

Delastall® Automatic Installer Kompressor

Owner's Manual



Delastall® Automatic Installer – Kompressor

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Introduction

This manual describes how to adjust, maintain, and troubleshoot the Delastall Kompressor, which is designed to automatically install up to a nominal 1-1/4" wide pavement seal in concrete joints. The machine has an engine that powers compression blades and a glue pump. Field variables that can affect the success of an installation are discussed below.

The Delastall Kompressor will install the seals listed in Table 1. Field trials will also demonstrate compatibility with other seals. If difficulty is encountered while installing the seal, check the machine setup and use the troubleshooting guide found on pages 20–21 of this manual to solve the problem.

Table 1 D.S. Brown Delastic® Seals Compatible with the Delastall Kompressor

Delastic® Seal Catalog No.	SEAL CHARACTERISTICS			JOINT DESIGN CRITERIA			Typical Installed Width*
	Nominal Width (W)	Nominal Height (H)	Max. Movement ¹	Narrowest Opening ²	Widest Opening ³	Minimum Depth	
E-437	0.437 (11.11)	0.937 (23.81)	0.153 (3.88)	0.219 (5.56)	0.372 (9.45)	1.000 (25.40)	0.250 (6.35)
E-562	0.562 (14.29)	0.625 (15.88)	0.188 (4.78)	0.290 (7.37)	0.478 (12.14)	1.063 (27.00)	0.3125 (7.94)
E-686	0.687 (17.46)	0.687 (17.46)	0.259 (6.59)	0.325 (8.26)	0.584 (14.84)	1.188 (30.18)	0.375 (9.53)
E-816	0.812 (20.64)	0.830 (21.08)	0.313 (7.95)	0.378 (9.59)	0.691 (17.54)	1.438 (36.53)	0.500 (12.70)
E-1006	1 (25.40)	1 (25.40)	0.450 (11.43)	0.400 (10.16)	0.850 (21.59)	1.625 (41.28)	.500-.5625 (12.70-14.29)
E-1256	1.250 (31.75)	1 (25.40)	0.563 (14.30)	0.500 (12.69)	1.063 (26.99)	1.875 (47.63)	0.750 (19.05)

First number shown in bold represents inches, metric dimensions (mm) are shown in parentheses.

Notes:

- 1 Maximum movement which seal will accommodate in joint with correct design.
- 2 A narrower opening will place excessive stress on the seal and may cause premature failure.
- 3 A wider opening may not provide sufficient compressive force to hold the seal in place.

* To be used as reference only. Installed width may vary by project.

It is important to understand that compression refers to the cells of the pavement seal being closed; the neoprene webs and walls themselves cannot be compressed. To obtain a proper installation, the seal must compress to a width that is less than the joint width.

A saw cut must be made in the pavement to accept the seal. The saw cut must be properly sized to accept the selected paving seal (see Table 1). It is important that the actual joint width corresponds to the nominal width and depth as detailed in the plans. Joints must be uniform in width through the depth of the joint. An easy method of precisely monitoring joint widths and tolerances is by using drill bits or key stock to check sizing.

NOTE

The gauge blocks provided with this machine should **NOT** be used to monitor joint width. These are for machine setup only.

Surface textures can create a condition that inhibits installation. However, seal selection, equipment setting, and operator technique can easily overcome surface irregularities. Proper adjustment of the Delastall Kompressor is vital in attaining a successful installation.

Adjusting the Delastall Kompressor

Adjusting Compression Blades

1. Remove the guarding by removing thumb screws 1A and 1B, and removing screw 1C, as shown in Figure 1.



Figure 1 Remove Guarding

2. Remove drive chains by loosening the idler brackets (2A) and removing the master links (2B).

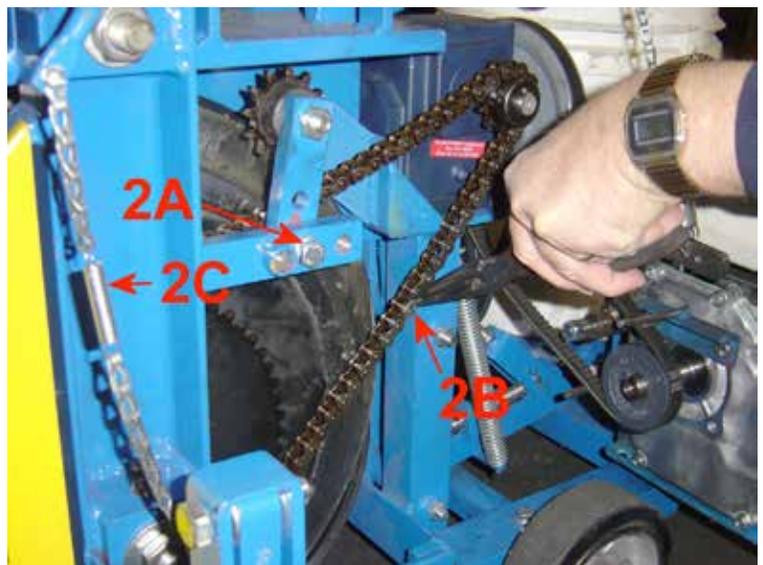


Figure 2 Remove Drive Chain

List of Tools Needed to Adjust the Delastall Kompressor

- Allen Wrenches: 3/32", 3/16", 1/4", 5/16"
- (2) 5-Gallon Buckets
- Bag of Cleaning Rags
- Cleaning Solution (Minimum 1-gallon)
- (1) Needle Nose Pliers
- Screwdrivers: #2 Philips, Flat Head
- (1) 5/1 Putty Knife
- (1) Hammer
- (1) Water Pump Pliers
- (1) Tape Measure
- Combination Wrenches: 5/8", 9/16", 1/2", 7/16", 1-1/16"
- Crescent Wrenches: 8", 10"

3. Unhook the caster wheel release springs (2C) from the chain.
4. Loosen the hinge bolts at the top of the machine and flip them up (3A).
5. Remove the outer frame connecting bolts at the rear of the outer frame (3B).

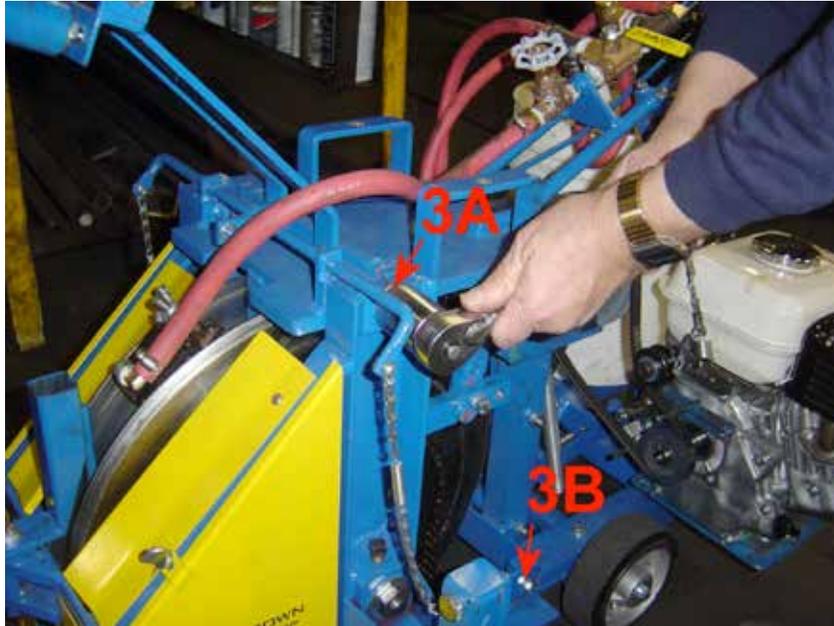


Figure 3 Remove Outer Frame

6. Hinge the outer frame open and remove it. This leaves only the inner frame.
7. Turn the outer frame upside down and insert the setup tube (located inside the handle during normal operation) as shown in Figure 4.

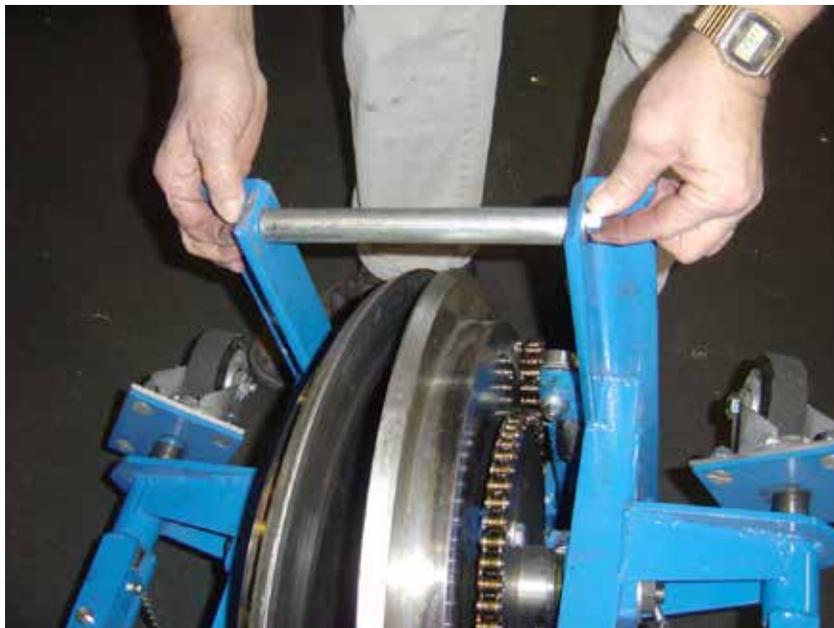


Figure 4 Insert Setup Tube

8. Loosen the setscrews on the shaft of the compression blades (5A).
9. Loosen the nuts on the end of the axle shafts (5B).

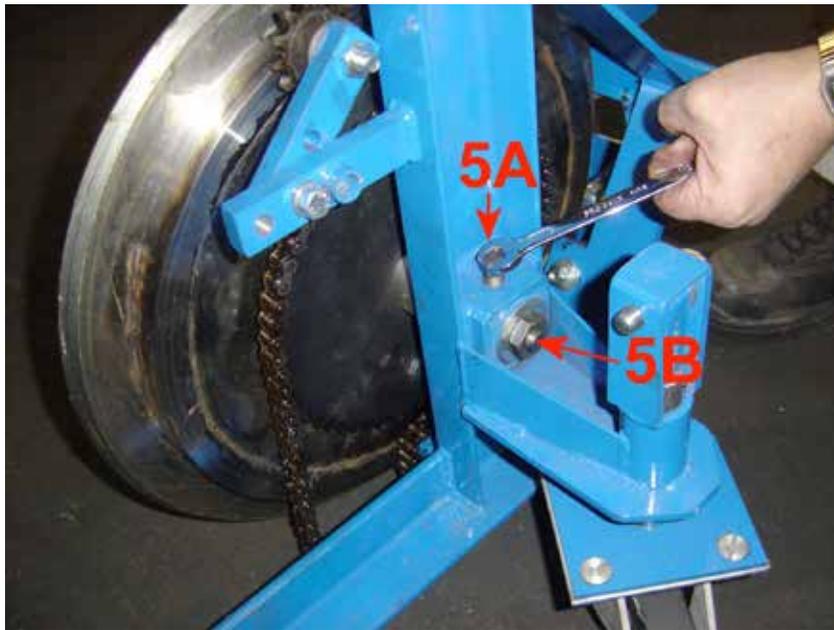


Figure 5 Loosen Compression Blades

10. Loosen all four compression blade support bearings (6A) by backing off the set screws (6B) and loosening the 9/16" nuts (6C).

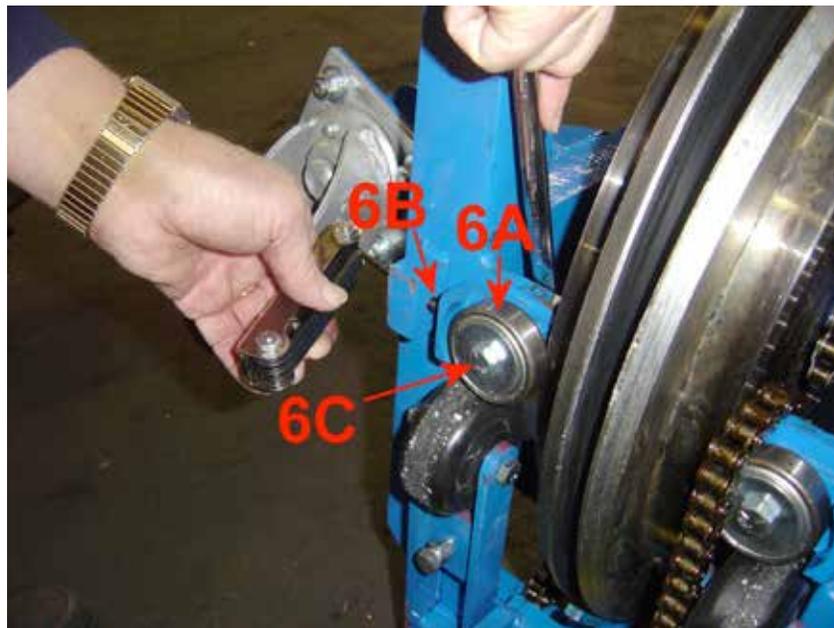


Figure 6 Loosen Compression Blade Support Bearings

11. Slide the compression blades toward/away from each other until they are approximately 1/16" narrower than the measured width of the joint. Use Table 2 as a guide when adjusting compression wheel gap settings for nominal seal sizes. A complete set of gauge blocks (7A) have been provided with the Delastall Kompressor to assist with gap setup. Be sure to keep the compression blades in the center of the frame. This can be accomplished by measuring the distance from the inside face of the compression blade to the inside edge of the lower frame angle, as shown in Figure 7, item B. This measurement should be used as the main setup reference.

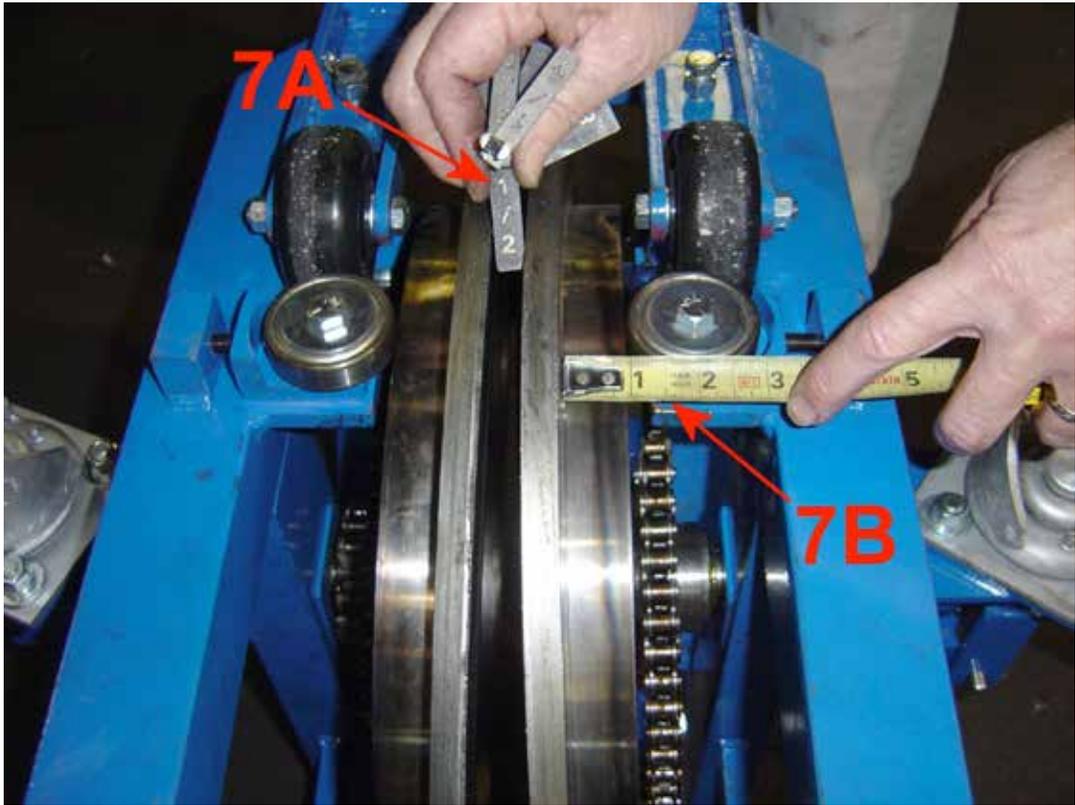


Figure 7 Adjusting Compression Blades

Table 2 Compression Blade Gap Settings for Normal Seals

Nominal Seal Size	Typical Joint Width	Compression Blade Gap Settings
7/16"	1/4"	3/16"
9/16"	5/16"	1/4"
11/16"	3/8"	5/16"
13/16"	1/2"	7/16"
1"	9/16"	1/2"
1-1/4"	5/8"	9/16"
1-5/8"	7/8"	3/4"

NOTE

The provided gauge blocks are sized 1/16" under the stamped size. For example, the 1/2" block is 7/16" wide and should be used with 1/2" wide saw cuts. Place the correct block between the compression blades at the tangent point between the slab and compression blades. Adjust the compression blades to be coincident with the gauge block faces and tighten them in place. Remove the gauge blocks and verify the correct dimension before installing.

12. Once the compression blades are set, snug the setscrews (5A) on the shaft of the compression blades. Tighten the nuts (5B) on the end of the axle shafts.

WARNING

AVOID OVER-TIGHTENING THE SETSCREWS (5A) ON THE COMPRESSION BLADE SHAFT AS THIS MAY CAUSE BEARING DAMAGE.

13. Adjust the compression blade support bearings (6A) to contact the compression blades. Turn in the setscrews (6B) and tighten the 9/16" nuts (6C). Check the bearing contact after tightening the set screw and nut. It should still be possible to turn the bearings by hand.
14. Turn the outer frame right side up. Remove the setup tube (Figure 4).

NOTE

Skip to "Adjusting the Seal Guide System" and "Adjusting Discharge Blade Depth" if necessary before completing steps 15 and 16.

15. Reattach the outer frame to the inner frame. Reattach the drive chain (2B) and tighten the idler sprocket (2A). Reattach the caster wheel springs to the chains (2C).
16. Reinstall the guarding (Figure 1).

Adjusting the Seal Guide System

1. Hinge one side of the outer frame open (see Adjusting Compression Blades, steps 1 – 4).
2. Loosen the front seal guide bolt (8A) and adjust the front plate (8B) to the outside edge of the compression blades. Tighten in place.
3. Feed a short piece of seal (8C) into the tube guide (8D). Loosen the tube guide bolt (8E) and adjust the guide so the seal is kept to the outside edge of the compression blades. Tighten in place.
4. Feed the seal past the wire guide (8F). Loosen the wire guide set screws (8G) and adjust the wire guide against the seal. The wire guide should be adjusted to keep the seal to the outside edge of the compression blades, but should not pinch or bind the seal. Leave about 1/4" clearance between the seal and guide wire to allow for seal compression.
5. Reattach the outer frame to the inner frame.

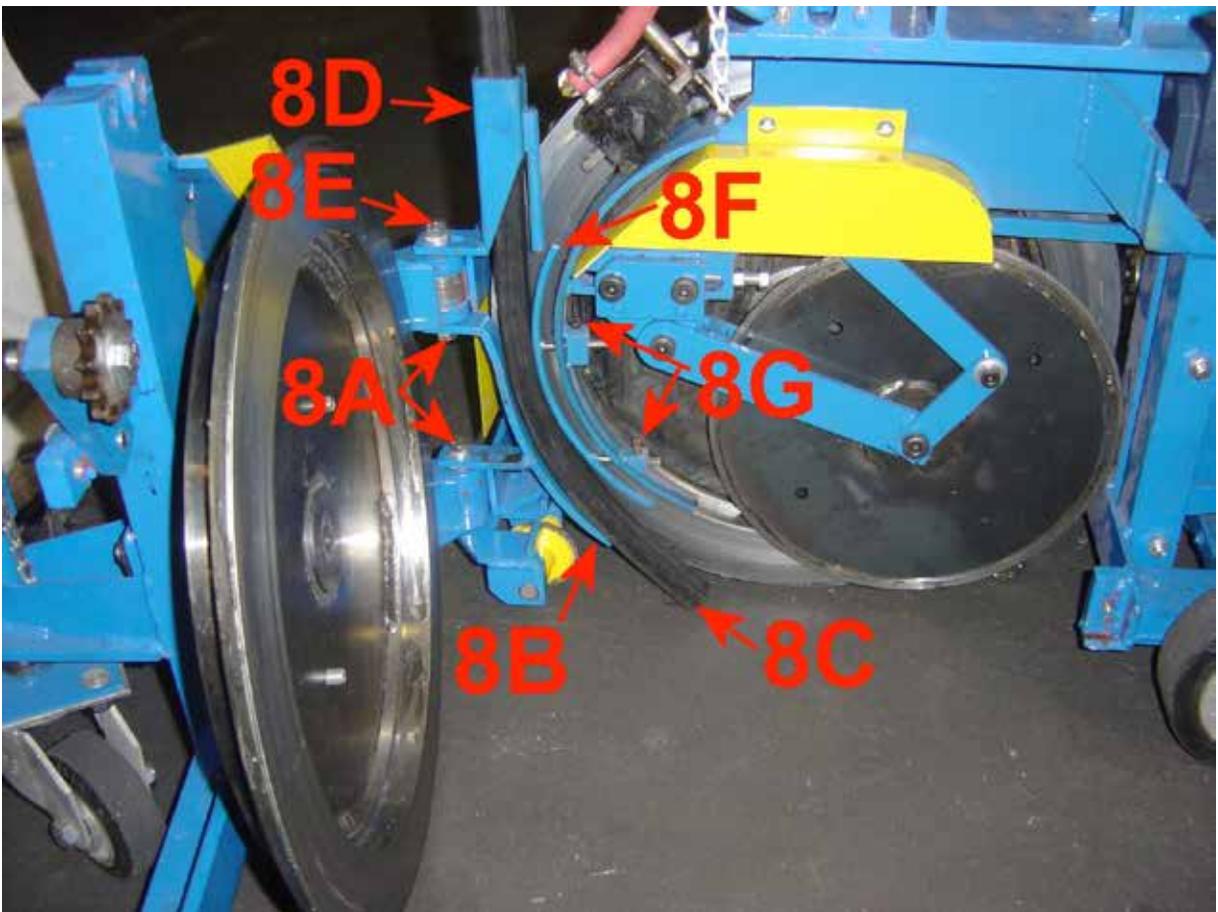


Figure 8 Adjusting the Seal Guide System

Adjusting Wheel Height

When setup properly, the compression blades will be adjusted to brush the top of the joint, but not quite low enough that the installer pulls itself. To properly adjust the wheel height of the Delastall Kompressor:

1. Lower the machine to its operating position in the joint.
2. Loosen the wheel adjustment-securing nut (9A) and turn the bolt (9B) counter-clockwise to raise the Delastall Kompressor, clockwise to lower.
3. Keep the machine level by adjusting each side equally.
4. Retighten the wheel adjustment securing nut (9A).

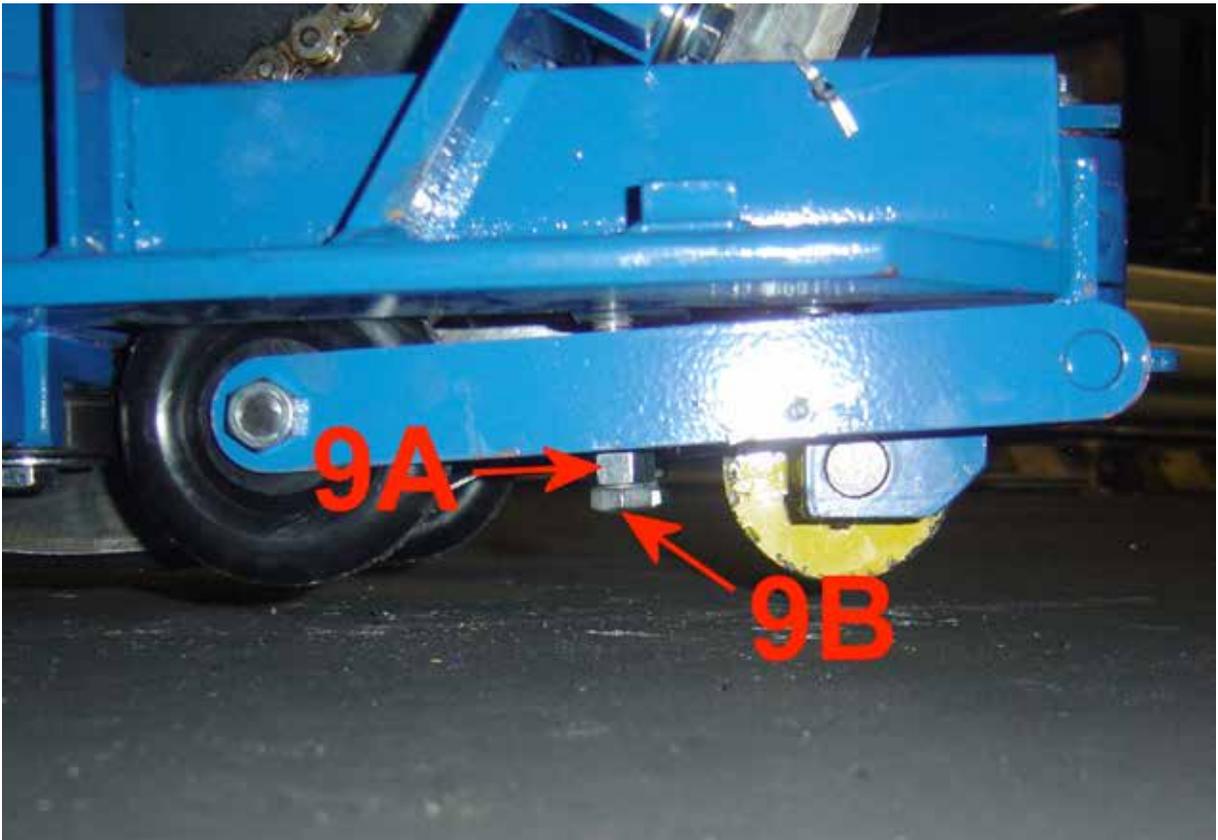


Figure 9 Adjusting Wheel Height

Adjusting Discharge Blade Depth

1. Lower the Delastall Kompressor into a joint and lower the discharge blade to the installation depth by stepping on the discharge blade foot pedal (10A).
2. Using a wrench, turn the depth adjustment bolt (10B) clockwise to increase the seal depth and counterclockwise to decrease the seal depth.
3. For more adjustment, the adjustment rod linkage (10C) may be shortened or lengthened by loosening the set nuts (10D) and resetting the linkage to the desired location. For more depth, move the linkage up the rod. For less depth, move the linkage down the rod.

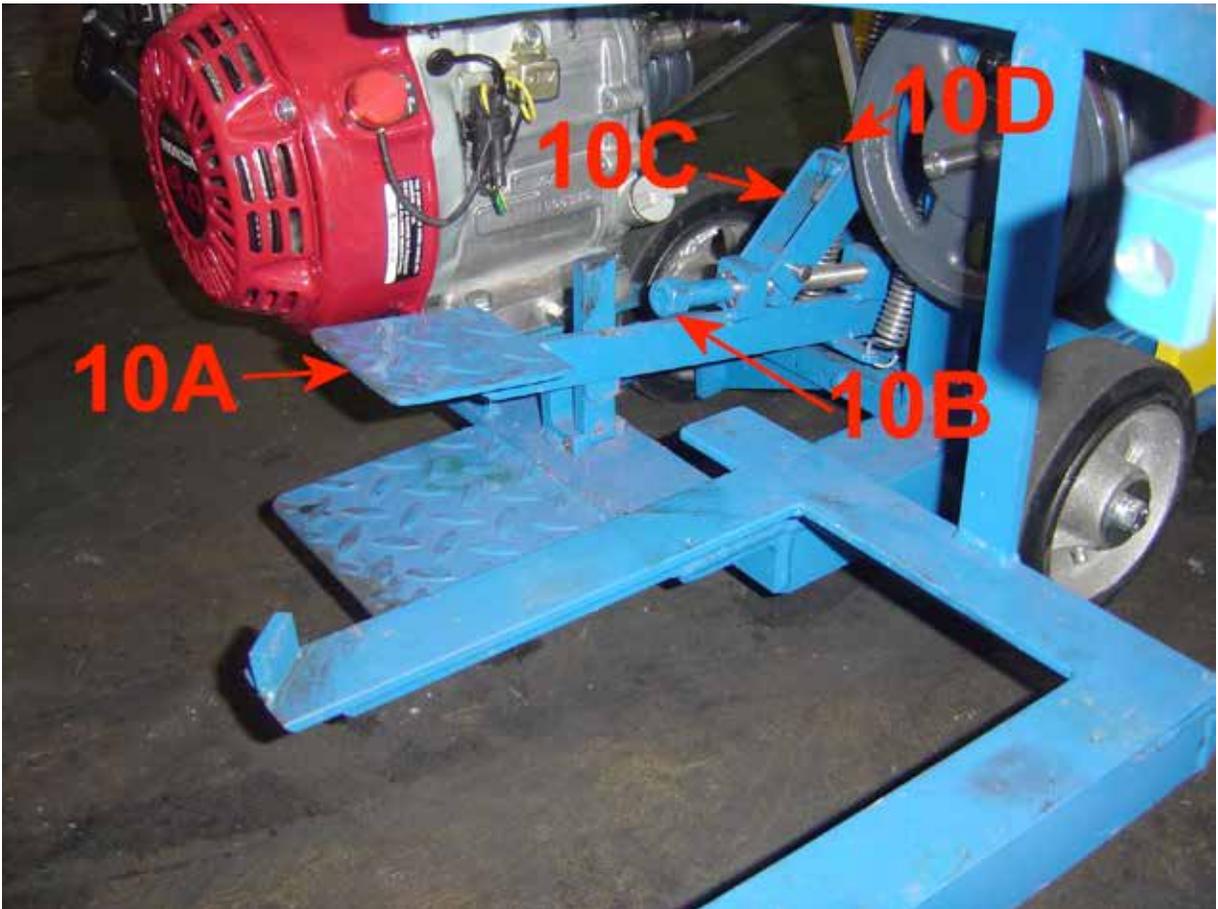


Figure 10 Adjusting Discharge Blade Depth

4. The discharge blade can be moved forward or backwards with relation to the compression blades. To make this adjustment,
 - a. Lower the Delastall Kompressor into a joint and lower the discharge blade to the installation depth by stepping on the discharge blade foot pedal (10A).
 - b. Hinge one side of the outer frame open (see Adjusting Compression Blades, steps 1 – 4).
 - c. Loosen linkage shoulder bolts (11A).
 - d. Loosen the linkage adjustment lock nut (11B).
 - e. Turn the adjustment screw (11C) in to move the discharge blade forward, out to move the blade toward the operator.
 - f. Retighten the linkage shoulder bolts (11A).
 - g. Place a piece of seal (11D) in the seal guide (11E) and note its position in relation to the discharge blade. Make any necessary adjustments before closing outer frame.

NOTE

It is very important that the cap screw and lock nut are secure before operation of the Delastall Kompressor.

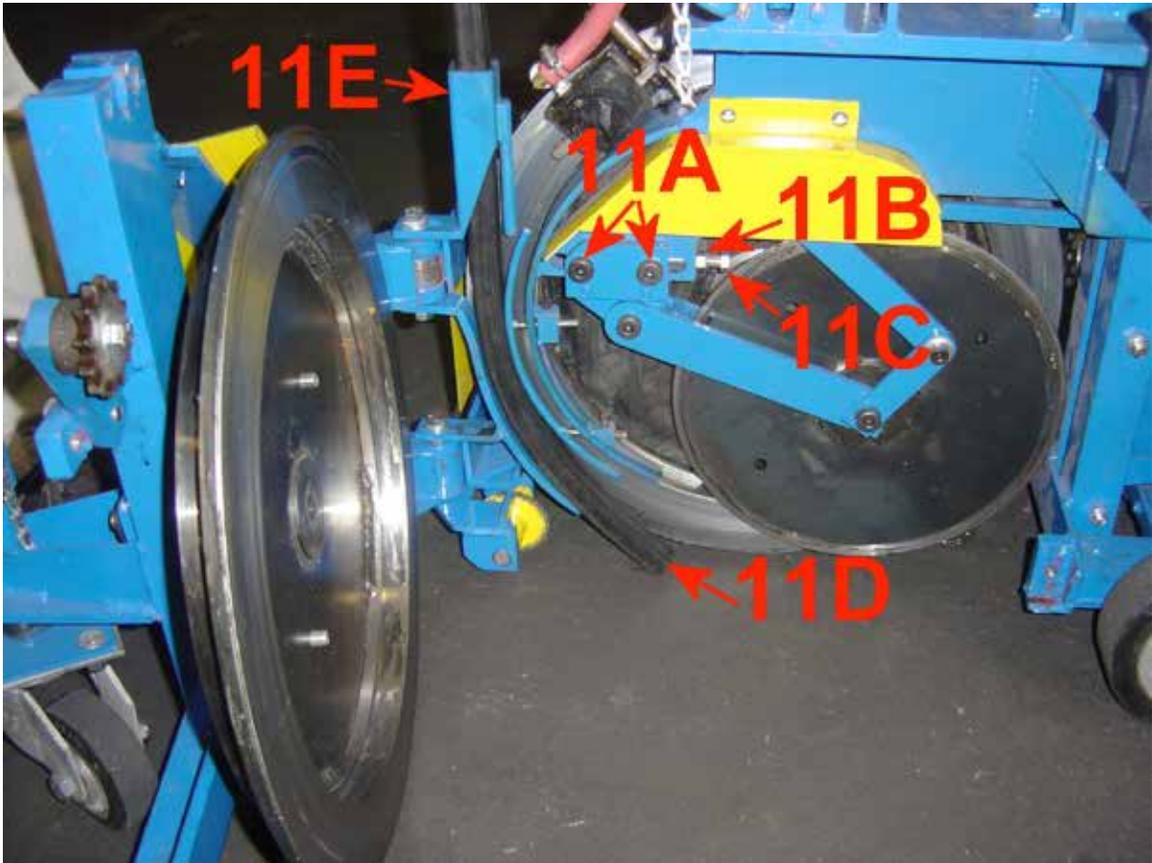


Figure 11 Adjusting Discharge Blade Position

Adjusting the Glue System

1. The glue system operates using a belt driven positive displacement pump. The pump is fed by a pipe that is dropped into a glue bucket. The glue pump feeds the operator control panel (Figure 12). Glue flow is directed by the 3-way valve (12A). Flow rate is controlled by the gate valve (12B).

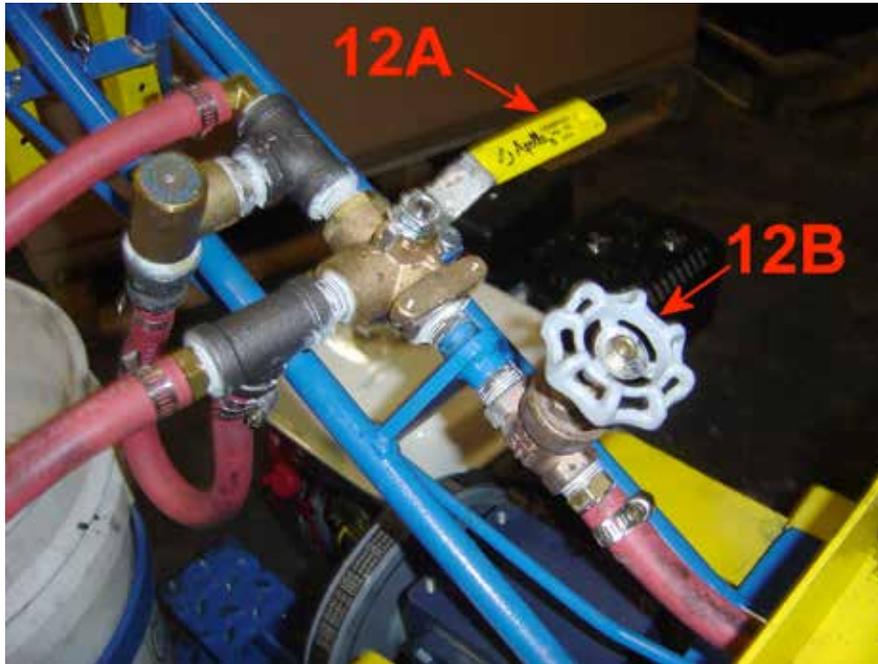


Figure 12 Glue System Layout

2. As shown in Figure 13, the glue can:
 - a. be recirculated to the glue bucket (13A).
 - b. be fed through the glue blocks and recirculated to the glue bucket at the same time (13B).
 - c. be fed to the glue blocks only (13C).

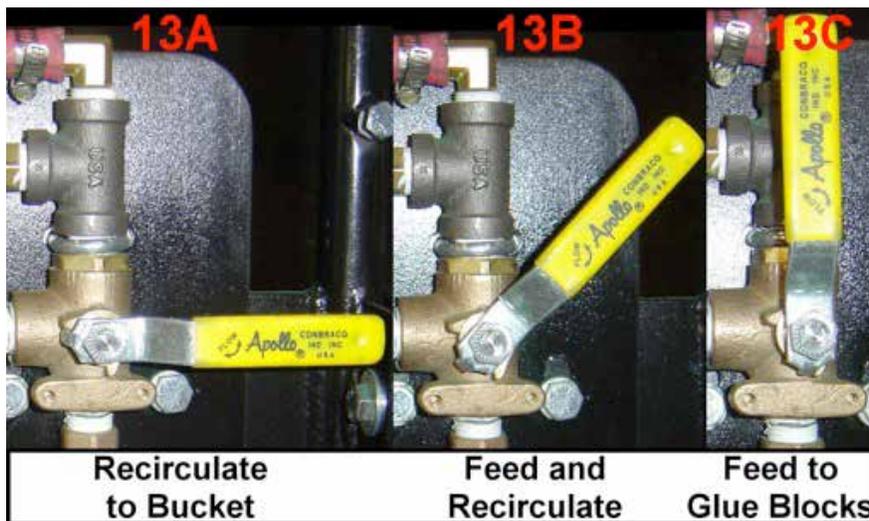


Figure 13 Glue System Operation

3. Glue flow can be adjusted using the gate valve (12B).
 - a. To increase glue flow, turn the value counter-clockwise.
 - b. To decrease glue flow, turn the valve clockwise.
4. Glue is fed onto the compression blades through glue blocks (14A). These should be adjusted to just touch the compression blades. To make this adjustment,
 - a. Remove the glue block assembly from the mounting stud.
 - b. Loosen the center block securing nut (14B).
 - c. Replace the glue block assembly on the mounting stud and slide the glue block assembly (14C) forward into the compression blades.
 - d. Remove the glue block assembly from the mounting stud and tighten the securing nut (14B) to lock the glue blocks in place.

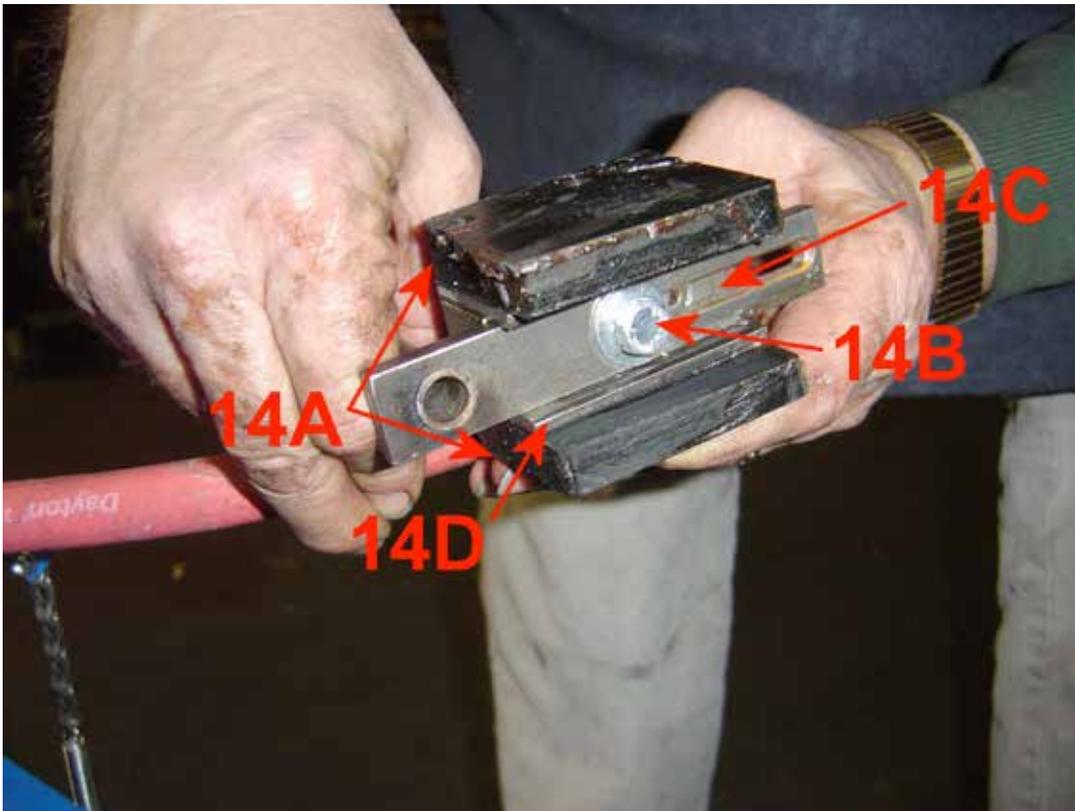


Figure 14 Adjusting Glue Block Placement

- e. If there is still a gap between the compression blades and the glue blocks, remove the glue block assembly from the Delastall Kompressor and add spacer plates (14D) between the glue blocks and the center block. Re-install the glue block assembly and repeat steps A and B, if necessary.
5. A properly adjusted glue system should place a distinct bead of glue on each compression blade. The compression blade will then apply the glue to the lower sides of the compression seal. The installed seal should not show signs of excess glue on the edges of the joint or on top of the seal. Adjust the glue flow as needed to achieve a proper installation.

Operating Instructions

1. Check oil and gas levels.
2. Start the engine.
3. Verify the Auto-Installer is in the **UP** position.
4. Turn the glue control valve to position 13A (Figure 13) to recirculate the glue to the bucket.
5. Engage the drive system using the motion control rod (15A). Turn the handle clockwise, pull it backward, and rest it on the engagement clip.

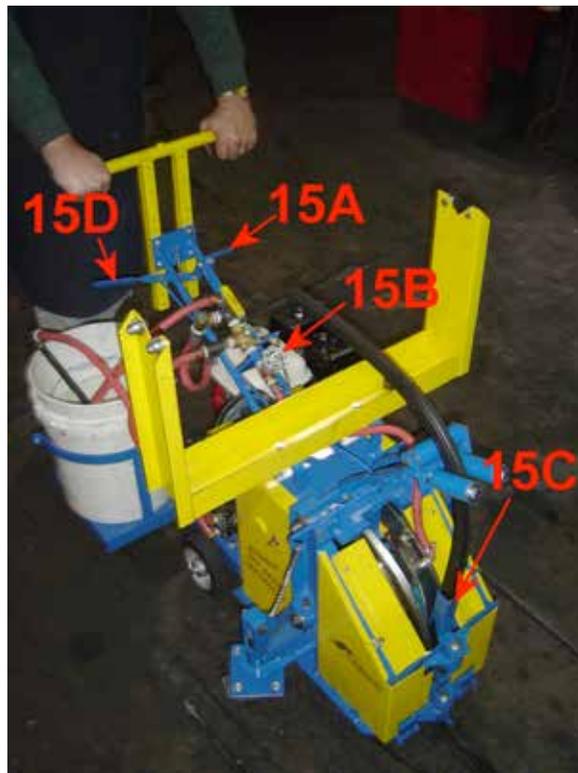


Figure 15 Operating the Delastall Kompressor

6. Allow the drive system to run for approximately 2-3 minutes to circulate glue through the glue system.
7. Turn the glue control valve to position 13C (Figure 13) to feed the glue blocks. Apply glue to approximately 90° of the compression blade. Disengage the drive system. If the glue and drive systems are working properly, a bead of lubricant will be present on compression blades. Use the gate valve (15B) to adjust flow rate.
8. With the machine in the up position, start seal into the tube guide (15C) and continue manually feeding the seal until compression blades automatically begin take-up. Run the machine in the up position until approximately 10 inches of rubber are through the compression blades and visible at the rear of the machine.

NOTE

Some contractors prefer to manually feed seal into the Auto-Installer during normal operation to minimize stretch.

9. Center the Delastall Kompressor over the joint as close to the edge of the slab as possible. Lower the machine into the joint by stepping on the foot pedal, pushing down on the handles and pulling the trip lever (15D) toward the handles.
10. Lower the discharge blade to the operating position by stepping on the discharge blade foot pedal (10A) as shown in Figure 10.
11. Engage the drive system and turn the glue on. You are now installing seal!
12. Check the discharge depth and adjust as needed.

Cleaning the Delastall Kompressor

1. With the machine idling, remove the suction and return lines from the glue bucket. Place the suction line in toluene or other solvent and feed the return line into a waste bucket. Open the glue return line. Run solvent through the system until all the glue has been flushed. Place the return line in the solvent bucket and continue to cycle solvent through the system for approximately 3 minutes.

WARNING

THE GLUE SYSTEM MUST BE FLUSHED AFTER EVERY USE. NOT DOING SO WILL RESULT IN PERMANENT DAMAGE TO ALL COMPONENTS IN THE GLUE SYSTEM.

2. With the suction and return lines still in the solvent, open the glue feed line and run solvent over the compression blades. Remove all glue from the compression blade exterior using a putty knife as shown in Figure 16.

CAUTION

USE CAUTION WHEN WORKING AROUND MOVING COMPONENTS SUCH AS BELTS, CHAINS, AND WHEELS.



Figure 16 Cleaning Compression Blades with a Putty Knife

3. Remove the outer frame from the inner frame and clean all the glue off the inner surface.
4. Remove the discharge blade and soak it in solvent overnight. Remove all glue from the discharge blade before reinstalling.

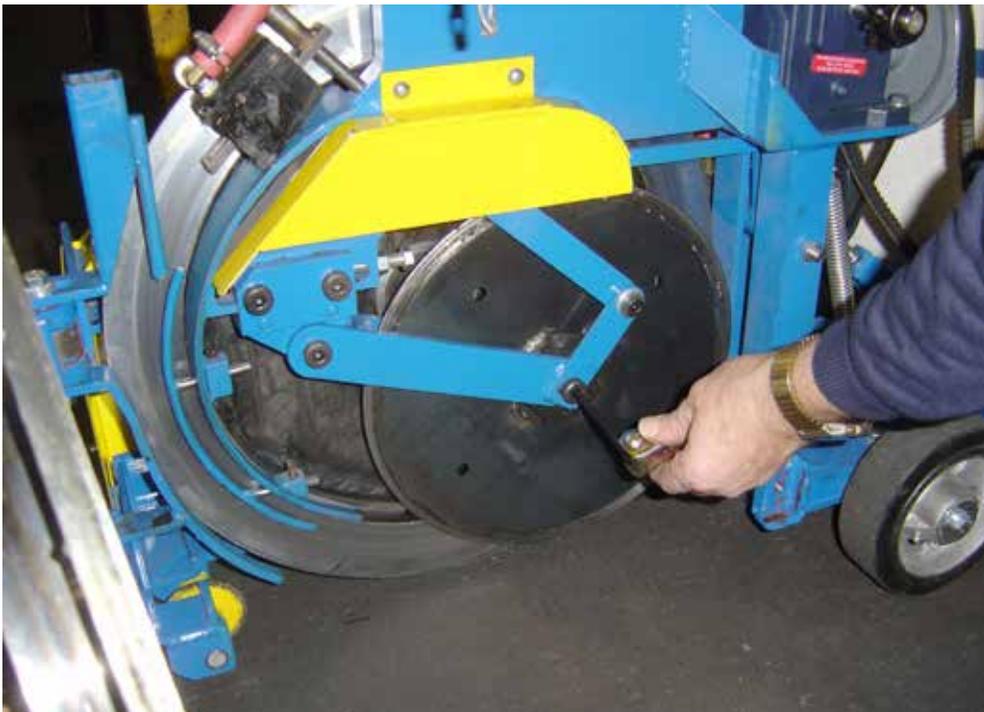


Figure 17 Remove Discharge Blade for Cleaning

WARNING

THE DISCHARGE BLADE MUST BE CLEANED AFTER EVERY USE. NOT DOING SO WILL FREEZE THE BLADE AND RESULT IN HIGH SEAL STRETCH RATES.

5. Remove all glue from the inner surfaces of the compression blades. If necessary, soak the compression blades in solvent overnight and clean thoroughly in the morning.

NOTE

Some contractors have found it helpful to place cardboard cutouts in the inner recessed surfaces of the compression blades, as shown in Figure 18. They then coat the cardboard and exposed metal surfaces, including the discharge blade linkage, with grease. This prevents glue from bonding to the greased areas, which reduces clean-up time. **DO NOT** grease surfaces that make contact with the seal.



Figure 18 Place Cardboard Cutouts Inside Compression Blade

6. Spray the bearing shafts with WD-40 after all the glue is removed. This will keep the bearings, compression blades, and discharge blade clean and free turning to ensure proper installation.
7. Periodically disassemble the Delastall Kompressor and completely remove all the glue and other foreign matter. This will ensure years of use and prolong the life of the machine.

Trouble Shooting

Problem	Possible Cause	Solution
Seal is not installing deep enough or is installing too deep.	Discharge blade is set too high or too low.	Lower or raise the discharge blade.
Seal is rolling in joint.	The compression blades are not positioned deep enough into the joint and the seal is hanging up on the edge of the joint.	Decrease the compression blade gap and/or lower the Delastall Kompressor.
	The front seal guide is set too far off from the compression blades and the seal is uncompressing before it is inserted in the joint.	Adjust the front seal guide as close as possible to the outer edge of the compression blades.
	The lubricant is being applied to only one side of the seal, leaving the other side starved.	Adjust the glue block assembly to apply glue more evenly to the compression blades.
Inconsistent installation.	Wide variation in speed.	Install at a consistent speed.
	Variation in surface conditions.	Adjust the compression blades into the joint as low as possible without over-compressing the seal. Some hand tucking may be necessary in extreme cases.
Seal won't go in. Seal squirms out of the joint.	Not enough lubricant.	Increase lubricant flow using the gate valve.
	Compression blades aren't adjusted properly.	Adjust compression blades to compress the seal more.
	Wrong seal for the joint.	Check Table 1 for proper joint/seal compatibility.
	Discharge blade is not set to install.	Lower the Delastall Kompressor to install.
	Joint is not cut deep enough or is too narrow.	Re-cut the joint to the proper dimensions.

Problem	Possible Cause	Solution
Seal is stretching too much.	Too much speed.	Reduce installation speed. Allow the machine to propel itself rather than pushing it.
	Compression blades not adjusted properly.	Adjust compression blade spacing to allow some slippage.
	Compression blades are adjusted too low and are propelling the Delastall Kompressor.	Raise the installer until the blades just brush the concrete.
	Not enough lubricant.	Increase lubricant flow.

Appendix

Quick Start Instructions

To reduce shipping size and provide a user-friendly product, some assembly is required after removing the Delastall Kompressor from the shipping crate.

The following steps should be taken prior to installing compression seal:

1. Adjust handles to a comfortable height (19A).
2. Install seal spool holder or toolbox (19B).
 - a. Bolt the seal spool holder uprights (19B) or toolbox to the Delastall Kompressor.
 - b. Assemble the spool reel bar (19C) and place on the uprights.

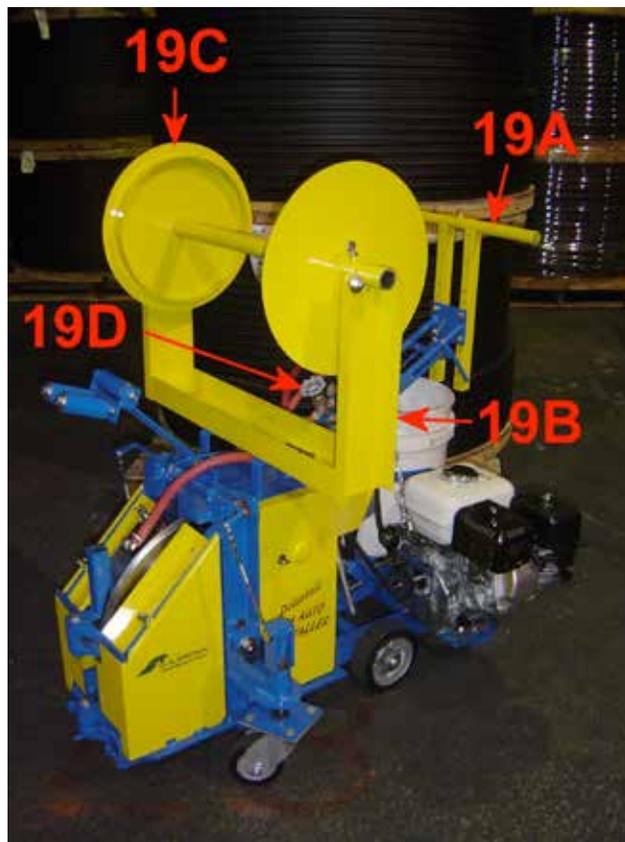


Figure 19 Seal Spool Holder Installation

3. Adjust the Delastall Kompressor to install the selected seal size (see page 5 of this manual).
4. Place the suction and return lines in a glue bucket and start the engine.
5. Turn the glue control valve to position 20A, Figure 20, to recirculate the glue to the bucket. Engage the compression blades and allow the glue to circulate through the system for approximately 3 minutes.
6. With the compression blades engaged, turn the glue control valve to position 20C to feed glue to the glue blocks and apply glue to approximately 90° of the compression blades.

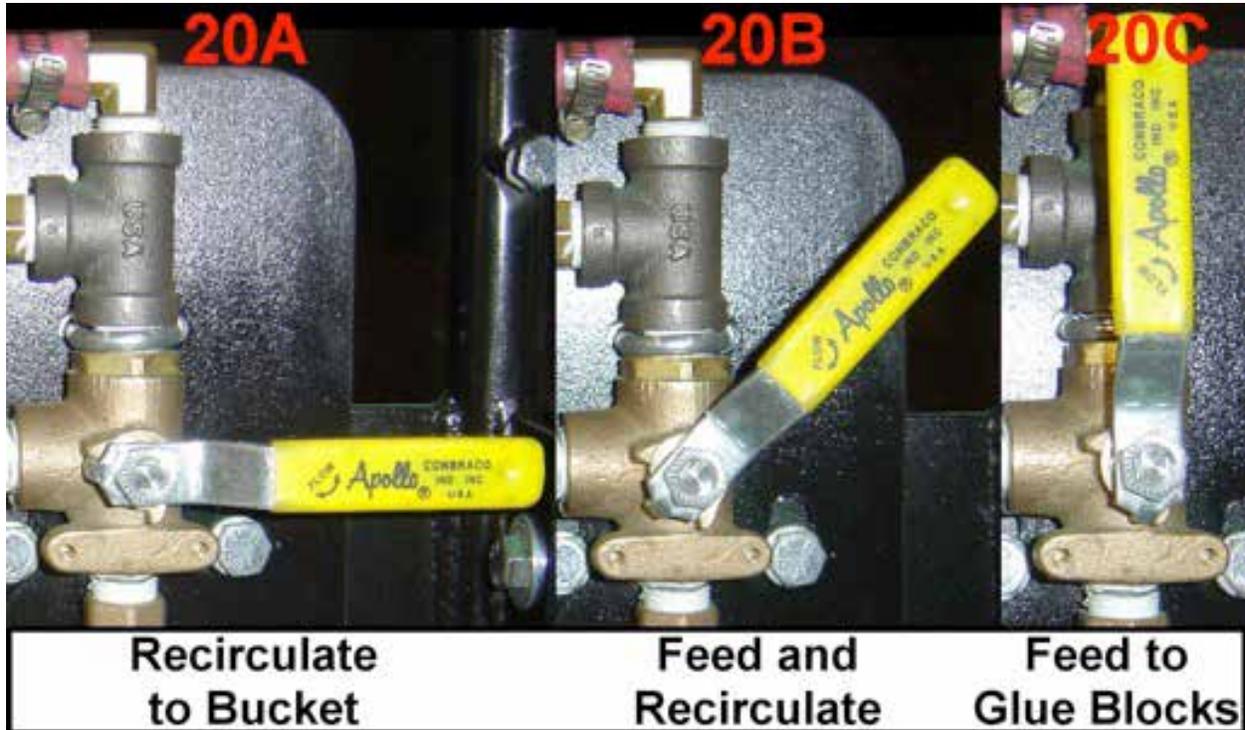


Figure 20 Glue System Operation

7. Feed seal into the machine and begin installing.
8. Adjust glue flow using the gate valve (19D).
9. Check the first few feet to verify depth settings, stretch, and consistent installation. Adjust as needed.
10. Congratulations! You are now installing D. S. Brown compression seal.

Millions of feet of seal have been installed using Delastall Auto-Installers. A parts list has been provided to keep your Delastall Kompressor Auto-Installer in top operating condition.

Parts List

When ordering parts, please have the model and serial number available.

Model: Delastall Kompressor Auto-Installer

Serial Number: _____



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dsbrown.com