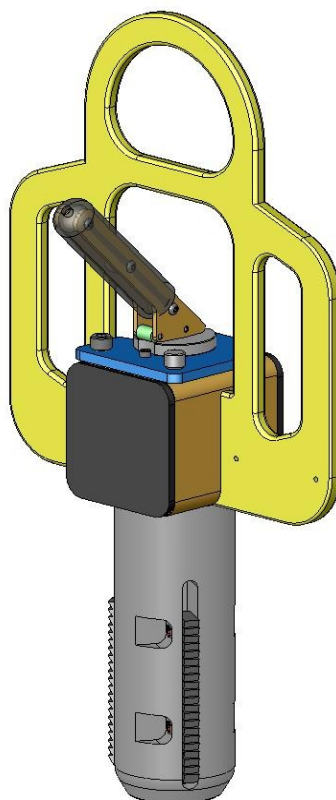




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VRL User manual

Page
1

VRL 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. E-mail: 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 Mobil Mobilith SHC 100 NLGI Grade 2 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.

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Schlumpf, Inc.

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.

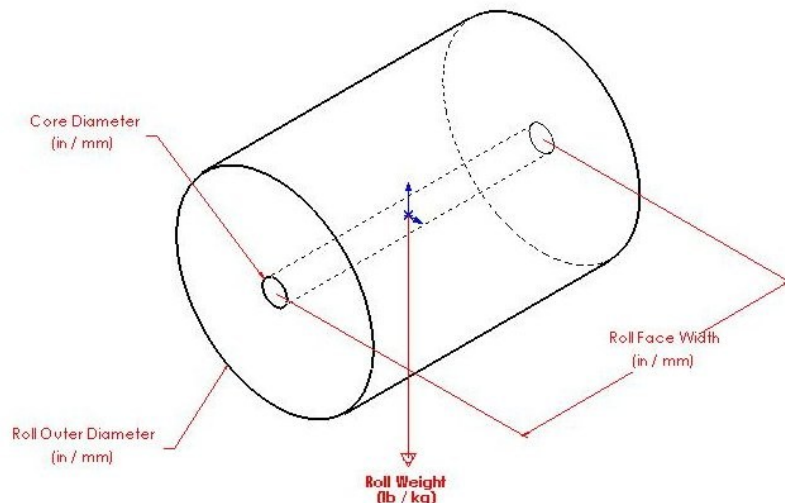
Schlumpf mechanically expanding mandrels are "fail safe", self tightening, and can only be disengaged from the core by the operator.

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 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 VRL roll handling unit was designed and/or tested for the specifications shown on each unit.

VRL-500-TA

MAX Roll Weight:: See Capacity sticker on unit.

VRL-1000-TA

MAX Roll Weight:: See capacity sticker on unit.

VRL-2200

MAX Roll Weight:: See capacity sticker on unit.

VRL-1000

MAX Roll Weight:: See capacity sticker on unit.

CAUTION!

The VRL 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 VRL-TA unit*:



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

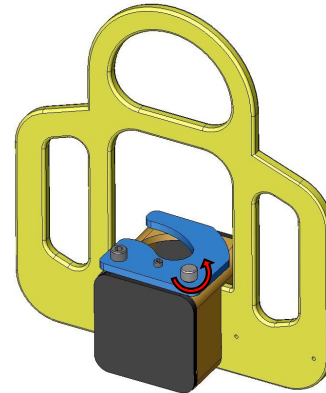
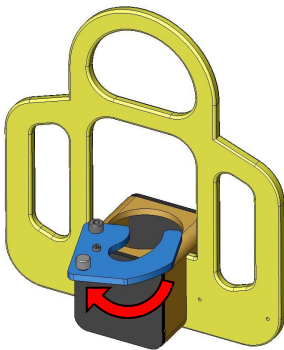
Set-up (TA & 2200)

The VRL comes ready-to-use from the factory.

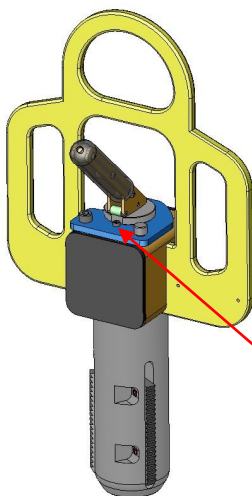
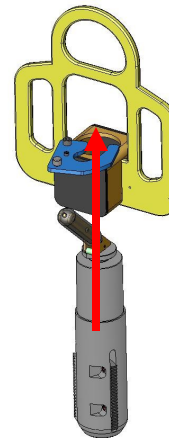
Suspend the VRL unit from a hoist that is in good working order and that has been properly inspected and maintained.

Mandrel installation

1. Unlock the thumb screw plunger and swing the plate to the open position.



2. Insert the mandrel.



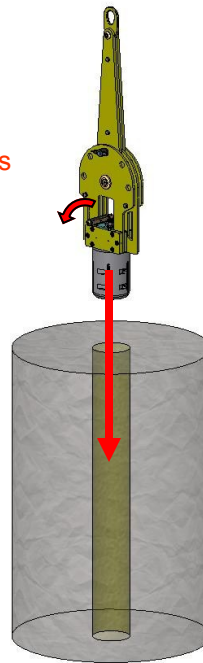
3. Lock the mandrel plate around the mandrel neck. The cap screw on the plate will engage with the mandrel notch.

Cap screw will engage
with mandrel captive notch

Operation (TA): Vertical lifting and transport

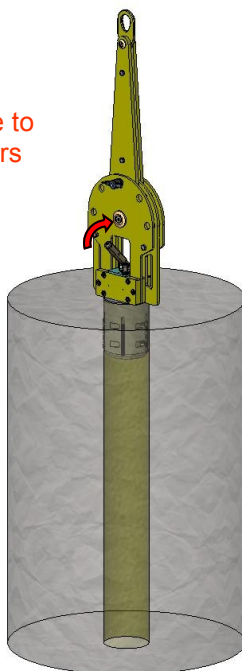
Retract the mandrel grippers and lower the mandrel into the core of the roll.

Retract grippers



When the mandrel is fully inserted into the core, release the toggle handle to expand the grippers.

Release handle to expand grippers



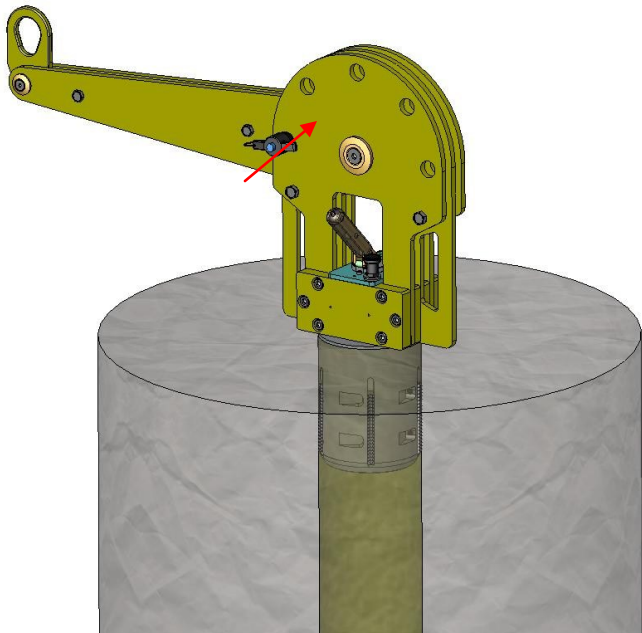
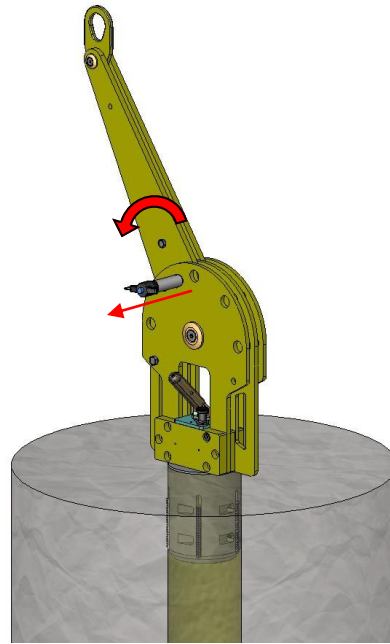
The roll can be transported **IN THE VERTICAL POSITION ONLY to a desired location by lifting the roll vertically with the hoist.**

Operation (TA): tilt VERT to HORZ

CAUTION!

THE ROLL MUST BE SAFELY LOWERED TO THE GROUND BEFORE PERFORMING ANY TILTING FUNCTIONS WITH THE VRL UNIT!

With the roll on the ground, pull the tilt locking pin and swing the arms into the horizontal position.

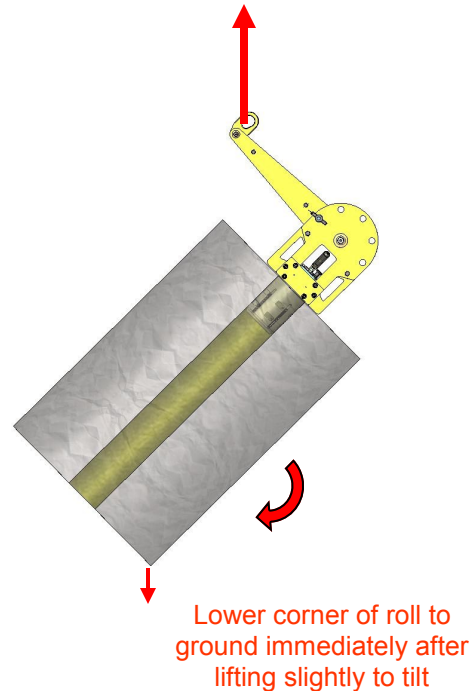


Lock the arms in the horizontal position by replacing the locking pin in the hole as shown.

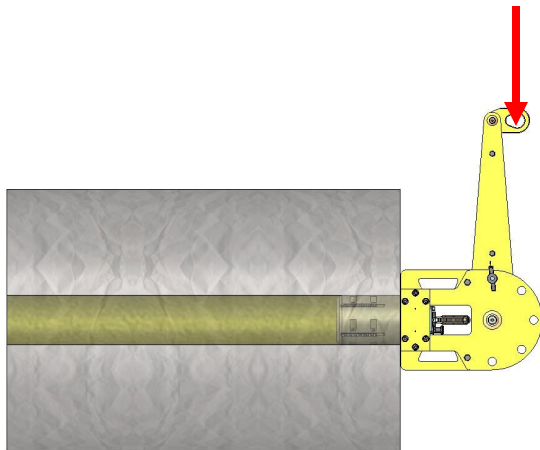
Operation (TA): tilt VERT to HORZ (cont'd)

With the arms locked in the horizontal position, lift up on the unit and roll with the hoist and let the roll swing into a tilted position, as shown.

NOTE:
THE ROLL ONLY NEEDS TO BE LIFTED OFF THE FLOOR A FEW INCHES TO BE TILTED. LIFTING THE ROLL HIGHER IS UNNECESSARY AND MAY BE DANGEROUS! DO NOT TRANSPORT THE ROLL IN THE TILTED POSITION.

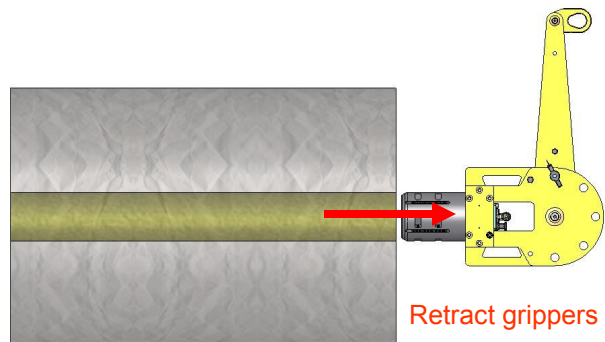


Lower the corner of the tilted roll back to the ground.



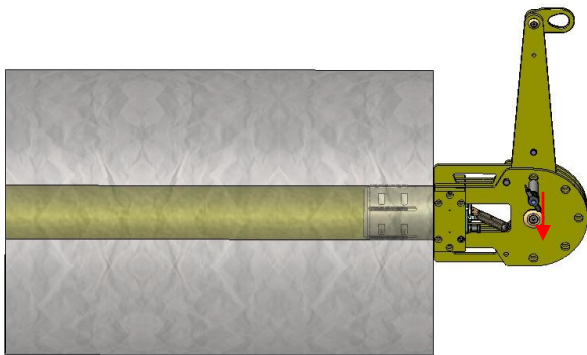
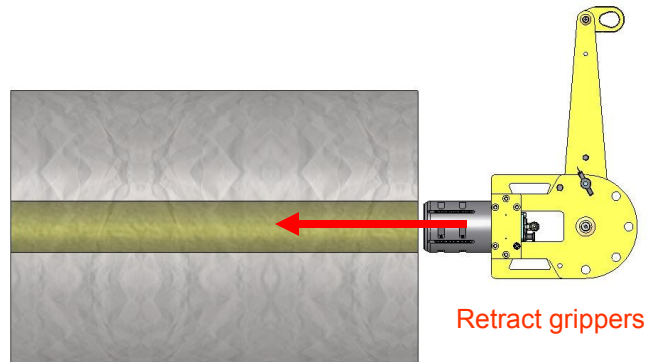
Continue to lower the unit with the hoist until the roll is laying horizontal on the floor.

Retract the mandrel grippers and pull the unit and mandrel out of the core of the roll.



Operation (TA): tilt HORZ to VERT

With the arms locked in the horizontal position, retract the grippers and insert the mandrel into the core of the roll as shown.

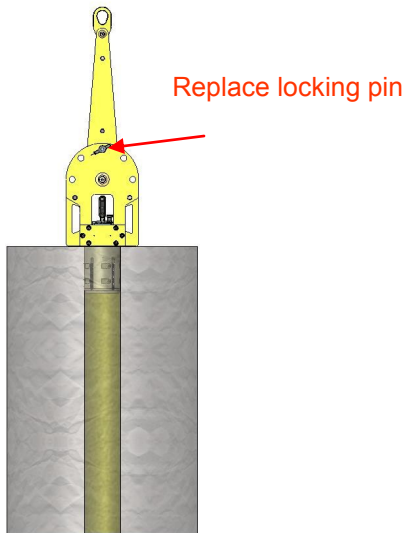
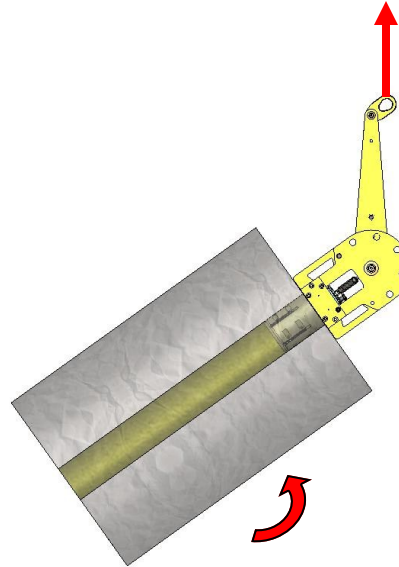


Pull the locking pin out of the tilt arms so they are free to pivot. Leave the pin out or dock it into a hole on the other side for the next steps.

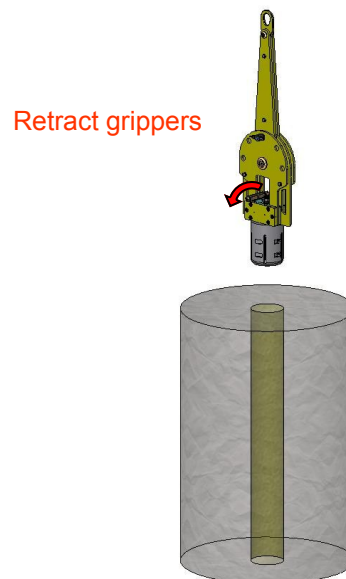
Operation (TA): tilt HORZ to VERT (cont'd)

Leaving the tilt arms unlocked, lift up on the unit with the hoist to start to tilt the roll up into a vertical position.

Keep lifting with the hoist until the roll clears the floor and swings into the vertical position.



Once the roll is in the vertical position, lower it to the floor and replace the locking pin into the vertical position hole as shown.

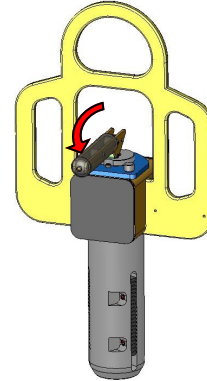
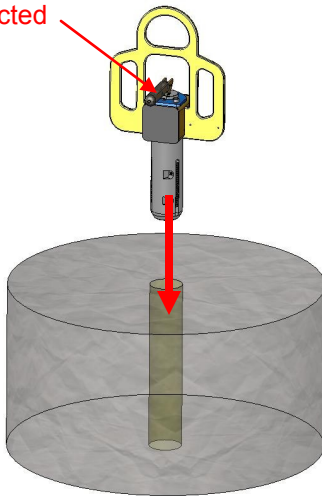


With the roll on the floor, retract the mandrel grippers and lift the unit and mandrel out of the core with the hoist.

Operation (2200)

1. Retract the mandrel grippers.

Grippers
retracted

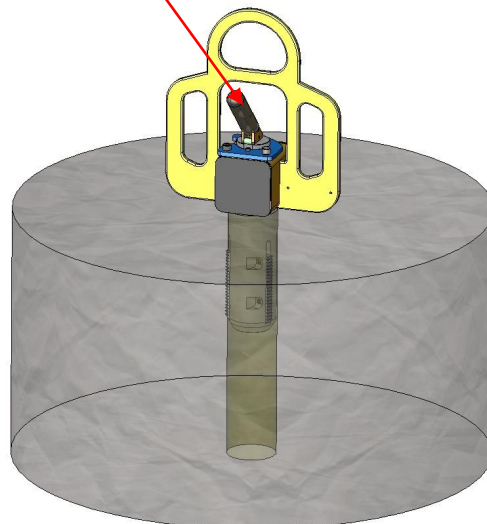


2. Keep the grippers retracted and lower the mandrel into the core of the roll.

Press “down” on the hoist controls to lower to VRL / mandrel into the arbor.

3. Release the grippers to the expanded position when the mandrel is fully inserted into the core.

Grippers
expanded



Operation (2200) (cont'd)

4. Lift the VRL & roll with the hoist. Transport the roll to the desired location.

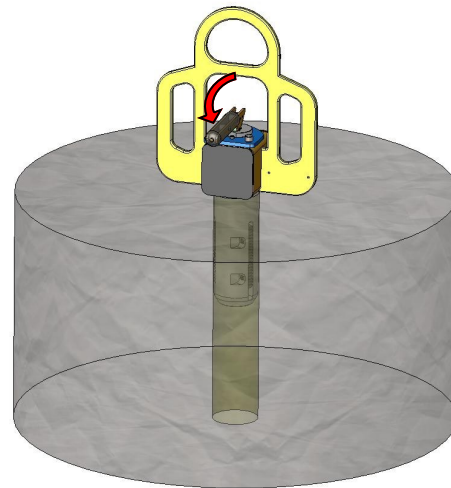
Press “up” on the hoist controls to lift the VRL loaded with the roll.

NOTE!

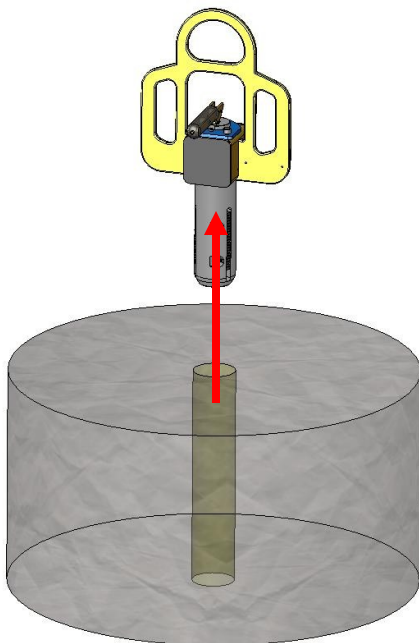
ALWAYS use both hands when transporting the VRL. Unguided transportation will cause the unit to swing and create an unsafe working environment.

5. Lower the roll to a fully supported position.

Press “down” on the hoist controls to lower the roll to a safely supported position.



6. Retract the mandrel grippers once the roll is safely supported.



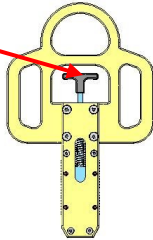
7. Keep the grippers retracted and extract the mandrel from the core of the roll.

Press “up” on the hoist controls.

Operation (1000)

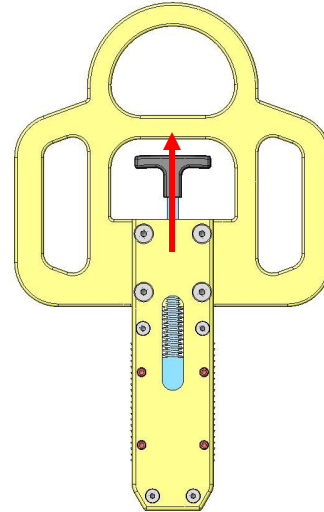
1. Retract the VRL grippers by pulling up on the T-handle.

Grippers retracted



2. Keep the grippers retracted and insert the VRL into the roll core.

Press "down" on the hoist controls to lower to VRL into the core.



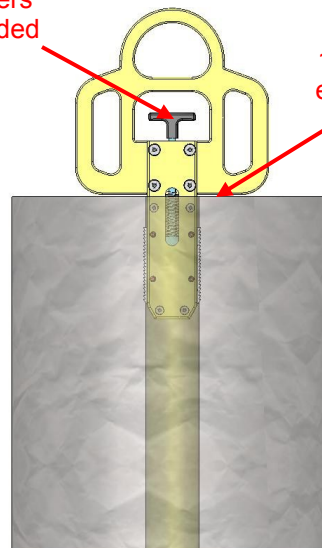
3. Release the T-handle to expand the grippers when the VRL is inserted into the core.

HELPFUL TIP:

Leave a small gap between the roll face and the VRL frame (see picture) when loading a roll. This will make unloading the roll from the VRL easier.

Grippers expanded

Leaving a small gap here (1/8" - 1/4") will make it easier to release the roll



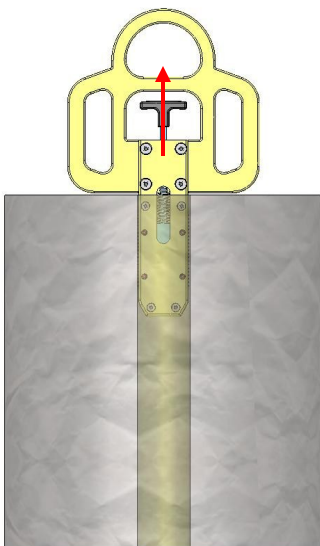
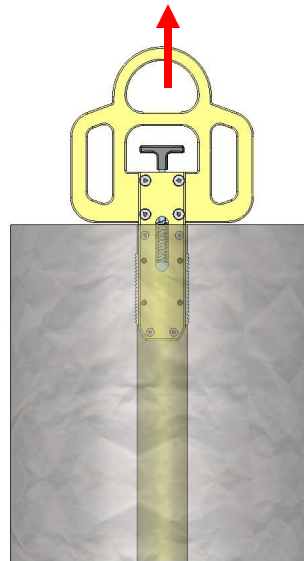
Operation (1000) (cont'd)

4. Lift the VRL & roll with the hoist.
Transport the roll to the desired location.

Press “up” on the hoist controls to lift the VRL loaded with the spool.

NOTE!

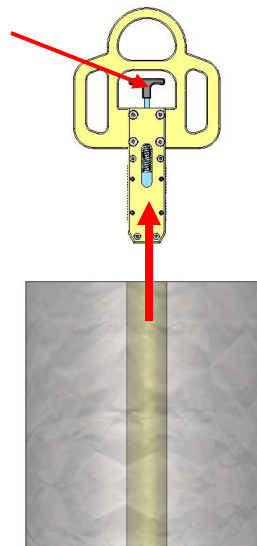
ALWAYS use both hands when transporting the VRL. Unguided transportation will cause the unit to swing and create an unsafe working environment.



5. Lower the roll to a fully supported position.

Press “down” on the hoist controls to lower the spool to a safely supported position.

Grippers
retracted

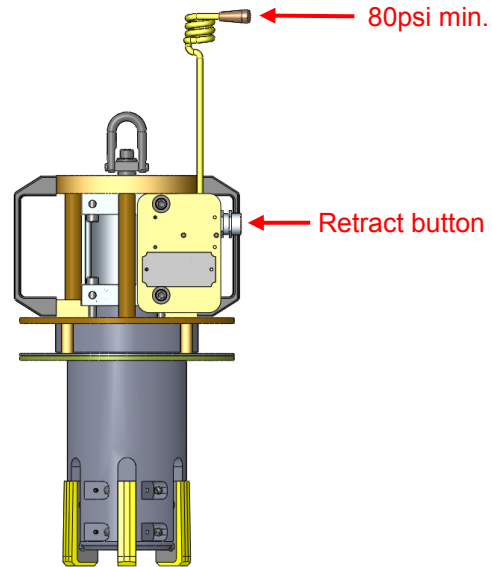
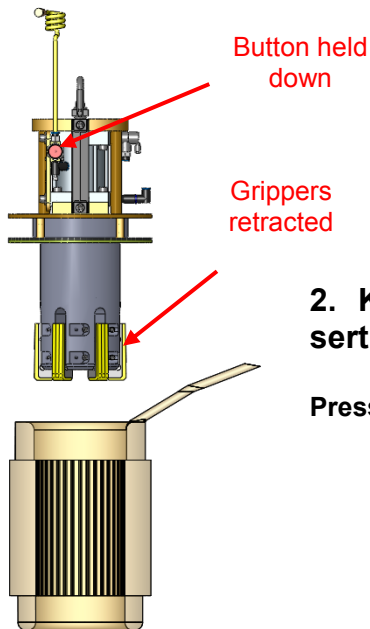


6. Retract the grippers by pulling up on the T-handle.
7. Keep the grippers retracted and lift the VRL out of the roll core.

Press “up” on the hoist controls.

Operation (Pneumatic Lifting Mandrel)

1. Retract the mandrel grippers by pushing on the button on the side.



2. Keep the grippers retracted (button held down) and insert the mandrel into the sample.

Press "down" on the hoist controls to lower the mandrel into the sample.

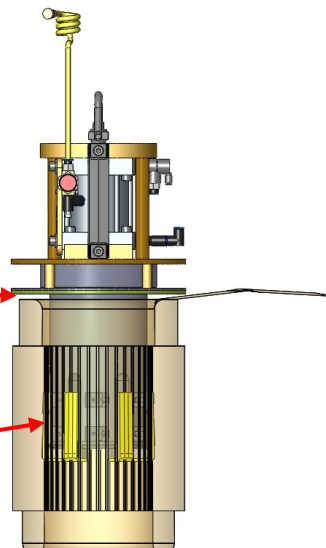
3. Release the button to expand the grippers when the mandrel is inserted into the sample.

HELPFUL TIP:

Leave a small gap between the sample face and the mandrel bumper (see picture) when loading a sample. This will make unloading the sample from the mandrel easier.

Leaving a small gap here (1/8"-1/4") will make it easier to release the sample

Grippers expanded



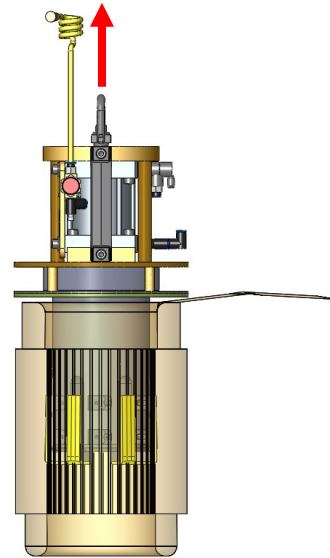
Operation (Pneumatic Lifting Mandrel) (cont'd)

4. Lift the mandrel & sample with the hoist. Transport the sample to the desired location.

Press “up” on the hoist controls to lift the mandrel loaded with the sample.

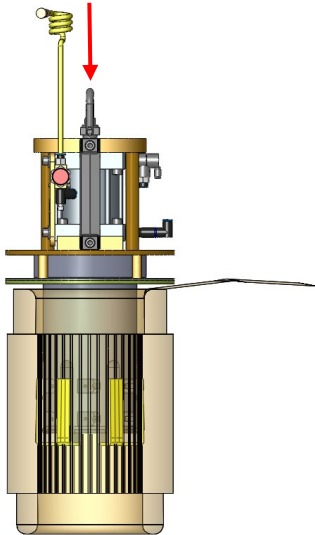
NOTE!

ALWAYS use both hands when transporting the mandrel. Unguided transportation will cause the unit to swing and create an unsafe working environment.



5. Lower the sample to a fully supported position.

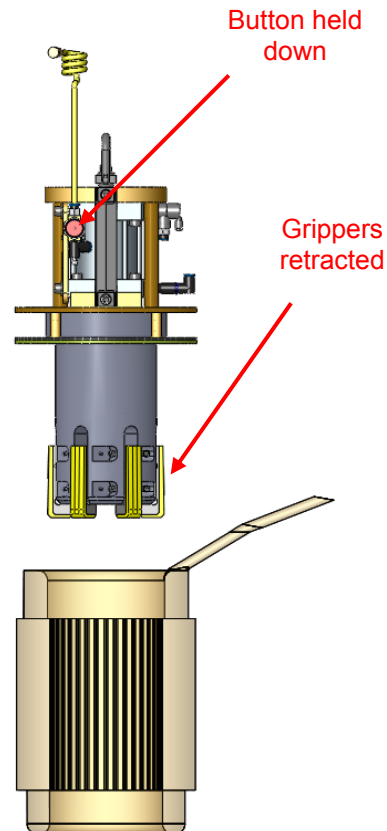
Press “down” on the hoist controls to lower the sample to a safely supported position.



6. Retract the grippers by pressing the button on the mandrel.

7. Keep the grippers retracted and lift the mandrel out of the sample.

Press “up” on the hoist controls.



Troubleshooting (TA & 2200)

Please refer to the following list of potential problems and their solutions if the VRL 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 unit will not tilt a roll enough to get it horizontal (TA):

- **Dilemma:** The roll is too big in diameter and/or too small in face width.
 - **Solution:** assist in the tilt process by pushing on the roll near the unit, or contact Schlumpf for changes or improvements to the application / roll dimensions.

2. The mandrel will not grip the core of the roll (TA & 2200):

- **Dilemma:** The mandrel is not the correct size for the roll core.
 - **Solution:** Do not attempt to handle a roll with a core that is larger than the mandrel and its expansion range. This will create an unsafe handling environment.
- **Dilemma:** The mandrel grippers do not successfully grip / engage with the roll core.
 - **Solution:** Do not attempt to handle the roll if the mandrel grippers do not engage with or create excessive damage to the roll core. Contact Schlumpf, Inc. to request an alternative gripper profile.

3. The mandrel will not extend / retract properly (TA & 2200):

- **Dilemma:** The mandrel requires lubrication.
 - **Solution:** Remove the unit from service. Thoroughly lubricate the toggle handle, gripper pins, and other moving parts of the mandrel. Refer to the following pages for proper lubricants.
- **Dilemma:** There is debris inhibiting the movement of the mandrel parts.
 - **Solution:** Remove the unit from service. Thoroughly clean the mandrel of all debris. Lubricate all moving parts when the unit is clean. Refer to the following pages for proper lubricants.

Troubleshooting (1000)

1. The VRL will not insert into the core of a roll (1000):

- **Dilemma:** The grippers are not in the retracted position.
 - **Solution:** Pull up on the T-handle so the grippers are in the retracted position.
- **Dilemma:** The roll core is larger / smaller than the size for which the mandrel is designed.
 - **Solution:** Do not attempt to handle the roll if the VRL cannot engage properly into the core. Contact Schlumpf in regards to application changes.

2. The grippers will not extend / retract properly (1000):

- **Dilemma:** The VRL requires lubrication.
 - **Solution:** Remove the unit from service. Thoroughly lubricate the pull rod and gripper pins of the mandrel. Refer to the following pages for proper lubricants.
- **Dilemma:** There is debris inhibiting the movement of the VRL parts.
 - **Solution:** Remove the unit from service. Thoroughly clean the VRL of all debris. Lubricate all moving parts when the unit is clean. Refer to the following pages for proper lubricants.

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 VRL 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 grippers retract and extend smoothly.
 - The mandrel is properly locked into the VRL unit..
 - Check all fasteners on the unit and tighten to the proper torque if loose. Use threadlock-
er on fasteners that do not have a lock washer.
- **MONTHLY: (remove unit from service)**
 - Lubricate all moving parts and linear motion components. Refer to the following pages for proper lubricants.
 - Mandrel toggle handle
 - Mandrel pull rod
 - Gripper pins / gripper slots
 - All other metal-on-metal or moving parts
 - Hoist hook pivot and tilt arm pivot (for –TA models only)
 - Check all fasteners on the unit and tighten to the proper torque if loose. Use threadlock-
er on fasteners that do not have a lock washer.
- **YEARLY: (remove unit from service)**
 - Disassemble mandrel and inspect gripper segments & pins for wear and damage. Re-
place any pins and grippers that show excessive wear.

* **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).

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

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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 VRL roll handling 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. VRL / Mandrel 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.

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VRL User manual

Page
23

Notes & Maintenance Records:

Desription of Care / Maintenance Performed:	Date Performed:	Maintenance Performed by:

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Schlumpf, Inc.

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 VRL vertical roll lifter has 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 covered 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.

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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.

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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.](#)

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