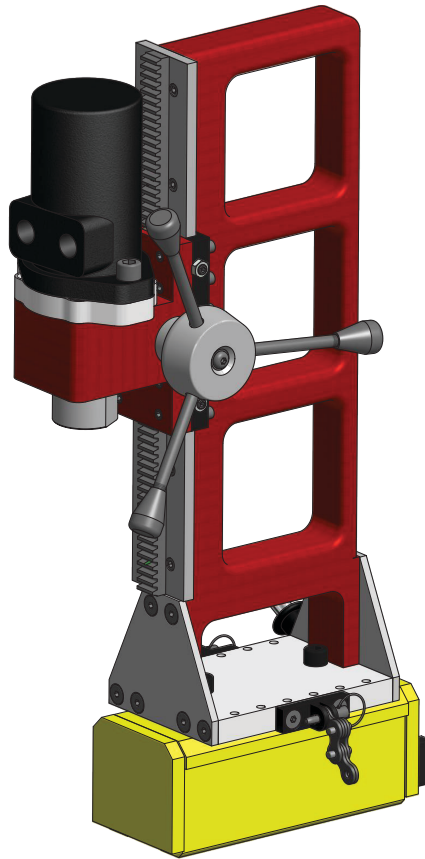


# MT 30 RACK DRILL

MACTECH PORTABLE MACHINING SOLUTIONS

## Mactech MT30 Rack Drill OPERATING MANUAL

SERIAL NO. \_\_\_\_\_



**MACTECH**  
ON-SITE MACHINING SOLUTIONS

Mactech, Inc. • 4079 Pepin Ave. • Red Wing, MN 55066  
Phone: 651-388-7117 • Toll Free: 800-328-1488  
[www.mactechonsite.com](http://www.mactechonsite.com)

**MACTECH**  
SUBSEA MACHINING SOLUTIONS  
**OFFSHORE**

Mactech Offshore • 3129 Highway 90 East • Broussard, LA 70518  
Phone: 337-839-2793 • Toll Free: 800-328-1488  
[www.mactechoffshore.com](http://www.mactechoffshore.com)

# Table of Contents

|   |            |
|---|------------|
| <b>Introduction .....</b>   | <b>ii</b>  |
| <b>Safety Instructions .....</b>                                    | <b>ii</b>  |
| <b>Description .....</b>  | <b>1-1</b> |
| <b>Capabilities .....</b>   | <b>1-1</b> |
| <b>Tooling .....</b>  | <b>1-1</b> |
| <b>Drill Components .....</b>                                       | <b>1-1</b> |
| <b>Specifications .....</b>   | <b>2-1</b> |
| <b>Drive System .....</b>   | <b>2-1</b> |
| <b>Hand Tools .....</b>   | <b>2-2</b> |
| <b>Accessories .....</b>  | <b>2-2</b> |
| <b>Dimensions .....</b>   | <b>2-2</b> |
| <b>Installation and Set-up .....</b>                                | <b>3-1</b> |
| <b>Rack Drill Installationn .....</b>                               | <b>3-1</b> |
| <b>Installation on pipe or casing using the magnetic base .....</b> | <b>3-1</b> |
| <b>Installation on a Flat Surface .....</b>                         | <b>3-1</b> |
| <b>Installation using Optional Hanger Bracket .....</b>             | <b>3-2</b> |
| <b>Motor Installation .....</b>                                     | <b>3-2</b> |
| <b>Hydraulic Power Supply Set-up .....</b>                          | <b>3-3</b> |
| <b>Operation .....</b>  | <b>4-1</b> |
| <b>Drilling Holes .....</b>   | <b>4-1</b> |
| <b>Tapping Holes .....</b>  | <b>4-1</b> |
| <b>Cleaning and Maintenance .....</b>                               | <b>5-1</b> |
| <b>After Each Use .....</b>   | <b>5-1</b> |
| <b>Offshore Cleaning and Maintenance .....</b>                      | <b>5-1</b> |



## Introduction

This manual is intended to describe basic set-up and operations procedures. Specific applications may require alternate configurations or unique procedures not described in this manual. Never use the equipment in a manner that would harm people or damage the equipment.

## Safety Instructions

- Wear protective clothing, including safety glasses and steel-toe boots.
- Do not allow loose clothing or long hair near machine operations.
- Ensure there is adequate clearance before mounting the drill.
- The surface to be drilled must support the full machine weight.
- Do not rush the job. Read and understand all safety instructions and operating procedures before attempting any cutting operation. Call our toll free number (800-328-1488) if any problems arise.
- Before connecting hoses to the machine be sure the slide, drill bit, motor mount, and vertical support are tightly secured.
- Be sure the drill is secured to the work surface before starting the machine.
- Do not touch or rest your hand on or near any moving parts or sharp edges.
- Disconnect air or hydraulic hoses before removing the drill from the work surface.
- Never move the drill while connected to the air or hydraulic power source. Always turn off control valves and disconnect hoses before moving the drill.



## Description

The Mactech MT30 Rack Drill is a powerful, accurate and easy to use drill for on-site drilling applications. The drill mounts on flat, round or tapered surfaces with a magnetic base. Optional mounting systems are available, including chain clamp, shift plate or bolted attachment. An optional hanging bracket is available for supporting the drill horizontally. The drill is available with a pneumatic or hydraulic drive system. The MT30 Rack Drill comes complete with all items and necessary tools packed in a heavy-duty carrying case.

## Capabilities

- Drilling
- Boring
- Tapping (optional reversible motor required)

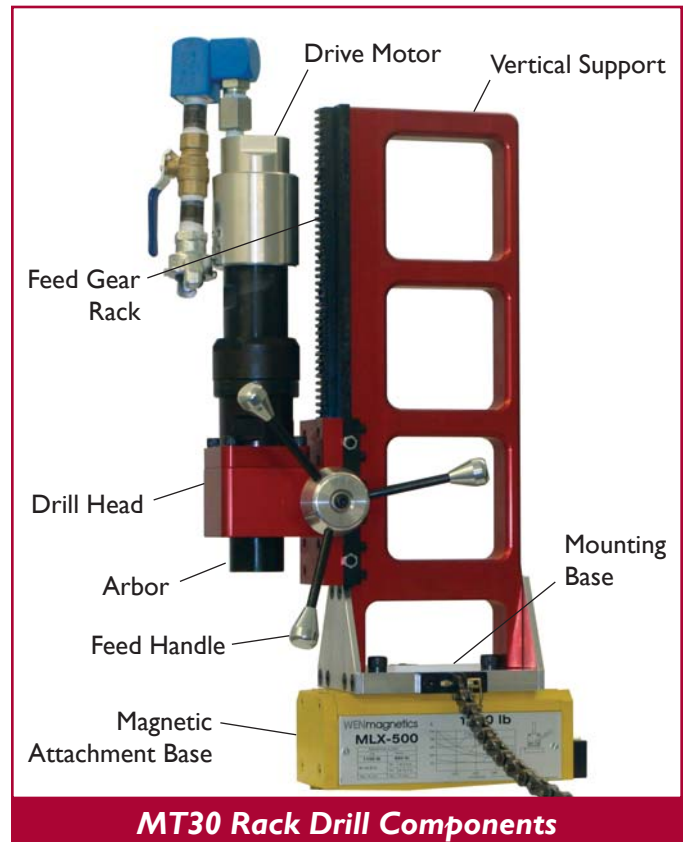
## Tooling

Mactech carries a full line of drill bits for most drilling operations. Drill capacity is 1-1/2 inch twist and 3 inch annular.

## Drill Components

See the MT30 Rack Drill Components figure.

- Magnetic Attachment Base
- Mounting Base
- Vertical Support
- Feed Gear Rack
- Feed Handle
- Drive Motor (air or hydraulic)
- Drill Head
- Arbor



# Specifications

## Drive System

- **Air Motors** (includes air filter and oiler)
  - 010-1023 Air Motor:**
    - Maximum Output: 2.4 hp (1.8kW)
    - Speed at Max Output: 77 rpm
    - Torque at Max Output: 164 ft-lbs (222Nm)
    - Minimum Starting Torque: 245 ft-lbs (333Nm)
    - Free Speed: 154 rpm
    - Air Consumption at Max Output: 76 cfm (36 lps)
  - 010-1024 Air Motor:**
    - Maximum Output: 2.4 hp (1.8kW)
    - Speed at Max Output: 128 rpm
    - Torque at Max Output: 100 ft-lbs (135Nm)
    - Minimum Starting Torque: 160 ft-lbs (217Nm)
    - Free Speed: 250 rpm
    - Air Consumption at Max Output: 76 cfm (36 lps)
- **Hydraulic Motor:**
  - Ports: 1/2 NPTF
  - Maximum Continuous Pressure: 1650 psi (114 bar)
  - Maximum Continuous Speed: 353 rpm
  - Maximum Continuous Torque: 2059 inch-lbs (233Nm)
  - Maximum Continuous Flow: 15 gpm (57 lpm)
  - Power Supply Requirements: 2 - 15 gpm (8 - 57 lpm)@1500 psi (103 bar)
- **Hydraulic Power Supply:**
  - 3 hp, variable frequency drive, 115V, 230VAC input power, remote pendant control, 0-3 gpm@1500 psi

## Hand Tools

All hand tools required for assembly and installation are included with the drill:

- 1/2 inch drill chuck and key
- 5/32 inch allen wrench
- 3/16 inch allen wrench
- 1/4 inch allen wrench
- 5/16 inch allen wrench
- 10mm allen wrench
- 1/2 inch combination wrench
- 3/4 inch combination wrench

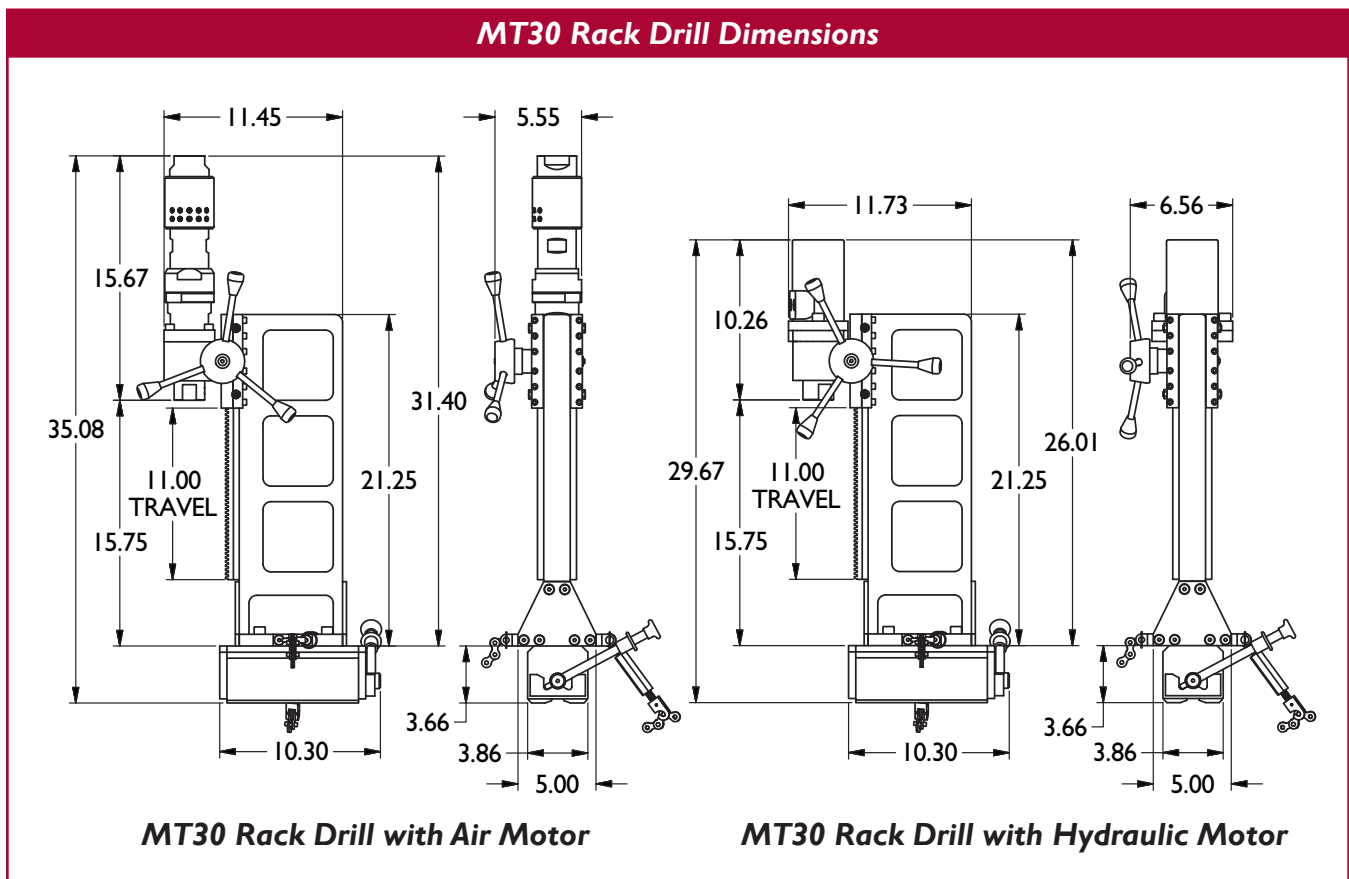


## Accessories

Mactech carries a full line of accessories for the MT30 Rack Drill. Custom configurations are our specialty, contact your Mactech representative at 800-328-1488 for more information.

- Drill Bits
- Piloted Drills
- Annular Cutters
- #3 MT Spindle
- 1 inch keyed female spindle
- V-bracket
- Horizontal Hanging Bracket
- Custom Fixturing

## Dimensions



# Installation and Set-up

## Rack Drill Installation

**NOTE: Before attaching the drill to the workpiece clear your work area of all obstructions. Clean the area where the drill is to be attached to ensure the magnetic base will hold the drill securely. Do not connect the power supply until the drill is securely attached and ready for use.**

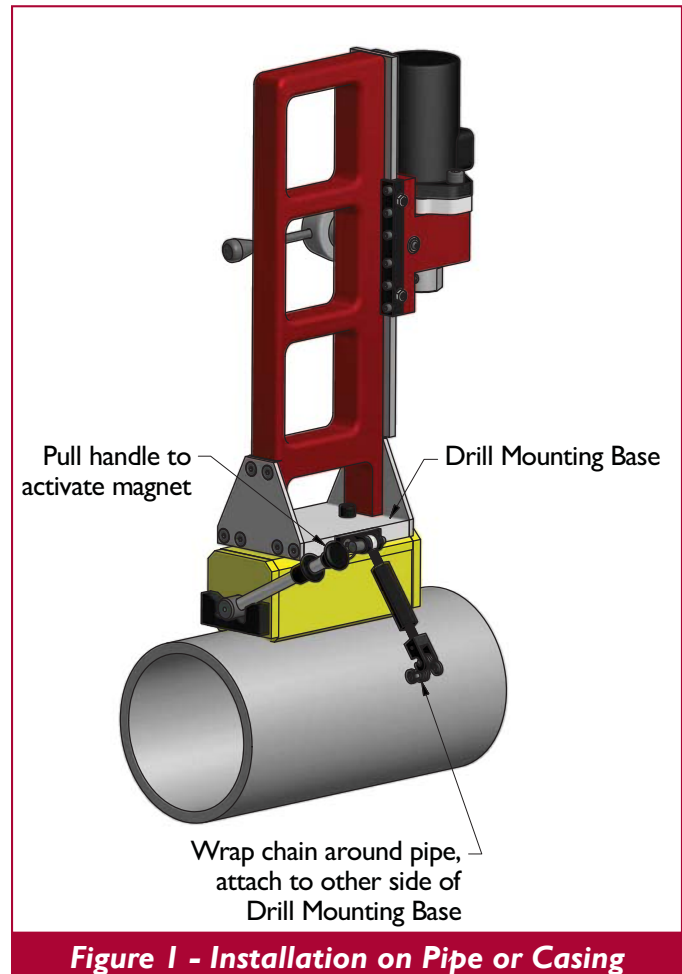
### Installation on pipe or casing using the magnetic base:

See Figure 1.

1. Remove the drill from the magnetic base. Position the magnetic base on the workpiece at the location desired. Pull the magnetic base handle to temporarily secure the magnetic base to the workpiece.
2. Attach the drill to the magnetic base with two M12 socket head cap screws. Attach one end of the magnetic base chain to the drill mounting base. Wrap the chain around the workpiece and anchor to the other side of the drill mounting base.
3. Square and level the drill to the workpiece as required.
4. Check that all fasteners and pins are tight and secure. Make sure the magnetic base handle is fully engaged.

### Installation on a flat surface:

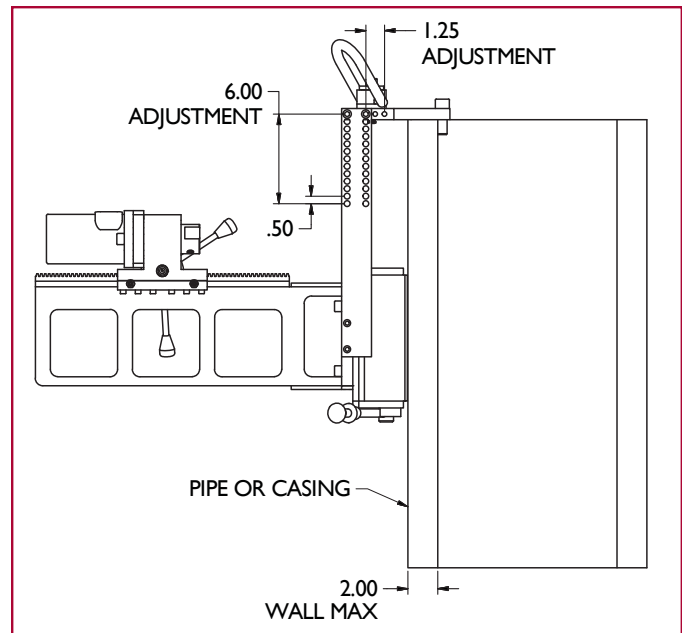
1. Attach the drill to a flat workpiece by:
  - Bolting
  - Tack welding
  - Clamping
  - Magnetic Base
2. Square and level the drill as required.
3. Check that all fasteners and pins are tight and secure. Make sure the magnetic base handle is fully engaged.



### Installation using the optional hanger bracket:

The optional hanger bracket is used to position the drill horizontally and drill holes at a predetermined position from the end of pipe or casing. See Figure 2.

1. Remove the magnetic base anchoring chain and related hardware from the drill mounting base. Attach the hanger bracket to the drill mounting base with four 5/16 inch socket head cap screws.
2. Adjust the position of the top plate and two side brackets to the position required.
3. Hang the bracket with drill on the side of the pipe or casing as shown in Figure 2. Square and level the drill as required. Pull the magnetic base handle to secure the drill to the workpiece.
4. Check that all fasteners and pins are tight and secure. Make sure the magnetic base handle is fully engaged.



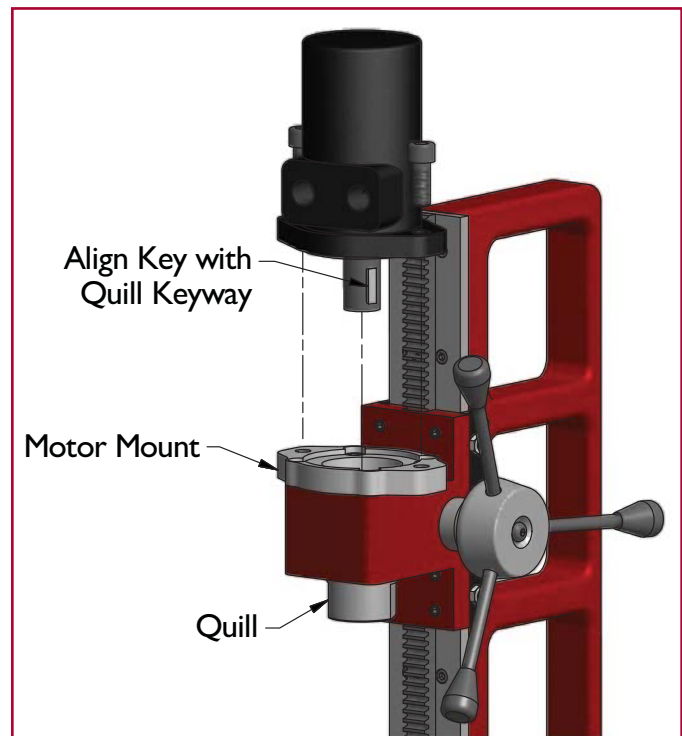
**Figure 2 - Hanger Bracket Installation**

### Motor Installation:

This applies to air and hydraulic motors. See Figure 3.

**NOTE: Disconnect power supply hoses before installing motor to prevent unintended startup.**

1. Install motor by aligning the motor shaft key with the quill keyway shaft.
2. Tighten fasteners to the motor mount.
3. Turn control valves off. Connect power supply hoses to the motor. Open control valves and test run the motor to check speed and direction. See the Hydraulic Power Supply Set-up section for information on speed control and motor direction.



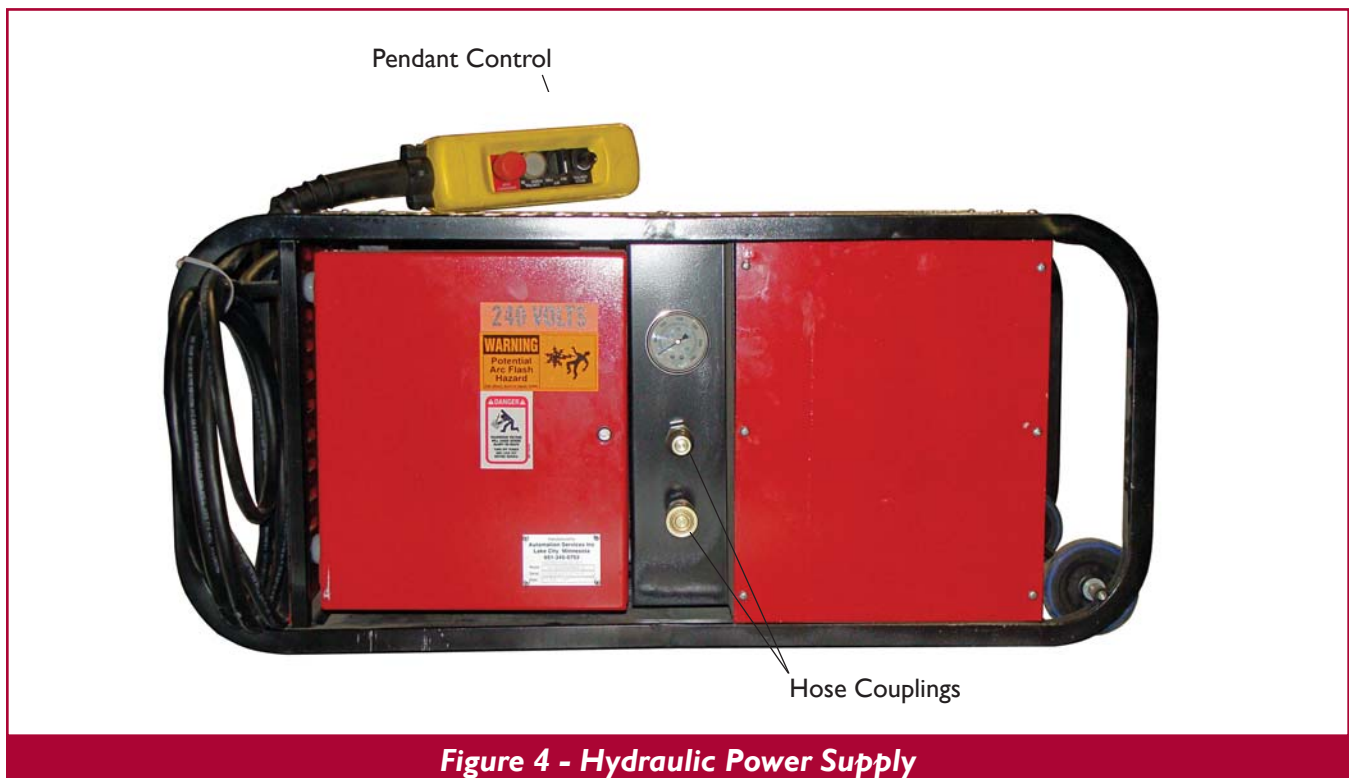
**Figure 3 - Motor Installation**



## Hydraulic Power Supply Set-up

See Figure 4 for identification of hydraulic power supply components. Controls are located on the pendant control.

1. Make sure power supply is turned off.
2. Connect hoses to couplings on power supply.
3. Press the power switch on the pendant control to turn power on. When power is on the indicator light will illuminate.
4. Select the drill rotation direction by turning the direction control knob.
5. Turn the speed control dial to your desired speed.
6. To quickly cut power, press the emergency stop button.



**Figure 4 - Hydraulic Power Supply**

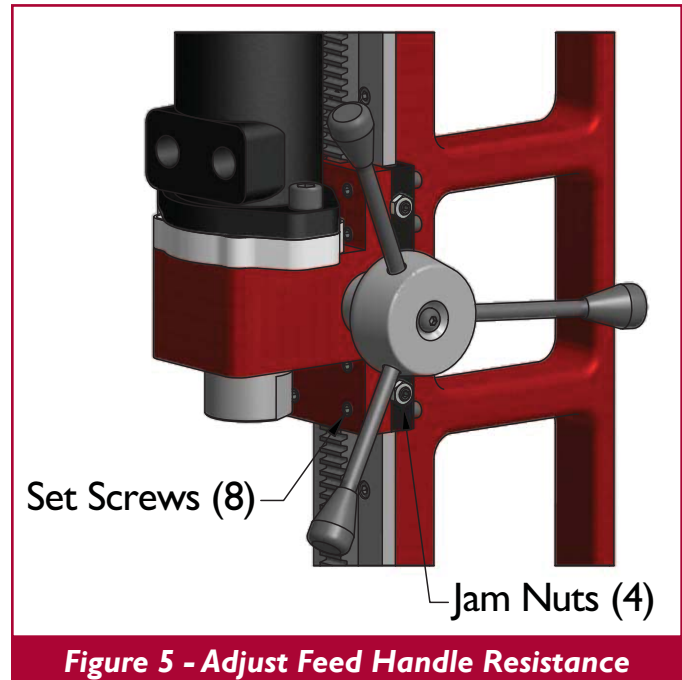
## Operation

**NOTE: Read and understand the safety instructions at the beginning of this manual before using this equipment.**

### Drilling Holes

**NOTE: Do not extend the drill past the top of the feed gear rack.**

1. Install the drill onto the workpiece as described previously in this manual. Adjust the resistance on the feed handle using the four jam nuts on the slide brackets and eight set screws in the drill head. See Figure 5.
2. Turn control valve off. Connect power supply hoses to the drill motor. Install and secure the drill chuck into the quill. Insert and tighten the drill bit into the chuck. Slowly open the control valve to check function and speed.
3. Use the control valve to adjust drilling speed. Apply coolant to the drill bit as required. Replace worn or damaged drill bits as required.
4. When drilling operation is completed back drill bit away from workpiece and close control valve and cut power to the power supply to stop the drill motor.
5. Turn off power to the power supply and disconnect hoses. Remove drill from the workpiece and perform any cleaning or maintenance required.



**NOTE: The drilling operation is continuous until terminated by the operator. Close the control valve or turn off power to the power supply to stop drilling.**

### Tapping Holes

**NOTE: A reversible motor is required for tapping holes. Contact Mactech for more information on the proper motor required for your application.**

1. Follow the procedure for drilling holes. Use a tapping bit and dial indicator for precise hole locations.
2. When tapping operation is completed back tapping bit away from workpiece and close control valve and cut power to the power supply to stop the drill motor.
3. Turn off power to the power supply and disconnect hoses. Remove drill from the workpiece and perform any cleaning or maintenance required.



## Cleaning and Maintenance

Cleaning and maintenance are critical steps to maintain the operation and life of the drill. When using the drill in offshore applications it is very important to maintain and clean the drill after each use and before storage.

### After Each Use

1. Immediately after use clean the drill with a solvent. Apply rust inhibitors and store in a dry area. Lubricate the feed gear rack regularly.
2. After 250 hours of continuous use return the drill to a Mactech service facility for inspection and thorough maintenance.

### Offshore Cleaning and Maintenance

1. Immediately after lifting from the water, spray off the entire drill with freshwater. Use compressed air to dry the drill as thoroughly as possible.
2. Disassemble the drill. Remove the tooling, drill head, mounting base and magnetic base. Disassemble the drill head. Clean all parts thoroughly. Inspect all parts for wear or damage. Lubricate the drill head bearings with one shot of fresh grease. Inspect all bearings for wear and free-spinning. Allow lubricants time to soak in. Lubricate the feed gear rack.
3. Check the threads of hydraulic whip hoses by test threading the male and female ends together.
4. Assemble the drill. Apply marine grade anti-seize lubricant to all fastener threads.
5. If prepping the drill for storage, apply a light coat of SP400 protectant over the entire outside surface of the drill.

**NOTE: Do not over-apply SP400. SP400 is used as a protectant only, and may damage the drill if used on internal or moving parts. Limit the application to external and stationary parts of the drill.**



## Assembly Drawings

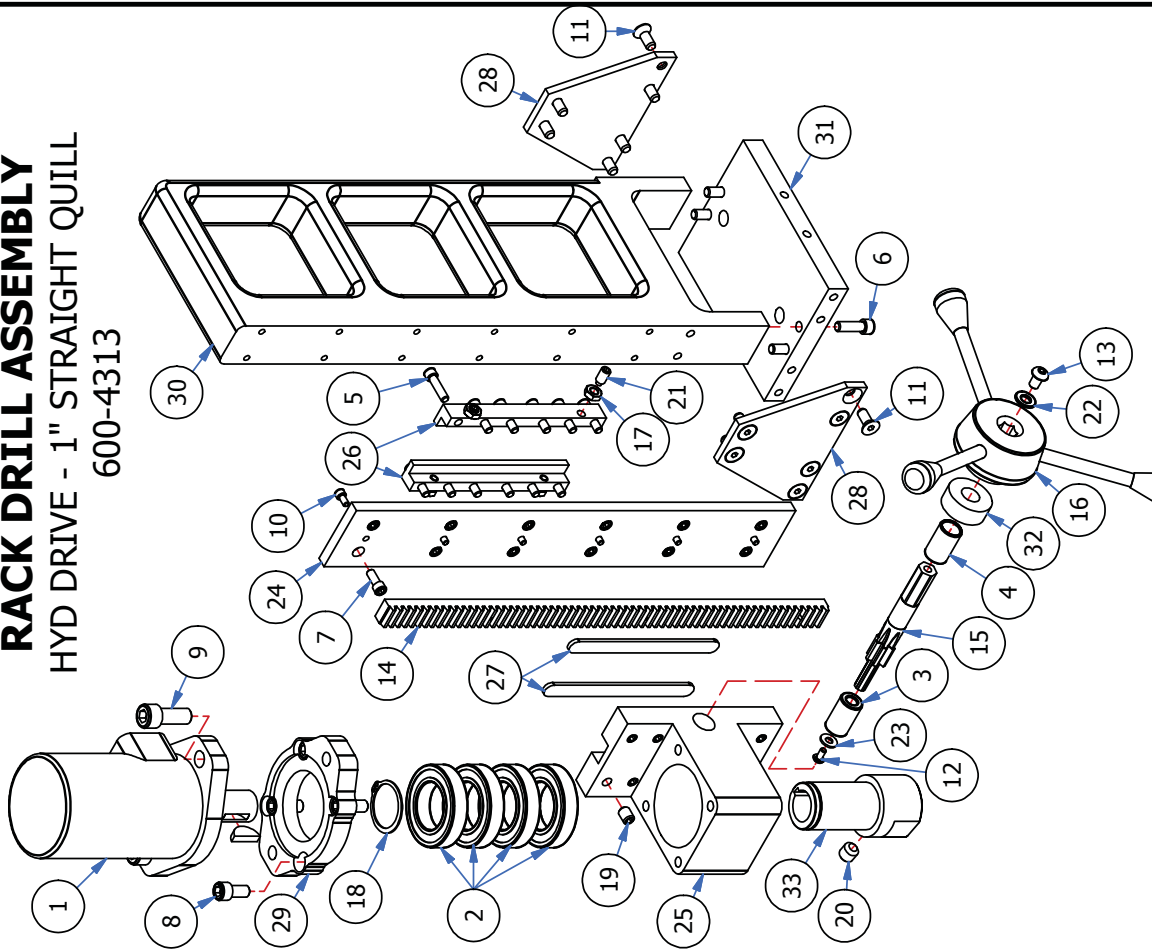
| <b>Drawing No.</b> | <b>Description</b>  | <b>Page</b> |
|--------------------|---|-------------|
| 600-4313           | Rack Drill Assembly, Hydraulic Drive, 1 inch Straight Quill               | 6-2         |
| 600-4314           | Rack Drill Assembly, Air Drive, #3 MT Quill                               | 6-3         |
| 600-4315           | Rack Drill Assembly, Hydraulic Drive, #3 MT Quill, Magnetic Mounting Base | 6-4         |
| 600-4316A          | Rack Drill Assembly, Air Drive, 1 inch Straight Quill, 3800U Motor        | 6-5         |
| 600-4316B          | Rack Drill Assembly, Air Drive, 1 inch Straight Quill, LZB17-50 Motor     | 6-6         |
| 600-4316C          | Rack Drill Assembly, Air Drive, 1 inch Straight Quill, LZB25-50 Motor     | 6-7         |
| 600-4318           | Magnetic Base Assembly  | 6-8         |
| 600-4345           | Hanger Bracket Assembly   | 6-9         |



# RACK DRILL ASSEMBLY

## HYD DRIVE - 1" STRAIGHT QUILL

600-4313



**MACTECH**  
ON-SITE MACHINING SOLUTIONS

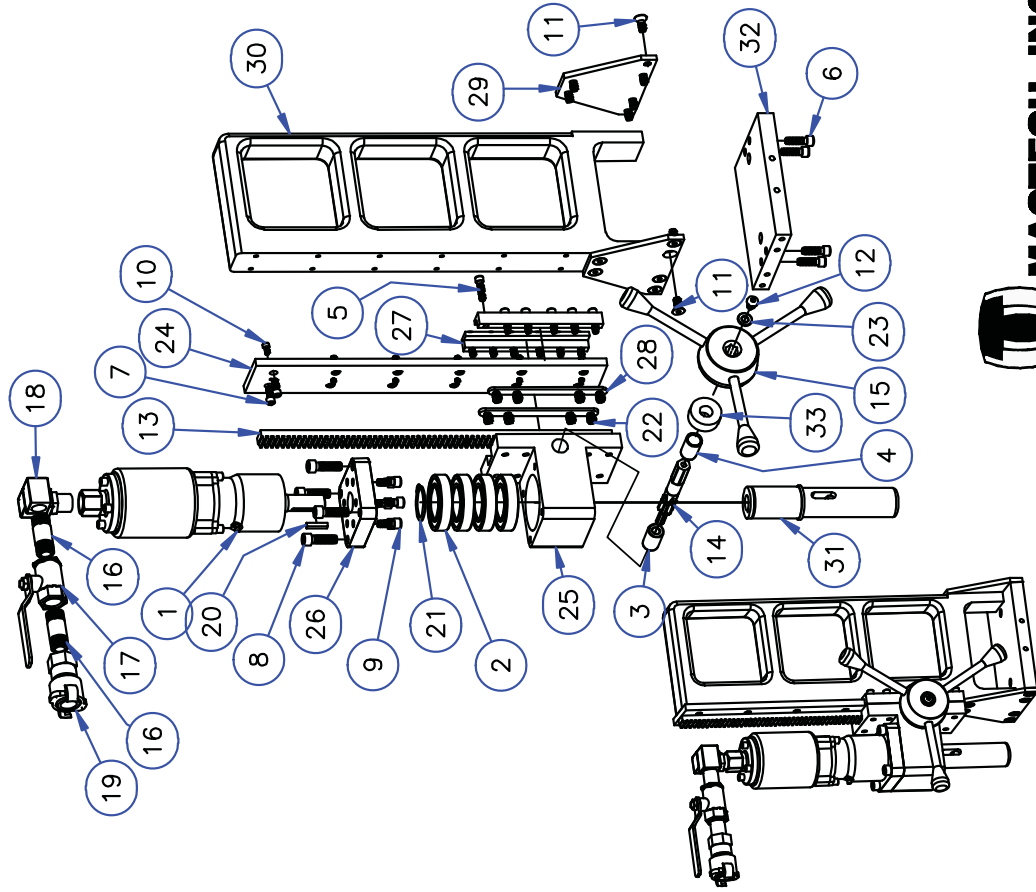
| ITEM | PART NUMBER    | QTY | DESCRIPTION  |
|------|----------------|-----|--|
| 1    | 011-1001       | 1   | HD MOTOR CHAR-LYNN #101-1028                           |
| 2    | 020-0134       | 4   | 2.625 X 1.5 X .562 RADIAL BALL BEARING - DOUBLE SEALED |
| 3    | 022-0080       | 1   | CYLINDRICAL BEARING - 3/8 X 3/4 X 1-1/4                |
| 4    | 022-0081       | 1   | CYLINDRICAL BEARING - 5/8 X 3/4 X 1-1/4                |
| 5    | 070-0003       | 12  | 1/4 - 20 x 1 SHCS                                      |
| 6    | 070-0006       | 4   | 5/16 - 18 x 1 SHCS                                     |
| 7    | 070-0010       | 12  | 1/4 - 20 x 5/8 SHCS                                    |
| 8    | 070-0019       | 4   | 3/8 - 16 x 3/4 SHCS                                    |
| 9    | 070-0035       | 2   | 1/2 - 13 x 1 1/4 SHCS                                  |
| 10   | 070-0075       | 6   | 10-24 x 3/8 SHCS                                       |
| 11   | 071-0017       | 12  | 5/16-18 x 3/4 FHCS                                     |
| 12   | 072-0016       | 1   | 10 - 24 x 3/8 BHCS                                     |
| 13   | 072-0031       | 1   | 5/16 - 18 x 1/2 BHCS                                   |
| 14   | 100-0328       | 1   | FEED GEAR RACK - 12 DP, 14.5 PA                        |
| 15   | 100-0329 MOD-A | 1   | PINION FEED SHAFT - 12 DP, 14-1/2 DEG, 6 TOOTH         |
| 16   | 120-0093       | 1   | 3 ARM SPEED HANDLE                                     |
| 17   | 170-0029       | 4   | 5/16-24 HEX JAM NUT ZINC                               |
| 18   | 237-0007       | 1   | 1-1/2" EXTERNAL SNAP RING                              |
| 19   | 340-0013       | 8   | 3/8-16 x1/2 SSS-CUP POINT                              |
| 20   | 340-0017       | 1   | 1/2-13 x 1/2 SSS-CUP POINT                             |
| 21   | 340-0101       | 4   | 5/16-24 X 5/8 - BRASS TIP                              |
| 22   | 480-1036       | 1   | 5/16 HARDENED WASHER                                   |
| 23   | 480-1132       | 1   | #10 USS FLAT WASHER                                    |
| 24   | 620-5601       | 1   | SLIDE BAR  |
| 25   | 620-5602       | 1   | SPINDLE BEARING HOUSING                                |
| 26   | 620-5604       | 2   | SLIDE RETAINING BRACKET                                |
| 27   | 620-5605       | 2   | BEARING HOUSING GIB                                    |
| 28   | 620-5606       | 2   | END SUPPORT PLATE                                      |
| 29   | 620-5619       | 1   | 2 BOLT FLANGE MOUNT                                    |
| 30   | 620-5620       | 1   | VERTICAL SUPPORT                                       |
| 31   | 620-5622       | 1   | RACK DRILL MAG BASE MTG PLATE                          |
| 32   | 620-5623       | 1   | FEED HANDLE SPACING COLLAR                             |
| 33   | 620-5629       | 1   | 1" STRAIGHT QUILL, 1" INPUT                            |

**MACTECH**  
ON-SITE MACHINING SOLUTIONS

# RACK DRILL ASSEMBLY

## AIR DRIVE - #3 MT QUILL

600-4314



Parts List

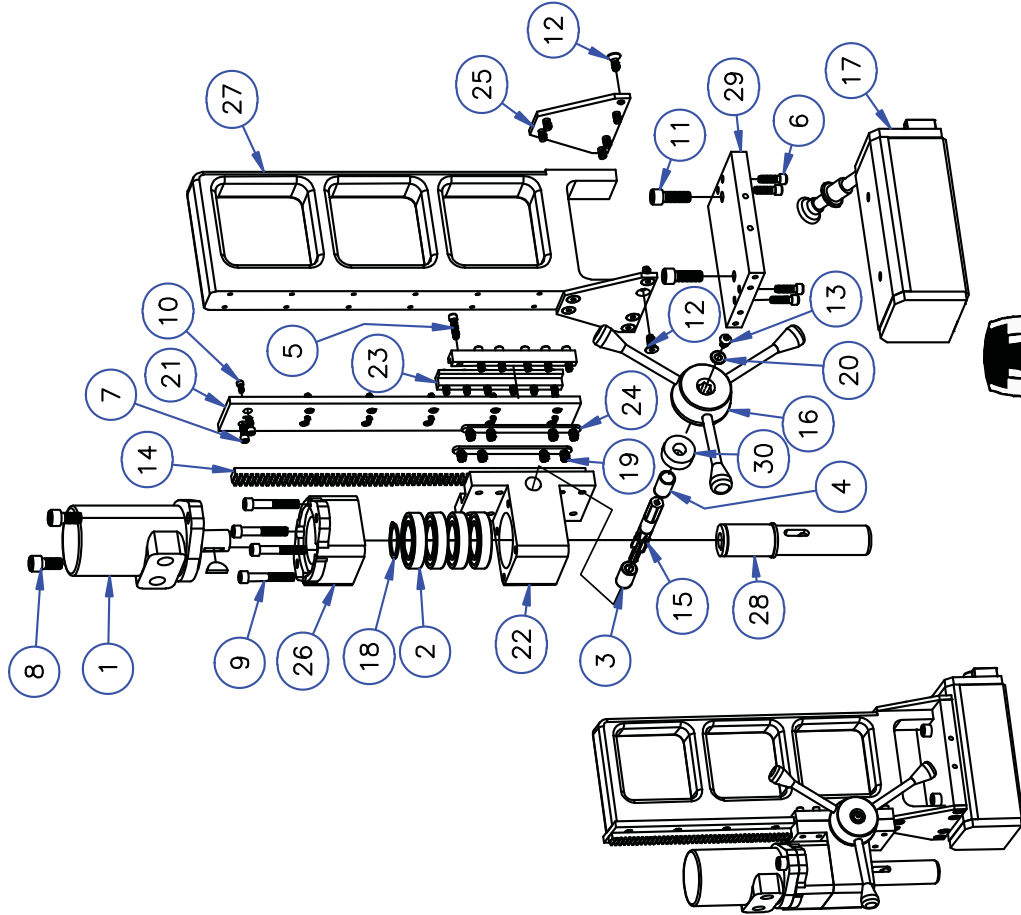
| ITEM | PART NO.       | QTY | DESCRIPTION                           |
|------|----------------|-----|---------------------------------------|
| 1    | 010-1009       | 1   | IN-LINE AIR MOTOR, 3800U              |
| 2    | 020-0134       | 4   | R24 SEALED BEARING                    |
| 3    | 022-0080       | 1   | 3/8 X 3/4 CYLINDRICAL BEAR INC        |
| 4    | 022-0081       | 1   | 5/8 x 3/4 CYLINDRICAL BEARING         |
| 5    | 070-0003       | 12  | 1/4-20 X 1 SHCS                       |
| 6    | 070-0006       | 4   | 5/16-18 X 1 SHCS                      |
| 7    | 070-0010       | 12  | 1/4-20 X 5/8 SHCS                     |
| 8    | 070-0021       | 4   | 3/8-16 X 1-1/4 SHCS                   |
| 9    | 070-0036       | 6   | 5/16-18 X 1/2" SHCS                   |
| 10   | 070-0075       | 6   | 10-24 X 3/8 SHCS                      |
| 11   | 071-0017       | 12  | 5/16-18 X 3/4 FHCS                    |
| 12   | 072-0031       | 1   | 5/16-18 x 1/2 BHCS                    |
| 13   | 100-0328       | 1   | FEED GEAR RACK                        |
| 14   | 100-0329 MOD-A | 1   | 12PD 14.5 PA PINION GEAR              |
| 15   | 120-0093       | 1   | 3 ARM SPEED HANDLE                    |
| 16   | 127-0001       | 2   | 1/2" NPT PIPE NIPPLE - 2" L           |
| 17   | 127-0002       | 1   | BALL SHUT OFF VALVE - 1/2" NPT FEMALE |
| 18   | 127-0058       | 1   | 1/2" DOUBLE SWIVEL COUPLING           |
| 19   | 128-0024       | 1   | 1/2 NPTF EARLOCK COUPLING             |
| 20   | 150-0011       | 1   | 3/16 SQ X 1 KEY                       |
| 21   | 237-0007       | 1   | 1-1/2" External snap ring             |
| 22   | 340-0013       | 8   | 3/8-16 X 1/2 SSS                      |
| 23   | 480-1036       | 1   | 5/16 HARDENED WASHER                  |
| 24   | 620-5601       | 1   | SLIDE BAR                             |
| 25   | 620-5602       | 1   | SPINDLE BEARING HOUSING               |
| 26   | 620-5603       | 1   | 3800 MOTOR MOUNT PLATE                |
| 27   | 620-5604       | 2   | SLIDE RETAINING BRACKET               |
| 28   | 620-5605       | 2   | BEARING HOUSING GIB                   |
| 29   | 620-5606       | 2   | END SUPPORT PLATE                     |
| 30   | 620-5620       | 1   | VERTICAL SUPPORT                      |
| 31   | 620-5621       | 1   | #3 MORRIS TAPER BLANK SOCKET          |
| 32   | 620-5622       | 1   | 3800 DRILL MAG BASE MTG PLATE         |
| 33   | 620-5623       | 1   | FEED HANDLE SPACING COLLAR            |



# HYD MAGNETIC RACK DRILL ASSEMBLY

## #3 MORSE TAPER QUILL

600-4315

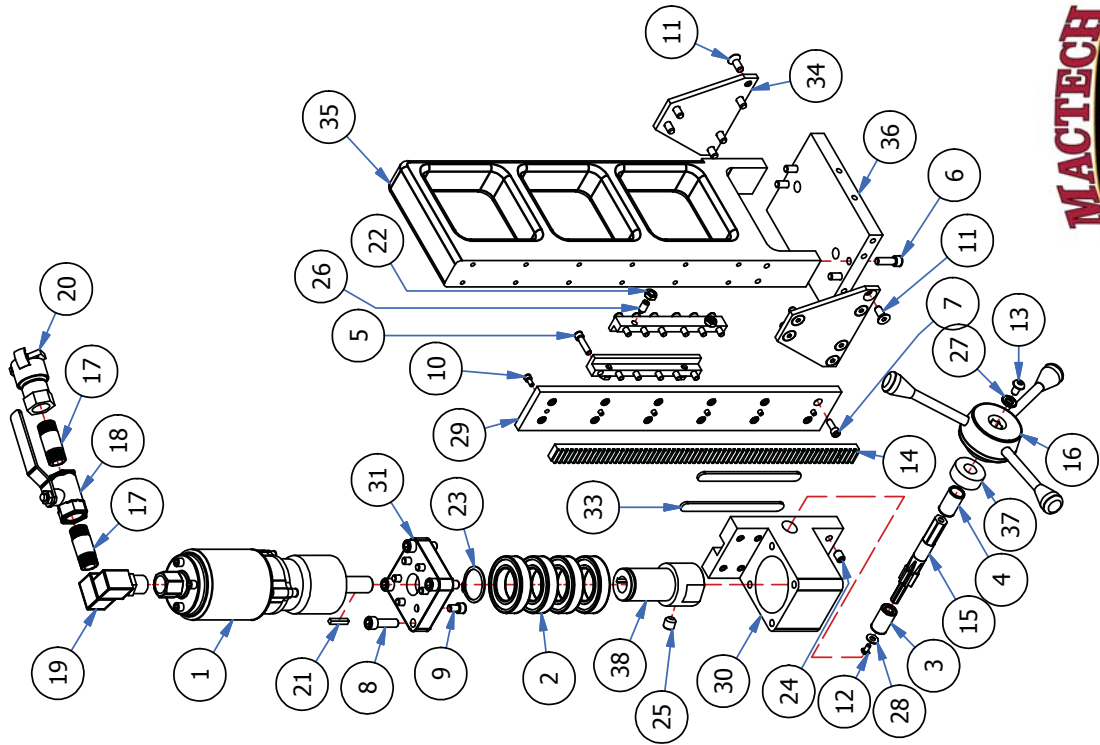


| Parts List |          |                               |
|------------|----------|-------------------------------|
| ITEM       | PART NO. | DESCRIPTION                   |
| 1          | 011-1001 | HYD MOTOR 101-1028            |
| 2          | 020-0134 | R24 SEALED BEARING            |
| 3          | 022-0080 | 3/8 X 3/4 CYLINDRICAL BEARING |
| 4          | 022-0081 | 5/8 x 3/4 CYLINDRICAL BEARING |
| 5          | 070-0003 | 1/4-20 X 1 SHCS               |
| 6          | 070-0006 | 5/16-18 X 1 SHCS              |
| 7          | 070-0010 | 1/4-20 X 5/8 SHCS             |
| 8          | 070-0029 | 1/2-13 X 1 SHCS               |
| 9          | 070-0063 | 3/8-16 X 2-1/4 SHCS           |
| 10         | 070-0075 | 10-24 X 3/8 SHCS              |
| 11         | 070-0149 | M12 X 35 SHCS                 |
| 12         | 071-0017 | 5/16-18 X 3/4 FHCS            |
| 13         | 072-0031 | 5/16-18 x 1/2 BHCS            |
| 14         | 100-0328 | FEED GEAR RACK                |
| 15         | 100-0329 | 12PD 14.5 PA PINION GEAR      |
| 16         | 120-0093 | 3 ARM SPEED HANDLE            |
| 17         | 160-0003 | MAGNETIC LIFTER - 1100#       |
| 18         | 237-0007 | 1-1/2" External snap ring     |
| 19         | 340-0013 | 3/8-16 X 1/2 SSS              |
| 20         | 480-1036 | 5/16 HARDENED WASHER          |
| 21         | 620-5601 | SLIDE BAR                     |
| 22         | 620-5602 | SPINDLE BEARING HOUSING       |
| 23         | 620-5604 | SLIDE RETAINING BRACKET       |
| 24         | 620-5605 | BEARING HOUSING GIB           |
| 25         | 620-5606 | END SUPPORT PLATE             |
| 26         | 620-5619 | VERTICAL SUPORT               |
| 27         | 620-5620 | #3 MORRIS TAPER BLANK SOCKET  |
| 28         | 620-5621 | 3800 DRILL MAG BASE MTG PLATE |
| 29         | 620-5622 | FEED HANDLE SPACING COLLAR    |
| 30         | 620-5623 | FEED HANDLE SPACING COLLAR    |



# RACK DRILL - 1" STRAIGHT QUILL

## 3800U AIR MOTOR 600-4316 A



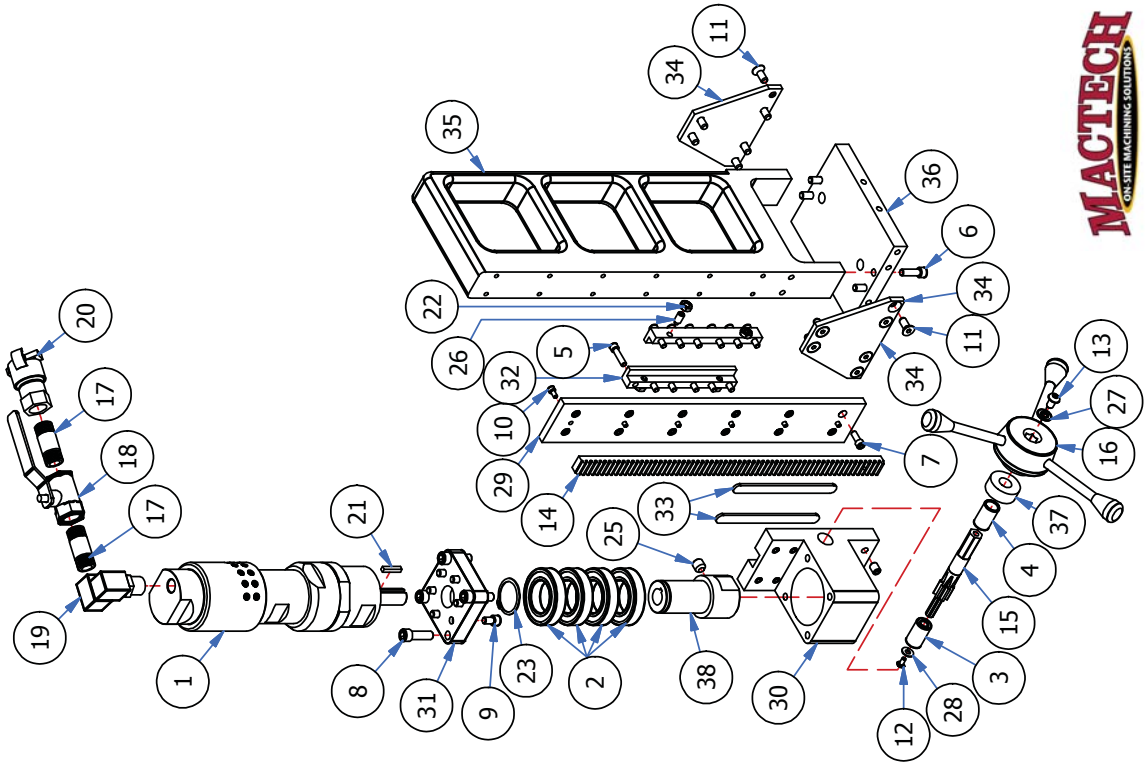
| ITEM | PART NUMBER    | QTY | DESCRIPTION  |
|------|----------------|-----|--|
| 1    | 010-1009       | 1   | INGERSOLL RAND AIR MOTOR - 3800U                       |
| 2    | 020-0134       | 4   | 2.625 X 1.5 X .562 RADIAL BALL BEARING - DOUBLE SEALED |
| 3    | 022-0080       | 1   | CYLINDRICAL BEARING - 3/8 X 3/4 X 1-1/4                |
| 4    | 022-0081       | 1   | CYLINDRICAL BEARING - 5/8 X 3/4 X 1-1/4                |
| 5    | 070-0003       | 12  | 1/4 - 20 x 1 SHCS                                      |
| 6    | 070-0006       | 4   | 5/16 - 18 x 1 SHCS                                     |
| 7    | 070-0010       | 12  | 1/4 - 20 x 5/8 SHCS                                    |
| 8    | 070-0021       | 4   | 3/8 - 16 x 1 1/4 SHCS                                  |
| 9    | 070-0036       | 6   | 5/16 - 18 x 1/2 SHCS                                   |
| 10   | 070-0075       | 6   | 10-24 x 3/8 SHCS                                       |
| 11   | 071-0017       | 12  | 5/16-18 x 3/4 FHCS                                     |
| 12   | 072-0016       | 1   | 10 - 24 x 3/8 BHCS                                     |
| 13   | 072-0031       | 1   | 5/16 - 18 x 1/2 BHCS                                   |
| 14   | 100-0328       | 1   | FEED GEAR RACK - 12 DP, 14-1/2 DEG, 6 TOOTH            |
| 15   | 100-0329 MOD-A | 1   | PINION FEED SHAFT - 12 DP, 14-1/2 DEG, 6 TOOTH         |
| 16   | 120-0093       | 1   | 3 ARM SPEED HANDLE                                     |
| 17   | 127-0001       | 2   | PIPE NIPPLE  |
| 18   | 127-0002       | 1   | 1/2" BALL VALVE - 1/2 NPTF, 1/2 NPTF                   |
| 19   | 127-0058       | 1   | 1/2" DOUBLE SWIVLE COUPLING                            |
| 20   | 128-0024       | 1   | 1/2" NPTF EARLOCK COUPLING                             |
| 21   | 150-0011       | 1   | 3/16 X 1 SQUARE MACHINE KEY                            |
| 22   | 170-0029       | 4   | 5/16-24 HEX JAM NUT ZINC                               |
| 23   | 237-0007       | 1   | 1-1/2 EXTERNAL RETAINING RING                          |
| 24   | 340-0013       | 8   | 3/8-16 x1/ 2 SSS-CUP POINT                             |
| 25   | 340-0017       | 1   | 1/2-13 x 1/2 SSS-CUP POINT                             |
| 26   | 340-0101       | 4   | 5/16-24 X 5/8 - BRASS TIP                              |
| 27   | 480-1036       | 1   | 5/16 HARDENED WASHER                                   |
| 28   | 480-1132       | 1   | #10 USS FLAT WASHER                                    |
| 29   | 620-5601       | 1   | SLIDE BAR  |
| 30   | 620-5602       | 1   | SPINDLE BEARING HOUSING                                |
| 31   | 620-5603       | 1   | 3800 MOTOR MOUNT PLATE                                 |
| 32   | 620-5604       | 2   | SLIDE RETAINING BRACKET                                |
| 33   | 620-5605       | 2   | BEARING HOUSING GIB                                    |
| 34   | 620-5606       | 2   | END SUPPORT PLATE                                      |
| 35   | 620-5620       | 1   | VERTICAL SUPPORT                                       |
| 36   | 620-5622       | 1   | RACK DRILL MAG BASE MTG PLATE                          |
| 37   | 620-5623       | 1   | FEED HANDLE SPACING COLLAR                             |
| 38   | 620-5628       | 1   | 1" STRAIGHT AIR DRIVE QUILL                            |





# RACK DRILL - 1" STRAIGHT QUILL

## ATLAS COPCO LZB66 A0017-50 AIR MOTOR 600-4316 B

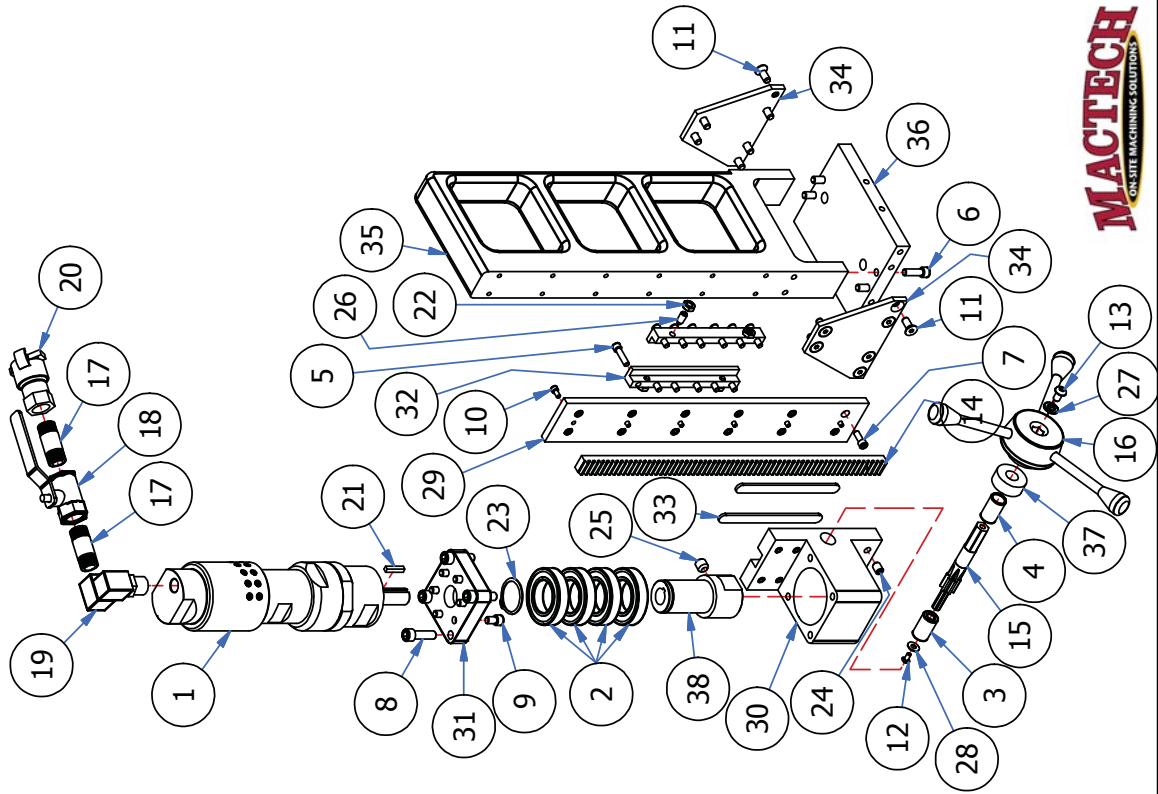


| ITEM | PART NUMBER    | QTY | DESCRIPTION  |
|------|----------------|-----|--|
| 1    | 010-1023       | 1   | ATLAS COPCO LZB66 A0017-50 AIRMOTOR                    |
| 2    | 020-0134       | 4   | 2.625 X 1.5 X .562 RADIAL BALL BEARING - DOUBLE SEALED |
| 3    | 022-0080       | 1   | CYLINDRICAL BEARING - 3/8 X 3/4 X 1-1/4                |
| 4    | 022-0081       | 1   | CYLINDRICAL BEARING - 5/8 X 3/4 X 1-1/4                |
| 5    | 070-0003       | 12  | 1/4 - 20 x 1 SHCS                                      |
| 6    | 070-0006       | 4   | 5/16 - 18 x 1 SHCS                                     |
| 7    | 070-0010       | 12  | 1/4 - 20 x 5/8 SHCS                                    |
| 8    | 070-0021       | 4   | 3/8 - 16 x 1 1/4 SHCS                                  |
| 9    | 070-0036       | 6   | 5/16 - 18 x 1/2 SHCS                                   |
| 10   | 070-0075       | 6   | 10-24 x 3/8 SHCS                                       |
| 11   | 071-0017       | 12  | 5/16-18 x 3/4 FHCS                                     |
| 13   | 072-0031       | 1   | 5/16 - 18 x 1/2 BHCS                                   |
| 14   | 100-0328       | 1   | FEED GEAR RACK - 12 DP, 14.5 PA                        |
| 15   | 100-0329 MOD-A | 1   | PINION FEED SHAFT - 12 DP, 14-1/2 DEG, 6 TOOTH         |
| 16   | 120-0093       | 1   | 3 ARM SPEED HANDLE                                     |
| 17   | 127-0001       | 2   | PIPE NIPPLE  |
| 18   | 127-0002       | 1   | 1/2" BALL VALVE - 1/2 NPTF, 1/2 NPTF                   |
| 19   | 127-0058       | 1   | 1/2" DOUBLE SWIVLE COUPLING                            |
| 20   | 128-0024       | 1   | 1/2" NPTF EARLOCK COUPLING                             |
| 21   | 150-0011       | 1   | 3/16 X 1 SQUARE MACHINE KEY                            |
| 22   | 170-0029       | 4   | 5/16-24 HEX JAM NUT ZINC                               |
| 23   | 237-0007       | 1   | 1-1/2 EXTERNAL RETAINING RING                          |
| 24   | 340-0013       | 8   | 3/8-16 x1/ 2 SSS-CUP POINT                             |
| 25   | 340-0017       | 1   | 1/2-13 x 1/2 SSS-CUP POINT                             |
| 26   | 340-0101       | 4   | 5/16-24 X 5/8 - BRASS TIP                              |
| 27   | 480-1036       | 1   | 5/16 HARDENED WASHER                                   |
| 29   | 620-5601       | 1   | SLIDE BAR  |
| 30   | 620-5602       | 1   | SPINDLE BEARING HOUSING                                |
| 31   | 620-5603       | 1   | 3800 MOTOR MOUNT PLATE                                 |
| 32   | 620-5604       | 2   | SLIDE RETAINING BRACKET                                |
| 33   | 620-5605       | 2   | BEARING HOUSING GIB                                    |
| 34   | 620-5606       | 2   | END SUPPORT PLATE                                      |
| 35   | 620-5620       | 1   | VERTICAL SUPPORT                                       |
| 36   | 620-5622       | 1   | RACK DRILL MAG BASE MTG PLATE                          |
| 37   | 620-5623       | 1   | FEED HANDLE SPACING COLLAR                             |
| 38   | 620-5628       | 1   | 1" STRAIGHT AIR DRIVE QUILL                            |
| 28   | 480-1132       | 1   | #10 USS FLAT WASHER                                    |
| 12   | 072-0016       | 1   | 10 - 24 x 3/8 BHCS                                     |



# RACK DRILL - 1" STRAIGHT QUILL

## ATLAS COPCO LZB66 A0025-50 AIR MOTOR 600-4316 C

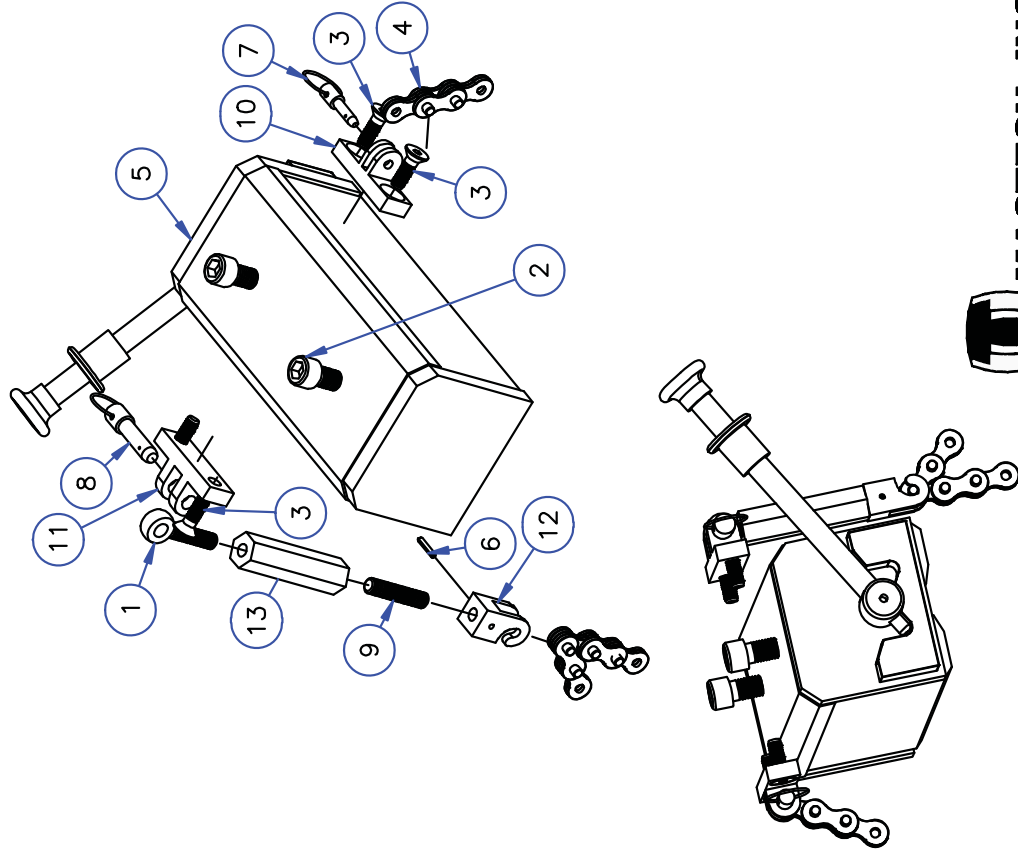


| ITEM | PART NUMBER    | QTY | DESCRIPTION  |
|------|----------------|-----|--|
| 1    | 010-1024       | 1   | ATLAS COPCO LZB66 A0025-50 AIR MOTOR                   |
| 2    | 020-0134       | 4   | 2.625 X 1.5 X .562 RADIAL BALL BEARING - DOUBLE SEALED |
| 3    | 022-0080       | 1   | CYLINDRICAL BEARING - 3/8 X 3/4 X 1-1/4                |
| 4    | 022-0081       | 1   | CYLINDRICAL BEARING - 5/8 X 3/4 X 1-1/4                |
| 5    | 070-0003       | 12  | 1/4 - 20 x 1 SHCS                                      |
| 6    | 070-0006       | 4   | 5/16 - 18 x 1 SHCS                                     |
| 7    | 070-0010       | 12  | 1/4 - 20 x 5/8 SHCS                                    |
| 8    | 070-0021       | 4   | 3/8 - 16 x 1 1/4 SHCS                                  |
| 9    | 070-0036       | 6   | 5/16 - 18 x 1/2 SHCS                                   |
| 10   | 070-0075       | 6   | 10-24 x 3/8 SHCS                                       |
| 11   | 071-0017       | 12  | 5/16-18 x 3/4 FHCS                                     |
| 12   | 072-0016       | 1   | 10 - 24 x 3/8 BHCS                                     |
| 13   | 072-0031       | 1   | 5/16 - 18 x 1/2 BHCS                                   |
| 14   | 100-0328       | 1   | FEED GEAR RACK - 12 DP, 14.5 PA                        |
| 15   | 100-0329 MOD-A | 1   | PINION FEED SHAFT - 12 DP, 14-1/2 DEG, 6 TOOTH         |
| 16   | 120-0093       | 1   | 3 ARM SPEED HANDLE                                     |
| 17   | 127-0001       | 2   | PIPE NIPPLE  |
| 18   | 127-0002       | 1   | 1/2" BALL VALVE - 1/2 NPTF, 1/2 NPTF                   |
| 19   | 127-0058       | 1   | 1/2" DOUBLE SWIVLE COUPLING                            |
| 20   | 128-0024       | 1   | 1/2" NPTF EARLOCK COUPLING                             |
| 21   | 150-0011       | 1   | 3/16 X 1 SQUARE MACHINE KEY                            |
| 22   | 170-0029       | 4   | 5/16-24 HEX JAM NUT ZINC                               |
| 23   | 237-0007       | 1   | 1-1/2 EXTERNAL SNAP RING                               |
| 24   | 340-0013       | 8   | 3/8-16 x 1/ 2 SSS-CUP POINT                            |
| 25   | 340-0017       | 1   | 1/2-13 x 1/2 SSS-CUP POINT                             |
| 26   | 340-0101       | 4   | 5/16-24 X 5/8 - BRASS TIP                              |
| 27   | 480-1036       | 1   | 5/16 HARDENED WASHER                                   |
| 28   | 480-1132       | 1   | #10 USS FLAT WASHER                                    |
| 29   | 620-5601       | 1   | SLIDE BAR  |
| 30   | 620-5602       | 1   | SPINDLE BEARING HOUSING                                |
| 31   | 620-5603       | 1   | 3800 MOTOR MOUNT PLATE                                 |
| 32   | 620-5604       | 2   | SLIDE RETAINING BRACKET                                |
| 33   | 620-5605       | 2   | BEARING HOUSING GIB                                    |
| 34   | 620-5606       | 2   | END SUPPORT PLATE                                      |
| 35   | 620-5620       | 1   | VERTICAL SUPPORT                                       |
| 36   | 620-5622       | 1   | RACK DRILL MAG BASE MTG PLATE                          |
| 37   | 620-5623       | 1   | FEED HANDLE SPACING COLLAR                             |
| 38   | 620-5628       | 1   | 1" STRAIGHT AIR DRIVE QUILL                            |



# RACK DRILL MAGNETIC BASE ASSEMBLY

600-4318



**MACTECH, INC**

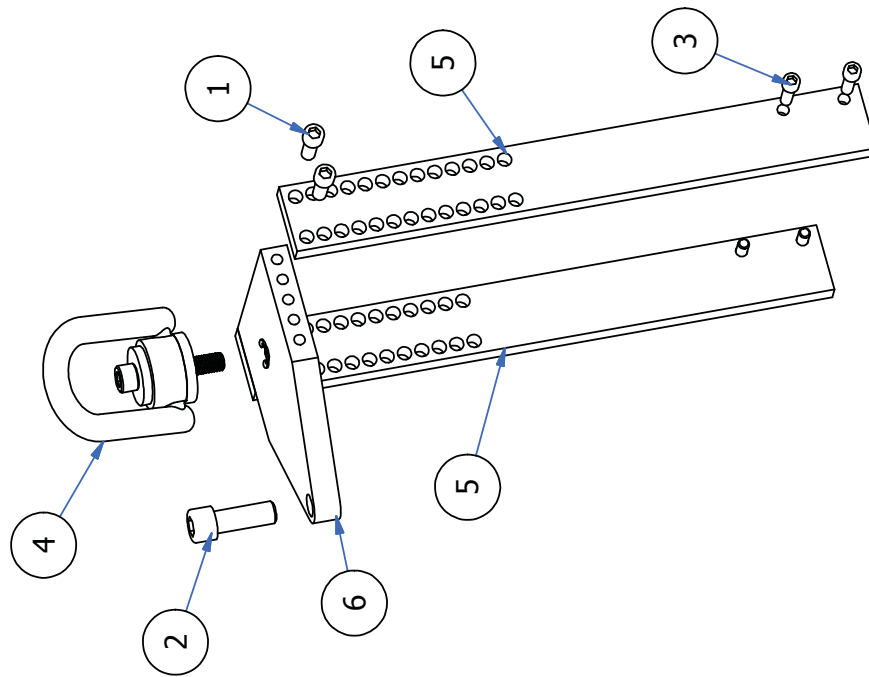
Parts List

| ITEM | PART NO.          | QTY | DESCRIPTION                                    |
|------|-------------------|-----|--|
| 1    | 030-0027<br>MOD-A | 1   | 3/8-16 X 1-3/4<br>EYE BOLT - FULLY<br>THREADED |
| 2    | 070-0149          | 2   | M12 X 35 SHCS                                  |
| 3    | 071-0015          | 4   | 5/16-18 X 1<br>FLCS                            |
| 4    | 074-0002          | 6   | WR 60 CHAIN (QTY<br>IS FEET)                   |
| 5    | 160-0003          | 1   | MAGNETIC LIFTER -<br>1100#                     |
| 6    | 200-0076          | 1   | SPRING PIN 1/8 X<br>3/4                        |
| 7    | 205-0014          | 1   | 6MM X 15MM<br>DETENT PIN                       |
| 8    | 205-0015          | 1   | 3/8 X 1 DETENT<br>PIN                          |
| 9    | 420-0034          | 1   | 3/8-16 LH<br>THREADED STUD -<br>1-3/4          |
| 10   | 620-5624          | 1   | HOLDING CHAIN<br>MOUNTING BRACKET              |
| 11   | 620-5625          | 1   | HOLDING CHAIN<br>EYEBOLT BRACKET               |
| 12   | 620-5626          | 1   | TOGGLE HOOK -<br>#60                           |
| 13   | 620-5627          | 1   | 3/8-16 TOGGLE<br>NUT                           |



# HANGING BRACKET

FOR MAG BASE RACK DRILL  
600-4345



| PARTS LIST |             |     |                        |
|------------|-------------|-----|------------------------|
| ITEM       | PART NUMBER | QTY | DESCRIPTION            |
| 6          | 620-5516    | 1   | TOP PLATE              |
| 5          | 620-5515    | 2   | SIDE BRACKET           |
| 2          | 070-0056    | 1   | 5/8 - 11 x 1 3/4 SHCS  |
| 1          | 070-0014    | 4   | 3/8 - 16 x 1 SHCS      |
| 4          | 120-0088    | 1   | 1/2" SWIVEL HOIST RING |
| 3          | 070-0141    | 4   | 5/16 - 18 x 1 SHCS SS  |

