



GANTRY ROLLER MANUAL

MODELS:

G14-24

G14-18

GR14-24

G2640

VOLUME 1, EDITION 5

7-13-04

FOREWORD

This manual explains the proper maintenance of Klaisler Gantry Rollers as well as the daily lubrication and periodic inspection procedures.

Please read this manual thoroughly even though you may already be familiar with other Klaisler equipment, because it contains the most current information about the Klaisler Gantry Roller.

This manual has been based on the standard Klaisler Gantry Roller. If you have any questions on modifications to your equipment, please contact Klaisler Mfg. Corp., or your sales representative.

Klaisler Mfg. Corp. reserves the right to make any changes or modifications to this manual or its Gantry Roller without giving notice and without incurring obligation.

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BEFORE INITIAL OPERATION

- **Please read this manual thoroughly.** This will give you a better understanding of a Klaisler Gantry Roller and permit you to operate it correctly and safely.
- **Identify and inform ALL employees who will operate or be near the Klaisler equipment of all concerns in this manual and on the production floor.** It is very important from both the employers and manufactures standpoint that employee's safety comes above all else. The employer should make sure any employee who either operates or works near the equipment has been properly trained and given written notice of any and all safety concerns on the production floor.
- **Always perform pre-operation checks and periodic maintenance.** This will help prevent sudden malfunctions (due to poorly maintained equipment), improve work efficiency and help insure safe working conditions.

GENERAL DESCRIPTION

The Klaisler Gantry Roller is an initial press machine. It is designed to be used in conjunction with a conveyor system to increase the assembly speed of finished wood trusses. The standard Klaisler Gantry Roller operates at a constant work speed of 120 feet per minute. The Klaisler Gantry Roller's heavy-duty design will allow it to press even the heaviest gauge plate very quickly and easily.

The model # and serial # are located on the silver plate found on the upper front of the Klaisler Gantry Roller (see Exhibit 1). This information will be needed when contacting Klaisler Manufacturing Corporation for service information. Any information that is needed can be obtained by contacting your sales representative or:

**KLAISLER MFG. CORP.
3314 PROSPECT STREET
INDIANAPOLIS, IN 46203
PH# (317) 357-3898
FX# (317) 357-3921
parts@klaisler.com**

OPERATION OF THE GANTRY ROLLER

The Klaisler Gantry Roller is very simple to operate and maintain. Klaisler suggests that operation of Klaisler equipment proceed in the following manor:

1. Everyone near the machine read the manual so general safety guidelines can be identified.
2. Everyone near the machine identify the safety devices and how they operate.
3. Perform daily, weekly, and monthly safety and maintenance analysis.
4. Correct any problems before operation of the equipment is started.
5. Check the area before beginning to be certain no employees are near the machine.

SAFETY AND MAINTENANCE

Employee safety is to key concern at Klaisler Manufacturing and should also be at your production facility. It is important to stress safety concerns around any type of production equipment because serious injury can occur without the proper training and supervision. Klaisler Manufacturing suggests that any employee who will operate or work around this equipment be given the opportunity to read this manual and receive training from qualified personnel at your facility. With the proper maintenance the equipment and work area become much safer. Klaisler Manufacturing has the following list of general safety and maintenance guidelines that should accompany any safety standards your company has established.

SAFETY GUIDELINES

1. **Cleanliness:** The area surrounding the Klaisler Gantry Roller must be checked daily for any obstructions such as loose lumber or plates that could jam any area of the machine.
2. **Operate new equipment with special caution:** People are sometimes overconfident that the new equipment will work just like old equipment. This is not always true and a special caution should be taken around the new equipment.
3. **Proper equipment use:** Individuals working on or near the Klaisler Equipment, to prevent injury, should wear the proper equipment. Loose fitting clothing that can be caught in the machine or on the Gantry itself should **NOT** worn. Safety glasses **MUST** be worn for the protection of the employees. Employees without the Proper equipment should not be allowed near the Klaisler Gantry Roller. It is management's responsibility to enforce these guidelines, as well as the employees responsibility to make sure these guidelines are enforced

4. **Safety bars should be identified and proven to be in proper working order.** All employees who will be working on or near the Klaisler Gantry Roller should know how the safety features work and confirm the machine is operating properly. If any employee notices the equipment may be malfunctioning in any way, a supervisor is to be notified and the power to the equipment is to be locked down until the problem can be rectified.
5. **Disconnect and lock out all power sources before any maintenance or repair is to take place.** It is important for the equipment's power to be disconnected and locked out to prevent accidental start-ups whether by another employee or workers error.
6. **Follow the safety checklist everyday.** The following checklist should be followed everyday to ensure employees safety and a safe work environment.

SAFETY CHECKLIST

Daily:

- A. Check safety bars to assure they move freely and easy.
- B. Check to make sure the machine stops properly when the safety bars are moved.
- C. Check for unusual noised, overheating, oil leaks, or other unusual machine characteristics.
- D. Check bearings for wear.
- E. Visually inspect motors and gearboxes for excessive dirt, heat, or vibration.
- F. Check gearbox oil levels (fill as required)
- G. Check ventilation openings to assure they are not clogged by dirt or dust.
- H. Check the area around the machine and track for cleanliness.
- I. Check to be sure everyone around the machine is wearing the proper equipment.
- J. Perform daily maintenance
- K. Be sure area is clear of people when starting the machine.

Weekly:

- A. Check all bolts, nuts and set screws and tighten as require.
- B. Check drive train tension and adjust if necessary.
- C. Check oil level in drive unit and add proper amount if necessary.
- D. Use compressed air to remove sawdust and dirt build-up on the system and around the bearings.*

*Wear eye protection when using the compressed air.

MAINTENANCE

As mentioned earlier, keeping the equipment well maintained makes the work environment safer and allows reliable production for many years. Maintenance of the Klaisler Gantry Roller consists of lubricating the machine and chain, and tightening the nuts and bolts. The following is a maintenance schedule **MUST** be followed.

Motors:

The gearboxes on each motor have sight gauges for oil levels; insure that both motors are kept at the correct level. (See Exhibit 2)

Drive Unit:

See Exhibit 2 for oil type and maintenance schedule.

Chain:

A non-detergent petroleum based oil every 18 hours should be used.

Greased Fittings:

General-purpose grease should be used every 8 hours or as needed.

Nuts and Bolts:

All nuts and bolts must be checked and tightened before operation of the Gantry Roller.

General Operation

Operation of the Klaisler Gantry roller requires the operator to not only pay attention to his safety but to every other employee's safety as well. The entire work area must be inspected before operation of the machine.

After the safety inspection, the operator should review the functions of the control buttons. There are 4 buttons on the standard gantry that allow the operator to run the machine. They are as follows:

1-Red Stop Button

This button is used in situations where immediate breaking is required. When this button is pressed power is cut off to the motors. When this power is cut the fail-safe brakes activate stopping the drive shafts. **Caution should be taken to stop the machine prior to an obstacle because the machine's weight may keep it rolling for a few seconds after the brakes have activated.**

1-Forward Button

This button moves the machine in forward motion.

1-Reverse Button

This button moves the machine in reverse motion.

Along with general machine operation the operator must also perform several daily operational adjustments. This section lists these adjustments and instructs the user on how to perform them. One thing that must always be remembered is to:

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

DRIVE TRAIN ADJUSTMENT

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Klaisler Gantry Rollers have a drive train on both the left and right ends. All rollers are pre-set at Klaisler Manufacturing for a standard 2" x 4" and the chain tension is pre-set. Adjustment may be necessary, depending on actual moisture content and wood size.

CHAIN ADJUSTMENT

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Begin by removing the bolt and lock washer that is holding the right end chain guard on (See Exhibit 3). Lift off the chain guard to allow enough space to work free of any obstructions. Loosen the two lock nuts holding the idler sprocket adjustment screw in place. Loosen the four nuts that mount the bearings to the machine.

The idler sprocket may then be adjusted by turning the threaded bolt clockwise to increase tension, counter clockwise to decrease tension. Care must be taken to keep the sprocket in line with the other sprockets. A little slack is desirable as it allows the chain links to seat themselves on the sprocket teeth. This will reduce wear on the sprocket and bearings (See Exhibit 4).

After the adjustment is complete, the locknut must be tightened to maintain proper tension. Retighten the four mounting bolts. Replace the chain guard and replace the lockwasher and bolt.

ROLLER ADJUSTMENT

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

The Klaisler Gantry Roller has up to 4 ½" of total roller adjustment.

To adjust the roller height, the drive chain idler sprocket adjustments must be loosened to allow plenty of slack in the drive chains (See Page 9). Care must be taken during roller adjustment to assure there is enough slack in the drive chains to allow full roller adjustment.

To lower the roller, loosen the bottom roller adjustment nuts at both ends of the roller assembly (See Exhibit 5). Begin by turning the top roller adjustment nuts counter clockwise to lower each end of the roller. Lower the roller until it comes to rest on top of the 2 x 4*. Tighten the bottom roller adjustment nuts.

To raise the roller loosen the bottom roller adjustment nuts on both ends of the roller assembly (See Exhibit 5). Begin by turning the top roller adjustment clockwise to raise each end of the roller until a 2 x 4* can be inserted between the two rollers at each end. The roll will then need to be lowered slightly to put pressure on the wood. Tighten the bottom roller adjustment nuts.

Readjust the chain drive to proper tension. **Caution should be taken not to restart the machine without resetting the tension, as this will cause damage to the sprockets and the chain.**

*These are the instructions for a truss made from 2" lumber. For variations in thickness, the same directions can be followed using the same size lumber from which the truss is going to be made.

REPAIR AND REPLACEMENT

In the case that a part of the machine is not working properly, this section lists how to remove and replace the correct part from Klaisler Gantry Roller. If parts are needed it is recommended that you contact Klaisler Manufacturing Corporation at the address listed on page 16.

ELECTRICAL

The following sections cover the electrical portions of the Klaisler Gantry Roller. Exhibits listed throughout this section contain a parts list and breakout of each item. Replacement parts are available as individual components or as complete units. Klaisler machines use SO multi-conductor cable with sealed fittings. Any repairs should be done using the same materials. ***ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!***

SAFETY SWITCHES

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

There are 2 safety switches on each machine. Switches are available through Klaisler Manufacturing Corporation. If they should need to be replaced contact Klaisler Manufacturing Corporation to make sure they are installed properly. Refer to Exhibit 6 for the parts list, breakout, and schematic to determine the information needed.

REMOVAL OF SAFETY SWITCHES

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

The safety switches are set to work with the safety bars. Remove the screws, nuts and lockwashers holding the switch in place. Loosen the conduit locknut and unscrew the switch from the conduit.

The wiring can now be disconnected and a new switch can be installed using the schematic as a guide.

Reverse the instructions to reinstall the safety switches. Set actuator arm against the safety bar and tighten (See Exhibit 6).

Test and make sure safety bar is working properly before attempting to use the machine.

CONTROL PANEL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

This unit is available as a complete control panel, a starter, or component parts for starters. Refer to Exhibit 7 for parts list, breakout, and schematic to determine the information needed.

REMOVAL OF CONTROL PANEL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

To remove the control panel, first disconnect the wiring inside the box to all motors, switches and input voltage. Remove the conduit locknuts inside and pull the conduit free from the panel. The control panel can now be removed by unfastening the 4 nuts and bolts mounting it to the mounting bracket.

Reverse the order to install the panel.

Refer to the schematic that came with your machine for the rewiring,

Make sure the machine is operating correctly prior to running production.

INVERTER REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Disconnect all the wiring to the control panel. Remove the 4 screws holding the panel in place. After the panel is removed from the control box, the inverter can be removed from the panel by unfastening the screws holding it in place.

If you desire to replace component parts refer to the parts listing and breakout for disassembly and part number.

Reverse procedure for reassembly of the started and reinstallation into the control box. Refer to the schematic that came with your machine when making connections. Make sure everything including the safety switches, works correctly before running the machine in production.

SWITCH REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

ALL 3 SWITCHES (Stop, Forward, and Reverse) can be replaced by using the same method.

First remove the back plate off of the control pendant. Unscrew the switch from the plate.

Remove the nameplate and push the switch through the panel.

Reverse the procedure for re installing the switch to the front of the panel.

Be extra cautious the buttons match the front panel when reinstalling (The stop button say Stop etc.)

Refer to the schematic that came with your machine when making the connections.

Make sure the machine is operating correctly prior to running production.

MOTORS

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

The motors are available as a complete unit or in component parts. Refer to the parts list, breakouts, and schematics in Exhibit 2 to determine the information you need.

MOTOR REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Both motors (left and right drive) may be removed and replaced by the same method. Begin by disconnecting the electrical connections inside the connection box mounted on the side of the motor. Unscrewing 4 nuts holding the cover on the connection box can do this. The connection box cover is connected to the conduit. It can be set aside for reassembly.

Remove the drive sprocket and the 4 bolts holding the motor mounting plate. Be careful as the motor and gearbox are very heavy and should be supported before removing the bolts.

Reverse the procedure to remount the motor.

Refer to the schematic in Exhibit 2 to make the electrical connections.

Make sure the machine runs properly before running the machine in production.

MECHANICAL

The following section covers the mechanical portion of the Klaisler Gantry Roller.

Exhibits listed throughout this section contain parts lists and breakouts of common replacement parts. Some replacement parts are available as individual components and other are available only as a complete unit. Contact Klaisler Manufacturing Corporation or your sales representative for more information.

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

DRIVE ASSEMBLY

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

The drive assembly contains a number of component parts that are available as replacements. Exhibits 3 and 4 should give you all the information you need when repairing mechanical aspects of the Klaisler Gantry Roller.

CHAIN REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Remove the chain guard (See Exhibit 3)

Locate the master link in the chain making sure it is in a location with easy access.

Reduce the tension on the chain. Remove the master link by unsnapping the retaining clip and removing the link plate. Slide the master link out of the chain.

Reverse the procedure for reassembly.

Make sure the machine is operating correctly prior to running production.

DRIVE SPROCKET REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Remove the chain guard (See Exhibit 3).

Remove the chain from the train assembly. Two different types of sprockets are used, one has a bushing and the other has setscrews. For the sprocket with a bushing: remove the 3 hex head cap screws holding the bushing tight. Screw in 2 bolts into the 2 jack boltholes. Tighten these bolts until the taper lock bushing is loose. It can be removed using the correct size puller (See Exhibit 4). The sprocket will now slide off. For the sprocket with the setscrews: loosen both setscrews and slide off sprocket.

It may be necessary to use fine grade emery paper to remove any butts from the shaft before reassembly. Reverse the procedure before reassembly.

Make sure the machine is operating correctly prior to running production.

ROLLER SPROCKET REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Remove the chain guard (See Exhibit 3)

Remove the chain from the drive train. Unscrew the 3 bolts from the sprocket hub (SEE Exhibit 4). Insert 2 bolts in the tapped holes and tighten until the sprocket is free from the taper lock bushing. Pull the taper lock bushing form the roller shaft the remove the sprocket.

It may be necessary to use fine grade emery paper to remove any burrs from the shaft before reassembly. Reverse the procedure before reassembly.

Make sure the machine is operating correctly prior to running production.

IDLER SPROCKET REMOVAL

ALWAYS DISSCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Remove the chain guard (See Exhibit 3).

Remove the chain from the drive train and disconnect the grease tube fittings.

Remove the 4 bolts holding the bearings in place. (See Exhibit 4)

To remove the sprocket, loosen the 2 set screws holding the shaft in position in the bearings.

Reverse the procedure for reassembly and grease before start up.

Make sure the machine is operating correctly prior to running production.

ROLLER

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

The roller and bushings are replaceable items. Refer to the parts list and breakouts to determine the replacement parts required.

BEARING REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Remove the chain guard (See Exhibit 3).

You will need to remove the roller sprocket before starting the bearing removal.

Support the roll to prevent any moving.

First, unfasten the 4 bolts A, B, C, and D. Remove the bearing side supports.

Remove the grease insert from the bearing block. Loosen the roll adjustment bolts.

Pop the pin out of the nut holding the roll adjustment rod to the bearing block. Unscrew the roll adjustment rod from the bearing block. Pull the bearing block off of the shaft with the correct tools.

Check the bearing housing for damage. If the bearing has worn through the housing it will have to be replaced.

To remove the bearing, use an arbor slightly smaller the O.D. of the bearing, and press it out of the housing. When pressing a new bearing into the housing, care must be taken to prevent damage to the bearing. After the bearing is installed in the housing, the grease holes must be drilled. Use the housing as a guide for the drilling.

Remove all burrs from the I.D. of the bearing.

Check the shaft for burrs before reassembly.

Reverse the procedure to reassemble and reseal all fittings before start-up.

Make sure the machine is operating correctly prior to running production.

ROLLER REMOVAL

ALWAYS DISCONNECT AND LOCK OUT ANY POWER SOURCES WHEN ADJUSTING OR REPAIRING ANY EQUIPMENT!

Follow the directions to remove the bearing blocks. The roller can be removed by two different methods.

To remove the roller from the top of the machine: disconnect all electrical from the top frame.

Remove top guard from frame. Grind off weld holding side frame supports to the top frame supports. Grind side supports from head assembly.

Remove the head assembly. Repeat this procedure for the other side.

Place slings around the roller and attach a crane or hoist of proper capacity and lift the roller from the unit.

Reverse the procedure to reassemble and grease all fittings before start-up.

To remove the roller from the side of the machine: slide the roller through the end frame of the machine using slings around the roller and attach a crane or hoist of proper capacity and lift the roller from the unit.

ORDERING REPLACEMENT PARTS:

Replacement parts can be ordered by calling, writing, or faxing:

Klaisler Manufacturing Corporation

3314 Prospect Street

Indianapolis, Indiana 46203

PH# (317)357-3898

FX# (317)357-3921

parts@klaisler.com

When ordering parts, you must include the serial and model #'s of your Klaisler Gantry Roller.

WARRANTY

WARRANTY AND DISCLAIMER OF WARRANTIES: Klaisler warrants the goods, other than "Component Parts," as defined below, to be free from defects in materials or workmanship for one (1) year from the date of delivery to the Purchaser ("Warranty"). This Warranty excludes and does not cover (i) goods that are not properly installed, operated, used, maintained, adjusted, cleaned and lubricated by the Purchaser; (ii) goods that are altered or modified by any person other than Klaisler; and (iii) starters, motors, gear reducers, or microswitches which are not manufactured by Klaisler (the "Component Parts").

KLAISLER HEREBY DISCLAIMS ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESS, STATUTORY, OR IMPLIED, APPLICABLE TO THE GOODS SOLD, INCLUDING WITHOUT LIMITATION, ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The Component Parts may be governed by separate warranties provided by the respective Component Parts manufacturers, which warranties may be shorter than or longer than the Klaisler one (1) year Warranty offered above. Any repair or replacement of Component Parts shall be determined solely by the Component Part manufacturer, and it shall be Purchaser's responsibility to enforce any warranty claims related to Component Parts directly with the Component Part manufacturer.

EXCLUSIVE REMEDY FOR BREACH OF WARRANTY: All goods claimed to be defective must be returned to Klaisler for inspection, **charges prepaid. All collect shipments will be refused.** If, upon inspection, Klaisler determines to its satisfaction that any part of the goods does not conform to the Warranty, Klaisler shall, at its option, correct the defect by repair or replacement. This is the sole and exclusive remedy for breach of the Warranty. If defective goods are replaced by Klaisler, the replaced goods shall become the property of Klaisler. If, upon inspection, the goods are found to conform to the Warranty, the goods will be returned to Purchaser only upon Purchaser's request and at Purchaser's expense.

KLAISLER MANUFACTURING CORPORATION
DATE OF PURCHASE _____
MODEL NUMBER _____
SERIAL NUMBER _____

TROUBLESHOOTING

There are several problems that can occur due to general vibration of the machine, or lack of maintenance. The following list the 4 common calls that Klaisler receives:

Problem	Cause	Solution
The machine will not press the plates tight enough.	The bogie wheels are not tight to the rail	Adjust the bogie wheels up to the bottom of the rail
	Your wood is smaller than previous wood	Adjust the roller down to match the wood
One side of the machine starts before the other.	Chains are not adjusted properly	Retighten chains equally.
		This may have to be done several times up and down the track.
The machine presses the plate good on one piece of wood at the joint, but not on the other.	Wood is different sizes	Use uniform wood in the truss
Intermittent electrical problems during operation of the machine	A loose wire in the system	Check all contacts in the box, push buttons, and safety switches.

EXHIBIT 1
SERVICE PLATE LOCATION

EXHIBIT 2
SUMITOMO INFORMATION

EXHIBIT 3
CHAIN GUARD REMOVAL

EXHIBIT 4
BEARING BLOCK VIEW

EXHIBIT 5
ROLLER ADJUSTMENT

EXHIBIT 6
SAFETY SWITCH INFORMATION

EXHIBIT 7
CONTROL PANEL INFORMATION