



# Operating Instructions and Parts Manual

## Hydraulic Shop Presses

Models HP-5A/15A/35A



*Model HP-35A shown*

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**Part No. M-331406**  
Revision E 09/2019  
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# 1.0 Warranty and Service

JET® warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

## Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

## Who is Covered

This warranty covers only the initial purchaser of the product from the date of delivery.

## What is Covered

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

## Warranty Limitations

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

## How to Get Technical Support

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

## More Information

JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

## How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

## Limitations on This Warranty

JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

## Product Listing with Warranty Period

|                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90 Days – Parts; Consumable items                                                                                                                                          |
| 1 Year – Motors; Machine Accessories                                                                                                                                       |
| 2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes                             |
| 5 Year – Woodworking Machinery                                                                                                                                             |
| Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools |

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.

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## 3.0 IMPORTANT SAFETY INSTRUCTIONS

### **WARNING – To reduce risk of injury:**

1. Read and understand all safety warnings on the machine and in this manual.
2. Replace warning labels if they become obscured or removed.
3. This press is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a hydraulic press, do not use until proper training and knowledge have been obtained.
4. Do not operate this press beyond its rated capacity. Use pressure gauge to determine load.
5. This press is designed for pressing, bending, and straightening purposes only.
6. Keep hands away from pressing area and pinch points.
7. Do not operate this tool while tired or under the influence of drugs, alcohol or any medication.
8. Check the press for loose or damaged parts before each operation. Replace damaged parts and tighten all loose bolts before operating. Components are designed to withstand the rated capacity of the press – do not substitute components.
9. Make sure workpiece is center-loaded and secure on the bed before pressing.
10. Always apply load at center of ram.
11. Remove workpiece from table before attempting to raise or lower table.
12. Some parts being pressed may have a tendency to be ejected from the press or explode under pressure. Protect yourself accordingly, and do not allow bystanders near the machine.
13. Use good quality hydraulic pump oil only. Do not use brake fluid or other improper types.
14. Do not use tube extensions on the pump handle.
15. Always wear approved safety glasses/face shields and personal safety equipment. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
16. Failure to comply with these warnings may result in serious injury and/or damage to property.

 **WARNING:** This product can expose you to chemicals including titanium dioxide which is known to the State of California to cause cancer, and lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <http://www.p65warnings.ca.gov>.

 **WARNING:** Some dust, fumes and gases created by power sanding, sawing, grinding, drilling, welding and other construction activities contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead based paint
- crystalline silica from bricks, cement and other masonry products
- arsenic and chromium from chemically treated lumber

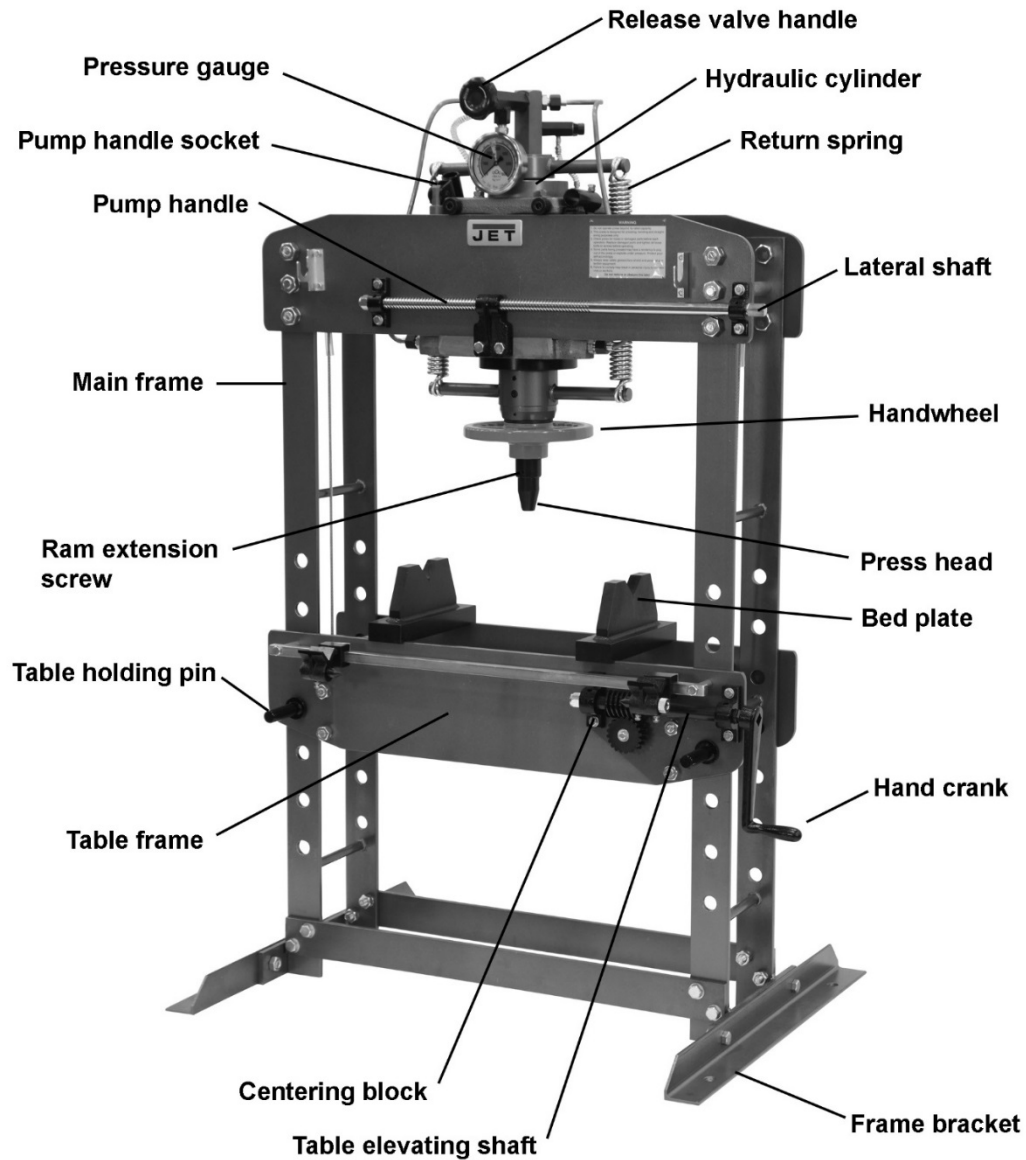
Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as dust masks that are specifically designed to filter out microscopic particles. For more information go to <http://www.p65warnings.ca.gov/> and <http://www.p65warnings.ca.gov/wood>.

## 4.0 Specifications

|                                   | HP-5A                | HP-15A                   | HP-35A           |
|-----------------------------------|----------------------|--------------------------|------------------|
| Model Number.....                 | 331406               | 331416                   | 331431           |
| Stock Number .....                | 5                    | 15                       | 35               |
| Capacity (ton).....               | 1-3/4                | 2-1/2                    | 3                |
| Ram Diameter (in.).....           | 4                    | 4-3/4                    | 4-1/2            |
| Piston Stroke (in.).....          | 3                    | 4                        | 2-3/4            |
| Screw Stroke (in.).....           | 19 x 5-1/2           | 24-3/4 x 7-1/2           | 31 x 10-3/8      |
| Work Table (in.).....             | NA                   | 10-3/16                  | 13-3/8           |
| Lateral Movement (in.) .....      | 19                   | 25                       | 22-3/8           |
| Vertical Travel (in.).....        | 23-1/2 x 26          | 33-7/8 x 29-1/2          | 43 x 33-1/2      |
| Base Size (in.).....              | 51-1/2               | 64-1/2                   | 68               |
| Height (in.).....                 | 216                  | 553                      | 1350             |
| Hydraulic oil capacity (mL) ..... | 159                  | 378                      | 682              |
| Net Weight (lbs.) .....           | 202                  | 462                      | 781              |
| Shipping Weight (lbs.).....       |                      |                          |                  |
| Overall Dimensions, LxWxH (in.):  |                      |                          |                  |
| .....                             | 23-1/2 x 26 x 51-1/2 | 33-7/8 x 29-1/2 x 64-1/2 | 43 x 33-1/2 x 68 |

*The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.*

## 5.0 Features and Terminology



*Figure 1*

Model HP-35A shown as representative; other models may vary

## 6.0 Assembly

Refer to Figure 1 for identification.

1. Use a lifting device, such as a hoist or forklift with straps, to position machine upright.
2. Bolt the frame brackets to the main frame with the provided screws and hex nuts. *Finger tighten only.*
3. The press should be placed within a well-lit area, upon a level floor, preferably concrete. Lower the press onto the floor, allowing it to stabilize on the brackets. Fully tighten the hex nuts on the frame brackets.
4. The hex filler plug (see parts breakdown: item #17 for HP-5A; #8A for HP-15A; #8D for HP-35A) was installed for shipping purposes. Remove this and replace it with the provided vented plug.
5. Place the end of the pump handle into the handle socket, and secure it with the screw.

## 7.0 Operation

Refer to Figure 1 for identification.

1. Remove all items from bed plates.
2. Remove table holding pins. (Support the table frame on the HP-5A.)
3. Raise or lower table frame to desired position, so that when workpiece is mounted, it will be close to the ram press head.

*Model HP-5A:* Raise or lower table frame by hand.

*Models HP-15A, -35A:* Rotate crank handle to raise or lower table frame.

4. Re-insert table holding pins. Pins must be fully engaged through front and back holes of the frame.
5. Place workpiece onto bed plates.

**⚠ WARNING** Make sure workpiece is center-loaded and secure before pressing, and that table holding pins are properly inserted. Some objects may have a tendency to pop out or explode under pressure. Exercise proper precautions.

6. If desired, slide ram assembly laterally (15- and 35-ton models only) by mounting the hand crank onto the lateral shaft and rotating it. **Do not attempt to slide ram during operation.**
7. The handwheel can be used to rapidly adjust the ram extension screw into or out of the plunger.  
**Note:** The length of ram screw extending out of the piston should be kept as short as possible. Raise the table rather than extend the screw to its travel limit.
8. Close valve by rotating release valve handle clockwise as far as it will turn.
9. Pump the handle to lower the ram until it makes light contact with workpiece. Align the workpiece to ensure that desired contact point is directly beneath the press head. Slowly pump handle again until load begins to be applied to workpiece.
10. Remove your hand from workpiece area and step toward the side of the press (do not stand directly in front of workpiece). Continue slowly pumping to complete the operation.
11. When operation is complete, slowly retract ram by incrementally turning release valve handle counter-clockwise.

## 8.0 Maintenance

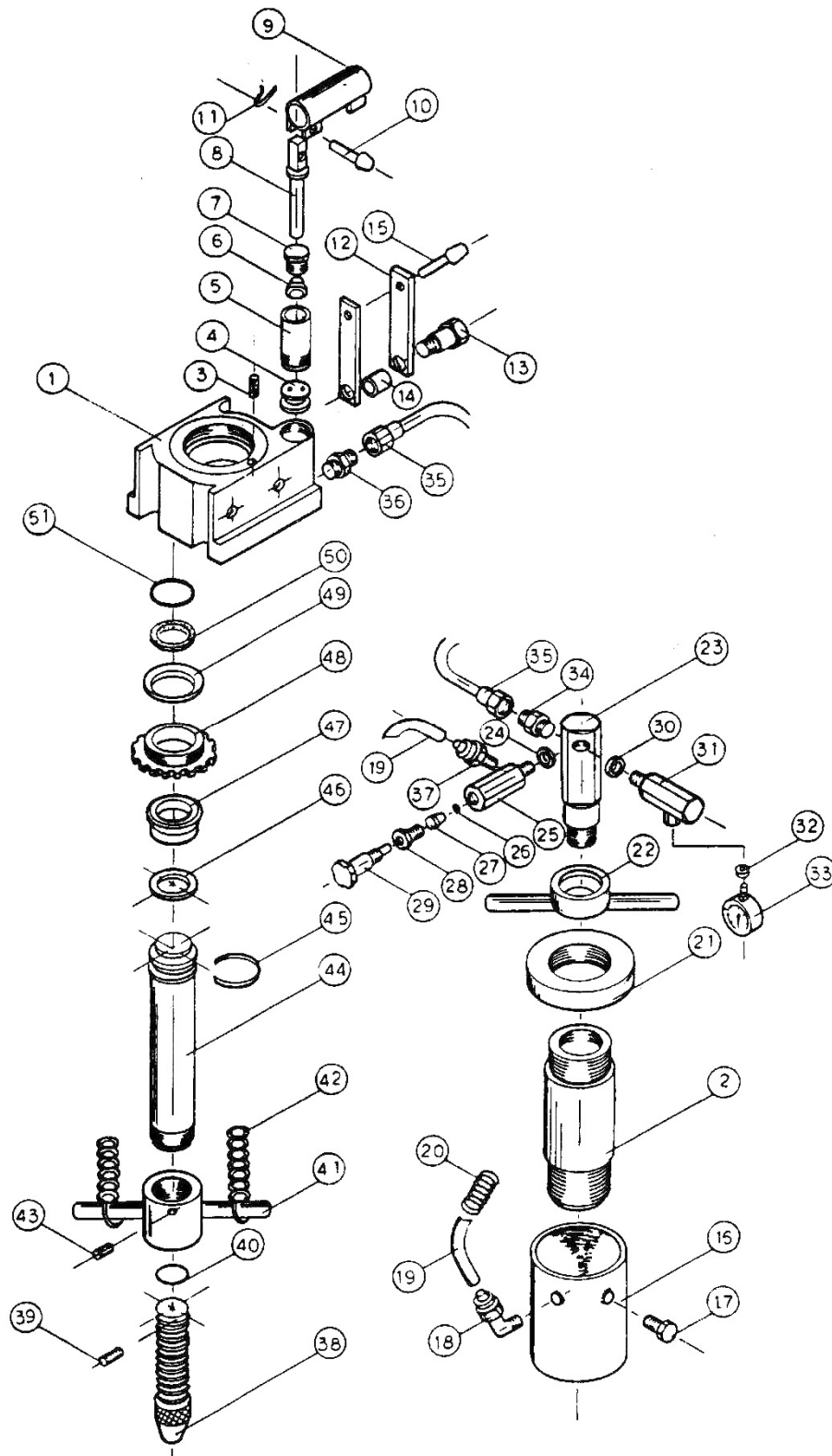
- Keep the press clean, and periodically lubricate joints and moving parts with light oil.
- Inspect the press before each use, for signs of damage, bent pins, missing or loose bolts, cracked welds, oil leaks, abnormal operation, and the like. Make repairs or replacements as needed before putting the machine back into service.
- Periodically remove filler plug (#17/HP-5A; #8A/HP-15A; #8D/HP-35A) to check that hydraulic cylinder is filled with oil. Top off as needed with good quality hydraulic oil. Reinsert filler plug.
- Flush and replace the oil in the hydraulic cylinder approximately every 2 years. Refer to *section 4.0 Specifications* for oil capacity for your particular model.

## 9.0 Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from JET. Some parts are shown for reference only, and may not be available individually.

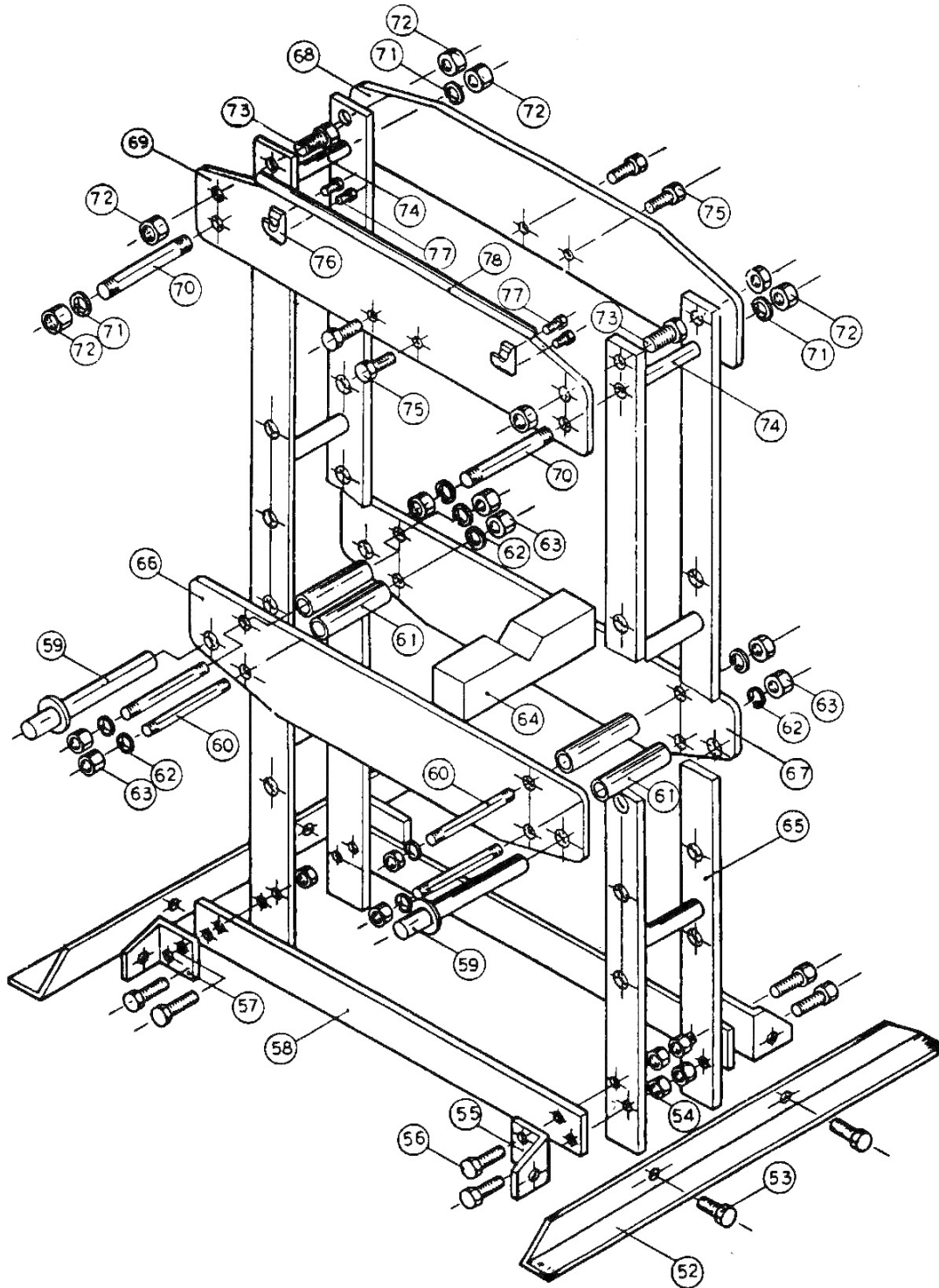
### 9.1.1 HP-5A Head Assembly – Exploded View



### 9.1.2 HP-5A Head Assembly – Parts List

| Index No. | Part No.   | Description                                          | Size            | Qty |
|-----------|------------|------------------------------------------------------|-----------------|-----|
| 1         | HP5A-1G    | Hydraulic Base                                       |                 | 1   |
| 2         | HP5A-2G    | Cylinder                                             |                 | 1   |
| 3         | HP5A-3     | Base Filter **                                       |                 | 1   |
| 4         | HP5A-4     | Single Action Valve                                  |                 | 1   |
| 5         | HP5A-5G    | Pump Cylinder                                        |                 | 1   |
| 6         | HP5A-6     | Cup Seal **                                          |                 | 1   |
| 7         | HP5A-7     | Release Valve Assembly                               |                 | 1   |
| 8         | HP5A-8     | Pin                                                  |                 | 1   |
| 9         | HP5A-9     | Handle Socket                                        |                 | 1   |
| 10        | HP5A-10    | Bolt                                                 |                 | 1   |
| 11        | HP5A-11    | C-Clip                                               |                 | 1   |
| 12        | HP5A-12    | Linking Sleeve                                       |                 | 1   |
| 13        | HP5A-13    | Fixed Screw                                          |                 | 2   |
| 14        | HP5A-14    | Spacer                                               |                 | 1   |
| 15        | HP5A-15G   | Bolt                                                 |                 | 1   |
| 16        | HP5A-16    | Reservoir                                            |                 | 1   |
| 17        | HP5A-17    | Hex Filler Plug w/Seal **                            |                 | 1   |
|           | HP5A-17V   | Hex Filler Plug Vented                               |                 | 1   |
| 18        | HP5A-18    | Brass Tube Connector **                              |                 | 1   |
| 19        | HP5A-19    | Plastic Tube **                                      |                 | 1   |
| 20        | HP5A-20    | Spring **                                            |                 | 1   |
| 21        | HP5A-21G   | Top Base                                             |                 | 1   |
| 22        | HP5A-22G   | Spring Top Holder                                    |                 | 1   |
| 23        | HP5A-23G   | Oil Pass Connector                                   |                 | 1   |
| 24        | HP5A-24    | Washer **                                            |                 | 1   |
| 25        | HP5A-25    | Release Valve Block                                  |                 | 1   |
| 26        | HP5A-26    | Steel Ball **                                        |                 | 1   |
| 27        | HP5A-27    | Rubber Spacer **                                     |                 | 1   |
| 28        | HP5A-28    | Release Valve Assembly                               |                 | 1   |
| 29        | HP5A-29    | Release Valve Spindle **                             |                 | 1   |
| 30        | HP5A-30    | Washer **                                            |                 | 1   |
| 31        | HP5A-31    | Release Valve Block                                  |                 | 1   |
| 32        | HP5A-32    | Washer **                                            |                 | 1   |
| 33        | HP5A-33    | Pressure Gauge                                       |                 | 1   |
| 34        | HP5A-34    | Male Connect Tube                                    |                 | 1   |
| 35        | HP5A-35    | Bronze Tube                                          |                 | 1   |
| 36        | HP5A-36    | Male Connector                                       |                 | 1   |
| 37        | HP5A-37    | Brass Tube Connector **                              |                 | 1   |
| 38        | HP5A-38    | Extension Screw                                      |                 | 1   |
| 39        | HP5A-39    | Stopper Roll Pin                                     |                 | 1   |
| 40        | HP5A-40    | Stopper                                              |                 | 1   |
| 41        | HP5A-41G   | Connector Post                                       |                 | 1   |
| 42        | HP5A-42    | Return Spring                                        |                 | 2   |
| 43        | TS-0270031 | Set Screw                                            | 5/16"-18 x 3/8" | 1   |
| 44        | HP5A-44    | Plunger                                              |                 | 1   |
| 45        | HP5A-45    | Support Ring **                                      |                 | 1   |
| 46        | HP5A-46    | Support Seal **                                      |                 | 1   |
| 47        | HP5A-47    | Cup Seal **                                          |                 | 1   |
| 48        | HP5A-48    | Plug Nut                                             |                 | 1   |
| 49        | HP5A-49    | Gasket                                               |                 | 1   |
| 50        | HP5A-50    | Oil Absorber **                                      |                 | 1   |
| 51        | HP5A-51    | Seal                                                 |                 | 1   |
|           | HP5A-RK    | Hydraulic Repair Kit (includes items marked with **) |                 |     |

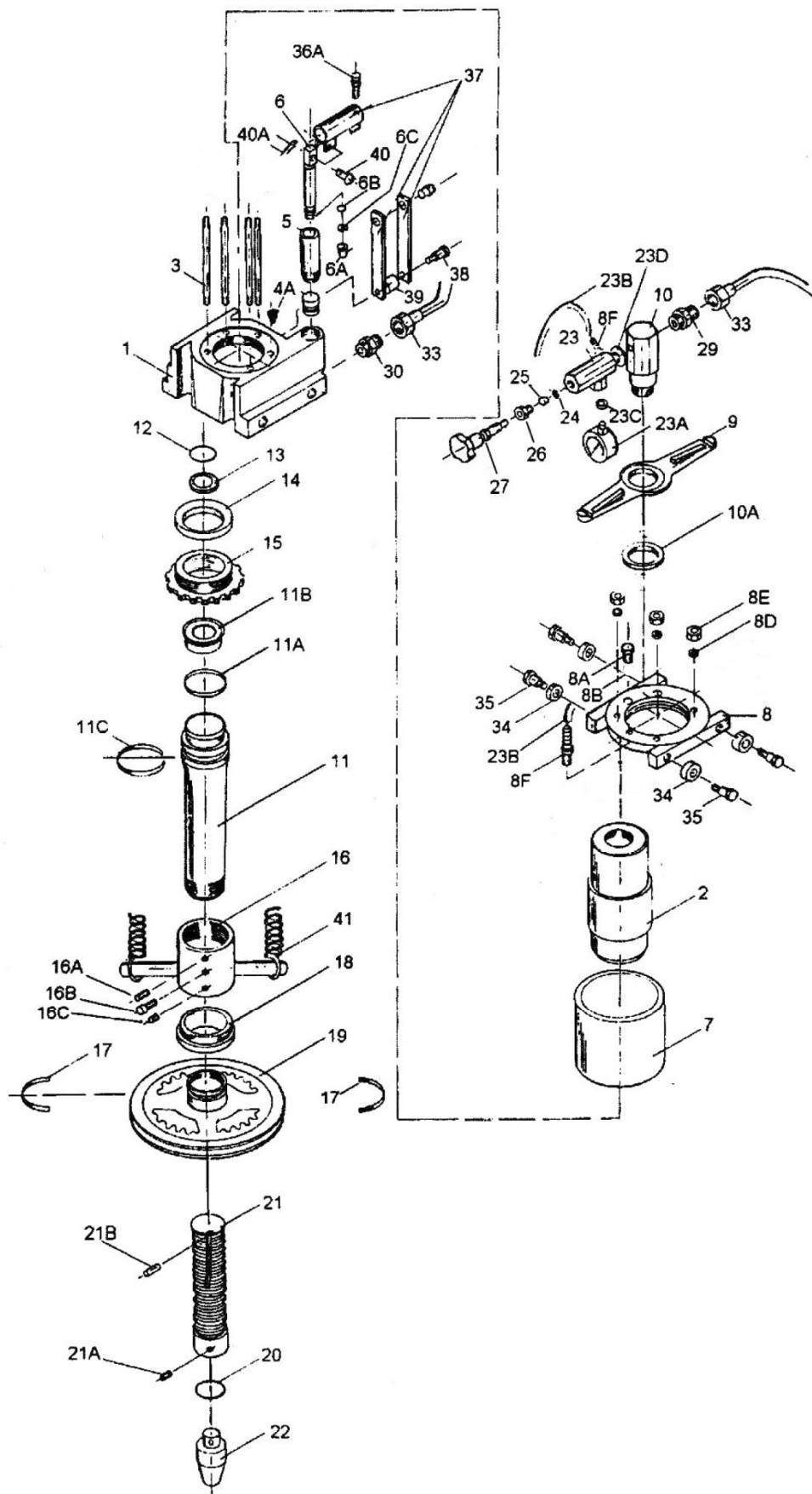
### 9.2.1 HP-5A Frame Assembly – Exploded View



## 9.2.2 HP-5A Frame Assembly – Parts List

| Index No. | Part No.   | Description                      | Size             | Qty |
|-----------|------------|----------------------------------|------------------|-----|
| 52        | HP5A-52G   | Frame Bracket                    |                  | 2   |
| 53        | TS-0060051 | Hex Cap Screw                    | 3/8"-16 x 1"     | 4   |
| 54        | TS-0561031 | Hex Nut                          | 3/8"-16          | 12  |
| 55        | HP5A-55G   | Frame Base Bracket               |                  | 2   |
| 56        | TS-0060071 | Hex Cap Screw                    | 3/8"-16 x 1-1/2" | 8   |
| 57        | HP5A-57G   | Frame Base Bracket               |                  | 2   |
| 58        | HP5A-58G   | Lower Frame Support              |                  | 2   |
| 59        | HP5A-59    | Table Holder Pin                 |                  | 2   |
| 60        | HP5A-60    | Table Spindle                    |                  | 4   |
| 61        | HP5A-61    | Crank Shaft Sleeve               |                  | 4   |
| 62        | TS-0720111 | Lock Washer                      | 1/2"             | 8   |
| 63        | TS-0561051 | Hex Nut                          | 1/2"-13          | 8   |
| 64        | HP5A-64    | Bed Plate                        |                  | 1   |
| 65        | HP5A-65G   | Main Frame (L-R post)            |                  | 2   |
| 66        | HP5A-66G   | Table Frame (Front)              |                  | 1   |
| 67        | HP5A-67G   | Table Frame (Rear)               |                  | 1   |
| 68        | HP5A-68G   | Top Frame (rear)                 |                  | 1   |
| 69        | HP5A-69G   | Top Frame (front)                |                  | 1   |
| 70        | HP5A-70    | Frame Spindle                    |                  | 1   |
| 71        | TS-0720131 | Lock Washer                      | 5/8"             | 8   |
| 72        | TS-0561071 | Hex Nut                          | 5/8"-11          | 8   |
| 73        | TS-0071011 | Hex Cap Screw                    | 5/8"-11 x 1-1/2" | 4   |
| 74        | HP5A-74    | Spindle Sleeve                   |                  | 2   |
| 75        | TS-0071011 | Hex Cap Screw                    | 5/8"-11 x 1-1/2" | 4   |
| 76        | HP5A-76    | Handle Holder                    |                  | 2   |
| 77        | TS-0081031 | Hex Cap Screw                    | 5/16"-18 x 3/4"  | 4   |
| 78        | HP5A-78    | Pump Handle                      |                  | 1   |
| 79        | HP5A-ID    | Identification Label (not shown) |                  | 1   |
| 80        | HP5A-WL    | Warning Label (not shown)        |                  | 1   |

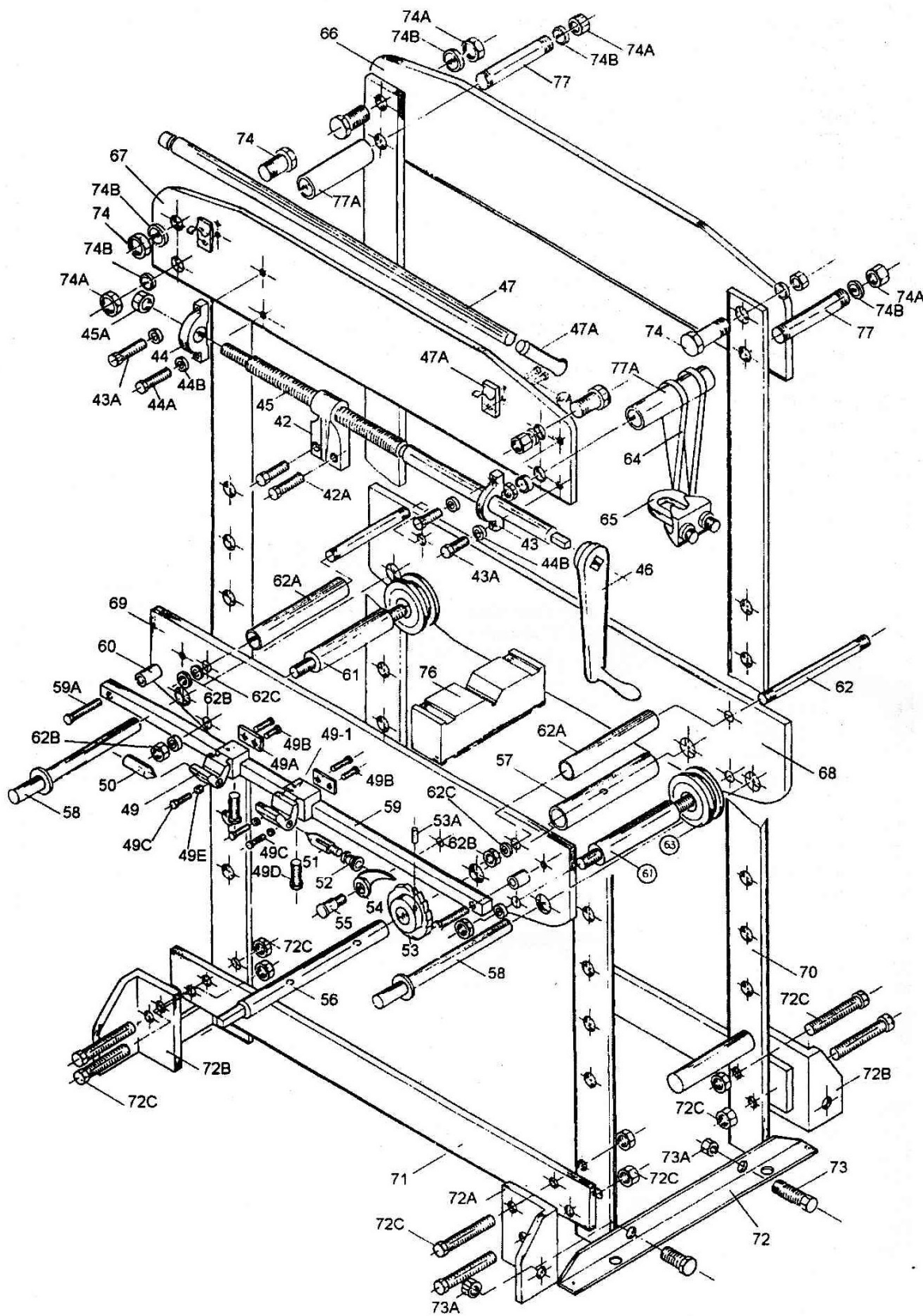
### 9.3.1 HP-15A Head Assembly – Exploded View



### 9.3.2 HP-15A Head Assembly – Parts List

| Index No. | Part No.   | Description                                          | Size         | Qty |
|-----------|------------|------------------------------------------------------|--------------|-----|
| 1         | HP15A-01G  | Hydraulic Base                                       |              | 1   |
| 2         | HP15A-02G  | Cylinder                                             |              | 1   |
| 3         | HP15A-03   | Support Rod                                          |              | 4   |
| 4         | HP15A-04   | Single Action Valve **                               |              | 1   |
| 4A        | HP15A-04A  | Base Filter **                                       |              | 1   |
| 5         | HP15A-05G  | Pump Cylinder                                        |              | 1   |
| 6         | HP15A-06   | Piston                                               |              | 1   |
| 6A        | HP15A-06A  | Cup Seal **                                          |              | 1   |
| 6B        | HP15A-06B  | Seal                                                 |              | 1   |
| 6C        | HP15A-06C  | Wiper Seal                                           |              | 1   |
| 7         | HP15A-07G  | Reservoir                                            |              | 1   |
| 8         | HP15A-08G  | Top Base                                             |              | 1   |
| 8A        | HP15A-08A  | Hex Filler Plug w/ Seal                              |              | 1   |
|           | HP15A-08AV | Hex Filler Plug Vented                               |              | 1   |
| 8D        | TS-0720091 | Lock Washer                                          | 3/8"         | 4   |
| 8E        | TS-0561031 | Hex Nut                                              | 3/8"-16      | 4   |
| 8F        | HP15A-08F  | Brass Tube Connector **                              | 1/8PT thread | 2   |
| 9         | HP15A-09G  | Spring Top Holder                                    |              | 1   |
| 10        | HP15A-10G  | Oil Pass Connector                                   |              | 1   |
| 10A       | HP15A-10A  | Spacer                                               |              | 1   |
| 11        | HP15A-11   | Plunger                                              |              | 1   |
| 11A       | HP15A-11A  | Support Seal                                         |              | 1   |
| 11B       | HP15A-11B  | Cup Seal **                                          |              | 1   |
| 11C       | HP15A-11C  | Support Ring **                                      |              | 1   |
| 12        | HP15A-12   | Seal **                                              |              | 1   |
| 13        | HP15A-13   | Oil Absorber **                                      |              | 1   |
| 14        | HP15A-14   | Gasket                                               |              | 1   |
| 15        | HP15A-15   | Plug Nut Fixer                                       |              | 1   |
| 16        | HP15A-16G  | Connector Post                                       |              | 1   |
| 16A       | HP15A-16A  | Screw                                                |              | 1   |
| 16B       | HP15A-16B  | Screw                                                |              | 1   |
| 16C       | HP15A-16C  | Screw                                                |              | 1   |
| 17        | HP15A-17   | Handwheel Retainer Clip                              |              | 2   |
| 18        | HP15A-18   | Handwheel Spacer                                     |              | 1   |
| 19        | HP15A-19   | Handwheel                                            |              | 1   |
| 20        | HP15A-20   | Seal **                                              |              | 1   |
| 21        | HP15A-21   | Extension Screw                                      |              | 1   |
| 21A       | HP15A-21A  | Set Screw                                            |              | 1   |
| 21B       | HP15A-21B  | Stopper Roll Pin                                     |              | 1   |
| 22        | HP15A-22   | Press Head                                           |              | 1   |
| 23        | HP15A-23   | Release Valve Block                                  |              | 1   |
| 23A       | HP15A-23A  | Pressure Gauge                                       |              | 1   |
| 23B       | HP15A-23B  | Plastic Tube **                                      |              | 1   |
| 23C       | HP15A-23C  | Washer                                               |              | 1   |
| 23D       | HP15A-23D  | Spacer                                               |              | 1   |
| 24        | HP15A-24   | Steel Ball                                           |              | 1   |
| 25        | HP15A-25   | Release Valve Seal **                                |              | 1   |
| 26        | HP15A-26   | Release Valve Nut                                    |              | 1   |
| 27        | HP15A-27   | Release Valve                                        |              | 1   |
| 29        | HP15A-29   | Male Connector **                                    |              | 1   |
| 30        | HP15A-30   | Male Connector                                       |              | 1   |
| 33        | HP15A-33   | Bronze Tube **                                       |              | 1   |
| 34        | HP15A-34   | Sliding Wheel                                        |              | 4   |
| 35        | HP15A-35   | Locking Screw                                        |              | 4   |
| 36A       | HP15A-36A  | Hand Stopper                                         |              | 1   |
| 37        | HP15A-37   | Complete Handle Sleeve Assembly                      |              | 1   |
| 38        | HP15A-38   | Fixed Screw                                          |              | 1   |
| 39        | HP15A-39   | Spacer                                               |              | 1   |
| 40        | HP15A-40   | Pin                                                  |              | 1   |
| 40A       | HP15A-40A  | Cotter Pin                                           |              | 1   |
| 41        | HP15A-41   | Return Spring                                        |              | 2   |
|           | HP15A-RKA  | Hydraulic Repair Kit (includes items marked with **) |              |     |

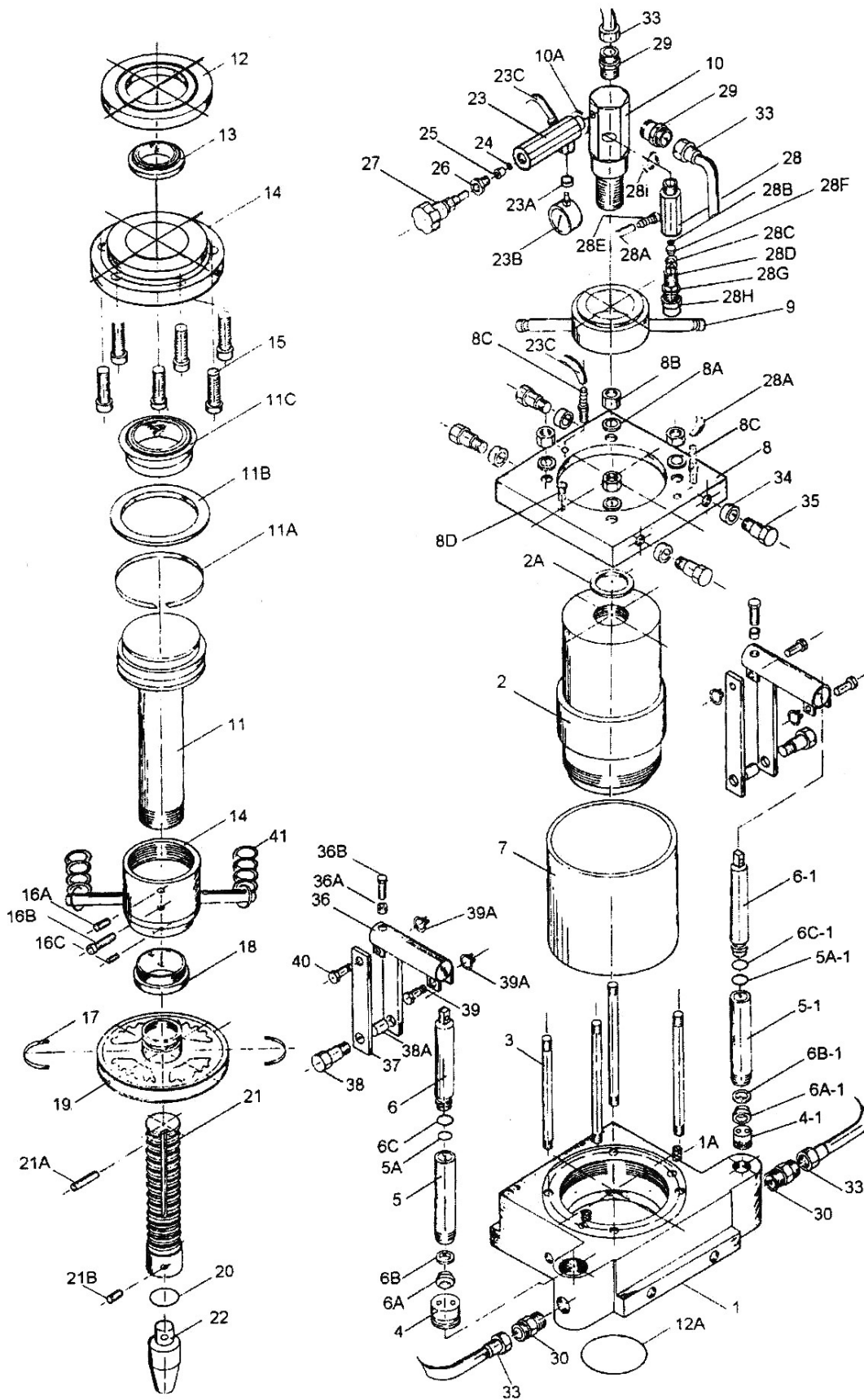
## 9.4.1 HP-15A Frame Assembly – Exploded View



## 9.4.2 HP-15A Frame Assembly – Parts List

| Index No. | Part No.   | Description                        | Size             | Qty |
|-----------|------------|------------------------------------|------------------|-----|
| 42        | HP15A-42   | Shaft Holder                       |                  | 1   |
| 42A       | TS-0070011 | Hex Cap Screw                      | 1/2"-13 x 1"     | 2   |
| 43        | HP15A-43   | Rolling Shaft Block without Thread |                  | 1   |
| 43A       | TS-0060061 | Hex Cap Screw                      | 3/8"-16 x 1-1/4" | 3   |
| 44        | HP15A-44   | Rolling Shaft Block with Thread    |                  | 1   |
| 44A       | TS-0060051 | Hex Cap Screw                      | 3/8"-16 x 1"     | 1   |
| 44B       | HP15A-44B  | Washer                             |                  | 4   |
| 45        | HP15A-45   | Rolling Shaft                      |                  | 1   |
| 45A       | HP15A-45A  | Nut                                |                  | 2   |
| 46        | HP15A-46   | Hand Crank                         |                  | 1   |
| 47        | HP15A-47   | Pump Handle                        |                  | 1   |
| 47A       | HP15A-47A  | Rubber Grip                        |                  | 1   |
| 48        | HP15A-48   | Handle Holder                      |                  | 2   |
| 48A       | HP15A-48A  | Handle Holder Screw                |                  | 2   |
| 49        | HP15A-49   | V-Block Body                       |                  | 1   |
| 49A       | HP15A-49A  | Body Sliding Plate                 |                  | 2   |
| 49-1      | HP15A-49-1 | V-Block Body                       |                  | 1   |
| 49B       | HP15A-49B  | Body Sliding Plate                 |                  | 2   |
| 49C       | HP15A-49C  | Hex Screw                          |                  | 4   |
| 49D       | HP15A-49D  | Hex Screw                          |                  | 3   |
| 49E       | HP15A-49E  | Stopper                            |                  | 2   |
| 50        | HP15A-50   | Center Tails                       |                  | 2   |
| 51        | HP15A-51   | Adjustable Center – Tail Body      |                  | 1   |
| 52        | HP15A-52   | Adjustable Center – Tail Knob      |                  | 1   |
| 53        | HP15A-53   | Crank Gear                         |                  | 1   |
| 53A       | HP15A-53A  | Roll Pin                           |                  | 1   |
| 54        | HP15A-54   | Crank Gear Pawl                    |                  | 1   |
| 55        | HP15A-55   | Pawl Stud Screw                    |                  | 1   |
| 56        | HP15A-56   | Crank Gear Shaft                   |                  | 1   |
| 57        | HP15A-57   | Spindle Sleeve                     |                  | 2   |
| 58        | HP15A-58   | Table Holder Pin                   |                  | 1   |
| 59        | HP15A-59   | Square Bar                         |                  | 1   |
| 59A       | HP15A-59A  | Center Tail Assembly Screw         |                  | 2   |
| 60        | HP15A-60   | Screw Spacer                       |                  | 2   |
| 61        | HP15A-61   | Cable Sliding Spindle              |                  | 1   |
| 61A       | HP15A-61A  | Hex Nut                            |                  | 2   |
| 62        | HP15A-62   | Table Spindle                      |                  | 2   |
| 62A       | HP15A-62A  | Crank Shaft Sleeve                 |                  | 1   |
| 63        | HP15A-63   | Cable Slide Wheel                  |                  | 1   |
| 64        | HP15A-64   | Cable                              |                  | 1   |
| 65        | HP15A-65   | Wire Rope Clip                     |                  | 1   |
| 66        | HP15A-66G  | Top Frame (Rear)                   |                  | 1   |
| 67        | HP15A-67G  | Top Frame (Front)                  |                  | 2   |
| 68        | HP15A-68G  | Table Frame (Rear)                 |                  | 1   |
| 69        | HP15A-69G  | Table Frame (Front)                |                  | 1   |
| 70        | HP15A-70G  | Main Frame (Left/Right Post)       |                  | 2   |
| 71        | HP15A-71G  | Lower Frame Support                |                  | 2   |
| 72        | HP15A-72G  | Frame Bracket                      |                  | 2   |
| 72A       | HP15A-72AG | Frame Base Bracket                 |                  | 2   |
| 72B       | HP15A-72BG | Frame Base Bracket                 |                  | 2   |
| 72C       | HP15A-72C  | Bolt                               |                  | 8   |
| 72D       | HP15A-72D  | Nut                                |                  | 8   |
| 73        | HP15A-73   | Bolt                               |                  | 4   |
| 73A       | HP15A-73A  | Nut                                |                  | 4   |
| 74        | HP15A-74   | Hex Bolt                           |                  | 4   |
| 76        | HP15A-76   | Bed Plate                          |                  | 2   |
| 77        | HP15A-77   | Frame Spindle                      |                  | 2   |
| 77A       | HP15A-77A  | Spindle Sleeve                     |                  | 2   |
| 78        | HP15A-ID   | Identification Label (not shown)   |                  | 1   |
| 80        | HP5A-WL    | Warning Label (not shown)          |                  | 1   |

## 9.5.1 HP-35A Head Assembly – Exploded View

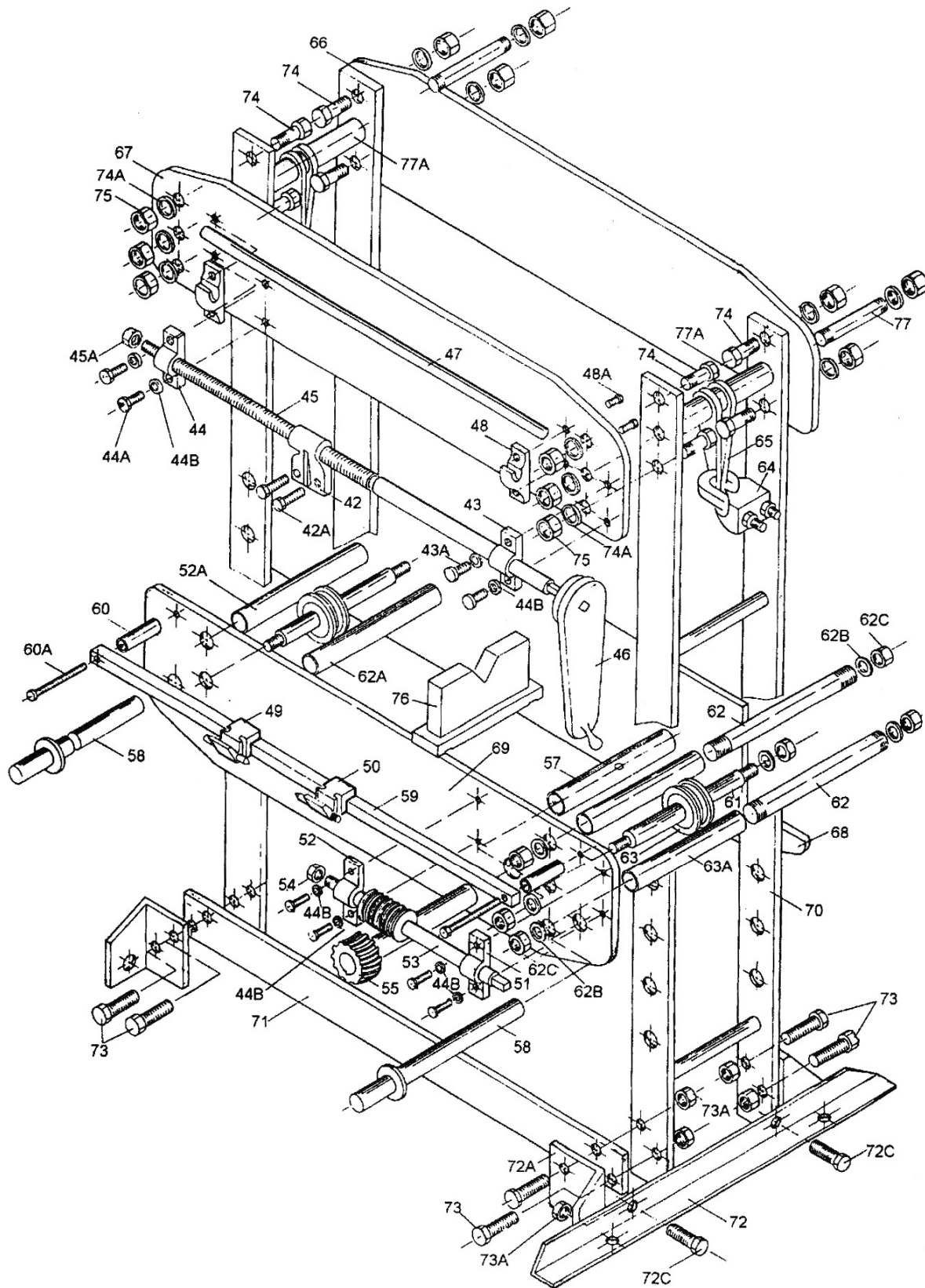


## 9.5.2 HP-35A Head Assembly – Parts List

| Index No. | Part No.    | Description             | Size             | Qty |
|-----------|-------------|-------------------------|------------------|-----|
| 1         | HP35A-01G   | Base                    |                  | 1   |
| 1A        | HP35A-01A   | Base Filter **          |                  | 2   |
| 2         | HP35A-02G   | Cylinder                |                  | 1   |
| 2A        | HP35A-02A   | Spacer                  |                  | 1   |
| 3         | HP35A-03    | Support Rod             |                  | 4   |
| 4         | HP35A-04    | Single Action Valve     |                  | 1   |
| 4-1       | HP35A-04-1  | Single Action Valve     |                  | 1   |
| 5         | HP35A-05    | Pump Cylinder – Fast    |                  | 1   |
| 5-1       | HP35A-05-1  | Pump Cylinder – Slow    |                  | 1   |
| 5A        | HP35A-05A   | O-Ring **               |                  | 1   |
| 5A-1      | HP35A-05A-1 | O-Ring **               |                  | 1   |
| 6         | HP35A-06    | Shaft                   |                  | 1   |
| 6-1       | HP35A-06-1  | Shaft                   |                  | 1   |
| 6A        | HP35A-06A   | Cup Seal **             |                  | 1   |
| 6A-1      | HP35A-06A-1 | Cup Seal **             |                  | 1   |
| 6B        | HP35A-06B   | Wiper Seal **           |                  | 1   |
| 6B-1      | HP35A-06B-1 | Wiper Seal **           |                  | 1   |
| 6C        | HP35A-06C   | O-Ring **               |                  | 1   |
| 6C-1      | HP35A-06C-1 | O-Ring **               |                  | 1   |
| 7         | HP35A-07G   | Reservoir               |                  | 1   |
| 8         | HP35A-08G   | Hydraulic Base Top      |                  | 1   |
| 8A        | TS-0720111  | Lock Washer             | 1/2"             | 4   |
| 8B        | TS-0561051  | Hex Nut                 | 1/2"-13          | 4   |
| 8C        | HP35A-08C   | Brass Tube Connector    |                  | 3   |
| 8D        | HP35A-08D   | Hex Filler Plug w/ Seal |                  | 1   |
|           | HP35A-08DV  | Hex Filler Plug Vented  |                  | 1   |
| 9         | HP35A-09G   | Connector Post          |                  | 1   |
| 10        | HP35A-10G   | Oil Pass Connector      |                  | 1   |
| 10A       | HP35A-10A   | Spacer                  |                  | 1   |
| 11        | HP35A-11    | Plunger                 |                  | 1   |
| 11A       | HP35A-11A   | Support Ring **         |                  | 1   |
| 11B       | HP35A-11B   | Spacer Ring             |                  | 1   |
| 11C       | HP35A-11C   | Cup Seal **             |                  | 1   |
| 12        | HP35A-12    | Gasket                  |                  | 1   |
| 12A       | HP35A-12A   | O-Ring **               |                  | 1   |
| 13        | HP35A-13    | Seal **                 |                  | 1   |
| 14        | HP35A-14G   | Plunger Plate w/Gasket  |                  | 1   |
| 15        | TS-0209061  | Socket Head Cap Screw   | 3/8"-16 x 1-1/4" | 6   |
| 16        | HP35A-16    | Connector Post          |                  | 1   |
| 16A       | HP35A-16A   | Socket Set Screw        |                  | 1   |
| 16B       | HP35A-16B   | Socket Head Cap Screw   |                  | 1   |
| 16C       | HP35A-16C   | Socket Set Screw        |                  | 1   |
| 17        | HP35A-17    | Handwheel Retainer Clip |                  | 2   |
| 18        | HP35A-18    | Handwheel Spacer        |                  | 1   |
| 19        | HP35A-19    | Handwheel               |                  | 1   |
| 20        | HP35A-20    | Seal                    |                  | 1   |
| 21        | HP35A-21    | Extension Screw         |                  | 1   |
| 21A       | HP35A-21A   | Stopper Roll Pin        |                  | 1   |
| 21B       | HP35A-21B   | Set Screw               |                  | 1   |
| 22        | HP35A-22    | Press Head              |                  | 1   |
| 23        | HP35A-23    | Release Valve Block     |                  | 1   |
| 23A       | HP35A-23A   | Spacer                  |                  | 1   |
| 23B       | HP35A-23B   | Pressure Gauge          |                  | 1   |
| 23C       | HP35A-23C   | Plastic Tube            |                  | 1   |
| 24        | HP35A-24    | Steel Ball              |                  | 1   |
| 25        | HP35A-25    | Release Valve Seal **   |                  | 1   |
| 26        | HP35A-26    | Release Valve Nut       |                  | 1   |
| 27        | HP35A-27    | Release Valve           |                  | 1   |
| 28        | HP35A-28    | Safety Valve Block      |                  | 1   |
| 28A       | HP35A-28A   | Plastic Tube            |                  | 1   |
| 28B       | HP35A-28B   | Steel Ball              |                  | 1   |

| Index No. | Part No.   | Description                                          | Size         | Qty |
|-----------|------------|------------------------------------------------------|--------------|-----|
| 28C       | HP35A-28C  | Safety Spring                                        |              | 1   |
| 28D       | HP35A-28D  | Safety Valve Set Screw                               |              | 1   |
| 28E       | HP35A-28E  | Brass Tube Connector                                 |              | 1   |
| 28F       | HP35A-28F  | Release Valve Seal **                                |              | 1   |
| 28G       | HP35A-28G  | Washer                                               |              | 1   |
| 28H       | HP35A-28H  | Hex Nut                                              |              | 1   |
| 28I       | HP35A-28I  | Spacer                                               |              | 1   |
| 29        | HP35A-29   | Male Connector                                       |              | 2   |
| 30        | HP35A-30   | Male Connector                                       |              | 2   |
| 33        | HP35A-33   | Bronze Tube                                          |              | 2   |
| 34        | HP35A-34   | Sliding Wheel                                        |              | 4   |
| 35        | HP35A-35   | Hex Locking Bolt                                     |              | 4   |
| 36        | HP35A-36   | Handle Socket                                        |              | 2   |
| 36A       | TS-0561031 | Hex Nut                                              | 3/8"-16      | 2   |
| 36B       | TS-0060051 | Hex Cap Screw                                        | 3/8"-16 x 1" | 2   |
| 37        | HP35A-37   | Linking Sleeve                                       |              | 4   |
| 38        | HP35A-38   | Bottom Fixed Bolt                                    |              | 2   |
| 38A       | HP35A-38A  | Spacer                                               |              | 2   |
| 39        | HP35A-39   | Bolt                                                 |              | 2   |
| 39A       | HP35A-39A  | C-Clip                                               |              | 4   |
| 40        | HP35A-40   | Bolt                                                 |              | 2   |
| 41        | HP35A-41   | Return Spring                                        |              | 2   |
|           | HP35A-RK   | Hydraulic Repair Kit (includes items marked with **) |              |     |

## 9.6.1 HP-35A Frame Assembly – Exploded View



## 9.6.2 HP-35A Frame Assembly – Parts List

| Index No. | Part No.   | Description                      | Size             | Qty |
|-----------|------------|----------------------------------|------------------|-----|
| 42        | HP35A-42   | Shaft Holder                     |                  | 1   |
| 42A       | HP35A-42A  | Hex Cap Head Bolt                |                  | 2   |
| 43        | HP35A-43   | Rolling Shaft Block              |                  | 1   |
| 43A       | TS-0060061 | Hex Cap Screw                    | 3/8"-16 x 1-1/4" | 2   |
| 44        | HP35A-44   | Rolling Shaft Block              |                  | 1   |
| 44A       | TS-0060051 | Hex Cap Screw                    | 3/8"-16 x 1"     | 2   |
| 44B       | TS-0680041 | Flat Washer                      | 3/8"             | 8   |
| 45        | HP35A-45   | Sliding Shaft                    |                  | 1   |
| 45A       | TS-0561072 | Hex Nut                          | 5/8"-18          | 1   |
| 46        | HP35A-46   | Hand Crank                       |                  | 1   |
| 47        | HP35A-47   | Handle                           |                  | 1   |
| 48        | HP35A-48   | Handle Holder                    |                  | 2   |
| 48A       | TS-0051051 | Hex Cap Screw                    | 5/16"-18 x 1"    | 4   |
| 49        | HP35A-49   | Center Post Assembly (left)      |                  | 1   |
| 50        | HP35A-50   | Center Post Assembly (right)     |                  | 1   |
| 51        | HP35A-51   | Fixed Holder                     |                  | 1   |
| 52        | HP35A-52   | Shaft Fixed Block                |                  | 1   |
| 53        | HP35A-53   | Drive Gear Shaft Assembly        |                  | 1   |
| 54        | HP35A-54   | Hex Nut                          |                  | 1   |
| 55        | HP35A-55   | Worm Gear w/ Shaft               |                  | 1   |
| 56        | TS-0060051 | Hex Cap Screw                    | 3/8"-16 x 1"     | 4   |
| 57        | HP35A-57   | Spacer Sleeve                    |                  | 1   |
| 58        | HP35A-58   | Table Holder Pin                 |                  | 1   |
| 59        | HP35A-59   | Square Bar                       |                  | 1   |
| 60        | HP35A-60   | Screw Spacer                     |                  | 2   |
| 60A       | TS-0060151 | Hex Cap Screw                    | 3/8" x 3-1/2"    | 2   |
| 61        | HP35A-61   | Slide Wheel Shaft                |                  | 2   |
| 62        | HP35A-62   | Table Bolt                       |                  | 4   |
| 62A       | HP35A-62A  | Spindle Sleeve                   |                  | 8   |
| 62B       | TS-0720131 | Lock Washer                      | 5/8"             | 12  |
| 62C       | TS-0561071 | Hex Nut                          | 5/8"-11          | 12  |
| 63        | HP35A-63   | Cable Slide Wheel                |                  | 2   |
| 64        | HP35A-64   | Wire Rope Clip                   |                  | 2   |
| 65        | HP35A-65   | Cable                            |                  | 1   |
| 66        | HP35A-66G  | Top Frame (Rear)                 |                  | 1   |
| 67        | HP35A-67G  | Top Frame (Front)                |                  | 1   |
| 68        | HP35A-68G  | Table Frame (Rear)               |                  | 1   |
| 69        | HP35A-69G  | Table Frame (Front)              |                  | 1   |
| 70        | HP35A-70G  | Main Frame                       |                  | 2   |
| 71        | HP35A-71G  | Lower Frame Support              |                  | 2   |
| 72        | HP35A-72G  | Base Frame Bracket               |                  | 2   |
| 72A       | HP35A-72AG | Frame Bracket (Left)             |                  | 2   |
| 72B       | HP35A-72BG | Frame Bracket (Right)            |                  | 2   |
| 72C       | TS-0071011 | Hex Cap Screw                    | 5/8"-11 x 1-1/2" | 4   |
| 73        | TS-0071031 | Hex Cap Screw                    | 5/8"-11 x 2"     | 8   |
| 73A       | TS-0561071 | Hex Nut                          | 5/8"-11          | 12  |
| 74        | HP35A-74   | Hex Head Bolt                    | 3/4" x 2"        | 8   |
| 74A       | TS-0720141 | Lock Washer                      | 3/4"             | 12  |
| 75        | TS-0561081 | Hex Nut                          | 3/4"-10          | 12  |
| 76        | HP35A-76   | V-Block Bed Plate                |                  | 2   |
| 77        | HP35A-77   | Top Link Bolt                    |                  | 2   |
| 77A       | HP35A-77A  | Spacer Sleeve                    |                  | 2   |
| 78        | HP35A-ID   | Identification Label (not shown) |                  | 1   |
| 80        | HP5A-WL    | Warning Label (not shown)        |                  | 1   |