

60 Gallon Pre-Wet System

for VBX 6500/8000/9000 and Forge 2.0 Spreaders

Part No. MSC20100-Serial No. 400000000 and Up

Installation Instructions

A WARNING

CALIFORNIA Proposition 65 Warning This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.

Safety

- Use a 500 kg (1/2 ton) minimum lifting device to move heavy spreader components.
- Never put any part of your body between the spreader and the vehicle.
- Do not attempt to mount or remove the spreader or kit with material in it.
- Turn the vehicle and spreader off before filling, mounting, removing, servicing, or cleaning the kit.
- Do not store material in the tank.

Safety and Instructional Decals



Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



MSC20112

- 1. Warning-read the Owner's Manual.
- 2. Warning—receive training before operating the machine.
- 3. Fire hazard—do not fill the tank with flammable liquids.
- 4. Warning-wear eye protection.
- 5. Falling hazard—empty the tank before lifting the spreader; do not lift the spreader with liquid in the tank.
- 6. Falling hazard—ensure that the straps are in place when transporting the tank.

Register at www.bossplow.com.





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Installation

This manual is used for installation on the VBX 6500/8000/9000 and Forge 2.0 spreaders. Illustrations may vary.

Determine the left and right sides of the machine from the normal operating position.

Note: Use pipe tape on all threaded connections.

Installing the Frame Rails and Tank

- 1. Park your vehicle on a level surface, engage the parking brake, shut off the engine, and remove the keys.
- 2. Disconnect the spreader power/ground cable from the wire harness.
- 3. Use a 500 kg (1/2 ton) minimum lifting device to raise the spreader and place it on jack stands; refer to your spreader *Owner's Manual* for the location of the lift points.
- 4. Remove the spinner assembly; refer to your spreader *Owner's Manual.*
- 5. Remove the rear cover according to your spreader:
 - For VBX spreaders, remove the plastic clips securing the rear cover to the hopper (Figure 1).



 For Forge 2.0 spreaders, remove the bolts securing the rear cover to the hopper (Figure 2).



- 1. Bolt 2. Rear cover
- 6. Carefully pull away the rear cover and unplug the cover harness from the control module.
- 7. Slide both the long and short frame rails under the legs of the spreader (Figure 3). If you are installing the kit onto a VBX 6500 spreader, you do not need the short frame rails.



- Loosely mount 8 L-brackets to the rails near each spreader leg using 16 bolts (3/8 inch) and 8 tap plates (Figure 3). If you are installing the kit onto a VBX 6500, use 6 L-brackets, 12 bolts (3/8 inch), and 6 tap plates.
- 9. Attach a 90° hose fitting to the tank (Figure 4).

Note: Ensure that the 90° hose fitting is angled as shown in Figure 4.



- 1. 90° hose fitting
- 3. 2.4 m (96 inch) hose
- 2. Hose clamp
- 10. Secure 1 end of the 2.4 m (96 inch) hose to the 90° hose fitting with a hose clamp (Figure 4).
- 11. Slide the tank into the space behind the spreader, but leave room to work.
- Insert the T end of the tank straps into the back of the frame rails and twist them 90° to secure (Figure 5).



- 1. Tank strap
- 2. Frame rail
- 13. Drape the straps over the tank and loosely secure them to the frame rails using a carriage bolt and jam nut (Figure 6).



- 14. Slide the tank forward until it contacts the spreader hopper.
- 15. Slide the L-brackets against the spreader legs and loosely secure them to the spreader using 2 lag bolts (5/16 inch) on each bracket (Figure 7).



- 1. Lag bolt (5/16 inch)2. L-bracket
- 16. Tighten the fasteners on the L-brackets and tank straps.

Installing the Spray Nozzle

1. Connect the spray nozzle, quick coupler, and bulkhead to the nozzle mounting bracket as shown in Figure 8.



- Spray nozzle 1.
- 2. Quick coupler
- Bulkhead 3.
- 4. Gasket
- 5. Nozzle mounting bracket
- Install a 90° hose fitting onto the end of the 2. bulkhead (Figure 9).



- 3. Hose clamp
- Bulkhead 2. 90° hose fitting

1.

- - 4. 45 cm (18 inch) hose
- Secure the 45 cm (18 inch) hose to the 90° hose 3. fitting with a hose clamp (Figure 9).
- Mount the nozzle bracket to the spreader 4. using 2 bolts (3/8 inch) and nuts in the location described below:

Note: Ensure that the slit in the nozzle is pointing down.

For auger spreaders, mount the bracket to the auger trough as shown in Figure 10.



1. Bolt (3/8 inch)

2. Nut (3/8 inch)

For VBX pintle chain spreaders, mount the bracket to the top of the pintle chain assembly as shown in Figure 11.



For Forge 2.0 pintle chain spreaders, remove ٠ the 2 plugs on the rear cover and mount the bracket through them as shown in Figure 12.

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5. Tighten all of the fasteners.

Installing the Pump

For Forge 2.0 Spreaders

1. Remove the grommet cover plate on the right side of the rear cover (Figure 13).



- 1. Grommet cover plate (remove)
- 2. Secure the grommet plate to the inside of the rear cover using 4 bolts (#10 x 3/4 inch) and nylon nuts (Figure 14).



- 3. Insert the rubber grommet into the opening on the grommet plate (Figure 14).
- 4. If you have a pintle chain Forge 2.0 spreader, continue to step 7. For auger Forge 2.0 spreaders, remove and retain the 4 bolts and nuts securing the right spinner-assembly pin-lock and auger sideplate to the auger assembly (Figure 15).

Note: Discard the auger sideplate.



Figure 15

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- 1. Edge cover
 - Auger sideplate (discard) 5. Spinner-assembly pin-lock

4. Nut

3. Bolt

2.

- 5. Slide 1 of the edge covers onto the opening in the auger assembly (Figure 15).
- 6. Secure the pump bracket to the auger assembly using the previously removed 4 bolts and nuts (Figure 16), then continue to step 9.



- 2. Pump bracket
- 7. Remove and discard the 4 bolts and nuts securing the right spinner-assembly pin-lock and bearing cover to the pintle chain assembly (Figure 17).

Note: Do not discard the spinner-assembly pin-lock or bearing cover.



- 1. Spinner-assembly pin-lock 3. Bearing cover
- 2. Nut (discard) 4. Bolt (discard)
- 8. Secure the pump bracket to the pintle chain assembly using 4 bolts (1/2 inch) and nuts (Figure 16).



3. Nut (1/2 inch)

- 1. Bolt (1/2 inch)
- 2. Pump bracket
- 9. Tighten the fasteners.
- Install a 90° hose fitting onto both sides of the pump (Figure 19).



- 1. 90° hose fitting
- 11. Secure the pump to the pump bracket using 4 bolts (#10 x 1-1/4 inches), washers, and nylon nuts (Figure 20).

Note: Tighten the fasteners until the bolts are flush with the nuts.



- 3. Pump
- 12. Locate and remove the plug on the control module (Figure 21).



13. Bring the rear cover close to the spreader and route the pump connector through the previously installed grommet (Figure 22). For pintle chain Forge 2.0 spreaders, route the 45 cm (18 inch) hose from the spray nozzle through the grommet as well.



- 1. Rubber grommet
- 2. 45 cm (18 inch) hose
- 14. Connect the pump connector and cover harness to the control module (Figure 21).

3. Pump connector wire

- 15. Secure the rear cover to the spreader with the previously removed bolts and washers.
- 16. Secure the 45 cm (18 inch) hose from the spray nozzle to the hose fitting on the right side of the pump with a hose clamp (Figure 23).

Note: If you have an auger spreader, trim the hose to prevent it from kinking.



- 1. Hose clamp3. Spray nozzle hose
- 2. 1.2 m (48 inch)
- 17. Secure the 1.2 m (48 inch) hose to the hose fitting on the left side of the pump with a hose clamp (Figure 23).
- 18. Route the hose under the frame rail, toward the filter (Figure 23).

For VBX Spreaders

1. For auger spreaders, slide 1 of the edge covers onto the opening in the auger assembly as shown in Figure 24.



- 1. Spinner-assembly pin-lock 3. Bolt (discard) 2. Nut (discard)
 - 4. Edge cover
- 2. Remove and discard the 4 bolts and nuts securing the right spinner-assembly pin-lock to the auger or pintle chain assembly (Figure 24). Do not discard the spinner-assembly pin-lock.
- Secure the pump bracket to the auger or pintle 3. chain assembly using 4 bolts (1/2 inch) and nuts (Figure 25).



- 1. Bolt (1/2 inch) 3. Nut (1/2 inch)
- 2. Pump bracket
- 4. Tighten the fasteners.
- 5. Install a 90° hose fitting onto both sides of the pump (Figure 26).



- 90° hose fitting 1.
- Secure the pump to the pump bracket using 4 6. bolts (#10 x 1-1/4 inches), washers, and nylon nuts (Figure 27).

Note: Tighten the fasteners until the bolts are flush with the nuts.



Locate and remove the plug on the control 7. module (Figure 28).



- 8. Connect the pump connector to the control module (Figure 28).
- 9. Secure the 45 cm (18 inch) hose from the spray nozzle to the hose fitting on the right side of the pump with a hose clamp (Figure 29).

Note: If you have an auger spreader, trim the hose to prevent it from kinking.



1. Hose clamp

3. Spray nozzle hose

- 2. 1.2 m (48 inch) hose
- Secure the 1.2 m (48 inch) hose to the hose 10. fitting on the left side of the pump with a hose clamp (Figure 29).
- Route the hose under the frame rail, toward the 11. filter (Figure 29).
- 12. Connect the cover harness to the control module and install the previously removed rear cover.

Connecting the Ball Valve and Filter

1. Attach the 3 hose clips to the long tank hose and secure them to the underside of the frame rail using 3 bolts (1/4 x 1 inch) and nuts (Figure 30).



- Tank hose 1. 3. Hose clip
- Bolt (1/4 x 1 inch) 4. Nut (1/4 inch) 2.
- Tighten the fasteners. 2.
- Install a 90° hose fitting onto the bottom of the 3. ball valve (Figure 31).



Figure 31

- 1. 9.5 cm (4-3/4 inch) hose 4. Ball valve
 - 5. 90° hose fitting

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3. Straight hose fitting

2. Hose clamp

- Install a straight hose fitting onto the top of the 4. ball valve (Figure 31).
- Secure the 9.5 cm (4-3/4 inch) hose to the 5. straight hose fitting with a hose clamp (Figure 31).
- Install a 90° hose fitting on both sides of the 6. filter (Figure 32).



- 2. Filter
- 7. Secure the 9.5 cm (4-3/4 inch) hose to the right 90° hose fitting with a hose clamp (Figure 32).

Note: Ensure that the arrow on the filter is pointing to the rear of the vehicle.

Mounting the Filter and Securing the Hoses

1. For Forge 2.0 spreaders, continue to step 4. For VBX spreaders, line up the filter bracket with the edge of the rear cover and mount it to the hopper with 4 bolts (5/16 inch) as shown in Figure 33.



- 1. Filter bracket2. Bolt (5/16 inch)
- 2. Tighten the fasteners.
- 3. Mount the filter to the filter bracket using 2 bolts (1/4 x 3 inches) and nuts (Figure 34), then continue to step 5.



4. Mount the filter to the spreader leg using 2 bolts (1/4 x 3 inches) and nuts (Figure 35).



Figure 35

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- 1. Bolt (1/4 x 3 inches) 3. Spreader leg
- 2. Nut (1/4 inch)
- 5. Tighten the fasteners.
- 6. Secure the 1.2 m (48 inch) hose from the pump to the 90° filter hose fitting with a hose clamp (Figure 36).

Note: Ensure that the hose is routed under the frame rail and out the side near the filter.



- Tank hose 5.
- 2. Hose clamp 3. Pump hose
- 6. Edge cover
- 7. Secure the free end of the tank hose to the 90° ball valve hose fitting with a hose clamp (Figure **36**).

Note: For VBX 6500 spreaders, trim the hose to prevent it from kinking.

- 8. Slide 1 of the edge covers onto the frame rail as shown in Figure 36.
- For Forge 2.0 spreaders, continue to step 11. 9. For VBX spreaders, secure the hose retainer to the spreader leg using 2 lag bolts (5/16 inch) as shown in Figure 37.



- 1. Hose retainer 2. Lag bolt (5/16 inch)
- 10. Tighten the fasteners.
- Attach the previously removed spinner 11. assembly; refer to your spreader Owner's Manual.
- Connect the spreader power/ground cable to the 12. main wire harness.

Operation

Filling the Tank

Clean around the tank cap (Figure 38). 1.



- 1. Tank cap
- 2. Remove the tank cap and fill the tank with your brine solution.

Note: The marks on the tank are in 37.8 L (10 US gallon) increments.

Important: Use only pre-mixed brine to prevent dangerous chemical reactions.

Wipe any spills and secure the tank cap. 3.

Operating the Pre-Wet System

Note: Refer to your spreader Owner's Manual for controller operation.

Once the pre-wet system has been installed, Pre-Wet will appear on your controller as shown in Figure 39.



1. Pre-Wet icon

The pre-wet system is only active when it is highlighted on the controller. When the system is active, it sprays the brine solution whenever the spreader feeder-motor is active.

Activating the Pre-Wet System

1. To activate the pre-wet system, press the Mode button on the controller (Figure 40).





- 1. Mode button
- 2. Press the Pre-Wet button (Figure 41).



Figure 41

1. Pre-Wet button

3. On the pre-wet screen, press the Pre-Wet button (Figure 42).

Note: Once Pre-Wet is highlighted, the system is active.



1. Pre-Wet button

Setting the Flow Speed

1. To set the flow speed, press the Mode button on the controller (Figure 43).



- 1. Mode button
- 2. Press the Pre-Wet button (Figure 44).



- 1. Pre-Wet button
- 3. On the pre-wet screen, press the Flow button to cycle between the flow speeds (Figure 45).

There are 4 speeds: Flow 1 is the lowest and Flow 4 is the highest.





1. Flow button

Deactivating the Pre-Wet System

1. To deactivate the pre-wet system, press the Mode button on the controller (Figure 46).





- 1. Mode button
- 2. Press the Pre-Wet button (Figure 47).



- 1. Pre-Wet button
- 3. On the pre-wet screen, press the Pre-Wet button (Figure 48).

Note: Once Pre-Wet is no longer highlighted, the system is inactive.

Emptying the Tank

Configuring the Dump Switch

The tank can be emptied by using the spreader dump switch, but it must be configured first.

1. To configure the dump switch, press the Mode button on the controller (Figure 49).



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- 1. Mode button
- 2. Press the Pre-Wet button (Figure 50).



1. Pre-Wet button

3. On the pre-wet screen, press the Dump button (Figure 51).



1. Dump button

4. On the dump screen, select which material you want the dump switch to dump (Figure 52). Press the Solid button to dump only the material in the spreader hopper. Press the Liquid button to dump only the solution in the tank. You can select and dump both materials at the same time.

Note: Once the material type is highlighted, it dumps out when you press the dump switch.



Using the Dump Hose

- 1. Position the spreader in the area where you want to deposit the material, engage the parking brake, shut off the engine, and remove the key.
- 2. Disconnect the spreader power/ground cable from the wire harness.
- 3. Unplug the spreader spinner harness from the main wire harness.
- 4. Remove the right latch and cotter pin from the spreader spinner assembly (Figure 53).



- 1. Cotter pin2. Latch pin
- 5. Swing the spreader spinner assembly free from the hopper opening (Figure 53).

Note: Do not move the vehicle when the spinner assembly is swung out.

6. Locate the spray nozzle underneath the rear cover (Figure 54).

Note: You do not need to remove the rear cover to empty the tank.



1. Spray nozzle

7. Raise the latches on the quick coupler and remove the spray nozzle (Figure 55).



- 1. Spray nozzle 2. Quick coupler latch
- 8. Connect the dump hose quick coupler to the nozzle quick coupler and lower the latches to lock it in place (Figure 56).



- 1. Dump hose2. Nozzle quick coupler
- 9. Connect the spreader power/ground cable to the wire harness and power the vehicle, but do not start it.
- 10. Push and hold the dump switch to unload the tank solution.
- 11. Shut off the vehicle, remove the keys, and disconnect the spreader power/ground cable from the wire harness.
- 12. Raise the latches on the quick coupler and remove the dump hose (Figure 56).
- 13. Slide the spray nozzle into the quick coupler and lower the latches to lock it in place (Figure 55).

Note: Ensure that the slit in the nozzle is pointing down.

- 14. Swing the spreader spinner assembly back into place and secure it with the previously removed attachment pin and cotter pin.
- 15. Connect the spreader spinner harness to the main wire harness.
- 16. Connect the spreader power/ground cable to the wire harness.

Operating Tips

- Do not store materials in the tank.
- Close the ball valve when transporting the machine while the pre-wet system is installed.
- Rinse the tank with fresh water before storing it.

Troubleshooting

Problem	Possible Cause	Corrective Action
Pre-Wet does not appear on the controller.	1. The pump is not connected to the module.	1. Plug the pump into the module.
	 The white jumper wire is not connected. The white jumper wire is corroded. 	 Connect the white jumper wire. Check the white jumper wire for corrosion and clean it if necessary.
The controller shows "Pre-Wet Error."	 The pump circuit is open, has a short, or is drawing too much current. 	 Check the pump power/ground, connector terminals, filter, and hoses for damage and replace or clean them if necessary.
The pump does not engage.	 The pump is not connected to the module. 	1. Plug the pump into the module.
	2. There is no power or ground to the module.	Check for power and ground at the module.
The pump does not prime.	1. The ball valve is closed.	1. Open the ball valve.
	2. The filter is clogged.	2. Clean the filter.
	3. The brine in the hoses is frozen.	 Bring the spreader to a warm area to thaw.
The pump runs and shuts off repeatedly.	1. The spray nozzle is plugged or frozen.	1. Clean the spray nozzle.
	2. The brine in the hoses is frozen.	2. Bring the spreader to a warm area to thaw.
The pre-wet system is not spraying.	1. The ball valve is closed.	1. Open the ball valve.
	2. The filter is clogged.	2. Clean the filter.
	3. The spray nozzle is plugged or frozen.	3. Clean the spray nozzle.
	4. The brine in the hoses is frozen.	 Bring the spreader to a warm area to thaw.
	5. The hoses are clogged.	5. Clean the hoses.
Brine is dripping from the spray nozzle when the system is not in use.	1. The ball valve is open.	1. Close the ball valve.
Too much brine is being sprayed.	1. The flow is set too high.	 Lower the flow level; refer to Setting the Flow Speed.
Too little brine is being sprayed.	1. The flow is set too low.	 Raise the flow level; refer to Setting the Flow Speed.
Nothing happens when the dump switch is pressed.	1. Nothing is selected in the Dump menu.	 Select the material you want to dump in the Dump menu; refer to Configuring the Dump Switch.
	2. The dump switch is broken.	 Check the terminals on the back of the dump switch. Repair or replace the switch if necessary.
Brine does not dump when pressing the dump switch.	 "Liquid" is not selected in the Dump menu. 	 Select "Liquid" in the Dump menu; refer to Configuring the Dump Switch.
Dry material does not dump when pressing the dump switch.	 "Solid" is not selected in the Dump menu. 	 Select "Solid" in the Dump menu; refer to Configuring the Dump Switch.
Brine dumps when pressing the dump switch and I do not want it to.	1. "Liquid" is selected in the Dump menu.	 Deselect "Liquid" in the Dump menu; refer to Configuring the Dump Switch.
Dry material dumps when pressing the dump switch and I do not want it to.	1. "Solid" is selected in the Dump menu.	 Deselect "Solid" in the Dump menu; refer to Configuring the Dump Switch.

Notes:

BOSS Products Commercial Warranty

What this warranty covers:

This warranty covers defects in material and workmanship except as set forth below.

Who is covered:

The original purchaser from an authorized dealer.

For how long:

Complete Product: 2 years from the date of purchase. **Labor:** 2 years from the date of purchase for complete product. **Parts:** 1 year from the date of purchase. (no Labor)

What BOSS Products will do:

BOSS Products will, at its sole option, repair or replace defective parts at no charge.

What you must do for warranty service:

To obtain warranty service, purchaser must return the defective product to any authorized BOSS Products dealer (preferably the one from whom the product was purchased) within the warranty period. Purchaser must be able to verify the original purchase date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

What is not covered:

- 1. Expendable parts such as hoses, plow shoes, cutting edges, pins, nuts, bolts, blade guides, etc.
- 2. Products repaired or altered by anyone other than an authorized BOSS Products dealer.
- 3. Products which have been subject to misuse, negligence, accident, improper installation, maintenance, care, or storage.
- 4. Products mounted on vehicles other than those listed in the BOSS Snowplow Application Chart and Selection Guide.
- 5. BOSS Products does not assume liability for damage to your motor vehicle resulting from the attachment or use of any BOSS products. Vehicle risk is the sole responsibility of the purchaser.

Limits of BOSS Products Liability are:

BOSS Products' liability is expressly limited to repair or replacement of defective parts. BOSS Products shall not be liable for consequential, incidental, or contingent damages whatsoever, even if damages are caused by the negligence or fault of BOSS Products. The foregoing warranties are exclusive and in lieu of all other express and implied warranties including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

This warranty does not apply if you purchased your product for personal, family, or household use. In this case, refer to the BOSS Products Limited Consumer Warranty.

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(2017-2018)

BOSS Products Consumer Warranty

What this warranty covers:

This warranty covers defects in material and workmanship except as set forth below.

Who is covered:

The original retail purchaser of a BOSS product who purchases it for personal, family, or household use.

For how long: Complete Product: 2 years from the date of purchase. Labor: 2 years from the date of purchase for complete product. Parts: 1 year from the date of purchase. (no Labor)

What BOSS Products will do:

BOSS Products will, at its sole option, repair or replace defective parts at no charge.

What you must do for warranty service:

To obtain warranty service, purchaser must return the defective product to any authorized BOSS Products dealer (preferably the one from whom the product was purchased) within the warranty period. Purchaser must be able to verify the original purchase date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

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Limits of BOSS Products Liability are:

BOSS Products' liability is expressly limited to repair or replacement of defective parts. BOSS Products shall not be liable for consequential, incidental, or contingent damages whatsoever, even if damages are caused by the negligence or fault of BOSS Products. The foregoing warranties are exclusive and in lieu of all other express and implied warranties including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

State laws:

Some states do not allow exclusion of incidental or consequential damages or the limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have the other rights which vary from state to state.

This warranty does not apply if you purchased your product for personal, family, or household use. In this case, refer to the BOSS Products Limited Consumer Warranty.

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