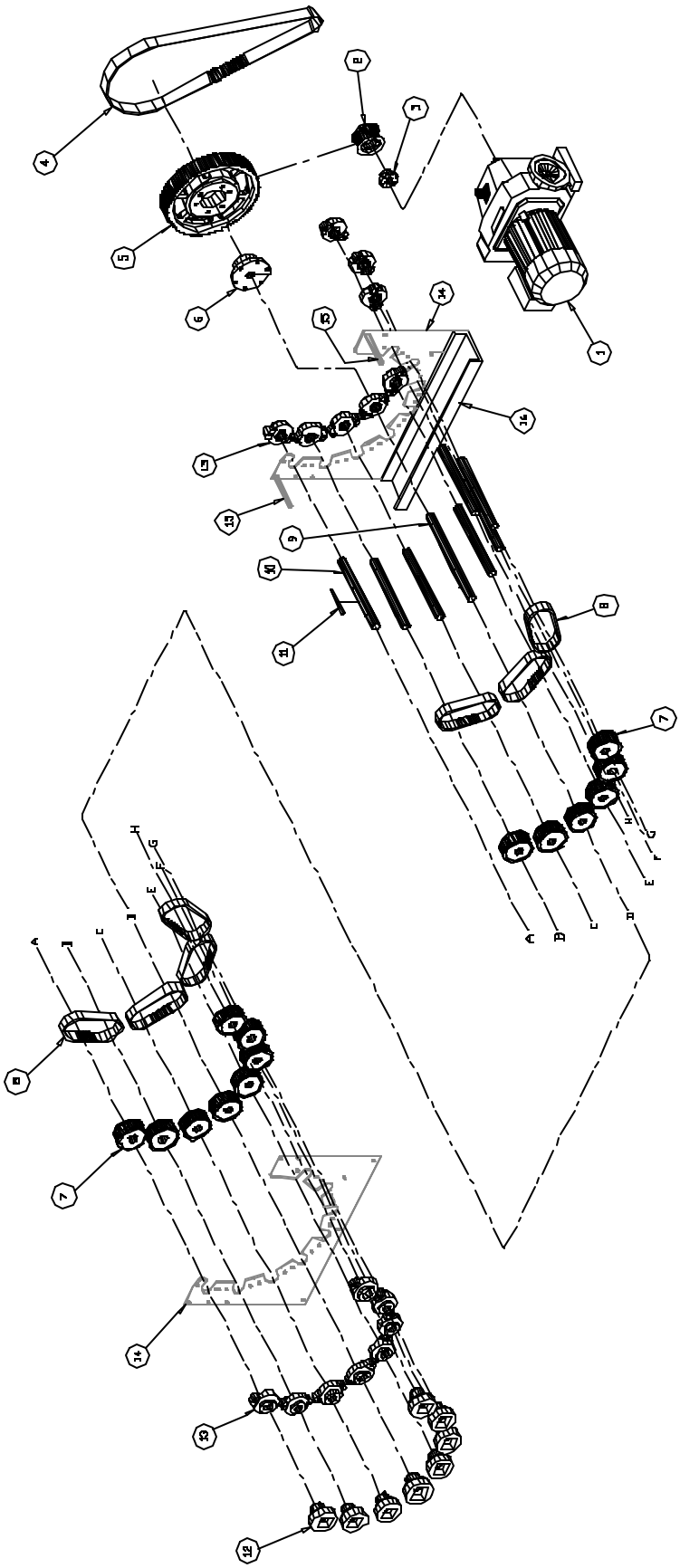
M2605 w/New Style Drive Case(Purchased after 11/04)

Ref. No.	Part Number	No. Req.	Description
1	43091-12-9	1	MTR, 10.0 HP - 230/460/3/60
	43091-13-9	1	MTR, 10.0 HP – 380 3 50C
2	40319-02-9	1	PULLEY, HTD 36T - Drive
3	41421-03-1	1	BUSHING, QD #SH - 1.63 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	10	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	5	BELT, Timing - 1.50 Wide
9	38947-01-5	1	ROLL SHAFT, Steel Drive Case
10	38947-02-5	5	DRIVE SHAFT, Steel Drive Case
11	34185-29-5	6	KEY, .25 sq x 5.25 long SS
	34185-07-5	1	KEY, .25 sq x 1.50 long SS (Drive Shaft)
12	40236-01-9	6	COUPLER, Drive Shaft to Peeling Roll - 1.00 Bore
13	40917-04-9	12	BEARING, MRC 2 Bolt Flange - 1.25 Bore (.44 Hex Head Cap Screw)
14	38946-01-5	2	PLATE, STEEL DRIVE CASE
15	31489-02-5	2	CONNECTOR, 2 – Hole
	31489-01-5	4	CONNECTOR, 4 - Hole
16	38949-01-5	1	BASE, STEEL DRIVE CASE

M2615 w/New Style Drive Case (Purchased after 11/04)

Ref. No.	Part Number	No. Req.	Description
1	43091-12-9	1	MOTOR, 10.0 HP - 230/460/3/60
2	40319-02-9	1	PULLEY, HTD 36T - Drive
3	41421-03-1	1	BUSHING, QD #SH - 1.63 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	14	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	8	BELT, Timing - 1.50 Wide
9	38947-01-5	1	ROLL SHAFT, Steel Drive Case
10	38947-02-5	7	DRIVE SHAFT, Steel Drive Case
11	34185-29-1	8	KEY, .25 sq x 5.25 long SS
	34185-07-5	1	KEY, .25 sq x 1.50 long SS (Drive Shaft)
12	40236-01-9	8	COUPLER, Drive Shaft to Peeling Roll - 1.00 Bore
13	40917-04-9	16	BEARING, MRC 2 Bolt Flange - 1.25 Bore (.44 Hex Head Cap Screw)
14	38946-01-5	2	PLATE, STEEL DRIVE CASE
15	31489-02-5	2	CONNECTOR, 2 – Hole
	31489-01-5	4	CONNECTOR, 4 - Hole
16	38949-01-5	1	BASE, STEEL DRIVE CASE

5.4100 INVERTER ROLL DRIVE



5.4200 INVERTER ROLL DRIVE HALF LENGTH

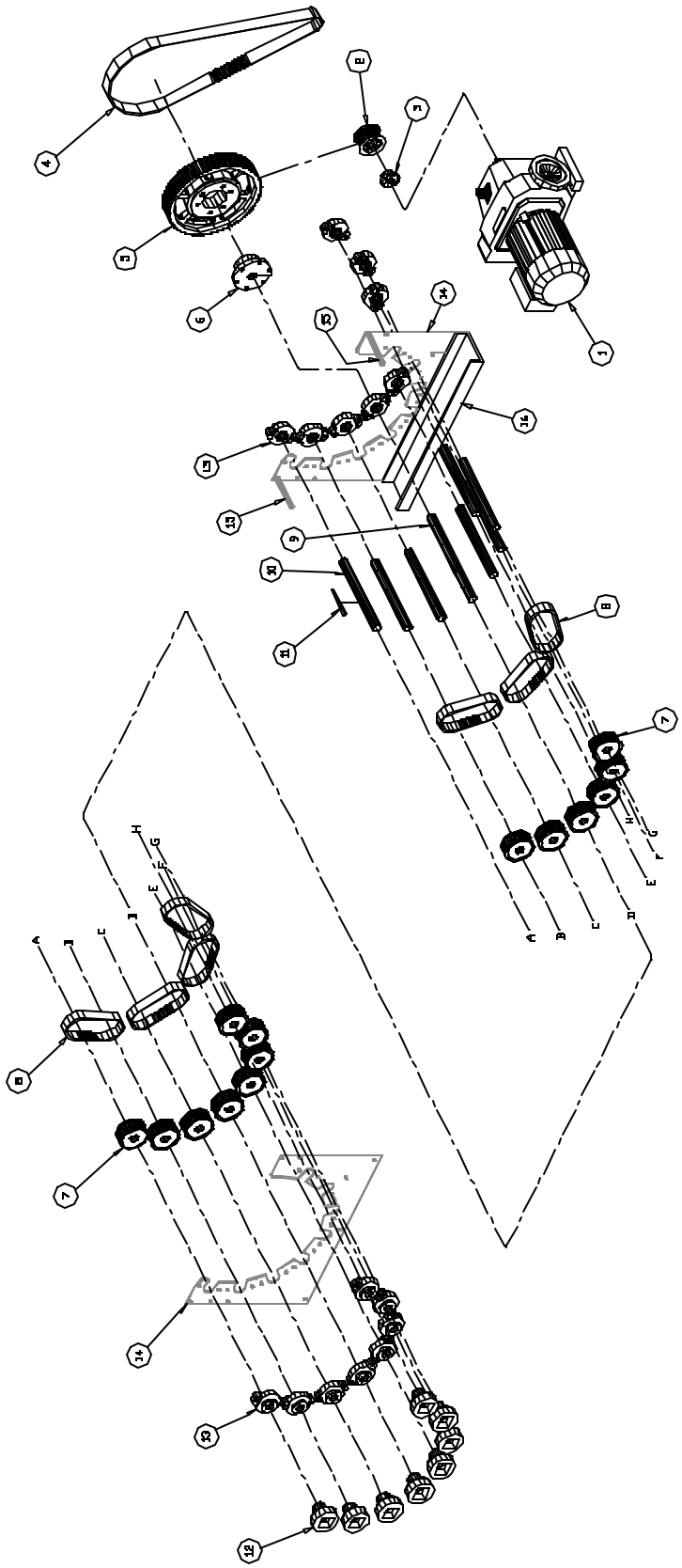
M2625 w/New Style Drive Case

Ref. No.	Part Number	No. Req.	Description
1	40318-01-9	1	MOTOR, 5.0 HP - 230/460/3/60 Washdown Duty
2	40319-02-9	1	PULLEY, HTD 36T - Drive
3	41421-03-1	1	BUSHING, QD #SH - 1.63 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	10	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	5	BELT, Timing - 1.50 Wide
9	38947-01-5	1	ROLL SHAFT, Steel Drive Case
10	38947-02-5	5	DRIVE SHAFT, Steel Drive Case
11	34185-29-5	6	KEY, .25 sq x 5.25 long SS
	34185-07-5	1	KEY, .25 sq x 1.50 long SS (Drive Shaft)
12	40236-01-9	6	COUPLER, Drive Shaft to Peeling Roll - 1.00 Bore
13	40917-04-9	12	BEARING, MRC 2 Bolt Flange - 1.25 Bore (.44 Hex Head Cap Screw)
14	38946-01-5	2	PLATE, STEEL DRIVE CASE
15	31489-02-5	2	CONNECTOR, 2 – Hole
	31489-01-5	4	CONNECTOR, 4 - Hole
16	38949-01-5	1	BASE, STEEL DRIVE CASE

M2635 w/New Style Drive case

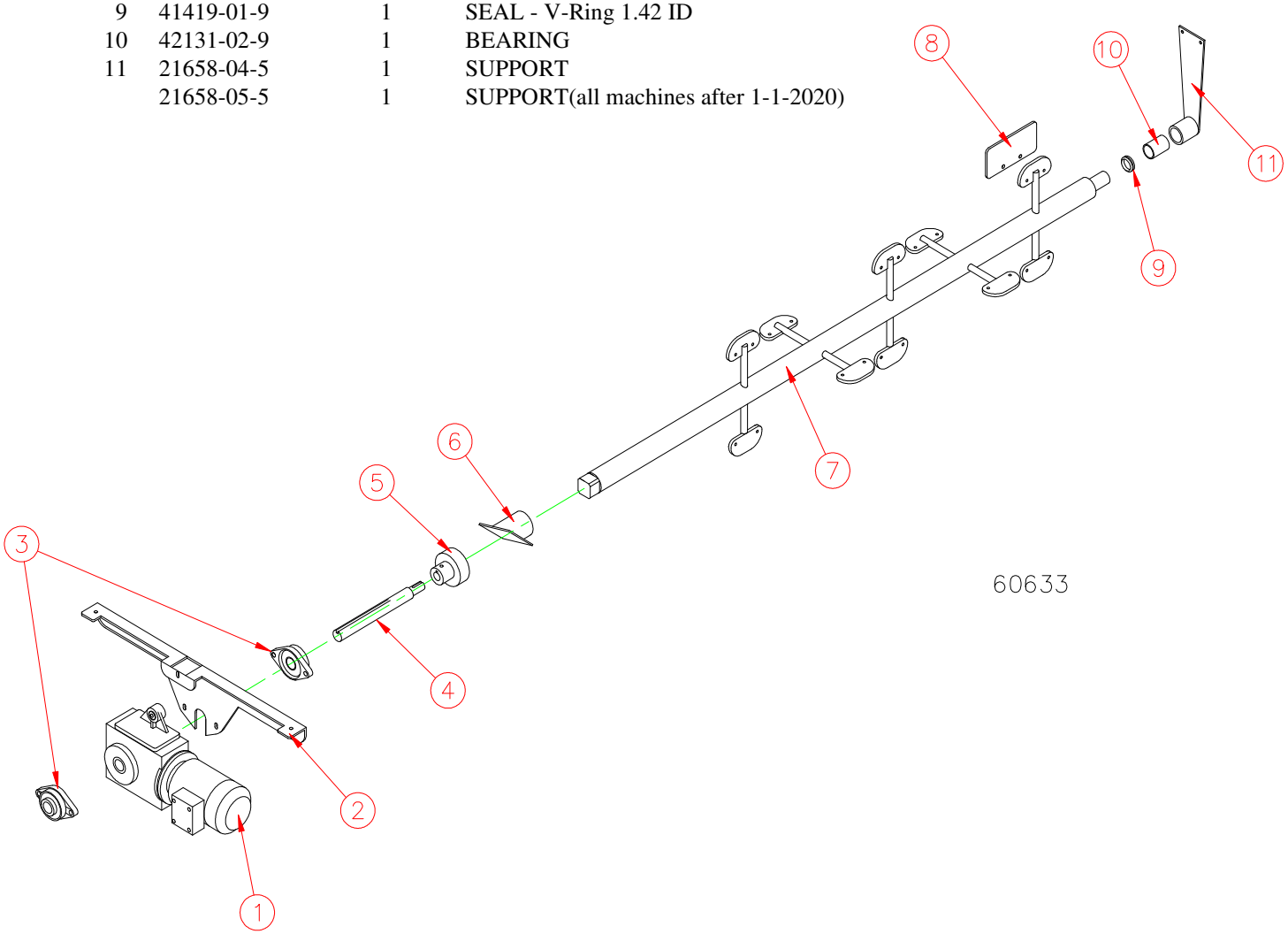
Ref. No.	Part Number	No. Req.	Description
1	40318-01-9	1	MOTOR, 5.0 HP - 230/460/3/60 Washdown Duty
2	40319-02-9	1	PULLEY, HTD 36T - Drive
3	41421-03-1	1	BUSHING, QD #SH - 1.63 Bore
4	41367-08-9	1	BELT, HTD 2000 - 8M - 50
5	41366-09-9	1	PULLEY, HTD 144T - Driven
6	42294-08-1	1	BUSHING, QD #E - 1.25 Bore
7	40319-02-9	14	PULLEY, Timing - 27T - 1.25 Bore
8	40320-01-9	8	BELT, Timing - 1.50 Wide
9	38947-01-5	1	ROLL SHAFT, Steel Drive Case
10	38947-02-5	7	DRIVE SHAFT, Steel Drive Case
11	34185-29-1	8	KEY, .25 sq x 5.25 long SS
	34185-07-5	1	KEY, .25 sq x 1.50 long SS (Drive Shaft)
12	40236-01-9	8	COUPLER, Drive Shaft to Peeling Roll - 1.00 Bore
13	40917-04-9	16	BEARING, MRC 2 Bolt Flange - 1.25 Bore (.44 Hex Head Cap Screw)
14	38946-01-5	2	PLATE, STEEL DRIVE CASE
15	31489-02-5	2	CONNECTOR, 2 – Hole
	31489-01-5	4	CONNECTOR, 4 - Hole
16	38949-01-5	1	BASE, STEEL DRIVE CASE

5.4200 INVERTER ROLL DRIVE HALF LENGTH



5.5000 TUMBLING UNIT

Ref. No.	Part Number	No. Req.	Description
1	43266	1	GEARMOTOR - 1.00 HP REFER TO TAG ON GEARMOTOR FOR VOLTAGE & GEAR RATIO
2	38878-02-5	1	SUPPORT PLATE, Tumbling unit
3	43268-01-9	2	BEARING - Ball Flg.
4	38473-01-5	1	SHAFT - Drive
5	40236-01-9	1	COUPLER, Urethene
6	59072-01-9	1	GUIDE - Inlet Chute
7	22485-04-5	1	SHAFT WLDMNT - 5 Paddle
8	42813-01-9	10	PADDLE
9	41419-01-9	1	SEAL - V-Ring 1.42 ID
10	42131-02-9	1	BEARING
11	21658-04-5	1	SUPPORT
	21658-05-5	1	SUPPORT(all machines after 1-1-2020)



W - Flat Washer, LW - Lock Washer, N - Nut

6.1000 SPARE PARTS

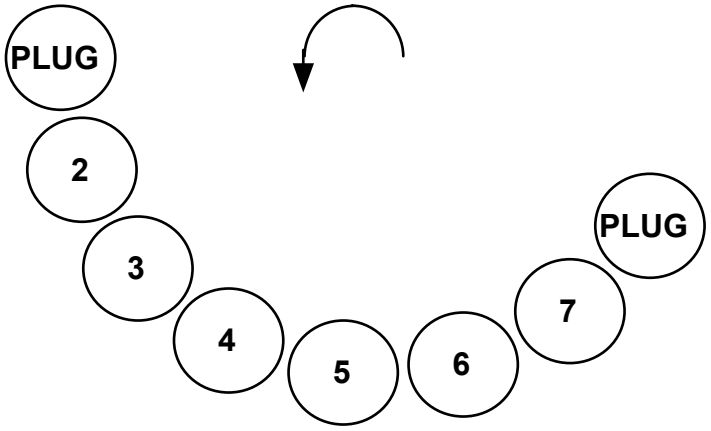
Part Number	Est. Qty. Per Year Intermit	Cont	Description
20779-02-5	1	2	SHAFT, Peeling Roller
20779-03-5	1	2	SHAFT, Peeling Rolls Half Length
20249-01-1	1	2	NUT ASSEMBLY, Peeling Roller
40319-02-9	1	1	PULLEY, Timing 27T - 1.25 Bore
40320-01-9	2	2	BELT, 1.50 Wide - Driven
41367-08-9	1	1	BELT, HTD- Main Drive Belt
41366-08-9	1	1	PULLEY, HTD 36T - Drive
41366-09-9	1	1	PULLEY, HTD 144T - Driven
43132-01-1	2	2	BEARING, 2 Bolt Flange - 1.25 Bore – Drive (Pre 2004 Steel Drive)
40917-04-9	2	2	BEARING, 2Bolt Flange - 1.25 Bore – Drive (New Steel Drive)
41208-01-9	2	2	COUPLER, Drive Shaft to Roll - 1.25 Bore (Pre 2004 Steel Drive)
40236-01-9	2	2	COUPLER, Drive Shaft to Roll - 1.00 Bore (New Steel Drive)
43131-01-1	2	2	BEARING, 2 Bolt Flange - 1.00 Bore – Discharge Cast Iron
41978-01-9	2	2	BEARING, 2 bolt Flange - 1.00 Bore – Discharge Composite
59011-01-9	1	1	SPACER, Roll w/insert w/shaft hole (Cast Iron Bearing)
59011-02-9	1	1	SPACER, Roll w/insert w/o shaft hole (Cast Iron Bearing)
59312-01-9	1	1	SPACER, Roll w/insert w/shaft hole (Composite Bearing)
59312-02-9	1	1	SPACER, Roll w/insert w/o shaft hole (Composite Bearing)
59312-03-9	1	1	SPACER ASSEMBLY, w/hole 3.91” bolt circle

NOTE: Quantities for standard intermittent use are based on a production schedule of eight (8) hours per day, five (5) days per week for one (1) year under normal operating conditions.

Quantities for continuous use are based on a production schedule of twenty four (24) hours per day, five (5) days per week for one (1) year under normal operating conditions.

7.1000 PEELING ROLL CONFIGURATION

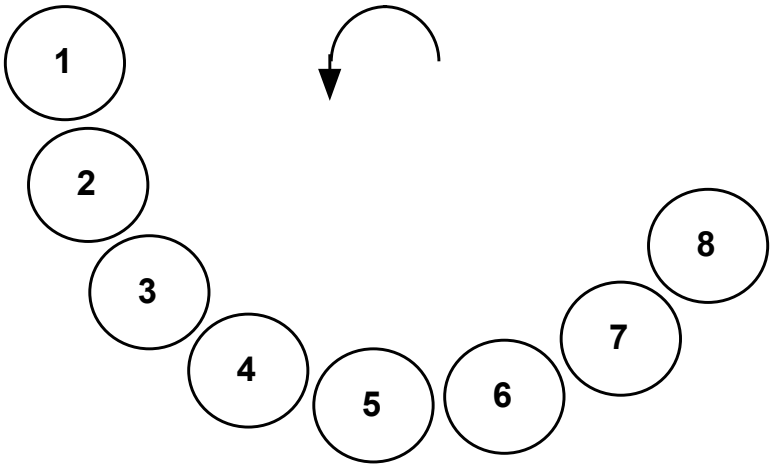
DISCHARGE END VIEW



ROLL NO.	PART NO.	ROLL TYPE
2.		
3.		
4.		
5.		
6.		
7.		

7.1000 PEELING ROLL CONFIGURATION

DISCHARGE END VIEW

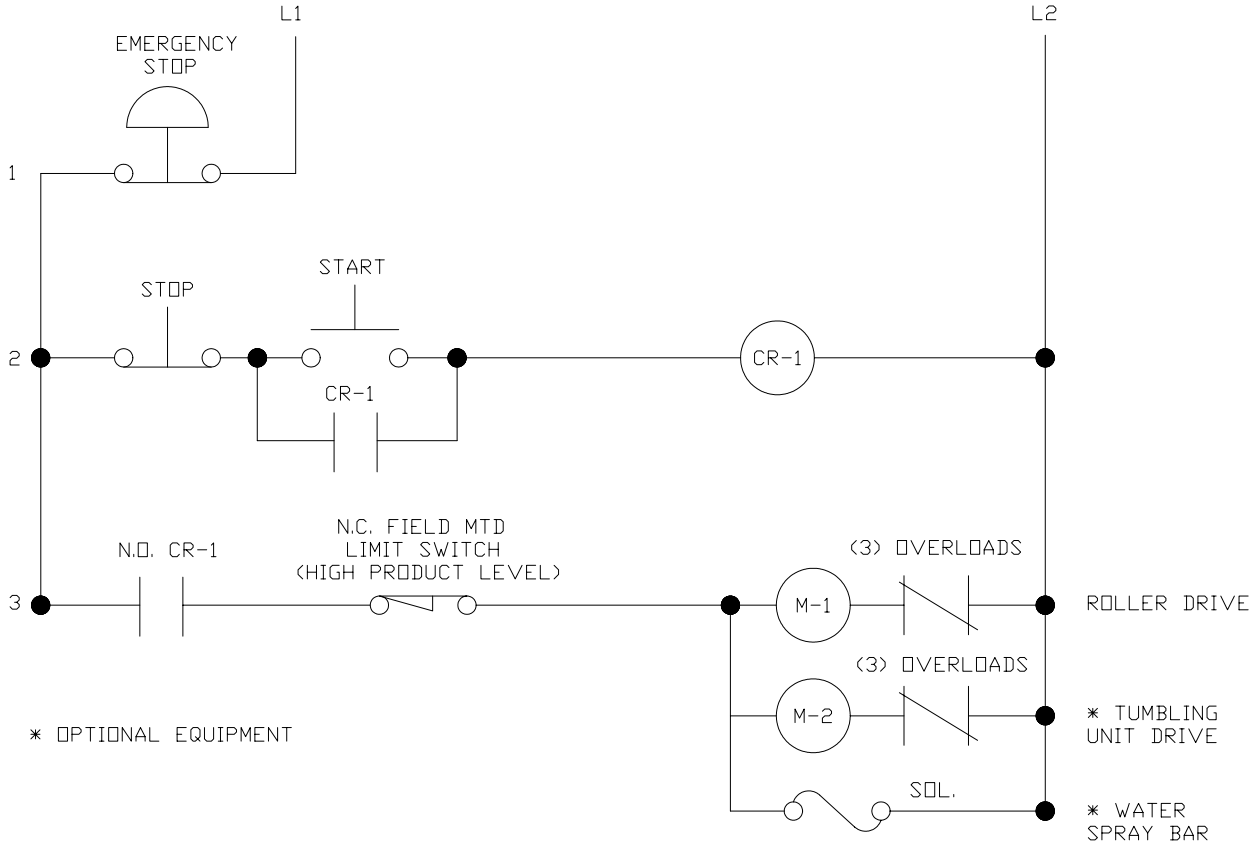


ROLL NO.	PART NO.	ROLL TYPE
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

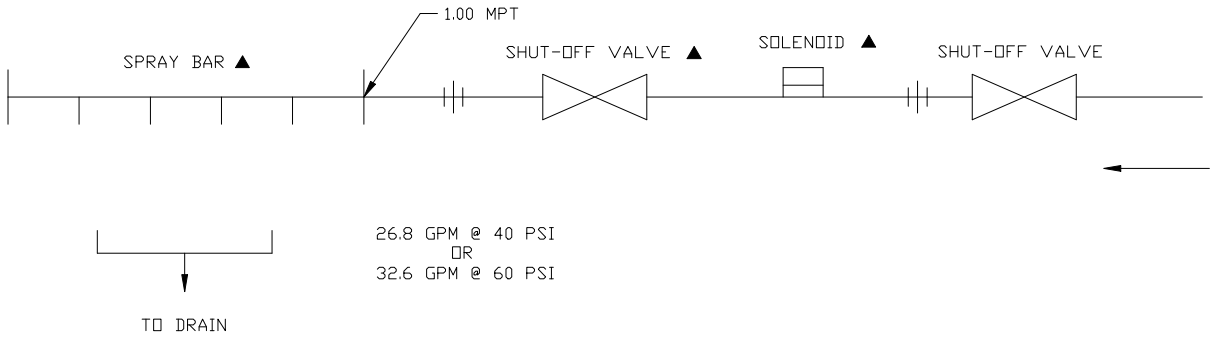
7.2000 MACHINE SETTINGS

Date	Product Variety	Harvest Date	Storage Time	Roller Configuration	Gate Setting	Drive Speed Setting	Tumbling Unit Speed Setting

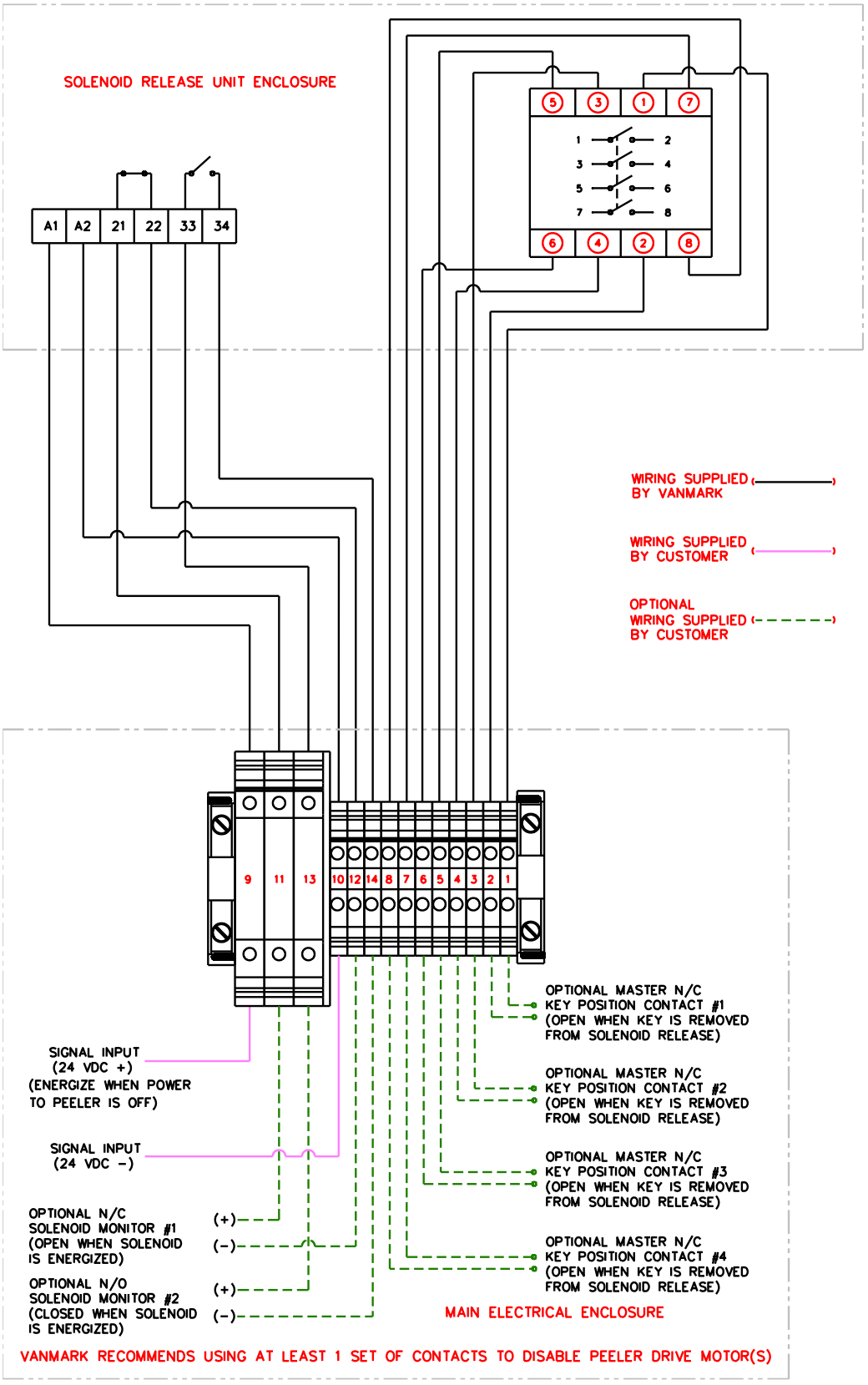
7.3000 RECOMMENDED ELECTRICAL SCHEMATIC



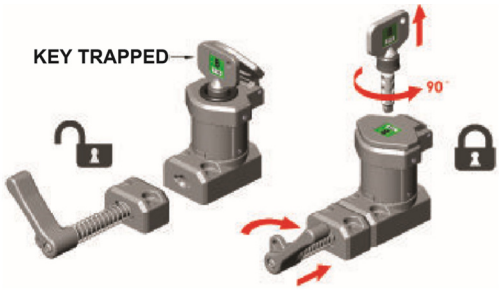
7.4000 RECOMMENDED WATER SCHEMATIC



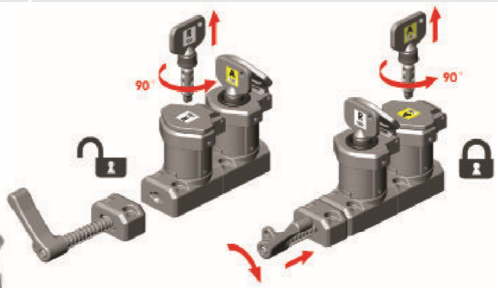
7.5600 TRAPPED KEY 24VDC SOLENOID RELEASE WIRING



Sales Number	HANDLE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish)
M-HS	Key trapped - actuator unlocked (spring action handle)
M-HS-C	Key trapped - actuator unlocked (chain fixed to handle)
Sales Number	**HANDLE INTERLOCK SINGLE KEY STAINLESS STEEL 316**
SS-HS	Key trapped - actuator unlocked (spring action handle)
SS-HS-C	Key trapped - actuator unlocked (chain fixed to handle)



Sales Number	HANDLE INTERLOCK DUAL KEY STAINLESS STEEL 316
SS-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
SS-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)
Sales Number	**HANDLE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish)**
M-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
M-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)



Trapped Key Handle Interlocks – Types HS HD

Operating Instructions

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING, OPERATING, OR MAINTAINING THIS EQUIPMENT.

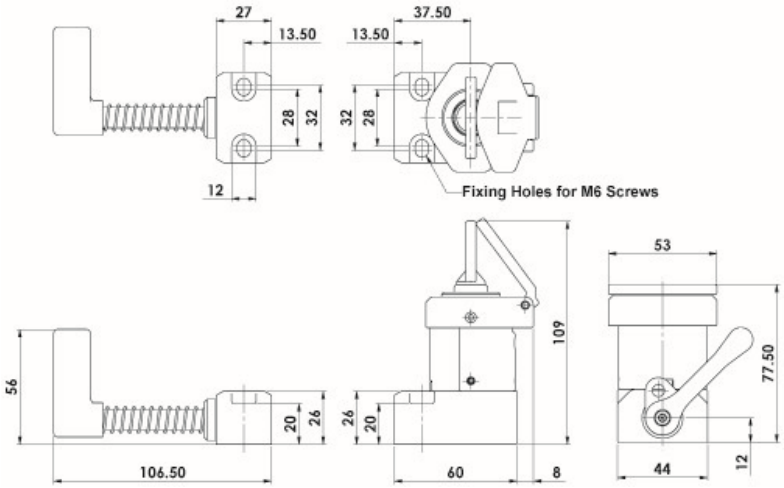
The product is designed to be a component of a customized safety oriented control system. It is the responsibility of the user to ensure the correct overall functionality of its systems and machines. IDEM, its subsidiaries and affiliates, are not in a position to guarantee all of the characteristics of a given system or product not designed by IDEM.

INSTALLATION: Installation must only be carried out by competent personnel and in accordance with these instructions.
Always use correct size metal mounting bolts (M6). Tightening torque 2Nm. Ensure that the holding force is sufficient to withstand the static forces applied during normal use and dynamic effects caused by bouncing of the guard shall not create an impact reaction force which exceeds the holding force. If the expected impact reaction forces are higher than the specified holding force for the switch, then design measures must be applied to avoid the force.

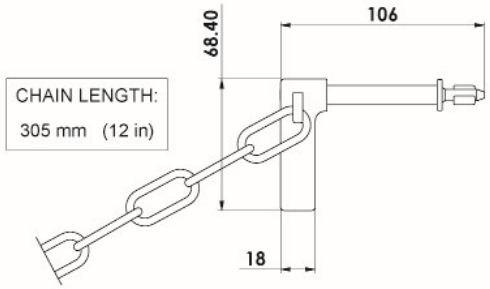
WARNING: FOR CHAIN VERSIONS, THE DESIGN OF THE GUARD MUST ENSURE THAT WHEN THE HANDLE IS WITHDRAWN IT CAN ONLY RETURNED TO THE LOCK POSITION WHEN THE GUARD IS IN THE PROTECTED POSITION. IT MUST NOT BE POSSIBLE TO ACCESS THE HAZARD WHILST THE GUARD IS CLOSED AND THE HANDLE IS IN PLACE.

MAINTENANCE: Every month: If the key, housing or handle display signs of mechanical damage then remove and replace.
IDEM will not accept responsibility for failure of the interlock functions if the installation and maintenance requirements are not implemented.
THESE INSTRUCTIONS FORM PART OF THE PRODUCT WARRANTY.

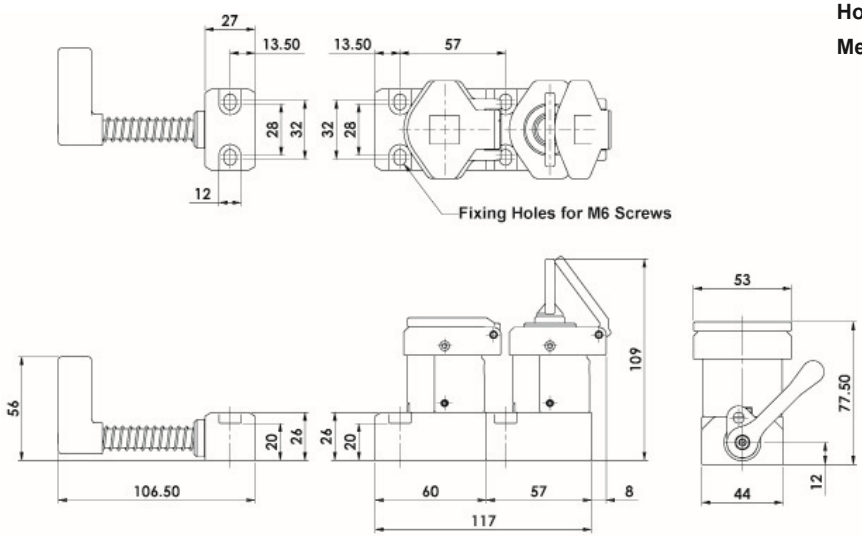
Handle Interlock Model HS



Handle with Chain



Handle Interlock Dual Key Model HS-11



TECHNICAL SPECIFICATIONS

Body Material: Stainless steel or die cast
Operating Temperature: -25C. to +60C.
Holding Force: 4000N. (F1max.) 3076N. (Fzh)
Mechanical Life (B10d) : 1,000,000 cycles

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Trapped Key ISOLATOR SWITCH with solenoid control – Type ISP-SKR

Operating Instructions

ISOLATION SWITCH WITH SOLENOID CONTROL (PANEL MOUNT) - **ISP-SKR:**

ISP-SKR

Fitted with RED/GREEN status lamps.

In addition to the 4 pole main Isolator Contacts, all models of the isolation switch ISP-SKR are supplied with:

RED lamp wired to indicate Solenoid energized.

GREEN lamp for end user designation.

2NC 1NO monitoring contact block.

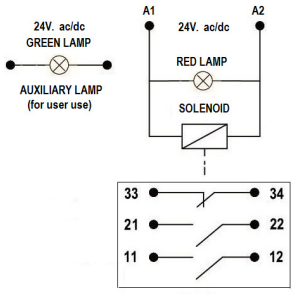
Solenoid energised to release key.

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP				
Sales Number	ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE			RATING
SS-ISP-SKR-25	25A	690V	4 pole	
SS-ISP-SKR-40	40A	690V	4 pole	
SS-ISP-SKR-63	63A	690V	4 pole	

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP				
Sales Number	ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE			RATING
M-ISP-SKR-25	25A	690V	4 pole	
M-ISP-SKR-40	40A	690V	4 pole	
M-ISP-SKR-63	63A	690V	4 pole	

Monitoring Contacts:



MONITORING CONNECTION TERMINALS		
Terminals	Description	RATING
A1 A2	Solenoid voltage 24V ac/dc	-
11 12	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
21 22	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
33 34	Open when solenoid is key is trapped. Closed when solenoid is energized – trapped open if key removed.	230V 3A
24V Auxiliary Lamp	3mm spade terminal - GREEN (not connected).	-

ACCESSORY: AUXILIARY SIGNAL CONTACT BLOCK: **AUX-SP**

Optional Auxiliary Signal Contact Block to indicate isolator status.

Fits to all ISP-SKR and ISP isolation switch panel mount.

AUXILIARY CONTACT BLOCK			
AUX-ISP	1NC+1NO	AC-15	6A 230V/4A 415V)

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING, OPERATING, OR MAINTAINING THIS EQUIPMENT.
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IDEM, its subsidiaries and affiliates, are not in a position to guarantee all of the characteristics of a given system or product not designed by IDEM.

INSTALLATION: Installation must only be carried out by competent personnel and in accordance with these instructions.
Always use correct size metal mounting bolts (M4). Tightening torque 2Nm.

WARNING:
It is the responsibility of the person installing the electrical equipment to ensure that the installation meets the requirements of the IET wiring regulations and is therefore 'fit for purpose'. Factors such as correct selection of components, cable sizing, protective devices and Earth bonding are all critical and should be checked prior to full testing and power-up. Any other regulations applicable to the equipment being installed such as the Machinery Directive and current health and safety legislation must also be adhered to. Terminals, including factory fitted, should be checked periodically to ensure correct tightness.

MAINTENANCE: Every month: Check correct operation of all circuits. If the key or housing display signs of mechanical damage then remove and replace.
IDEM will not accept responsibility for failure of the interlock functions if the installation and maintenance requirements are not implemented.
THESE INSTRUCTIONS FORM PART OF THE PRODUCT WARRANTY.

Trapped Key ISOLATOR SWITCH with solenoid control – Type ISP-SKR

TECHNICAL SPECIFICATIONS (MAIN ISOLATOR BLOCK):

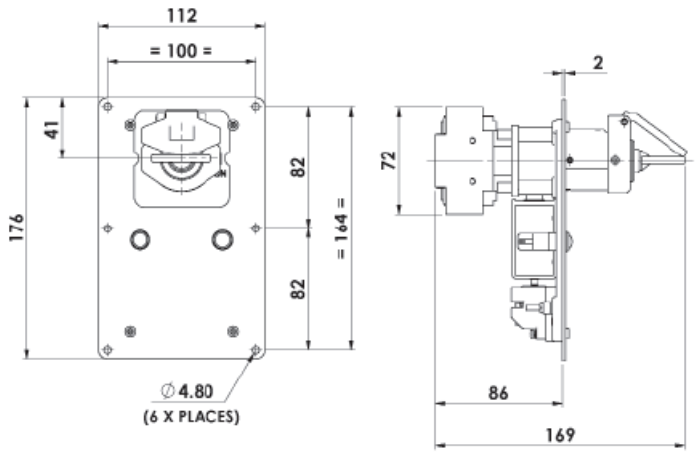
				ISB1 25A	ISB1 40A	ISB2 63A	ISP 25A	ISP 40A	ISP 63A
IEC & EN		Volts	V	690	690	690	690	690	690
UL		Volts	V	600	600	600	600	600	600
Main switch isolating voltage up to		Volts	V	750	750	750	750	750	750
Rated impulse withstand voltage Uimp		Volts	kV	6	6	6	6	6	6
Rated uninterrupted current Iu		Amps	A	20	32	40	25	40	63
Rated Operational Current Ie									
IEC & EN	AC-22A	Up to 690V	A	20	32	40	25	40	63
	AC-21A	Up to 690V	A	25	40	63	32	63	80
	AC-1	Up to 690V	A	25	40	63	32	63	80
Rated Operational Power AC-23A (50-60Hz)									
IEC & EN	3 Phase	220-240V	kW	7.5	15	22	11	22	30
		380-440V	kW	15	22	45	22	45	45
		500-690V	kW	15	22	45	22	45	45
Rated Operational Power AC-3 (50-60Hz)									
IEC & EN	3 Phase	220-240V	kW	5.5	11	15	8	15	22
		440V	kW	11	15	30	15	30	30
		690V	kW	11	15	30	15	30	30
UL Power Rating									
DOL	3 Phase	120V	hp	1.5	3	5	3	5	7.5
		240V	hp	3	7.5	10	7.5	10	15
		480V	hp	7.5	20	20	15	20	25
		600V	hp	10	25	30	20	30	30
	1 Phase	120V	hp	0.5	2	3	1.5	3	3
		240V	hp	1.5	3	5	2	5	7.5
UL Short Circuit Ratings									
Fuse Rating, Class J		Amps	A	-	45	70	45	70	70
Fuse Rating, Class RK5		Amps	A	20	-	-	-	-	-
Rated Fuse Short Circuit Current		Amps	kA	10	10	10	10	10	10
Short Circuit Capacity (IEC)									
Maximum Fuse Size Type gl		Amps	A	20	32	63	32	63	63
Rated Fuse Short Circuit Current		Amps	kA	5	30	30	30	30	30
Terminal Specification									
Single/Multiple Strand Wire			Min-mm^2	2.5	2.5	2.5	2.5	2.5	2.5
			Max-mm^2	10	10	25	10	25	25
Fine Strand with Sleeve			Min-mm^2	0.75	0.75	2.5	0.75	2.5	2.5
			Max-mm^2	6	6	10	6	10	10
American Wire Gauge			AWG	10	10	6	10	6	6
Recommended Tightening Torque			Nm	1.7	1.7	2.0	1.7	2.0	2.0

SCHEMATIC (Main Isolator):

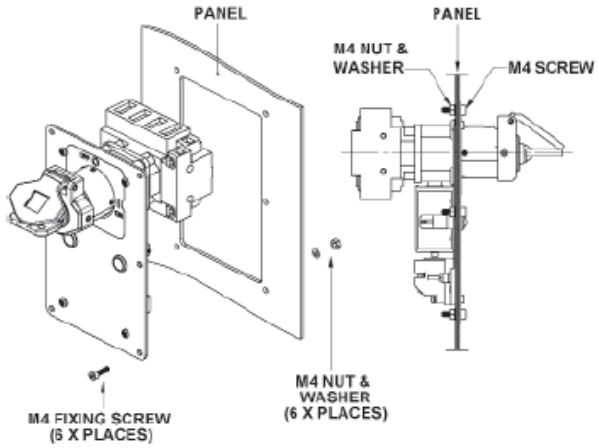
TECHNICAL SPECIFICATION:

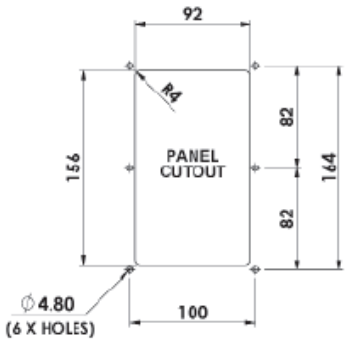
Mechanical Life (B10d) 1,000,000 cycles
Ambient temperature -20C / 40C.
Solenoid wattage 10Watt (24V)

Trapped Key ISOLATOR SWITCH with solenoid control – Type ISP-SKR



Isolation Switch Panel Model ISP-SKR





Isolation Switch Panel Mount ISP-SKR - Fitting Diagram

Trapped Key ISOLATOR SWITCH with solenoid control – Type ISP-SKR

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Trapped Key Exchange – Types KE

Operating Instructions

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING, OPERATING, OR MAINTAINING THIS EQUIPMENT.

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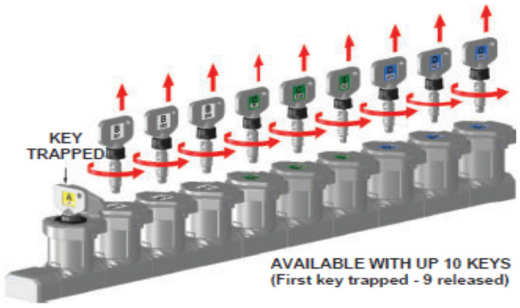
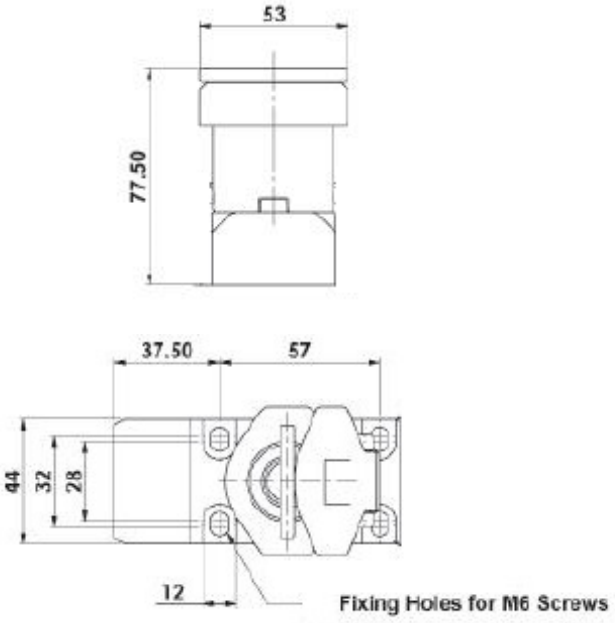
INSTALLATION: Installation must only be carried out by competent personnel and in accordance with these instructions.
Always use correct size metal mounting bolts (M6). Tightening torque 2Nm.

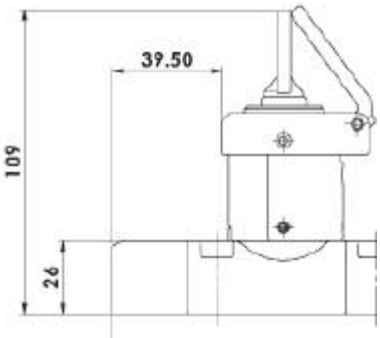
MAINTENANCE: Every month: If the keys or housing display signs of mechanical damage then remove and replace.
IDEM will not accept responsibility for failure of the interlock functions if the installation and maintenance requirements are not implemented.
THESE INSTRUCTIONS FORM PART OF THE PRODUCT WARRANTY.



TECHNICAL SPECIFICATIONS

Body Material: Stainless steel or die cast
Operating Temperature: -25C. to +60C.
Mechanical Life (B10d) : 1,000,000 cycles





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