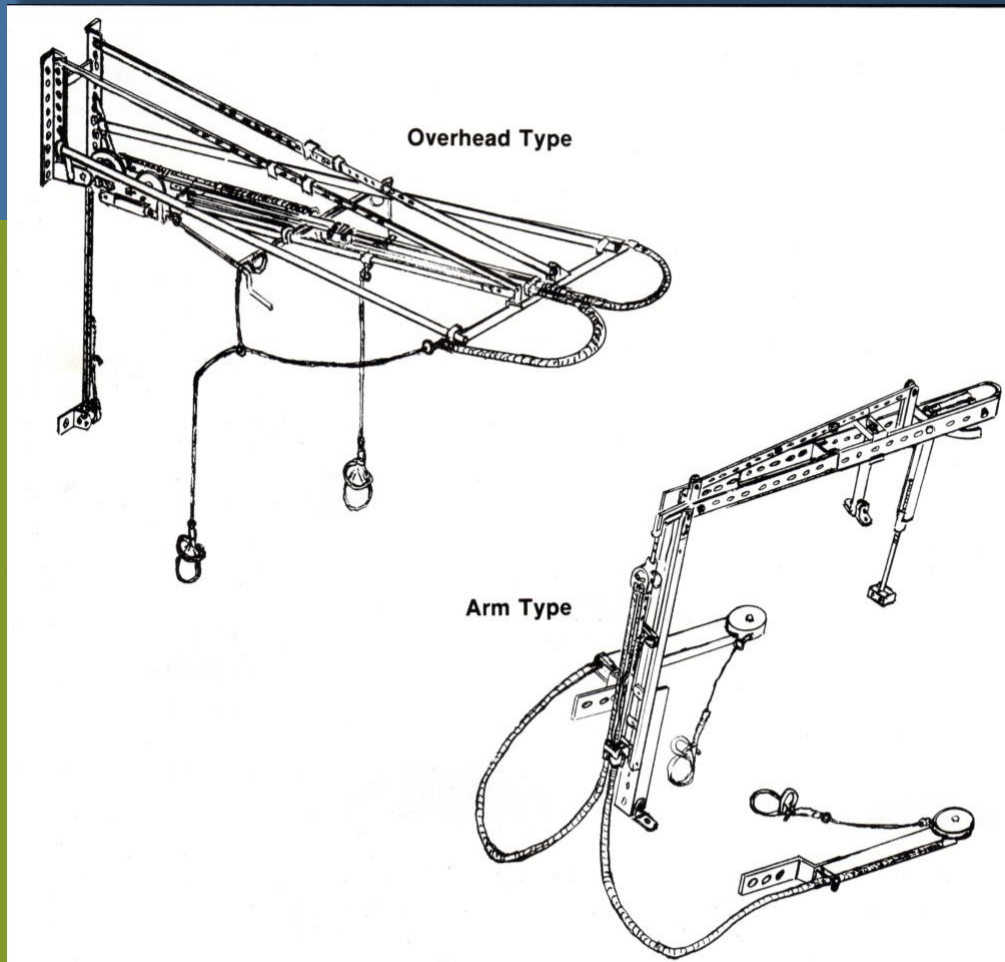


Pullout Holdout Devices



A & O Suppliers LLC

P.O. Box 852 ♦ Woodbury, CT 06798

Phone: 203.263.0508

service@aosuppliers.com ♦ www.aosuppliers.com

SAFETY PRODUCTS

OSHA 1910.217 (c) (3) *Point of operation devices.*

(i) Point of operation devices shall protect the operator by:...

(b) Preventing the operator from inadvertently reaching into the point of operation, or withdrawing his hands if they are inadvertently located in the point of operation, as the dies close; or

(c) Preventing the operator from inadvertently reaching into the point of operation at all times;...

UNIQUE FEATURES

- ❖ **HOLDOUT USE** All devices can be set to dwell throughout the entire press stroke. Ideal for use with hand-feeding tools.
- ❖ **PULLOUT USE** When adjusted for a pulling action, devices pull at the beginning of the press stroke and dwell for the remainder of the stroke.
- ❖ **ADJUSTABILITY** Every device can be adjusted to pull any amount from 0 to its maximum.
- ❖ **ACCEPTANCE** Devices' adjustment capabilities contribute to operator comfort, efficiency and general acceptance.

A properly adjusted device exerts no pull on hands already in a safe position.

- ❖ **INSTRUCTIONS** Detailed, step by step, adjusting instructions are provide with each device.
- ❖ **MACHINE MOUNTED** All devices are mounted entirely to the press and require no floor space.
- ❖ **CONSTRUCTION** Devices are ruggedly constructed using hardened steel parts at strategic locations. All moving parts are bushed.
- ❖ **MAINTENANCE** Preventative maintenance inspection sheets and instructions are provide with each device. Additional pads are available. All replacement parts are available from stock.
- ❖ **INSTALLATION** Standardized mounting brackets are available when required. Installation and rebuild service is available from the factory.

WHY USE PULLOUT HOLDOUT DEVICES?

- Hands near an open die are likely to be in the die. Only a device of this nature can physically restrain them from entering the die.
- They are compatible with safe feeding practices. They are the most logical device to use with hand tool feeding, for example.
- They do not depend on the press clutch or controls. They respond to a repeat stroke or to a ram failing from a broken pitman in the same way as to a normal stroke.
- They do no themselves interfere with production. Operations may be slowed by hand tools, two hand controls or other equipment used with them, but not by the device itself.

QUESTIONS and ANSWERS

WHAT IS A PULLOUT DEVICE?

A pullout holdout is a mechanical device for a power press or press brake actuated by an adjustable connection to the machine slide. The downward movement of the slide is multiplied by the device and transmitted to the cables in a controlled manner. When adjusted so that the cables retract in the first part of the stroke and dwell for the remainder of the stroke, it functions as a pullout device. When adjusted so that the cables are held in a retracted position for the entire stroke, it functions as a holdout device.

WHAT IS UNIQUE ABOUT THE PULLOUT HOLDOUT DEVICES?

They function either as pullout devices or as holdout devices at the user's discretion, requiring no alteration or special attachments to do so. (Restraint attachments are available as well. They allow the device to function as a pullout on one hand and a holdout on the other.)

Their pull mechanism will come to a complete dwell allowing the amount of pull to be adjusted from the maximum down to 0 for use as a holdout. This dwell feature provides other benefits. Properly adjusted, there will be no pull felt by an operator whose hands are already safe. This precise adjustment may avoid pulling the operator's hands off the palm buttons or allow holding the part throughout the stroke (assuming the part is large and this may be done with the hands well out of danger). In general, it facilitates the toolsetter's task of adjusting it properly.

HOW SHOULD PULLOUT HOLDOUT DEVICES BE USED?

They should be used when an operator's hands are dangerously close to an open die. They should be used to restrain him from reaching into the die. They should not be used as part of an operational method that requires the operator to place his hands in the die.

WHAT CAN THE PULLOUT HOLDOUT DEVICE NOT DO FOR YOU?

It cannot provide automatic safety for press operators. Protection of the press operator will depend on the device being properly applied, properly installed and maintained and always properly adjusted for the

operator using it and for the operation being performed. The operator must be wearing the wristlets properly and be sure they are properly attached to the cables at all times. Education and warning of employees to be sure of these factors is essential and necessarily the responsibility of the employer. The manufacturer of the device has no direct contact with or control over employees using the device.

HOW SHOULD THE PULLOUT HOLDOUT DEVICES BE ADJUSTED?

With the ram down, and the device mechanism in the dwell mode, the cable adjustment should be set to restrain the operator's finger tips from entering the danger area at all.

With the ram up, the adjustable ram connection should be set to effect the shortest possible cable length considered feasible when loading the part. The mechanism provides for setting this cable length to also restrain the operator's finger tips from entering the danger area at all. When so adjusted, the device functions as a holdout or restraint device. This is the preferred way of using it.

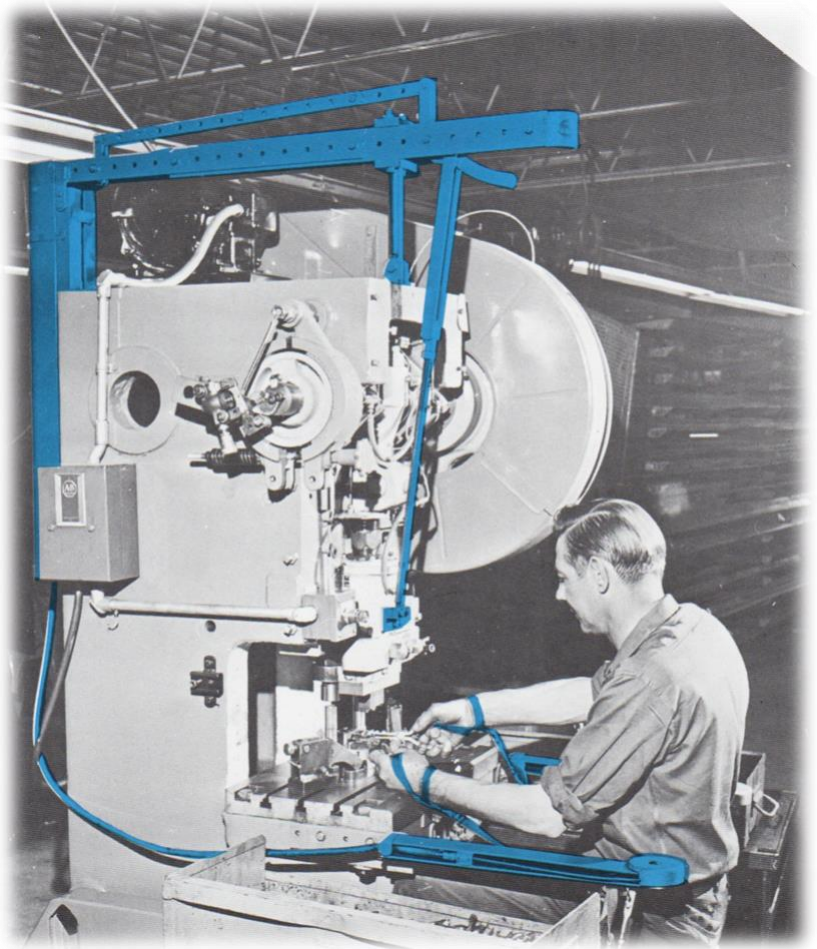
Alternately, at the user's discretion, this adjustment may be set to allow more cable length at top stroke. This should be done only to allow the operator greater mobility in handling parts – not to encourage him to deliberately place his hands in the die.

Adjustment must be carefully checked to insure that the cable length is short enough to restrain the operator from any area that can injure him under any circumstances at any point in the machine stroke. This must be rechecked after changing operators, jobs or any adjustment.

ARM TYPE PULLOUT HOLDOUT DEVICE

APPLICATION

- For small or medium size OBI or gap presses.
- Press stroke must be at least 1-1/4" but not more than 6".
- Suitable for secondary operations on parts that can be handled with one hand while sitting or standing in place.
- The Arm Type Pullout Holdout is the logical device to supplement hand tool feeding.
- Choice of two pull lengths:
Standard Pull – up to 8"
Long Pull – up to 11"



FEATURES

- Adjustment points are conveniently located.
 - 1) The cable block adjustment is made on the column at the rear of the press. Through the use of spring pins the cable block can be repositioned on the adjusting rod. This controls the length of the cables when the mechanism is in dwell.
 - 2) The stroke rod adjustment is made at the front of the press. Threading the stroke rod into or out of the fork will control the cable reach when the ram is up.
- These adjustments, in conjunction with careful checking of hand and finger clearance per the instructions provided with the device, allow precise setting of the device for each individual operation.
- 7 to 1 pull ratio – Arm Type Pullout Holdout Devices with an approximate 7 inches of pull on the cables for 1 inch of ram travel. The pull occurs, at this uniform rate, immediately with the downward movement of the ram. Once the desired pull is attained the mechanism will dwell for the remainder of the press stroke.
- Arms mounted at bolster level – Allows comfortable, efficient handling of small parts. Each hand has freedom of movement in an approximate 4 foot circle. The arms fold downward, out of the way, when not in use.

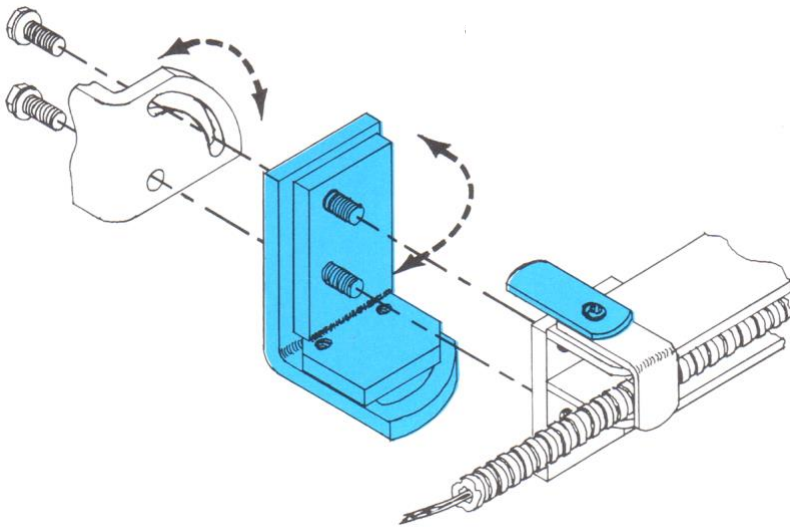
ATTACHMENTS

RESTRAINT ATTACHMENT

The Restraint Attachment can be a valuable addition to the Arm Type Pullout Holdout Device. It offers adjustable Holdout protection for occasional jobs that do not require the operator to reach near the point of operation. It consists of a length of nylon strap with a wristlet permanently attached to one end and a buckle connector for the other end.

Available in left or right hand or in pairs, the Arm Type Restraint Attachment is designed to fasten directly to the existing arm of an Arm Type Pullout Holdout Device. The straps and wristlets are made from red nylon webbing so as not to be confused with the green wristlets of the regular Pullout Holdout Device.

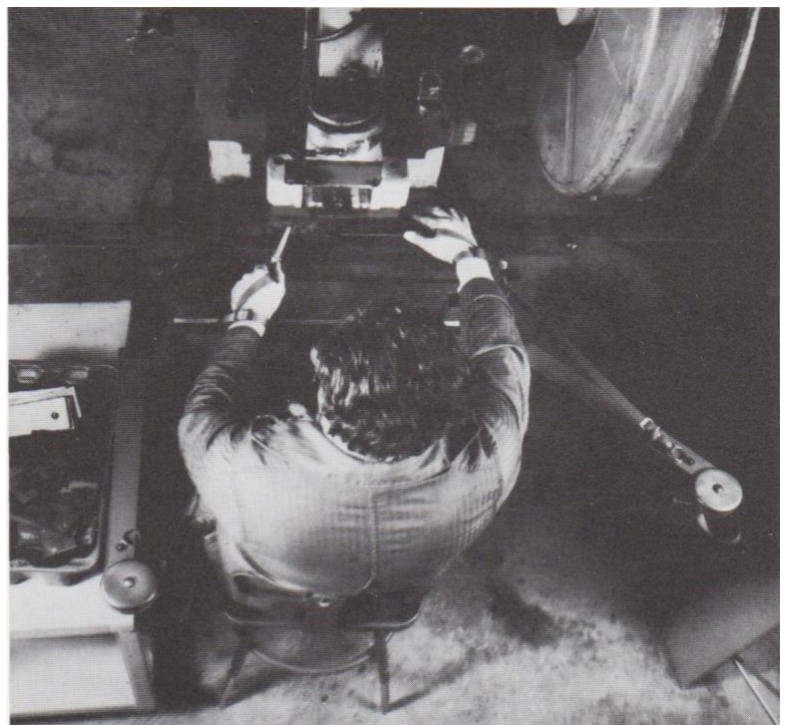
SWINGOUT ARM ATTACHMENT



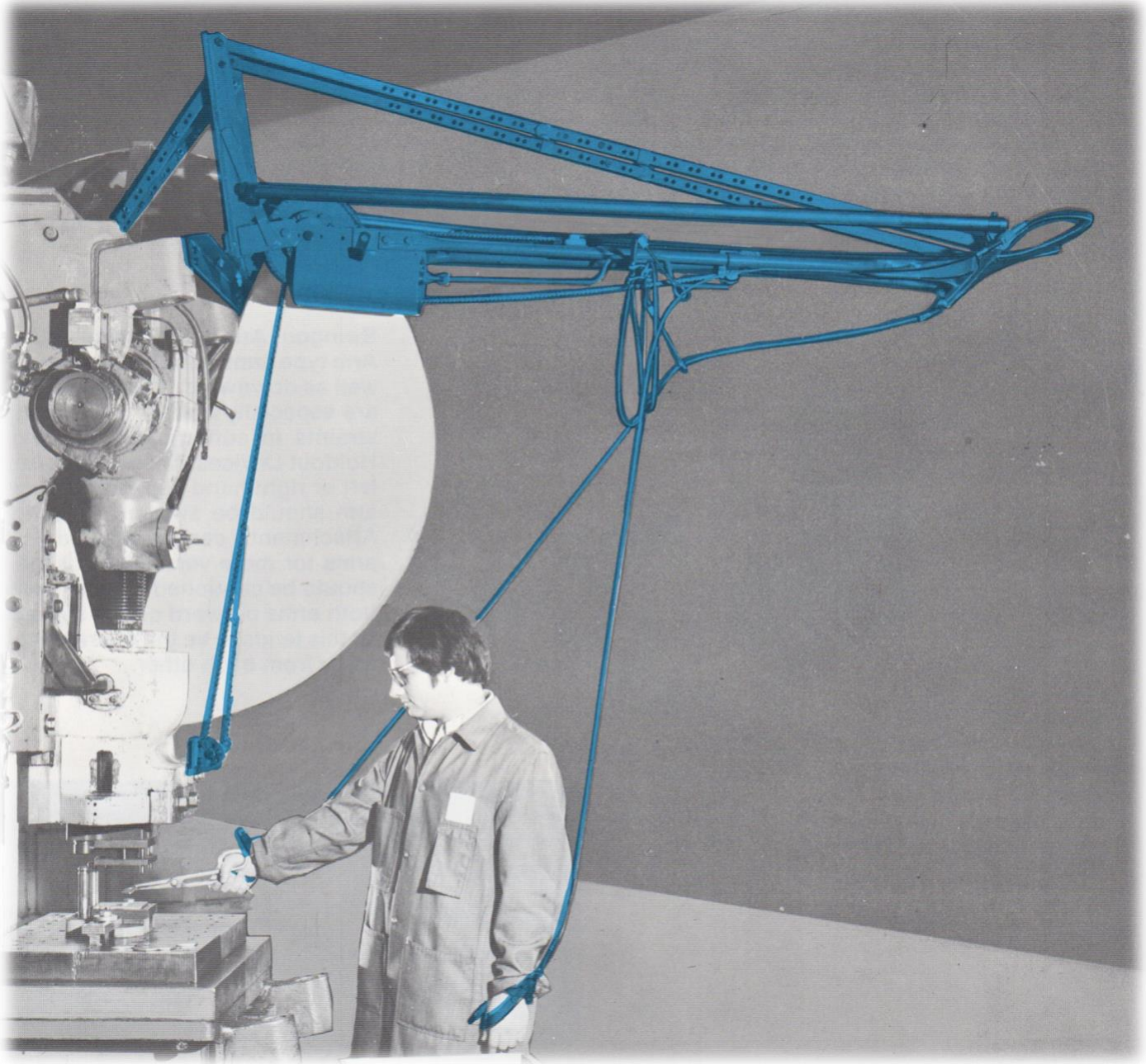
Swingout Arm Attachments allow the Arm Type arms to be swung downward. These attachments are especially helpful when using restraints in conjunction with Pullout Holdout Devices. They are available in left or right hand depending on which arm should be swung out. Swingout Attachments can be applied to both arms for more versatility but the user should be cautioned against swinging both arms outward on the same setup as this tends to tie the operators hands away from each other.

TYPICAL PULLOUT AND RESTRAINT APPLICATION

Right arm assembly is swung out through use of Swingout Attachment. Right hand is held by the Restraint. Left hand is protected by the Pullout Holdout Device.



OVERHEAD TYPE PULLOUT HOLDOUT DEVICE



APPLICATION

- For large OBI and gap presses, straightside presses, or press brakes.
- Press stroke must be at least 2" but not more than 24".
- Suitable for secondary operations when:
 1. The parts are too large to be handled easily with one hand; or
 2. The die sizes necessitate a reach or pull greater than available on the Arm Type; or
- 3. The operator must move about, sidestepping, backstepping or turning, to perform his job; or
- 4. The press stroke is greater than 6"; or
- 5. The press is too large to apply Arm Type.
- 24" pull capacity – The Overhead device offers up to 24" of pull. Shorter booms with shorter pull capacities are available when space is a problem.

FEATURES

- Booms adjust up and down to a convenient height. Ideal when presses are inclined.
- Adjustment points are conveniently located.
 1. The **chain adjustment** is located on the press ram. It controls the cable reach when the ram is up.
 2. The **cable adjustment** is a crank, easily accessible from the floor. It controls the point at which the pulling action ceases. Replacing the crank in its overhead position automatically locks the adjustment.

These adjustments, in conjunction with careful checking of hand and finger clearance per the instructions provided with the device, allow precise programming of the device for each individual operation.

- Up to 7 to 1 pull ratio – The Overhead mechanism multiplies the ram motion and

transmits it to the cables at a uniform rate.

Press Stroke	Drive Sprocket (No. of Teeth)	Approximate Pull Ratio
2" to 8"	26T	7 to 1
4" to 16"	40T	4.55 to 1
16" to 24"	54T	3.375 to 1

- Efficient handling of parts – The overhead boom design offers comfortable handling and feeding of large or bulky parts. The operator can work in an approximate 10 foot circle in front of the press without having to remove the wristlets.
- Multiple installations for more than one operator are common on large presses. Sliding mounts are available to facilitate moving a unit from one position to another for different setups.

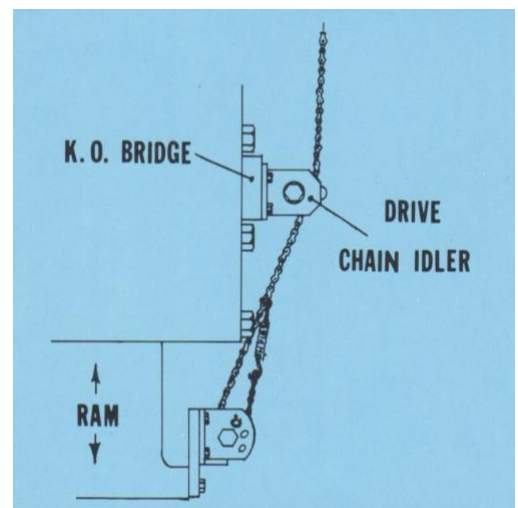
ATTACHMENTS

RESTRAINT ATTACHMENT

The Overhead Restraint Attachment provides adjustable Holdout protection for one or both hands when the operation does not require the operator to reach near the point of operation. It consists of a 10 foot length of nylon strap with a wristlet, left or right hand, permanently attached to one end and a buckle connector for the other end. The connector is designed to attach to the tube support bar of an Overhead Pullout Holdout Device.

DRIVE CHAIN IDLER

The drive chain emerging from the Overhead mechanism must have a clear, unobstructed path to the point that it is connected to the ram of the press. If the design of the press, knock-out bar brackets or other interferences prevent this, then a Drive Chain Idler can be used to reroute the chain around the interference. See the illustration to the right.



WARNING!

A & O Suppliers, LLC will furnish a mechanical device which **MUST** be properly **installed, maintained** and **adjusted** by its user. A & O Suppliers, LLC does not provide automatic safety for the end user.

Misuse can result in serious injury, amputation or death.

ABSOLUTE DISCLAIMER OF LIABILITY

A & O Suppliers, LLC has no control over the end user applications of its products. It is the sole responsibility of the purchaser of A & O Suppliers, LLC products that the user expressly assumes full risk for all damages or injuries, either direct or indirect, associated with the use of any A & O Suppliers, LLC product.