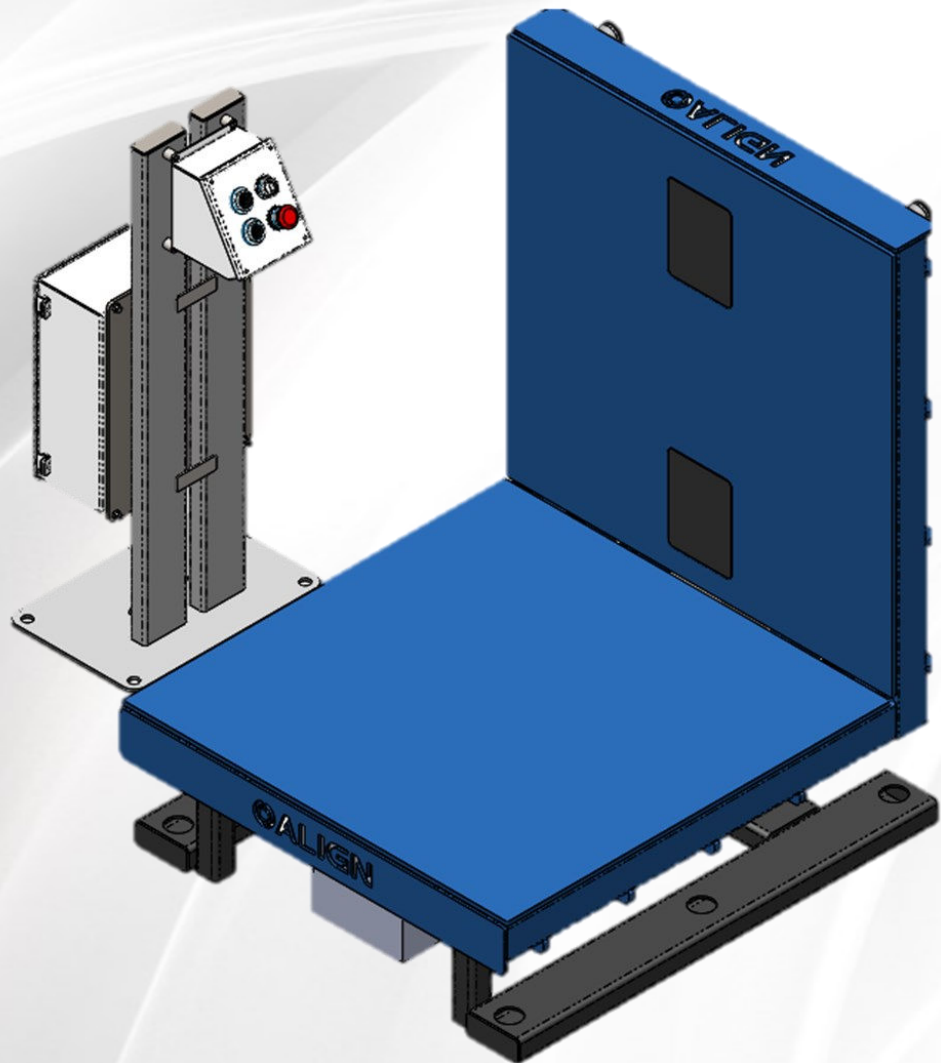




UE-90-XXXXXX OPERATING MANUAL

0° TO 90° HYDRAULIC UPENDER



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1. INTRODUCTION AND WARRANTY

1.1 INTRODUCTION

Please carefully read and understand the information provided in this manual before installing, operating, or servicing this equipment. Failure to do so can result in equipment damage and/or serious personal injury. For any questions, please contact customer service at 217-423-6001.

1.1.1 IDENTIFICATION

Model Number: UE-90-XXXXXX

Serial Number(s): VARIES

When requesting information for ordering parts or service on this equipment, please refer to the model and serial number. The equipment is supplied with a nameplate that contains this information.



1.1.2 INITIAL INSPECTION

Upon receipt, inspect the equipment for possible damage that may have occurred during shipment or unpacking. Please contact Align Production Systems if there is any damage to the unit that may hinder the operation.

1.1.3 IMPORTANT PRECAUTIONS

- Read the following safety precautions before operating or servicing your Align Production Systems Industrial equipment.
- **BEFORE any service or maintenance is performed to this equipment** follow correct lockout/tagout procedures.
- Prevent personnel from leaning on equipment and containers or placing their arms, hands, legs or any bodily member in pinch-point areas throughout the system.
- Instruct personnel on the proper placement of product on the equipment. Failure to place containers or loads in the engineered locations may hinder the operation of the equipment and/or cause structural damage.
- Place stop barriers at the fork truck loading area(s) to prevent damage to the equipment.
- Never operate the equipment without the provided covers and guards properly installed.
- Never walk or climb into or onto the equipment while it is in motion.
- Never restore power or air pressure to the control system without first clearing the equipment of personnel, tools or other obstructions.
- Never alter the equipment in any way unless authorized by a qualified employee of Align Production Systems.

1.2 LIMITED WARRANTY



LIMITED WARRANTY

Align Production Systems (APS) warrants all of its products to be free of defects in material and workmanship for a period of one (1) year from date of shipment to the original purchaser or 2,000 operating hours, whichever comes first, provided purchaser gives APS prompt notice of the alleged defect(s) and, if requested by APS, returns the defective items, freight prepaid (F.O.B. APS's plant in Decatur, Illinois).

THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

For any claim under warranty, APS may elect to repair or replace the defective component or components. All claims for warranty must be accompanied by a Return Goods Authorization number, which may be obtained from APS. This warranty does not cover, and APS is not responsible for, any labor or other expense for inspections, removal or reinstallation of components or products.

This warranty does not cover, among other things, damages resulting from foreign matter or water, negligence, accident, unreasonable use, abuse or misuse, alterations not authorized by APS, failure to provide reasonable and necessary maintenance or failure to follow operating instructions or load limits.

IN ADDITION, IN NO EVENT SHALL APS BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES, WHETHER OR NOT IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

APS makes no representation that the product complies with local, state or federal safety/product standards codes. If the product fails to comply in any way with those codes, it shall not be considered a defect in materials or workmanship, and APS shall not be liable for any damages resulting from noncompliance. This limited warranty is provided to the original purchaser (meaning the original end user) and is nontransferable. This limited warranty constitutes the complete and final agreement regarding APS warranty obligations for the product.

2. DESCRIPTION OF EQUIPMENT

2.1 DESCRIPTION OF EQUIPMENT

The equipment consists of a fixed base and a rotating top frame capable of rotating loads of up to 12,000 lbs. from 0° to 90° in less than 90 seconds. Simple operation is achieved with a push button control panel featuring Pump On/Off, Extend, Retract, and Emergency Stop controls to position the workpiece. Integral counter-balance valves that provide load holding and run-away load prevention combined with velocity fuses that provide holding power in the event of a hydraulic line failure allow for safe and reliable operation.

2.2 EQUIPMENT SPECIFICATIONS

MODEL NUMBER	CAPACITY (lbs)	WIDTH (in)	LENGTH (in)	EXTENDED HEIGHT (in)	RETRACTED HEIGHT (in)	EXTENDED FOOTPRINT (in)	CYCLE TIME (sec)	WEIGHT (lbs)
UE-90-03XXXX	3,000	96 - 36	96 - 36	6 - 12	12	2 x LENGTH	60	1,250
UE-90-06XXXX	6,000	120 - 48	120 - 36	8 - 14	14	2 x LENGTH	72	2,000
UE-90-09XXXX	9,000	120 - 60	120 - 36	10 - 16	16	2 x LENGTH	84	3,000
UE-90-12XXXX	12,000	120 - 60	120 - 48	10 - 18	18	2 x LENGTH	90	4,000

1: Length and Width sizes are available in 12 inch increments.

2: Model Number is based on Length and Width dimensions.

3. SETUP INSTRUCTIONS

WARNING

Prevent serious injury or death.

Use properly rated lifting equipment to move and install equipment.

3.1 POSITIONING THE UPENDER

Each upender is equipped with four [4] 3/4-10 UNC lifting locations on the front faces of the horizontal and vertical frame members.

- 1) Locate/layout the desired location of the equipment.
NOTE: Keep in mind the space requirement of the upender when in the 90°, or extended, position.
- 2) Secure the equipment to the floor with $\varnothing 3/4"$ concrete anchors or similar fasteners.
- 3) Remove the two [2] shipping bolts located.
NOTE: Shipping bolts are ONLY used when moving/lifting the equipment.
- 4) Adjust four [4] leveling foot pads to ensure a level deck in the 0° and 90° positions.

4. OPERATING INFORMATION

4.1 OPERATIONAL CONTROLS¹

The equipment is operated using the following controls...

- **Main Disconnect:** Main power supply disconnect.
- **Emergency Stop Button:** When activated, the equipment is powered down.
- **Pump On/Off Switch:** Turns the hydraulic pump on or off.
NOTE: When the equipment is not in use, turn the pump off to avoid premature wear.
- **Extend Push Button:** Used to adjust the workpiece towards the 90° position.
- **Retract Push Button:** Used to adjust the workpiece towards the 0° position.

4.2 POSITIONING THE WORKPIECE



Prevent serious injury or death.

Make sure the workpiece is properly secured to the upender deck before operation.

- 1) Make sure the power to the system is turned on at the main control panel.
- 2) Pull out the emergency stop button.
- 3) Turn the Pump On/Off switch to the “ON” position.
- 4) Depending on the desired position, press and hold either the Extend or Retract Push Button.
NOTE: The upender table will only move while the button is pressed and held.
- 5) Once the desired position is achieved, release the push button, turn the Pump On/Off switch to the “OFF” position, and press the emergency stop button.

1: Operational controls based on the standard hand control stand. See “Common Options” on page 9 for more control options.

5. SERVICE AND MAINTENANCE

5.1 MAINTENANCE SCHEDULE

To keep your equipment operating correctly and reliably, please review the recommended service and maintenance schedule below and use the information to create a PM schedule.

Interval	Inspection	Corrective Action
1 Month	Inspect Electrical and Hydraulic Cables/Hoses	Inspect all electrical cables and hydraulic hoses for damage and repair or replace as necessary.
1-3 Months	Inspect Hardware Connections	Inspect hardware locations for loose connections and to ensure the equipment is properly secured to the floor. Tighten as necessary.
	Inspect Hydraulic Cylinder(s)	Inspect the condition of the cylinder rod for corrosion or excessive wear. Also check the seals for leaks. Clean or replace as necessary.
3-6 Months	Service Hydraulic Cylinder(s)	Inspect the cylinder pins and mounting points for proper lubrication. Replace or add multipurpose grease as necessary.
	Inspect Pivot Pins	Inspect the frame pivot pins for proper lubrication. Replace or add multipurpose grease as necessary.

5.2 MAINTENANCE HELP

The equipment was designed to help ease service and maintenance.

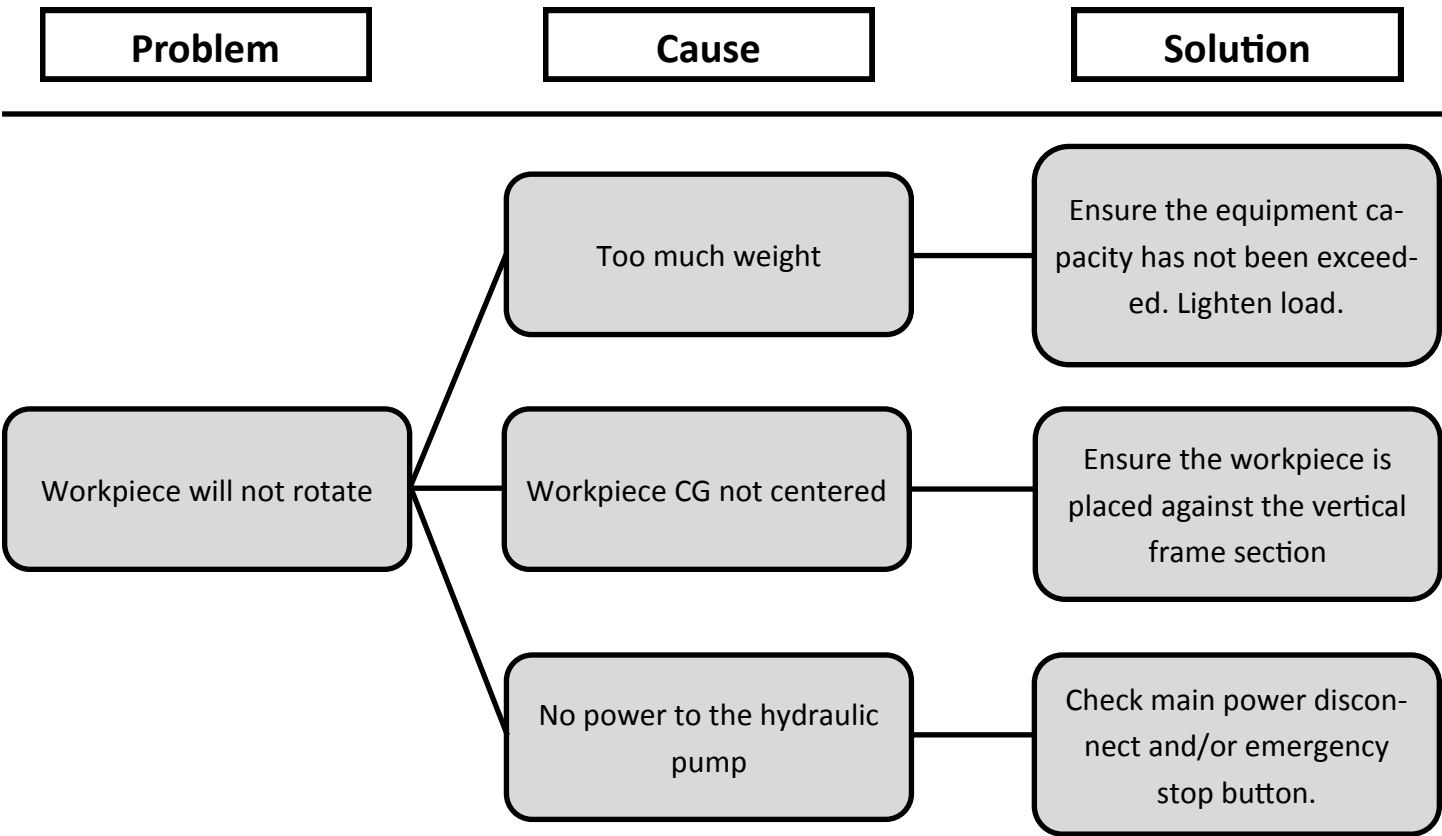
5.2.1 HYDRAULIC CYLINDER ACCESS

1. Remove the four [4] bolts holding each cover. Remove cover and set to the side.
2. Each cylinder is supplied with a grease zerk at each pivot point.
3. When service is complete, reverse Step 1 to re-install access cover(s).

5.2.2 PIVOT PIN ACCESS (CYLINDER AND FRAME PINS)

1. Remove cotter pin(s) and extract the pivot pin from the cylinder/frame.
NOTE: Only remove one [1] frame pivot pin at a time.
NOTE: The cylinder pins are secured with two [2] cotter pins and the frame pins are secured with one [1] cotter pin.
2. After service is complete, re-install pivot pin(s) and secure with new cotter pin(s).

6. TROUBLESHOOTING



7. SPARE PARTS

Part Number	Description	Quantity
CLH250XXXX	HYDRAULIC CYLINDER / 2-1/2" BORE / STROKE VARIES	#
CLH350XXXX	HYDRAULIC CYLINDER / 3-1/2" BORE / STROKE VARIES	#
CLH400XXXX	HYDRAULIC CYLINDER / 4" BORE / STROKE VARIES	#

To reorder a part, please call **1-800-888-0018** and ask for the Parts Department. If possible, please have your equipment serial number handy for reference.

*The stroke length and quantity of the hydraulic cylinder(s) required depends on the length and width of the selected upender configuration. Please consult the Parts Department for the cylinder(s) required for a specific configuration.

8. COMMON OPTIONS

The standard option consists of a hand control stand with hold-to-run buttons. Below is a list of common options available to customize the equipment...

8.1 OPTIONAL EQUIPMENT

- **UE-90-FOOT / Foot Controller:** Replace the standard push button hand control stand with a foot pedal controller
- **UE-90-PLC¹ / PLC Operated:** Replace the standard push button hand control stand with PLC operated controls
- **UE-90-LIGHT / Light Stack:** Light stack to indicate workpiece movement and/or position
- **UE-90-HORN / Audible Alarm:** Audible alarm to indicate workpiece movement
- **UE-90-SCAN / Safety Scanner:** Scanners to protect personnel entry into the indexing area
- **UE-90-RING / Curb Ring:** Floor mounted ring/barrier to protect personnel entry into the indexing area
- **UE-90-AUTO² / One-Touch Operation:** Replace the standard hold-to-run operation with one-touch, or push-and-go, operation

1: PLC programming supplied by the customer.

2: Requires UE-90-SCAN safety scanner option.