FLOOR LEVEL GAYLORD TILTER

Item #115952 / #116291 / #116288 / #148081 / #133309

INSTRUCTION MANUAL

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Contents

1. Introduction 3
1.1 Using This Manual 3
2. Description of Equipment 4
2.1 Specifications 4
2.2 Equipment Details 4
3. Safety 5
3.1 User/Owner Responsibility 5
3.2 Safety Guidelines 5
3.3 Energy Isolation 6
4. Installation 7
4.1 Pre-Shipment Planning 7
4.2 Inspection of Shipment 7
4.3 Installation Guidelines 7
4.4 Purchased Component Installation and Setup 8
4.5 Retrofit Packages 8
5. Sequence of Operation 9
5.1 Operation 9
5.2 Loading 9
5.3 Foot pedal operation 9
5.4 Hand valve operation 9
6. Maintenance 10
6.1 Considerations 10
6.2 Maintenance Schedule 10
6.3 IMS Service 10
Spare Parts 11
7. Caster Retrofit Package 12
7.1 Installation 12
7.2 Operation 12-13
8. Safety Ratchet Retrofit Package 14
8.1 Installation 14-15

1. Introduction

At IMS, we provide our customers with tools to improve product quality, increase safety and hygiene in the manufacturing process, and reduce operating costs. This manual is an extension of our commitment to the success of our customers and the safe, optimal performance of our systems.

1.1 Using This Manual

The purpose of this manual is to provide system-specific information that can be used to train personnel and generate in-house procedures for safely operating and maintaining this system. This manual is intended for users with a basic understanding of industrial/automated equipment.

1.1.1 Symbols

The following symbols are used in this manual to identify information on hazards and prevention, as well as protection of the system.

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates a practice that is not related to personal injury.

1.1.2 Terms and Definitions

The list below contains common terms and abbreviations used in this manual, along with definitions.

Term	Definition
Supplier	IMS
User, Owner	Individual or corporation that utilizes and/or owns the system
Personnel, Operator	Individual employed on behalf of or by the user/owner
Hazard	Potential cause of harm
In-house	Conducted from within your organization
PPE	Personal Protective Equipment
ANSI	Approved American National Standard
OSHA	Occupational Safety & Health Administration

2. Description of Equipment

IMS systems are engineered to improve productivity by controlling the flow of materials. We provide robust, high-quality equipment that has been refined over time, to minimize required maintenance and maximize equipment lifespan. This section describes the specifications of your system.

2.1 Specifications

The table below contains the specifications of your system. Refer to this information for warranty claims and spare parts purchasing.

IMS Item Number	115952, 116288, 116291, 133309, 148081
Spare Parts	800-537-5375

2.2 Equipment Details

The Floor Level Container Tilter (FLT) is designed to tilt Gaylord boxes of material as they are emptied. The FLT can be loaded/unloaded with a pallet truck or a fork lift.

Specifications	
Dimensions	52" x 70½" x 36" high
Floor space requirements	71" x 80"
Table height	Floor
Tilt capacity	2,500 lbs.
Maximum box size	44" square
Base frame material	7 gauge steel
Tilter bucket material	7 gauge steel
Wand holder	¾" dia. steel extension bar with 3½" I.D. wand holder
Shipping weight	430 lbs.
Tilter actuator	Heavy duty multi-ply air bag
Regulator	Factory preset to 43 PSI
Air requirement	40-100 psi, 2 CFM usage per cycle
Control options	Hand control valve or foot control valve

DANGER: Do not process flammable, explosive, toxic, or otherwise hazardous materials without first performing an appropriate Process Hazard Analysis (PHA).

IMS cannot be an expert in the chemical and biological properties of the infinite number of materials that could be handled by this equipment. This equipment is not designed to safely process hazardous materials unless additional precautions are taken.

Before processing any materials that are or can react to become flammable, explosive, toxic, or otherwise hazardous, the user/owner must perform a thorough risk assessment and Process Hazard Analysis of the entire process, including contingency plans for dealing with processing errors and upset conditions.

3. Safety

Always observe the safety precautions below, as well as in-house guidelines and federal, state, and local codes/standards. Read and understand all operating information and drawings/schematics before using this system.

3.1 User/Owner Responsibility

Above all, it is the responsibility of the user/owner to provide a safe working environment, including:

- Compliance with all applicable health and safety codes/standards
- Training for all personnel
- Provision of appropriate PPE
- Proper maintenance and operation of systems/equipment

3.2 Safety Guidelines

- Ensure that the motor and frame of the system are grounded in accordance with all federal, state, and local codes/standards.
- Do not use a damaged electrical supply cable or a connection that it not approved by federal, state, and local codes/standards.
- If your IMS system is designed to be integrated with an existing system, install the appropriate lockable disconnect/relief device for each energy source (in accordance with federal, state, and local codes/standards).
- All moving parts of this system must be fully covered by guarding. IMS offers a full system safety cage as a protective measure. It is the responsibility of the user/owner to select and implement the appropriate protective equipment (in accordance with federal, state, and local codes/standards).
- DO NOT operate this system with any of the safety guards or devices removed, defeated, or bypassed. Operate this system only when all safety guards/devices are in place and operational.
- DO NOT operate this system until you have been fully trained.
- Installation, service, and maintenance of this system must only be performed by experienced, qualified personnel.
- DO NOT wear any items that could get caught in the moving parts of this system.
- Never place any part of your body under or near rotating members or moving parts of machinery.
- Isolate energy and perform your lockout/tag-out procedure before a adjusting, servicing, repairing, maintaining, or clearing blockages from this system. Refer to the Energy Isolation section for additional information.
- Perform scheduled inspections and maintenance of the system (refer to the Maintenance section for additional information). Repair/replace defective components immediately, and do not operate the system until it is in proper operating condition.
- DO NOT wash down electric motors (unless wash-down rated).
- If any safety decal is damaged or not readable, shut down the system and do not resume operation until the decal is replaced. For current pricing and delivery, contact IMS at (800) 537-5375 or visit www.imscompany.com.

3.3 Energy Isolation

NOTE: Your system may not use all energy sources listed below.

3.3.1 Energy Sources

This system incorporates separate energy sources. Proper shutdown and lockout/tag-out must only be performed by qualified personnel, and must include disabling of all energy sources including but not limited to the following:

- Electrical: Shut off and lock out all electrical disconnects. Verify electrical power is in the *off* state.
- Hydraulic: Verify proper electrical lockout/tag-out of the system. Verify that hydraulic unit cannot be started. Review schematics for areas of stored energy, and relieve/restrain as appropriate.
- Pneumatic: Disconnect/shut off system air supply, bleed air from the system, and lock out. Review schematics for areas of stored energy, and relieve/restrain as appropriate.

3.3.2 Energy Isolation Method

Before adjusting, servicing, repairing, maintaining, or clearing blockages from this system, complete the procedure below.

1. Review and become familiar with all documentation and schematics. Identify energy sources and stored energy.
2. Wear appropriate personal protective equipment.
3. Evaluate the requirements of your task, including the position of actuators/devices.
4. Move the actuators/devices into the appropriate position.
5. Using the appropriate device(s), pin or block components that may be affected by mechanical motion (such as motion due to gravity).
6. Shut off/disconnect the main air supply.
7. Release stored energy as necessary.
8. Shut off/disconnect the main electrical power source.
9. Perform your in-house lockout/tag-out procedure.
10. Verify that all energy sources are in the off/neutral state.

4. Installation

WARNING: Installation must only be performed by qualified professionals with the appropriate credentials for all required tasks.

4.1 Pre-Shipment Planning

Prior to shipment of the system:

1. Ensure that your facility has an adequate foundation to support the system. Consider the system weight and material weight.
2. Determine the appropriate anchoring method for the system.
3. Ensure that your facility entrances can accommodate the system.
4. Determine the equipment required to move the pieces of the system, including vehicles and rigging. Allow only qualified professionals to operate the equipment and move pieces of the system.

4.2 Inspection of Shipment

Upon receiving the system:

1. Ensure that all pieces of the system are present and not damaged.
    a. Report shipping damage to the carrier before the carrier leaves your facility. All claims must be filed before the carrier leaves the unloading site.
    b. Report any missing components to IMS immediately.
2. Remove shipping supports from the system.
3. Plan the order in which to move/place the pieces of the system. The piece of the system containing the datum point should be positioned first.

4.3 Installation Guidelines

NOTICE: All plumbing and wiring must meet or exceed all federal, state, and local codes/standards, and must be installed by qualified personnel.

WARNING: Before use, FLT must be secured to floor using four holes in bottom of frame.

WARNING: The air regulator is pre-set to 43 psi and cannot be adjusted to higher pressure. Operating at a higher pressure can rupture air bags.

1. Level the piece, then anchor it to the floor using (4) holes in bottom of frame.
2. Keep air hose tight against the front panel to prevent wear between the hose and air bag.
3. FLT can be hooked up to any 40-100 psi air system.
4. Turn ball valve to open position to enable air.

4.4 Purchased Component Installation and Setup

For information on installation and setup of major purchased components, refer to manufacturer documentation.

4.5 Retrofit Packages

For information on installation and setup of retrofit packages, refer to corresponding Retrofit section of this manual. Retrofit packages include:

- Caster Retrofit
- Safety Ratchet Retrofit
- Electric Vibrator
- Pneumatic Vibrator

5. Sequence of Operation

5.1 Operation

WARNING: When FLT bucket is in UP position, never stand behind bucket or put any part of your body under or in bucket.

5.2 Loading

Note: Bucket must be flat on floor before loading.

1. Load gaylord so it fits tightly into rear corner of bucket.
2. Lower vacuum wand holder into hole on FLT frame and tighten screw at base.
3. Insert vacuum wand into wand holder and into full gaylord.
4. Place pedal/valve in appropriate position, as described below.

NOTE: As weight in gaylord decreases, bucket lifts from floor position. Lifting begins when cargo weight is less than 900 lbs.

5.3 Foot pedal operation

NOTE: Pedal can be positioned on either side of frame for operation.

a. Full forward - inflate position.
b. Flat pedal - neutral position.
c. Full back - deflate position.

5.4 Hand valve operation

a. C1 - Releases air and lowers bucket.
b. N - Holds bucket in raised position.
c. C2 - Inflates air bags to raise bucket.

6. Maintenance

6.1 Considerations

The recommendations below are a guide; they are not all-inclusive. Use these recommendations, along with the OEM recommendations, to develop a preventative maintenance plan that is fitting for the environment of your system.

WARNING: NO persons, other than qualified personnel, should maintain or service this system.

WARNING: Use caution when servicing fluid power systems. Improper maintenance procedures involving pneumatic or hydraulic systems can cause a device to move unexpectedly, resulting in equipment damage or personnel injury. Safeguard or restrain moveable devices in accordance with applicable safety standards before servicing.

WARNING: Before performing maintenance on this system, ensure that all energy sources are properly isolated as described in the Safety–Energy Isolation section.

6.2 Maintenance Schedule

- Periodically grease pivot bar through grease fitting on center of hinge.
- Periodically apply oil or lubricant to air bag pivot pin.
- Refer to manufacture documentation for maintenance of purchased components.
- Replace damaged or worn components before operating machine.

6.3 CKQ Service

IMS maintains a service organization at its Chagrin Falls, Ohio facility. Troubleshooting and other telephone support is available during normal business hours. Site support will be quoted as required.

Spare Parts

Contact IMS for current pricing.

Part Description	Item Number
Tilter	
Regulator	115879
Relief valve	RFQ
Air bag	113001
Valve, hand	124995
Hose barb, 1/4" hose to 1/4" NPT	RFQ
Hose barb, 1/4" hose to 3/8" NPT	RFQ
Air hose, ¼"	RFQ
Weldment, wand holder, carbon steel	132185
Weldment, bucket, carbon steel	RFQ
Weldment, frame, carbon steel	RFQ
Bracket, air bag mount, carbon steel	130703
Chain, 9/32" Hercalloy	RFQ
Pin, air bag pivot	130702
Pin, bucket pivot	RFQ
U-bolt, 3/8-16, zinc plated	147974
Safety Ratchet	
Air cylinder	129445
Clevis, Parker	RFQ
Toothed support, CS	148495
Locking lever, CS	142817
Retaining ring, ¼"	RFQ
Retaining ring, ¾"	RFQ
Electric Vibrator	
Vibrator, Powtek	RFQ
Cord grip	RFQ
Air Vibrator	
Air Vibrator, Vibco	132947
Valve, ¼" NPT Shut Off, Apollo Brass	RFQ
Filter/Regulator	RFQ

7. Caster Retrofit Package

7.1 Installation

WARNING: Before installing caster package, removal of bucket and air bag inflate system from base is recommended so as not to damage air bag during drilling of mounting holes.

7.1.1 Removal of Bucket and Air Bags from Base

1. Detach factory air hose from main air regulator assembly.
2. Ensure bucket is empty.
3. Remove Nylock nuts holding air bag and bucket to frame.
4. Remove Nylock nuts holding chain to frame.
5. Remove set screws holding pivot pin in place.
6. Remove pivot pin.
7. Move FLT bucket and air bag forward out of frame leaving enough room to work.

7.1.2 Caster Assembly Placement

1. Facing rear outer surface of FLT support frame, with caster wheel retracted, drill holes and mount rear caster assembly.
2. Facing left outer surface of FLT support frame, with wheel retracted, place left caster assembly under lip of frame and move it forward until caster assembly stops. Drill holes and mount left caster assembly.
3. Facing right outer surface of FLT support frame, repeat steps 1-2 as for mounting left caster assembly.

7.1.3 Hand Valve Mounting

1. Drill and mount caster hand valve on rear section of right FLT support frame panel.
2. Remove existing hose and hose barb from existing FLT air regulator assembly.
3. Insert ¼" nipple into regulator.
4. Screw ¼" NPT tee into nipple.
5. Install ¼" hose barbs on each end of tee.
6. Attach ¼" hose to each end of tee, one attaching to caster hand valve, and other to original FLT bag inflate system and valve.
7. Attach factory air hose to original FLT bag inflate system hand valve.
8. Using clips, attach hoses to frame.

7.1.4 Reinstallation of Bucket and Air Bag into Base

1. Slowly move bucket and air bag assembly back into frame of FLT, lining up parts of hinge as well as bolt holes for bolts from air bag.
2. Insert hinge pin into hinges.
3. Insert screws into hinge to hold hinge pin into place.
4. Replace nuts onto air bag bolts.
5. Reinstall chain and bolt into place.

7.2 Operation

CAUTION: Casters are to only be used for moving FLT when bucket is EMPTY.

CAUTION: Test caster system before using.

7.2.1 Hand Valve Operation

Hand valve positions include:

- C1 - Releases air and raises casters.
- N - Holds casters in place when air supply is removed for movement of FLT.
- C2 - Takes in air to lower casters for movement of FLT.

8. Safety Ratchet Retrofit Package

8.1 Installation

8.1.1 Bucket Removal

1. Ensure bucket is empty.
2. Remove air supply from main air valve.
3. Unbolt main air valve from bucket.
4. Remove set screws at each end of pivot that holds bucket to frame.
5. Remove pivot pin.
6. Remove cotter pin from air bag pivot pin.
7. Remove air bag pivot pin.
8. Move bucket out of frame.

8.1.2 Mounting Cylinder Bracket Assembly

1. Turn bucket so left side is up.
2. Place cylinder bracket assembly tightly onto left outer side of bucket frame weldment.
3. Trace 4 holes (in square hole pattern) onto weldment near chain mount.
4. Trace 4 holes (in offset hole pattern) onto bottom part of weldment.
5. Center punch holes.
6. With ⅛" drill bit, drill pilot holes.
7. With 21/64" drill bit, drill clearance holes into pilot holes.
8. Using 5/16" bolts and 5/16" locknuts, bolt the cylinder assembly into place.

8.1.3 Mounting Gear Ratchet

1. Facing inside of frame, place template into right corner of frame weldment.
2. Trace the (6) holes onto the inside of frame weldment.
3. Center punch holes.
4. With ⅛" drill bit, drill pilot holes.
5. With ¼" drill bit, drill clearance holes into pilot holes.
6. With 5/16" Tap, tap holes. Very slowly back out 2 turns for each hole.
7. Using 5/16" bolts, lock washers and flat washers (in that order), bolt gear ratchet into place.
8. Bring gear ratchet up as high as it can go, then tighten bolts, BUT NOT COMPLETELY. Permanent tightening will be made in final adjustments.

8.1.4 Reconnect Bucket to Frame

1. Back bucket into frame.
2. Realign frame/bucket pivot.
3. Realign air bag pivot.
4. Replace air bag pivot pin and cotter pin.
5. Reattach safety chain.
6. (Optional) You may lubricate pivot pins at this time.
7. Reattach hand lever.

8.1.5 Running Air Hose

1. Run air hose under bucket weldment where bucket pivot pin is located. Attach hose to clips at current hose junction.
2. Remove plug from hand lever control. May be located differently on your model.
3. Screw hole barb into opening.
4. Attach hose to barb.
5. Reconnect air supply.