

**Chain Conveyor  
Model 248**

**2<sup>nd</sup> Edition**

***AMADAS***

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**May 2002**

**MAN067**

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*Chain conveyors are manufactured  
by AMADAS Industries.*

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# ***AMADAS***

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## **Welcome to AMADAS Industries**

With origins dating back to 1963, AMADAS Industries and its predecessors have a long history of providing high quality, reliable, innovative equipment for the farming industry. AMADAS equipment is currently at work throughout the United States and in many other countries. This equipment includes machinery such as the Magnum Fource Peanut Combine, Reel Rain Traveler Irrigation System, Tree Bark Processing and Packaging Machinery, the Soils and Bark Bagger, and various sizes of Chain Conveyors.

# Chain Conveyor

Congratulations on your purchase of a Model 248 Chain Conveyor. Designed for heavy duty, industrial applications, the AMADAS 248 Chain Conveyor will provide a consistent flow of bulk products with minimal maintenance or down time. Solid steel I-beam construction ensures structural durability for heavy product loads such as compost, soils, hardwood mulch, or pine bark nuggets.

Our Model 248 Chain Conveyor has a proven track record. We at AMADAS are confident your conveyor will provide you with many years of trouble-free use.

The Model 248 Chain Conveyor is available in 12, 18, 24, and 48 inch widths.

## Standard Features

Our rugged chain conveyor includes the following standard features:

- Offset-link roller chain(s) with 3" tall welded flights.
- Heavy I-beam construction.
- Shielded chain return.

## Optional Features

The following optional features are available for the chain conveyor:

- Discharge spout.
- 3/8 " thick polyethylene slides (full width of trough).
- Two six-inch side strips of polyethylene on return.

## Specifications

<b>248 Chain Conveyor Capacity</b> (depth of product: 9")			
<b>Gearbox</b>	<b>Cubic Ft/Min (12/48 tooth)</b>	<b>Cubic Yd/Hr (12/48 tooth)</b>	<b>Speed Ft/Min (12/48 tooth)</b>
50:1	8.56	19.0	11.41
30:1	12.69	30.4	19.02
20:1	20.50	45.5	28.53

<b>248 Chain Conveyor Dimensions</b>					
<b>Dimension</b>	<b>12" Model</b>	<b>18" Model</b>	<b>24" Model</b>	<b>36" Model</b>	<b>48" Model</b>
Inside conveyor width	12"	18"	23 ½ "	36"	47"
Outside conveyor width (frame edge to frame edge)	15 3/8 "	21 5/8"	27 1/8"	39 5/8"	50 5/8"
Trough height (top of conveyor frame to bottom of frame)	18 ½"	24 ½"	21 5/8"	24 ½"	24 ½"
Inside depth (top of conveyor frame to top of conveyor)	11 ¼"	14 ¼"	14 ¼"	14 ¼"	14 ¼"

# 1. Safety

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## Overview

Safety is **everyone's** responsibility! Although safety features are incorporated into the machine and dangerous areas are marked, ultimately, careful operation is the best way to prevent accidents. To reduce the risk of accidents, please read thoroughly and follow the safety instructions and messages included in this manual and on the machine.

## Safety Symbols Used

Three safety symbols are used on the machine and in this manual.

 **DANGER!**

 **WARNING!**

 **CAUTION!**

*Please familiarize yourself with each symbol and its meaning. It is crucial to your safety, and the safety of others, that you follow the safety precautions indicated by these symbols. The section beginning on the next page explains each of these symbols in detail.*

## Protective Devices

Protective guards and shields have been installed to protect you from hazards.

 **CAUTION!**

***NEVER remove, tamper with, or modify guards or shields!***

***NEVER open or take off the shields while the machine is operating!***

***NEVER run the machine if the shields are missing or removed!***

## Safety Symbols

### Danger

This symbol indicates an imminently hazardous situation, which if not avoided, will result in death or serious injury. The use of the word DANGER is limited to the most extreme situations. Extreme care should be taken when you near these areas. DANGER decals are located at or as near as possible to these areas.



### Warning


This symbol identifies areas or practices, which if not avoided, could result in serious personal injury. These injuries could range from minor cuts to dismemberment. Warning decals are located at or as near as possible to these areas.

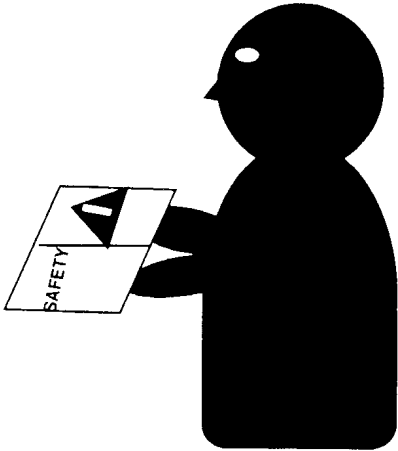


### Caution

This symbol identifies a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices that could cause damage to the machine. Caution decals are located at or as near as possible to these areas.



<p><b>Safety Alert Symbol</b>                  This symbol alerts you to possible hazards. Follow the recommended precautions and safe operating procedures. If you have any questions, please contact your dealer or the manufacturer.</p>	
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<p><b>Safety Instructions</b>                  Safety features have been designed into the machine with hazardous areas marked. Please read and follow the instructions in this manual prior to operating, maintaining, or servicing this machine.</p>	
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<p><b>Notes</b>                  Throughout the manual, information that needs to be emphasized is set apart with either a "NOTE!" or "IMPORTANT!" heading. Please be sure to carefully read this information, as it usually indicates a situation that could cause machine damage.</p>	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p><b>NOTE!</b> It is recommended that a lockout power disconnect switch be installed at the chain conveyor for the protection of the maintenance personnel.</p> </div>
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## Safety Guidelines



***Many accidents can be prevented by your knowledge of safety. Prevent injuries by reading and following the safety warnings in this manual and on the machinery. Alert others to potential hazards.***

***Remember all machinery can be dangerous if used incorrectly. Please operate carefully. Safety is only a word until it is put into practice!***

### When operating the machine:

- Keep hands, feet, and clothing away from moving parts.
- Keep all safety shields in place.
- Do NOT allow anyone to stand on or cross over the machine during operation.

### When servicing the machine:

- Disconnect and lock out power before servicing.
- Keep all personnel away from chain conveyor while maintenance personnel are servicing the machine.
- Use stable work platforms to reach any point not easily reached from the floor level.

### **DANGER!**

*Always lock out and tag the chain conveyor power disconnect switch before performing any kind of maintenance. Failure to turn the power off can lead to death or serious personal injury.*

## Safety Decals

Safety decals identify specific hazards and general safety. Please note the following about the decals:

- Keep them clean and legible.
- Never remove a safety decal from the machine.
- When you replace a part with a safety decal, also replace that decal.
- For replacement decals, call your AMADAS parts representative.
- Replacement safety decals are available free of charge.

## Decals

The following decals are included on the chain conveyor:

**NOTE!** The basic safety decals used by AMADAS are listed. Your particular machine may include additional safety decals.

**8188 CAUTION** Do Not Operate Unless all Safety Shields & Guards in place.

**8190 CAUTION** 1) Keep all shields in place while Machinery is in Operation. 2) Disengage Power before proceeding to adjust, lubricate, clean, unclog or otherwise work on machine unless specially recommended in the Operator's Manual. 3) Wait for all motion to stop before servicing this machine. 4) Keep Hands, Feet, and Clothing away from moving parts. 5) Keep off Equipment unless seat or platform for operation is provided. 6) Keep all others off. 7) Make certain everyone is clear of machine before starting.

**8191 CAUTION** Do Not Operate this machine until you have read and understand the operators manual. If you do not have a copy of the operators manual contact your dealer or our factory Immediately.

**8343 AMADAS American Made**

# 2. Installation

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## Before Installing

Before you install the chain conveyor, please read the following:

- Carefully read over the installation instructions and familiarize yourself with the installation procedure.
- Determine where the conveyor will be located. Design and fabricate any necessary supports for the conveyor in accordance with OSHA standards and relevant local standards.
- A 48" wide conveyor is usually supported along its entire length. If the 48" wide conveyor is used in a free-standing application, it must be supported at 10' intervals or less along its entire length.

All conveyors longer than 40' need to be supported at their midpoints as well as at both ends.

- Perform the pre-installation inspection indicated on the checklist.

### ***Inspection Checklist***

- √ Remove all packing materials.
- √ Carefully inspect the conveyor and all associated parts and equipment.
- √ If there is any evidence of damage from shipment or handling, report it immediately to your AMADAS representative.

## Installation Instructions

1. If you haven't already done so, determine where the chain conveyor is to be located. Design and fabricate all necessary supports for the conveyor in accordance with OSHA standards and relevant local standards.

**IMPORTANT!** Any conveyor longer than 40' must be supported at its midpoint as well as both ends. If a 48" wide conveyor will *not* be supported along its entire length, you must install additional supports at 10' or less intervals along its whole length.

**NOTE!** It is recommended that a lockout power disconnect switch be installed at the conveyor for the protection of the maintenance personnel. The emergency stop switch also allows the machine to be shut off in the event of an emergency.

2. Position the conveyor in the desired location and bolt or weld the supports to the conveyor.
3. Make sure the conveyor is level across its width. If it is not level, material may pile up one side rather than flow smoothly.

### **CAUTION!**

The electrical circuit to the conveyor should be installed by a qualified, certified electrician familiar with machinery installation.

4. Properly size and install the electrical circuit to the conveyor in accordance with the electric motor nameplate, the National Electrical Code, and all relevant local codes.
5. Install a power disconnect switch that can be locked in the open (OFF) position at the conveyor in accordance with the National Electrical Code. Install an emergency stop device as described by ANSI B20.1-1976.

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# 3. Operation

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## Pre-Operation Checklist

Before using the conveyor, perform the checklist below to make sure that the machine is ready to be used.

### **CAUTION!**

*Always* set the power disconnect switch to OFF before performing checks. Failure to turn the power off can lead to personal injury.

### ***Pre-Operation Checklist***

- √ Check the conveyor for obstructions which could interfere with operation of the conveyor.
- √ Check all shields. **DO NOT OPERATE UNLESS ALL SHIELDS ARE IN PLACE!**
- √ Verify that all associated equipment used with the conveyor is ready to operate.
- √ Verify that all personnel are clear of the conveyor.

## How to Use the Conveyor

Follow the steps below to use the chain conveyor:

**NOTE!** The procedure for starting up your machine may vary for your particular system.

1. Verify the conveyor is ready for use by completing the “Pre-Operation Checklist” on the previous page.
2. Turn on the power to the conveyor and all associated equipment. The conveyor should start operating.

**IMPORTANT!** An emergency stop device should be installed on or near the conveyor that can be activated in case of an emergency.

3. Verify that the conveyor and all associated equipment are operating properly. Make any necessary adjustments to keep the operation running smoothly.

### **CAUTION!**

Shut off power before making any adjustments. If power is required to make an adjustment, use extreme caution to avoid contact with moving parts.

## How to Stop the Conveyor

1. Turn off the power to the conveyor and all associated equipment.

**NOTE!** The procedure for shutting down your machine may vary for your particular system.

2. Verify that the conveyor stops.
3. If the machinery is to be left unattended for any length of time, lock out and tag the power disconnect switch and all circuit breakers.

### **CAUTION!**

Do NOT leave the conveyor unattended without locking out and tagging the power disconnect switch and all circuit breakers. Failure to disconnect the power could result in serious personal injury.

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# 4.

# Maintenance

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## Regular Maintenance

We strongly recommend that you perform regular maintenance on your chain conveyor to help ensure efficient and safe operation. This section describes the maintenance that needs to be performed according to the Maintenance Chart on the following page.

A Maintenance Log is included in the **Appendix**. Please copy this log and use it to maintain records of maintenance performed on the chain conveyor.

## Powering Down the Machine

**IMPORTANT!** Before any kind of maintenance is performed on the conveyor, it must be powered down. Follow the steps below to make sure the chain conveyor is shut down completely.

1. Turn off power to the conveyor and all associated equipment.
2. Lock out and tag the conveyor power disconnect switch.
3. Verify that power is off by performing the following checks.
  - a. Turn on power to the conveyor, leaving the power disconnect switch locked out. Verify that the conveyor does not operate.
  - b. Turn off power to the conveyor and lock out and tag all circuit breakers.
  - c. Using a volt meter, verify that incoming power is disconnected from the conveyor.

## DANGER!

*Always* lock out and tag the conveyor power disconnect switch before performing any maintenance. Failure to turn the power off can lead to death or serious personal injury.

## After Servicing the Machine

Once maintenance has been completed and all safety checks are performed, restart the conveyor for operation as follows:

1. Check all shields. **DO NOT OPERATE UNLESS ALL SHIELDS ARE IN PLACE!**
2. Make sure that everyone is clear of the conveyor.
3. Turn the power disconnect switch ON.

**NOTE!** The procedure for turning your machine back on may vary for your specialized system setup.

4. Turn on the power to the conveyor and all associated equipment. The conveyor should start operating.

**NOTE!** According to local or OSHA code, an emergency stop button/switch may be needed on or near the conveyor. If you've equipped your conveyor with this button or switch, activate the emergency stop in the event of an emergency.

**Maintenance Schedule**

Item	Action	Interval			
		Weekly	Monthly	Every 6 Months	Yearly
Bearings	Lubricate			X	
Chains	Inspect		X		
Gearbox	Change oil				X
Infeed Flap	Inspect				X
Motors	Clean	X			
Trough Slides	Inspect				X
Shields/Decals	Inspect				X


**DANGER!**

Always lock out and tag the conveyor power disconnect switch before performing any maintenance. Failure to turn the power off can lead to death or serious personal injury.

**Bearings**

Bearings should be greased every six months.

1. Power down the machine according to the instructions on page 16.
2. Using a hand-operated grease gun, add a single pump of NLGI no. 2 multi-purpose ball bearing grease to each bearing.

**NOTE!** Keep grease fittings clean by wiping clean with a rag prior to greasing the bearings. Cleaning the fittings helps prevent dirt from entering and damaging the bearings.

**Chains**

Chains should be inspected every month. Regular inspection can increase the life of each chain and prevent unnecessary stops in machine operation.

**Drive Chain**

1. Power down the machine according to the instructions on page 16.
2. Remove the safety shield covering the drive chain.
3. Clean the drive chain with a rag. Regular cleaning will help prevent grime build up and help the chain last longer.
4. Inspect the drive chain and sprockets and replace if damaged or excessively worn.

**NOTE!** We recommend that you replace sprockets and chains as a set, since new components used with old components will wear out faster than normal.

5. Adjust the drive chain tension by moving the chain idler wheel. The chain should be tight enough so that it can be displaced by hand approximately  $\frac{3}{4}$ " midway between the sprockets.
6. Replace the drive chain safety shield and bolt in place.


**CAUTION!**

Do NOT operate the conveyor without the safety shields in place. Doing so can cause serious personal injury.

**Material Feed Chains**

1. Power down the machine according to the instructions on page 16.
2. Inspect the material feed chains for damage, excessive wear, or missing flights.
3. If the flights are damaged or missing and chain is not damaged, weld new flights to the chain. If the chain is damaged, replace the entire chain.

**NOTE!** Do NOT weld the flights to the link pins. The pins must be free to rotate as the chain moves.

4. Inspect the sprockets for damage, wear, or missing teeth. If damaged or excessively worn, replace the sprockets and chains as a set.

**NOTE!** We recommend that you always replace sprockets and chains as a set, since new components used with old components will wear out faster than normal.

5. Adjust the tension in the material feed chains by uniformly tightening the adjuster bolts. The chains should be tight enough so that they are moving smoothly around the drive sprockets and are not bunching up in front of the sprockets.

**Gearboxes**

Drain and replace the gearbox oil after the first 250 hours (approximately one month) of operation. Drain and replace the oil gearbox additionally at every 2500 hours (approximately one year) of operation.

1. Power down the machine according to the instructions on page 16.
2. Refill each gearbox to the level of the plug halfway up from the bottom of the

gearbox. Use Mobil SCH 634 Synthetic oil or a similar substitute.

**Motors**

Clean the motor every week, or as often as necessary to keep the motor clean. A clean motor will run cooler and last longer.

1. Power down the machine according to the instructions on page 16.
2. Using compressed air, blow dust and dirt off of the motor.
3. Wipe any grease or oil off of the motor with a rag.
4. Make sure all drain holes and ventilation openings are clear of debris.

## General Maintenance

Inspect the machine every year. A general inspection each year will increase the service life of the conveyor.

1. Power down the machine according to the instructions on page 16.
2. Inspect the conveyor frame for rust or corrosion. Repaint if necessary.
3. Check the safety shields and decals. Replace if missing or damaged.
4. Check the conveyor supports for damage or looseness. Replace as necessary.
5. Check the infeed flap for rips or tears. Replace as necessary.
6. If equipped, inspect the polyethylene trough slides. Replace any that are missing or worn through to the frame.

## How to Replace Trough Slides

1. Grind down the metal washers securing the slides to the frame.
2. Remove the old slides and install new slides.
3. Weld new metal washers (part # 1573) to the frame to secure the new slides in place.

## Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Remedy</b>	<b>See Page</b>
Bulk feeder does not operate	Power is off.	Make sure power has been fully restored to machine.	16
	Drive chains broken or derailed.	Repair or replace chains as required.	18
	Material is blocking machine.	Power down machine and remove blockage.	16
	Material feed chain is broken.	Repair or replace chains as required.	18
	Material feed chain is too loose and is jumping on teeth on sprocket.	Adjust tension.	
Uneven material discharge	Missing flights on the feed chains.	Replace flights as needed.	18
	Material is blocking machine.	Power down machine and remove blockage.	16
	Sprockets are worn and chain is slipping.	Check and replace sprockets.	26
	Chain is too loose and is jumping teeth on sprocket.	Adjust chain tension.	16
	Material is being fed unevenly into conveyor.	Check infeed equipment.	

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## Chains and Sprockets

The following information describes the inspection procedure for checking the chains and sprockets for damage. This information is helpful for anyone unfamiliar with chain and sprocket drives.

- Visually examine each link of the chain for cracks and bent or broken pins.
- Examine the sprockets for cracked or missing teeth.
- If any chain or sprocket is damaged, replace the chain and sprockets as a set. New components used with older pieces tend to wear out quicker than normal.

## Removing the Chain and Sprocket

### Chains

- The chains are held together by a master (or connecting) link.
- Remove the clips (or cotter pins) and pull the master link apart to break the chain. Once the chain is broken, remove it.
- Install a new chain by placing it around the sprockets and then connecting the master link with the supplied clip or cotter pin.

### Sprockets

- Each sprocket is held onto its shaft with a set screw(s).
- Loosen the set screw(s) and pull the sprocket off of the shaft.
- Install a new sprocket by placing it back on the shaft and tightening the set screw(s).

### Material Feed Sprockets

- Material feed sprockets are removed with the shaft.

- Loosen and remove the eccentric locking collar.
- Loosen all sprockets on the shaft.
- Drive the shaft out with a block of wood.
- Install new sprockets by first inserting the new shaft, then placing the new sprockets back on the shaft, then insert and remove the new eccentric locking collar.

## ANSI B20.1

This conveyor should be installed and operated according to the *American National Safety Standards for Conveyors and Related Equipment* (ANSI B20.1), which is included in this manual. For a complete version of the ANSI B20.1 manual, contact the American Society of Mechanical Engineers, United Engineering Center, 345 East 47<sup>th</sup> Street, New York, NY 10017.

## Maintenance Log

A Maintenance Log for the conveyor should be filled out and kept up to date. By recording all maintenance performed on the machine, it can be verified that the routine maintenance has been performed as scheduled. An accurate maintenance log will also help identify any abnormal or untimely repairs made to the machine.

A log has been included in this **Appendix**. We recommend that you photocopy this log and use it to record maintenance.



# **WARRANTY**

## **For AMADAS INDUSTRIES Industrial Machinery**

### **A. General Provisions**

AMADAS INDUSTRIES ("Company") warrants that each machine manufactured by it and sold under its trademark shall be free from defects in material and workmanship. The company's sole obligation under this warranty shall be limited to making good, F.O.B. Company factory, any part of its product which under normal and proper use and maintenance proves defective in material and workmanship within six months after delivery to the Buyer provided that notice of such defect and satisfactory proof thereof is promptly given by the Buyer to the Company, with transportation charges prepaid, and Company's examination proves such part to have been defective.

This warranty does not apply in respect to damage to any product or accessory or attachment thereof caused by overloading or other misuse, neglect or accident nor does this warranty apply to any product, or accessory or attachment thereof which shall have been repaired or altered by other than the Company which, in the sole judgement of the Company affects the performance, stability or purpose for which it was manufactured.

With respect to tires, engines, or other trade accessories, the Company makes no warranty whatsoever and the buyer shall rely solely upon the existing warranties, if any, of the respective manufacturers thereof.

### **B. Unapproved Service or Modification**

All obligations of AMADAS INDUSTRIES under this warranty are terminated if the machinery is modified or altered in ways not approved by AMADAS INDUSTRIES

### **C. Owner's Responsibilities**

- a. Read the operator's manual before operating the machinery.
- b. Perform all necessary maintenance as described in the operators's manual.
- c. Contact AMADAS INDUSTRIES promptly on any warranty claim.
- d. Sign the AMADAS INDUSTRIES machine delivery form and return promptly as this validates the warranty.

### **D. Disclaimer**

There are no warranties that extend beyond the description here. **ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED AS ARE ALL OTHER REPRESENTATIONS TO THE PURCHASER.** AMADAS INDUSTRIES specifically excludes any liability on behalf of the Company for any incidental or consequential damages including, but not limited to loss of profits, rental of substitute equipment, or other commercial losses. AMADAS INDUSTRIES shall not be responsible for expenses or inconvenience that you might incur or experience with respect to any AMADAS INDUSTRIES Industrial Machinery, nor shall AMADAS INDUSTRIES be liable for defects, damage, or failure caused by improper storage, unreasonable use, or abuse, or accident, including the failure to provide reasonable and specified maintenance. This warranty applies only to the original purchaser of the machinery. Because some states do not allow the exclusion of limitation of incidental or consequential damages, the above limitation may not apply to you. This warranty gives you specific legal rights. You may also have other rights, which vary from state to state. Where there is a conflict between a provision of this warranty and the provision of any state, the state legislation prevails.

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