

# Operating Instructions and Parts Manual 14ga. x 52-inch Hydraulic Shear

Model HS-1452



#### **JET**

427 New Sanford Road LaVergne, Tennessee 37086 Ph.: 800-274-6848 www.jettools.com

Part No. M-756205 Revision C 12/2015 Copyright © 2015 JET

### 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 outside recommended guidelines 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 Safety Warnings

- 1. Read and understand the entire owner's manual before attempting assembly or operation.
- 2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury. Replace warning labels if they become obscured or removed.
- 3. This pneumatic Hydraulic shear 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 shear, do not use until proper training and knowledge have been obtained.
- 4. Do not use this machine for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
- 5. Always wear ANSI approved safety glasses/face shields while using this shear. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
- 6. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair. Non-slip footwear or anti-skid floor strips are recommended.
- 7. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, 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 face or dust masks that are specifically designed to filter out microscopic particles.

- 8. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
- 9. Do not exceed the rated capacity of this shear; use hand tools for small or narrow parts. Do not attempt to shear hardened materials.
- 10. Sheet metal stock has sharp edges. To prevent cuts, use leather work gloves when handling.
- 11. Keep hands and fingers clear of the area in front and rear of the shear.
- 12. Do not place your hands between material being sheared and the shear table.
- 13. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.
- 14. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
- 15. Provide for adequate space surrounding work area and non-glare, overhead lighting.
- 16. Keep the floor around the machine clean and free of scrap material, oil and grease.
- 17. Keep visitors a safe distance from the work area. Keep children away.
- 18. Make your workshop child proof with padlocks, master switches or by removing starter keys.
- 19. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
- 20. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation.
- 21. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
- 22. Use recommended accessories; improper accessories may be hazardous.

- 23. Maintain tools with care. Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
- 24. Do not stand on the machine. Serious injury could occur if the machine tips over.
- 25. Unplug or lock out power to the machine when not in use.

#### Familiarize yourself with the following safety notices used in this manual.

This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

This means that if precautions are not heeded, it may result in serious or even fatal injury.

### 4.0 About this manual

This manual is provided by JET covering the safe operation and maintenance procedures for a JET Model HS-1452 Hydraulic Shear. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide years of trouble-free operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: www.jettools.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

# 5.0 General Features and Terminology

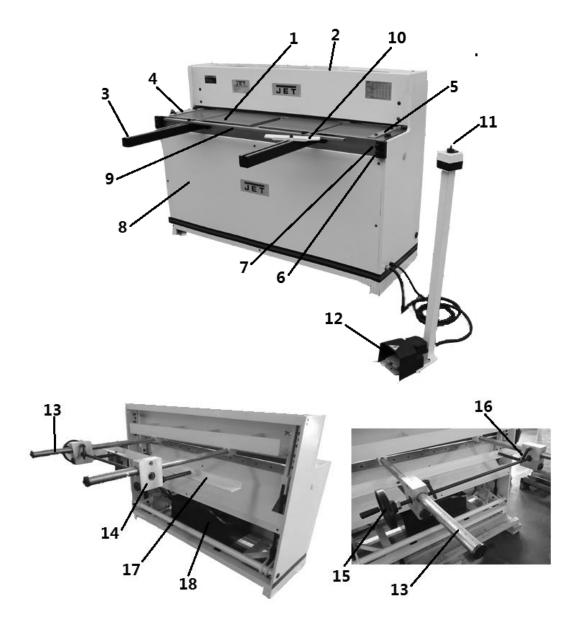


Figure 1

- 1 Table
- **Cutter Bar** 2
- 3 Front Arm Extension
- 4 Left Scale
- 5 Right Scale
- Table Adjustment Screws 6
- 7 Table Adjustment Screws
- Front Cover 8
- Front Stop

- Bevel Gauge
- On/Off Switch 11
- Foot Pedal 12
- 13 Scale
- 14 Adjusting Block
- 15
- Adjusting Handwheel Adjusting Block Knobs 16
- 17 Rear Stop
- Hydraulic Regulator Assembly

# 6.0 Specifications

Model NumberStock Number		
Materials:		
	steel	steel
		steel
		ground hardened steel
		sround nardened steel
Rear Stop	steel	steel
Motor and Electricals:		
	ed, induction, capacitor start	totally enclosed fan cooled, induction
Horsepower	3 HP (2.2 kW)	
		4.5A/2.1A
		n/a
		n/a
		60Hz
Motor speed	1700 RPM	
Power plug included	no	no
		rotary
		Foot pedal
Noise emission	40-60 dB	
1,0,00 0,1110,000		
Capacities:		
Material thickness capacity – mild steel.	14 gauge	14 gauge
Shearing length capacity	52" (1320mm)	52" (1320mm)
Back stop capacity	25-1/2" (650mm)	25-1/2" (650mm)
Front stop capacity	23-1/2" (600mm)	23-1/2" (600mm)
	,	,
<u>Dimensions</u> :		
Shipping carton (LxWxH) 172 x 83 x		
Machine size (LxWxH)158x1	96x108cm (62.2"x77"x42.5")	
Hydraulic System:		2.25 (2.22
Hydraulic hose length	9.8 ft. (300cm)	
Operating/maximum hydraulic pressure	(psi)870psi (6Mpa)	870psi (6Mpa)
		20 with load
Recommended Hydraulic hose diamete	r Ф16mm	Ф16mm
Weighte		
Weights:	EOE 1 ~ (400E 15)	EOE L~ (4005 IL)
Snipping	- · · · · · · · · · · · · · · · · · · ·	660 kg (1456 lb)

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.

Read and understand the entire contents of this manual before attempting set-up or operation! Failure to comply may cause serious injury.

### 7.0 **Set-Up and Assembly**

#### 7.1 Hole center dimensions

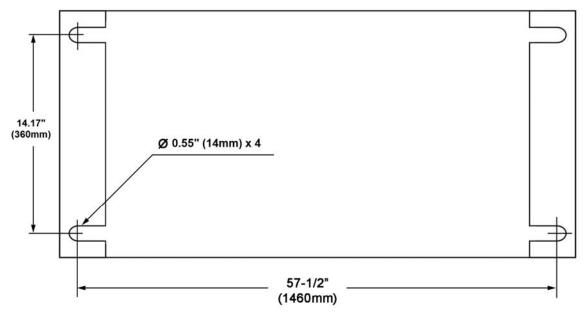


Figure 2

#### 7.2 Unpacking

Open shipping container and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the Shear is assembled and running properly.

Compare the contents of your container with the following list to make sure all parts are intact. Missing parts, if any, should be reported to your distributor. Read the instruction manual thoroughly for assembly, maintenance and safety instructions.

#### **Contents of the Shipping Container**

- 1 Hydraulic Shear with Foot Pedal
- 2 Front Arm Extensions
- 1 Front Stop, with hardware
- 1 Rear Stop, with hardware
- 2 Scale Rods
- 2 Adjusting Block Assemblies
- 1 Bevel Gauge, with hardware
- 1 Instructions and Parts Manual
- Warranty Card
- 1. Remove the crating material from around the machine.
- Clean the protectant from all exposed metal surfaces with a mild solvent or kerosene, and a soft rag. Do not use lacquer thinner,

paint thinner, or gasoline, as these may damage painted surfaces.

- Coat all machined surfaces with a light coat of oil to inhibit rust.
- 4. Remove the bolts holding the machine to the skid
- Place straps below the table (you may have to remove front cover), and use properly rated lifting equipment to move the machine to a level foundation. Machine location must allow access to all sides. Use shims at floor if needed.

**Assembly Note:** Prior to shipment, the hydraulic shear is adjusted at the factory for proper alignments and operation. If the machine does not operate properly or the stand does not sit squarely on the floor, proceed to *Adjustments*.

6. When the machine sits evenly, secure it to the floor using proper fasteners. Refer to Figure 2.

#### 7.3 Stop assemblies

Refer to Figure 1.

1. Attach the two *front arm extensions* (3) to the bed with four *hex cap screws* and four *washers*. Level arm extension surfaces with the table before tightening.

- 2. Attach *front stop* (9) to front arm extensions with T-screws and wing nuts.
- Attach rear stop (17) to the Adjusting Block (14) with six hex cap screws and six flat washers.
- 4. Insert a *scale rod* (13) through each adjusting block assembly and into cutter bar. The scales must face up.

#### 7.4 Electrical connections

Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded to help prevent electrical shock and possible fatal injury.

#### 7.4.1 Grounding instructions

This machine must be grounded. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Repair or replace a damaged or worn cord immediately.

#### 7.4.2 Extension cords

The use of an extension cord is not recommended. Try to place shop equipment within reach of the power source. If an extension cord becomes necessary, make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Use the chart in Figure 17 as a general guide in choosing the correct size cord. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Recommended Gauges (AWG) of Extension Cords

		Extension Cord Length *				
Amps	25 feet	50 feet	75 feet	100 feet	150 feet	200 feet
< 5	16	16	16	14	12	12
5 to 8	16	16	14	12	10	NR
8 to 12	14	14	12	10	NR	NR
12 to 15	12	12	10	10	NR	NR
15 to 20	10	10	10	NR	NR	NR
21 to 30	10	NR	NR	NR	NR	NR

\*based on limiting the line voltage drop to 5V at 150% of the rated amperes.

NR: Not Recommended.

Table 1

### 8.0 Adjustments

# 8.1 Adjustment for the shearing edge gap

The relationship between plate thickness and cutting edge data is shown in Figure 3.

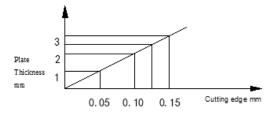


Figure 3

To adjust gap (Figure 4):

- 1. Loosen bolts (1,2,3).
- Tighten bolt (4) to increase gap. Loosen bolt (4) and tighten bolt (3) to decrease gap. NOTE: Adjust equally at both ends of machine.
- 3. Check gap with feeler gauge.
- 4. When gap value and shear plate thickness correspond, tighten nut (2) and bolts (1).

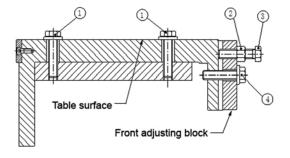


Figure 4

### 8.2 Adjustment for back gauge

Position rear stop to "0" on the scales, and verify that stop plate is parallel to shear. If not, loosen screw (1) and rotate nut (2) until aligned. Retighten screw (1).

To adjust rear stop for operations, loosen handle (4) and rotate handwheel (5) until desired measurement is reached. Lock handle (4).

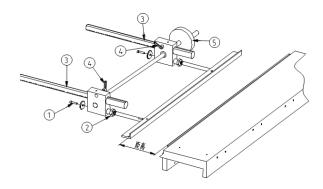


Figure 5

### 9.0 Maintenance

**ACAUTION** Use care when working with or around the knives.

The 2-way upper knife can be removed and flipped 180°, for a new edge before having to be sharpened.

Wipe the blades lightly with oil.

Lubricate all pivot points on the machine daily.

### 10.0 Troubleshooting the HS-1452

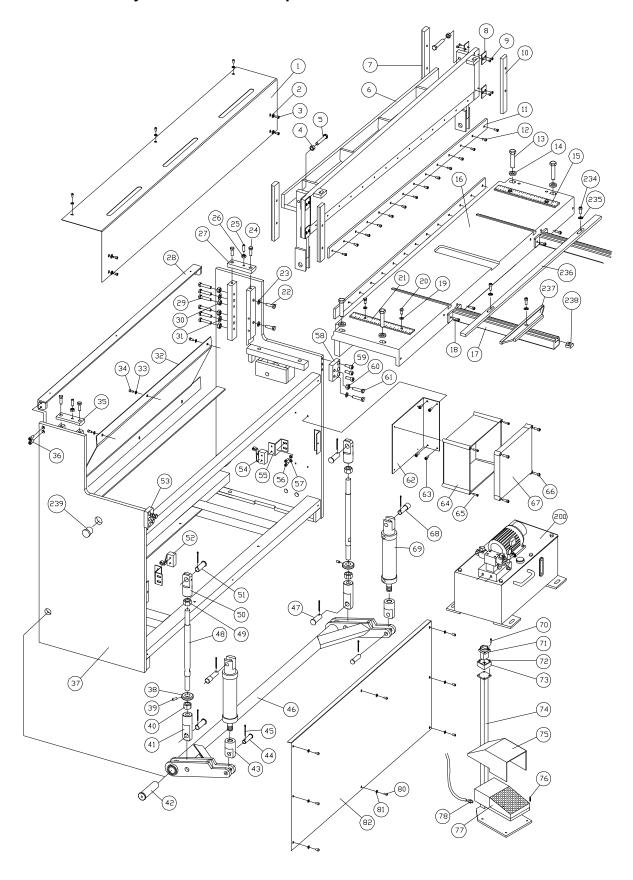
Trouble	Probable Cause	Remedy	
	Incorrect gap between blades.	Increase gap for thicker gauge metals.	
Blades will not cut material.	Material exceeds machine capacity.	Stay within capacity.	
	Blades are dull.	Replace or sharpen blades.	
	Blades dull.	Replace or sharpen blades.	
Unsatisfactory cuts.	Incorrect gap between blades.	Correct gap.	
	Loose gibs.	Remove backlash from gibs.	
	Inadequate hold-down pressure.	Adjust pressure of hold-down.	
Cuts not square.	Blade gap unequal.	Adjust gap equally across length of blade.	
	Uneven guide contact.	Place work against guide consistently.	

Table 2

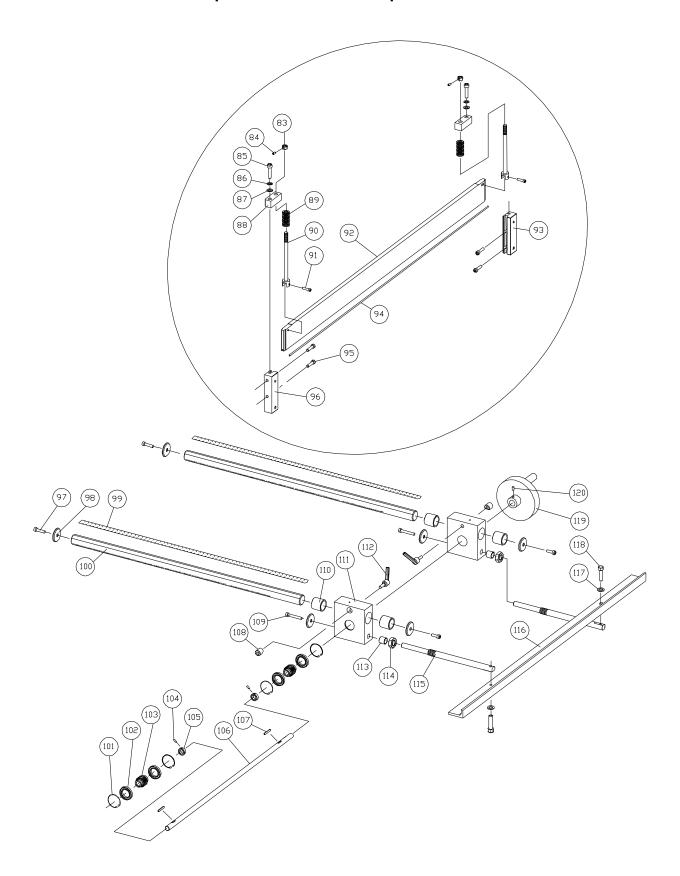
### 11.0 Replacement Parts

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 guickly and accurately.

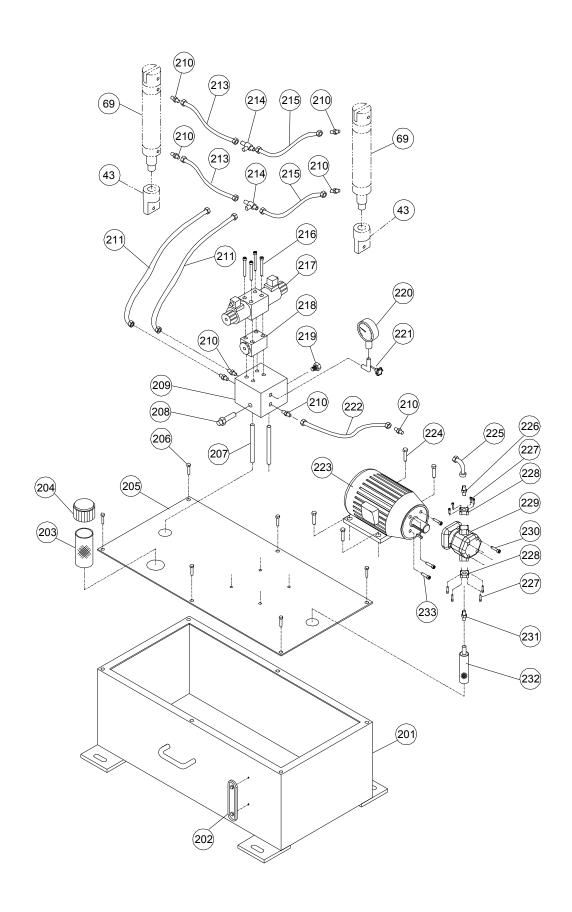
### 11.1.1 HS-1452 Hydraulic Shear - Exploded View



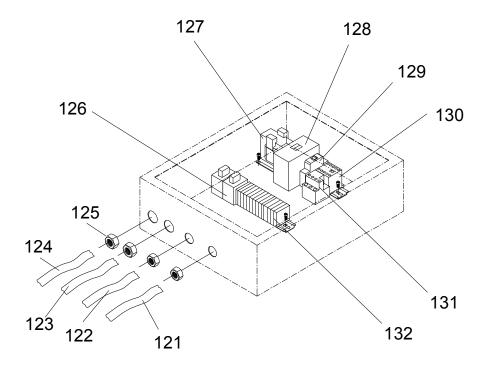
### 11.1.2 HS-1452 Rear Stop and Press Plate - Exploded View



### 11.1.3 HS-1452 Hydraulic Regulator Assembly - Exploded View



# 11.1.4 HS-1452 Control Box - Exploded View



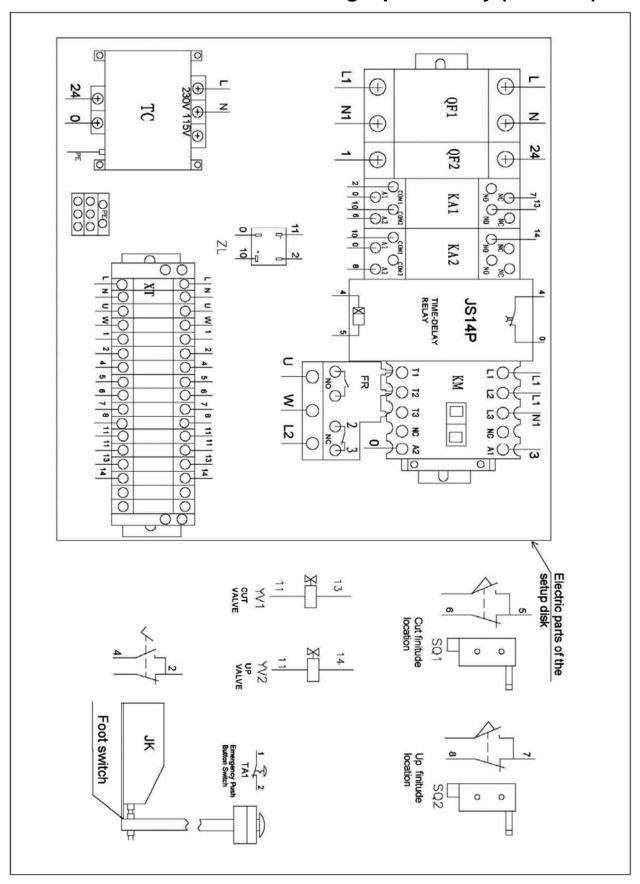
# 11.1.5 **HS-1452 Hydraulic Shear Assembly – Parts List**

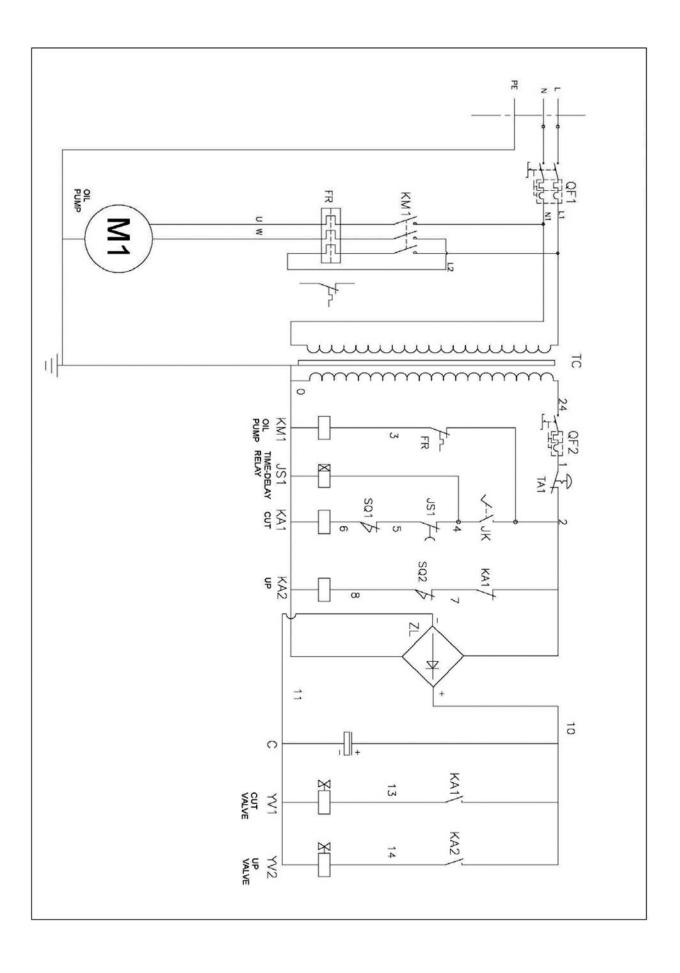
Index No.	Part No.	Description	Size	Qty
1	.HS1252-1G	Cover		1
		Flat Washer		
		Hex Socket Button Head Screw		
		Copper Nut		
5	.HS1252-5	Copper Bolt	M12x70	2
		Upper Beam		
		Fixed Plate		
		Block		
		Cross Recess Head Screw		
		Fixed Plate		
		Blade		
		Bolt		
		Hex Cap Screw		
		Washer		
-		Scale		
		Table		
		Support Rod		
		Socket Head Cap Screw		
		Flat Washer		
		Hex Cap Screw		
		Scale		
		Hex Cap Screw		
23	.TS-1550071	Flat Washer	M10	4
24	.TS-1491041	Hex Cap Screw	M10x30	4
25	.TS-2279301	Hex Socket Set Screw	M10x30	2
26	.TS-2311101	Hex Nut	M10	2
		Upper Limit Block (RH)		
		Upper Support		
		Hex Cap Screw		
		Hex Nut		
		Flat Washer		
		Rear Plate		
		Flat Washer		
		Hex Socket Button Head Screw		
ან	. ПО 1202-30	Upper Limit Block (LH)Socket Head Cap Screw	MOVOO	I
		Body		
		Block		
	.TS-1523051	Hex Socket Set Screw		2
		Hex Nut		
		Lower Connecting Block		
		Pin		
		Cylinder Adaptor		
		Clevis Pin		
45	.HS1252-45	Cotter Pin	3.2x45	8
		Connecting bar		
		Clevis Pin		
		Link Rod		
		Hex Nut		
		Upper Connecting Block		
		Clevis Pin		
		Lower Limit Switch		
		Adjusting Block		
		Upper Limit Switch		
		Stand for Limit Switch		
		Socket Head Cap Screw		
		Flat Washer		
58	.HS1252-58	Adjusting Block		1

Index No.	Part No.	Description	Size	Qty
		Socket Head Cap Screw		
		Hex Nut		
		Hex Cap Screw		
		Stand for Electric Box		
		Socket Head Cap Screw		
		Electric Box		
		Socket Head Cap Screw		
		Electric Box Bolt		
		Electric Box Cover		
		Clevis Pin		
		Cylinder		
		Screw		
		Select Switch		
		Cross Recess Head Screw		
		Switch Box		
		Post		
		Pedal Guard		
76	15-1501041	Socket Head Cap ScrewPedal Switch		4
		Strain ReliefHex Socket Button Head Screw		
		Flat Washer		
		Front Plate		
		Nut		
		Hex Socket Set Screw		
		Socket Head Cap Screw		
		Lock Washer		
		Flat Washer		
		Block		
		Coiled Spring		
		Rod		
90	1131232-90 TS-1503071	Socket Head Cap Screw	M6v30	2
		Hold-down		
		Guide Slot (RH)		
		Rubber Seal		
95	TS-1504071	Socket Head Cap Screw	M8x35	
		Guide Slot (LH)		
		Socket Head Cap Screw		
		Washer		
		Scale		
		Scale Rod		
		Retaining Ring		
		Bearing (37x25x7)		
103	.HS1252-103	Small Gear		2
		Hex Socket Set Screw		
		Ring		
106	HS1252-106	Connecting Bar		1
		Flat Key		
		Block		
		Socket Head Cap Screw		
		Sliding Bushing		
		Sliding Block		
		Adjustable Handle		
113	HS1252-113	Spacer		2
		Nut		
		Fixed Shaft		
		Rear Stop		
		Flat Washer		
		Hex Cap Screw		
		Handwheel		
		Hex Socket Set Screw		
121	HS1252-121	Cable for Limit Switch	2x0.75mm²	1

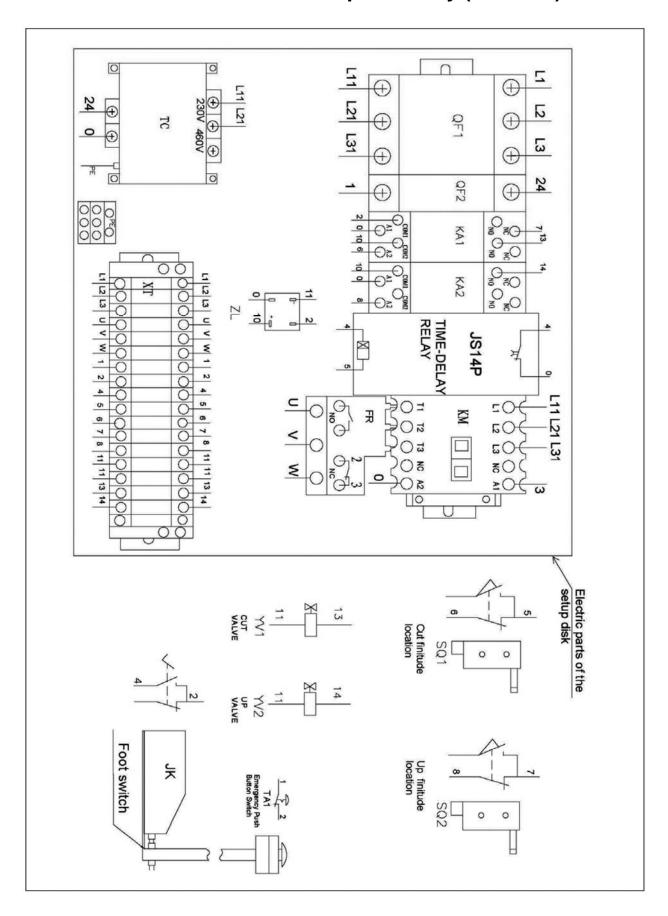
Index No.	Part No.	Description	Size	Qty
122	.HS1252-122	Cable for Magnetic Valve	6x0.5mm² 1.5m	1
		Power Cable (for 1PH)		
	.HS1252-123/3	Power Cable (for 3PH)	4x1.5mm²	1
124	.HS1252-124	Control Cable	6x0.5mm <sup>2</sup> 2.5m	1
		Strain Relief		
		Slave Relay		
127	.HS1252-127	Transformer (for 1PH)		1
		Transformer (for 3PH)		
		Time Relay		
		Breaker (for 1PH)		
		Breaker (for 3PH)		
		A.C. Contactor (for 1PH)		
		A.C. Contactor (for 3PH)		
131	.HS1252-131	Thermal Relay (for 1PH)	RHN-10 17-8.5	1
		Thermal Relay (for 3PH)		
		Junction Terminal		
		Hydraulic Station		
		Oil Tank		
		Oil Gauge		
		Filter		
		Filter Cap		
205	.HS1252-205	Cover		1
		Hex Cap Screw		
		Oil Return Hose		
		Regulating Valve		
		Block		
		Straight Fitting		
		Hydraulic Hose		
		Hydraulic Hose		
		T-Fitting		
		Hydraulic Hose		
		Socket Head Cap Screw		
		Magnetic Valve		
		Hydraulic switch		
		Valve		
		Hydraulic Pressure Gauge		
		Gauge Switch		
		Hydraulic Hose		
		. Motor		
	.TS-1490051 .HS1252-225	Hex Cap Screw		
		Straight Fitting		
		Screw		
		. Connect Block		
		Hydraulic pump		
		Socket Head Cap Screw		
	.HS1252-230 .HS1252-210			
		Filter		
		Hex Bolt		
		Socket Head Cap Screw		
		Flat Washer		
		Front Stop		
		Bevel Gauge		
		T-Nut		
		Plug		
		ID Label, HS-1452 (not shown)		
		. JET Logo (not shown)		
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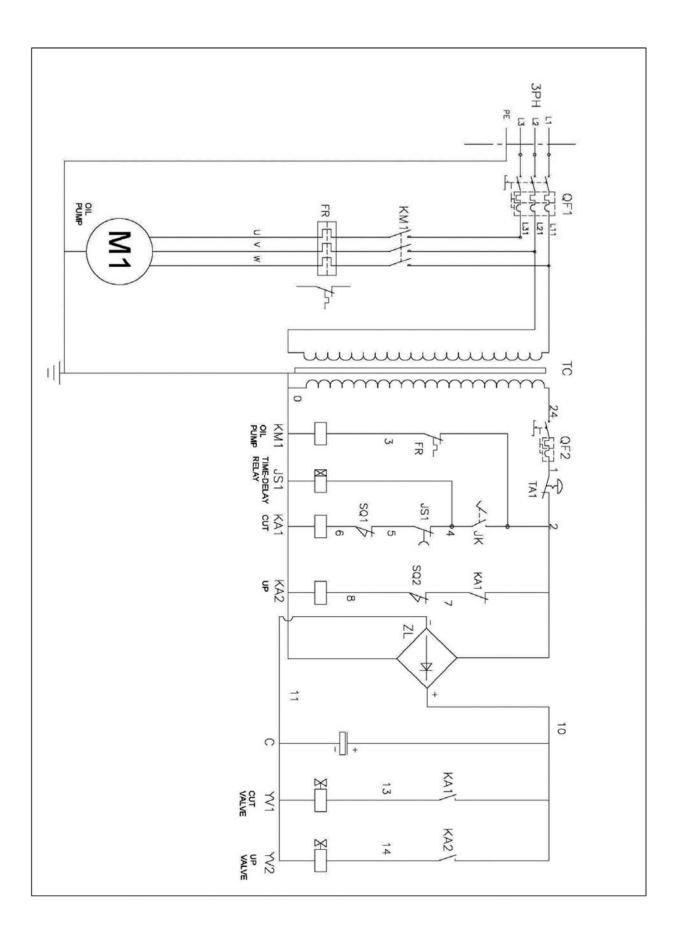
# 12.1 Electrical Connections – single phase only (HS-1452)



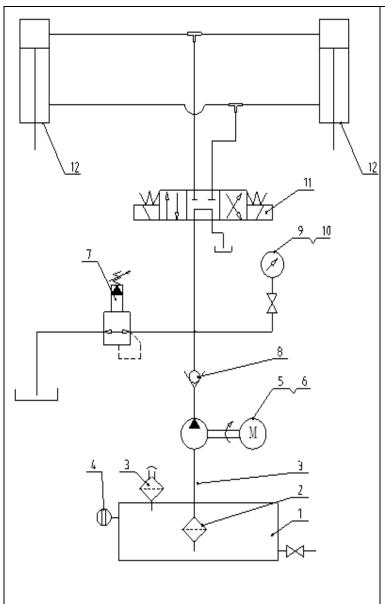


# 12.2 Electrical Connections – 3 phase only (HS-1452)





# 13.0 Hydraulic diagram (HS-1452)



		T -
No.	Description	Qty
1	Hydraulic tank	1
2	Oil filter	1
3	Air filter	1
4	Oil gauge	1
5	Motor	1
6	Pump	1
7	Pressure regulating valve	1
8	One way valve	1
9	Pressure indicator	1
10	Indictor switch	1
11	Magnetic exchange valve	1
12	Cylinder	2

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