Operations & Parts Manual

"VersaClipper   3100"

Heavy Duty Servo Driven & Computer Controlled

Fully Automatic and Highly Versatile Clip Attaching Machine

Model #3100   Serial #_____

Table of Contents

Safety information

Warning!

- Read all instructions before turning machine on.

- Do not operate without wearing proper eye and hearing protection

- Never operate any machinery without all guards properly mounted and fastened securely in place.

- Do not operate with air pressure set beyond the maximum of 100 PSI.

- Do not remove safety warnings or stickers

- Inspect machine daily for worn or abraded surfaces including air hoses and all cables.

- Avoid wearing loose clothing and jewelry while operating, servicing or cleaning Vertex equipment.

- Follow all appropriate lock out tag out (LOTO) procedures for electric and air before servicing this unit.

- Never place hands or fingers near clip exit area when operating tool or when connecting air supply to machine.

- Never place hands of fingers near the moving chain.

- Remove all power and air supply before clearing any jammed rails.

- To prevent any accidental starting of the machine, it is necessary that after initial power up of the unit, the operator must go to the fault screen to reset the axis fault (see page 14)

Layout of the VersaClipper 3100
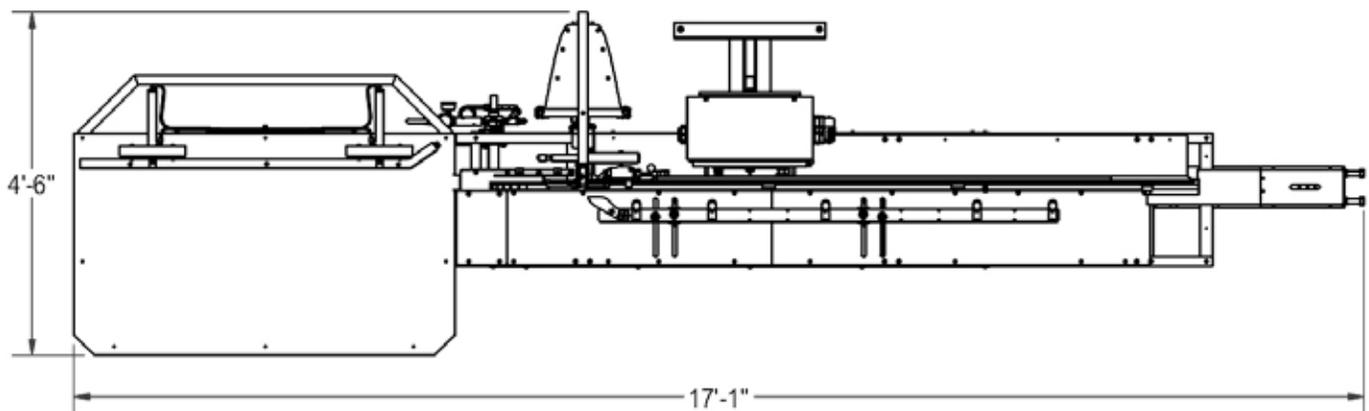
DESCRIPTION OF EQUIPMENT

The VersaClipper 3100 is a specially engineered servo driven machine for quickly and accurately installing a variety of patented VersaClips (spring retainers) into wooden frame rails with a variety of rail spacing and alignment configurations.

The VersaClipper 3100 main assemblies:

Control Box coordinates and controls all functions of the machine

Clip Dispenser Frame holds a spool of VersaClips containing 1500 pieces

Tool Assembly (Clipping Head)

Rail Sensor switch

Adjustable Rail Guide

Controller

Touch screen

Main power

Main power reset switch (must be glowing to function). Push to reset

Emergency Stop (Push to stop)

Tool height adjust
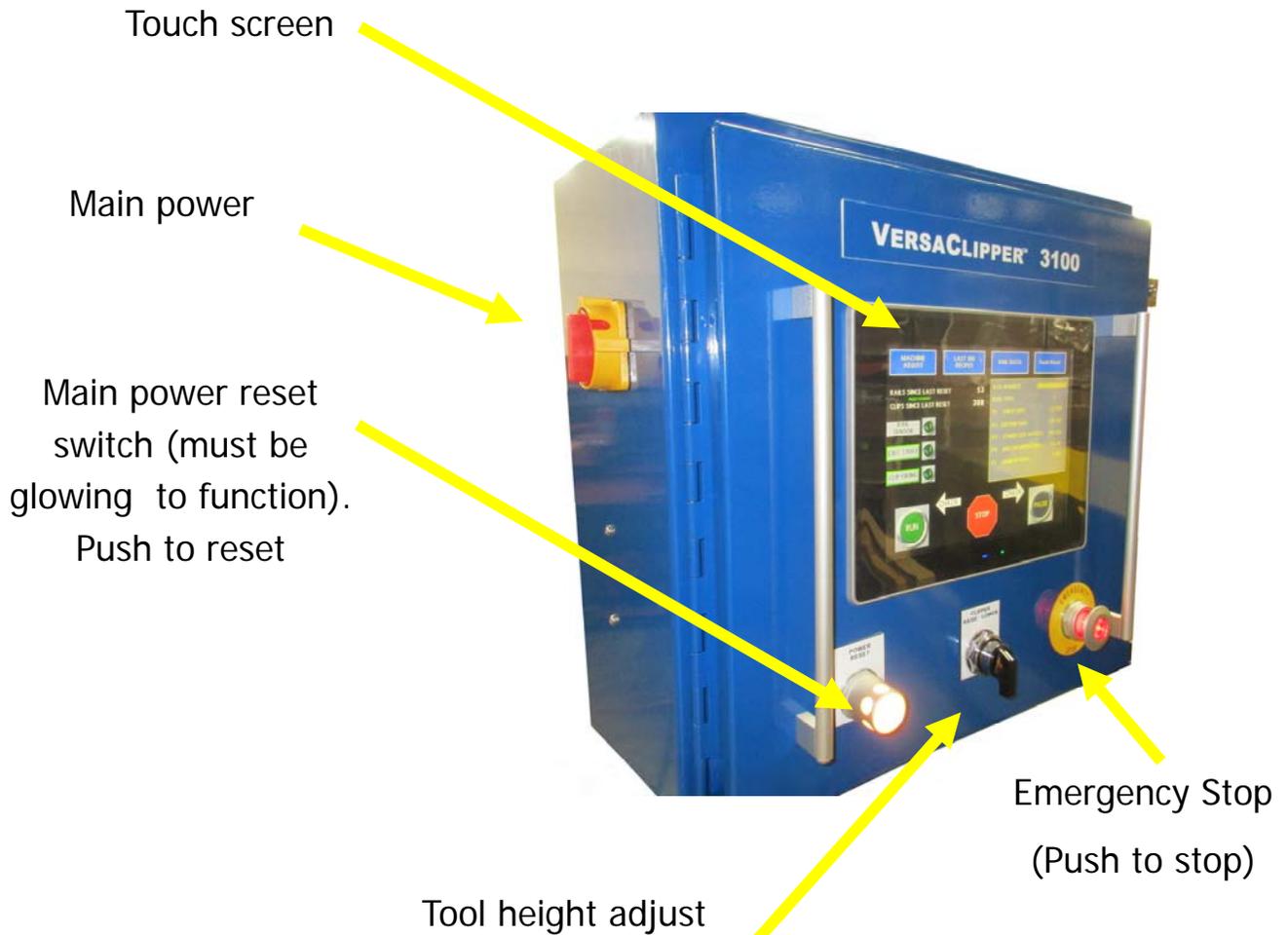
Remote 120 VAC outlet and ETHERNET cable connections using standard CAT-6 cable for communicating with the HMI touch screen and the servo controller via the data hub.

Turning on

1. Turn Main Power on. Be certain the red "E-Stop" button is pulled out

2. Press Main Power Reset button located on the lower left front operator control panel. The button should be illuminated "white" if all the power circuits are made.

3. The Faullt screen will appear. Press the red button to clear the faults.

4. The Main Menu screen will appear on the HMI touch screen.

Home Screen

Access all machine adjustments

Quick access for the last 100 rail recipes run

Access rail data (touching gray area also access rail data

Press here to access the fault reset screen

MACHINE ADJUST	LAST 100 RECIPES	RAIL DATA	Fault Reset

Press here to cycle the exit table

RAILS SINCE LAST RESET 0
PRESS TO RESET
CLIPS SINCE LAST RESET 0

RAIL SENSOR

EXIT TABLE

CLIP FIRING

Press here to fire the application tool

RAIL NUMBER

RAIL TYPE 0

P1 (FIRST CLIP) 0.00

P2 (SECOND CLIP) 0.00

P3 (DIST BETWEEN CLIPS) 0.00

P4 (GROUP TO GROUP) 0.00

P5 (CLIPS PER GROUP) 0.00

P6 (NUMBER OF GROUPS) 0.00

CHAIN ←

RUN

FINISH CURRENT RAIL AND STOP

CHAIN →

RESUME

Press to start clipping

Press to jog chain forward or backward

Press to stop machine after current rail finishes

Press to pause and press to resume clipping

Exit Table—used to clear rail path

Machine Setup

Adjusting Air pressure

Set the operating air pressure to a minimum of 80 PSI and a maximum of 100 PSI using the air regulator. Determine the lowest PSI the machine requires to drive the fasteners correctly and use that setting. Lock regulator cap after setting air pressure.

Loading a Spool of VersaClips
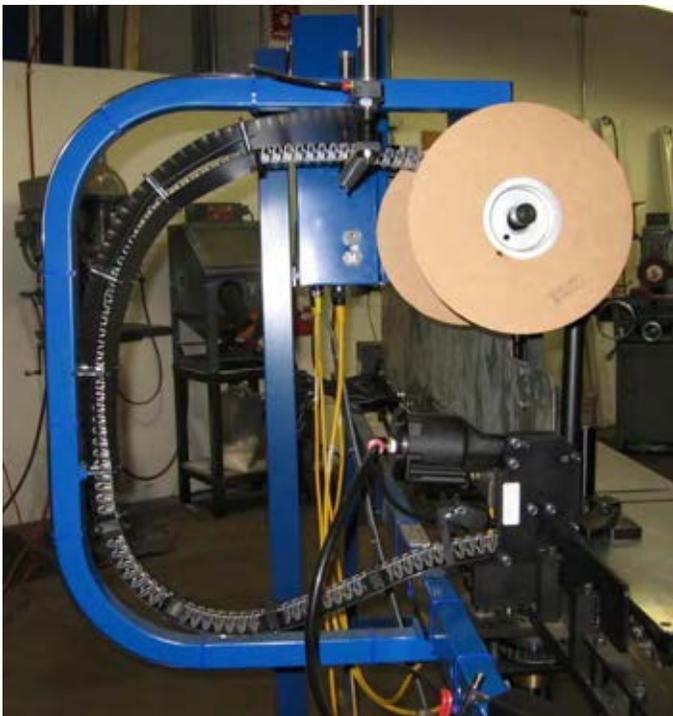
1. Load clips so they run off top of spool.

2. Push spool against magnetic brake.

3. Thread clips over Clip Lifter bar and down inside Chute.

4. Verify that Feed Cylinder is down.

5. Push clips into back of tool until clips contact driver blade.

Loading a Spool of VersaClips while Machine is Running in Auto-Mode

1. Remove empty spool while last of the clips are running.
2. Follow steps 1-3 above.
3. With constant pressure, feed clips in behind the last clip of the previous roll.

Removing VersaClips from Tool Assembly

1. Lift rear feed cylinder up, swing flag up to support cylinder.

2. Spread left and right pawls away from side plates while removing clips from rear.

3. Caution: Do not overspread pawls.
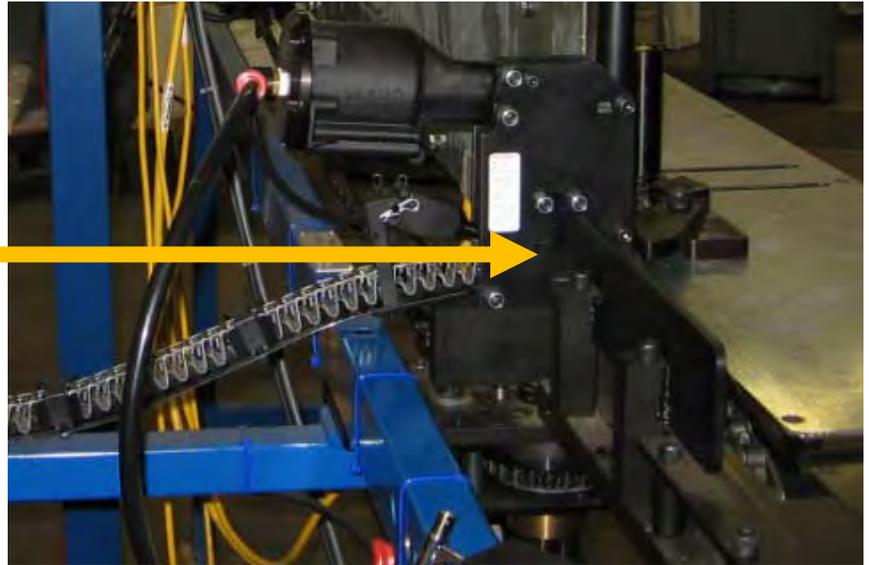
Adjustable Exit Table

Adjust air flow for a balanced smooth operation

Machine Speed Adjustments

The clipping machine is controlled by the microprocessor in the control box. During clipping of a rail the following happens to a rail (assuming a recipe is loaded to run).

The chain starts at a given speed, pushing a rail until the rail sensor switch is activated. At that time the speed is increased until just before the rail is in position for the clipping head to fire, applying the clip. Just before that firing position the rail is decelerated (or slowed to a stop) . The clipping head fires, and the chain is started, accelerating to the clipping speed. That speed is held until the chain must be decelerated to a stop for the next clip. This continues until the last clip is installed and then ejects the rail to the exit table and activates the exit table pusher.

To access the machine adjustment screen, refer to Appendix H "Accessing Machine Adjustments"

The Machine Adjustments can be adjusted in the security screen (see the Production Data instructions in this document for instructions on how to access the security screen).

There are seven adjustments that can be made:

Adjustment 1 is the Tool-Rail Sensor Offset

Adjustment 2 is the clipping speed

Adjustment 3 is the acceleration

Adjustment 4 is the deceleration

Adjustment 5 is the clip tool on time

Adjustment 6 is the clear rail speed

Adjustment 7 is the find rail speed

Tool-Rail Offset is the P1 position adjustment. Refer to Appendix F

Clipping speed is the speed of the chain moving the rails between the clip positions. Factory suggestion is 150

It is important to note that a short rail with many clips will see very little improvement in the total number of rails that can be produced by increasing the rail speed while a long rail with few clips will show the greatest increase in the total number of rails that can be produced. This is because of the time it takes to decelerate, apply the clip, and accelerate the rail.   If the clips are close together the rail must start to slow down for the next clip before the rail can reach maximum speed.
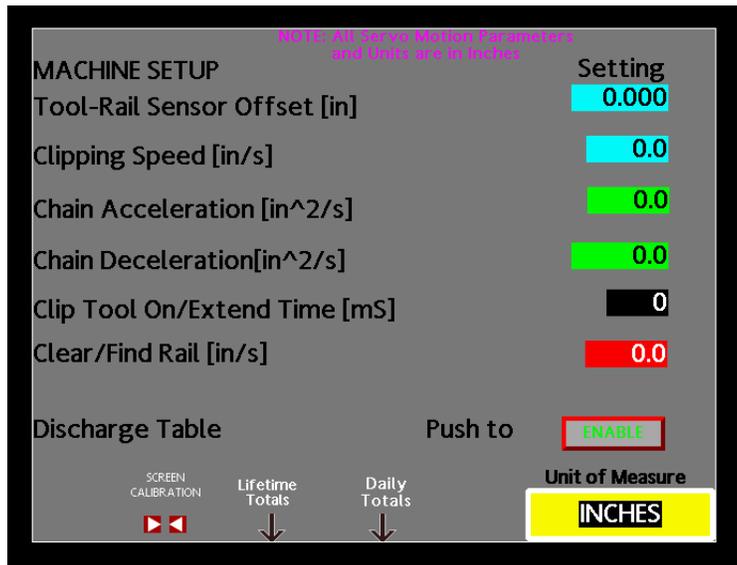
Machine Speed Adjustments (continued)

Acceleration and **deceleration**. Factory suggestion for acceleration is 500 (not to exceed 600) and factory suggestion for deceleration is 250. Accelerations below 250 will cause the machine to run slower . Decelerations more than 250 will reduce accuracy of clip placement

Clip tool on time is how long the tool is energized. If the factory has very good air pressure, this setting can be 20. If factory air pressure is low, then set this value higher such as 40. If the clip is driven too deep, either raise the head or lower the clip tool on time. If the clip is not going in deep enough, either lower the tool head height or increase the tool on time. Harder woods such as OSB require higher clip tool on time.

Clear/Find Rail is the speed the machine runs to push the rail off onto the exit table then look for the next rail. If the rail pushes too far onto the exit table, lower the value for the Clear Rail. Factory suggestion is to start at 60 and adjust as needed for your rails

To make any of the adjustments, simply touch the number next to the description and type in the new value

NOTE: All Servo Motion Parameters and Units are in Imperial

MACHINE SETUP	Setting
Tool-Rail Sensor Offset [in]	0.000
Clipping Speed [in/s]	0.0
Chain Acceleration [in^2/s]	0.0
Chain Deceleration[in^2/s]	0.0
Clip Tool On/Extend Time [mS]	0
Clear Rail [in/s]	0.0
Find Rail [in/s]	0.0

SCREEN CALIBRATION

Production Totals

Unit of Measure

INCHES

Programming a new rail manually

1. Set lug spacing (See appendix A)

2. From the controller Main Menu screen:

    A. Press "Rail Data"

    B. Press "Create New" (all fields will be Zero)

    D. Press the blank area next to Rail Number and enter the rail number

    E. Press the "Next Rail Type" button to chose rail type desired: (See Appendix B for rail descriptions)

        Select 1 for standard rail (Refer to Appendix B for diagram)

        Select 2 for group rail (Refer to Appendix B for diagram)

        Select 3 for odd rail (Refer to Appendix B for diagram)

    F. <u>Standard Rail</u>..

        1. Enter P1 (position 1) of the first clip measured from the end of the rail to the center of the clip

        2. Enter P2 measured from the center of clip 1 to the center of clip 2 (this entry is optional depending on layout of clips desired)

        3. Enter P3 measured from the center of clip 2 to the center of clip 3 (this entry is optional depending on layout of clips desired)

        4. Enter P4 which is the distance between clips

        5. Enter P5 which is the total number of clips to be installed

        6. Press "Load Recipe to Controller

        6. Press "Load Selected Recipe for Production"

        7. Skip to Step 3 "Start Production"

    G. <u>Group Rail</u>..

        1. Enter P1 (position 1) of the first clip measured from the end of the rail to the center of the clip

        2. Enter P2 measured from the center of clip 1 to the center of clip 2 (this entry is optional depending on layout of clips desired

        3. Enter P3 which is the distance between clips

        4. Enter P4 the distance between groups

        5. Enter P5 the number of clips per group (4 minimum)

G. Group Rail.. (continued)

      6. Enter the number of groups (total clips per rail not to exceed 24)

      7. Press "Download Recipe to Controller

      8. Press "Load Selected Recipe for Production"

      9. Skip to Step I "Start Production"

H. Odd Rail..

1. Enter P1 (position 1) of the first clip measured from the end of the rail to the center of the clip

2. Enter P2 measured from the center of clip 1 to the center of clip 2

3. Enter P3 measured from the center of clip 2 to the center of clip 3

4. Continue enter remaining clips press page down arrow to access the next screen if needed

5. Press "Load Selected Recipe for Production"

3. Start Production

    A. Verify correct clip placement

    B. Load rails into the machine making sure not to place on top of any of the pusher lugs

    C. Important: P1 offset must be calibrated when the machine is set up for the first time before running production. Once set, the offset should not need recalibration. (See Appendix F)

    D. Adjust the Front Rail Guide (See Appendix C)

    E. Adjust the clipping head (See Appendix D)

    F. Press "Run". The LEDs on this screen will light when a device is activated.

Running a preprogrammed rail (recalling a recipe from internal memory)

Rails can be recalled one of two ways by either going to the "Rail Data" screen or the "Last 100 Recipes" screen

From the Rail Data screen:

1. Set lug spacing (See appendix A)

2. From the controller main screen: Press "Rail Data"

3. Press "Search For Rail Number"

4. Press the black area and enter the desired rail number, press search

5. If rail is found, press "Load Selected Recipe for Production". The screen will then automatically change to the run screen.

6. Verify recipe in the gray box

7. Important P1 offset must be calibrated when the machine is set up for the first time before running production. Once set, the offset should not need recalibration unless machine speed is changed. (See Appendix F)

8. Load rails into the machine making sure not to place on top of any of the lugs

9. Adjust the Front Rail Guide (See Appendix D)

10. Adjust the clipping head (See Appendix E)

11. Press "Run". The LEDs on this screen will light when the device listed is activated.

From the Last 100 Recipes screen:

1. Set lug spacing (See appendix A)

2. From the controller main screen: Press "Last 100 Recipes"

3. Find the rail number you wish to run and touch that rail number. The recipe is automatically loaded and ready to run

4. Verify recipe in the gray box

5. Important P1 offset must be calibrated when the machine is set up for the first time before running production. Once set, the offset should not need recalibration unless machine speed is changed. (See Appendix F)

6. Load rails into the machine making sure not to place on top of any of the lugs

7. Adjust the Front Rail Guide (See Appendix D)

8. Adjust the clipping head (See Appendix E)

9. Press "Run". The LEDs on this screen will light when the device listed is activated.

Backing up your Recipes

Backing up all your recipe data is done by

1. Turn off the power

2. Open the cabinet front door

3. Remove the SD memory card located on the side of the touchscreen

4. Using a standard PC, copy the file "barcode.csv" located on the SD Memory card and save to a secure place.

5. Replace Memory card

6. Turn machine on.

Adding New Recipes using a PC

1. Turn off the power

2. Back up your recipe data per the above procedure

3. Open the "barcode.csv" file using Microsoft Excel

4. Add or edit your recipe data

5. Save the revised file making sure to save it as "barcode.csv"

6. Replace SD Memory Card

7. Turn Machine on

IMPORTANT

Only memory cards formatted by the factory can be used. Reformatting the original memory card or formatting a new memory card with a standard PC will not work reliably.

The recipe file on the SD Memory card must be named "barcode.csv" (saved as comma, separated, values)

Production Data

Lifetime production of clips applied is available.

This number is intended for maintenance and should only be reset after customer maintenance.

To access the Production Data, turn on the main power switch and wait for the unit to start. When the "clip count appears touch the Machine Adjust button . See Appendix H for the procedure to access the Machine Adjustment screens.

From the Machine Adjust screen, press the lower left button below the downward arrow for the lifetime totals

15
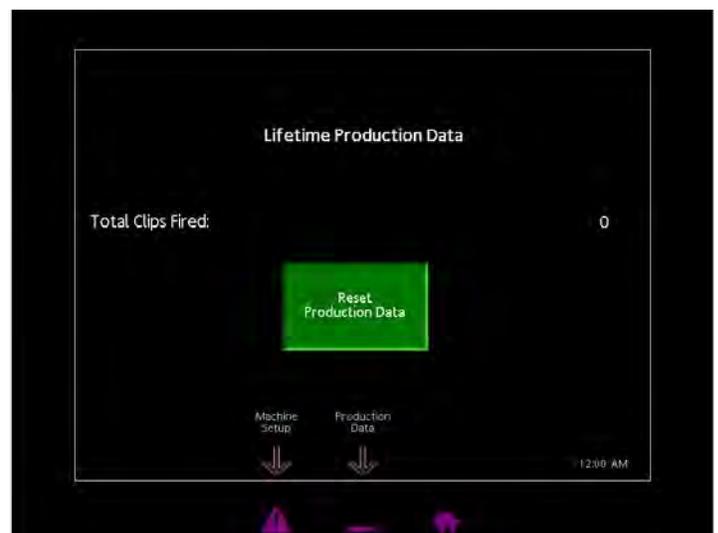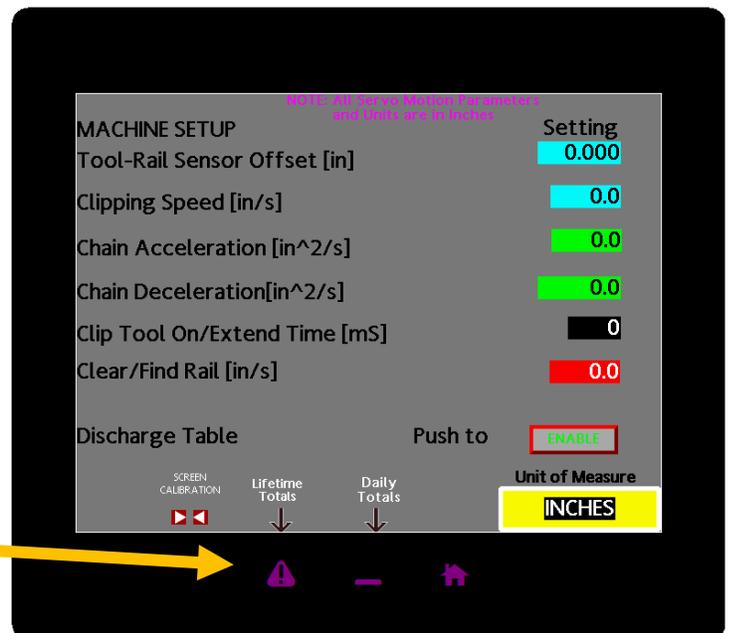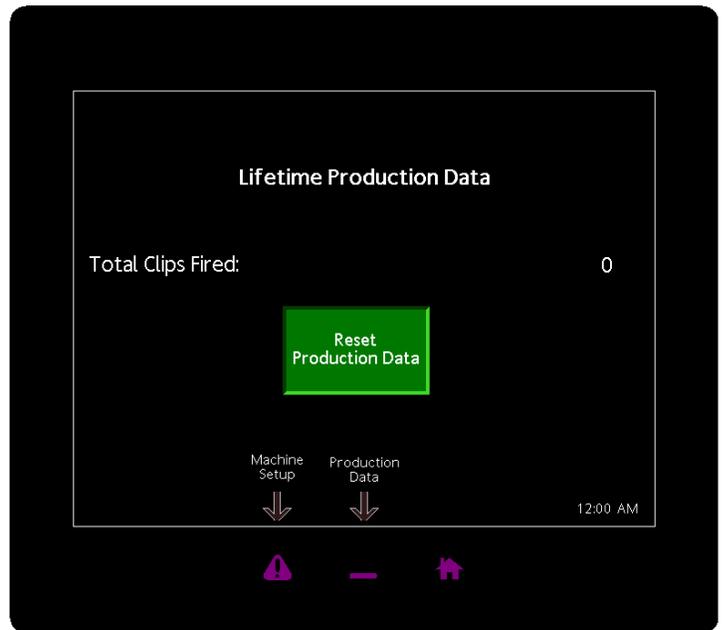
Appendix A

Lug Spacing and installation

Calculating Lug Placement

A 4-inch (102mm) gap should be left between end of rail and following lug. To optimize machine efficiency, use the maximum number of lugs appropriate for your rail length. To figure the maximum possible lugs you can use, add 4 inches (102mm) to the rail length you will be using. Then divide the chain length, 270″ (6858mm) by this number; the answer will equal the maximum number of lugs you may fasten to the drive chain.

Divide chain length, 270 inches (6858mm), by number of lugs you wish to use.

> 2 lugs = 135 inches (3429mm) between lugs
>
> 3 lugs =   90 inches (2286mm)between lugs
>
> 4 lugs =   67.5 inches (1715mm)between lugs
>
> 5 lugs =   54 inches (1372mm)between lugs
>
> 6 lugs =   45 inches (1143mm)between lugs

Example:

Rail length = 48 inches

48 + 4 = 52

270 ÷ 52 = 5.019

5 lug maximum on drive chain

Use chart above for equal distant lug placement on chain.

Note, placing less than the optimal number of lugs on the chain or running rails longer than 72″ (1828mm) may require the run button to be pressed more than once to complete a cycle successfully. If the chain is running and no rail is detected within a predetermined length the machine will stop. If the time it takes for a lug to come around and push the next rail is too long the machine will stop. Pressing the run button a second time will restart the cycle.

Appendix A (continued)

Lug Spacing's and installation

Applying Universal Lugs to Drive Chain

Remove locking fastener

Raise chain guard to open position

Install lug as shown below

Close chain guard. DO NOT RUN MACHINE WITH GUARD OPEN and replace all fasteners holding guard in place.

Applying Universal Lugs to Drive Chain

Twist front half of lug 90 degrees from rear half.

Insert pegs of rear half into chain.

Holding rear half in place, pull lug apart.

Twist front half back 90 degrees.

Insert pegs into chain.
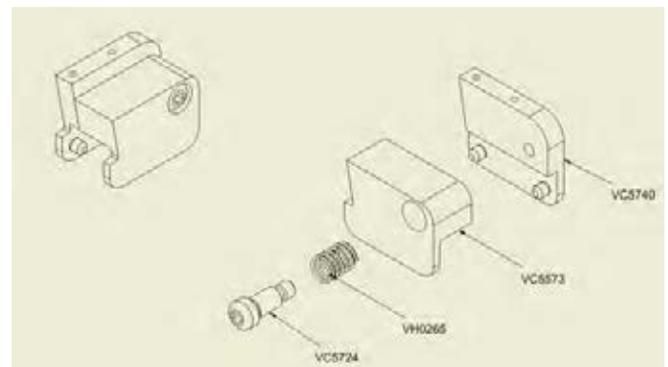
Appendix B

STANDARD RAIL

PI = END OF RAIL TO CENTER OF 1ST CLIP

P2* = CENTER OF 1ST CLIP TO CENTER OF 2ND CLIP

P3* = CENTER OF 2ND CLIP TO CENTER OF 3RD CLIP

P4 = COMMON CENTER TO CENTER

P5 = TOTAL NUMBER OF CLIPS

* OPTIONAL

3-5-01

PI LAST PI WILL EQUAL 1ST PI ONLY IF CUSTOMER CALCULATIONS ARE CORRECT.

Note: P1 offset must be set prior to use

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Appendix B

GROUP RAIL

PI = END OF RAIL TO CENTER OF IST CLIP

P2 = CENTER OF IST CLIP TO CENTER OF 2ND CLIP

P3 = CENTER TO CENTER IN GROUP

P4 = GROUP TO GROUP

P5 = NUMBER OF CLIPS PER GROUP

P6 = NUMBER OF GROUPS
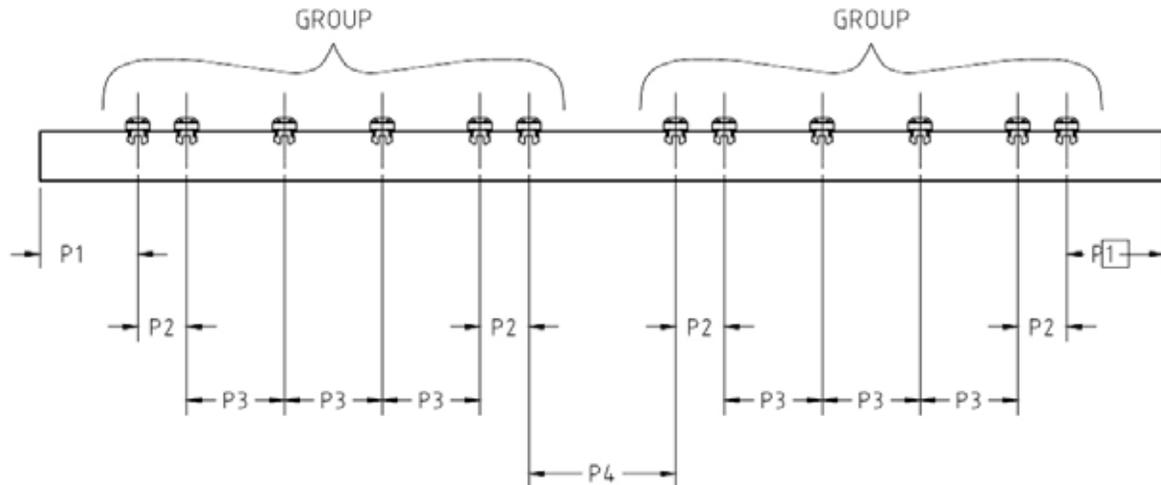
GROUP   GROUP

P1   PI

P2   P2   P2   P2

P3 P3 P3   P3 P3 P3

P4

PI LAST PI WILL EQUAL IST PI ONLY IF
CUSTOMER CALCULATIONS ARE CORRECT.

Note: P1 offset must be set prior to use   3-5-01

Appendix B

ODD RAIL

P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10

P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8

P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9
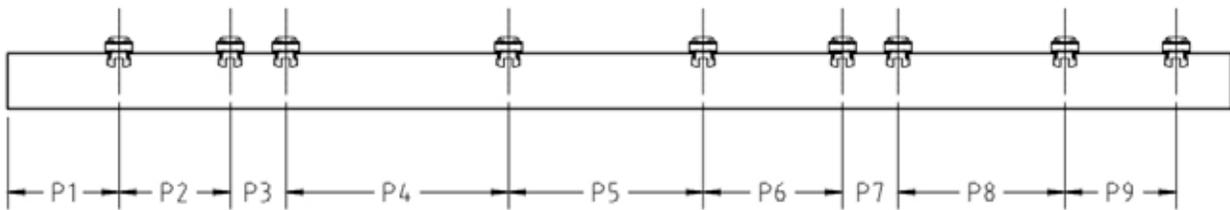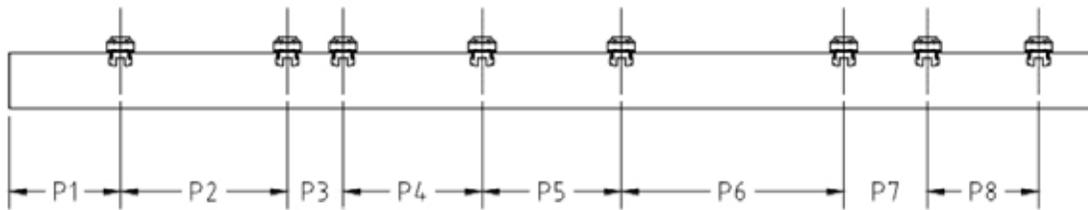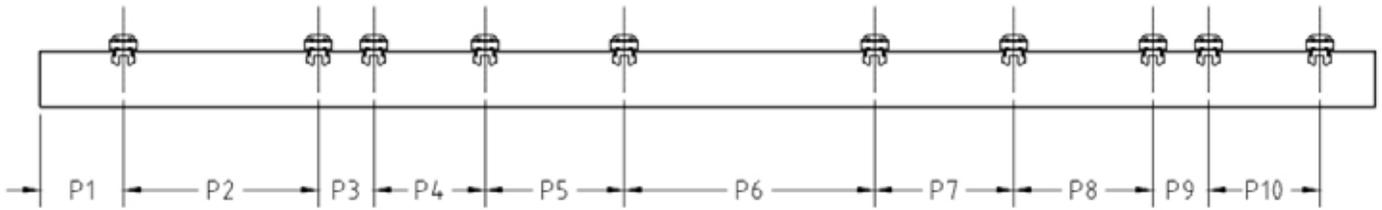
Note: P1 offset must be set prior to use

Appendix C

Front Rail Guide

Positioning Front Rail Guide

Place stack of rails against rear fence.
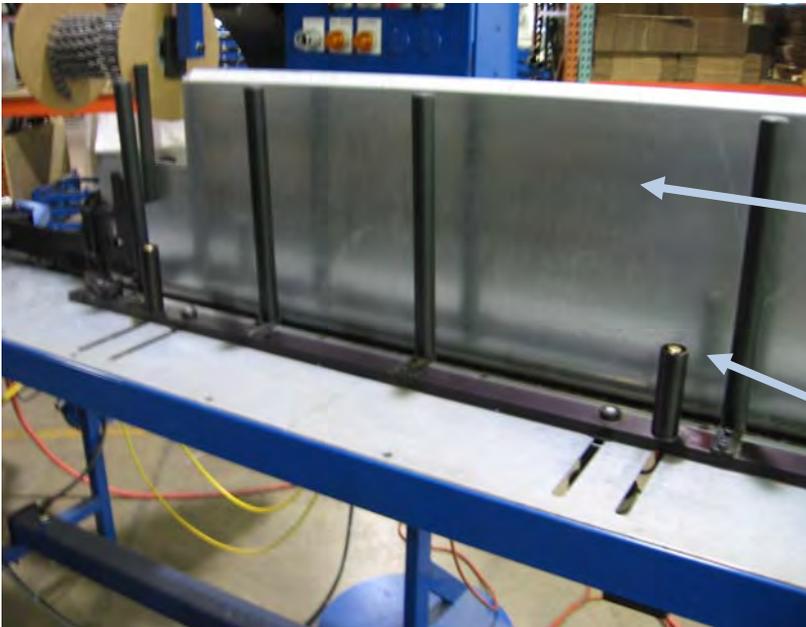
Rear Fence

Pushbutton - depress to release clamps. Note, both buttons must be depressed to move rail guide evenly

Note, make sure rail slides easily after adjusting the front fence

Appendix D

Clipping head adjustment

Adjusting Tool Assembly Height

Turn "Tool Height" selector lever counterclockwise to raise clipping head

Place the rail to be clipped under the clipping head. Lower the clipping head until the gauge pin rises slightly after engaging the rail.

TOOL FENCE

GAUGE PIN CONTACTS RAIL

RAIL
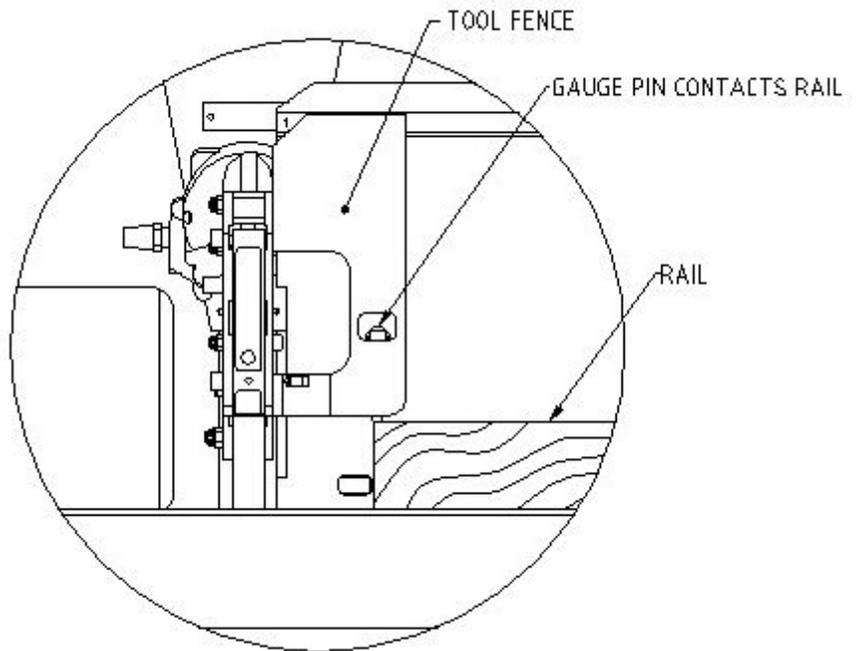
!!! Warning…. NEVER Adjust Tool Height While Chain is Moving!!!

Appendix E

Chain tension adjustment

9.75
MEASURED FROM
BOTTOM OF CHAIN SUPPORT RAIL.
AGAINST LEFT EDGE OF STRUT
TO BOTTOM OF A CHAIN ROLLER.

MEASURING INSTRUMENT
HELD PERPENDICULAR TO FRONT RAIL
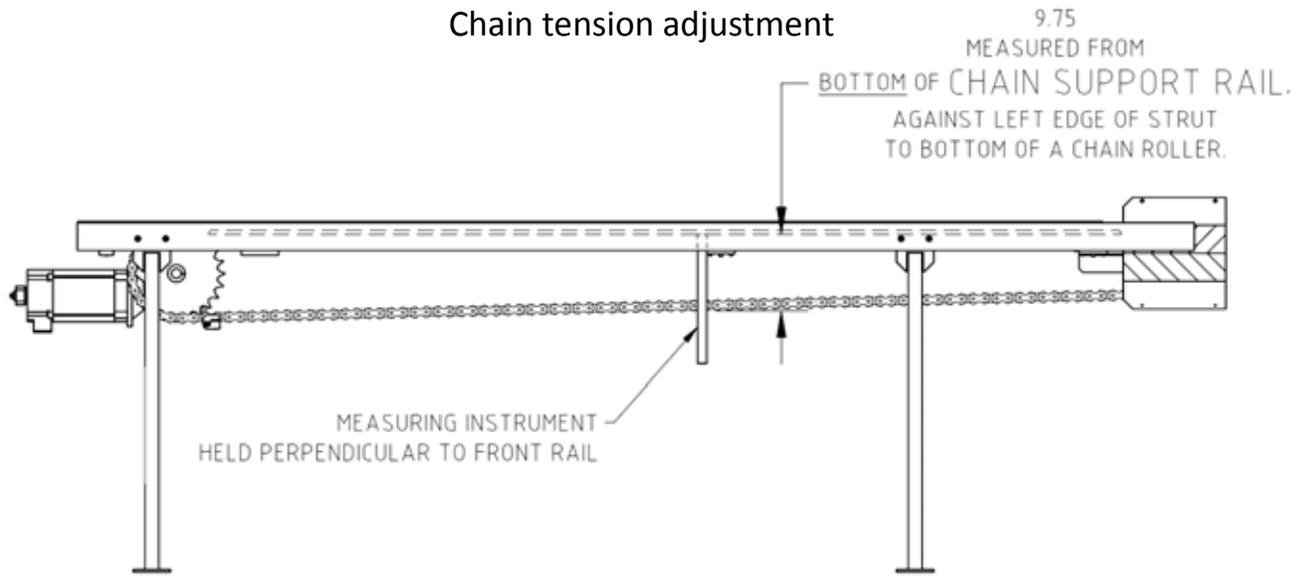
To adjust the chain tension loosen the two locknuts counter-clockwise and turn the main adjustment nuts clockwise. Turn each nut equal amounts to keep the chain sprocket straight.

Appendix F

P1 Calibration

To calibrate the machine for the correct placement of the first clip (P1):

1. The VersaClipper must be fully set up and ready to run a rail. The rail recipe must be programmed in and rails loaded with the front rail guide properly adjusted.

2. Press "Run" from the main screen and process one rail. Measure the actual distance from the end of the rail to the center of the first clip.

3. If the measured distance matches the programmed distance then no further adjustment is necessary. If the measured distance does not match the programmed distance then proceed to step 4

4. The offset is adjusted in the Machine Adjust screen. See Appendix H

5. Touch the black text under settings next to the "Tool Rail Sensor Offset". This will bring up a box to allow entering a new offset number.

6. If the measured distance is larger than the programmed distance, reduce the offset. If the measured distance is smaller than the programmed distance, increase the offset.

7. Run an additional rail and check the distance. If necessary continue to adjust the offset until the measured and programmed distance are the same.
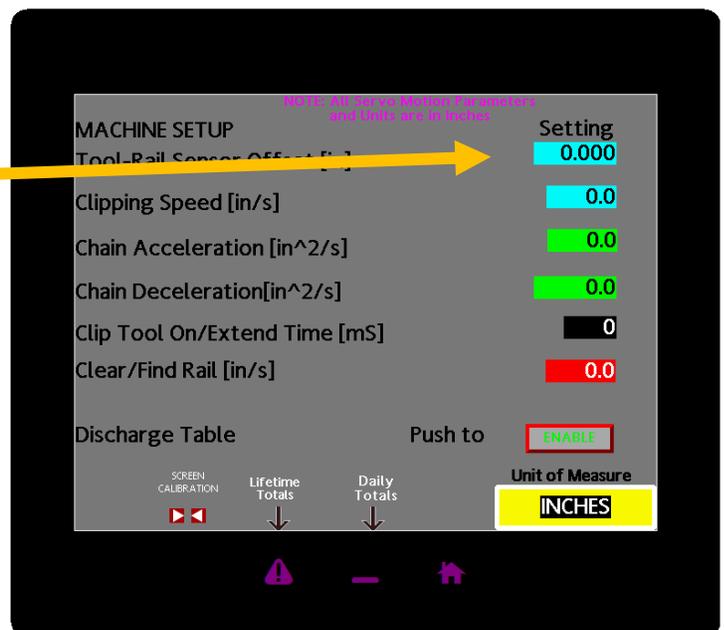
Appendix G

Touch Screen Calibration

1. The touch screen is calibrated from the machine set up screen. See Appendix H in this manual to access the machine set up screen.
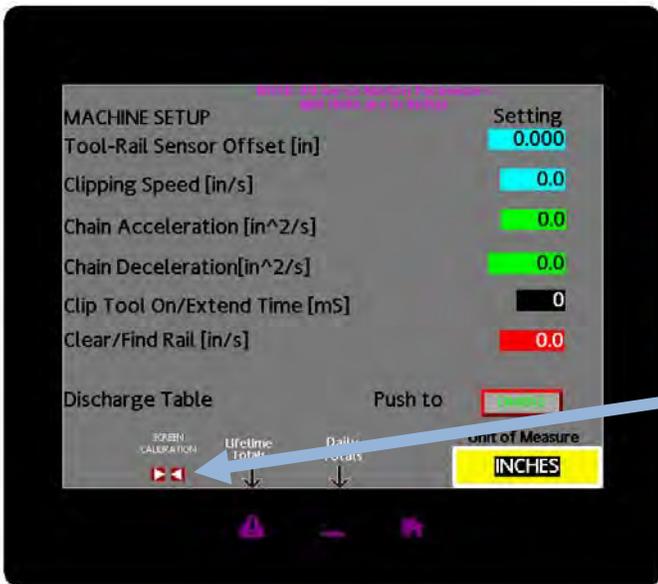
2. Touch the red arrows. This will take you to the calibration screen

3. Follow the prompts and touch each square as indicated. When complete, touch the home button
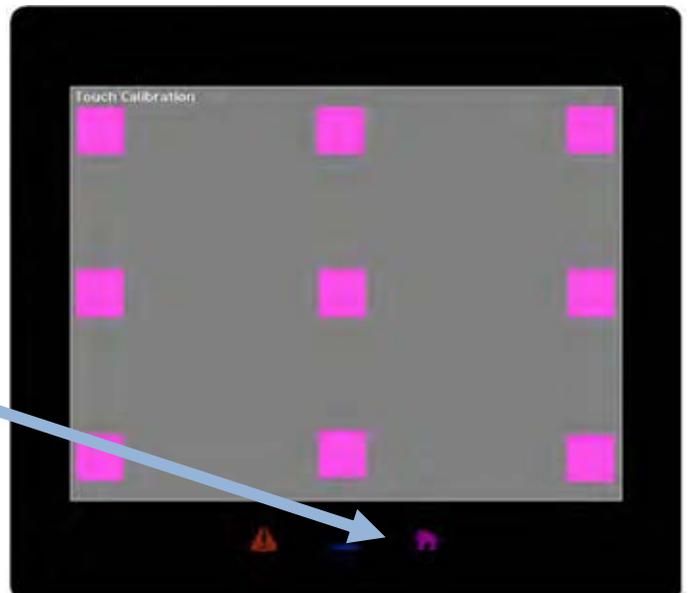
Appendix H

Accessing Machine Adjustments

To access the Machine Adjustments, touch the Machine Adjust button on the home screen. This will bring up the Security Manager.

Press the Green   enter button

Enter "SYSTEM" for the USERNAME. Press the Green enter button

Call Vertex at 847-768-6139 for the password

Enter the password

Press the Green enter button.

TROUBLESHOOTING GUIDE

VC3100

VERTEX FASTENERS INC.
A DIVISION OF *Leggett & Platt*

1 – Improper clip spacing

2 – Clip not driven properly

3 – Clips do not feed properly

4 – Will not power up/no display/erratic display

5 – Chain not moving

6 – Exit stacker issues

7 – Tool height adjustment not working

8 – Frequent rail jams

9 – Driver blade stuck down, tool doesn't fire

1 – Improper clip spacing

VC3100 Model

- Improper rail recipe – review clip spacing on screen and edit as needed – see page 10 of manual

- Rail condition is bad; e.g., warped, voids, chipped, dimensions off, not square

- Rail trigger/trigger switch assembly, VC5558, may be worn, broken, or in need of adjustment. Inspect the condition of the VC5254 rail trigger for damage or wear. If this is okay with chain off and air supply unplugged, cycle the VC5254 rail trigger. If the trigger is operating correctly, the rail sensor activated light on the manual machine adjustment screen (see page 14 of the manual) should light up when the trigger is between 5% to 75% of its travel. Perform this test numerous times to ensure that there is not an intermittent issue. Trigger may also need adjustment, which can be done by loosening the socket head cap screw holding the trigger, to the knurled shaft on the switch and retightening it to the correct position.

- Front fence not adjusted properly – make sure that the fence is all the way against the rails

- Rail may be losing contact with the chain lug(s):

  Make sure VC5709 pressure foot is not broken, is in place, tight, and that it has adequate spring pressure

  Check to be sure the lugs are not worn; replace as necessary

- Chain is not adjusted properly (too loose) – adjust as necessary (see "Chain Tension Adjustment" procedure page 26 in manual)

- First clip spacing is controlled by the P1 Calibration. If the position of the first clip is not correct, adjust as necessary (see "P1 Calibration" procedure "Appendix F" page 27 in manual).

2 – Clip not driven properly

VC3100 Models

Clips over driven or under driven

- Check air pressure and adjust up or down depending if clip is over driven or under driven

- Check tool height adjustment to make sure it is properly set (place rail underneath tool height gauge pin and lower the tool head until the gauge pin contacts the rail)

- Check for air leaks – listen for obvious air leaks; if none are heard, with chain off and clips backed out of the tool, hold the manual clip button in and listen for leaks (the button is located on the Manual Machine Operation screen).

- Insure that VH0355 and VH0504 mufflers are clean

- Check for knots or voids in the wood

- Check to make sure the clipping time is not too short. See "Clip Tool Dwell Adjustment" page 8 in the manual

Clips askew or not tight to rail

- Front fence not adjusted properly

- Bad rail

- VC5285 pressure arm not functioning properly

3 – Clips do not feed properly

VC3100 Model

- Check air pressure – should be 70-90 P.S.I., adjust as necessary

- Check clip dispenser to make sure clips move freely and to make sure that the clip lifter VC5523 is working properly

- Check to make sure clips are loose on the roll

- Check for obstructions in the track and clip chute, and repair as necessary

- Check to make sure that the clip feed cylinder is engaged and that the assembly is tight to the mounting bracket

- Are the feed pawls VC5122 and VC5123 engaged and are the VC5121 feed pawl springs operational?

- VC5127 feed piston (clip feeder) internal spring may be broken

- VC5117 torsion spring may be missing or broken

- Is the VC5101 driver blade stuck down? If so, please follow troubleshooting procedures for "blade stuck down or tool doesn't fire."

- Are the grooves in the VC5504 spool holder worn excessively or are there any burrs that would impede the roll from turning properly on the holder?

4 – Will not power up/no display/erratic display

VC3100 Model

- Is machine plugged in?
- Is there power to the machine?
- Check for tripped circuit breakers in control box and reset if necessary.
- Check for faulty switch VH0907
- Check to see if the lights are flashing on the network hub, if not, check 24 V power supply.
- Is the reset switch activated (light on), if not, press reset button. Light should turn on

5 – Chain not moving

VC3100 Model

- Turn machine off, wait 10 to 15 seconds and turn machine back on

- Chain broken

- Chain jammed

    A. Rail jam – press chain reverse button and/or attempt to raise the clipping head and remove jammed rail

    B. Lug screws loose – check all lug screws and tighten as necessary

    C. Obstruction(s) – look for any obstructions and remove as necessary

    D. Loose set screws in drive sprocket – check and tighten as needed

    E. Motor-mount screws loose between drive sprocket and motor-mount bracket

    F. Gearbox dry or bad

- Is driver blade stuck down? If so, please follow troubleshooting procedures for "blade stuck down or tool doesn't fire"

- Faulty or broken VH0293 switch

- Confused logic – reset power

- Bad motor

6 – Exit stacker issues

VC3100 Model

- Pusher cylinders are binding due to:

  A. Lack of oil – remove ¼″ tubing on the back of each VH0365 cylinder and insert 3 drops of 30WT non-detergent oil in each

  B. Adjust VH0840 flow control valve

  C. Loose mounting hardware – check and tighten as necessary

  D. Debris/obstructions – check and remove as needed

- Defective VH0362 mac valve – use VH0520 valve repair kit

7 – Tool height adjustment not working

VC3100 Model

- The jam's cause could be debris or clips in the VC5431 acme rod threads

- Binding/misaligned motor – check for loose or missing fasteners

- Head driven up too far – turn clipper head adjustment to lower and jiggle head until it frees itself

- Head adjustment motor VC5217 sprocket loose – tighten VH0159 set screw(s) (use blue Loctite) on VH0270 sprocket

- VH0290 switch bad

- VC5727 tool motor bad

- Tool head binding due to excess wear on the VC5431 acme rod – inspect and replace if necessary

8 – Frequent rail jams

VC3100 Model

- Warped or bowed rails

- Worn lugs – inspect and replace as necessary

- Improper tool height – inspect and adjust as necessary

- Improper front fence adjustment – inspect and adjust as necessary

- Chain too loose, causing lug to go under rail – inspect and adjust chain as per instructions

9 – Driver blade stuck down, tool doesn't fire

VC3100 Model

- Blade jammed on rail

- Lack of lubrication – remove VH0248 ¼" tubing from back of tool and add 3 drops of 30WT non-detergent oil to the tool, re-install tubing and attempt to cycle the tool

- Check for debris or loose clips on all tool components and remove

- Piston may be unscrewed from the VC5119 yoke – inspect and reattach if necessary using "red" Loctite

- VC5119 yoke, VC011 link, or VC5118 link pin may be broken – inspect and replace if necessary

- VC0006 piston may be broken

- VC0004 piston spring may be collapsed or broken

- Check for burrs on the side plates that would keep the driver blade from returning properly, if present, buff out and reinstall sideplates

- Clipping time is set too long – verify and adjust on the machine setup screen

- Bad mac valve, use mac valve repair kit

12/4/15

OVERALL MACHINE MAINTENANCE

Recommended Daily Maintenance
1. Blow off woodchips and debris from Tools, Rail Trigger and Acme rod/tool height motor area.

2. Add 2-3 drops of 30 weight oil to opening between front plate and top of blade of Tool assembly.

Remove air hose from the Clip Feed Cylinder, add 2-3 drops of 30 weight oil to opening and reinstall hose.

Recommended Bi-Weekly Maintenance
1. Drain Air Reservoir Tank for condensation.

2. Check and adjust main drive chain for proper tension (VC5773).

Recommended Monthly Maintenance
1. Remove front plate from tool and lubricate driver blade, front plate and top plate.

2. Check guard fasteners.

Daily
PREVENTATIVE MAINTENANCE

DATE:__/__/__
SHIFT: A B C D (CIRCLE ONE)

MAINTENANCE TO PERFORM	**RESPONSIBILITY**	**INITIALS**
BLOW OFF CLIP TOOL ASSY AND SURROUNDING AREA WITH AIR HOSE	OPERATOR	_____
BLOW OFF CLIP FEED ASSY AND TRACK AREA WITH AIR HOSE	OPERATOR	_____
OIL (1) BEHIND TOOL "FRONT PLATE" AND "BLADE" AREA	OPERATOR	_____

NOTE: (1) RECOMMENDED OIL VERTEX VC0340

COMMENTS: (REMARKS ABOUT CONDITION OF PARTS AND/OR MAINTENANCE PERFORMED).

_____

_____

_____

Weekly
PREVENTATIVE MAINTENANCE

DATE:__/__/__
SHIFT: A B C D (CIRCLE ONE)

MAINTENANCE TO PERFORM	**RESPONSIBILITY**	**INITIALS**
CHECK AIR LINE LUBRICATOR AND FILL AS NECESSARY (1)	OPERATOR	_____
CHECK FOR LOOSE OR MISSING SCREWS ON CLIPPING TOOLS	SUPERVISOR	_____
ASSEMBILIES TO CHECK		
CLIPPING TOOLS	SUPERVISOR	_____
FEEDER ASSEMBLIES	SUPERVISOR	_____

COMMENTS: (REMARKS ABOUT CONDITION OF PARTS AND/OR MAINTENANCE PERFORMED).

_____

_____

_____

_____

"MONTHLY"
PREVENTATIVE MAINTENANCE

DATE:___/___/___
SHIFT: A B C D (CIRCLE ONE)

MAINTENANCE TO PERFORM	RESPONSIBILITY	INITIALS

REMOVE CLIPPING TOOL "FRONT PLATE"   SUPERVISOR   _____
REMOVE "BLADE" AND "BLADE PIN"
BLOW OUT INSIDE OF CLIPPING TOOL WITH AIR HOSE
WIPE OF "BLADE", "BLADE PIN", AND "FRONT PLATE"
          CHECK FOR WEAR. REPLACE IF BADLY WORN.
CHECK "ANVIL" REPLACE IF BADLY WORN
LUBRICATE (2) "BLADE", "BLADE PIN", AND "FRONT PLATE"
LUBRICATE (2) "ROLLER" AND "ROLLER PIN" WITHOUT REMOVING
LUBRICATE (2) SLOTS INSIDE OF "SIDE PLATES"
REASSEMBLE ALL COMPONENTS AND MANUALLY FIRE TOOL TO INSURE FUNCTIONALITY

DRAIN LIQUIDS THAT HAVE COLLECTED INSIDE AIR TANK BY   SUPERVISOR   _____
OPENING VALVE ON BOTTOM OF AIR TANK

CHECK DRIVE CHAIN FOR PROPER TENSION AND WEAR,
REPLACE IF NEEDED   SUPERVISOR   _____

CHECK RAIL DETECT SWITCH FOR PROPER FUNCTION
(this can be verified by checking P1 clip placement.)
ADJUST AS NECESSARY   SUPERVISOR   _____
NOTE: (2) USE VERTEX VH0214 GREASE

COMMENTS: (REMARKS ABOUT CONDITION OF PARTS AND/OR MAINTENANCE PERFORMED).

_____

_____

"SEMI-ANNUALLY"
PREVENTATIVE MAINTENANCE

DATE:__/__/__

SHIFT: A B C D (CIRCLE ONE)

MAINTENANCE TO PERFORM	**RESPONSIBILITY**	**INITIALS**
CHECK TENSION ON CHAIN AND LUBRICATE (2)	SUPERVISOR	_____
REPLACE AIR LINE FILTERS (IF INSTALLED)	SUPERVISOR	_____

NOTE: (2) USE VERTEX GREASE VH0214

COMMENTS: (REMARKS ABOUT CONDITION OF PARTS AND/OR MAINTENANCE PERFORMED).

_____

_____

_____

DATE:__/__/__
SHIFT: A B C D (CIRCLE ONE)

MAINTENANCE TO PERFORM   **RESPONSIBILITY**   **INITIALS**

REBUILD CLIPPING TOOLS   MAINTENANCE DEPT. _____
        DISASSEBLE TOOLS COMPLETELY
        CLEAN COMPONENTS AND DRY
        INSPECT ALL COMPONENTS FOR WEAR. REPLACE AS NEEDED
        REPLACE PISTON O-RING
        LUBRICATE (2) ALL WORKING PARTS AND REASSEMBLE

REBUILD MAGAZINE ASSEMBLY
        MAINTENANCE DEPT. _____
        DISASSEMBLE FEEDER CYLINDER AND ANTI BACKUP WHEEL ASSEMBLY
        CLEAN COMPONENTS AND DRY
        INSPECT ALL COMPONENTS FOR WEAR REPLACE AS NEEDED
        REPLACE O-RINGS IN AIR CYLINDER
        LUBRICATE (2) ALL WORKING PARTS AND REASSEMBLE

DE-GREASE AND CLEAN EXTERIOR SURFACE OF MACHINE   MAINTENANCE DEPT. _____
        INSPECT ALL PARTS FOR WEAR AND REPAIR OR REPLACE AS NEEDED

NOTE: (2) USE VERTEX GREASE VH0214

COMMENTS: (REMARKS ABOUT CONDITION OF PARTS AND/OR MAINTENANCE PERFORMED).

_____

_____

Parts List

PART #	DESCRIPTION	QT
VH0020	RETRACTABLE HOSE	1
VH0036	PLUG, MALE, 1/4 - 1/4	1
VH0050	FLOW CONTROL	1
VH0079	BUSHING, REDUCER, 3/8 x 1/4	1
VH0100	BUSHING, REDUCER, BRASS, 1/2 x 3/8	2
VH0163	FILTER/REGULATOR W/ GAUGE	1
VH0164	MANIFOLD	1
VH0172	VALVE, VENTED SHUT-OFF BALL, 3/8 NPT	1
VH0173	AIR GUN	1
VH0201	PUSH-IN FTG, STR, 1/4 OD x 1/4 NPT	2
VH0206	PUSH-IN FTG, 90, 1/2 OD x 3/8 NPT	1
VH0230	NIPPLE, 3/8 NPT x 1 CLOSE	4
VH0281	SOLENOID CABLE	1
VH0343	TEE, 3/8	1
VH0344	SHCS, 5/16 - 18 x 2	2
VH0348	BUSHING, REDUCER, 3/8 x 1/8	1
VH0368	PUSH-IN FTG, STR, 1/2 OD x 1/4 NPT	1
VH0504	MUFFLER	1
VH0696	VALVE, 24V DC, TOOL	1

TOL. UNLESS SPECIFIED		
INCHES		
X = ±.030		
XX = ±.015		
XXX = ±.005		
ANGLES ±1/2		

MATERIAL:

HEAT TREATMENT:

FINISH:

INVENTOR
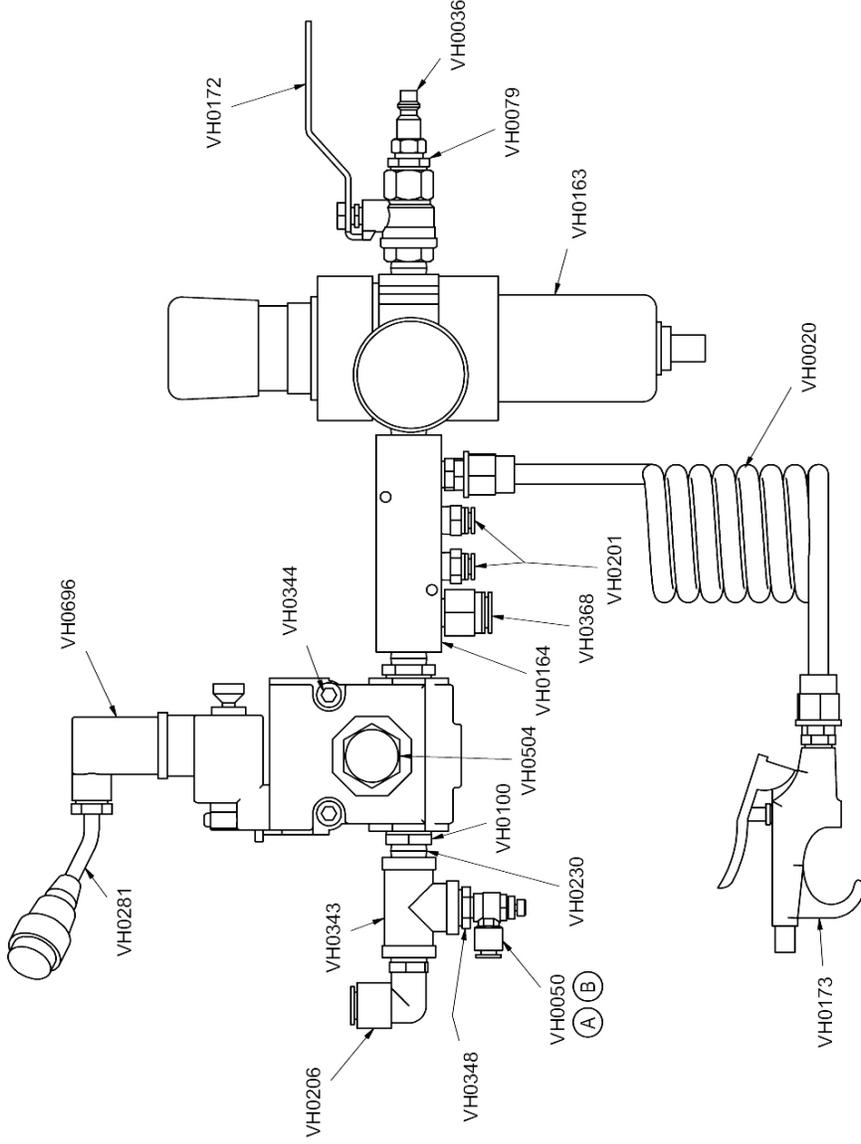
REV	ECN	DESCRIPTION	BY	APPD	DATE
A	931	WAS VH0050	JMW	MR	7-23-09
B	1085	BACK TO VH0050	JMW	JMF	8-11-11

Parts List

PART #	DESCRIPTION	QT
VC5423	CONTROL BOX - 3100	
VC5424	SUB PANEL	
VC5593	USB CABLE ASSEMBLY	
VC5721	NAME PLATE - CLIPPER RAISE / LOWER	
VC5839	NAME PLATE 3100	
VC5840	NAME PLATE - POWER	
VC7780	SHCS, M4 x 10mm	
VH0033	BHCS, 10 -32 x 1/4	
VH0043	NUT, NYLOCK, 8 -32, THIN HT	
VH0271	CAPACITOR	
VH0274	STRAIN RELIEF	
VH0282	RECEPTACLE	
VH0284	RECEPTACLE	
VH0286	RECEPTACLE	
VH0288	DIN RAIL	x 12
VH0288	DIN RAIL	x 6
VH0290	SELECTOR SWITCH	
VH0330	RUBBER BOOT	
VH0331	ADHESIVE PAD	
VH0351	NUT, CONDUIT, 1/2	
VH0369	LINE FILTER	
VH0372	RECEPTACLE	
VH0397	BUTTON GUARD	
VH0417	CONDUIT FITTING CONNECTOR, 3/8 STR	
VH0534	WASHER, FENDER, #10	
VH0614	SHCS, 8 - 32 x 1/2	
VH0712	WIRE DUCT	x 14
VH0712	WIRE DUCT	x 6
VH0713	WIRE DUCT COVER	x 14
VH0713	WIRE DUCT COVER	x 6
VH0798	LIQUITITE, 1/2" STRAIGHT CONNECTOR	
VH0881	RELAY	
VH0882	TOUCH SCREEN	
VH0883	TERMINAL BLOCK, BLACK	
VH0884	TERMINAL BLOCK, RED	
VH0885	TERMINAL BLOCK, BLUE	

PART #	DESCRIPTION	QT
VH0886	TERMINAL BLOCK, WHITE	7
VH0887	TERMINAL BLOCK, GROUND, GRN/YLW	5
VH0888	END STOP	4
VH0889	END COVER	4
VH0890	JUMPER	17
VH0891	TERMINAL BLOCK KIT	1
VH0892	SERVOPACK	1
VH0893	CONTACTOR	4
VH0894	CIRCUIT BREAKER, 3 AMP, 2 POLE	18
VH0895	CIRCUIT BREAKER, 1 AMP, SINGLE POLE	6
VH0896	CIRCUIT BREAKER, 15 AMP, 2 POLE	1
VH0897	TRANSFORMER	1
VH0902	PANEL INTERFACE	1
VH0903	SWITCH, PUSH BUTTON, RED LT	1
VH0904	SWITCH, PUSH BUTTON, EXT, WHT LT	1
VH0905	NAME PLATE, E-STOP	1
VH0906	SWITCH, PANEL MOUNT HANDLE	1
VH0907	SWITCH, 3 POLE & AUXILIARY CONTACT	1
VH0908	ETHERNET HUB	1
VH0909	POWER SUPPLY	1
VH0973	OVERLAY FILM	1
VH0977	HANDLE	2
VH0979	CAT 6 CALBE	3
VH0981	FLEX ENCODER CABLE	1
VH0982	SERVO MOTOR POWER CABLE	1
VH0985	SD MEMORY CARD	18
VH0980	HIGH SPEED RAIL CABLE	6

CABLES

PART NO.	DESCRIPTION	QTY
VH0979	CAT 6 CABLE	3

REV	ECN	DESCRIPTION	BY	APPD	DATE
A	131118	ADD VH0973	RP	JMW	11/18/13
B	150413	REVISED COMPONENTS	RP	MR	04/13/15

VERTEX FASTENERS
1798 SHERWIN AVENUE
DES PLAINES, IL 60018 U.S.A.

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DWN BY JMW
APPD JMF
DATE 9-6-12
SCALE
DWG. NO. VC5425

MATERIAL:
HEAT TREATMENT.
FINISH:

ELECTRICAL CONTROL BOX ASSY

C

Parts List

WIRING SCHEMATIC

WITHOUT SAFETY GUARDING

MAIN POWER FEED
110VAC/1PH/60HZ

[1]OPTIONAL 120VAC(
15 KVA EXTERNAL HMI)

DB9 NOT USED
ETHERNET CAT-6 HMI COMMUNICATIONS/PROGRAMMING
USB

MASTER CONTROL RELAY
VH0893
MCR   A2
        A1

POWER ON/RESET
VH0904
PB-1

PB-2
E-STOP
VH0903

CLIPPER TOOL VALVE
VH0282 SOCKET

SOL-2

VH0891 CABLE AND
PINOUT DIN RAIL STRIP
50 TERMINAL BLOCK

DISCHARGE
CYLINDER VALVE
CR-1   CR-2
A1   A2   A2

CLIPPER TOOL VALVE

POWER SUPPLY
VH0909

HMI/OIT
VH0882

CHASSIS
GND

RAIL SWITCH
PS-3
VH0286 SOCKET

DISCHARGE
CYLINDER VALVE
VH0372 SOCKET

SOL-1

CB2 VH0894
3A   S2   R2

VH0908
5 PORT ETHERNET

VH0980 CABLE
VH0981 CABLE

MOTOR CABLE
VH0882

ENCODER CABLE
VH0981

SERVO
GEAR MOTOR
VH0911

CONTROLLER
MP2600IEC
& AMP
VH0892

TOOL MOTOR
VH0284 SOCKET

BLUE WIRE

M2
CAP.
VH0271

SW1-SPRING
VH0292
RAISE   LOWER

SMUBBER VH0832
SMUBBER VH0833
CR-1

VH0906
VH0907
L1   L2

CB1 VH0896
15A

VH0891
1PH-120V/220VAC
LINE FILTER

T2 ~ 220 TO 110VAC
VH0897

CB3 VH0895
1A

220 V   110 V

VERTEX FASTENERS
1798 SHERWIN AVENUE
DES PLAINES, IL 60018 U.S.A.

VERSACLIPPER 3100

© 2012   DWN BY JMF   APPD   MR
DATE- 9.10.12
SCALE NA
DWG. NO. VC5426

MATERIAL: -
HEAT TREATMENT: -
FINISH: -

REV	ECN	DESCRIPTION	BY	APPD	DATE
A	150429	REVISED	MR	RP	04/28/15
B	151005	REVISED L1 AND L2	RP	MR	10/05/15

WIRING SCHEMATIC
WITH SAFETY GUARDING

REV	ECN	DESCRIPTION	BY	APPD	DATE

MATERIAL:

HEAT TREATMENT:

FINISH:

© 2018

DWN BY	MR
APPD	RP
DATE	1-15-18
SCALE	NA

DWG. NO.   VC5672

C

Parts List

VC5529

PART #	DESCRIPTION	QTY
VC5435	WARNING LABEL MOUNTING PLATE	1
VC5501	DISPENSER FRAME	1
VC5503	CLIP CHUTE	1
VC5504	SPOOL ROD	1
VC5505	MAGNETIC BRAKE BLOCK ASSY	1
VC5507	TRACK	1
VC5508	TRACK GUIDE	4
VC5523	CLIP LIFTER ASSEMBLY	1
VC5524	INSIDE CLIP CHUTE	1
VC5525	STRIP GUIDE FOR CHUTE	2
VH0042	SHCS, 8 - 32 x 1/4	8
VH0043	NUT, NYLOCK, 8 - 32, THIN HT	16
VH0062	NUT, HEX, 5/16 - 18	2
VH0102	SHCS, 8 - 32 x 3/8 W/ PATCH	3
VH0120	WASHER, LOCK, 5/16	2
VH0183	SHCS, 3/8 - 16 x 3/4	1
VH0237	SHCS, 5/16 - 18 x 1 1/2	2
VH0253	CAP	2
VH0260	WASHER, LOCK, 1/4	1
VH0316	SHCS, 1/4 - 20 x 3/4	1
VH0450	SPACER, 1/4 OD x 5/8, #8	20
VH0451	SHCS, 8 - 32 x 1 3/4	10
VH0503	PAN HEAD SCREW, #10 x 1/2	2
VH0872	LABEL, CAUTION, EYE PROTECTION	1
VH0873	LABEL, CAUTION, EAR PROTECTION	1
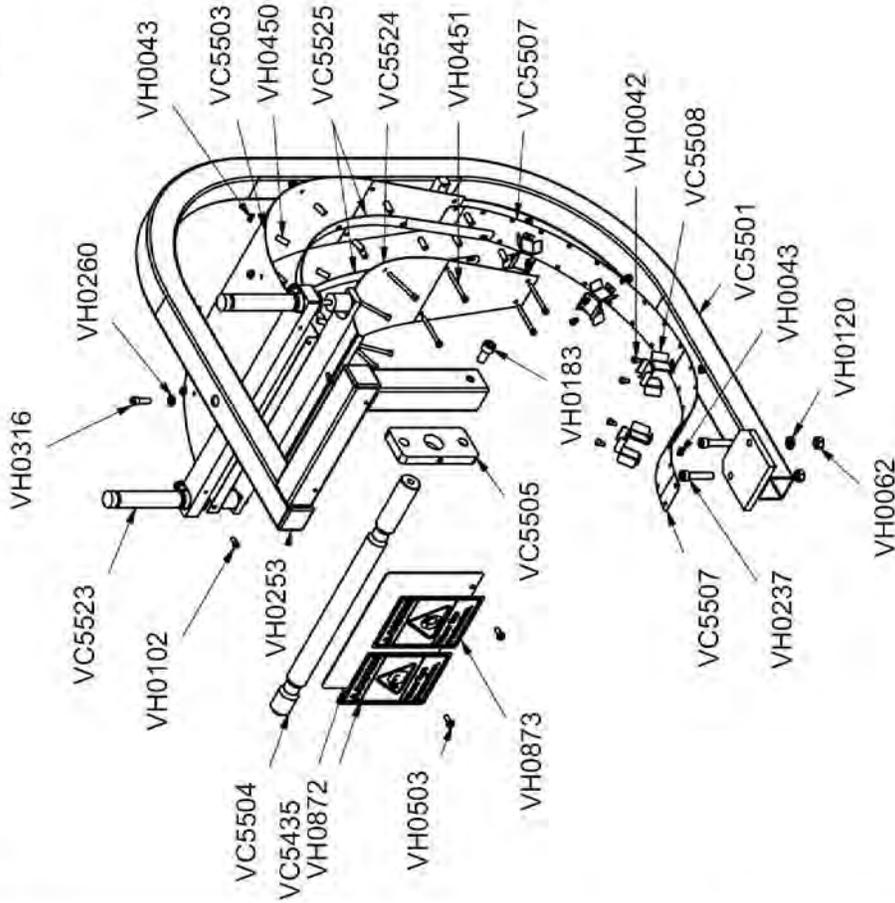
REV	ECN	DESCRIPTION	BY	APPD	DATE
A	1008	VC5530 WAS VC5505	JMW	JMF	1-25-11
B	1101	BACK TO VC5505	JMW	JMF	9-7-11
C	131118	REV: VC5501 ADD LABELS	RP	JMW	11/18/13

MATERIAL:		VERTEX FASTENERS
HEAT TREATMENT:		1798 SHERWIN AVENUE DES PLAINES, IL 60018 U.S.A.
FINISH:		DISPENSER FRAME ASSY

TOL UNLESS SPECIFIED
INCHES:
.X = ± .030
.XX = ± .015
.XXX = ± .005
ANGLES ± 1/2°

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DWN BY   JMW
APPD   MR
DATE   7-10-09
SCALE 1:8
DWG. NO.   VC5529

INVENTOR

A

Parts List

PART #	DESCRIPTION	QT
VC5254	RAIL TRIGGER	1
VC5559	RAIL TRIGGER SWITCH ASSY - SERVO	1
VH0273	STRAIN RELIEF	-
VH0285	RAIL SENSOR CABLE	-
VH0335	SWITCH, TRIGGER	-
VC5742	TRIGGER PLATE	1
VH0143	SHCS, 10 - 32 x 3/4	1
VH0146	SHCS, 10 - 32 x 1 1/2	2

VC5558

15/16 - 1 1/16

VC5254

VH0335

VH0285

VC5742

SEE NOTE 1

VH0143

VH0146

VH0273
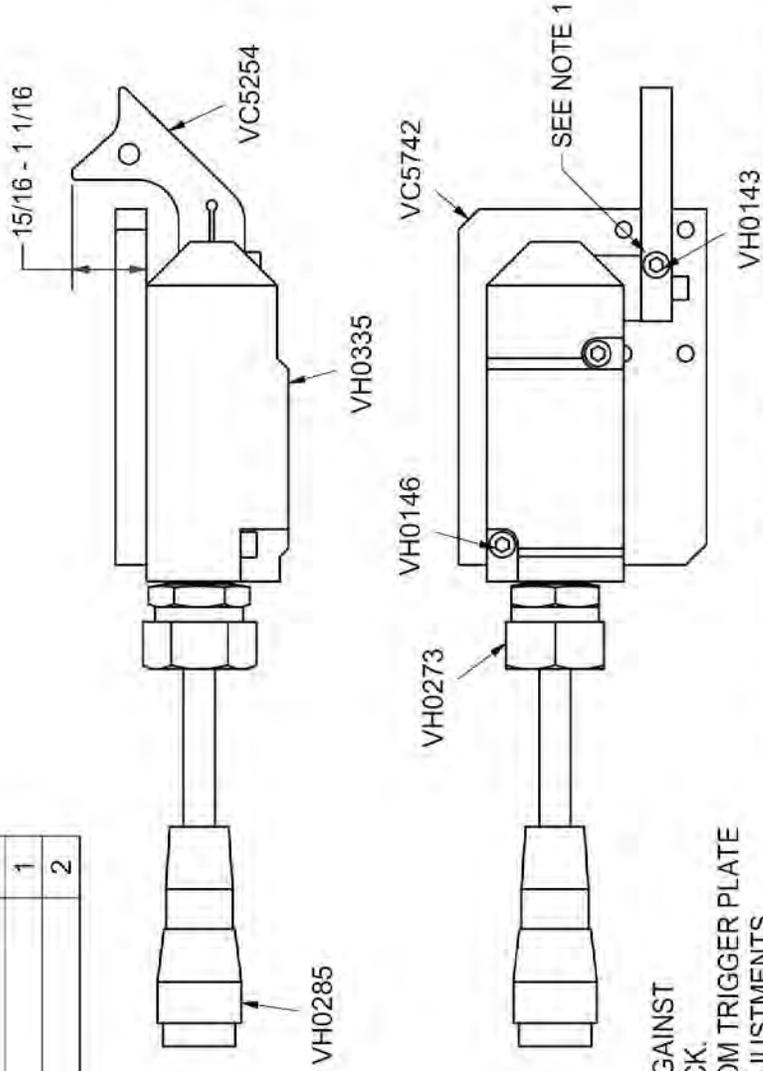
NOTES:
1. RAIL TRIGGER MUST BE PUSHED AGAINST SHOULDER ON RAIL TRIGGER BLOCK.
2. REMOVE RAIL TRIGGER BLOCK FROM TRIGGER PLATE TO MAKE NECESSARY TRIGGER ADJUSTMENTS.

REV	ECN	DESCRIPTION	BY	APPD	DATE

MATERIAL:

HEAT TREATMENT:

FINISH:

TOL UNLESS SPECIFIED
INCHES:
.XX = ± .030
.XXX = ± .005
ANGLES = ± 1/2

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VERTEX FASTENERS
3714 JARVIS AVENUE
SKOKIE, IL 60076 U.S.A.

DWN BY   JMW
APPD   MR
DATE   11-25-08
SCALE 1:2
DWG. NO.   VC5558

RAIL TRIGGER SWITCH
DETAIL – SERVO

INVENTOR

A

Parts List

PART #	DESCRIPTION	QT
VC5259	FENCE POST ASSEMBLY	5
VC5268	FENCE MOUNT	1
VC5269	FENCE POST MOUNT	5
VC5273	PIVOT BUSHING	1
VC5285	ARM	1
VC5850	FRONT FENCE GRIP	2

VC5571

PART #	DESCRIPTION	QT
VC5865	FENCE WASHER	2
VH0037	PUSH-IN FTG, 1/4 x 1/8 NPT	4
VH0060	SHCS, 5/16 - 18 x 3/4	10
VH0186	BHCS, 1/2 - 13 x 1	1
VH0268	SPRING	1
VH0308	SET SCREW, 1/2 - 13 x 3/8	1
VH0309	FHCS, 1/2 - 13 x 1 1/4	6
VH0316	SHCS, 1/4 - 20 x 3/4	4
VH0328	SHCS, 5/16 - 18 x 1/2	2
VH0562	PUSH BUTTON, MANUAL	2
VH0568	RETAINING RING, 5/8 INTNL	2
VH0579	CARTRIDGE VALVE	2
VH0581	CLAMP COLLAR, 1/2 - 20	2
VH0599	CAP	-
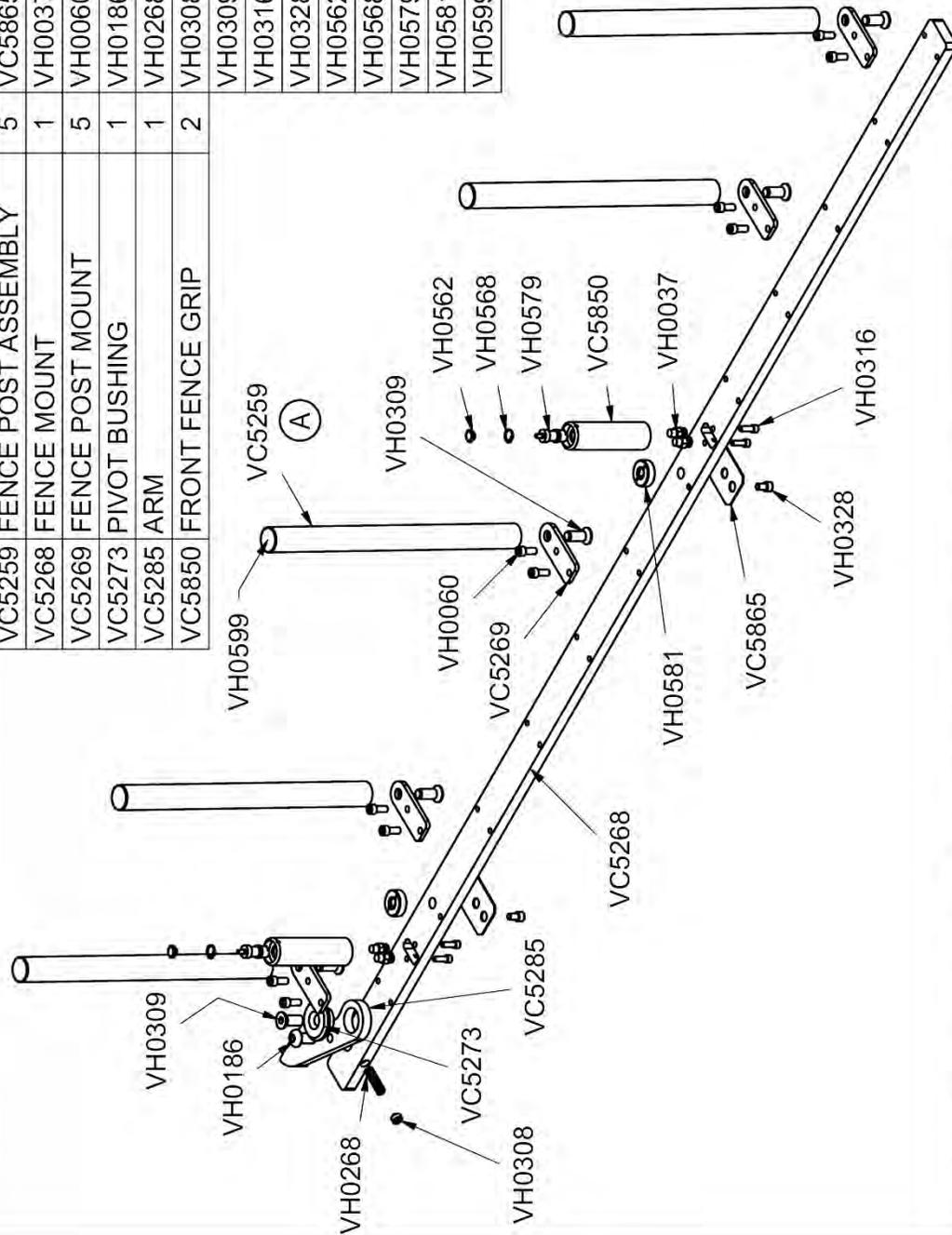
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1798 SHERWIN AVENUE
DES PLAINES, IL 60018 U.S.A.

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DWN BY   JMW
APPD   MR
DATE   7-13-09
SCALE 1:8
DWG. NO.   VC5571

FRONT FENCE DETAIL

A

INVENTOR

TOL UNLESS SPECIFIED		
INCHES		
X = ± .030		
.XX = ± .015		
.XXX = ± .005		
ANGLES ± 1/2		

MATERIAL:

HEAT TREATMENT:

FINISH:

REV	ECN	DESCRIPTION	BY	APPD	DATE
A	1013	WAS VC5893	JMW	JMF	3-16-11

48

Parts List

PART #	DESCRIPTION	QT
VC5577	TAKE-UP BRACKET	2
VC5578	TAKE-UP SCREW	2
VC5589	IDLER SPROCKET BRACKET	1
VH0565	NUT, JAM, 3/4 - 16	2
VH0671	PIN, ROLL, 1/8 x 3/4	2
VH0935	NUT, NYLOCK, 1/2 - 13	1
VH0971	NUT, 1/2 - 13, SLOTTED HEX	2
VH0978	HHCS, 1/2 - 13 x 4 1/2	1
VC5729	IDLER SPROCKET WASHER	1

BOTTOM VIEW

REV	ECN	DESCRIPTION	BY	APPD	DATE
A	130820	ADDED VH0943	JMW	RP	8-20-13
B	131111	ADD VH0671, VH0971	RP	LJC	11/11/13
C	141212	ADD BOLT, DELETE THREADED ROD & NUT	RP	MR	12/12/14

VERTEX FASTENERS
1798 SHERWIN AVENUE
DES PLAINES, IL 60018 U.S.A.

SPROCKET UPTAKE ASSEMBLY - 3100

TOL UNLESS SPECIFIED	MATERIAL:	© 2013	
INCHES .X = ± .030 .XX = ± .015 .XXX = ± .005 ANGLES ± 1/2	HEAT TREATMENT:	DWN BY JMW	APPD JMF
	FINISH:	DATE 1-11-11	SCALE 1:4
	INVENTOR	DWG. NO. VC5590	B

Parts List

PART #	DESCRIPTION	QT
VC5209	SPACER	4
VC5217	ELEVATOR NUT/SPROCKET ASSY	1
VC5261	CHAIN GUARD	1
VC5276	LIFT MOTOR PLATE	1
VC5293	TOOL ELEVATION CHAIN	1
VC5430	SLEEVE BUSHING - 3100	1
VC5431	SHORT ACME ROD	1
VC5437	FIXED PLATE - 3100	1
VC5727	TOOL MOTOR	1
VC5741	SPROCKET SPACER	1
VH0051	SHCS, 10 - 32 x 1/2	2
VH0146	SHCS, 10 - 32 x 1 1/2	3
VH0175	SHCS, 5/8 - 11 x 8	1
VH0184	SHCS, 1/4 - 20 x 2 1/2	4
VH0196	BEARING, CAM ROLLER	4
VH0216	NUT, NYLOCK, 10 - 32	1
VH0270	SPROCKET 14 TEETH	1
VH0324	SPACER, 1/2 OD x 7/8, #10	3
VH0429	MACHINE KEY, 1/8 SQ x 3/4	1
VH0616	WASHER, WAVE SPRING	1

REV	ECN	DESCRIPTION	BY	APPD	DATE

MATERIAL:

HEAT TREATMENT:

FINISH:

VERTEX FASTENERS
1798 SHERWIN AVENUE
DES PLAINES, IL 60018 U.S.A.

TOOL HEIGHT MOTOR
DETAIL - 3100

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DWN BY	JMW
APPD	MR
DATE	3-13-12
SCALE 1:4	
DWG. NO.	VC5598

B

Parts List

VC5541	EXIT PUSHER GLIDE - TRI SERVO	4
VC5695	PUSHER PLATE	4
VC5696	OUTER PUSHER PLATE	4
VC5697	REAR BRACKET	2
VC5698	REAR ANGLE BRACKET	4
VC5699	HEAD BRACKET ASSEMBLY	2
VC5786	EXIT TABLE TOP W/ FRAME & FSTNRS	1
VC5271	EXIT CONVEYOR	(1)
VC5768	TABLE WELDMENT	(1)
VH0198	FHCS, 1/4 - 20 x 3/4	(10)
VH0321	NUT, NYLOCK, 1/4 - 20, HEAVY DUTY	(10)
VH0424	WASHER, 1/4	(10)
VC5836	PUSHER ASSEMBLY	1
VH0002	NUT, FLEX, 1/4 - 20	4
VH0037	PUSH-IN FTG, STR, 1/4 OD x 1/8 NPT	4
VH0060	SHCS, 5/16 - 18 x 3/4	8
VH0062	NUT, HEX, 5/16 - 18	6
VH0069	PUSH-IN FTG, 90, 1/4 OD x 1/8 NPT	4
VH0083	WASHER, HI-COLLAR, #10	8
VH0120	WASHER, LOCK, 5/16	10
VH0128	FHCS, 3/8 - 16 x 1 1/2	2
VH0152	FHCS, 1/4 - 20 x 1/2	4
VH0207	NUT, JAM, 3/8 - 16, GR5	2
VH0220	SHCS, 1/4 - 20 x 1/2	4
VH0246 x 12	TUBING, 1/4, POLYETHYLENE	2
VH0246 x 23	TUBING, 1/4, POLYETHYLENE	2
VH0246 x 6	TUBING, 1/4, POLYETHYLENE	2
VH0260	WASHER, LOCK, 1/4	4
VH0322	NUT, HEX, 1/4 - 20	4
VH0359	PUSH-IN FTG, TEE, 1/4 OD	2
VH0365	CYLINDER	2
VH0366	CYLINDER, HARDWARE	2
VH0377	NUT, JAM, 7/16 - 20	2
VH0378	HHCS, 1/4 - 20 x 3/4, FULL THD	4
VH0424	WASHER, 1/4	4
VH0629	SHCS, 10 - 24 x 5/8	4
VH0658	SHCS, 10 - 24 x 3/4	4
VH0840	FLOW CONTROL VALVE	2
VH0938	P-CLIP, NYLON, BLACK	4
VH0954	SELF-DRILLING SCREW, 6 - 20 x 3/8	4
VH0966	BELLOWS	2
VH0970	PIN, CLEVIS, 1-PC LCKG, 3/8 OD x 3/4	2
VH1005	FHCS, 10 - 24 x 3/8	8

REV	ECN	DESCRIPTION	BY	APPD	DATE	MATERIAL:
G	1310	TUBING & P-CLIP	JMW	JMF	5-6-13	

Parts List

PART #	DESCRIPTION	QT
VO0004	SPRING, PISTON	1
VO0006	PISTON ASSEMBLY	1
VO0009	ROLLER	1
VO0011	LINK	2
VO0230	WARNING LABEL	1
VC5100	PISTON (CLIP FEEDER)	1
VC5101	DRIVER BLADE	1
VC5102	TOP PLATE	1
VC5103	CYLINDER BODY (CLIP FEEDER)	1
VC5105	CYLINDER END CAP (CLIP FEEDER)	1
VC5106	ANVIL	1
VC5107	LEFT-HAND SIDE PLATE	1
VC5108	LEFT-HAND SIDE PLATE	1
VC5110	BLADE GUIDE	1
VC5114	FRONT PLATE	1
VC5115	MOUNTING BRACKET	1
VC5117	CYLINDER MOUNT	1
VC5118	TORSION SPRING	2
VC5119	LINK PIN	1
VC5120	YOKE	1
VC5121	BODY	1
VC5122	PAWL SPRING	2
VC5123	LEFT-HAND PAWL	1
VC5126	RIGHT-HAND PAWL	1
VC5127	VERSACLIPPER LABEL	1
VC5129	SPRING	1
VC5132	CAP	1
VC5266	PIN, FEED CYLINDER	1
VC5272	TOOL FENCE ASSEMBLY	1
VC5706	HEIGHT GAUGE PIN	-
VC5709	PIVOT ARM MOUNT	1
VH0003	EXIT PRESSER FOOT	5
VH0009	SHCS, 10 - 14 x 5/8 PLASTITE	1
VH0010	O-RING, #940	-
VH0012	O-RING, #335	1
VH0013	PIN, ROLL, 1/8 x 1 1/4	1
VH0030	PIN, DOWEL	-
VH0051	O-RING, 7/16 x 5/8	4
VH0066	SHCS, 10 - 32 x 1/2	2
VH0069	SHCS, 8 - 32 x 5/8	1
VH0135	PUSH-IN FTG, 90, 1/4 OD x 1/8 NPT	-
VH0152	O-RING, #210	2
VH0154	FHCS, 1/4 - 20 x 1/2	3
VH0157	NUT, NYLOCK, 5/16 - 18	2
VH0206	SHCS, 1/4 - 20 x 5/8 W/ PATCH	1
VH0226	PUSH-IN FTG, 90 1/2 OD x 3/8 NPT	4
VH0227	SHCS, 5/16 - 24 x 1 3/4	4
VH0246 x 8	NUT, FLEX, 5/16 - 24	1
VH0262	TUBING, 1/4	2
VH0320	SHOULDER BOLT, 3/8 x 1 1/4	-
VH0344	PIN, SLOTTED, 5/32 x 5/8	2
VH0346	SHCS, 5/16 - 18 x 2	1
VH0349	SPRING	1
VH0391	SHOULDER BOLT, 3/8 x 3/4	1
VH0531	PUSH-IN FTG, 1/4 x 1/8 NPT	1
	HAIR PIN	1

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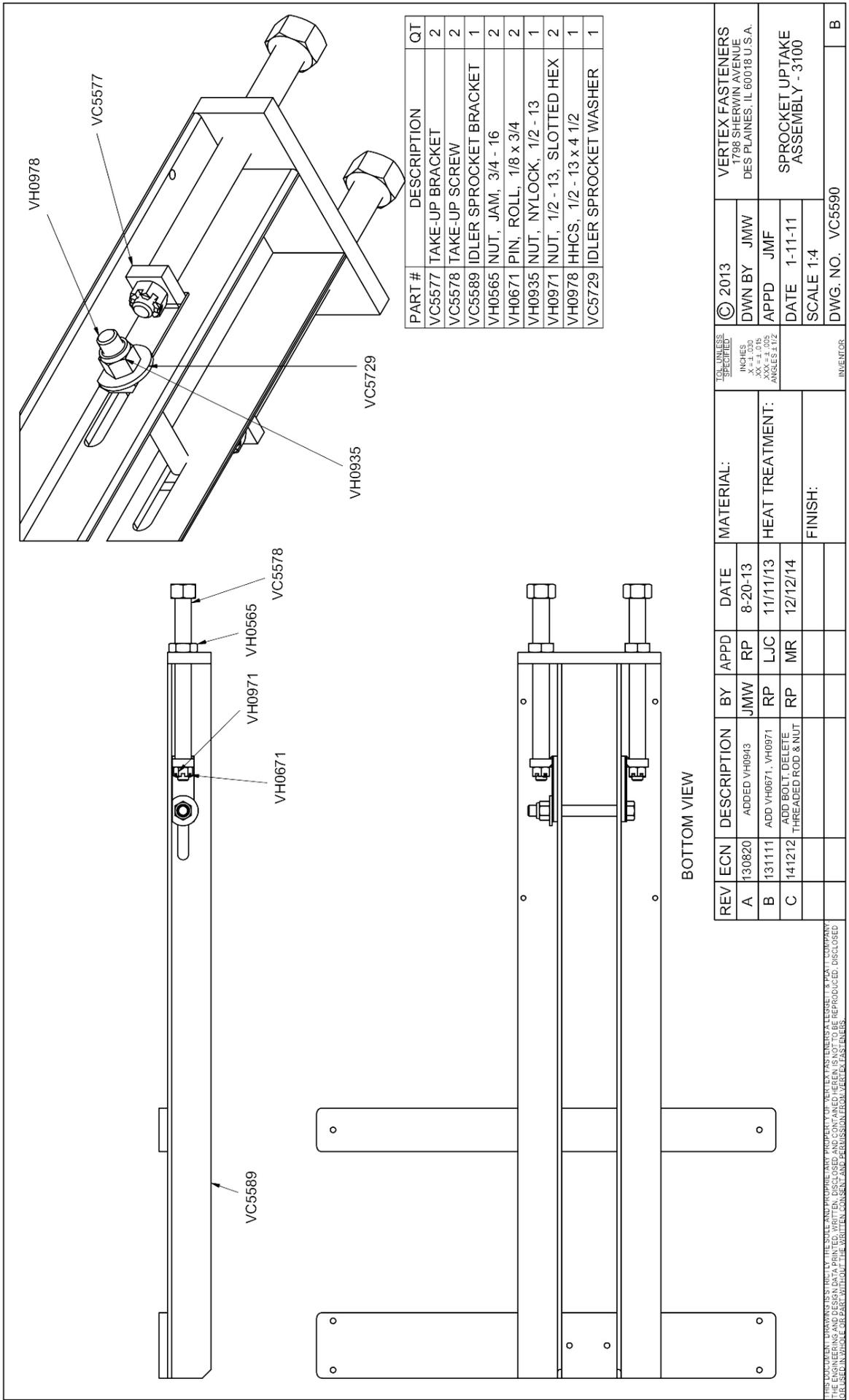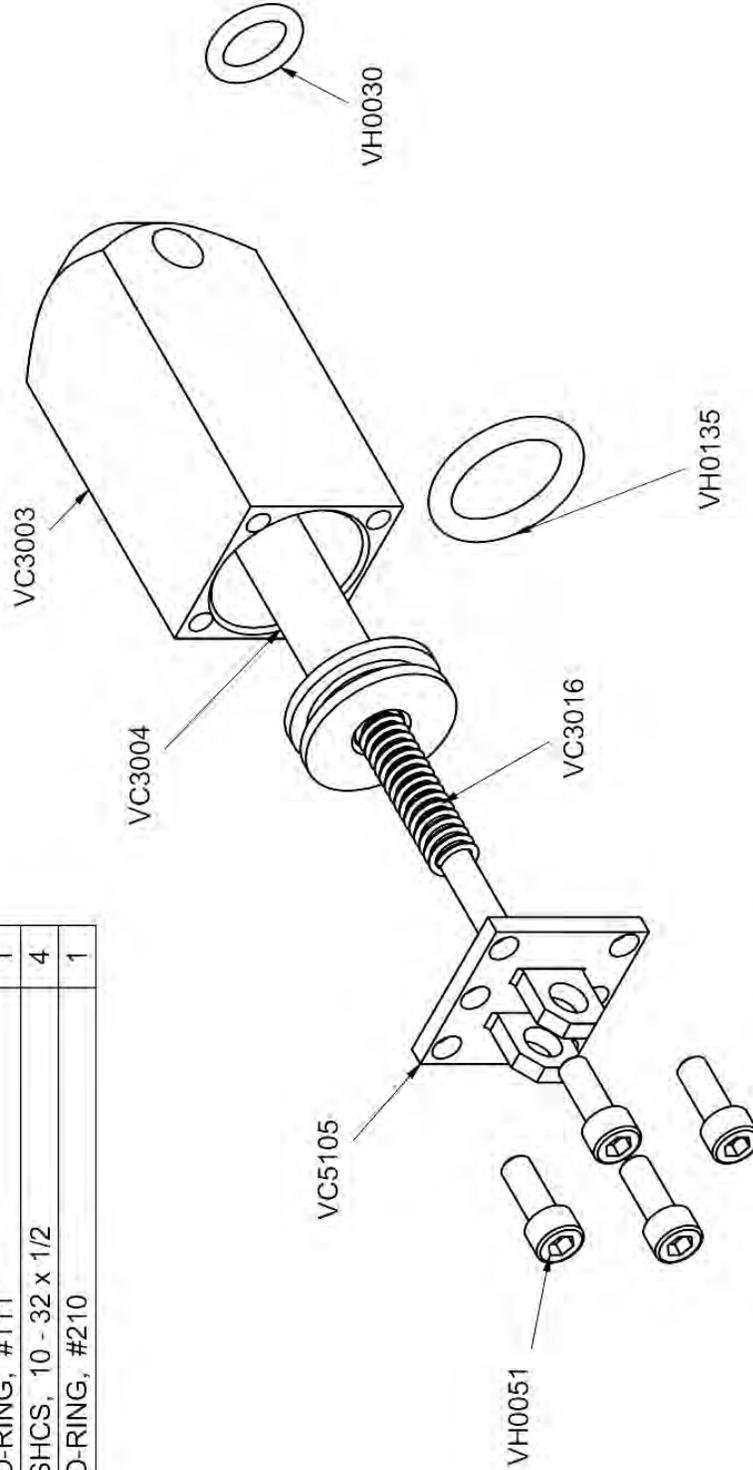OR DISCLOSED IN WHOLE OR IN PART TO ANYONE WITHOUT THE PERMISSION OF VERTEX FASTENERS.

PART #	DESCRIPTION	QT
VC3003	CYLINDER BODY (CLIP FEEDER)	1
VC3004	PISTON (CLIP FEEDER)	1
VC3016	CLIP FEEDER SPRING	1
VC5105	CYLINDER END CAP (CLIP FEEDER)	1
VH0030	O-RING, #111	1
VH0051	SHCS, 10 - 32 x 1/2	4
VH0135	O-RING, #210	1

VH0030

VC3003

VH0135

VC3004

VC3016

VC5105

VH0051

VERTEX FASTENERS
3714 JARVIS AVENUE
SKOKIE, IL 60076 U.S.A.

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DWN BY   JMW

APPD   DA

DATE   10-26-05

SCALE FULL

DWG. NO.   VC3006

CLIP FEEDER ASSEMBLY,
FACE CLIP

A

INVENTOR

TOL UNLESS
SPECIFIED
INCHES
X = ± .030
XX = ± .015
XXX = ± .005
ANGLES ±1/2°

MATERIAL:

HEAT TREATMENT:

FINISH:

REV	ECN	DESCRIPTION	BY	APPD	DATE