



*Instruction  
Manual  
&  
Parts Catalog*



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## **Machine Information**

**Model Number:**

**Serial Number:**

**Date of Manufacture:**

# ***STOP***

**PLEASE READ BEFORE OPERATING MACHINERY!**

For your safety and to prevent damage to the dispenser, carefully read this manual and all technical information provided to you.

This machine is constructed for Pallet Dispensing only. Do not use this machine for any other purpose.

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If you purchased the SPENSER with a Snapco controls package, please refer to the “CONTROLS MANUAL” supplied with your machine.

# SAFETY!!!

## Who may use this machine?

Machinery sold by Snapco is to be installed, operated and maintained by people familiar with industrial machinery, the hazards associated with industrial machinery and the environment in which it is used, and the accepted methods of safeguarding against those hazards.

## Follow the instructions

Read and follow all of the safety and operating instructions supplied with your machine. This includes the operators manual, any safety signs on the machine, all material safety data sheets (MSDS), vendor literature, etc.

1. Keep safety and operating instructions in good condition and located where the machine operator can refer to it. Replacement signs and literature are available from Snapco.
2. Do not allow anyone to operate or repair the machine without proper instructions.
3. If you need information not supplied in the operator's manual to accompanying literature, contact Snapco for assistance.

## Recognize safety information



This Safety-Alert symbol signals important safety information to prevent personal injury or death.

Safety messages are highlighted with bold words.

Always obey safety messages which accompany the safety-alert symbol.

Stay clear of moving parts.

1. Contact with moving and rotating parts can cause serious injury or death.
2. Turn off the machines power at its main electrical disconnect switch and lock it in the “OFF” position before adjusting, servicing, or cleaning the dispenser.

### Safe Pallet Handling

Loading and unloading pallets from the machine presents safety hazards of its own.

1. Do not allow any part of your body to come between the pallets and any other surface. Serious injuries can result.
2. Never stand underneath pallets while they are being loaded or unloaded.
3. Always use equipment, in good, serviceable condition, capable of safely handling the pallets. This includes fork trucks with a lifting capacity greater than the weight of the pallets being lifted.
4. Never lift the pallets higher than necessary.

### Electrical Hazards

CONTACT WITH HIGH VOLTAGE WILL CAUSE DEATH

1. Never perform any maintenance on or near electrical components until the machines power source has been disconnected. LOCK OUT POWER BEFORE SERVICING
2. The only way to be sure the machines electrical circuits are safe is to turn off the machines power supply at your facility’s circuit panel and lock it out.
3. The Emergency STOP button DOES NOT disconnect the machines power supply. Hazardous electricity inside the cabinet is still present.
4. Never spray cleaner or liquids directly at electrical components or junction boxes.

### Keep the machine safe

1. Do not alter the machine in any way.
2. Do not remove protective guards, covers or safety signs.
3. Perform regular maintenance to keep the machine operating safely and efficiently.
4. Immediately replace worn, missing, or damaged parts, including safety signs attached to the machine.

### Service the machine

Review all safety information provided with your machine before servicing the machine. Additionally, important safety information which the service technician should be aware of is located throughout this safety section.

1. Turn off the machines power and lock it out before adjusting, servicing, or cleaning the dispenser.
2. Read and understand a service procedure before performing the service.
3. Never lubricate or service the machine while it is running. Keep your body, clothing, and tools away from power-drive parts.
4. The machine may have automated movements which can cause the screws, chains, motor, and pallets to go in to motion without action by the operator. Become familiar with the machines operation before operating the controls.
5. Turning off the machines main electrical disconnect switch does not remove electrical power from the input side of the machines main disconnect and/or fuses. To eliminate ALL electrical power at the machine, turn off the machines electrical supply circuit at your facility's circuit breaker and lock it out.
6. Whenever possible, avoid climbing on any of the machines components. If it is necessary to climb on the machines components, use extreme care! Always turn the machines power off and lock it out before climbing in or on the dispenser.

## HANDLING AND PLACEMENT

**IMPORTANT:** When crated, the basic dispenser weighs approximately 2000lbs. Equipment capable of safely handling this weight is required.

The dispenser is skidded and/or crated for shipment. While the crate may be removed at any time, the dispenser should remain on the skid until positioned for installation.

The following items should be considered when positioning the dispenser:

**Foundation** – The foundation should be dry, level concrete floor in good condition. No special machine foundation is required.

**Anchoring** – The dispenser's leveling screws. All four feet of the dispenser have a ¾-10 leveling screw. These screws are design to level the dispenser but not support the dispenser indefinitely. Once the machine is level, shims must be placed under the feet for the machine to rest on.

After a suitable location has been prepared, the machine can be removed from its skid.

1. Remove all loose items from the skid such as the feet.
2. On the top of the hopper, there are 2 holes that are larger in diameter than the other holes up-top. Using eye-bolts, pick up the machine in these two holes. The machine is balanced at this pickup point. (See Picture AA)
3. Once the machine is raised up high enough to get the legs under it, attach all 4 legs. Each leg should have 4 bolts in it. (supplied)
4. Before placing machine over existing or new conveyor, double check your clearances to make sure everything will fit properly. Assure adequate clearance for proper fit.
5. Once the legs are attached, the machine is ready to be placed over existing conveyor.
6. Depending on your machine style, make sure it is in the correct direction needed to dispense your pallet in the proper orientation.
7. If you purchased a hopper extension with your dispenser, place it on the machine **ONLY** after the machine has been anchored to the floor.



**CAUTION**

***Do not lift the dispenser any higher than necessary to remove the skid, install legs, and position over conveyor.***





**CAUTION**

***Avoid serious personal injury or damage to the dispenser. Lift the dispenser only from the bolt holes located on the top of the hopper***



**CAUTION**

***Never place any part of your body under the dispenser while it is being suspended.***

## **CLEANING**

The Spenser has been painted with a baked-on enamel finish which can withstand some of the harshest environments. To clean the painted surfaces, soap and water is recommended or window cleaner.

### The Lexan Guards:

There are several ways to clean Lexan and Plexiglas. Companies such as Sumner Laboratories produce products that are specifically designed for cleaning polycarbonate plastics. These cleaners are less abrasive than conventional cleaners such as Windex or isopropyl alcohol. Regular cleaners commonly contain ammonia, which can ruin any polycarbonate plastic.

Begin by using a cotton cloth and water to moisten the surface of the Lexan and to provide lubrication for the cleaner. Spray on a Lexan cleaner, such as Sumner Laboratories' 210, and wipe it clean with a dry, cotton cloth. Cleaners such as 210 are formulated to resist fogging and static, and they help to remove water from Lexan. There are many other cleaners available, and all of them are formulated to help remove fogging or cloudiness from Lexan.

Lexan should never be wiped with a bare hand or scrubbed in a circular motion. Lexan is incredibly strong and versatile, but doing either can cause more harm than good. Always clean Lexan with water and a clean, cotton cloth prior to using any other cleaner. This helps to remove dust and debris that can become embedded into the material when cleaned. Use only a side-to-side motion to wipe off the Lexan. Side-to-side movement allows debris to be pushed off the side of the surface rather than ground into the surface.



## OPTIONAL EQUIPMENT

### Current Options:

Pallet Extension: To increase the amount of pallets your machine can handle, a pallet extension can be added to the top of the hopper. This extension will be shipped separately from your machine. This is to only be installed AFTER the machine is in place and anchored down.

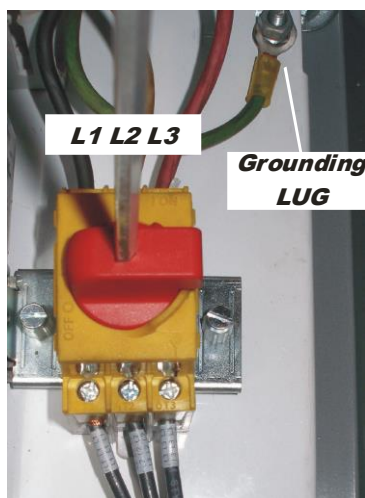
## CONNECTING POWER TO MACHINE

Only connect electrical service after the machine is in place and anchored down.

NOTE: All electrical wiring must be done by a qualified electrician in conformance with the prevailing electrical standards of your area.

### SPENSER WITH CONTROLS PACKAGE:

Bring a three-phase power line into the enclosure and connect the wires to terminals L1, L2, and L3 on the main electrical disconnect switch (Located in the top right of the cabinet). Make sure to provide an appropriate size grounding wire and attach it to the nut of the inside panel. Once you have connected everything and have powered on, you need to check the motor rotation is correct.



To check motor rotation, turn on the machine and using the view panel located on the outside of the control cabinet, go to “utility” screen. Press the “reset” button and if everything is ready to go, you should not have any errors. Make sure the machine is in “manual” mode. Go to the “dispenser” screen and jog down. If the screws are moving in a clockwise rotation, you are ready to go. If it is not, you need to turn all the electric off and switch L1 with L2.

#### SPENSER WITHOUT CONTROLS PACKAGE:

Every pallet dispenser is equipped with a ¼ horsepower gear motor located either in the front or rear of the machine depending which model you have. It is the customer’s responsibility to provide proper motor protection for the machine. Please refer to the motor nomenclature for amperage draw and wire connection.



The machine is capable of routing wire completely around the machine inside and outside of the guards. Please use caution when running wires next to moving parts.

## LUBRICATION



***Avoid serious injury by turning the machine's power off with the main electrical disconnect switch and locking it in the "Off" position before adjusting, servicing, or cleaning the dispenser.***

Under normal use, the Spenser requires very little lubrication. The few areas that do require periodic lubrication is describe here.

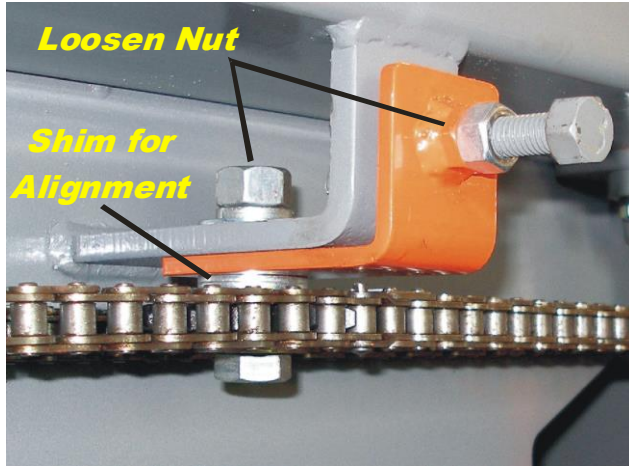
Screw Bearings: The machine has a total of 8 pillow block bearings that each has a zirk fitting. **After every 10,000 cycles (dispensed pallets), apply a shot of petroleum based grease.**

Roller Chain: Depending on the type of pallets you are dispensing will determine how often the chain needs lubrication based on the amount of dust particles the machine creates. **At least once a month perform a visual inspection of the chain and make sure it is always "Wet" and not dried out. Use light-weight chain oil.**

## CHAIN TENSIONING PROCEDURE

1. Disconnect the Dispenser from the main power supply and lock the disconnect switch in the "Off" position.
2. Loosen the hex nut on top of the idler sprocket about 1 complete turn.
3. Loosen the jamb nut on the "adjustment" bolt.
4. Tighten (or loosen) the adjustment bolt until the chain can move only a ¼" at the center of its widest point with your hand.
5. Re-tighten the hex nut on top the idler sprocket and the jamb nut until it is snug.
6. Make sure that the sprocket is engaging the chain in the center. Otherwise, you will create unwanted wear on the chain and sprocket. If it isn't in the center, make sure the screws are resting correctly on the bearings. If they are, you may need to shim the idler sprocket to achieve this.

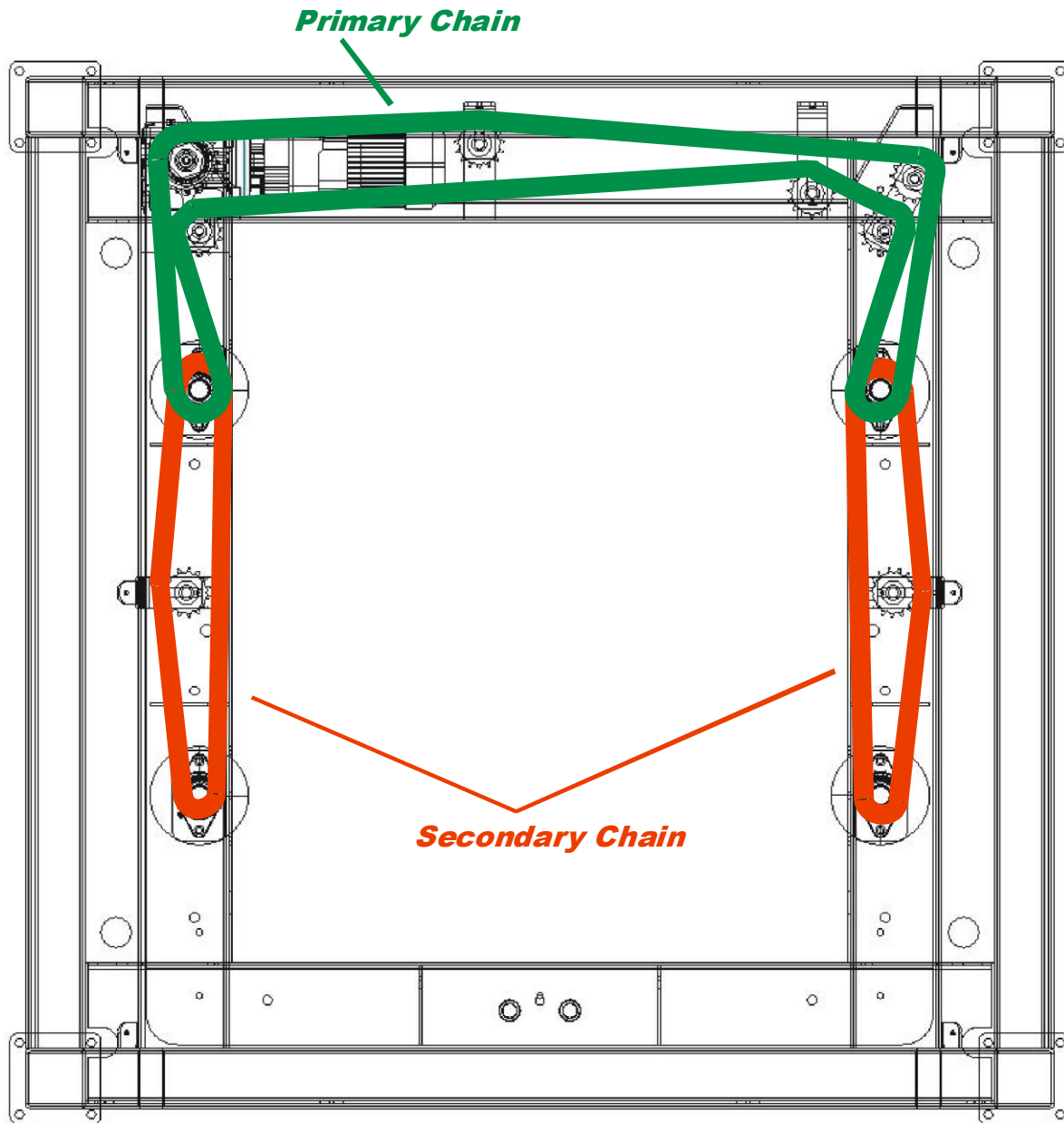
-NOTE: The machine is set correctly for tension and alignment at the factory.



***Avoid serious injury by turning the machine's power off with the main electrical disconnect switch and locking it in the "Off" position before adjusting, servicing, or cleaning the dispenser.***

## CHAIN ROUTING

When routing the chain, follow the diagram below which is in plan-view (looking down on the machine).



## **CHANGING THE SCREWS**

If you need to change a screw due to damage or a different size, follow these steps to ensure easy installation.

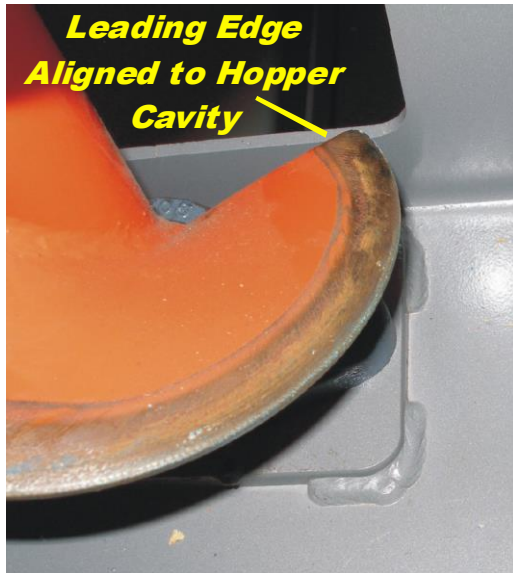
1. With no pallets in the dispenser, jog the screws to where the master link of the chain going around the screw you want to change is accessible to you.
2. Disconnect the Dispenser from the main power supply and lock the disconnect switch in the “Off” position.
3. Using the proper tools, remove the clip from the master link from the chain that wraps around the screw you are about to remove (do not remove the master link itself).
4. Take off all the tension at the idler sprocket. (See chain tensioning for specific instructions.)
5. Completely remove 1 bolt from each of the top and bottom bearings on the screw in question. The bolts in question are collinear to each other.
6. At this point you should be able to remove the master link and set aside the chain.
7. Loosen the set screws in the bearings.
8. Remove the remaining bolt in each of the bearings and completely take out the screw.
9. Remove the bearings and install them on the new screw. Tighten down the set screws in the bearings.
10. Place new screw assembly in the proper spot and put one bolt (loosely) in each of the bearings collinear to each other.
11. Put the chain back on including the master link and clip.
12. Make sure that the screw is “timed” in the same position as the other 3 screws.
13. Place the remaining bolts in the bearings and tighten down all of them.
14. Tension the chain (see chain tensioning).

## **ALIGNING THE INDIVIDUAL SCREWS**

When aligning the screws, refer to the “Changing The Screws” section to get tension out of the chain.

All 4 screws must be close to the same synchronous position in order for the machine to properly dispense a pallet. Misalignment can cause excess weight on any one screw prompting potential damage and/or not allow the pallets to drop correctly.

The simplest way to align all 4 screws together is to use the cavity in the hopper as a guide. Before changing or adjusting the screws, with the pallet dispenser empty, jog the screws to where the leading edge is close to the wall of the hopper. Then proceed to align the screws.



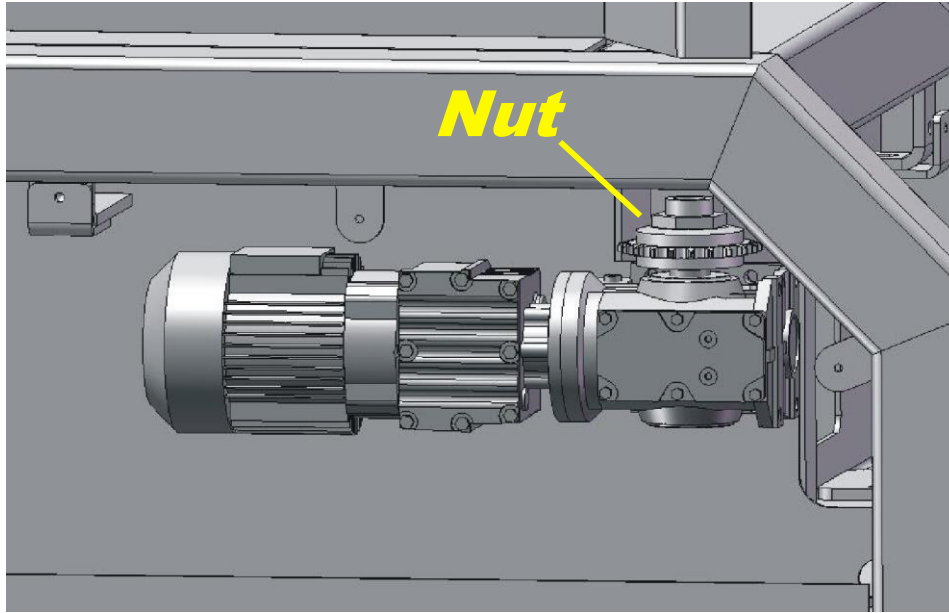
**CAUTION**

***Avoid serious injury by turning the machine's power off with the main electrical disconnect switch and locking it in the "Off" position before adjusting, servicing, or cleaning the dispenser.***

## **FRICTION CLUTCH ADJUSTMENT**

1. Place a full load of pallets in the Dispenser.
2. There are 2 set screw holes in the nut tightened down against the threaded shaft.
3. Remove the set screws using an 1/8" Hex Key.
4. Using the wrench that came with your machine, (2.125) tighten the hex nut a little at a time. (about 5 degree increments).
5. After tightening each time, try to jog a pallet down.
6. Once the screws on the dispenser no longer slip jogging downwards, you have reached proper tension of the friction clutch.
7. One of the two set screw holes should be over the flat spot on the threaded shaft.
8. Replace the set screw and tighten down, leaving the set screw out of the hole that would be engaging the threaded section, otherwise you can damage the thread.





## TROUBLE-SHOOTING GUIDE

Note: It is beyond the scope of this trouble shooting guide to cover every possible problem or cause of a problem. The best trouble shooting guides are a thorough knowledge of the dispensers systems and the technical drawings supplied with the machine.

### Dispenser will not power on

1. Check Main disconnect is not off.
2. Check facilities circuit breaker is not off.
3. Inside control panel – make sure individual breakers or fuses are not off.

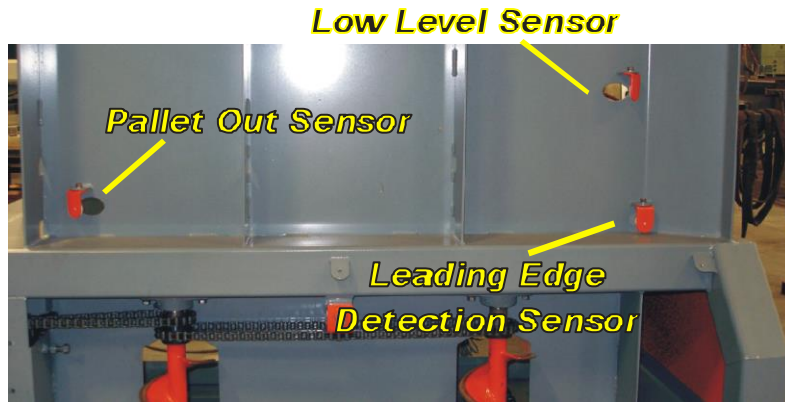
### Dispenser will not go in Auto mode. (only with our provided controls)

1. Make sure Emergency stop is not activated.
2. Make sure system has been “RESET”.
3. Make sure the leading edge photo eye is not obstructed.
4. Make sure there are no obstructions such as a pallet underneath the machine.
5. Make sure the dispenser is not out of pallets in the hopper.
6. Check to see if all corresponding photo eyes are properly working correctly.
  - a. Make sure all photo eyes are aligned properly with their corresponding reflector.
  - b. Make sure all photo eyes have power and are reading correctly.

Dispenser will not jog UP in manual mode (only with our provided controls)

The dispenser is designed to only jog up when the “LOW PALLET SENSOR” is detected. If there are pallets blocking the low pallet photo eye, it will not jog upwards.

Solution: Remove enough pallets where the low pallet photo eye is not blocked.



# PARTS CATALOG

Every effort has been made to provide a complete and accurate parts catalog. However, recent product improvements and special options or components that may be included on your particular dispenser may not appear in this catalog. Our service department will gladly help you with any problems this may cause.

## Electrical Components

When your dispenser requires replacement electrical components, please refer to the dispenser's electrical schematic supplied with your machine. This schematic will contain part numbers that may be specific to your particular dispenser.

## Ordering Parts

When ordering parts, always provide the following information:

1. Dispenser model and serial number.
2. Machine voltage.
3. Part number.
4. Part description.
5. Quantity required.

This information is important to speed the processing of your order and to avoid the cost and inconvenience of shipping the wrong part.

To order parts or request service, contact:

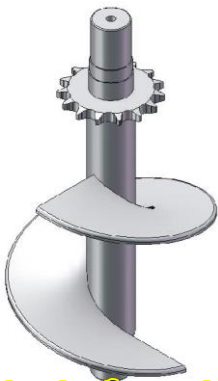
Snapco  
3060 US HWY 27S  
Cynthiana, KY 41031, U.S.A.  
Phone (859) 234-8267  
Fax (859) 234-6665  
Web: [www.snapco.com](http://www.snapco.com)

## Locating your serial number

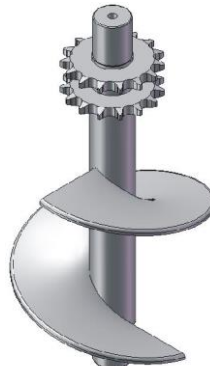
Your serial number plate is located next to your motor behind the guarding of the machine.

<b>Material Handling Equipment</b> <b>SNAPCO</b> <b>PROUDLY MADE IN USA!</b>  <b>3060 US Highway 27s - Cynthiana, KY 41031 - 800.234.8267 - 800.234-6665 fax</b>	<b>Serial No.</b>
	<b>Model No.</b>
	<b>Manufactured</b>

## SCREWS



**Single Sprocket**

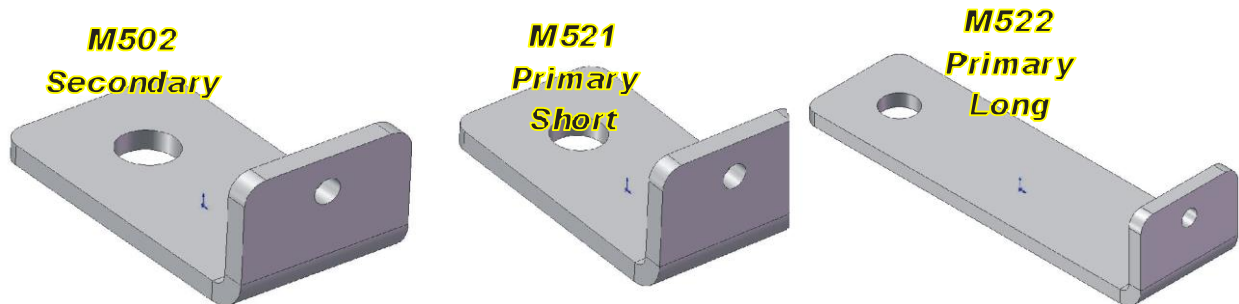


**Double Sprocket**

<u>Part Number</u>	<u>Description</u>
CHEP201	Single sprocket for chep pallet
GMA201	Single sprocket for GMA pallet (Grocery Manufacturers Assoc.)
CUST201	Single sprocket for custom pallet
CHEP202	Double sprocket for chep Pallet
GMA202	Double sprocket for GMA pallet (Grocery Manufacturers Assoc.)
CUST202	Double sprocket for custom pallet

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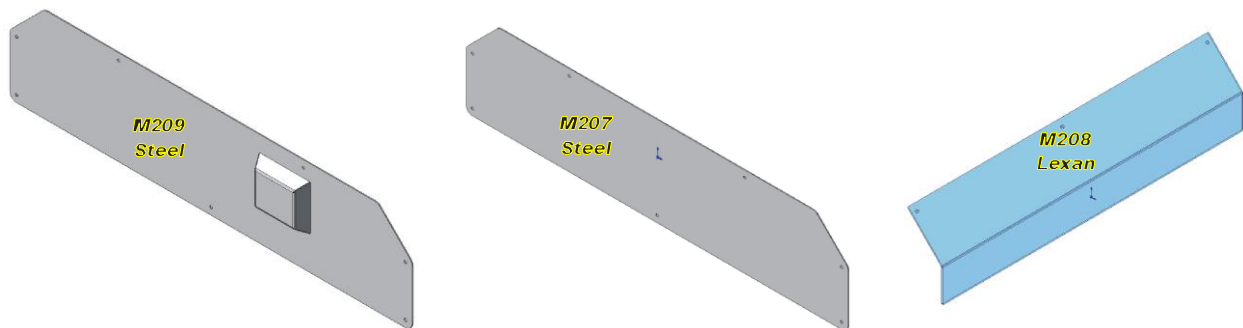
## CHAIN TENSION BRACKET



<u>Part Number</u>	<u>Description</u>
M502	Secondary chain tension bracket (located between the two screws)
M521	Primary chain tension bracket short (located near motor)
M522	Primary chain tension bracket long (located near motor)

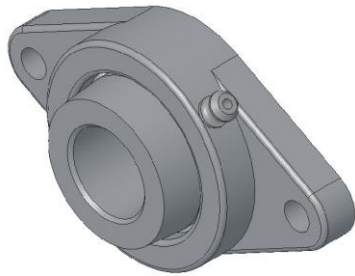
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## GUARDING

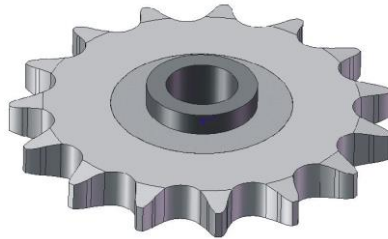


<u>Part Number</u>	<u>Description</u>
M207	Steel guard.
M208	Lexan guard.
M209	Steel guard with motor clearance (used for rear motor mount machines)

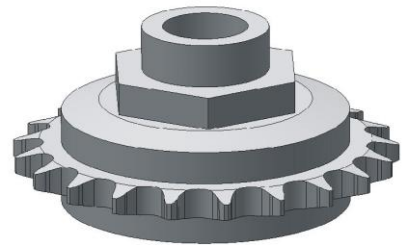
## TRANSMISSION COMPONENTS



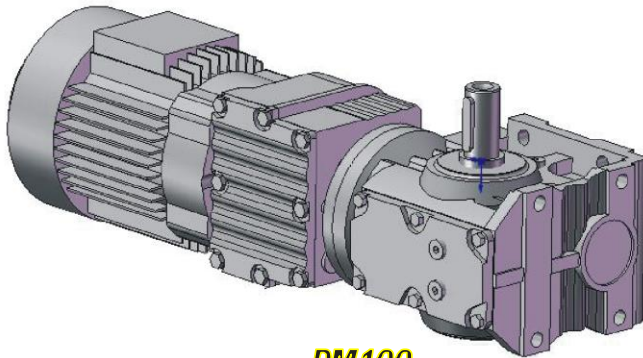
**B201**



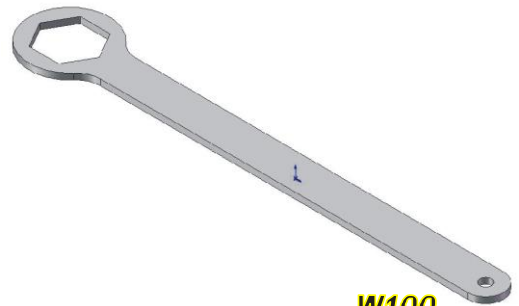
**IS100**



**DS102**



**DM100**



**W100**

<u>Part Number</u>	<u>Description</u>
B201	1.25" 2 bolt flange bearing (2 per screw)
IS100	15 teeth .625" bore idler sprocket
DS102	21 teeth friction clutch assembly
DS103	21 teeth sprocket for friction clutch
DS104	Replacement Friction plate (2 per assembly)
W100	Wrench for friction clutch nut (2.0625 size)
Dm100	Gear-motor – 1/4hp 3ph

## SPECIFICATIONS

\*Continued on next page



# SPECIFICATIONS\*

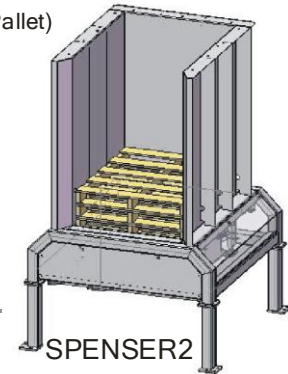
Pallet Type and Size, Dispenser Conveyor Clearance, and Custom Controls Can be Custom Suited to Meet Customers Needs

Variants	Pallet Capacity	Machine Height	Outer Width	Outer Length
Spenser2 (Front Loading)	12	82" + Leg Height**	72"	72"
Spenser3 (Side Loading)	12	82" + Leg Height**	72"	72"
Spenser4 (Floor Truck Dispensing)	12	89"	72"	65"
Spenser GMA/Chep Extension	8	44"	na	na
Spenser GMA/Chep Extension	10	52"	na	na

\*\*Leg Height is calculated by: Floor to top of conveyor + 5.5 inches (For Standard Height Pallet)

## Machine Construction:

4" Square Tube Structural Frame  
3/16" Plate  
Baked Enamel Paint  
Leveling Feet  
Standard Width and Length inside Legs: 60" (Spenser4 Not Applicable)  
Estimated Weight of Dispenser: 1800lbs (Not including Controls)  
90% Non-Proprietary Components  
Friendly Wire Run System



SPENSER2

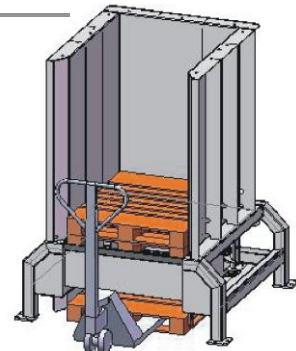
## PERFORMANCE

Dispensing Speed: 5 Pallets Per Minute/ 300 Pallets Per Hour

## ELECTRICAL

### Standard Package

Supply Voltage:	220-480v 3ph
Power Consumption:	<5 amps
Disconnect:	16 amp Rated Non-Fused IEC
Protection:	IP66
Motor:	1/4 hp Gear Motor. VFD Rated
Ambient Temperature:	0-45 deg. C (32-113 deg. F)
Control Panel:	On Cabinet - 3.5" Touch Screen.
E-Stop:	Mushroom Style w/ Tie in to External System
Machine Interface:	PLC Control
Customer Signals (Handshaking)	24VDC power for PLC, Photo Eyes, Signals. Relay Signals on Accessible Terminal Blocks



SPENSER4

### Optional

Controls:	No Control Package. Only Motor Included Photo Eye Package. Tied to a Common Junction Box. Motor Included.
Zones Package:	Control Up to 8 Conveyor Zones
Manufacturer Upgrade:	Allen Bradley. PLC, View Panel, and Motor Controls.
View Panel:	6" Touch/Monochrome Screen 6" Touch/Color Screen
Fieldbus:	DeviceNet Ethernet 10/100mbs
Customer Signals:	Harding Style External Plug
Warning:	Stack Light (Error/Low Pallet/Sys. OK) Audible Alarm
Temp Control:	Air Conditioner on Cabinet
Safety:	Category 4

\* All specifications are subject to change without notice.