

Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

Overview

This document provides the uncrating and crating instructions for the Smart Part Washer, and includes the following sections:

1. Required Tools and Supplies
2. Safety
3. Uncrating Instructions
4. Crating Instructions

1 Required Tools and Supplies

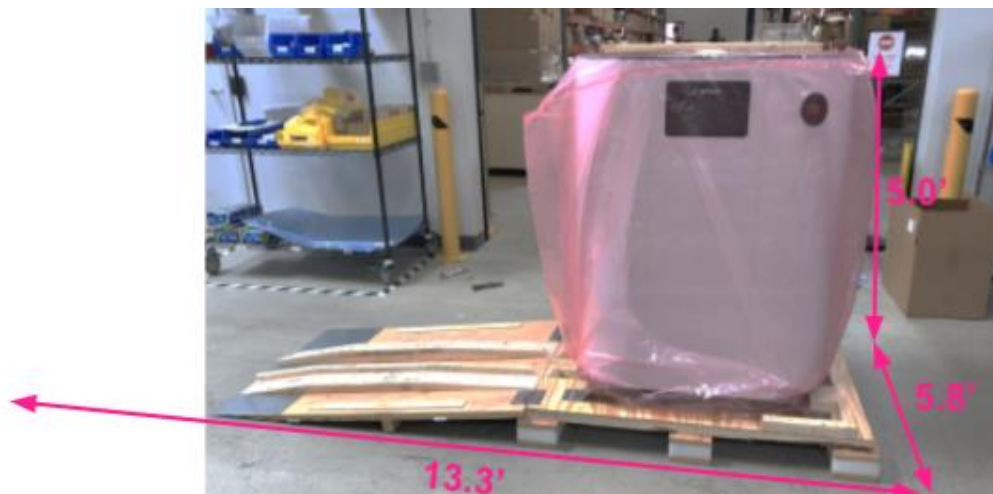
- 1.1 The following tables list the required tools and supplies needed to Crate or Uncrate the Smart Part Washer.

UNCRATING Tools and Supplies	Additional Information
13mm open-end wrench	
9/16" wrench	You can also use a power drill with 9/16" socket.

CRATING Tools and Supplies	Additional Information
Smart Part Washer Crate	
9/16" wrench	You can also use a power drill with 9/16" socket.
13mm open-end wrench	
Pink anti-static plastic bag	
2 Shock labels for crate	Contact Carbon Support if the labels on the crate need to be replaced.
2 Tilt labels for crate	Contact Carbon Support if the labels on the crate need to be replaced.

2 Safety

- 2.1 The Smart Part Washer weighs approximately 350 pounds (160Kg) and requires two people to move it. Because it is heavy, the part washer can damage itself or harm someone if proper care is not taken while moving it.
- 2.2 Remove hazards to prevent the part washer from tipping. Beware of gutters, curbs, steep ramps, or any sudden changes in height.
- 2.3 Carbon recommends wearing steel-toed shoes when moving heavy equipment.
- 2.4 Be mindful of pinch points and wear gloves.
- 2.5 The working area to crate or uncrate the Smart Part Washer needs to be at least W 5.8 ft x D 13.3 ft x H 5.0 ft (1.8 m x 4.1 m x 1.6 m). The space needs to be larger to remove the crate shell during crating/uncrating.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

3 Uncrating Instructions

- 3.1 Carbon ships the Smart Part Washer in a custom crate. The following uncrating instructions describe how to open the crate without damaging the crate or the part washer inside.
- 3.2 **Contact Carbon support:**
If you run into a problem at any point while uncrating the Smart Part Washer, stop and contact Carbon support.
- 3.3 **Storing the Crate**
 - 3.3.1 The shipping crate is intended to be reused for any future Smart Part Washer shipping. You will need the crate to return your part washer at the end of your subscription, or if you ever need to relocate your part washer.
 - 3.3.2 As you follow these instructions, set aside the hardware and protective bag so you can store them with the crate. If you are unable to store these items, you will need to purchase them from Carbon when you need to re-crate your part washer.
- 3.4 **Before you start Uncrating**
 - 3.4.1 Start by identifying an appropriate uncrating area with ample working area for two people to move around the crate. The working area to uncrate the part washer is specified in section 2, [Safety](#) on page 1.
 - 3.4.2 Clear any obstructions and ensure that the floor has an even surface.
 - 3.4.3 Unplug or tape down wires and cords that may be in the part washer's path.
 - 3.4.4 Ensure the crate is oriented properly so that the door faces the part washer location.
 - 3.4.5 Because the crate door will be used as the ramp to unload the part washer, position the crate with enough room in front of the door to unload the Smart Part Washer.
 - 3.4.6 Check the crate for damage. There is a shock label and a tilt label on at least one side of the crate. If the window on the sticker shows red, do not open the crate. Photograph the label and contact Carbon Support immediately.



- 3.5 **Open the crate.**
 - 3.5.1 Move the crate to your uncrating area and unlatch the crate door by turning the four latch keys counterclockwise.



Open the crate door by turning all four latch keys counterclockwise.

Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 3.5.2 Carefully lower the crate door/ramp, revealing the part washer wrapped in a plastic bag.



3.6 Remove the crate shell.

- 3.6.1 Start by locating the eight lag screws at the bottom of the crate shell. There are three on each side and two in the back of the shell.



- 3.6.2 Using a 9/16" wrench (or power drill with a 9/16" socket), remove all eight lag screws and set them aside.



Smart Part Washer Uncrating-Crating

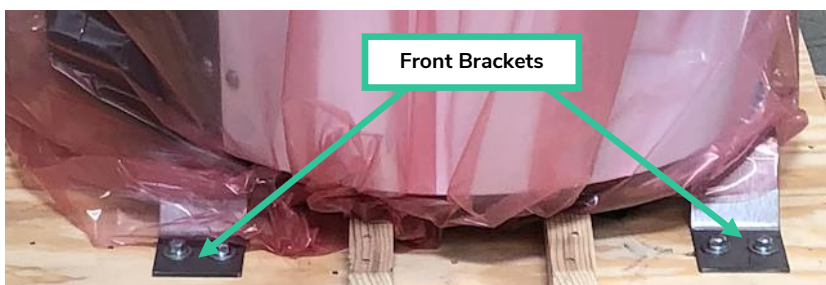
V01.05
26 APRIL 2023

- 3.6.3 Using two people, slide the crate shell off the crate base, leaving the part washer on the crate base.



3.7 Remove the Smart Part Washer brackets.

- 3.7.1 **WARNING!** The following steps will allow the Smart Part Washer to move freely. If the crate is on a slope, the part washer could roll off the crate under its own weight. Make sure to have a second person watching the part washer until it is safely off the crate and parked on a level surface.
- 3.7.2 Remove the pink plastic bag covering the Smart Part Washer so that you can easily access the brackets.



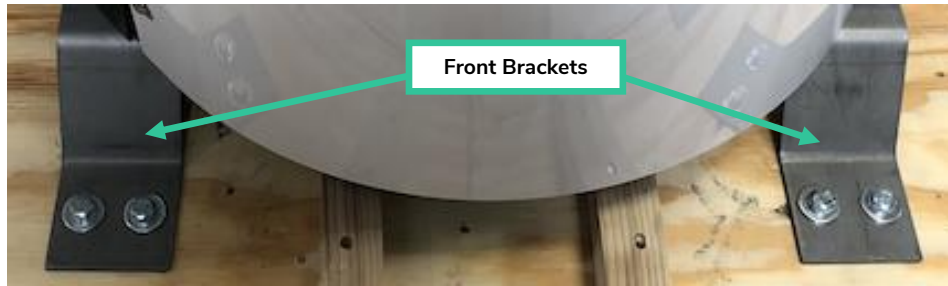
- 3.7.3 Check that the leveling foot in the back of the part washer (between the wheels) is fully raised so that the part washer will roll easily. If it is not, raise the foot by turning it clockwise. You may need to lower the top nut (13mm) on the foot before being able to raise the foot.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

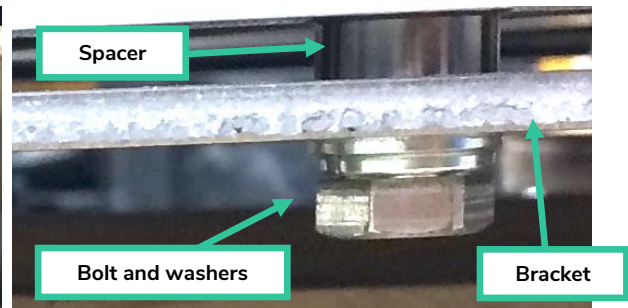
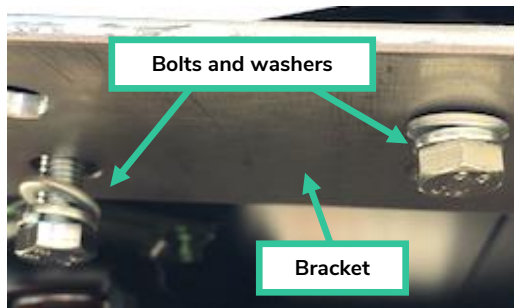
- 3.7.4 Locate the four brackets holding the Smart Part Washer to the crate. Two in the front and two in the back.



- 3.7.5 Using a 13mm wrench (or power drill with a 13mm socket), remove the two lag bolts holding each of the two front brackets to the crate.



- 3.7.6 Using a 13mm wrench, remove the two bolts that attach each of the **front** brackets to the part washer, and remove the front brackets. A thick spacer is on each bolt, between the bracket and the part washer. Save all this hardware for re-crating.



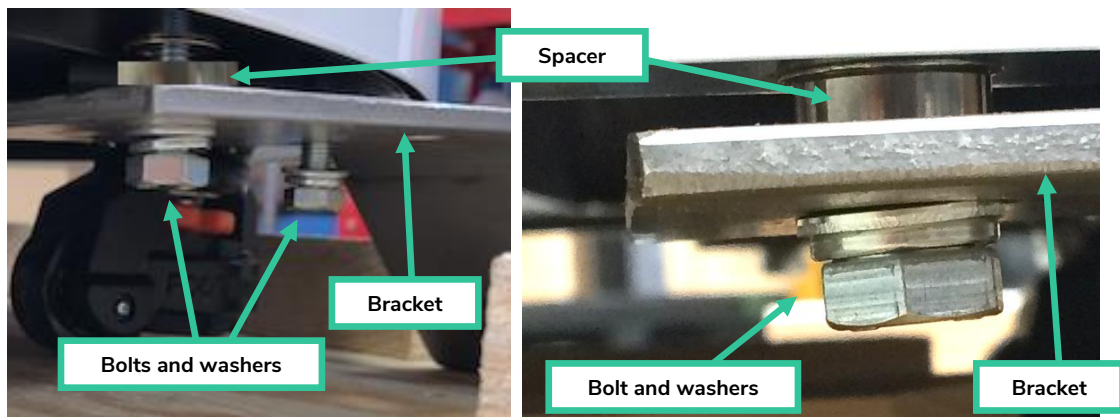
Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 3.7.7 Using a 13mm wrench (or power drill with a 13mm socket), remove the two lag bolts holding each of the two **rear** brackets to the crate.



- 3.7.8 Using a 13mm wrench, remove the two bolts that attach each of the rear brackets to the part washer, and remove the rear brackets. A thick spacer is on each bolt, between the bracket and the part washer. Save all this hardware for re-crating.



- 3.8 Roll the Smart Part Washer off the crate.

- 3.8.1 With all four brackets removed, the part washer is ready to be rolled off the crate.
Note: Wearing clean gloves will avoid leaving fingerprints on the part washer.

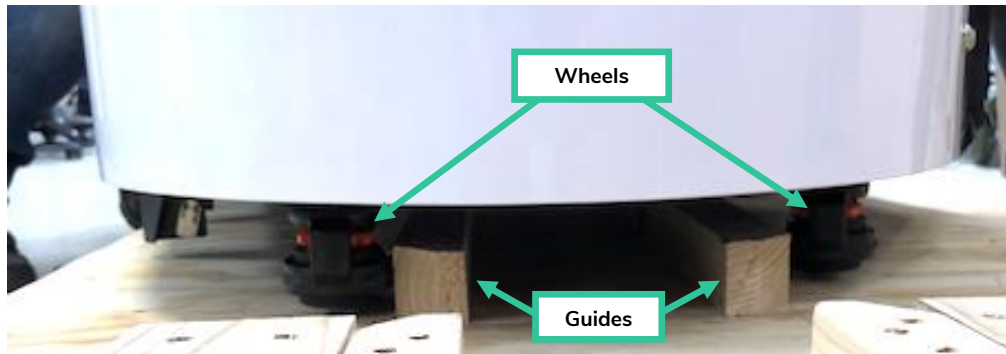


Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 3.8.2 Using two people, carefully roll the part washer down the ramp. Be sure to keep the wheels on the outside of the guides on the crate and ramp.

CAUTION! Go slowly down the ramp, especially at the bottom of the ramp.



- 3.8.3 Carefully roll the part washer to the location where it will be used, leaving ample space around it for easy access on all sides.

3.9 Assemble the crate for storage

- 3.9.1 Gather the crate base, hardware (bolts, washers, and brackets), and pink anti-static plastic bag. Place everything on the crate base.

- 3.9.2 Use two people to place the crate shell onto the crate base.



- 3.9.3 To make sure that the crate is properly aligned, insert all eight lag screws into the crate base before tightening the screws. Use a 9/16" wrench or power drill with a 9/16" socket.



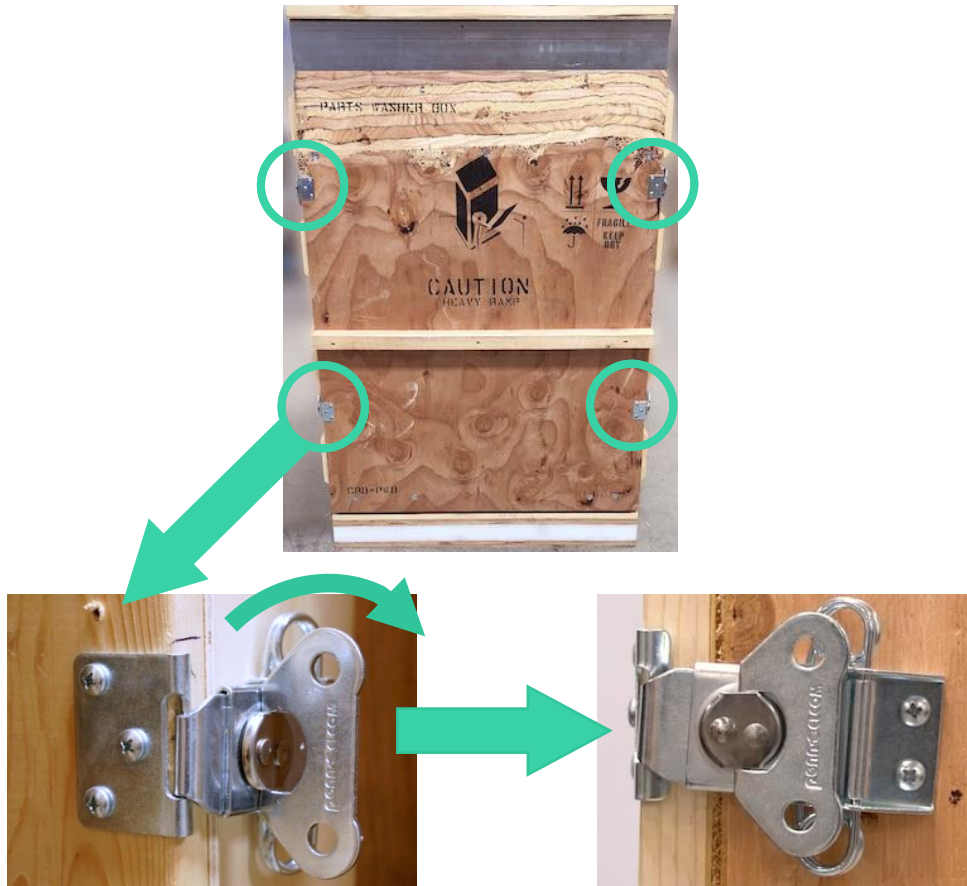
Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 3.9.4 Tighten all eight lag screws to secure the crate shell to the crate base. Tighten until the screw heads touch the wood.



- 3.9.5 Close the door/ramp and lock the four latches by turning the latch keys clockwise, and then lay the latchkey flat against the door.



Turn the latches clockwise to lock and then lay them flat against the door.

- 3.10 Store the crate for future use.
3.11 This completes the Smart Part Washer uncrating instructions.

Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

4 Crating Instructions

- 4.1 Carbon uses a custom crate for the Smart Part Washer. The following crating instructions describe how to open the crate and securely pack the part washer without damaging the crate or the part washer. Typically, you will be using these instructions to return a Smart Part Washer to Carbon, or possibly to ship it to a different location.

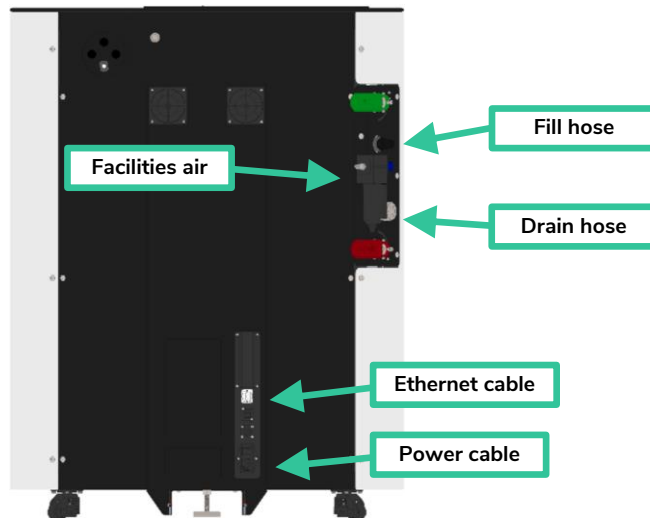
4.2 **Contact Carbon support:**

If you run into a problem at any point while crating the Smart Part Washer, stop and contact Carbon support.

4.3 **Preparing the Smart Part Washer for Crating**

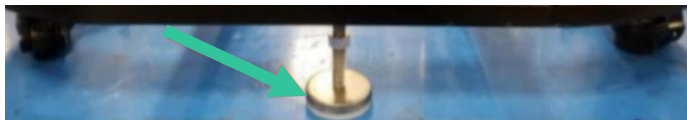
Before moving the part washer to the crating area, you need to perform the tasks listed below. Failure to do this can cause major safety issues.

- 4.3.1 Fully drain the hold tank.
- 4.3.2 Wipe dry the wash tank.
- 4.3.3 Disconnect the part washer, including the ethernet cable, power cable, facilities air, drain hose, and fill hose.



4.4 **Before you Start Crating**

- 4.4.1 Locate the crate, hardware (bolts and brackets), and anti-static plastic bag that was set aside during the uncrating. If you are missing anything, contact Carbon Support to obtain what you need to properly crate the part washer.
- 4.4.2 Identify an appropriate crating area with ample working area for two people to move around the crate. The working area to crate the Smart Part Washer is specified in section 2, [Safety, on page 1](#).
- 4.4.3 Clear any obstructions and ensure that the floor has an even surface.
- 4.4.4 Unplug or tape down wires and cords that may be in the part washer's path.
- 4.4.5 Because the crate door is also the ramp to load the Smart Part Washer, position the crate with enough room in front of the door to load the part washer.
- 4.4.6 You will need to set aside the hardware that you remove when you open the crate, so you can reuse it to secure the crate with your part washer inside.
- 4.4.7 Check that the leveling foot in the back of the part washer (between the wheels) is fully raised so that the part washer will roll easily. If it is not, raise the foot by turning it clockwise. You may need to lower the top nut (13mm) on the foot before being able to raise the foot.



- 4.4.8 Using two people, carefully move the Smart Part Washer to the crating area, leaving ample space around it for easy access on all sides.

Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

4.5 Open the crate.

- 4.5.1 Unlatch the crate door by turning the four latch keys counterclockwise.



- 4.5.2 Carefully lower the crate door/ramp.



4.6 Remove the crate shell.

- 4.6.1 Start by locating the eight lag bolts at the bottom of the crate shell. There are three bolts on each side and two in the back of the shell.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.6.2 Using a 9/16" wrench (or power drill with a 9/16" socket), remove all eight lag bolts and set them aside.



- 4.6.3 Using two people, lift the crate shell off the crate base, leaving the empty crate base.



- 4.7 **Remove attached brackets.**

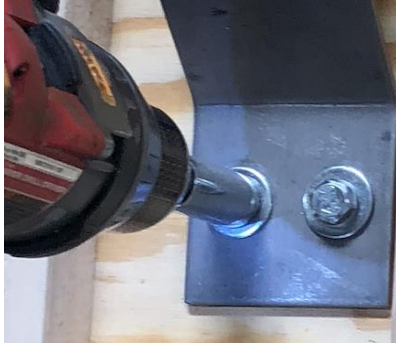
- 4.7.1 If the four metal brackets are attached to the crate base, remove them.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.7.2 Remove the two lag bolts holding each of the four brackets to the crate base. You will likely be able to unscrew the lag bolts by hand. If not, use a 13mm wrench (or power drill with a 13mm socket) to remove the bolts.

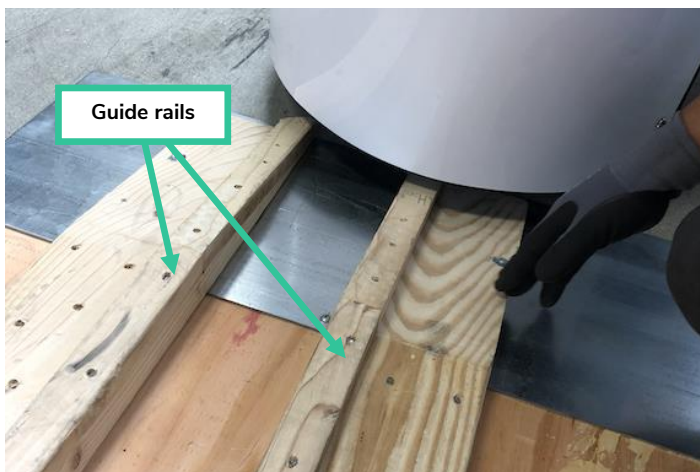


- 4.8 Roll the part washer onto the crate.

- 4.8.1 Using two people, carefully roll the Smart Part Washer to the crating area and position the part washer in front of the ramp, so that the Fill and Drain valves are facing **away** from the ramp.



- 4.8.2 Using two people, carefully line up the Smart Part Washer so that the guide rails pass between the wheels. **Note:** There is a small lip on the ramp, so one person lifting the front while the other pushes from behind can help the wheels ease onto the ramp.



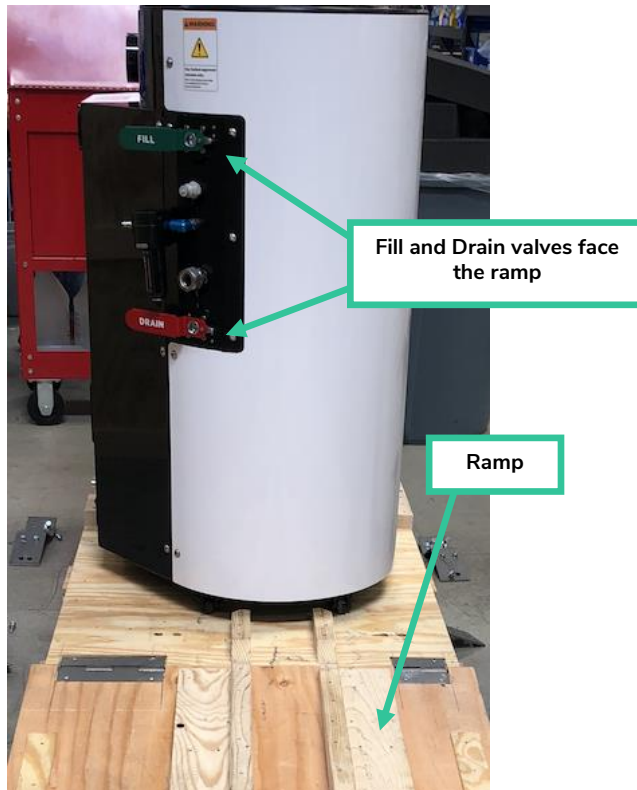
Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.8.3 Slowly roll the part washer up the ramp onto the crate base, keeping the guide rails between the wheels.



- 4.8.4 With the Smart Part Washer completely on the crate base, you are ready to attach the brackets.
Note: You can lower the leveling foot in the back of the part washer (between the wheels) to keep the part washer from rolling while you attach the brackets.

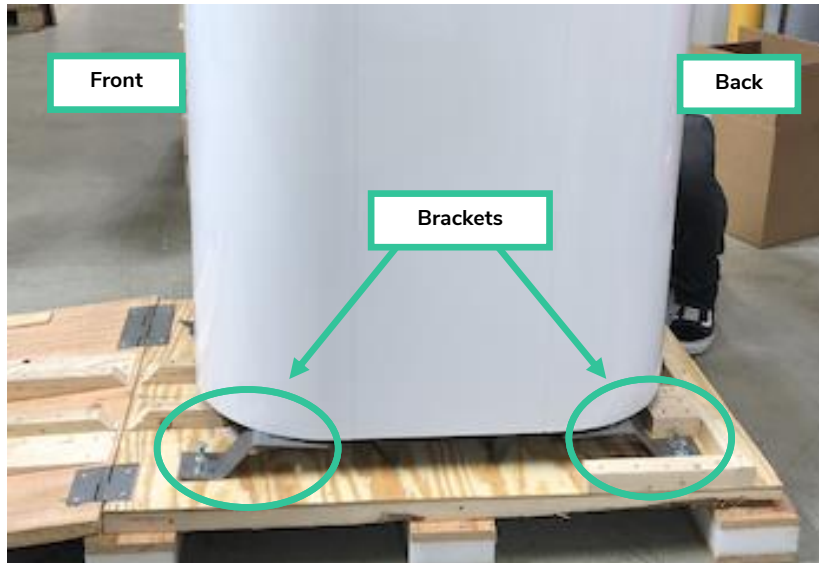


Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

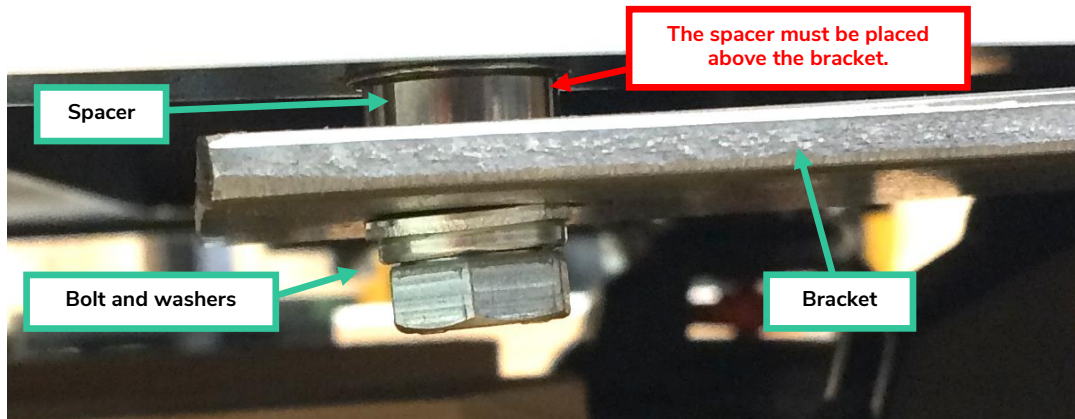
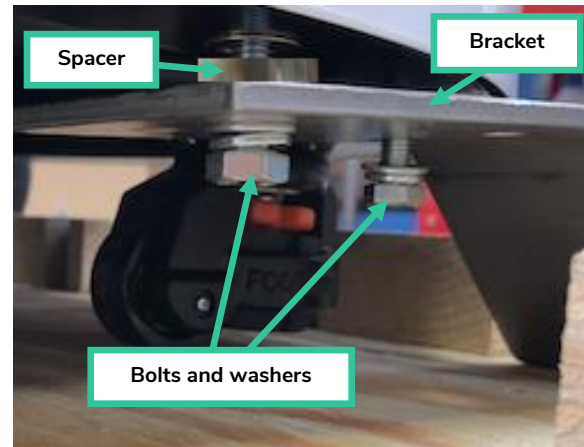
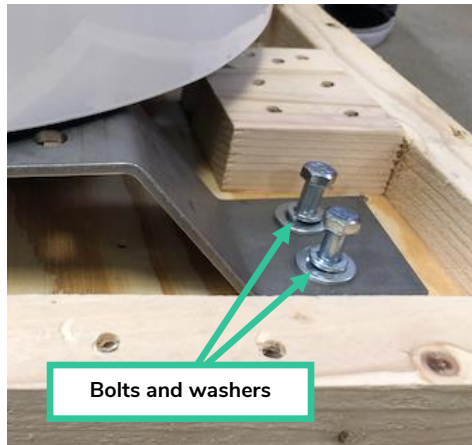
4.9 Attach the brackets to hold the Smart Part Washer in place.

4.9.1 The Smart Part Washer uses four brackets to hold it in place on the crate base. Two in the front and two in the back.



4.9.2 Each bracket uses four bolts: two to attach the bracket to the part washer, and two to attach the bracket to the crate base. Each bolt uses a flat washer and lock washer to keep the bolt in place. The bolts that attach to the part washer also use a thick spacer between the bracket and the part washer.

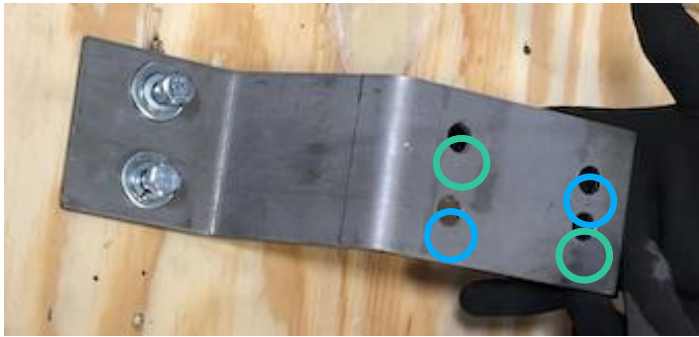
CAUTION: The thick spacer **must** be placed **above the bracket** (see image below). Otherwise, the shipping bracket will not seat properly and will **result in damage** to the Smart Part Washer!



Smart Part Washer Uncrating-Crating

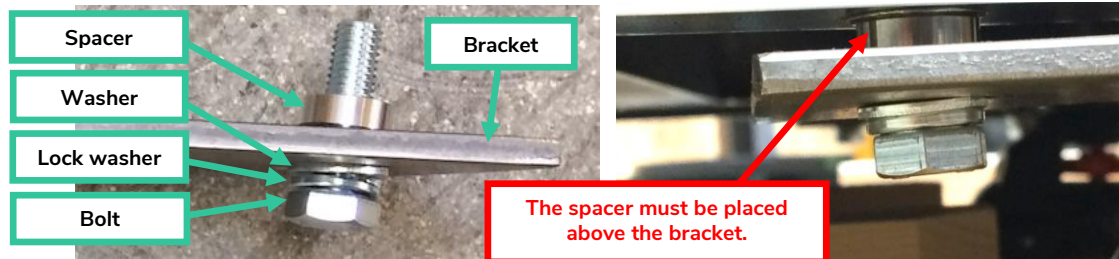
V01.05
26 APRIL 2023

- 4.9.3 The bracket is designed with four holes for the part washer so that the bracket can be used in all four spots on the crate. The part washer has only two threaded holes for each bracket. Depending on the position of the bracket, use either the two **blue** holes or the two **green** holes (shown below) to attach the bracket to the part washer.



- 4.9.4 Starting with the **two rear brackets**, repeat the following steps for all four brackets:

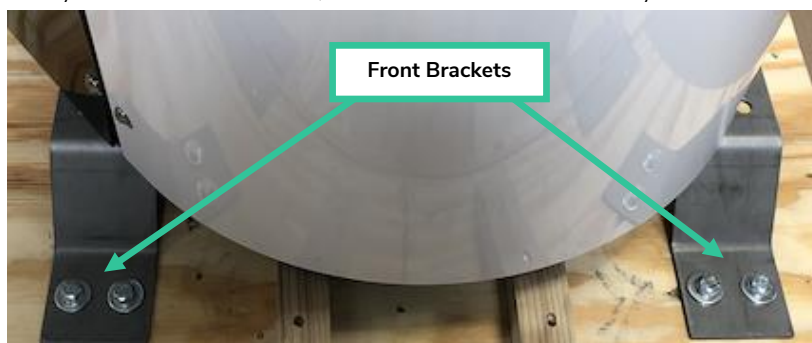
- 4.9.4.1 **VERY IMPORTANT:** Loosely secure the two rear brackets to the underside of the part washer using two bolts for each bracket. Insert the bolt through the lock washer, flat washer, bracket, and spacer in the order shown below.
CAUTION: The spacer **must** be placed **above** the bracket. Otherwise, the shipping bracket will not seat properly and will **result in damage** to the Smart Part Washer!



- 4.9.4.2 Once the bracket is loosely attached to the part washer, align the bracket with the holes in the crate base.
4.9.4.3 Using two bolts, attach the bracket loosely to the crate base.
4.9.4.4 Using a 13mm wrench, tighten the two bolts that hold the bracket to the part washer.
4.9.4.5 Using a 13mm wrench (or power drill with a 13mm socket), tighten the two bolts that hold the bracket to the crate.



- 4.9.5 After you attach all four brackets, the Smart Part Washer is securely attached to the crate base.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.10 Place the plastic anti-static bag over the part washer and tuck the open end of the bag under the part washer to help keep it in place.



4.11 **Assemble the crate for shipping**

- 4.11.1 Using two people, place the crate shell onto the crate base.



- 4.11.2 To make sure that the crate is properly aligned, insert all eight lag screws into the crate base before tightening the screws. Use a 9/16" wrench or power drill with a 9/16" socket.



Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.11.3 Tighten all eight lag screws to secure the crate shell to the crate base.



- 4.11.4 Close the door/ramp and lock the four latches on the door by turning the latch keys clockwise, and then lay the latchkey flat against the door.

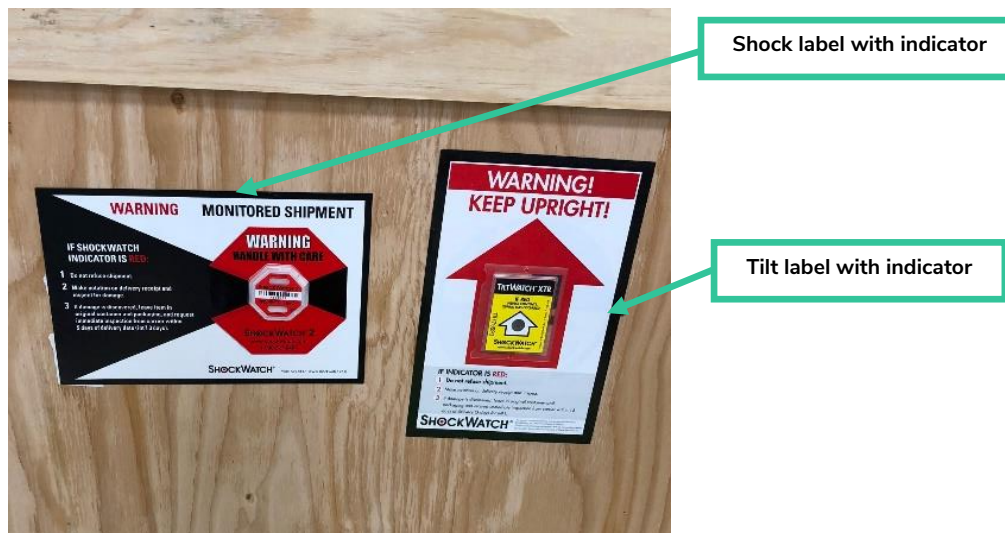


Turn the latches clockwise to lock and then lay them flat against the door.

Smart Part Washer Uncrating-Crating

V01.05
26 APRIL 2023

- 4.11.5 Check that the crate has shock labels and tilt labels that have not been triggered. If they are missing or have been triggered, contact Carbon Support about obtaining replacements.



- 4.11.6 As needed, apply a Shock label with indicator and a Tilt label with indicator to two sides of the crate. Place them on sides perpendicular to each other, **NOT** on opposing sides, and **NOT on the door**. Because the door is removed and used as a ramp, any shock sensor on the door will be triggered.



- 4.12 This completes the Smart Part Washer crating instructions.