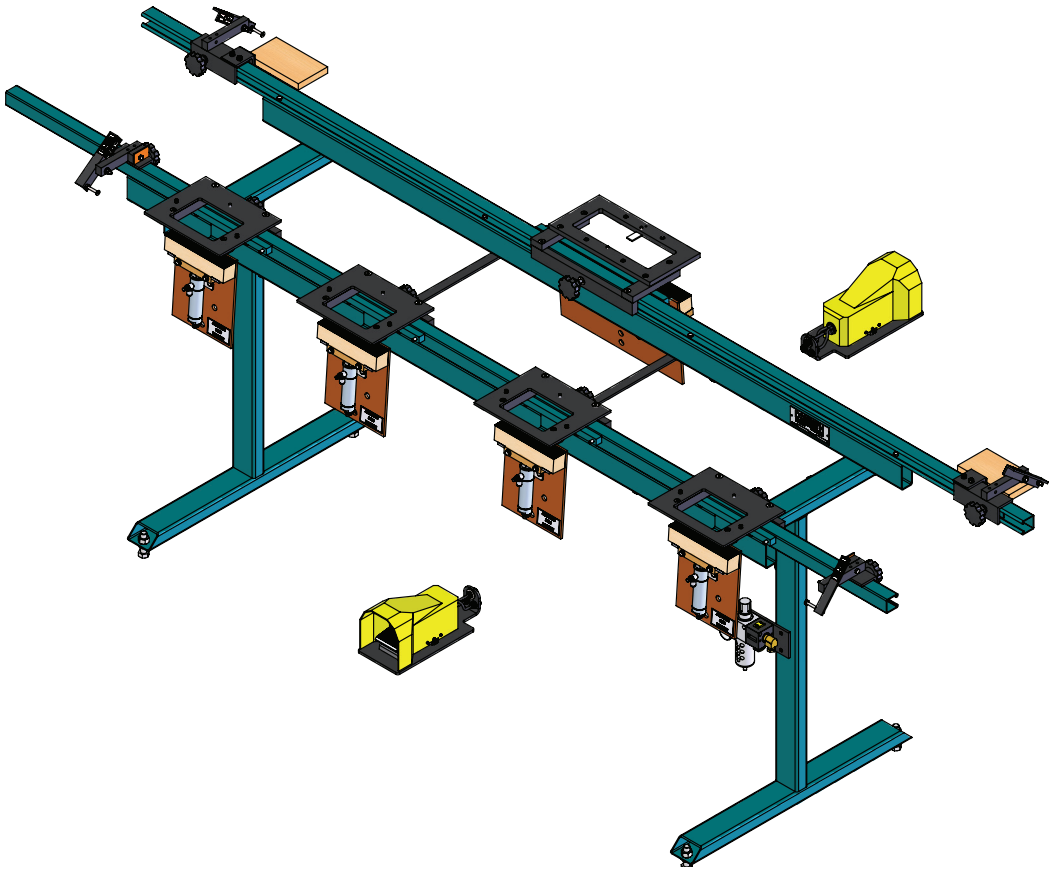
DOORTECH

Norfield

JHS 3300

JAMB HINGE & STRIKE SYSTEM

OWNERS MANUAL



Release: 5

Document Number: 17-228

Second Release: January, 2009
Third Release: March, 2010
Fourth Release July, 2017
Fifth Release: February, 2024

Norfield

422 Otterson Dr.
Chico, Ca. 95928

Technical Support: (530) 891-4214 - Parts: (800) 824-6242

Serial Number: _____

Date Purchased: _____

Norfield is the name that represents Quality, Reliability, Support, Innovation and True Customer Service. We have been dedicated to providing quality products and excellent customer service for more than 45 years. ***Norfield*** has earned a reputation in the pre-hanging industry for setting standards for reliable machinery, full technical support, machine parts, full line industrial woodworking tools and supplies and a team of customer care representatives to support you! Our factory-trained technical personnel are ready to assist you on the telephone or in your shop.

INTRODUCTION

The DoorTech Jamb Hinge and Strike System (***JHS 3300***) consists of two different systems brought together on one base (frame): the ***JH 3100*** for hinge mortising and the ***JS 3200*** for strike mortising. Both systems are designed for speed, accuracy and flexibility. Both systems are designed to use templates interchangeably with the DoorTech door machining tools, the HS3000 and RTS-4.

Although the two systems are combined in the JHS 3300, they can be purchased separately mounted on their own frame. This manual covers all three systems.

Changing setups is rapid, simple and positive. No measuring is required to setting backsets, mortise size, or even cutting depth in most cases. Backsets are determined by clearly labeled backset spacers that screw on quickly and securely without tools.

The DoorTech depth control system automatically adjusts the depth of cut when you change templates: no router adjustment is required. The thickness of the individual templates correctly sets the depth of cut.

Please read the entire instructions before using the JHS 3300. It is your responsibility to validate by trial that each template or setup bar that you use will provide the size, depth and location of mortise that you want.

TABLE OF CONTENTS

SAFETY

Safety considerations are an important element of machine installation and operation. Actively maintaining a safety mindset about yourself and others while working around or on the equipment is of primary importance. Operators and maintenance personnel should refer to the safety information on the following pages to familiarize themselves with warning labels and practices providing for safe operation and servicing of this machine.

Danger indicates an imminently hazardous situation, which if not avoided **WILL** result in death or serious injury.

Warning indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

Caution indicates a potentially hazardous situation which, if not avoided **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

Caution, without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided **MAY** result in property damage but not personal injury.

Notice indicates important information that if not followed may **CAUSE** damage to the equipment.

Mandatory Action conveys an action step that should be taken to avoid the hazard.

⚠ DANGER

Do not operate this machine unless all guards are in place and working correctly. If any guards or hazard labels are missing or damaged call Norfield's Service Department immediately and request a replacement at (800) 824-6242.

⚠ WARNING

Read and understand the operator's manual before using this machine. Failure to follow proper operating instructions could result in death or serious injury.

⚠ WARNING

This machine, when in operation, produces wood chips and dust. The operator and all persons in the work area MUST wear approved eye protection with permanently attached, rigid plastic side shields. These safety glasses must conform to ANSI Z87.1 standards and will have "Z87" printed on the lens.

⚠ WARNING

This machine, when in operation, produces a noise level greater than 85dB. The operator and all persons in the work area MUST wear approved hearing protection. OSHA has determined that a noise level in excess of 85dB average in 8 hours can cause permanent hearing damage. We recommend that hearing protection be worn even if the decibel level is below 85dB.

⚠ WARNING

Certain types of wood dust can cause allergic reactions. Sawdust has been determined to be a **Group A** carcinogen by the International Agency for Research on Cancer (IARC). A dust collection system or an approved personal dusk mask MUST be used when operating this equipment.

⚠ WARNING

This machine has moving parts that loose clothing and long hair can become entangled in. Take care not to become caught between the work material and the feed mechanisms or any other moving components.

⚠ WARNING

Before beginning any service repairs, general maintenance, or adjustments you MUST follow proper Lockout Tag-Out procedures. OSHA regulation 1910.147 establishes a minimal lockout tag-out procedure to assist employers in the development of their own procedures.

⚠ WARNING

Only trained personnel that have read and understand the operator's manual and all the safety precautions may operate this machine.

⚠ WARNING Inspect the machine at the beginning and end of each shift for damaged or cracked components such as, but not limited to, saw blades, router bits, drill bits, and boring bits.

⚠ WARNING Never leave this machine unattended while it is in operation. Make sure that all electrical and air is in the off position when the machine is not in use or is unattended and that any cutting blades have come to a complete stop.

⚠ WARNING Do not attempt to clean material from this machine until all the cutting blades have come to a complete stop. Even when the machine has been turned to the "off" position it may take up to several minutes for the blades to coast-down to a complete stop.

⚠ WARNING Woodworking machinery is inherently dangerous, common sense and good safety practices are your best defense against injury.

NOTICE If you have any questions regarding the correct operation of the machine and safety procedures in this manual call the Norfield's Service Department at (800)-824-6242

LOCKOUT PROCEDURES

The following is an example of the minimum requirements for a lockout/tagout procedure. Norfield strongly recommends that your company establish its own written procedure. OSHA Regulation 1910.147 establishes a minimal lockout/tagout procedure to assist employers in the development of their own Lockout Procedures

All employees will comply with these procedures. All equipment and/or circuits will be locked out to protect against accidental or inadvertent operation when such operation of the equipment and/or circuits could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.

Lockout Responsibility

The primary responsibility for the proper lockout of equipment and /or circuits on a maintenance or repair project belongs to the project Supervisor and/or Foreman. However, this does not alleviate any sub-contracted maintenance or repair personnel from insuring that proper lockout/tag out procedures are followed at all times. The Supervisor and/or Foreman will insure that each employee is properly instructed in the safety significance of lockout procedures.

Preparation for Lock-Out of Circuits and Equipment

In the following steps, when more than one individual is involved with the project and required to lock out the equipment and/or circuits, each employee will place their own personal lock on the energy isolating devices. A lock for each individual involved is the preferred method for locking out energy sources. If this not feasible, the designated individual to the work crew (e.g. the project Supervisor or Foreman) with complete knowledge of who is on the crew may be designated by the work crew as the individual responsible for carrying out all steps of the lockout procedure. That individual will inform the work crew when it is safe to work on the equipment and/or circuits. Additionally, the designated individual will not remove a crew lock until it has been verified that ALL individuals are clear.

1. Notify all affected employees and customers that a lockout is required and the reason for it.

2. If the equipment is in operation, after obtaining approval, shut it down by the normal stopping procedures.

3. Operate the switch, valve or other energy isolating devices so that all energy sources (electrical, mechanical, pneumatic, hydraulic, etc.) are disconnected or isolated from the equipment and/or circuits. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air/gas, steam or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

4. All affected employees are then required to lockout the energy devices with their individual lock.

5. After insuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operation controls to make certain the equipment will not operate. In the event that electrical circuits have been locked out, insure that the circuits are de-energized by applying an appropriate voltage tester that itself has been tested on live circuits. Be sure to return all operating controls to the neutral position.

The equipment and/or circuits are now locked out.

Restoring Equipment and/or Circuits to Service

1. When the job is complete and the equipment or circuits are ready for testing or normal service, check the equipment and/or circuits to insure that no one is exposed.

2. When the equipment and/or circuits are clear, remove all locks. The energy isolating devices may be operated to restore energy to the equipment and or circuits.

SPECIFICATIONS

Electrical Requirement

AC Line Voltage	Phase	Hertz	Amperage
115 VAC	1	60	20

Specifications

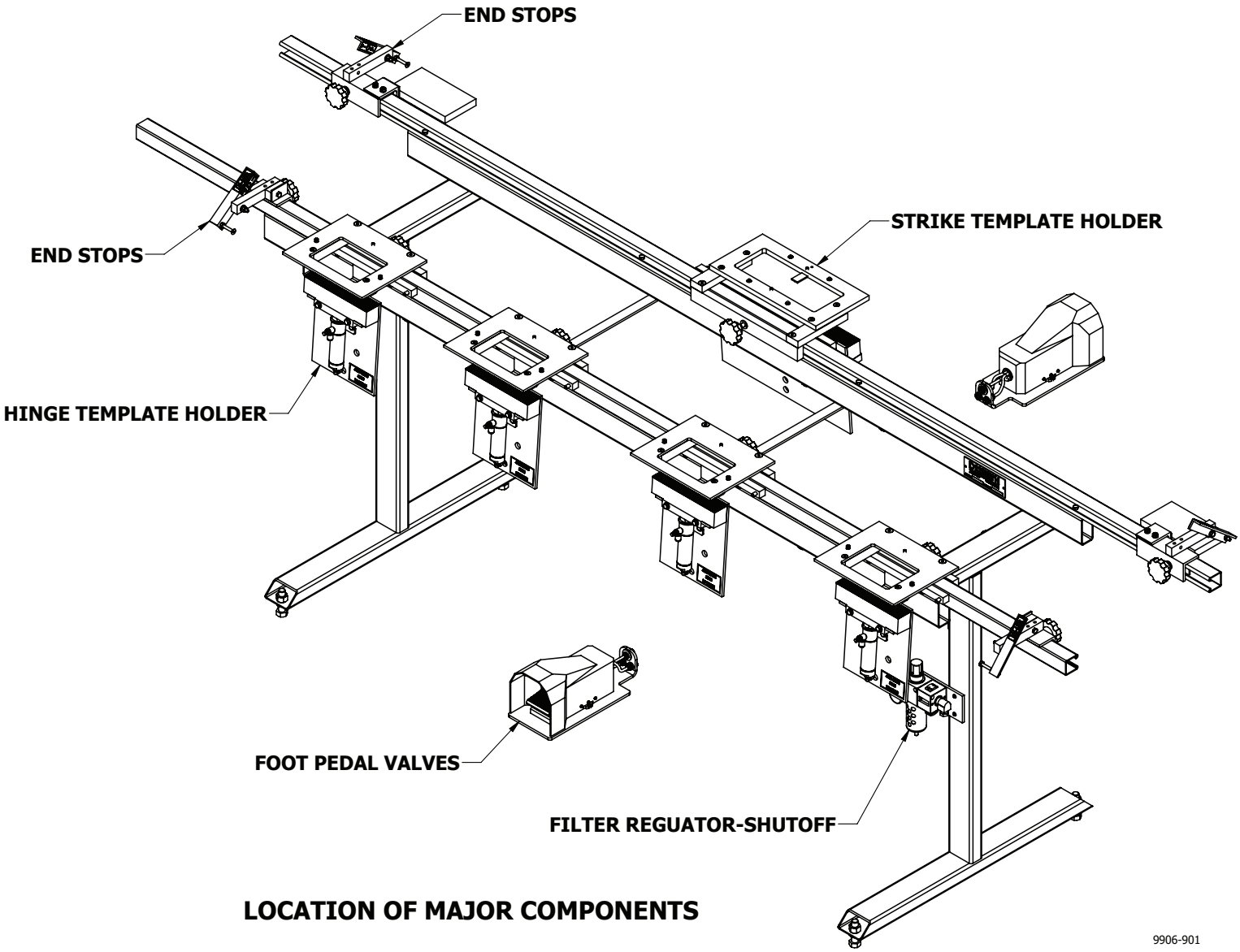
Air Requirement	.5 CFM @ 90 PSI (Connect at Filter-Reglulator on machine frame)	3/8″ minimum air line when less than 20 feet from compressor OR 1/2″ minimum air line when more than 20 feet from compressor.
Shipping Weight	400 lbs.	
Minimum Floor Space Req'd. (Width x Length)	4′ x 12′	

System Requirements

JH 3100	1/2″ dia. Router Bit 13/16″ Guide Bushing w/ Nut 1-1/2 HP Router	
JS 3200	1/2″ dia Router Bit 13/16″ Guide Bushing w/ Nut 1-1/2 HP Router 3/4″ dia. 1:1 Router Bit 3/4″ dia 1:1 Guide Bushing w/Nut 2-1/4 HP Plunge Router	

Machine Capabilities

Maximum Jamb Width	No Limit
Maximum Jamb Length	9′-0″
Maximum Jamb Thickness	2-1/2″



LOCATION OF MAJOR COMPONENTS

9906-901

SECTION 1: INSTALLATION & SETUP

1-1 SHIPPING DAMAGE AND SHORTAGES:

Before and after the crated machine is unloaded from the truck, the crate should be inspected for any signs of damage. Is suspected damage is found, it must be noted on the bill of lading and signed by the driver and the person receiving the shipment. After the machine has been uncrated, inspect it and all other contents of the crate for damage. In the event that damage has occurred in transit, notify the freight carrier and Norfield immediately. Inspect the complete shipment against the packing slip to make sure all items listed are accounted for. If any shortages are noticed, the freight carrier and Norfield should be notified immediately.

1-2 POSITIONING:

After the machine has been uncrated, remove it from the crate base and put it in its permanent location. Since machine vibration is not sufficient enough to cause the machine to "creep", there is no need to secure it to the floor. If desired, the machine can be leveled using the hex bolts (5-8-11 x 2-1/4") located in the frame bases.

1-3 ELECTRICAL SUPPLY AND CONNECTIONS:

The router motor used on the JH 3100, the JS 3200 and the JHS 3300 requires an electrical source of 115VAC @ 20 amps. If an extension cord is used, 14 gauge is recommended as a minimum. Take care to keep the power cord clear of the operator and material movement. It is recommended that an electrical disconnect be provided near the machine for disconnecting power when maintenance or adjustments are performed.

1-4 AIR SUPPLY AND CONNECTIONS:

Clean, dry air is vital for the continued performance and low maintenance of air operated tools and equipment. Dirt, grit, moisture and pipe scale can cause severe abrasive wear in valves and cylinders. Norfield highly recommends that a filter-regulator unit be installed in the feeder line to the machine and the regulator set to 90 PSI. We also recommend the use of an air drying system to give maximum life to all your air tools.

Connect air to the "IN" port on the filter/regulator/lubricator unit and set the regulator to 80 - 90 PSI.

Once the machine is connected to the air supply, test the foot pedal valves for proper operation. The extend speed of the clamp cylinders can be adjusted using the flow control valves in the top port of the cylinders. Note: the cylinders on the strike side (JS 3200) need to extend at the same rate or binding and premature wear will occur.

SECTION 2 OPERATION

2-1 OPERATING PROCEDURE:

⚠ WARNING **ADEQUATE EYE PROTECTION MUST BE WORN WHEN OPERATING THIS MACHINE:**

Before machining any jambs, the operator must know the following information about the desired finished product:

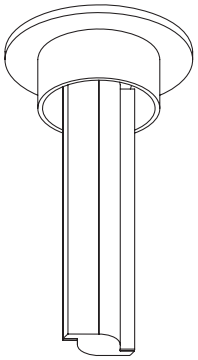
- Header Clearance
- Lock Height
- Strike and/or Deadbolt Dimensions
- Hinge Size
- Hinge Location & Spacing

After making any required adjustments (refer to section 3, next page) the operator performs the following steps.

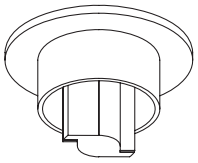
- Place the appropriate templates on the template holders.
- Depress the foot pedal valve to open the jamb clamps.
- Hold the jamb in position referencing it against both the backset spacers and appropriate end stop.
- Depress the foot pedal valve to clamp the jamb. ***Be sure to keep your hands clear of the jamb clamps when positioning and clamping the jamb.***
- Mortise for the strike plate and bolt relief. Moving the router in a counter-clockwise (climb cut) produces better results.
- Depress the foot pedal valve to un-clamp and release the jamb.

SECTION 3 SET-UP & ADJUSTMENTS

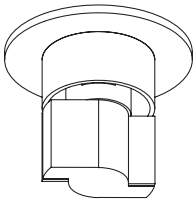
3-1 ROUTER SET-UPS:



Plunge Router
(JS 3200)

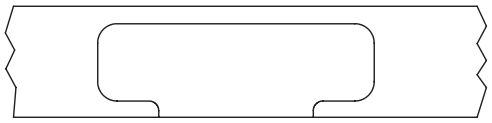


Standard Router
(JH 3100)

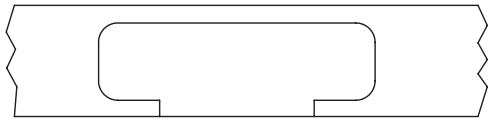


1:1 Router
(JS 3200

The hinge mortising component of the machine (JH 3100) requires the use of the Standard Router Set-up which is a 1/2" diameter bit and a 13/16" outside diameter guide bushing. The strike mortising component (JS 3200) uses the Plunge Router Set-up and the 1:1 Set-up (when using 1:1 templates). The standard 1:1 setup consists of a 3/4" diameter bit and a 3/4" diameter guide bushing.



Outside Corners Round
(Use Standard or Plunge Router)



Outside Corners Square
(Use 1:1 Router)

To set the Standard Router depth, use any hinge template on the JH 3100 and a scrap of jamb material. Adjust the depth of the cut until it matches the depth indicated on the template label.

To set the 1:1 Router depth, use any template with the "1:1 Label" on the JS 3200 and follow the same procedure as with the Standard Router.

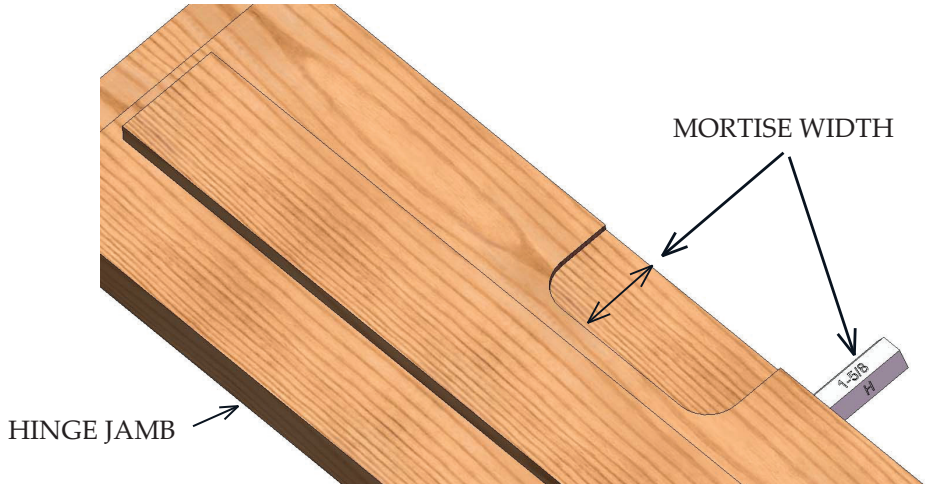
The Plunge Router is used on the JS 3200 (strike side) to machine for strike templates and strike pockets using two templates. To set the depth of cut, refer to the instructions provided by the manufacturer of your plunge router.

Once set up, the Standard and 1:1 Routers require no further adjustment as you change templates. The thickness of the templates is adjusted to give the depth of cut specified on the template labels.

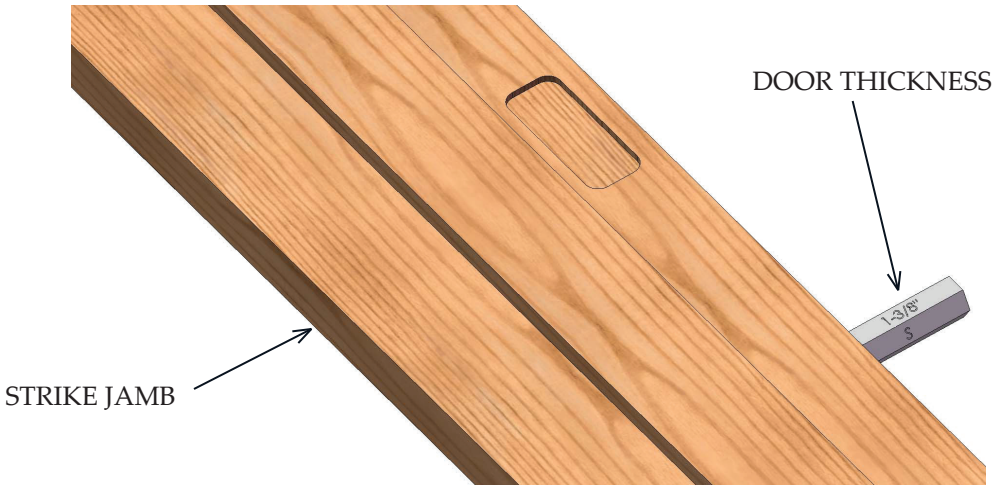
Fig. 3-2

3-2 BACKSET SPACERS (JH 3100 & JS 3200)

The backset spacers provided with the JH 3100 & JS 3200 are clearly marked for ease of identification and use. Backset spacers for the hinge System will be stamped with an "H" and the spacers for the jamb system will be stamped with a "J". The most common dimensions in the residential and commercial markets are provided. If you need a size not included in these sets, we can make special sizes to meet your needs.



The backset spacers for the JH 3100 are labeled according to the width of the mortise that will be routed in the jamb. For example, if you use the backset spacer stamped 1-1/2 the mortise will be 1-1/2". There are spacers provided for mortise widths from 1-1/8" to 1-5/8". If you need a 1/16" increment, a spacer washer can be placed between the spacer and the steel frame. For example, to attain a mortise width of 1-9/16", use spacers labeled 1-5/8" and a 1/16" spacer.



The backset spacers for the JS 3200 are labeled according to the door thickness being used in that jamb. The spacers labeled 1-3/8 are used with 1-3/8" doors. Doors that are 1-3/4" thick use spacers labeled 1-3/4. Spacers for other thicknesses are available upon request.

JH 3100 BACKSET SPACERS

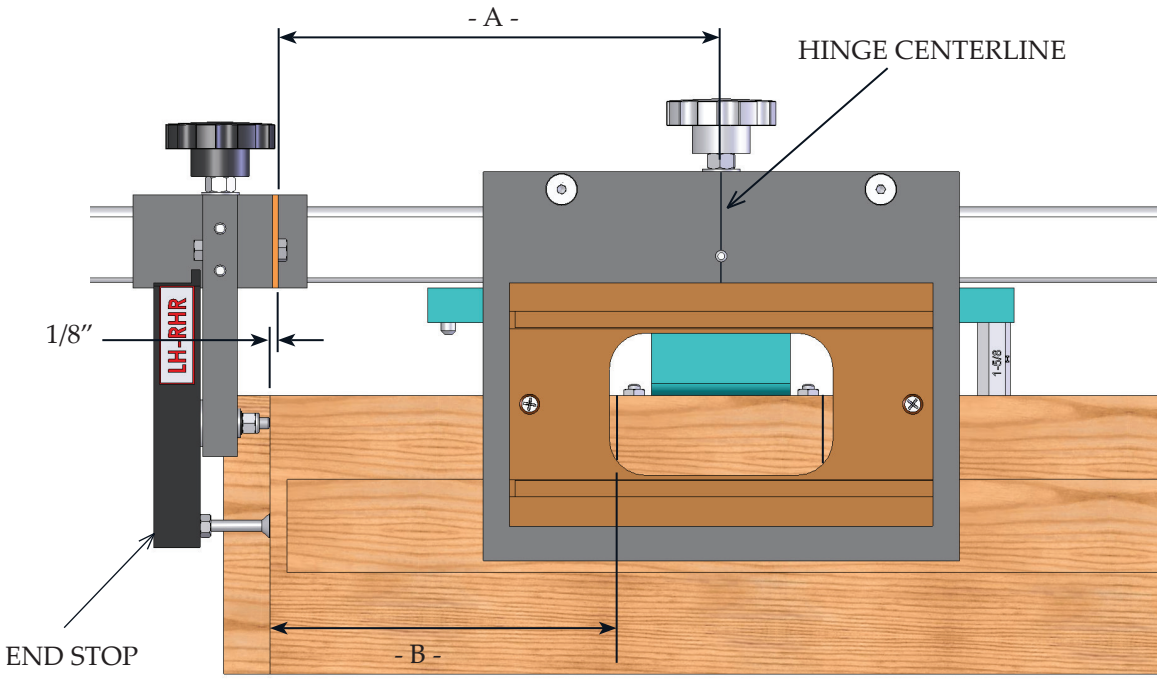
PART #	BACKSET	SPACER LENGTH
9904-016	1-1/8″	2-1/16″
9904-017	1-1/4″	1-15/16″
9904-018	1-3/8″	1-13/16″
9904-019	1-1/2″	1-11/16″
9904-020	1-5/8″	1-9/16″
9904-023	2-1/4″	15/16″

JS 3200 BACKSET SPACERS

PART #	DOOR THICKNESS	SPACER LENGTH
9905-020	1-3/8″	1-15/16″
9905-021	1-3/4″	1-3/4″
9905-022	2-1/4″	1-1/2″
9905-023	2-1/2″	1-3/8″

3-3 HINGE MORTISE LOCATIONS (JH 3100):

The end stop handles are labeled for Left-hand and Right-hand Reversing doors (LH-RHR) and Right-hand and Left-hand Reversing (RH-LHR). Use the end stop with the correct handing for the jamb being machined. Position the jamb so that the dado at the top of the jamb references against the stop screw.



There are two methods for establishing the correct template holder spacing:

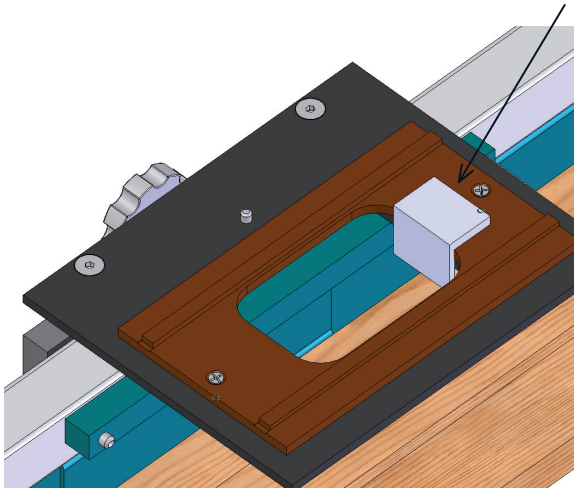
1. Use the center line of the hinge. You can quickly layout the template holders by knowing the distance from the top of the door to the center line of the hinges. The hinge center line is scribed on each template holder. Measure from the inside face of the 1/8" phenolic spacer, which is attached to the end stop, to the scribed lines on the template holders (Dimension A). The 1/8" spacer is used to establish correct header clearance.

2. Set-up Bars are available for many common frame manufacturers specifications. They are based on the "top of the door to the center line" of the hinge measurements and are interchangeable between the JH 3100 and the HS 3000. Precision drilled holes slip over the 1/4" steel dowel pins on the template holders and the end stops are then referenced to the ends of the set-up bar. These bars can be manufactured to any specifications and insure that hinge mortises on the door and jamb will coincide.

3-3 HINGE MORTISE LOCATIONS (JH 3100) CONT:

3. The transfer square can be used to verify the template spacings. measuring from the top of the jamb, mark the tops of the hinge locations on the jamb itself, and square a line across each. When laying out the hinge locations, remember to allow for the 1/8" gap between the top of the door and the top of the jamb (header clearance). After putting the jamb into position, put the transfer square against the template as shown below to verify the template spacings.

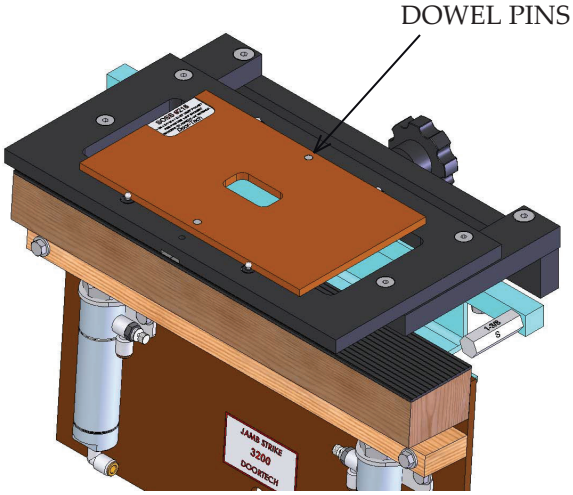
TRANSFER SQUARE
9904-021



3-4 STRIKE TEMPLATES (JS 3200):

The strike templates for the JS 3200 snap on and off the steel locating dowels on the template holder. These dowels accurately locate the template in relation to the jamb. The template should be placed over the dowels and either pressed down or slapped down with the palm of the hand into position. The template will be held securely by the spring loaded pins. To remove the template, hold down one end of the template that is at least 3" away from the steel dowels and lift evenly from the opposite end. Rolling the template off to either side when removing it from the holder will deform the locating holes.

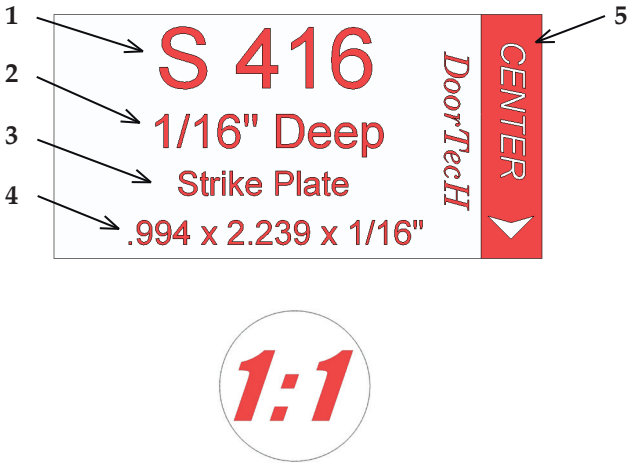
DOWEL PINS



3-5 STRIKE TEMPLATE LABELS (JS 3200):

Each template has an informative label:

1	Number	The DoorTecH template number
2	Depth	The depth of the cut
3	Name	A descriptive name
4	Size	The width and length of the mortise
5	Orientation	Center: Arrow points toward a centerline marked on the jamb
		Top: Arrow points toward the top of the jamb
		End: Arrow points to the corner of the door (RTS only)



All templates with the ***1:1*** label are used with the ***1:1*** router described previously for square outside corners i.e. T-strikes.

3-6 STIRKE MORTISE LOCATION (JS 3200):

1. Identify the front edge and top of the jamb.

2. Mark the strike center line on the jamb (preferably on the face of the door stop).

3. Place the jamb in the template holder and position it such that the scribed center line on the jamb aligns with the center line indicator on the template holder. Activate the foot switch to clamp the jamb.

4. Slide the end stop so that the face of the flat head screw is positioned against the dado at the top of the jamb.

SECTION 4 TROUBLESHOOTING

The following troubleshooting tips apply to both the hinge section (JH 3100) and strike section (JS 3200).

PROBLEM	POSSIBLE CAUSE	SOLUTION
Backset incorrect on the jamb.	Jamb too narrow or too wide.	Use a gauge block to check each jamb for spacing to the stop.
Door binds against jamb stop. (JH 3100)	Door to thick or jamb to narrow.	If the gap size you are using is small, or critical, use a gauge block to check each jamb for spacing to stop (reveal). Adjust the backset spacers as required. To stop binding, use a longer backset spacer.
Backset always or equally off.	Dust between template holder shoulder and U-bar, or behind the backset spacer.	Loosen, clean and retighten.
	Template base out of adjustment.	Loosen the two hex bolts holding the backset bar onto the top plate (from below). This is the bar that the backset spacers mount to. Move the backset bar until the gap between it and the U-bar is exactly 1/16" and retighten.
Backset sometimes too small.	Dust between template holder and U-bar.	Loosen, clean and retighten.
	Failure to push the jamb fully against the backset spacers.	Release the clamps, push the jamb in fully, and retighten. If the jamb is too warped, replace it or pull in with a bar clamp hooked on the U-bar.
	Router bit off center in the guide bushing.	Find and maintain the router orientation that gives the correct backset.
Mortise too large.	Router guide bushing loose.	Tighten guide bushing.
	Guide bushing too small or bit to large.	Replace the guide bushing or bit.
	Air cylinders not clamping hard enough.	Increase the air pressure at the FRL.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Plunge cut too big. (JS 3200)	Bit not set deep enough into the router collet.	Use a 4-1/2" long bit.
	Router bearings worn.	Rebuild or replace the router.
Mortise too small.	Bit made smaller by sharpening.	If bit is slightly off-center in the guide bushing, try repeated routing after rotating the router base. Otherwise, replace the bit.
1:1 router cut not aligned with plunge router cut. (JS 3200)	Bits are not on center within the guide bushings (very common).	Center the guide bushings if possible. Otherwise, determine the orientations for both routers in which their cuts do coincide, and mark the router bases so they can be kept in that orientation.
Mortise too deep.	Incorrect template.	Be sure that the correct depth is printed on the template label.
	Bit not adjusted or slipped in collet.	Tighten the bit and readjust the cut depth.
Mortise to shallow.	Incorrect template.	Be sure that the correct depth is printed on the template label.
	Bit not adjusted or slipped in collet.	Tighten the bit and readjust the cut depth.
	Dust between base and jamb.	Release clamps and blow out dust.
	Dust between template and base.	Remove template and blow out dust.

SECTION 5 MAINTENANCE

5-1 GENERAL MAINTENANCE

It is the machine owner's responsibility to insure that the machine is properly maintained and that personnel are adequately trained to safely perform the maintenance function.

A program of routine and preventive maintenance that is strictly adhered to will keep expensive "down time" to a minimum and give maximum life to the machine. Please read and use the following checklist for daily and weekly procedures.

ALWAYS LOCK AND TAG OUT THE ELECTRICAL AND PNEUMATIC POWER SOURCES TO THE MACHINE BEFORE STARTING INSPECTION OR PERFORMING MAINTENANCE.

5-2 DAILY CHECKS: (EVERY 6-8 HOURS OF OPERATION)

1. Inspect the machine for loose fasteners. Check the pneumatic system for leaking fittings or tubing or kinked tubing.

2. Clean the entire machine with an air hose.

3. Run a test jamb to insure that all adjustments are accurate.

5-3 WEEKLY CHECK: (EVERY 30-40 HOURS OF OPERATION)

1. Clean all moving parts on the template holders and jamb stops with a non-flammable, non-oil based cleaning solvent to remove any pitch build-up.

5-4 GENERAL MAINTENANCE COMMENTS

A clean machine is essential for superior performance and reduced maintenance.

As the seals in valves and cylinders will take a "set" when not operating, the manufacturers of those components strongly recommend that the valves and cylinders be cycled at least twice before starting the days work. This pre-cycling allows the seals to retain natural sealing ability and will lengthen the life of the valves and cylinders considerably.

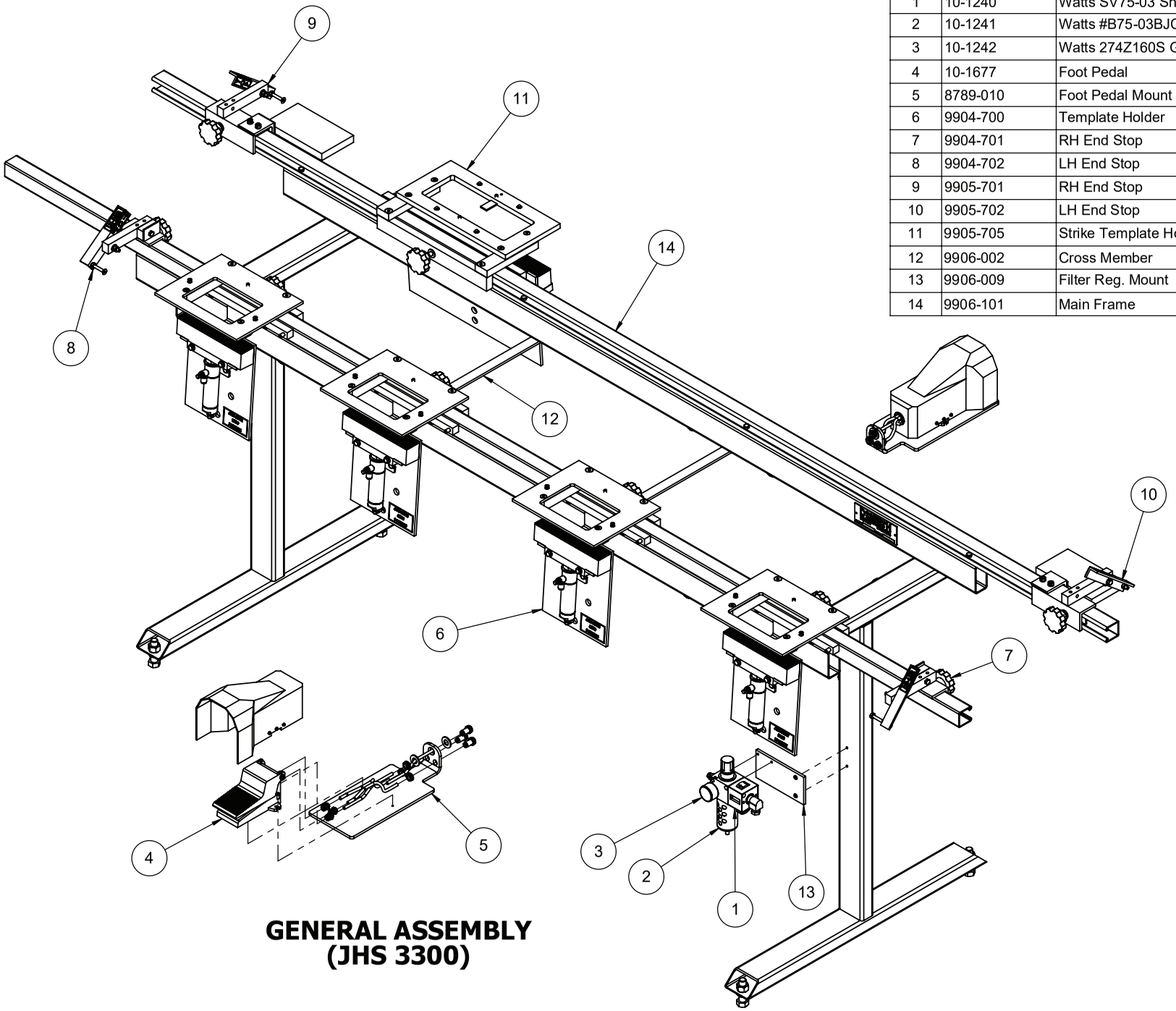
Never use oil, silicon or graphite to lubricate any bearing surface or slide rod. Any lubricants such as those mentioned above will collect fine sawdust and dirt particles that will wear the bearings very quickly. If any assembly is binding and you have kept everything clean, the problem is most likely that the parts are not properly aligned or have become excessively worn.

Clean, dry air is a must. Moisture or solid contaminants in the air supply will shorten the life of air components considerably. We recommend you make it a common practice to inspect your compressor and air system regularly. Drain the compressor tank and all moisture traps daily. Keep the compressor's crankcase full and change the oil at thee recommended intervals.

Maintain an adequate air supply to the machine. Regulator pressure should not drop during operation. If it does, check the condition of the filters. Clean or replace them as required.

PARTS AND ASSEMBLY SCHEMATICS

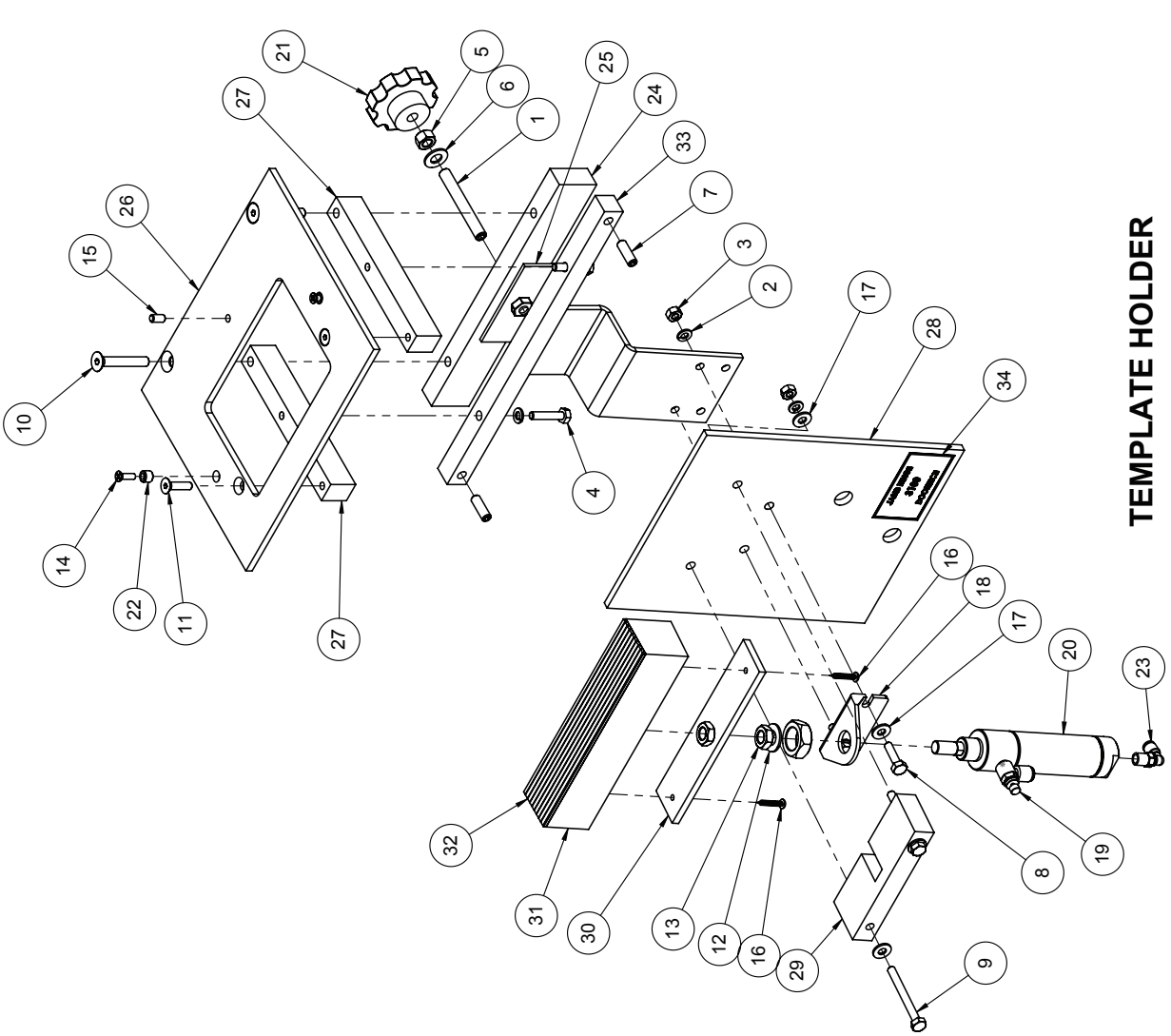
TABLE OF CONTENTS



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10-1240	Watts SV75-03 Shutoff	1
2	10-1241	Watts #B75-03BJC Filter/Regulator	1
3	10-1242	Watts 274Z160S Gauge	1
4	10-1677	Foot Pedal	2
5	8789-010	Foot Pedal Mount	2
6	9904-700	Template Holder	4
7	9904-701	RH End Stop	1
8	9904-702	LH End Stop	1
9	9905-701	RH End Stop	1
10	9905-702	LH End Stop	1
11	9905-705	Strike Template Holder	1
12	9906-002	Cross Member	2
13	9906-009	Filter Reg. Mount	1
14	9906-101	Main Frame	1

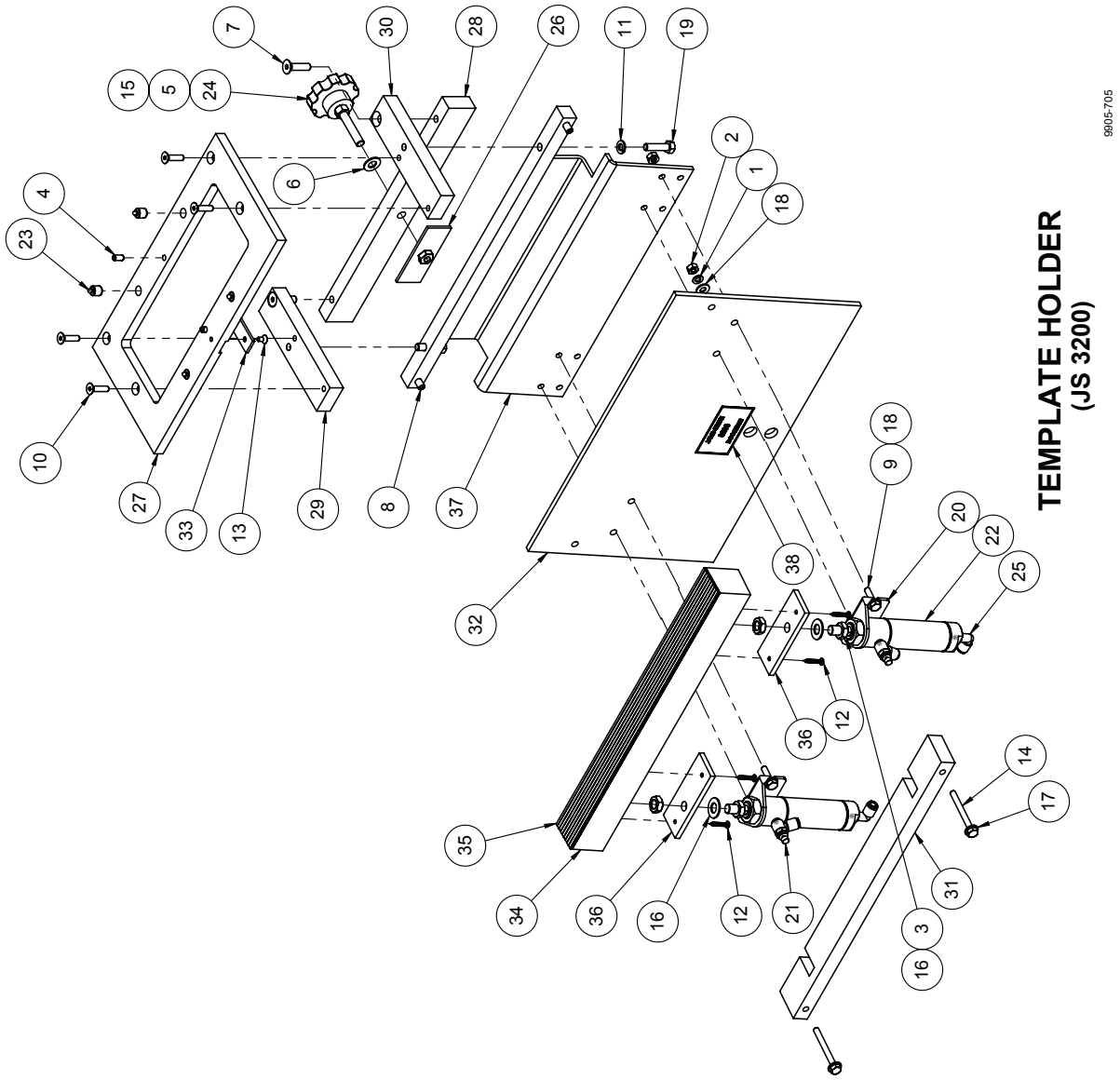
GENERAL ASSEMBLY
(JHS 3300)

9906-901

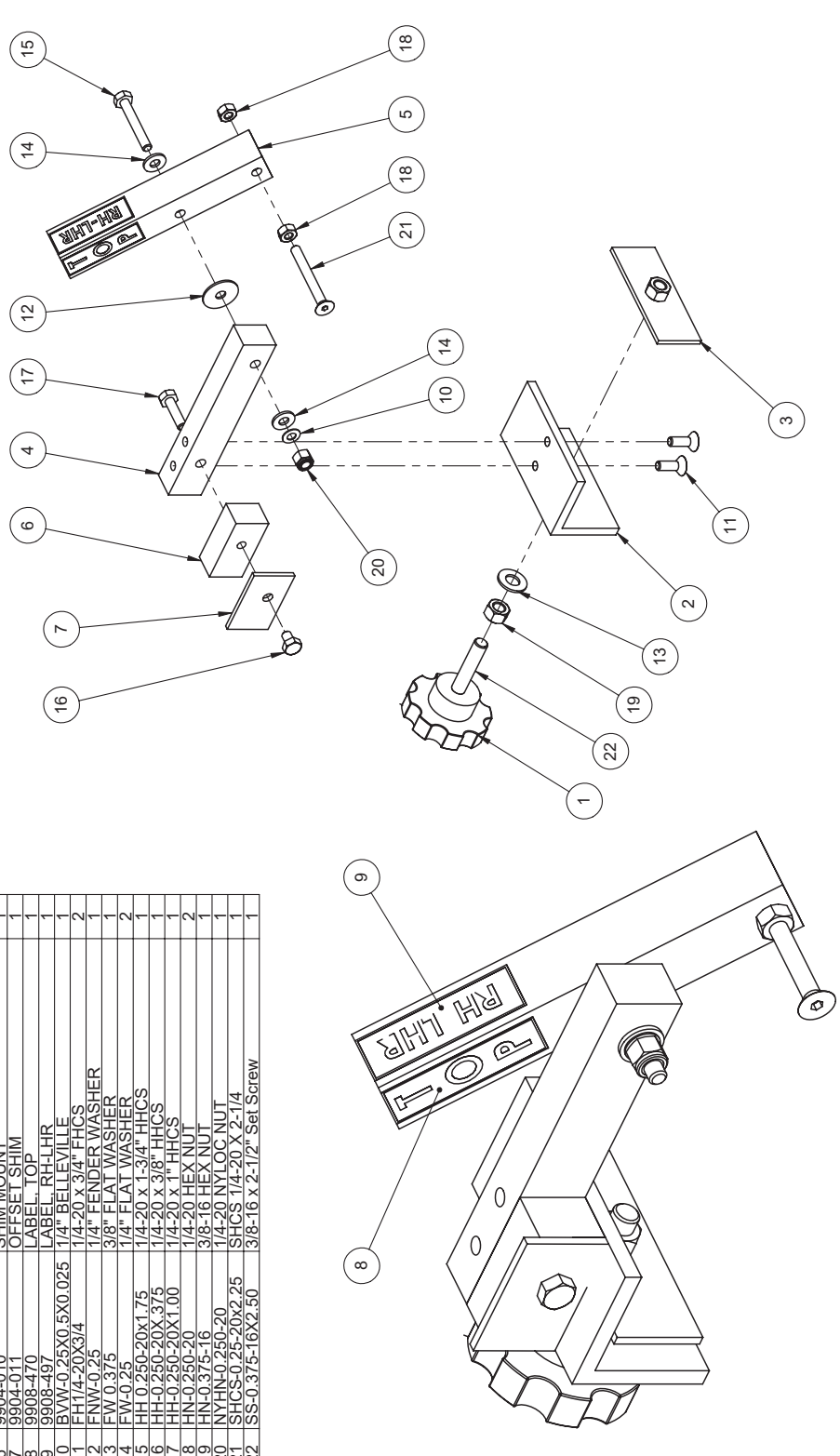


TEMPLATE HOLDER
(JH 3100)

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	* * * * *	3/8-16 x 3" Set Screw	1
2	* * * * *	1/4" Spring Lock Washer	6
3	* * * * *	1/4-20 Hex Nut	4
4	* * * * *	1/4-20 x 1-1/4" HHCS	2
5	* * * * *	3/8-16 Hex Nut	1
6	* * * * *	3/8" Flat Washer	1
7	* * * * *	5/16-18 x 1" Set Screw	2
8	* * * * *	1/4-20 x 1" Hex Bolt	2
9	* * * * *	1/4-20 x 2-1/2" Hex Bolt	2
10	* * * * *	5/16-18 x 2" FHCS	2
11	* * * * *	1/4-20 x 1" Flat Head Cap Screw	2
12	* * * * *	7/16" Flat Washer	1
13	* * * * *	7/16-20 Hex Jamb Nut	2
14	* * * * *	10-24 x 5/8" Phillips Flat Head Screw	2
15	* * * * *	1/4" X 1/2" Dowel Pin	1
16	* * * * *	Screw,Round Head,Phillips,#8 x 1"	2
17	* * * * *	1/4" Flat Washer	6
18	10-161	Bimba D-241 Mounting Brkt.	1
19	10-562	1/4T x 1/8P Flow Control	1
20	10-857	Bimba 122-D Cylinder	1
21	13-860	Innovative KN6C-F6-B-21 Knob	1
22	13-870	Carr-Lane CL-1024-KS Insert	2
23	21-134	Legris 3109 56 11Male Elbow	1
24	9903-011	Clamp Bar	1
25	9903-101	Nut Plate	1
26	9904-001	JH 3100 Template Holder	1
27	9904-002	Template Holder Support	2
28	9904-003	Backing Plate	1
29	9904-006	Clamp Stop	1
30	9904-015	Clamp Shoe	1
31	9904-025	Clamp Block	1
32	9904-026	Clamp Pad	1
33	9904-100	Cylinder Mount Support	1
34	9908-492	LABEL, MODEL 3100	1



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	* * * * *	7/16" Flat Washer	2
2	* * * * *	1/4" Flat Washer	2
3	* * * * *	1/4-20 x 2-1/2" HHCS	2
4	* * * * *	1/4" Spring Lock Washer	6
5	* * * * *	1/4-20 Hex Nut	6
6	* * * * *	7/16-20 Hex Jamb Nut	4
7	* * * * *	1/4 x 1/2" Dowel Pin	2
8	* * * * *	3/8-16 Hex Nut	1
9	* * * * *	3/8" Flat Washer	1
10	* * * * *	5/16-18 x 1-1/4" FHCS	2
11	* * * * *	5/16-18 x 1" Set Screw	2
12	* * * * *	1/4-20 x 1" Hex Bolt	4
13	* * * * *	1/4-20 x 1" Flat Head Cap Screw	4
14	* * * * *	5/16" Spring Lock Washer	2
15	* * * * *	10-24 x 3/8" BHCS	1
16	* * * * *	3/8-16 x 3" Set Screw	1
17	* * * * *	Screw,Round Head,Phillips,#8 x 1"	4
18	* * * * *	1/4" Flat Washer	6
19	* * * * *	5/16-18 x 1-1/4 Hex Bolt	2
20	10-161	Bimba D-241 Mounting Brkt.	2
21	10-562	SMC NAS2201F-N01-07S	2
22	10-857	Bimba 122-D Cylinder	2
23	13-579	Car-Lane CL-7-SLP-2 Pin	4
24	13-860	Innovative KN6C-F6-B-21 Knob	1
25	21-233	SMC KQ2L07-34S Fitting	2
26	9903-101	Nut Plate	1
27	9905-001	Template Holder	1
28	9905-002	Clamp Bar	1
29	9905-003	Template Holder Supprt	1
30	9905-004	Template Holder Supprt	1
31	9905-007	Clamp Stop	1
32	9905-012	Cyl. Mount	1
33	9905-013	Centerline Indicator	1
34	9905-015	Clamp Block	1
35	9905-016	Clamp Pad	1
36	9905-049	Clamp Shoe	2
37	9905-100	Cyl. Mount Support	1
38	9908-496	LABEL, MODEL 3200	1

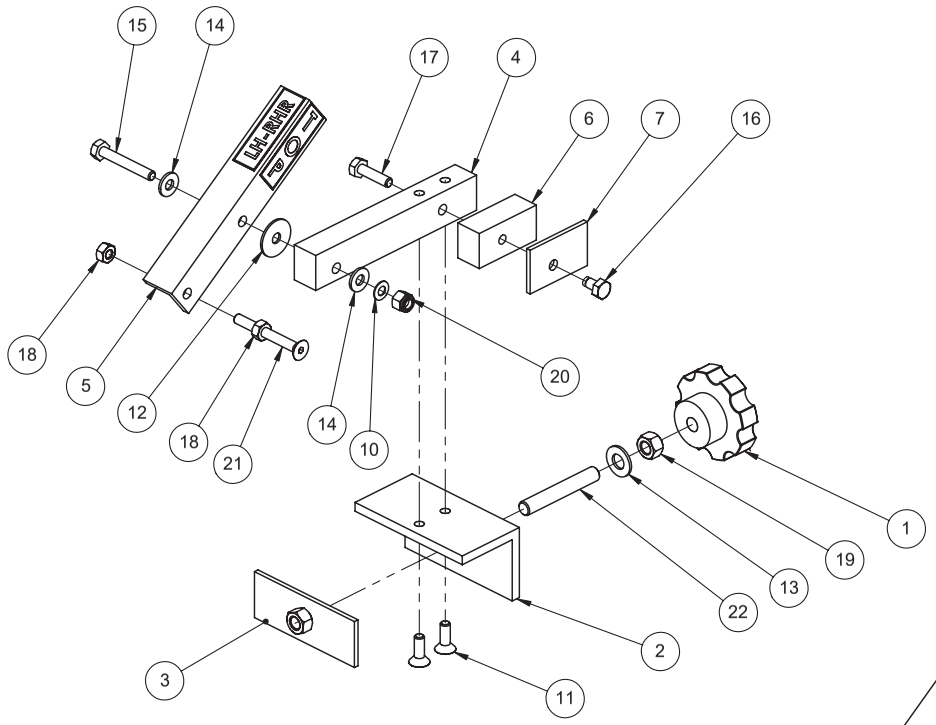


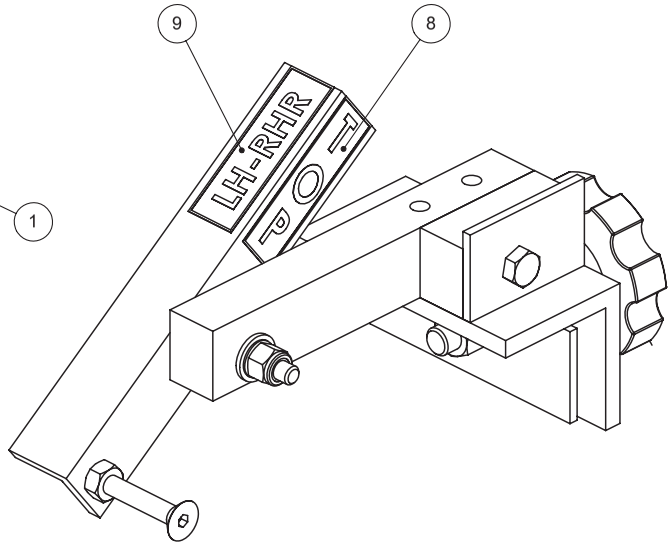
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	13-860	Innovative KN6C-F6-B-21 Knob	1
2	9903-014	END STOP BASE	1
3	9903-101	Nut Plate	1
4	9904-007	SPRT_STOP_END	1
5	9904-008	RH End Stop	1
6	9904-010	SHIM MOUNT	1
7	9904-011	OFFSET SHIM	1
8	9908-470	LABEL_TOP	1
9	9908-497	LABEL_RH-LHR	1
10	BVW-0.25X0.5X0.025	1/4" BELLEVILLE	1
11	FH1/4-20X3/4	1/4-20 x 3/4" FHCS	2
12	FNW-0.25	1/4" FENDER WASHER	1
13	FW 0.375	3/8" FLAT WASHER	1
14	FW-0.25	1/4" FLAT WASHER	2
15	HH 0.250-20x1.75	1/4-20 x 1-3/4" HHCS	1
16	HH-0.250-20X.375	1/4-20 x 3/8" HHCS	1
17	HH-0.250-20X1.00	1/4-20 x 1" HHCS	1
18	HN-0.250-20	1/4-20 HEX NUT	2
19	HN-0.375-16	3/8-16 HEX NUT	1
20	NYHN-0.250-20	1/4-20 NYLOC NUT	1
21	SHCS-0.25-20x2.25	SHCS 1/4-20 X 2-1/4	1
22	SS-0.375-16X2.50	3/8-16 x 2-1/2" Set Screw	1

RIGHT HAND END STOP
(JH 3100)

9904-701

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	13-860	Innovative KN6C-F6-B-21 Knob	1
2	9903-014	END STOP BASE	1
3	9903-101	Nut Plate	1
4	9904-007	SPRT, STOP, END	1
5	9904-009	LH End Stop	1
6	9904-010	SHIM MOUNT	1
7	9904-011	OFFSET SHIM	1
8	9908-470	LABEL, TOP	1
9	9908-498	LABEL, LH-RHR	1
10	BVW-0.25X0.5X0.025	1/4" BELLEVILLE	1
11	FH1/4-20X3/4	1/4-20 x 3/4" FHCS	2
12	FNW-0.25	1/4" FENDER WASHER	1
13	FW 0.375	3/8" FLAT WASHER	1
14	FW-0.25	1/4" FLAT WASHER	2
15	HH 0.250-20x1.75	1/4-20 x 1-3/4" HHCS	1
16	HH-0.250-20X.375	1/4-20 x 3/8" HHCS	1
17	HH-0.250-20X1.00	1/4-20 x 1" HHCS	1
18	HN-0.250-20	1/4-20 HEX NUT	2
19	HN-0.375-16	3/8-16 HEX NUT	1
20	NYHN-0.250-20	1/4-20 NYLOC NUT	1
21	SHCS-0.25-20x2.25	SHCS 1/4-20 X 2-1/4	1
22	SS-0.375-16X2.50	3/8-16 x 2-1/2" Set Screw	1

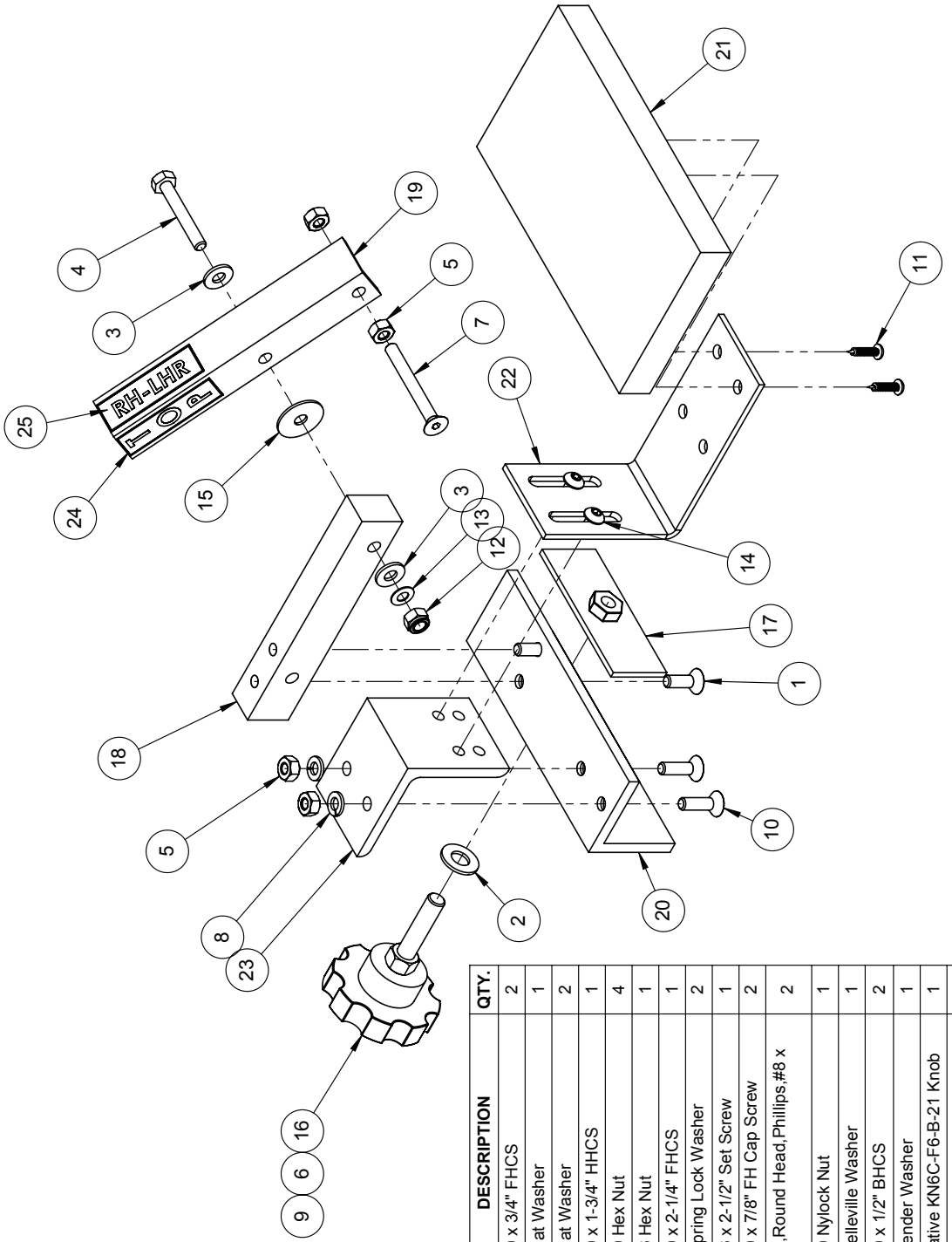




LEFT HAND END STOP

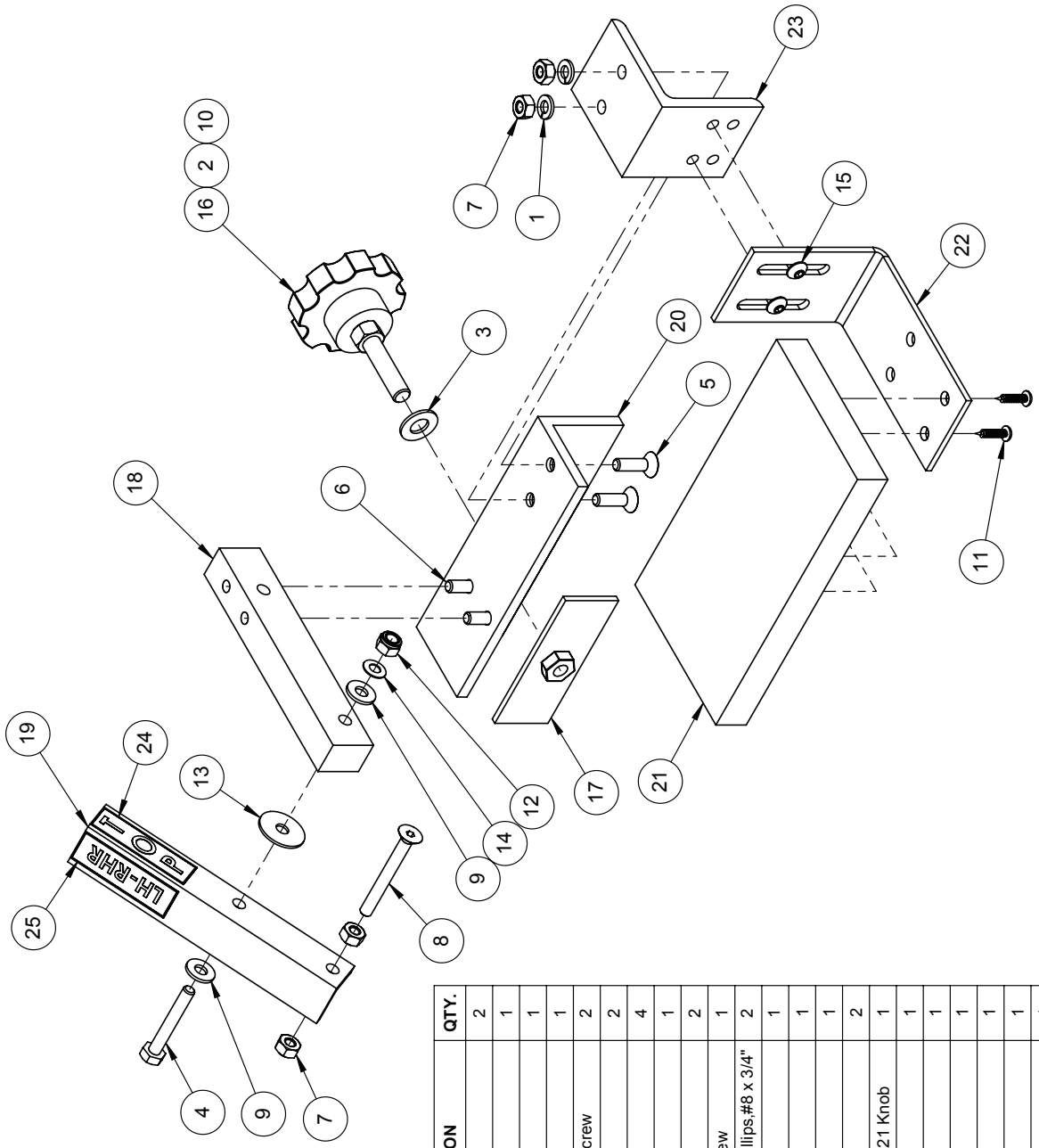
(JH 3100)

9904-702



RIGHT HAND END STOP

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	* * * * *	1/4-20 x 3/4" FHCS	2
2	* * * * *	3/8" Flat Washer	1
3	* * * * *	1/4" Flat Washer	2
4	* * * * *	1/4-20 x 1-3/4" HHCS	1
5	* * * * *	1/4-20 Hex Nut	4
6	* * * * *	3/8-16 Hex Nut	1
7	* * * * *	1/4-20 x 2-1/4" FHCS	1
8	* * * * *	1/4" Spring Lock Washer	2
9	* * * * *	3/8-16 x 2-1/2" Set Screw	1
10	* * * * *	1/4-20 x 7/8" FH Cap Screw	2
11	* * * * *	Screw,Round Head,Phillips,#8 x 3/4"	2
12	* * * * *	1/4-20 Nylock Nut	1
13	* * * * *	1/4" Belleville Washer	1
14	* * * * *	1/4-20 x 1/2" BHCS	2
15	* * * * *	1/4" Fender Washer	1
16	13-860	Innovative KN6C-F6-B-21 Knob	1
17	9903-101	Nut Plate	1
18	9904-007	End Stop Support	1
19	9904-008	R End Stop Handle	1
20	9905-009	End Stop Support	1
21	9905-011	Jamb Rest	1



LEFT HAND END STOP

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	* * * * *	1/4" Lock Washer	2
2	* * * * *	3/8-16 Hex Nut	1
3	* * * * *	3/8" Flat Washer	1
4	* * * * *	1/4-20 x 1-3/4" HHCS	1
5	* * * * *	1/4-20 x 7/8" FH Cap Screw	2
6	* * * * *	1/4-20 x 3/4" FHCS	2
7	* * * * *	1/4-20 Hex Nut	4
8	* * * * *	1/4-20 x 2-1/4" FHCS	1
9	* * * * *	1/4" Flat Washer	2
10	* * * * *	3/8-16 x 2-1/2" Set Screw	1
11	* * * * *	Screw,Round Head,Phillips,#8 x 3/4"	2
12	* * * * *	1/4-20 Nylock Nut	1
13	* * * * *	1/4" Fender Washer	1
14	* * * * *	1/4" Belleville Washer	1
15	* * * * *	1/4-20 x 1/2" BHCS	2
16	13-860	Innovative KN6C-F6-B-21 Knob	1
17	9903-101	Nut Plate	1
18	9904-007	End Stop Support	1
19	9904-009	L End Stop Handle	1
20	9905-008	End Stop Support	1
21	9905-014	Jamb Rest	1
22	9905-030	Jamb Rest Brkt.	1
23	9905-031	Adj. Jamb Support Brkt.	1
24	9908-470	Label, TOP	1
25	9908-498	Label, LH-RHR	1

PARTS REPLACEMENT POLICY

The following will explain Norfield's policy for handling warranty claims. Our "Limited Warranty" is stated below for your reference.

Our warranty covers the replacement of defective parts: however, the labor to replace the parts on the machine is not included.

Upon notification of a warranty claim, Norfield will either refer the customer to a regional repair facility or replacement parts will be shipped from the factory. Parts shipped from the factory will be invoiced to the customer's account until the warranty claim is verified. To obtain verification, the defective parts must be returned to Norfield within thirty (30) days from the date of the claim for inspection. **Before returning the defective parts, please contact Norfield to obtain a "Return Material Authorization Number"**.

All parts manufactured by Norfield and found to be defective will be given appropriate credit. All parts not manufactured by Norfield are covered by their respective manufacturer's warranty and will be sent to the original manufacturer for credit. When, and if, credit is issued to Norfield, we will in turn issue credit to your account.

LIMITED WARRANTY

Norfield warrants any and all such parts manufactured by them against defects in material or workmanship for a period of two years from the date of purchase. Norfield's liability under this warranty shall be limited to replacing free of charge, F. O. B. Chico, California, any parts proved to be defective within the period of the warranty. Norfield will not be responsible for transportation charges or consequential damages.

Norfield will not in any case or under any circumstances be liable or responsible for any injuries to persons or property suffered as a result of the use or operation of the machine, or losses or costs resulting from any period of non-operation for any reason.

Parts which are claimed to be defective, but show tangible evidence of abuse or negligence will not be replaced on a no-charge basis.

Norfield reserves the right, at its own discretion without notice and without making similar changes in machinery previously manufactured, to make changes in material, design, finish and/or specifications.

Any changes, alterations or installation of additional equipment to this machine without first obtaining written consent from Norfield may void this warranty. Determination of the effect of any alteration on this warranty is left to the discretion of Norfield.

Norfield makes no written or implied warranty with respect to electrical equipment, including motors or other purchased components used in the manufacture of the machine. All such parts are covered by their respective manufacturer's warranty. We do endeavor, at all times, to purchase only those components manufactured by responsible manufacturers which we have found to be reputable in their handling of warranties.

Norfield expressly disclaims any warranty, expressed or implied, other than those which are expressly made in this limited warranty.

CONTACT & ORDER INFORMATION

Norfield is the name that represents Quality, Reliability, Support, innovation and True Customer Service. We are dedicated to providing world class customer care. Norfield has been providing quality care in the pre-hanging door industry for over 40 years and has earned a reputation for setting the standard for innovation, reliability, full technical support, machine parts and a full line of industrial woodworking tools and accessories. Our team of Customer Care Representatives is available to support you.

If you need to contact the Norfield Service department, please have the following information available:

- Serial Number of the machine.
- Model of the Machine.
- Date of purchase or date that the machine was installed.
- Voltage of the machine.
- A description of the problem and in what part of the machine the problem is occurring.

For warranty issues and service questions contact the Norfield Service Department at (800) 824-6242.

To order replacement components and consumables, such as drill and router bits, saw blades and other accessories, contact a Norfield Tools and Supply Customer Care Representative at (800) 824-6242.

NOTES

NOTES