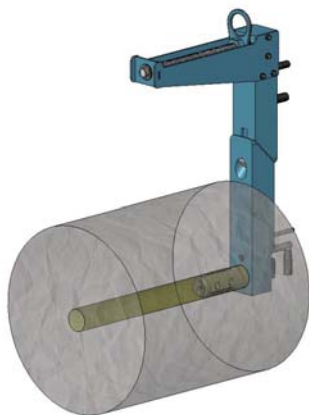
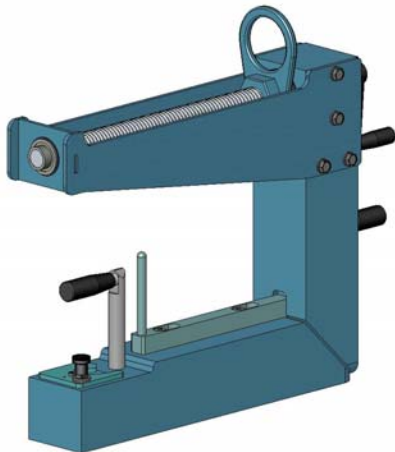
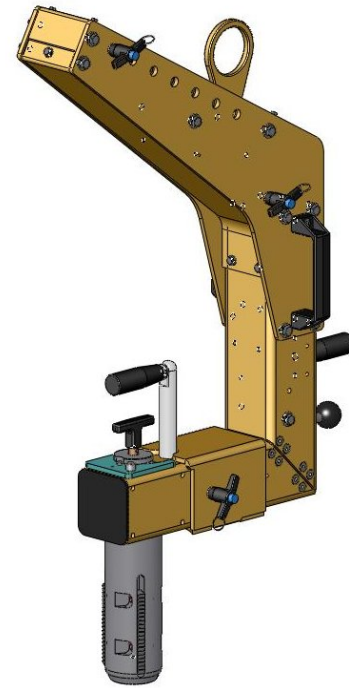
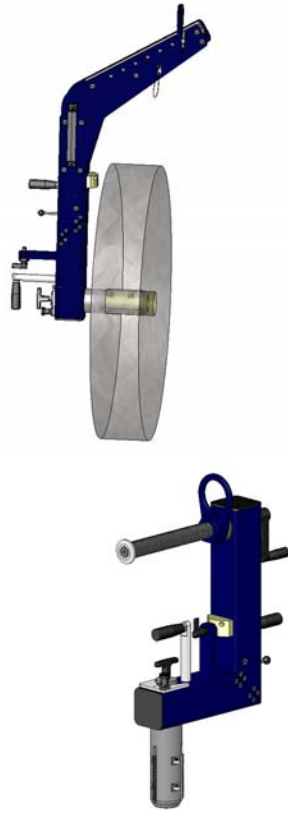




innovation. performance. quality.



## MRT User Manual

- **General guidelines for use**
  - Statement of purpose
- **Equipment capacity**
- **Installation**
  - Set-up guide
- **Operation**
  - Step-by-step operating procedure
  - Troubleshooting
- **Maintenance**
  - PM guide and schedule
  - Proper lubricants and fastener torques
  - Critical & recommended spare parts
  - Service information
  - Care and maintenance documentation page
- **Manufacturer's declaration**
- **Mandrel operation**
- **Accessory operation**
- **Assembly drawings, spare parts lists & wiring diagrams**

Schlumpf, Inc., 15 Enterprise Drive, Windham, Maine 04062 U.S.A.  
Tel: 207-893-1903. Toll Free: 877-460-4535. Fax: 207-893-1905.  
Internet: [www.schlumpf-inc.com](http://www.schlumpf-inc.com). E-mail: [mail@schlumpf-inc.com](mailto:mail@schlumpf-inc.com)

# Schlumpf, Inc.

## General Guidelines On The Use Of Schlumpf Material Handling Equipment

### **General:**

Thank you for choosing to use Schlumpf material handling equipment for your handling applications and needs. All Schlumpf machinery is proudly designed, manufactured, assembled, and tested in the U.S.A.

This information is intended for use and review by maintenance and operating personnel before the equipment is operated or maintenance is performed. Schlumpf material handling equipment is high-value machinery and should be used and maintained with care. Please read these instructions carefully!

### **Safety:**

All equipment must be operated by trained personnel. Never touch any rotating machinery or machine parts until movement has completely stopped. Damage or injury may result!

### **Lifting Capacity / Permissible Use under Load:**

Maximum load allowances have been calculated for this equipment based upon operating data supplied to Schlumpf at the time of order. Maximum load values refer to the maximum weight of the material to be handled. Never exceed the maximum allowable load value for this equipment. Consult Schlumpf before using this equipment in any other application for which it was not originally intended. Damage or injury may result!

Schlumpf material handling machines are intended to lift, lower, insert, extract, and position rolls or other forms of material. The machine is not intended to lift material over the specified design weights supplied to Schlumpf at the time of order. Damage to the machine or operator injury may result!

### **Plant / Workplace Conditions and Operation:**

Machinery with which this Schlumpf equipment will be used should be in good repair and properly aligned (spindle to spindle axis, web path axis, etc.). Misalignment will cause adverse affects that may hamper desired operation and will increase the rate of wear of Schlumpf and other equipment.

### **Maintenance and Warranty:**

To assure safe and proper operation of this and other equipment, follow preventative maintenance guidelines set forth in this manual\* and any additional instructions prescribed by the manufacturer of the equipment on which your Schlumpf product will be used.

Periodically check screws and bolts for proper tightness as fasteners can loosen due to vibration. This product should be kept clean and free of foreign matter. Replace any and all damaged parts immediately.

***\* Warranty claims can not be accepted unless proof of periodic maintenance (according to the guidelines set forth in this manual) can be furnished by the user.***

### **Lubrication:**

For lubrication of moving or gliding surfaces we recommend the use of a high quality grease such as Jet-Lube Clear-Clean Lubricant with PTFE Synthetic Bearing Grease. If alternative products are used it is important that they meet the following requirements: high adhesion of the lubricant, high and permanent lubricate under load, little or no attraction of dust, contains no dangerous or hazardous propellants, gases, or ingredients that may be harmful to the environment or operators.

## Service:

Service and maintenance should be performed only by trained personnel following the guidelines established in this installation, operation, and maintenance manual. Damage or injury may result if established procedures are not followed! Please consult Schlumpf with any questions or problems you may have with this or any other Schlumpf equipment.

## Spare Parts And Tools:

Use only Schlumpf spare and replacement parts or those recommended by Schlumpf. Use of any other parts will void your product warranty! Tools, metric fasteners, metric components, or any other special related items required for the maintenance of Schlumpf equipment are available from Schlumpf.

## Transport Damage:

Schlumpf equipment is thoroughly tested and carefully packaged prior to shipment. If your unit was damaged in transport, contact the shipper immediately. Make sure that you contact the transporter within 24 hours of the receipt of the machine and, preferably, do not sign a receipt for the machine without noting the damage on the bill of lading. Call Schlumpf immediately! Do not try to operate the equipment. Damaged parts which have not been reported immediately to Schlumpf will not be replaced under warranty.

## Equipment and Operating Safety:

This equipment was manufactured in accordance with the acknowledged regulations of the technology involved and has been thoroughly tested under load. Before placing the unit into service, check for possible transport damage and review this manual with all potential operators of the equipment. **Thoroughly test the equipment unloaded before attempting to handle any kind of load.**

Follow these guidelines for operating safety:

## "WARNING"

- Never step under or stand under suspended loads.
- In principle, the operator stands behind or to the side of the unit, never to the front.
- Only the operator should remain within the working radius of the equipment.
- Always work within the permissible load capacity of the Schlumpf equipment and hoist system.
- Only allow trained maintenance personnel to service and repair the equipment.
- Use only Schlumpf accessories and spare parts.
- Always unload the equipment before lowering the unit to the floor or taking the unit out of service.
- Never exceed Schlumpf capacities for maximum roll or material weight and dimensions.
- Schlumpf equipment is designed to lift material only. Never lift personnel.
- Operators and personnel should never stand or ride on the machine.
- The maximum load capacity of all Schlumpf equipment is clearly labeled on the machine itself. Never exceed the load capacity of the unit. Damage, extreme wear and operator injury may result.

**Closely follow the recommendations and instructions of the manufacturer of purchased system components. Failure to do so can result in equipment damage and/or serious operator injury!**

## Statement Of Purpose

Schlumpf material handling equipment has been designed to operate as mechanical lifting, turning and positioning devices for the handling of rolled materials in a (core) horizontal and / or vertical orientation.

Schlumpf hoist-based equipment is for use with cranes and overhead hoists within the operating perimeter of the material handling plant or workspace and may be used only for this purpose. The hoist or crane on which Schlumpf hoist-based material handling equipment is used should have the capability of being rendered inoperable with an Emergency stop switch.

Schlumpf portable / floor-based equipment is for use within the operating perimeter of the material handling plant or workspace with a solid concrete or comparable floor and may be used only for this purpose.

Consult Schlumpf if the unit is to be used with materials other than rolled (cored) materials, or other than what the equipment was originally specified and designed.

Schlumpf standard mandrels are designed to handle materials with a paper/cardboard core. If the core of the material to be handled has been changed or is not paper/cardboard, special modifications to the grippers must be made. This includes, but is not limited to, steel, plastic and aluminum cores.

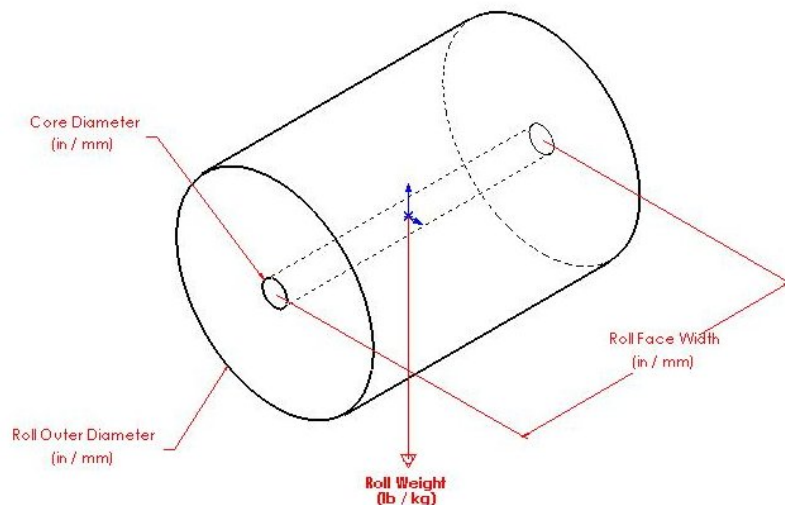
Schlumpf mechanically expanding mandrels are "fail safe", self tightening, and can only be disengaged from the core by the operator.

## CAUTION!

Schlumpf material handling equipment is for use under operating conditions supplied to Schlumpf at the time of order. As such, it may not be possible to safely use the machine for any conditions beyond the stated capacities and specifications. Please consult Schlumpf when a change in operating parameters may affect the unit's safe and proper use.

Schlumpf equipment has been clearly labeled with warning and informational signs. For your safety, read and obey all labeling on your machine.

Load capacity, when handling and manipulating a rolled/cored bundle of material, is a function of roll weight vs. roll face width. A load capacity curve or chart has been generated for most Schlumpf handling equipment and is located on the capacity page for the specific equipment pertaining to this manual. Do not exceed maximum capacity! Serious injury or equipment damage will result!



## Equipment Specifications And Capacities

The capacity for the MRT unit is clearly labeled on the unit itself.

### MAX Roll Weight

MRT-330: 330lb (150kg)

MRT-500: 500lb (227kg)

MAX Roll width: See capacity label on unit and / or specification sheet & chart

Unit Weight 80lb (36kg)

Shipping weight Approx. 150lb (68kg), with the weight of mandrels and accessories

### **NOTE!**

**The MRT capacity is reduced when the mandrel arm is extended in length, for optimized roll turning. Please be aware of the capacity of the unit and follow the capacity sticker!**

## **CAUTION!**

The MRT is clearly labeled with a load capacity sticker. Do not exceed the maximum roll weight. Serious injury or equipment damage will result!

### Example of capacity label on MRT unit\*:



(\*actual weight, width and diameter capacities may vary!)

## Set-up

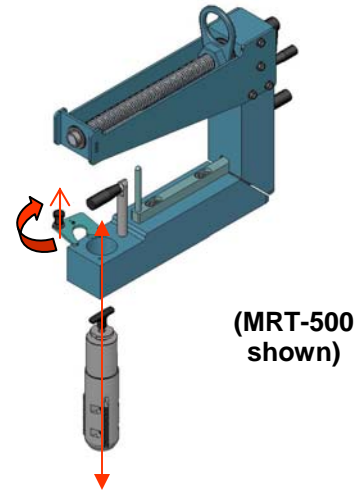
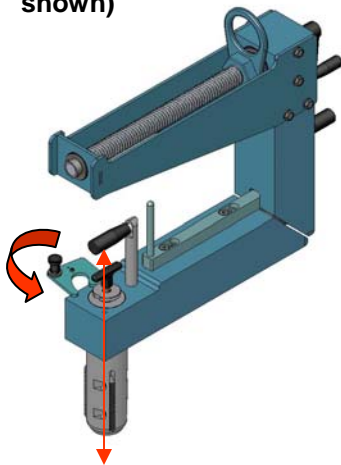
The MRT manual roll turner comes ready-to-use from the factory.

Suspend the MRT unit from a hoist that is in good working order and that has been properly inspected and maintained.

### Mandrel installation

1. Pull up on locking plunger and swing the plate to the open position.

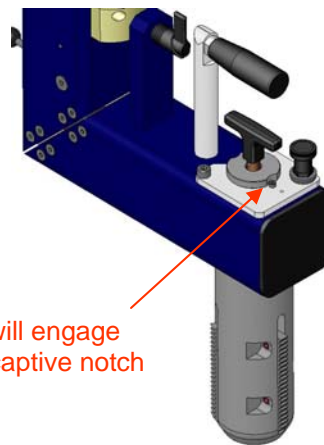
(MRT-500  
shown)



(MRT-500  
shown)

2. Insert the mandrel.

(MRT-330  
shown)



3. Lock the mandrel plate around the mandrel neck. The cap screw on the plate will engage with the mandrel notch.

(MRT-500  
shown)



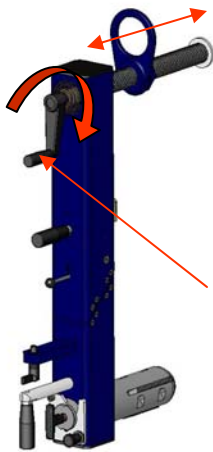
### **NOTE!**

Install mandrel in the MRT so a gripper is top-center when the unit is in core-horizontal position!

Mandrel gripper on top in core-horizontal position

## Operation

(MRT-330  
shown)



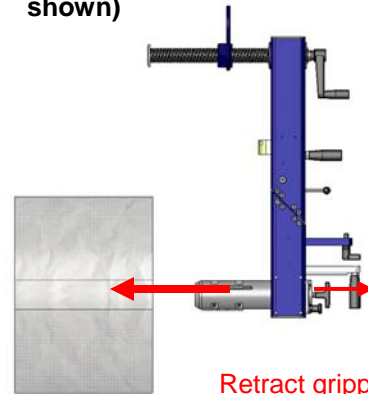
1. Adjust the center-of-gravity screw so the mandrel is horizontal.

\*If using the MRT-AL, the unit will automatically adjust to the unloaded position.

Center-of-gravity screw  
adjustment handle

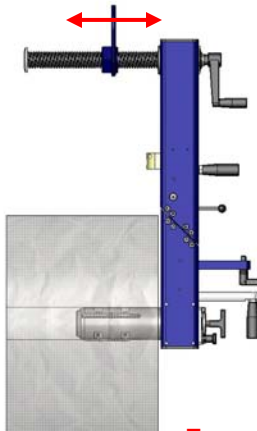
2. Retract the mandrel grippers.

(MRT-330  
shown)



3. Hold the grippers in the retracted position and insert the mandrel into the core of the roll.

(MRT-330  
shown)



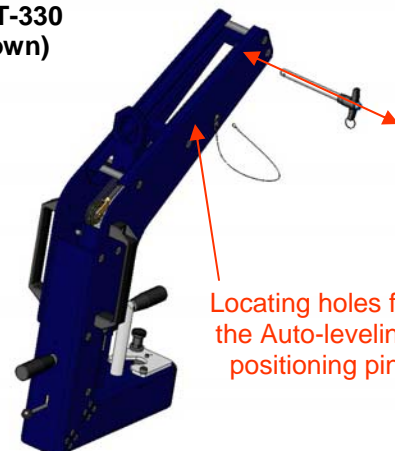
4. Release the grippers when the roll bumps against the mandrel arm.

5. Adjust the center-of-gravity so the hoist hook is above the roll, as shown.

5a. If using the MRT-AL, adjust the auto-leveling pin to the loaded position.

\*The pin will need to be properly set before lifting a load. Trial-and-Error may be used to find the correct position for the pin with certain rolls of specific weight & width.

(MRT-330  
shown)



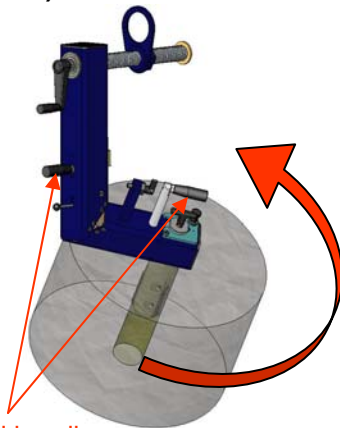
## Operation (cont'd)

6. Lift the MRT and roll with the hoist.

**NOTE!**

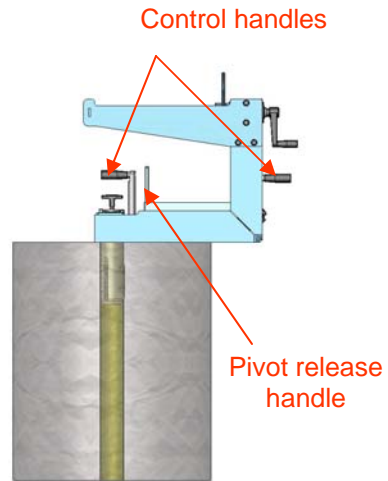
**ALWAYS** use both hands when turning the MRT. Use only the control handles to perform turning.

(MRT-330 shown)



Control handles

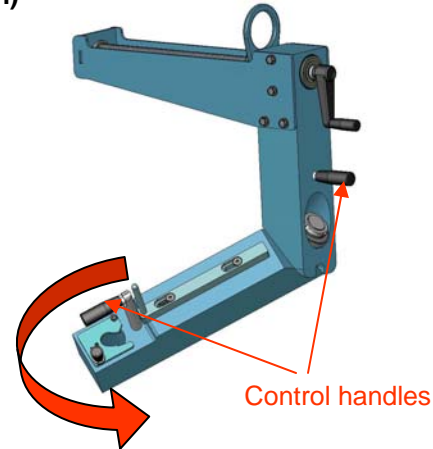
(MRT-500 shown)



Pivot release handle

7. Grip control handles with hands and disengage the pivot locks.

Actuate the locking plunger with thumb. Actuate pivot release lever with fingers.



Control handles

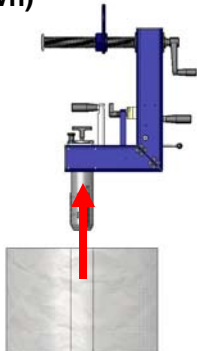
8. Turn the roll to the vertical position.

**USE BOTH HANDS AT ALL TIMES.**

9. Load the roll in the desired location.

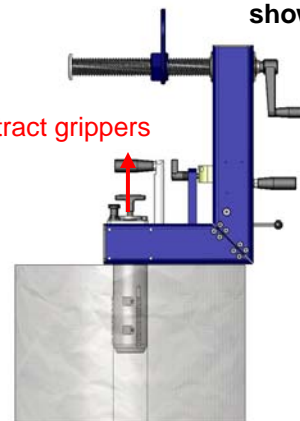
Make sure the roll is fully and safely supported before attempting to release the mandrel grippers!

(MRT-330 shown)



Retract grippers

(MRT-330 shown)



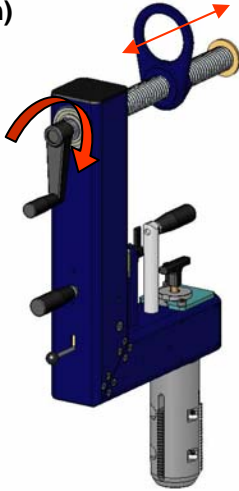
10. Retract the grippers.

11. Hold the grippers in the retracted position and extract the mandrel from the roll core.



## Operation (cont'd)

(MRT-330  
shown)



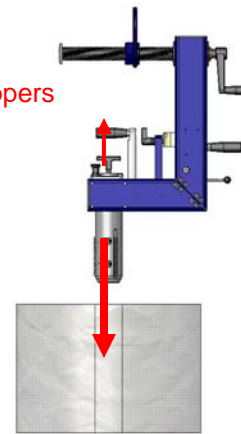
1. Adjust the center-of-gravity screw so the mandrel is vertical.

\*If using the MRT-AL, the unit will automatically adjust to the unloaded position.

2. Retract the mandrel grippers.

(MRT-330  
shown)

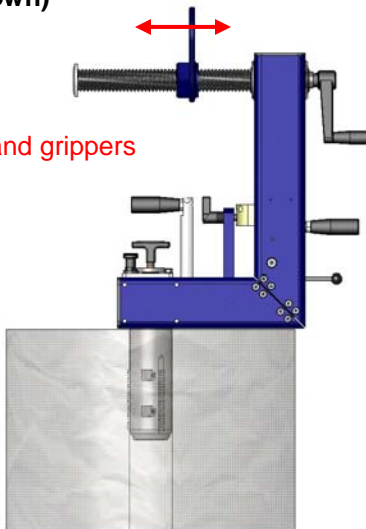
Retract grippers



3. Hold the grippers in the retracted position and insert the mandrel into the core of the roll.

(MRT-330  
shown)

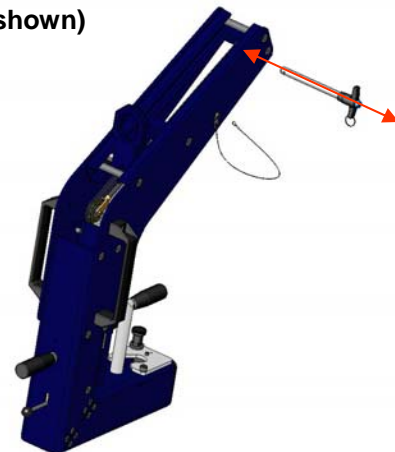
Expand grippers



4. Release the grippers when the roll bumps against the mandrel arm.

5. Adjust the center-of-gravity so the hoist hook is above the roll, as shown.

(MRT-330  
shown)



5a. If using the MRT-AL, adjust the auto-leveling pin to the loaded position.

\*The pin will need to be properly set before lifting a load. Trial-and-Error may be used to find the correct position for the pin with certain rolls of specific weight & width.

## Operation (cont'd)

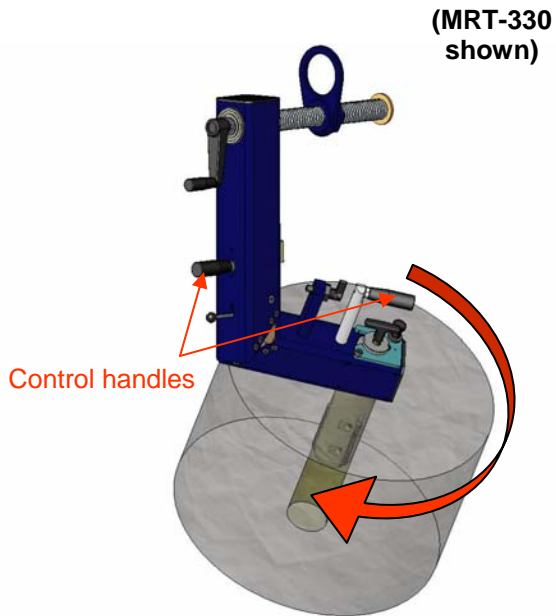
6. Lift the MRT and roll with the hoist.

**NOTE!**

**ALWAYS use both hands when turning the MRT. Use only the control handles to perform turning.**

7. Grip control handles with hands and disengage the pivot locks.

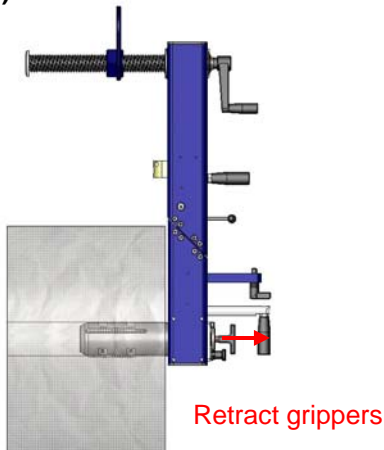
Actuate the locking plunger with thumb. Actuate pivot release lever with fingers.



8. Turn the roll to the horizontal position.

**USE BOTH HANDS AT ALL TIMES.**

(MRT-330 shown)

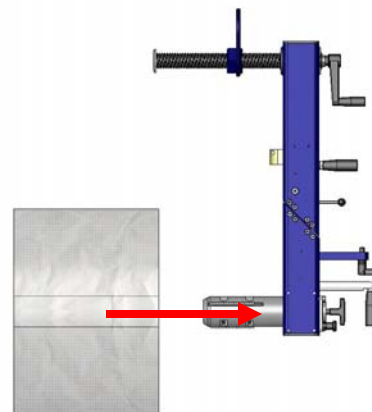


9. Load the roll in the desired location.

Make sure the roll is fully and safely supported before attempting to release the mandrel grippers!

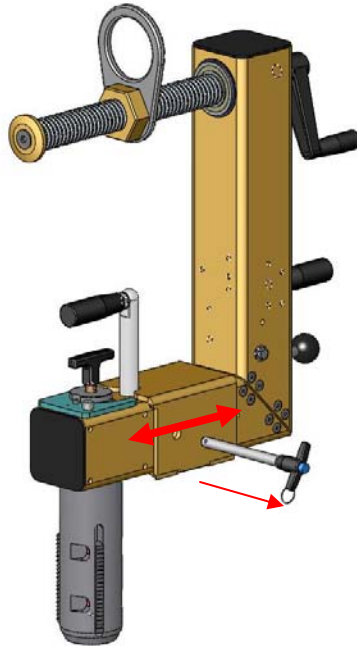
10. Retract the grippers.

(MRT-330 shown)

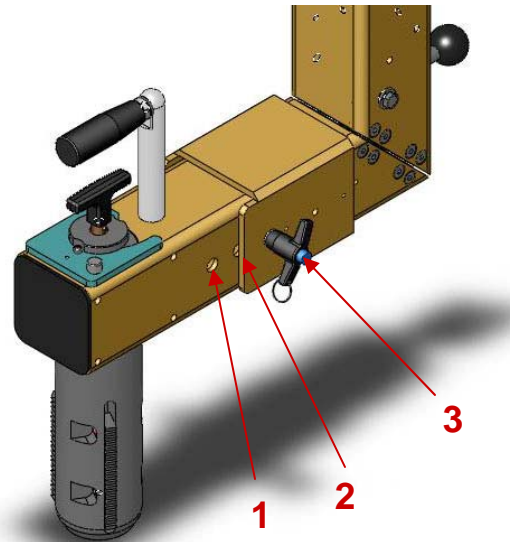


11. Hold the grippers in the retracted position and extract the mandrel from the roll core.

## Operation: Adjustable mandrel arm



**Note! Arm is shown in Position 3. Position 2 is in center. Position 1 is retracted.**



Adjust the mandrel arm by removing the pin and sliding the arm to the appropriate setting. Replace the locking pin when the arm is adjusted. Refer to the table below for proper settings when handling rolls of different widths.

Weight, lb (kg)	MIN - MAX roll widths, in (mm)		
	setting 1	setting 2	setting 3
330 (150)	14.5 - 19 (368 - 483)	17 - 22 (432 - 559)	19.5 - 24.5 (495 - 622)
300 (136)	14.25 - 19.5 (362 - 495)	16.75 - 22.5 (425 - 572)	19.25 - 25 (489 - 635)
250 (113)	14 - 20.25 (356 - 514)	16.25 - 23.25 (413 - 591)	18.75 - 26 (476 - 660)
200 (91)	13.25 - 21.25 (337 - 540)	15.75 - 24.25 (400 - 616)	18 - 27.25 (457 - 692)
150 (68)	12.5 - 23 (318 - 584)	15 - 26 (381 - 660)	17 - 29.5 (432 - 749)
100 (45)	10.75 - 26.5 (273 - 673)	13 - 30.25 (330 - 768)	15.5 - 33.5 (394 - 851)

## Troubleshooting

Please refer to the following list of potential problems and their solutions if the MRT is not functioning normally before calling Schlumpf. We'll ask you the same questions!

**Note: Continual misuse of this product will cause extreme wear and increase the potential for operator injury. Units damaged in this manner should be removed from service immediately and returned to Schlumpf for repair.**

### 1. The center-of-gravity adjustment is strained or will not adjust properly:

- **Dilemma:** The unit is not supported when trying to adjust the center-of-gravity mechanism.
  - **Solution:** Lower or raise the unit so the load is fully supported. The unit should always be supported when trying to adjust the hoist hook position.
- **Dilemma:** There is an obstruction inhibiting the travel of the hoist hook weldment.
  - **Solution:** Remove the unit from service to clean and lubricate the screw. Forcing the unit to move may result in equipment damage and premature wear.
- **Dilemma:** The crank handle for the adjustment screw is loose or broken.
  - **Solution:** inspect the M5 set screw, p/n P-10073, holding the hub of the handle in place. If it is loose or missing, it will have to be tightened or replaced. Refer to the spare parts lists supplied in the back of this manual to locate the set screw.

### 2. The auto-leveling mechanism will not suspend a roll in the horizontal position:

- **Dilemma:** The adjustment pin is not in the correct position for proper leveling.
  - **Solution:** Lower or raise the unit so the load is fully supported. Adjust the pin to a different location to bring the unit to a leveled position.
- **Dilemma:** There is an obstruction inhibiting the travel of the hoist hook / hoist hook bearings.
  - **Solution:** Remove the unit from service to clean and lubricate the mechanism. Forcing the unit to move may result in equipment damage and premature wear.
- **Dilemma:** The unit will not hang level, even with the adjustment pin in the furthest position.
  - **Solution:** Determine the weight AND width of the roll that is to be handled and compare it against the capacity of the unit. If the roll is beyond the capacity of the unit, do not try to lift and turn the roll. If the roll is within the marked capacity of the unit, contact technical support at Schlumpf.

## Periodic Maintenance

Generally, Schlumpf handling equipment is maintenance free. However, all mechanical equipment should be inspected periodically for safety, proper function, lubrication, and wear. This care will ensure years of trouble-free performance from Schlumpf equipment.

The check should be performed by trained maintenance personnel and a written record of the inspection should be maintained in accordance with regulations covering "load lifting devices". A tabulated page is located in this manual for keeping care and maintenance records. Schlumpf will, for a nominal fee, perform the inspection and submit a written report on all services. Contact Schlumpf for further information.

### All Schlumpf MRT units should be Cared for According to this schedule\*:

- **DAILY:**
  - **Inspect the unit for worn, damaged, or missing parts & fasteners.**
  - **Inspect the normal operation:**
    - The pivot mechanism turns from horizontal to vertical and vice-versa smoothly.
    - The mandrel / end effector expands and retracts correctly.
    - The center-of-gravity adjustment screw/mechanism operates smoothly.
    - The auto-leveling mechanism operates smoothly.
  - **Check all fasteners on the unit and tighten to the proper torque if loose. Use thread-locker on all fasteners for the pivot mechanism!**
- **MONTHLY: (remove unit from service)**
  - **Lubricate all moving parts and linear motion components. Refer to page 13 for proper lubricants**
    - Center-of-gravity screw
    - Auto-level roller bearings
    - Pivot mechanism
    - All other metal-on-metal or moving parts
  - **Check all fasteners on the unit and tighten to the proper torque if loose. Use thread-locker on all fasteners for the pivot mechanism!**
- **YEARLY: (remove unit from service)**
  - **Disassemble mandrel and inspect gripper pins and gripper segments for wear and damage. Replace any pins and grippers that show excessive wear.**
  - **Disassemble pivot mechanism. Inspect pivot pin and release lever, and thrust bearings. Replace any components that show excessive wear. Apply lubricant and reassemble. Use threadlocker on all fasteners for the pivot mechanism!**

\* **Schedule is based on one shift per day.** The time intervals between service may need to be reduced, depending on the amount of use and the environmental conditions present in your application (i.e., a machine used in a dusty environment may need to be cleaned and lubricated more often).

## Fastener torque

Fasteners should always be installed to their proper tightening torque. The table below shows the recommended tightening torques for standard metric screws.

Size	Torque (N-m)	Torque (lb-in)
M4 x 0.7	5.8	52
M5 x 0.8	12	106
M6 x 1.0	20	179
M8 x 1.25	49	430
M10 x 1.5	97.5	863
M12 x 1.75	165	1460
M16 x 2.0	412	3650

## Lubricants & Thread locking fluids

Schlumpf recommends the following compounds & fluids or their equivalent be used to provide care and maintenance for material handling equipment:

- **Bearing lubricant**
  - Jet-Lube Clear-Clean Lubricant with PTFE
- **Metal-on-metal lubricant**
  - Motorex Universal 2000 spray lubricant
- **Fastener thread locking**
  - Loctite 242 (Blue) medium-duty threadlocker

## **CAUTION!**

*Damaged or worn parts should be replaced immediately! Many Schlumpf parts have specific surface treatment and especially heat treatment. Use only Schlumpf spare and replacement parts. Failure to do so may result in damage to the equipment or process! Never alter tooling or lift carriage parts without first consulting Schlumpf. Damage or injury may result. Always unplug the power cables before servicing Schlumpf machines.*

## Recommended spare parts

Spare parts lists, assembly specifications, and in the case of units with integral controls, wiring diagrams, are attached to the back of this manual for the MRT manual roll turner unit. Copies of the spare parts list are available upon request.

Recommended spare parts to be kept on hand, per unit, are indicated on the spare parts list drawings in the back of the manual. They have an asterisk at the end of the part number.

Example:

P-10186\*                      Crank handle

## Service Information

To arrange for service on any Schlumpf roll handling devices, contact Schlumpf at the following address:

Schlumpf, Inc.  
15 Enterprise Drive  
Windham, Maine 04062-5650 U.S.A.  
Tel: 207-893-1903  
Fax: 207-893-1905  
E-mail: mail@schlumpf-inc.com  
Internet: www.schlumpf-inc.com

Be prepared to supply the following information:

1. MRT Serial No. (L-XXXXX).
2. Description of service required or nature of problem.
3. Original Purchase Order No.
4. Schlumpf Invoice or Sales Order No.
5. Date of purchase.
6. Your name, address, telephone No. , fax No. or other contact information.
7. Purchase Order for service.

Schlumpf, Inc., 15 Enterprise Drive, Windham, Maine 04062 U.S.A.  
Tel: 207-893-1903. Toll Free: 877-460-4535. Fax: 207-893-1905.  
Internet: www.schlumpf-inc.com. E-mail: mail@schlumpf-inc.com

**Schlumpf, Inc.**





# MRT (-AL) USER MANUAL

Page  
17

## Manufacturer's Declaration:

Manufacturer and Distributor:

Schlumpf, Inc.  
15 Enterprise Drive  
Windham, Maine 04062-5649 U.S.A.

Tel: 207-893-1903  
Fax: 207-893-1905  
E-mail: mail@schlumpf-inc.com  
Internet: www.schlumpf-inc.com

Declares that this Schlumpf Type MRT manual roll turner been designed and manufactured according to known engineering and safety specification and regulations.

This unit was made in the U.S.A. with materials and components known to be of high quality. The use of the equipment is governed by local, state and federal safety regulations.

## Warranty Statement:

Seller warrants that the products sold will be free of defects in material and workmanship for a period of one year (365 days) when used on a one shift per day (not more than eight hours) basis, six months (180 days) when used on a two or three shift per day (more than eight hours) basis, from the date of delivery unless otherwise specified on the face of this document. This warranty is limited by the paragraphs below.

If buyer discovers a defect in any of the products covered by this Agreement, Buyer's exclusive remedy shall be to notify Seller immediately of such defect, and Seller, at its option, will repair or replace the Products, or refund the purchase price. Said notice shall be in writing and shall contain pertinent information to permit Seller to identify the Product which is claimed to be defective, including without limitation, the product type and serial number and a full description of the circumstances giving rise to the claim. Failure to properly notify Seller within warranty period of such defects or Buyers undertaking or authorizing others to undertake remedial action without Seller's express approval in writing shall immediately invalidate Seller's warranty obligations.

Upon timely receipt of proper notice, Seller shall inform Buyer of the remedial action which it intends to take, and if return of the product is elected by Seller, Seller will provide Buyer with a Return Authorization Number. Buyer must comply with Seller's shipment instructions (see paragraph below) and ship the defective Product immediately.

Seller reserves the right to reject any warranty claim not properly reported and any warranty claim on any item that has been the subject of abuse, misuse, neglect, improper installation or repair, alteration, modification, accident, improper return handling, use in or with equipment not suitable for such use, unusual physical, electrical, electro-magnetic stress, failure of electric power, external causes affecting the Product, or other factors which are not covers by the warranty.

Buyer must pay freight costs to Seller for returned Products. Buyer's packaging list must show the Return Authorization Number, invoice number, date and list of all returned goods. The carton must also show the Return Authorization Number. Seller will pay return freight to the Buyer and reimburse Buyer for its reasonable return freight costs for products which are subject to warranty adjustment. There is no other charge for warranty adjustment during the warranty period, When Buyer returns any Product, Buyer shall be responsible for all damage resulting from improper packing or handling and for loss in transit notwithstanding any defect or nonconformity in the Product. If it is found that a warranty adjustment is not available for any defect claimed by Buyer, for any reason, Buyer will be notified and the product will be returned at Buyer's expense.

Schlumpf, Inc., 15 Enterprise Drive, Windham, Maine 04062 U.S.A.  
Tel: 207-893-1903. Toll Free: 877-460-4535. Fax: 207-893-1905.  
Internet: www.schlumpf-inc.com. E-mail: mail@schlumpf-inc.com

**Schlumpf, Inc.**

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Buyer hereby acknowledges that it has not entered into the agreement in reliance upon any warranty or representation by any specific person or entity except for the warranties or representations set forth herein.

## Disclaimer

Seller shall not be liable for any loss, damage or penalty resulting from delay in delivery or performance when such delay is due to causes beyond the reasonable control of Seller, including, but not limited to, supplier delay, acts of God, civil or military authority, labor unrest, fire, riots, war, embargoes, unusually severe weather, shortage of power, explosion, or earthquake.

THIS WARRANTY IS THE ONLY WARRANTY BY SELLER WITH RESPECT TO THE PRODUCTS DELIVERED HEREUNDER AND MAY BE MODIFIED OR AMENDED ONLY BY A WRITTEN INSTRUMENT SIGNED BY A DULY AUTHORIZED OFFICER OF SELLER. EXCEPT AS HEREINABOVE PROVIDED, SELLER MAKES NO WARRANTIES, WHETHER EXPRESSED OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE WARRANTIES SET FORTH IN SECTION ABOVE EXTEND ONLY TO BUYER.

## Sellers Limited Liability

SELLER'S LIABILITY FOR BREACH OF THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, DELAY IN DELIVERY OR PERFORMANCE, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE GOODS OR REFUND OF THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE FOR COST OF PROCUREMENT OF SUBSTITUTE GOODS BY THE BUYER OR ANY SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, HOWEVER CAUSED, WHETHER FOR BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE.

## Product Returns

Returns of products are accepted at the sole discretion of Schlumpf, Inc. Products returned must be accompanied by a complete written description of the reason for the return and will not be accepted without prior notification and issuance of a Return Authorization Number (RA No.) by Schlumpf, Inc. Buyer is responsible for the cost of the return freight and the return may be subject to restocking fees. Extreme care should be made for the packaging of goods returned for credit. Buyer will be held responsible for reasonable damages to the return resulting from insufficient packaging and handling during transit.

[A complete statement of terms and conditions of sale are available from Schlumpf upon request.](#)

Schlumpf, Inc., 15 Enterprise Drive, Windham, Maine 04062 U.S.A.  
Tel: 207-893-1903. Toll Free: 877-460-4535. Fax: 207-893-1905.  
Internet: [www.schlumpf-inc.com](http://www.schlumpf-inc.com). E-mail: [mail@schlumpf-inc.com](mailto:mail@schlumpf-inc.com)

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