

Model 5000 EXA

Machine Operations & Maintenance Manual



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Section 1: Teeco Contacts

Address: 538 Leffingwell Suite C Saint Louis, MO 63122

Phone: (877) 712-9172

Email: service@teecosolutions.com

Section 2: Note about Manual (How to use Manual)

This manual will provide instructions that are designed to bring the Teeco 5000EX to full operation (starting from when the machine arrives). When installing for the first time, this manual is best used when following each section from start to finish (from Section 3: *Moving and Handling* to Section 7: *How to Wash Tents*).

What to expect from each Section:

Section 3: Moving And Handling

- Forklift requirements for lifting and moving units
- General information regarding moving and lifting

Section 4: Assembly

- How to assemble the machine prior to Setup & Installation
 - Warm Water Rack & Pallet Assembly
 - Frame, Tank, & Drum Assembly
 - Guarding Assembly

Section 5: Setup & Installation

- Machine Leveling – How to properly level the machine
- Electric Setup – All Electrical setup that must be performed (by Electrician)
- Water Heater Setup – Setup procedures for the water heating system
- Plumbing Assembly – How to assemble the plumbing structure and attach to pumps
- Hose Assembly – How to connect all hosing and where
- Calibration – How to calibrate water-filling times for machine (calculate fill time)
- Password & Wash Sequence Setup – How to change password and program a wash sequence

Section 6: Operation

- How to operate – standard operating procedures
 - Automatic Machine Operation
 - Non-Automatic Machine Operation

Section 7: How to Wash Tents

- How to fold materials before loading
- Recommended washing techniques
- Soap Chemical amounts
- Water Fill amounts
- Amount of cycle time required per load type

Section 8: Machine Maintenance

- Machine maintenance schedules & how to perform

Section 9: Manual Supplements

- Includes all supplements referenced inside the manual

Section 10: Frequently Asked Questions (FAQ)

- Refer to *FAQ* section if unsure where to find the information you require

Section 3: Moving and Handling

Forklift Requirements

Verify your forklift must meet the following requirements before moving or handling:

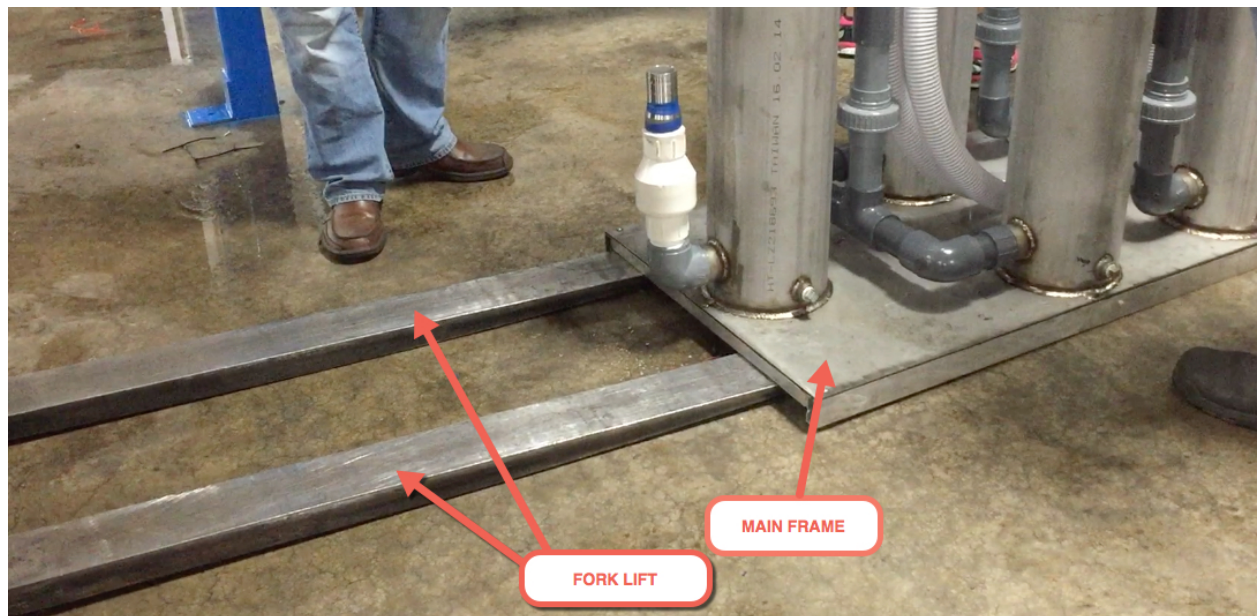
- Forklift must have a lifting capacity of at least 5000lbs/2268kg
- Forklift is capable of lifting loads a minimum of 10 feet/3.048 meters high
- Forklift is equipped with forks a minimum of 6 feet/1.83 meters long (fork extensions can be used)

-**WARNING:** always comply with common safe lifting practices and or all required safety regulations when operating a fork lift or fork truck. Only trained and certified forklift personnel should operate a forklift

Lifting/Moving

-When lifting or moving all parts of the Teeco 5000EXA, always:

- Pick up units from the super structure (e.g. mainframe, main supports etc.)
 - Secure all loose hanging items before moving
 - Lift only as high as necessary (typically a minimum of 8 inches/21 centimeters off the ground) when moving the unit for distances over 3-feet/1 meter
 - Do not drag or slide units along the floor when moving (can damage units)
 - Account for Tilt
 - Tilt forks backwards to prevent units from sliding off of forks
- For any inquires regarding lifting and/or moving the machine, Teeco phone support is available







-WARNING: always comply with common safe lifting practices and or all required safety regulations when operating a fork lift or fork truck. Only trained and certified forklift personnel should operate a forklift

Section 4: Assembly

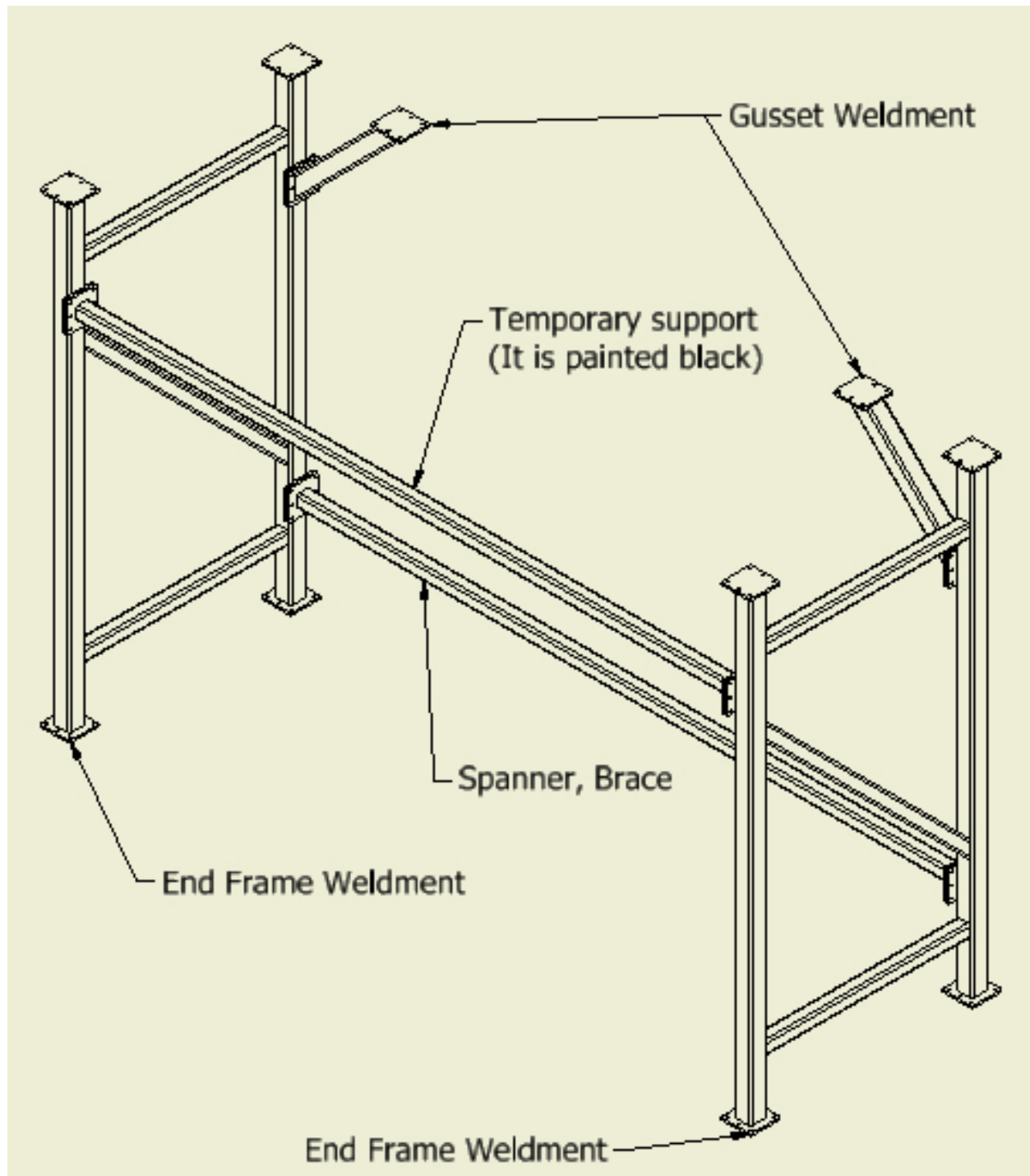
Follow the steps below to assemble the wash machine. Refer to assembly video for additional assembly information. Phone support is also available.

Specialty tools required:

- Fork Lift Truck with 72" (1.8m) long forks minimum
- Heavy-duty external snap ring pliers

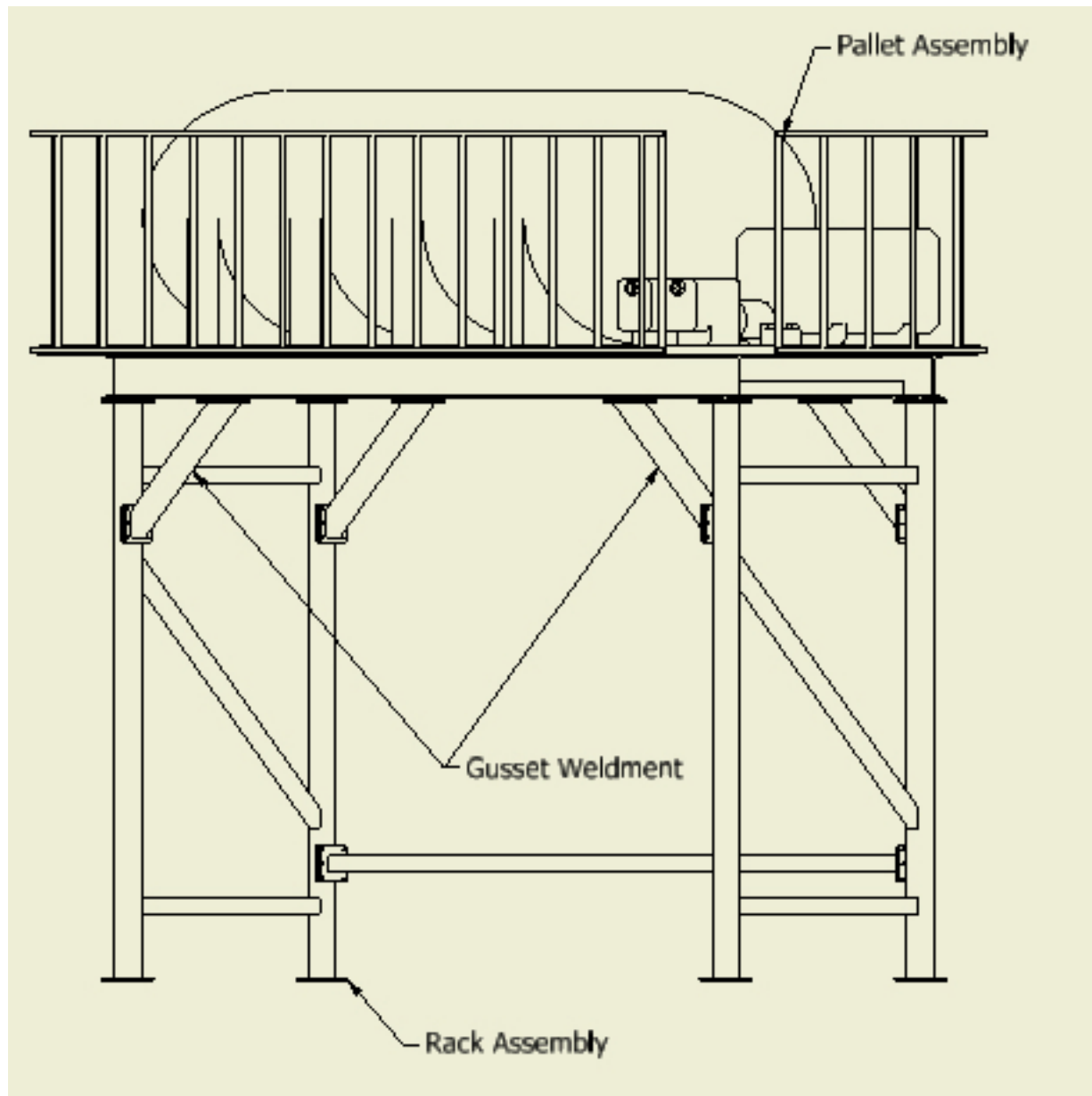
1) Assemble the "Warm Water System-Rack Stand"

- Stand the End Frame weldments up
- Bolt the Spanner, Brace into place
- Bolt the temporary support into place (it is painted black)
- Bolt the Back Gusset weldments into place.



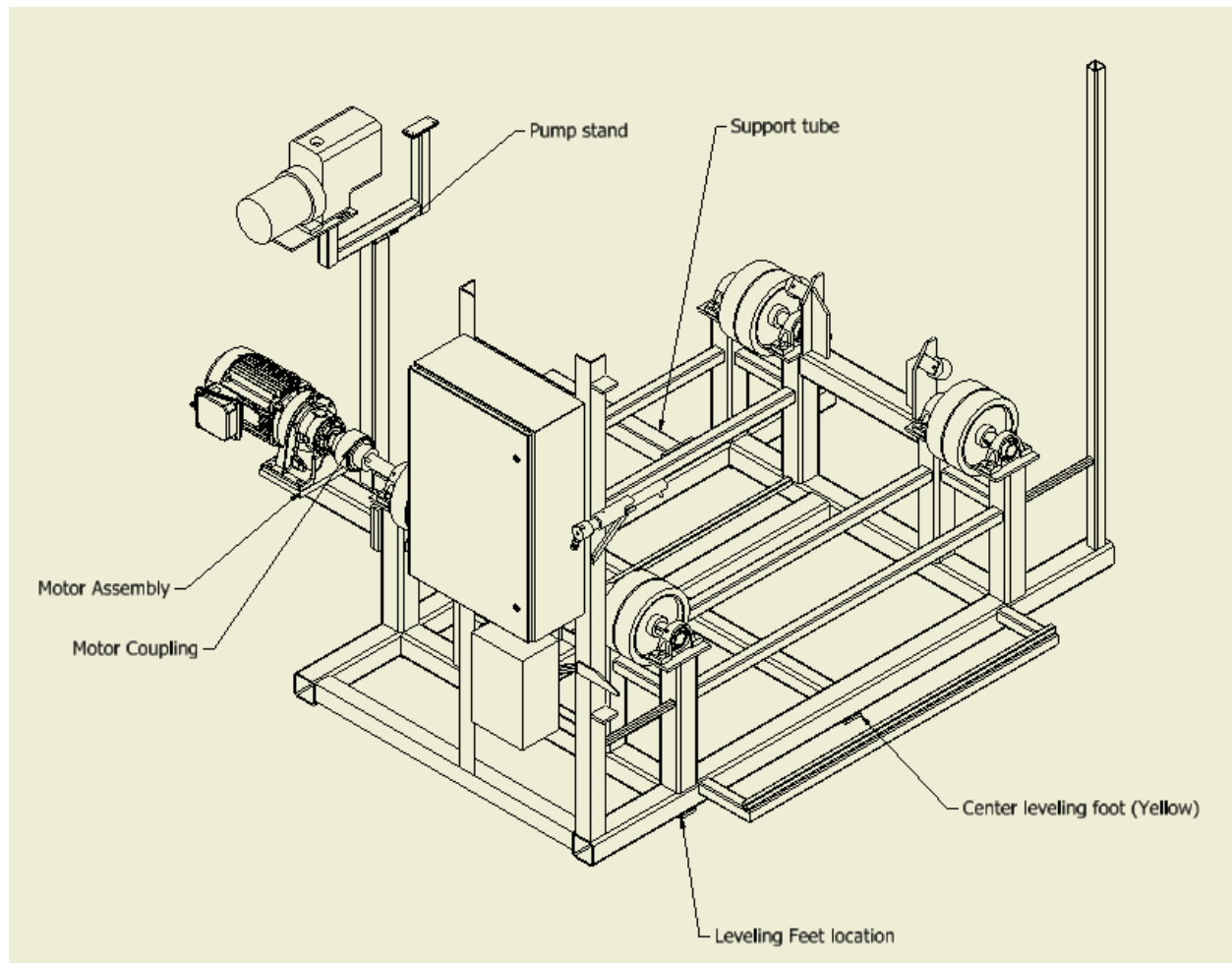
2) Assemble the “Warm Water System-Pallet”

- Install the Pallet Assembly on top of the Rack Stand and bolt together
- Remove the Black Temporary Support Tube and install the front Gusset Weldments
- Check that all bolts are tight
- Move the Warm Water System into its designated position and anchor to floor



3) Assemble Washer Frame

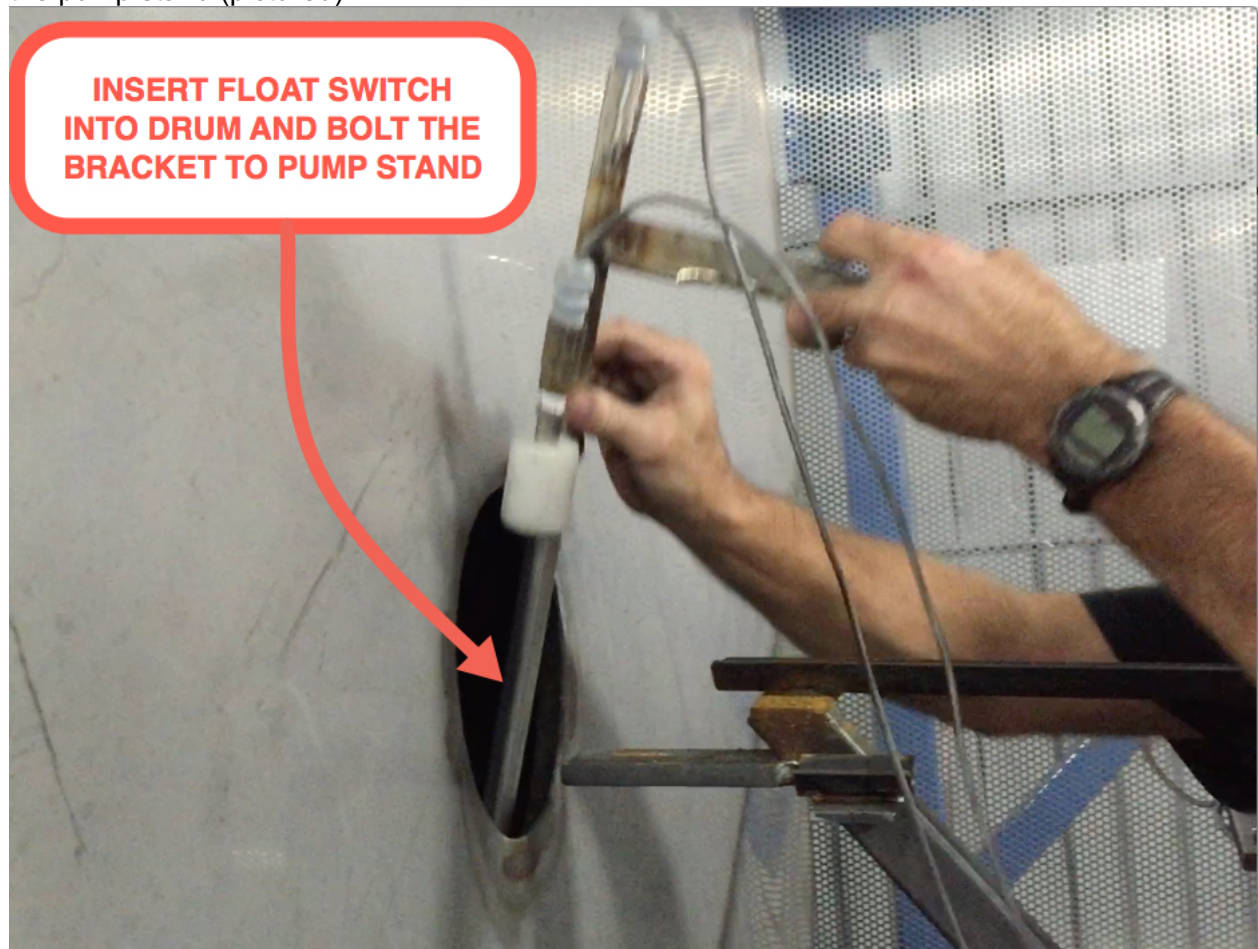
- Install Support Tube to back of frame
- Install Pump Stand to back of frame
- Install Motor Assembly
 - Line up dowel pins with holes and bolt together
- Install Motor Coupling
 - Snap plastic insert into coupling teeth
 - Slide cover over plastic insert
 - Install snap ring into groove on coupling half, using heavy duty “external” snap ring pliers
- Install Leveling Feet
 - The yellow foot goes on the front center



4) Install Washer Tank/Drain Pan

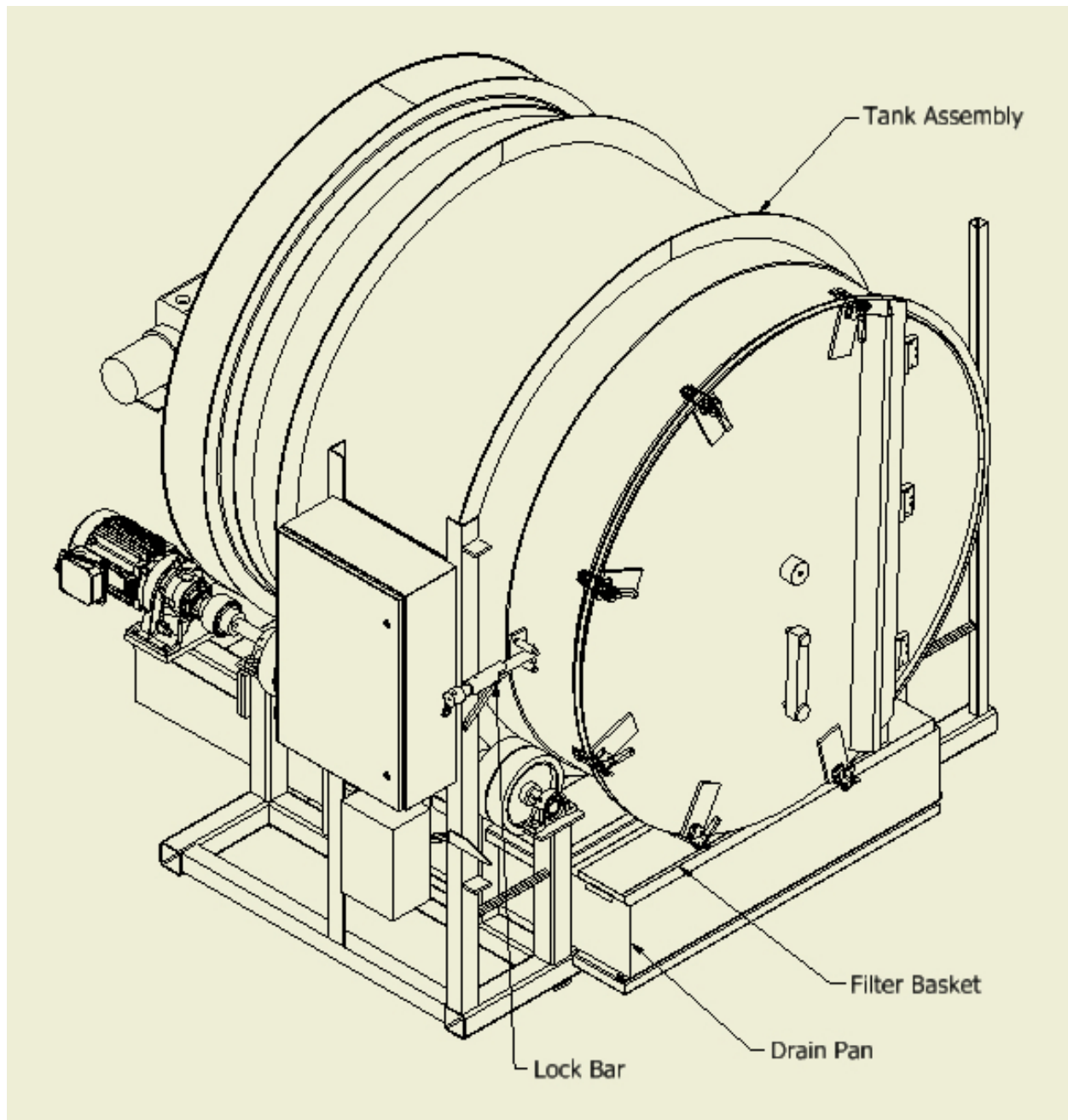
- Slide Drain Pan into bottom of frame from the front of the machine
- Slide Filter Basket into front of drain pan
- Set Tank on to frame
 - Make sure that all four (4) drive wheels are on the ride plates of the tank
- Engage the Lock Bar to secure the tank from moving
- Install all the plumbing and float switches onto the back of the washer drum

-Drum float switch bracket must be inserted into the back of the drum and bolted onto the pump stand (pictured)



-Install the plumbing and float switch to back of drain pan

-Plumbing installation procedures can also be found in Section 5: *Setup & Installation*



5) Install Guarding

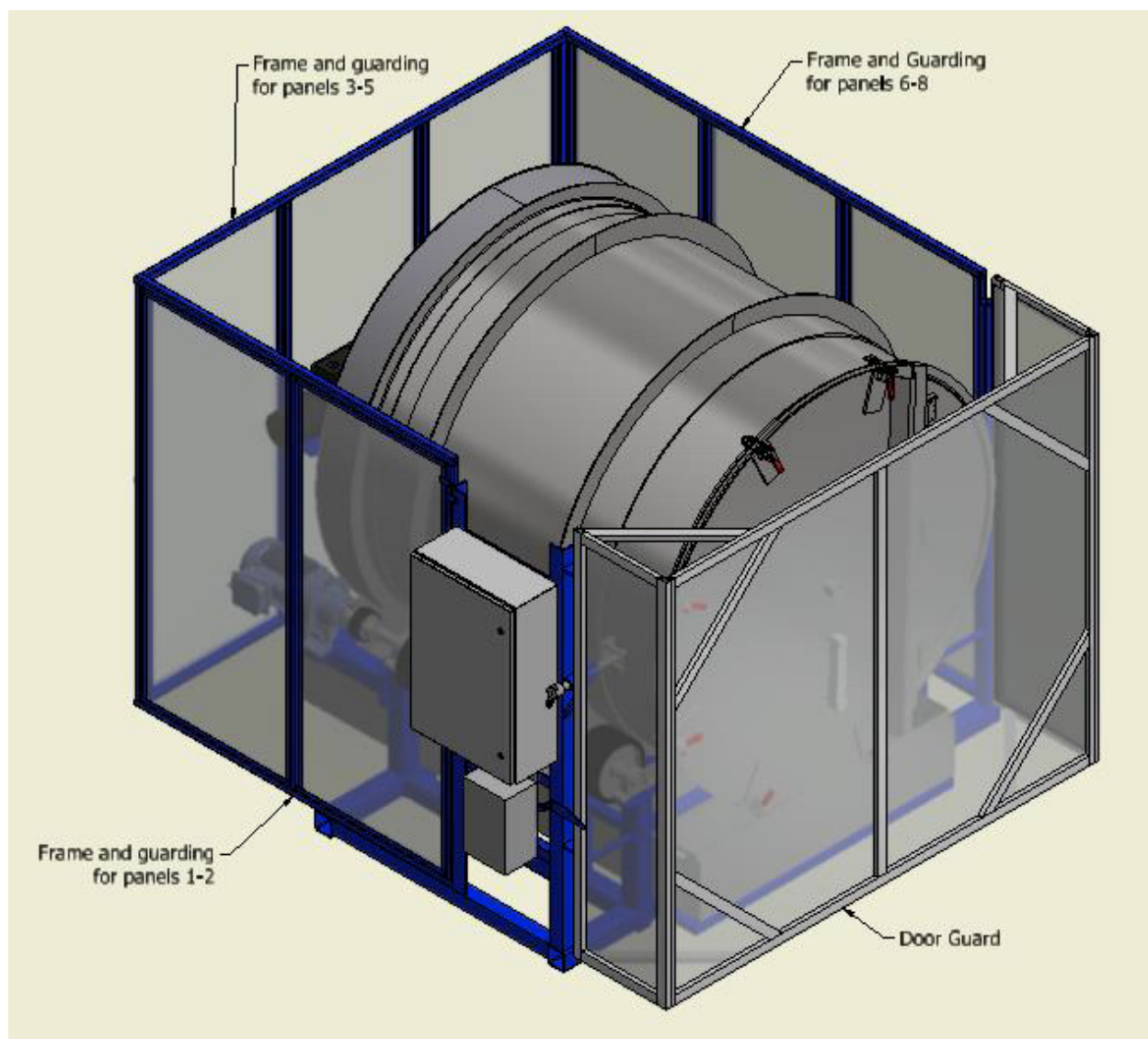
Note: Guards and guarding support frames are marked on the inside with dots. Match the dot count on the guard to the dot count on the guard frame when installing

- Assemble the three guarding frame members

- Frame for panels 1 & 2 go on the operator side etc.

- Install the eight guards, matching up the correct dot count to the frame

- Install the door guard using the hinges on the right side



- 6) Move machine into final position before starting Section 5: *Setup & Installation*
-WARNING: Never operate machine without all guarding in place.

Setup & Installation

Please complete Section 4: *Assembly* before starting Section 5: *Setup & Installation*

This section contains seven (7) parts:

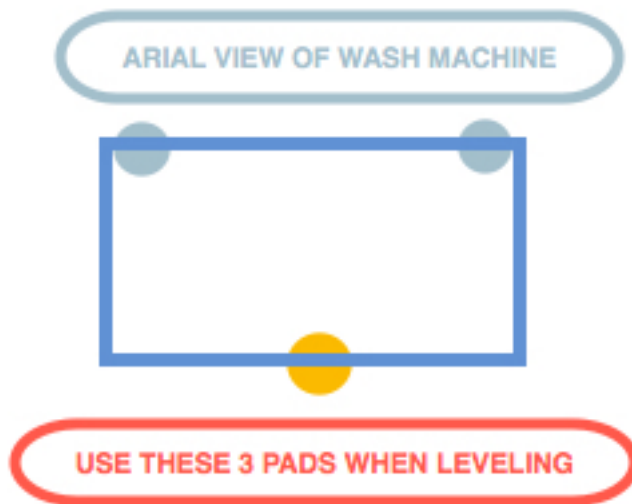
- Machine Leveling – How to properly level the machine
- Electric Setup – All electrical setup
- Water Heater Setup – Setup procedures for the water heating system
- Plumbing Assembly – How to assemble the plumbing structure and attach to pumps
- Hose Assembly – How to connect all hosing and where to attach
- Calibration – How to calibrate water-filling times for the machine (calculate fill time)
- Password & Wash Sequence Setup – How to use touch screen and setup features

Section 5: Machine Leveling

The washing machine must be level prior to the remaining Setup & Installation

-Follow the steps below to level the washing machine:

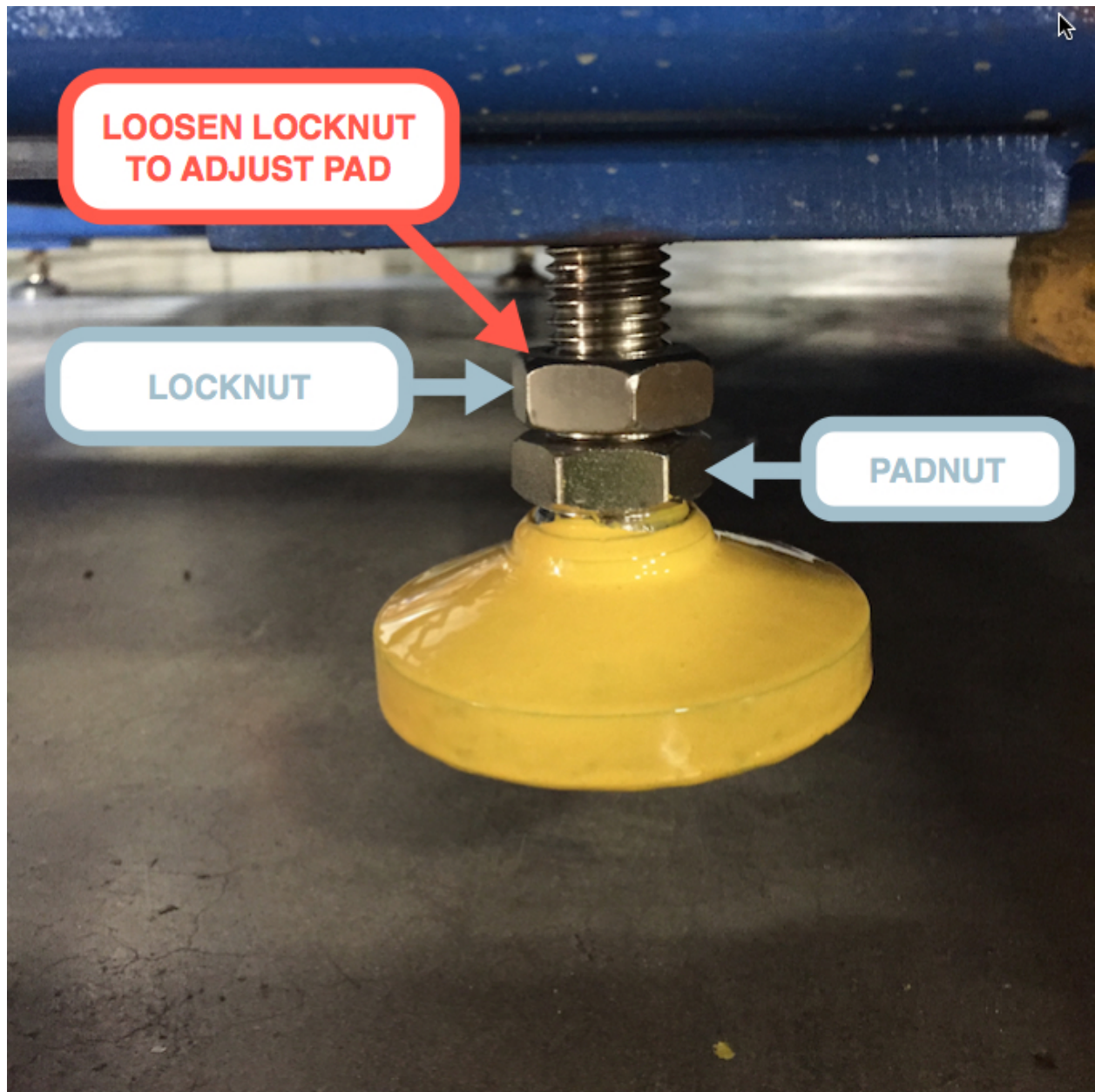
1) Adjust the leveling pads so only the front yellow pad and two silver backing pads are making contact with the ground (pictured)



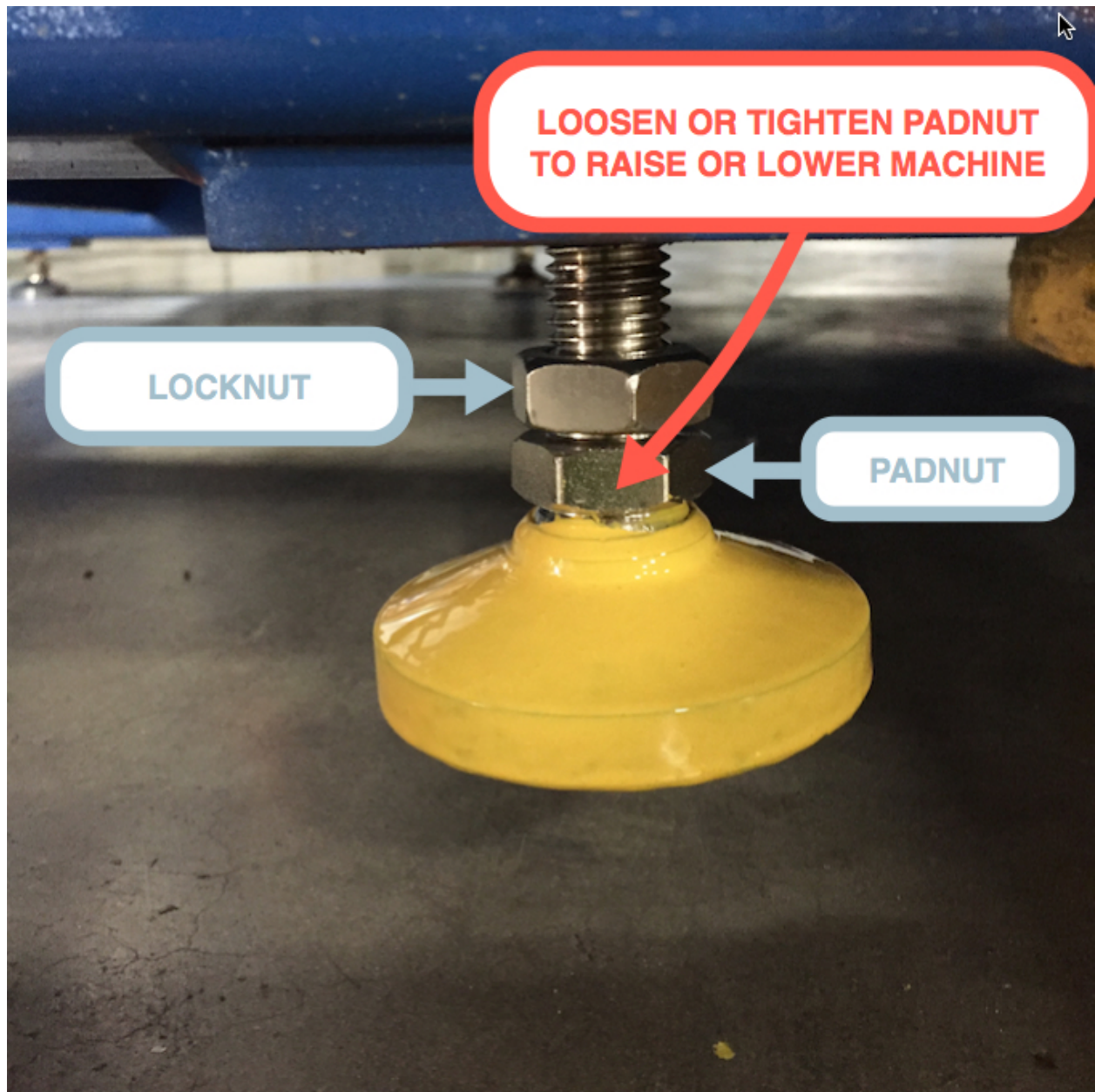
-All remaining silver pads must not be making contact with the floor

2) To adjust, loosen the LOCKNUT first (pictured):

-The LOCKNUT is the nut on top, usually in contact with the machine frame

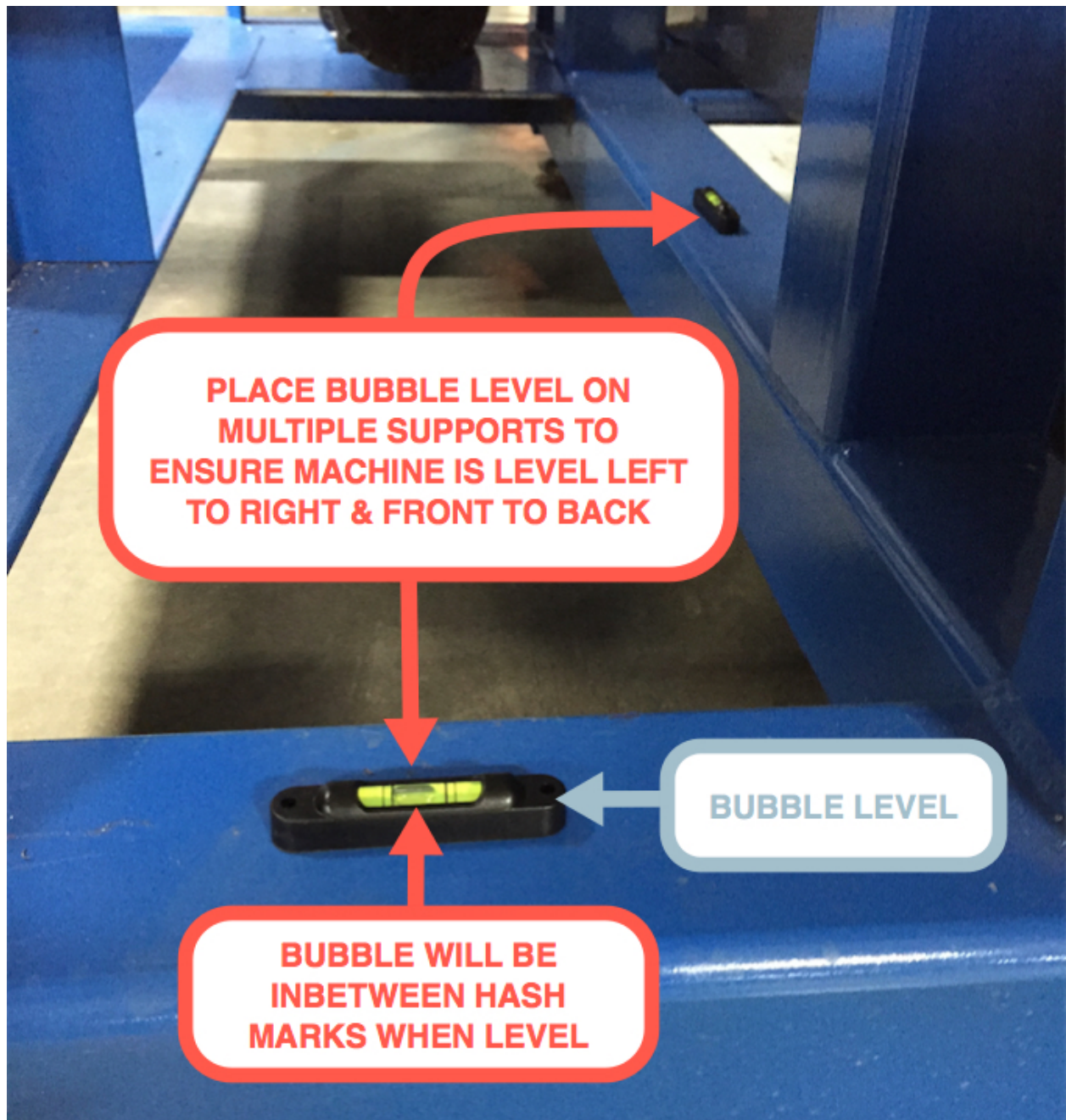


- 3) Once the LOCKNUT is loosened, adjust the PADNUT accordingly (pictured)
-Adjusting the PADNUT will either raise or lower the machine



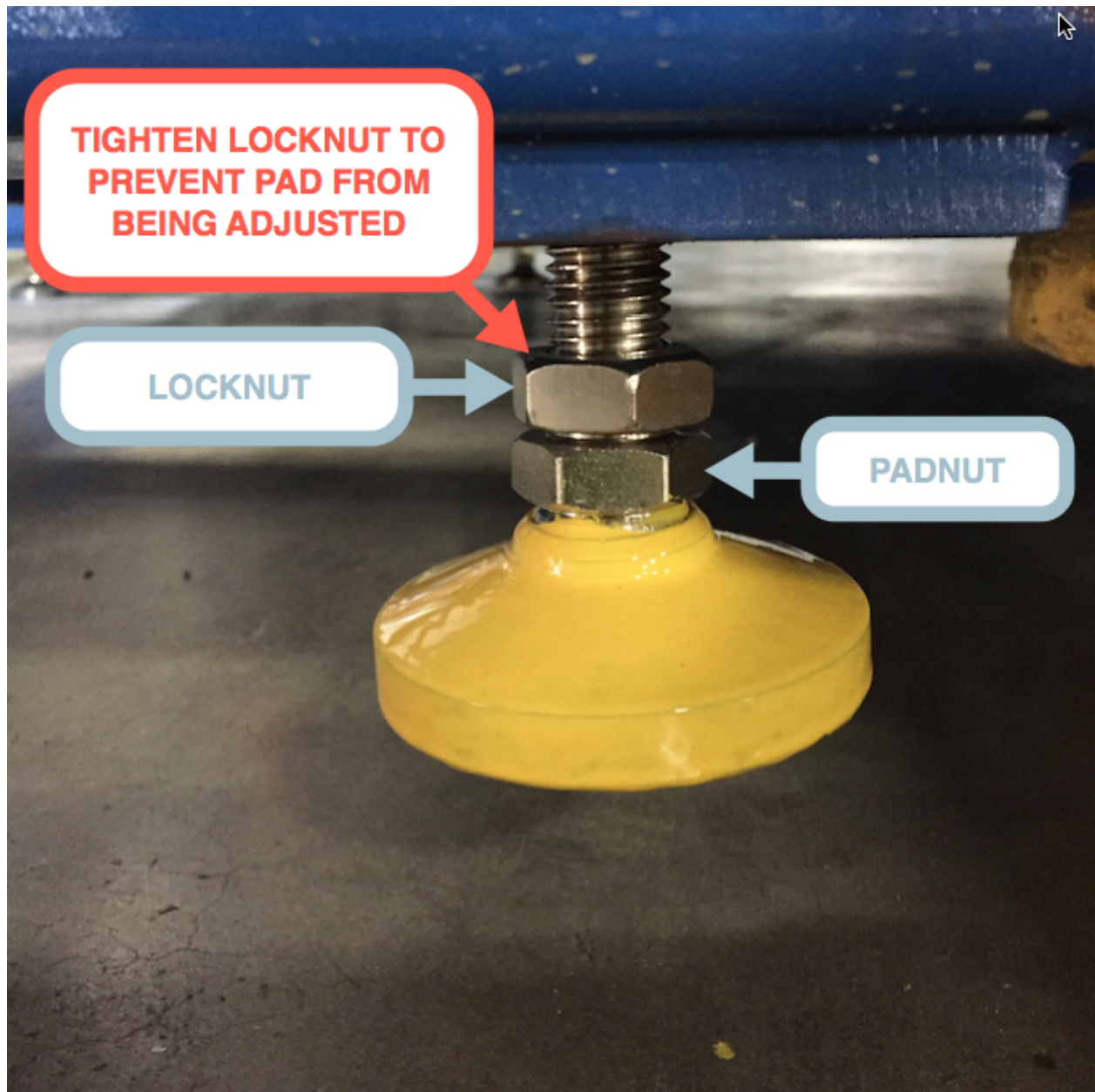
4) While adjusting the yellow leveling pads, use a level tool to check levelness of the machine on main supports

- Place level tool on mainframe supports and adjust until level
- Be sure to place level tool on multiple supports
- The machine must be level right to left AND front to back prior to starting operation



5) Once the washing machine is level, be sure to go back and tighten the LOCKNUT on all three pads

-Tightening the LOCKNUT locks the pads into positioning, and holds them in place



- 6) Be sure to adjust the remaining silver colored pads so they make contact with the ground
- Silver leveling pads need only to bear minimal weight
 - Do not over adjust the silver pads, as this can make the machine un-level
 - Double check levelness while adjusting to make sure machine remains level

Section 6: Electric Setup (Performed by Electrician) -

-CAUTION: Have a qualified electrician perform all electrical work

-CAUTION: Always comply with local and/or federal building and electrical codes



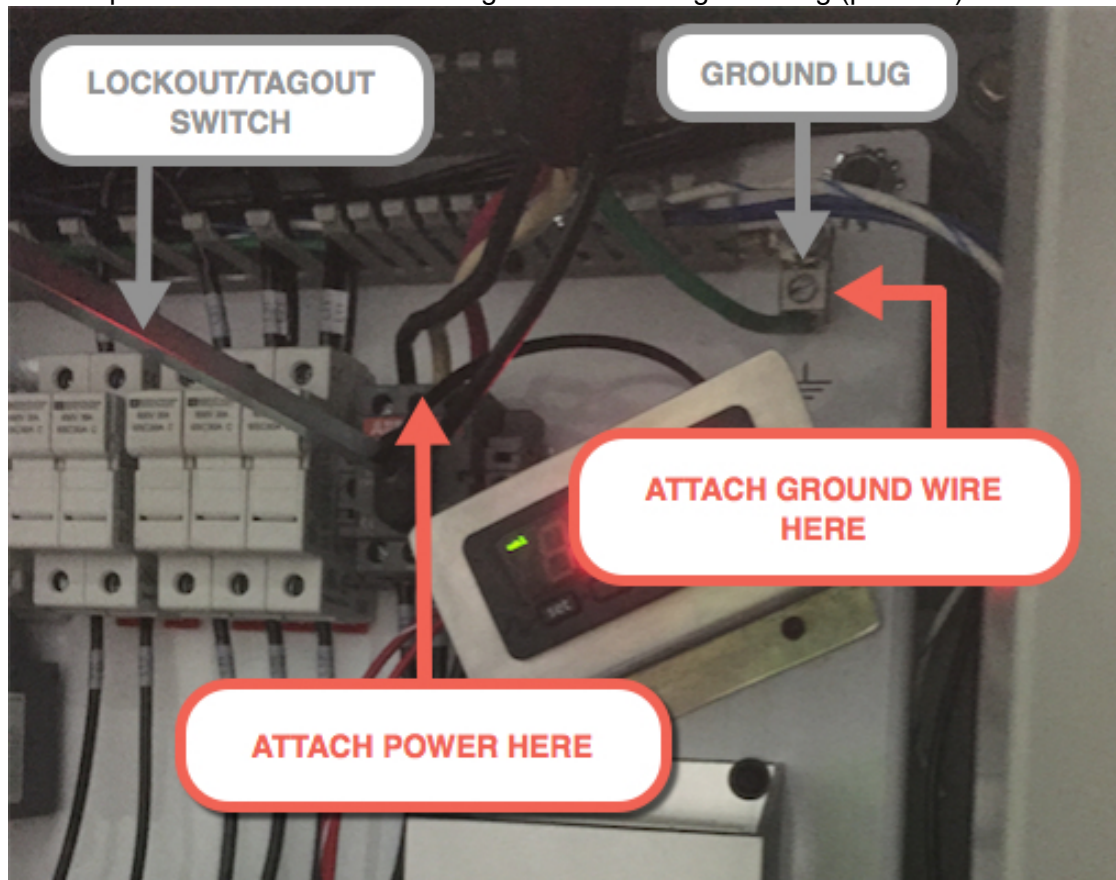
-CAUTION: Risk of electrical shock

-For Electrician: Be sure to use appropriate wire size for voltage, amperage, and length of run from main power source

-Follow the steps below to complete electric setup:

1) Wire building power supply to washing machine electric box

-Attach power wires to the lockout/tagout switch and ground lug (pictured)

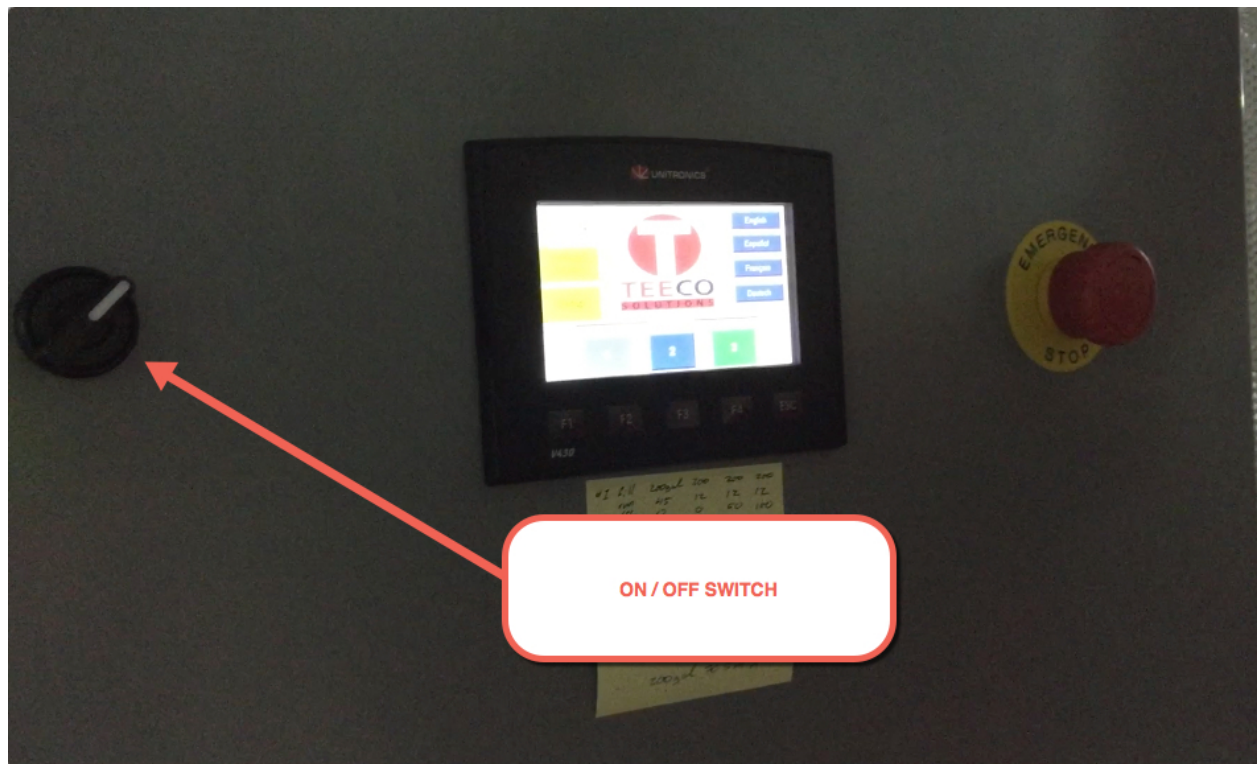


-Install in accordance with Machine voltage

-380V, 50Hz, FLA 40A

-CAUTION: Always comply with local and/or federal building and electrical codes

-Once installed, turn the on/off switch to check to make sure the machine turns on (pictured)



-CAUTION: MACHINE MUST BE EARTH GROUNDED WITHIN 10 FEET OF THE MACHINE PER LOCAL AND FEDERAL REGULATIONS OR GUIDELINES

-CAUTION: ALWAYS USE PROPER LOCK OUT TAG OUT PROCEDURES WHEN MAINTAINING OR WORKING ON ELECTRICAL COMPONENTS OF THE MACHINE. FOR OPERATION OF LOCK OUT TAG OUT POWER SWITCH SEE THE APPENDICES OF MANUAL SUPPLEMENTS

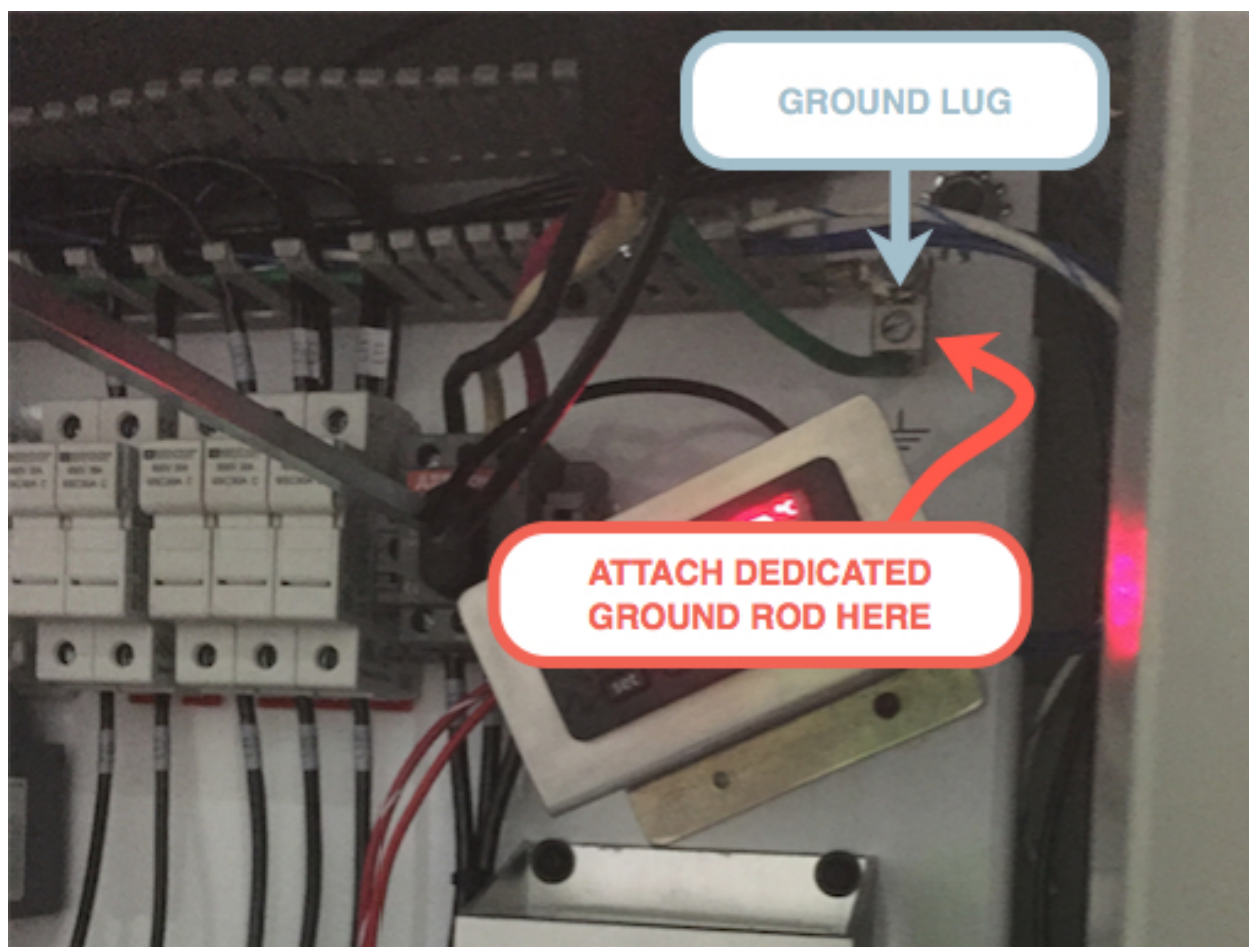
2) Drive a dedicated ground rod within 10 feet

-In addition to the building's grounding system, we demand that the washing machine has a dedicated earth ground within 10 feet of the washing machine

-Choose a location within 10 feet and drive dedicated ground rod

-After ground rod has been driven, wire (the ground rod) directly to the ground lug

-Ground lug is on inside of electric box (pictured)



3) All remote machine wiring will be installed by Teeco Service rep

Section 7: Water Heater Setup

-Follow the steps below to complete initial water heater setup:

1) Connect water supply

-Locate the three-quarter inch (3/4") male pipe thread on top of the water tank (pictured)

-Connect a cold water line to this attachment

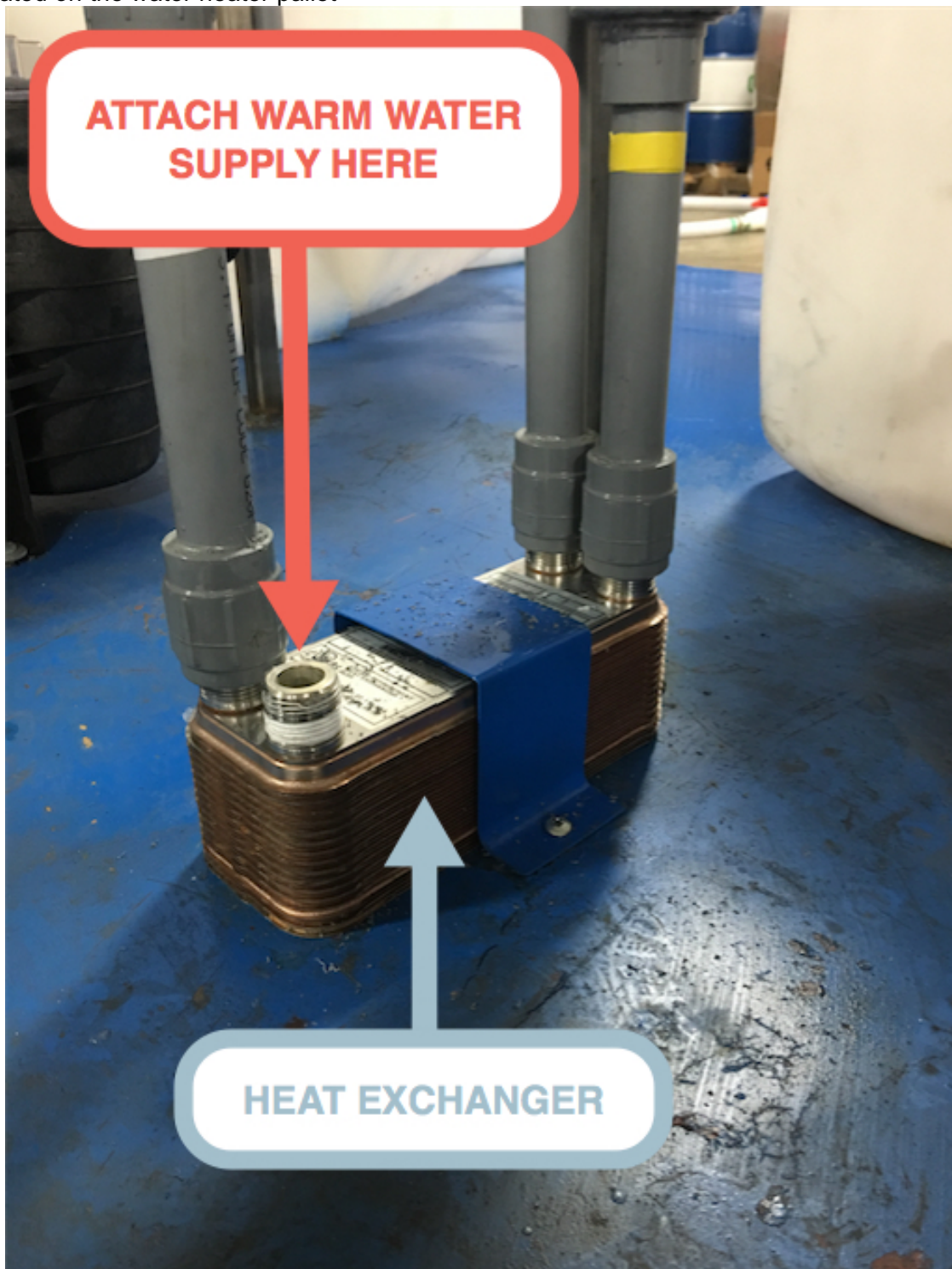
-This is where the washing machine will draw all water supplies for washing

-Water supply must have a maximum pressure of 65 PSI (cannot exceed)

-Water supply must have a minimum flow rate of 7 (seven) gallons per minute



2) Attach customer supplied micro boiler supply and return to the heat exchanger and small tank located on the water heater pallet





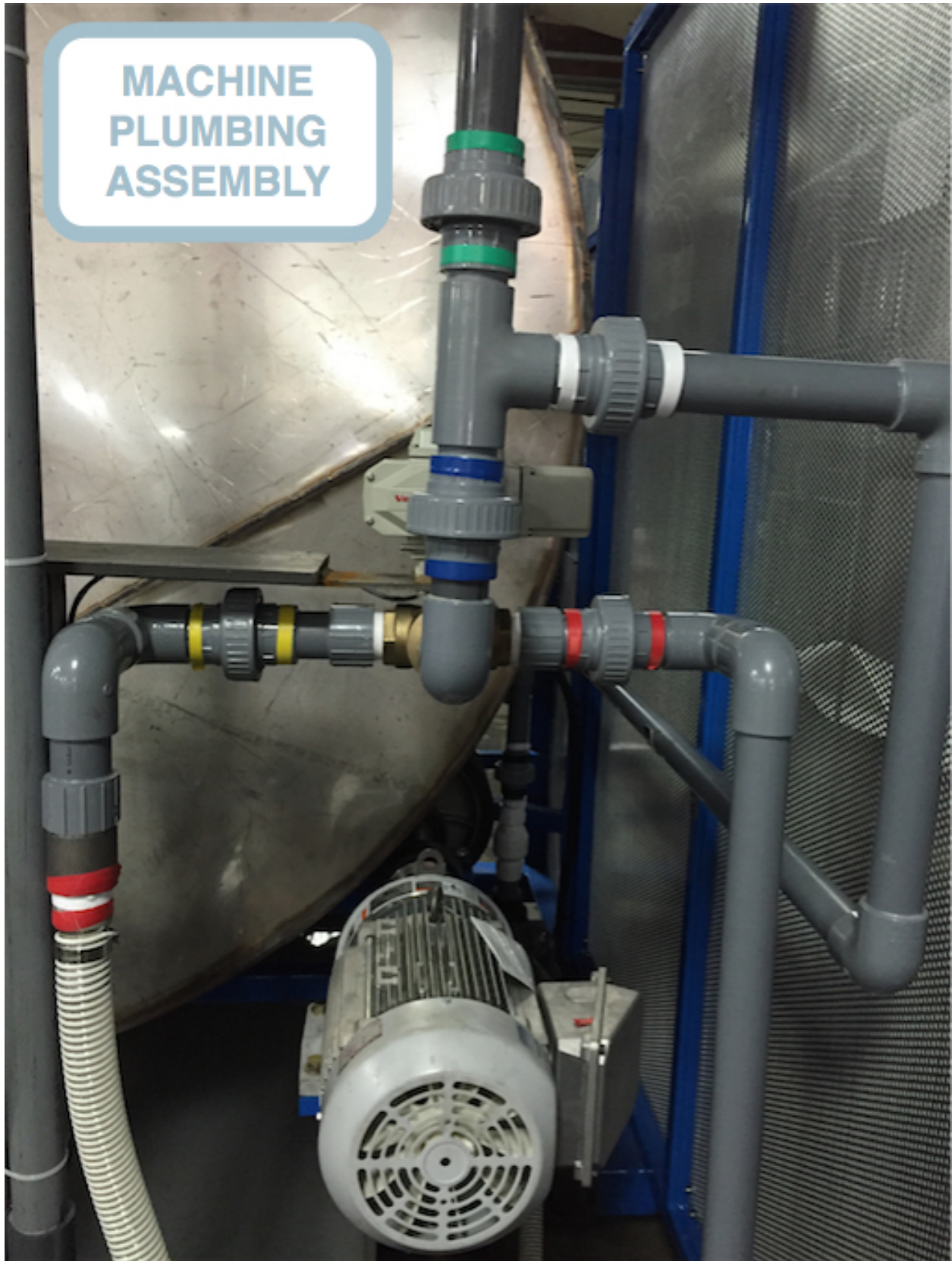
Section 8: Machine Plumbing & Water Heater Plumbing Assembly

Each piece is color coded to help with assembling the machine plumbing and water heating system plumbing (pictured)

- Use color-coding to assemble the plumbing
- Use pictures as a reference when assembling plumbing



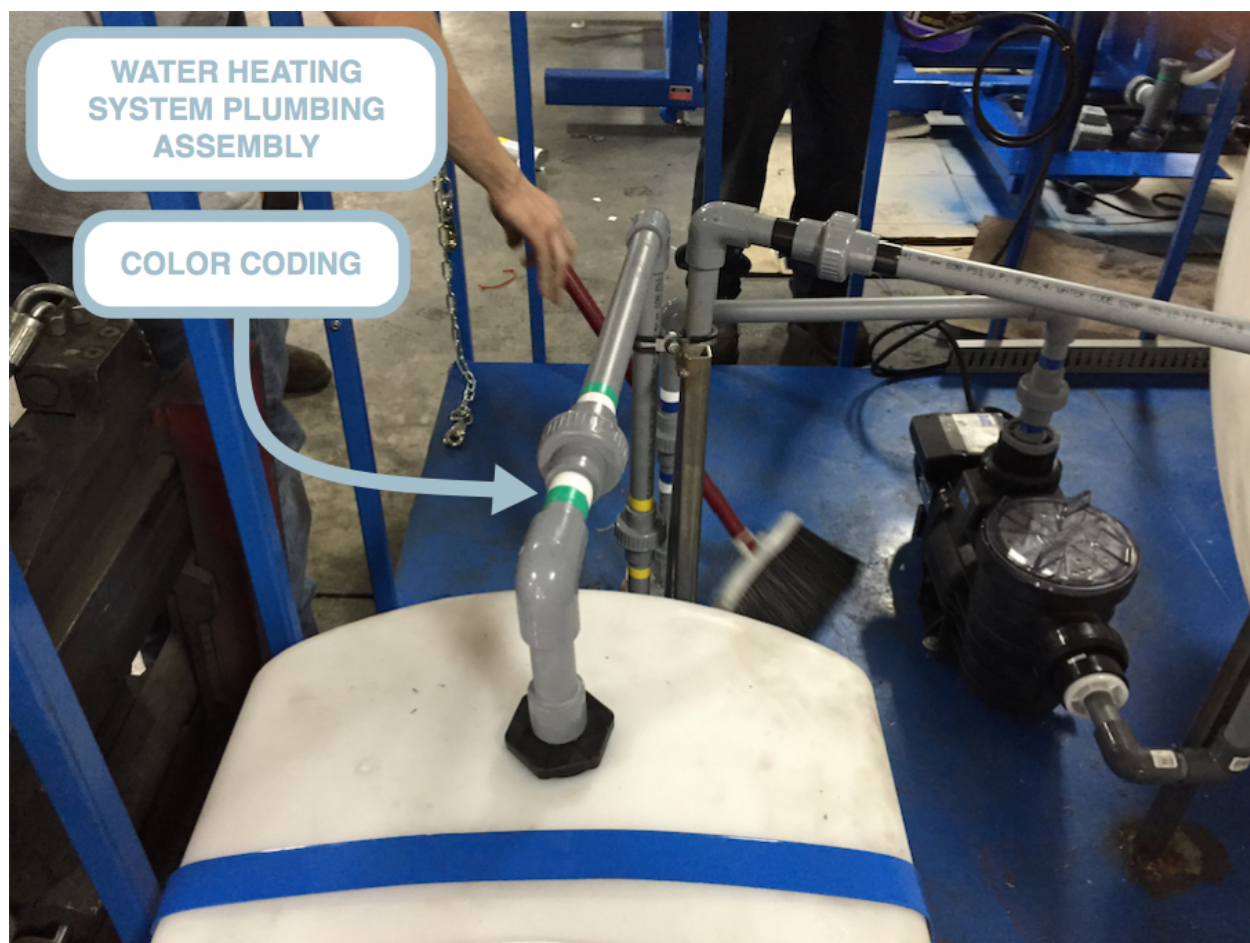
MACHINE PLUMBING ASSEMBLY

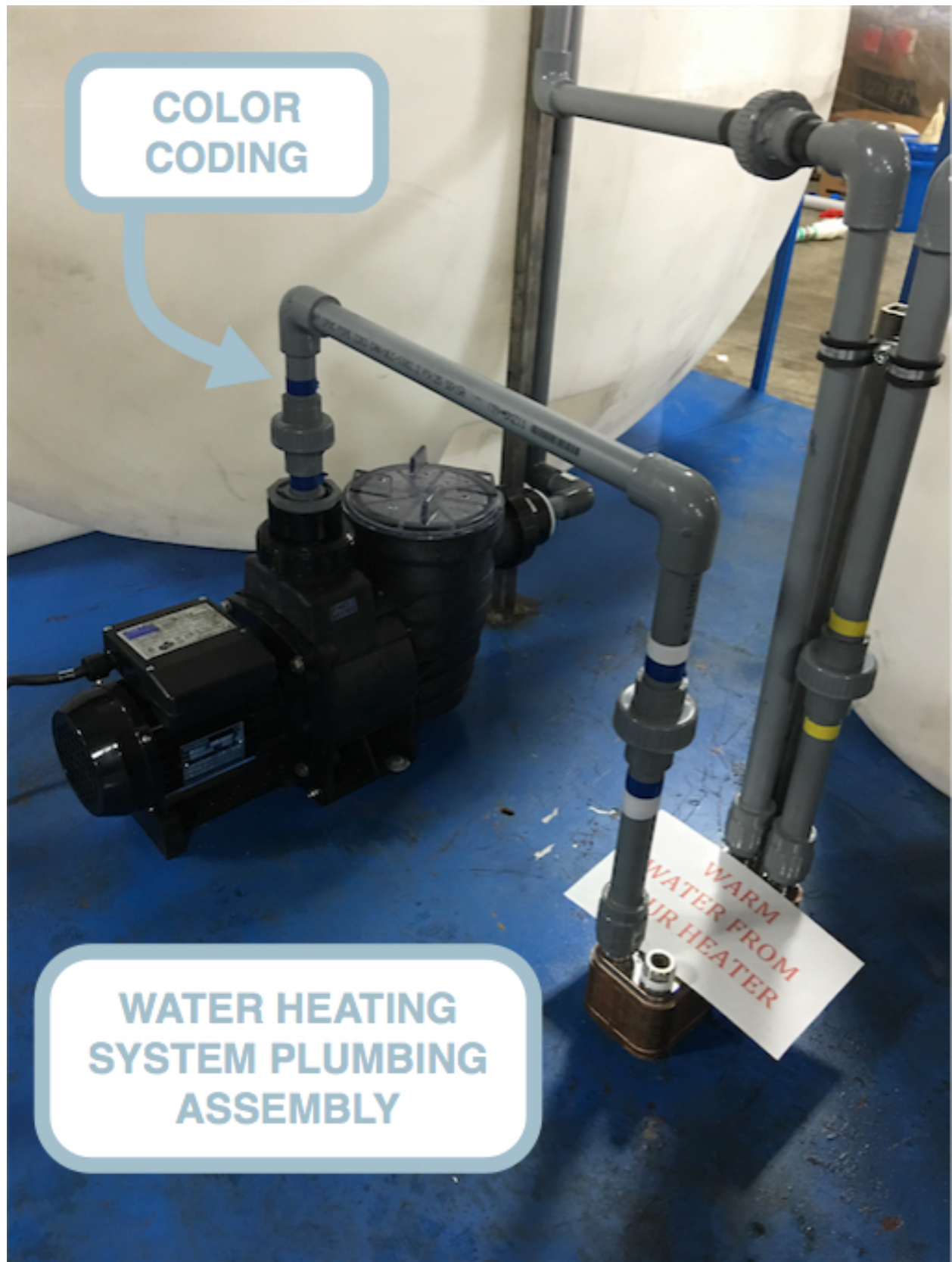


**WATER
HEATING
SYSTEM
PLUMBING**









Hose Assembly

Before starting -

-Make sure you have the following items:

-Flexible Hose Lines (total of 4):

-One 2" Flexible Hose Line (Used as the "Tent Washing Machine Fill Hose")

-Three 1 1/4" Flexible Hose Lines (To be used as "Recycle" and "Drain Hoses")



-One (1) Heat Gun



-Use heat gun to soften all hoses before attaching hoses

-Using the heat gun prior to attaching will result in a stronger connection

-Use color-coding during assembly

-Each flexible hose is color-coded to assist you during assembly

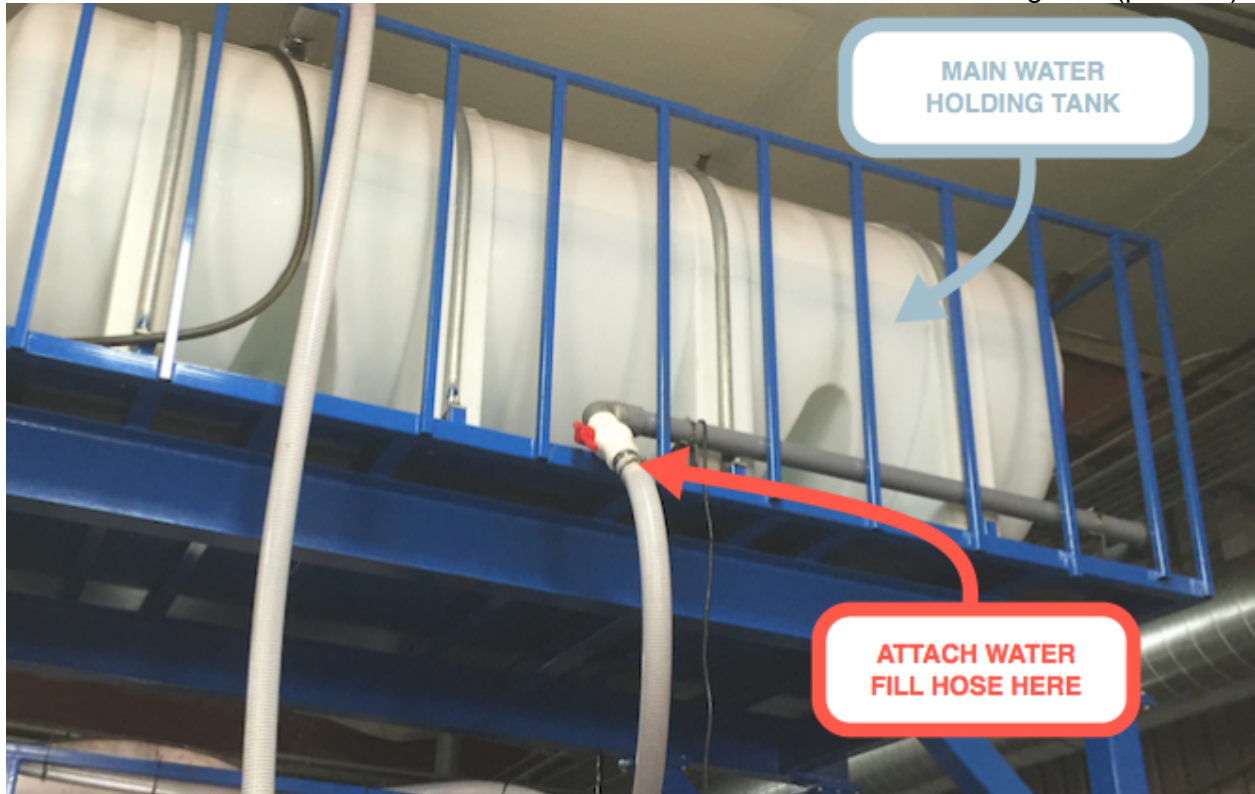
- Each hose fitting will have matching/corresponding color-code
- O-Rings must be securely sealed when assembling plumbing (pictured)
- O-Rings cannot be pinched or unevenly inserted



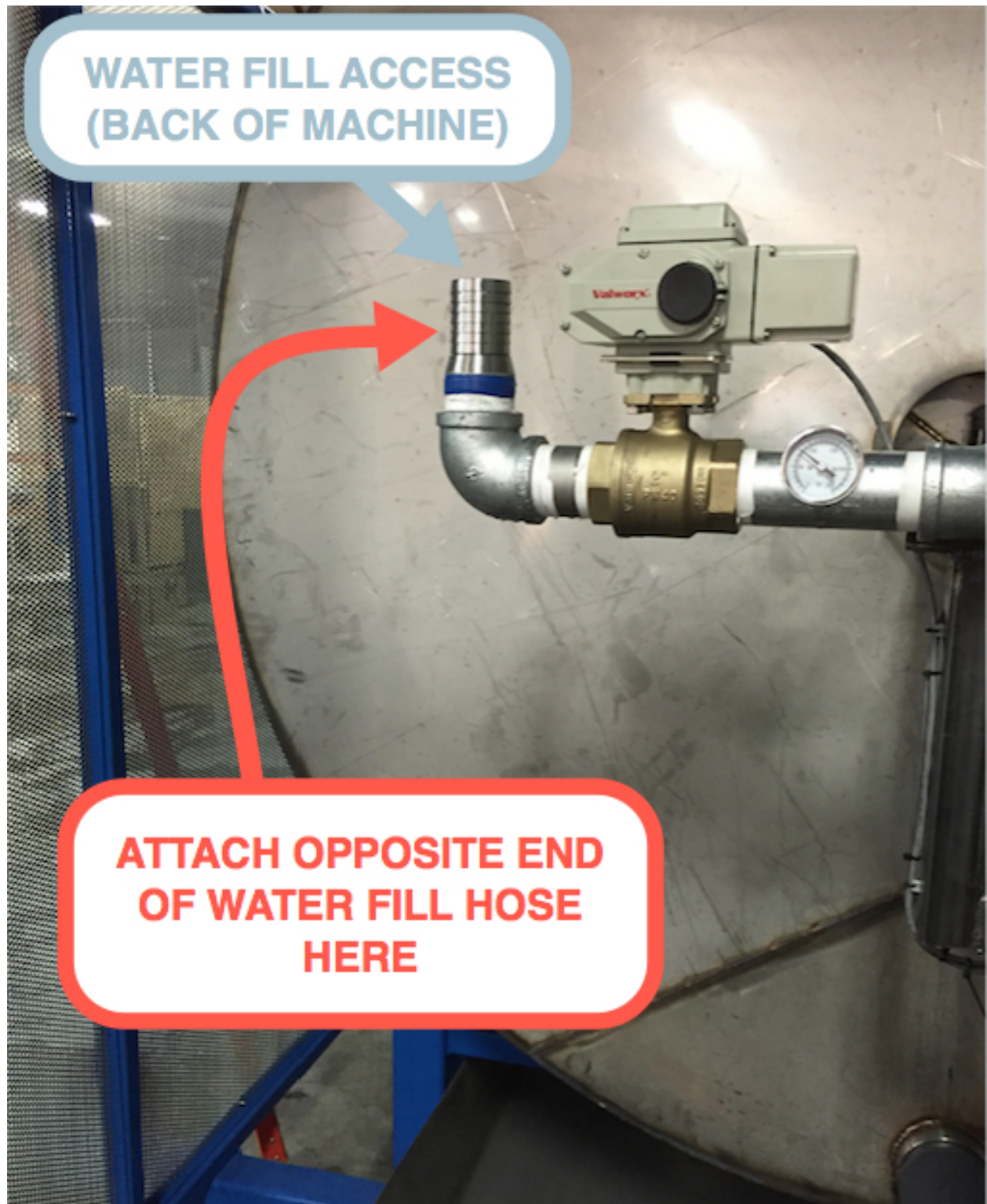
Follow the steps below to complete this section:

1) Connect Water Fill Hose (2" flexible hose) – color coded

- The water fill hose connects to the water heater and the washing machine
 - Supplies warm water from the water heater main holding tank to the washing machine
- Attach the water fill hose to the ball valve on the back of the main water holding tank (pictured)



- After the water fill hose is securely attached to the water heater, use the heat gun to attach the opposite end (of the hose) to the washing machine
 - See picture for location of water supply access (pictured)



-Once water fill hose is securely attached to both the water heater and washing machine, be sure to turn the ball valve switch to the open position (pictured)

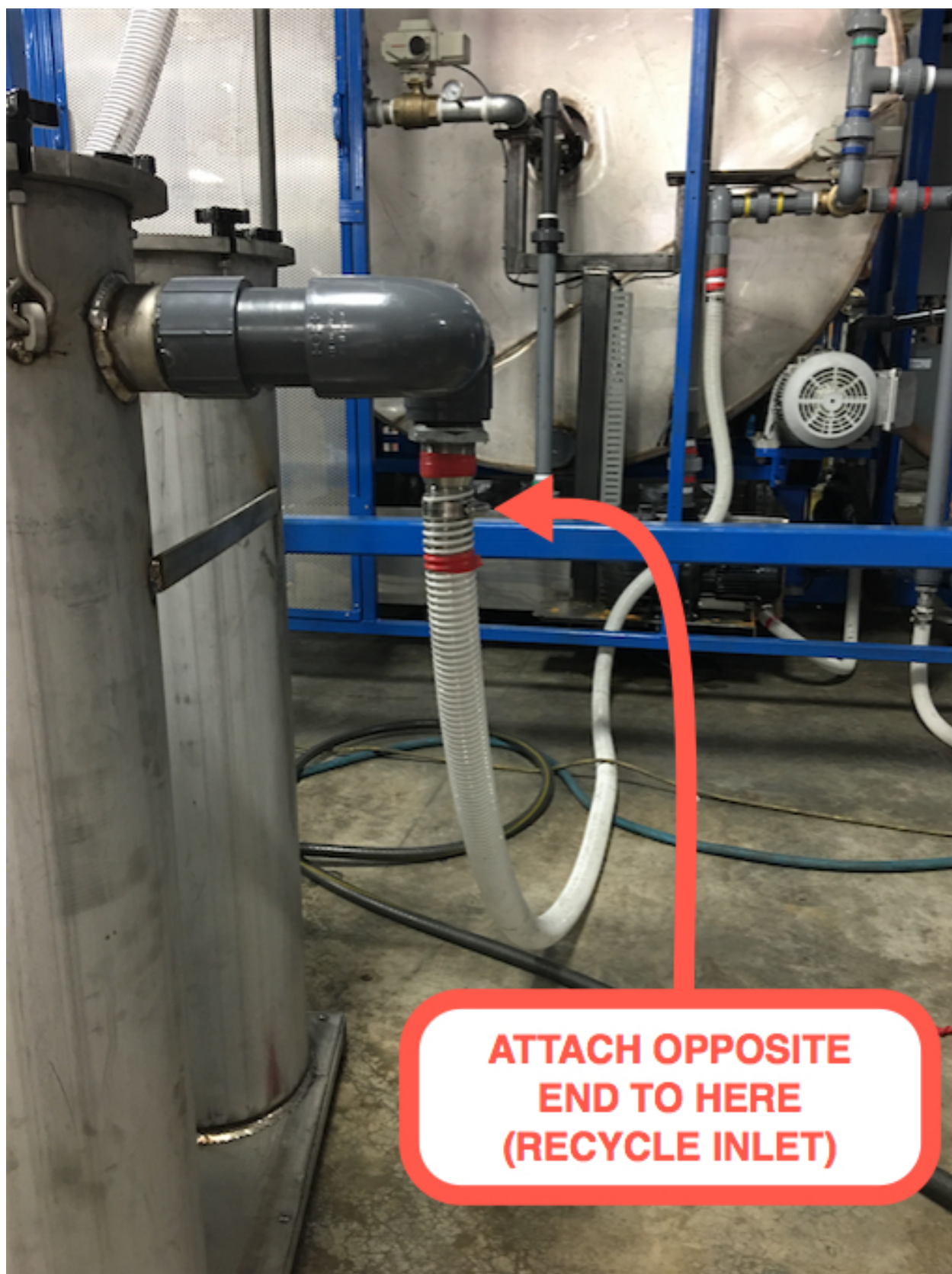


2) Connect Recycle Inlet Hose (1 ¼" flexible hose) – color coded

- This recycle inlet hose connects to the washing machine and the recycle unit
- Takes dirty water from the washing machine and cycles it through the recycle unit
- Attach a recycle inlet hose to the recycle output on washing machine (pictured)



-Once connected to the washing machine, attach the opposite end to the recycle inlet (pictured)



**ATTACH OPPOSITE
END TO HERE
(RECYCLE INLET)**

3) Connect Recycle Outlet Hose (2" flexible hose) – color coded

- This recycle outlet hose connects to the recycle unit and the water heater
- Takes the recycled water and pumps it back into the water heater
- Attach the recycle outlet hose to the recycle output on washing machine (pictured)



- Once connected, attach the opposite end (of the hose) to the main water holding tank (pictured)

**ATTACH OPPOSITE END OF
RECYCLE OUTLET HOSE HERE**



**MAIN WATER HOLDING
TANK (SIDE VIEW)**

4) Connect Water Drain Hose (1 ¼" flexible hose) – color coded

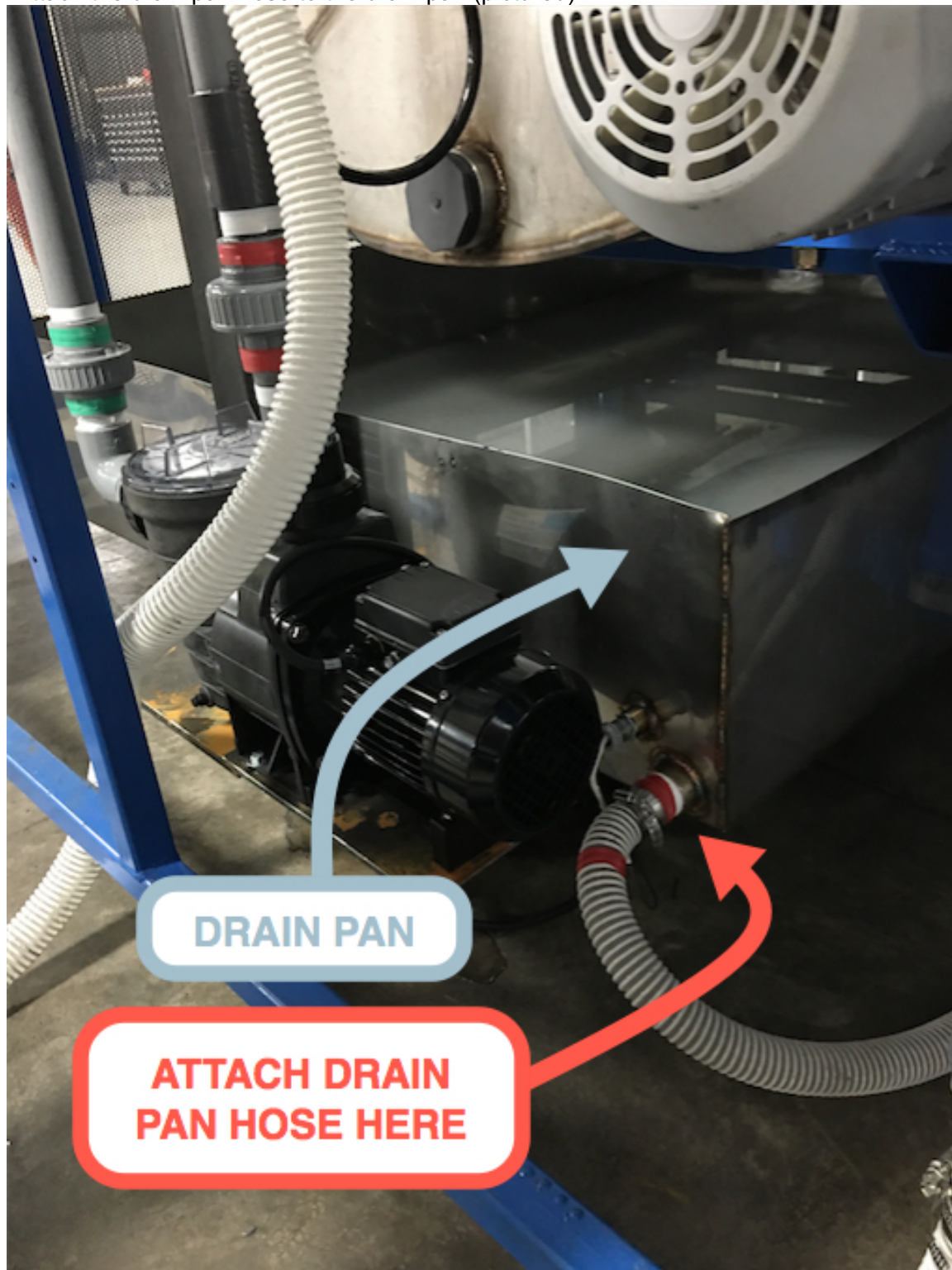
- This water drain hose drains water from the water pump to your building's drain system
- Pumps the dirty water post rinse into the drain
- Attach the water drain hose to the water drain output (pictured)



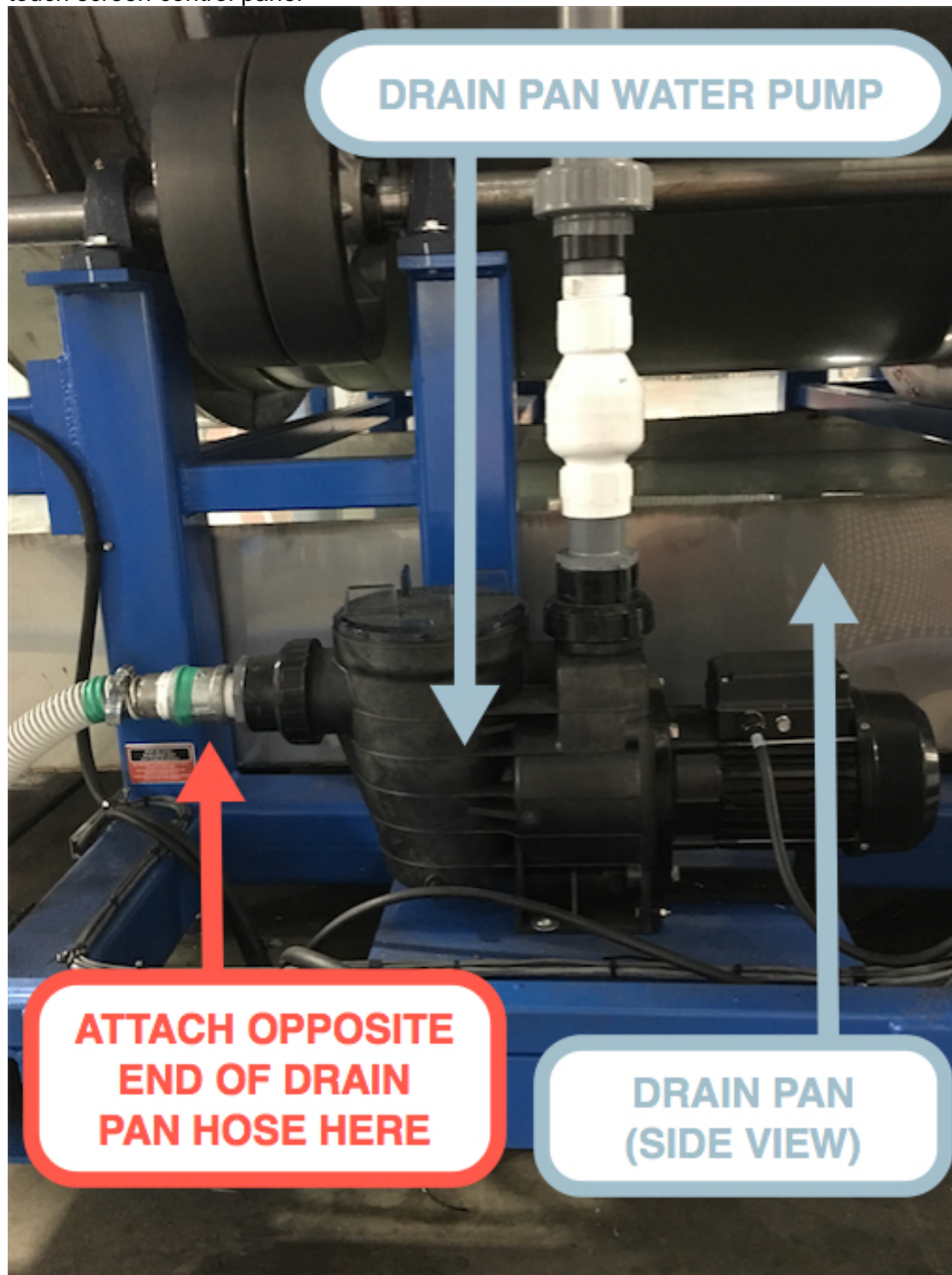
- Once connected, attach the opposite end (of the hose) to your building's water drain system

5) Connect Drain Pan Hose (1 ¼" flexible hose)

- The drain pan hose drains water from the drain pan to your building's drain system
- Attach the drain pan hose to the drain pan (pictured)



- Once connected, attach the opposite end (of the hose) to the drain pan water pump (pictured)
- Drain pan water pump is located on the operator's side of the machine (side with the touch screen control panel)



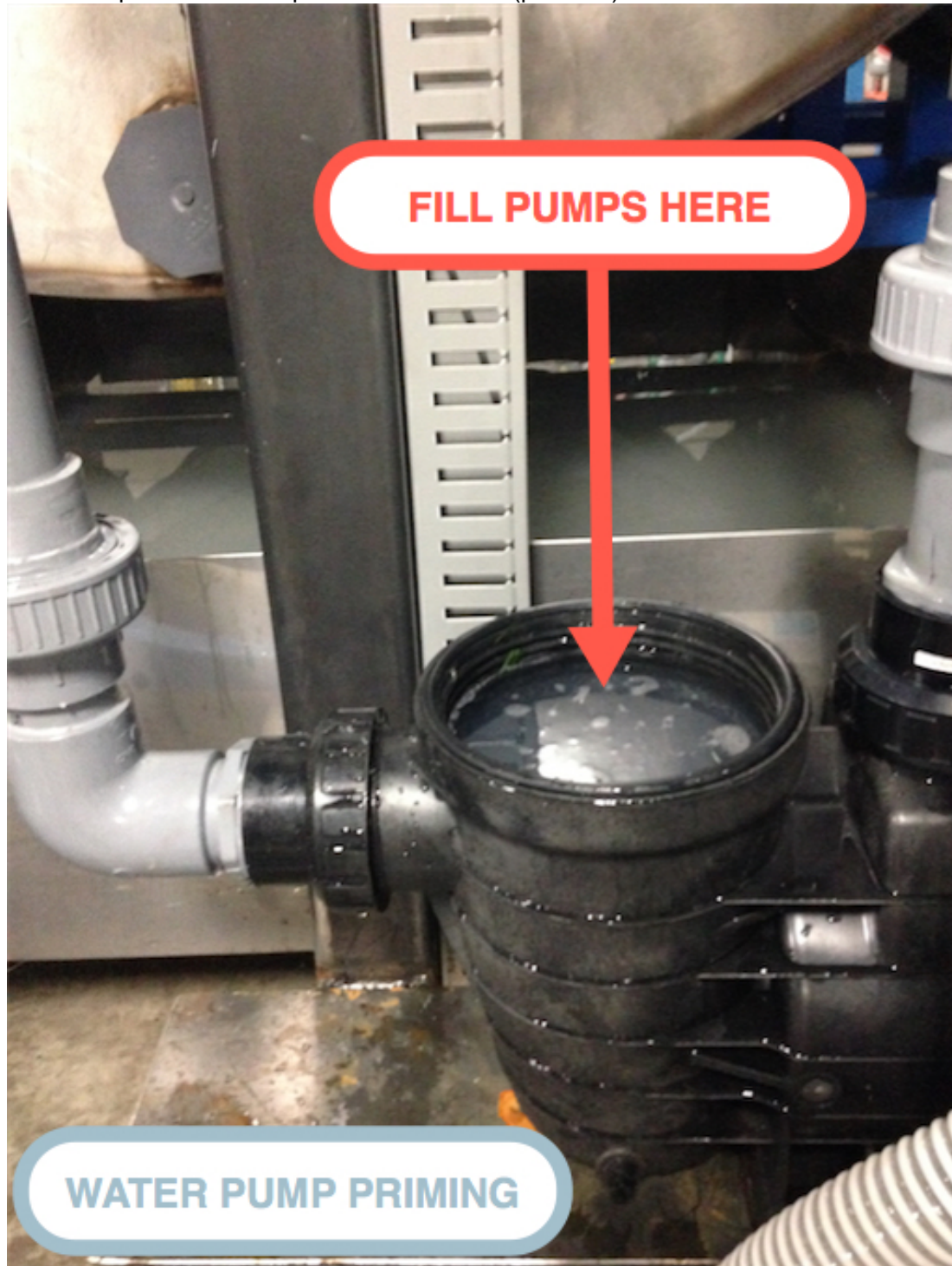
Section 9: Calibration

Prior to starting the calibration procedure -

1) Prime pumps by filling with water

-The water pumps (total of 3) must be opened and filled with water prior to operation

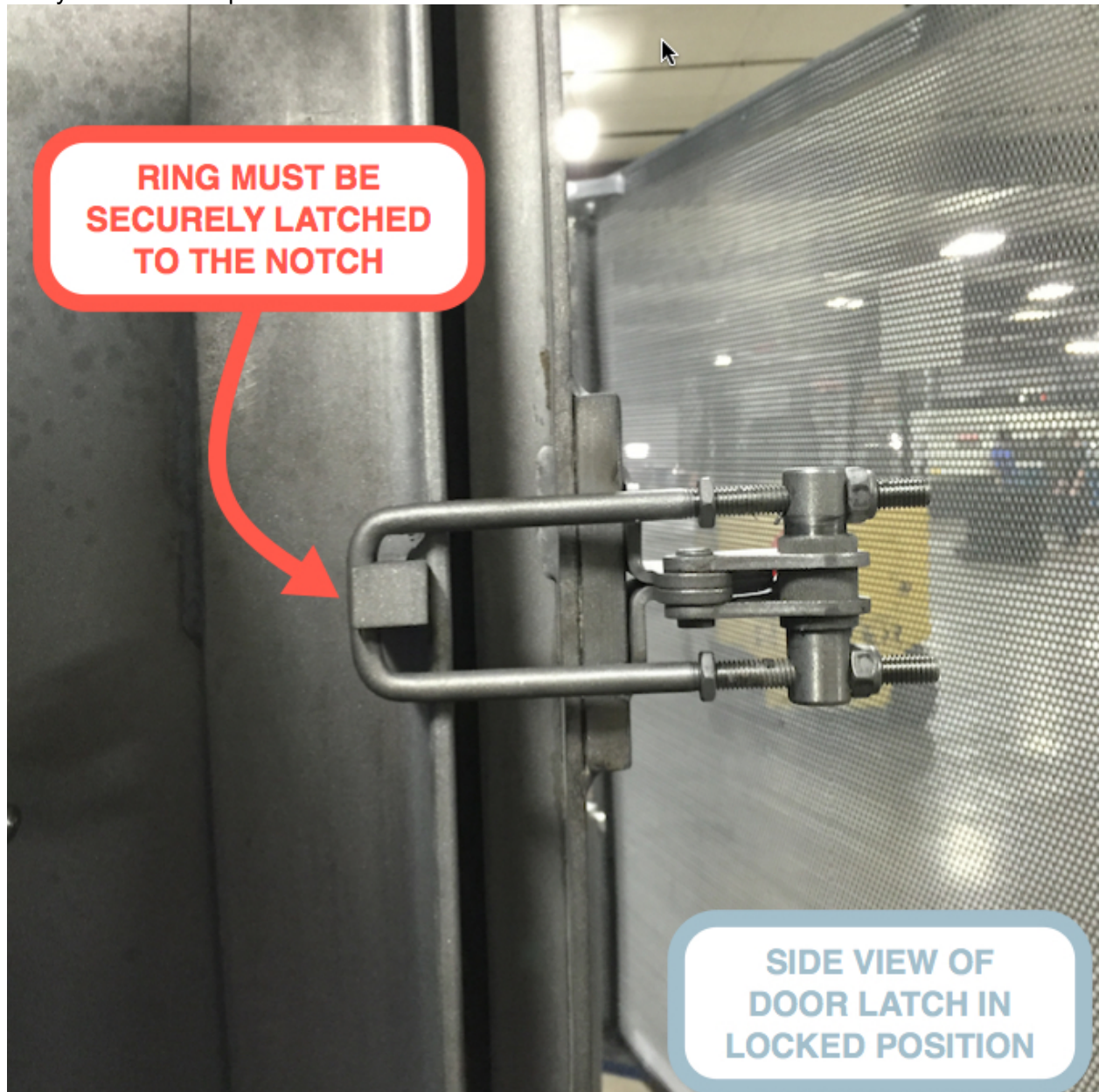
-Open the lid and pour water until full (pictured)



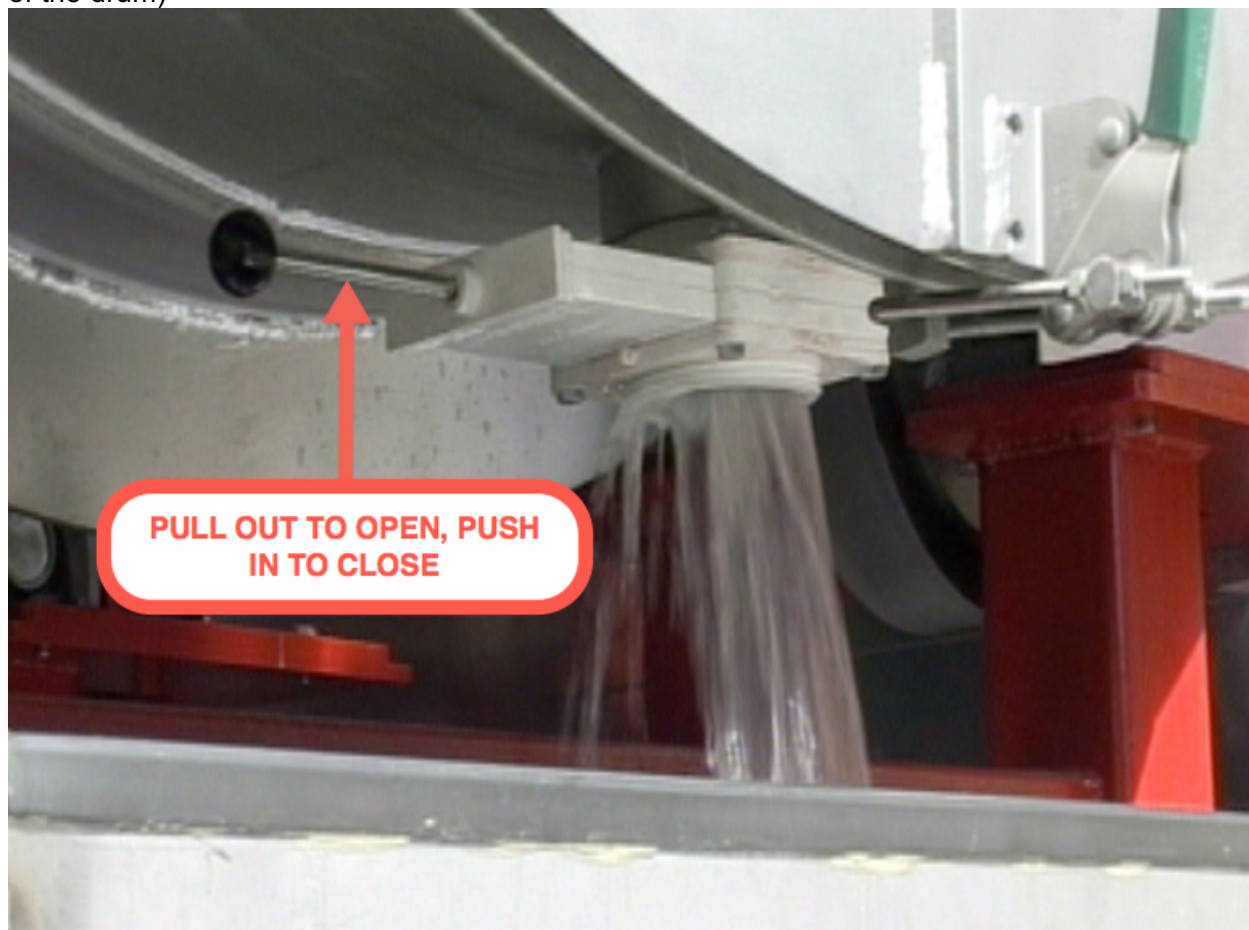
-Close lid securely when full

2) Check to make sure washing machine is empty

- No tent materials can be inside while calibrating
- 3) Make sure that all five (5) door latches are securely fastened (pictured)
- Door latch is only secure when the ring is notched correctly, and the handle is pushed in firmly to the locked position



4) Make sure the drain is in the closed position, (located directly beneath the door on the bottom of the drum)

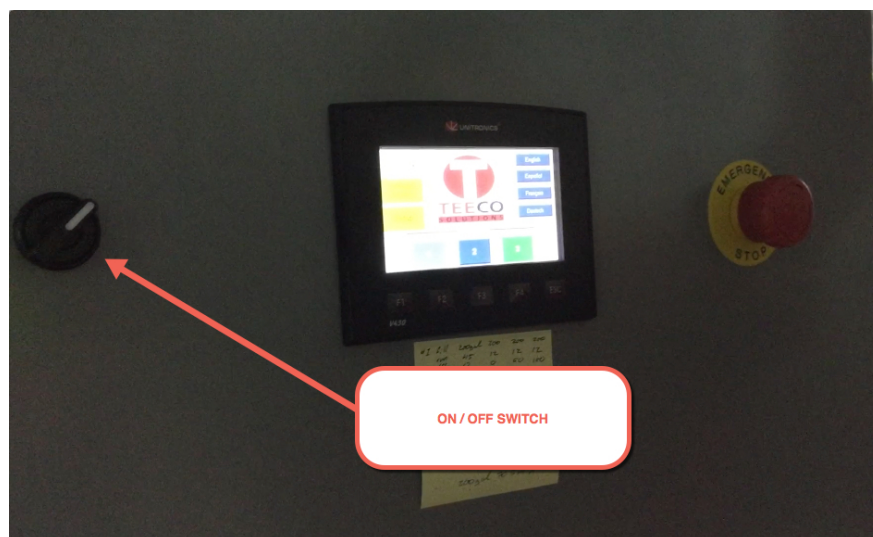


5) A stopwatch will be required for calibration, be sure to have one on hand before starting

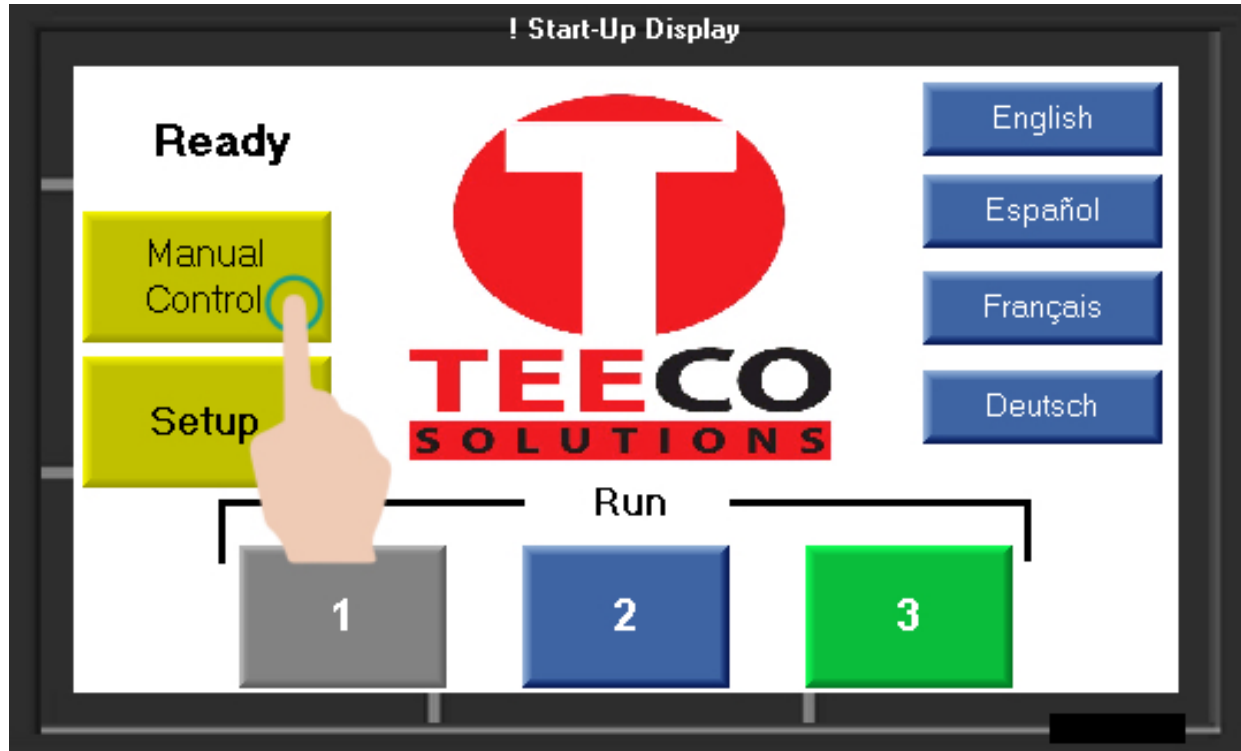
Follow the steps below to complete Calibration:

1) Turn on Machine
-Use the black dial on the control panel to turn the machine on (pictured)
-Allow the touch screen to load once machine is turned on

2) Once touch screen has loaded, select the manual control button



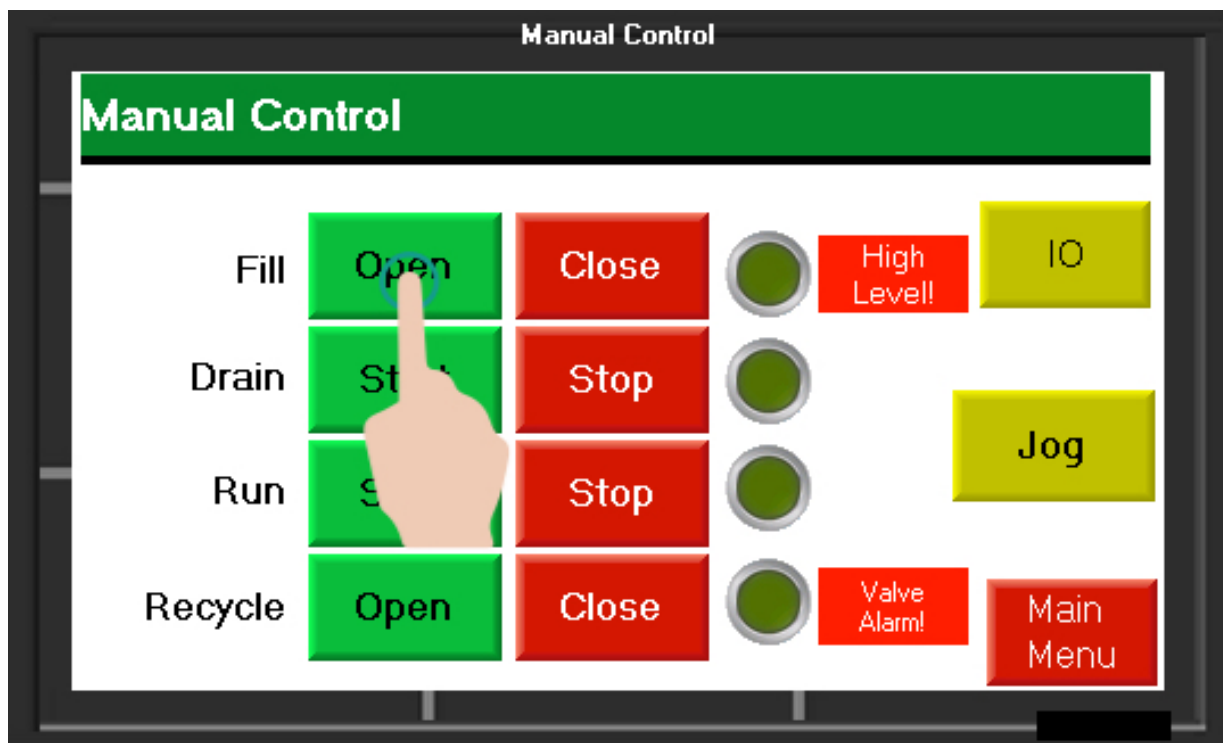
-Select yellow “Manual Control” button on the left side of the main menu



3) Select the green “Open” button next to “Fill”, and start stopwatch (at the same time)

-**NOTE:** Start your stopwatch as soon as the flow of water starts

-Selecting open will start the flow of water from the water heater into the washing machine.

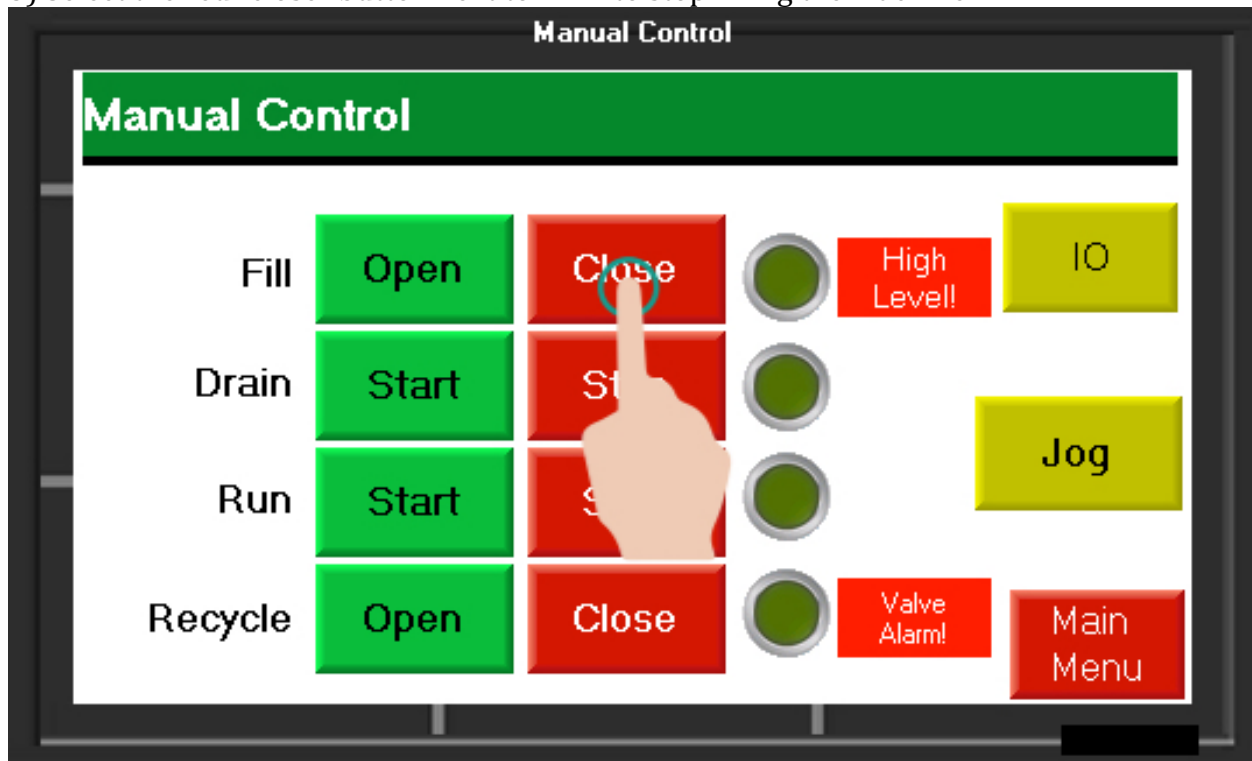


4) While the water is filling, monitor the water level gauge located on the front of the machine (pictured)

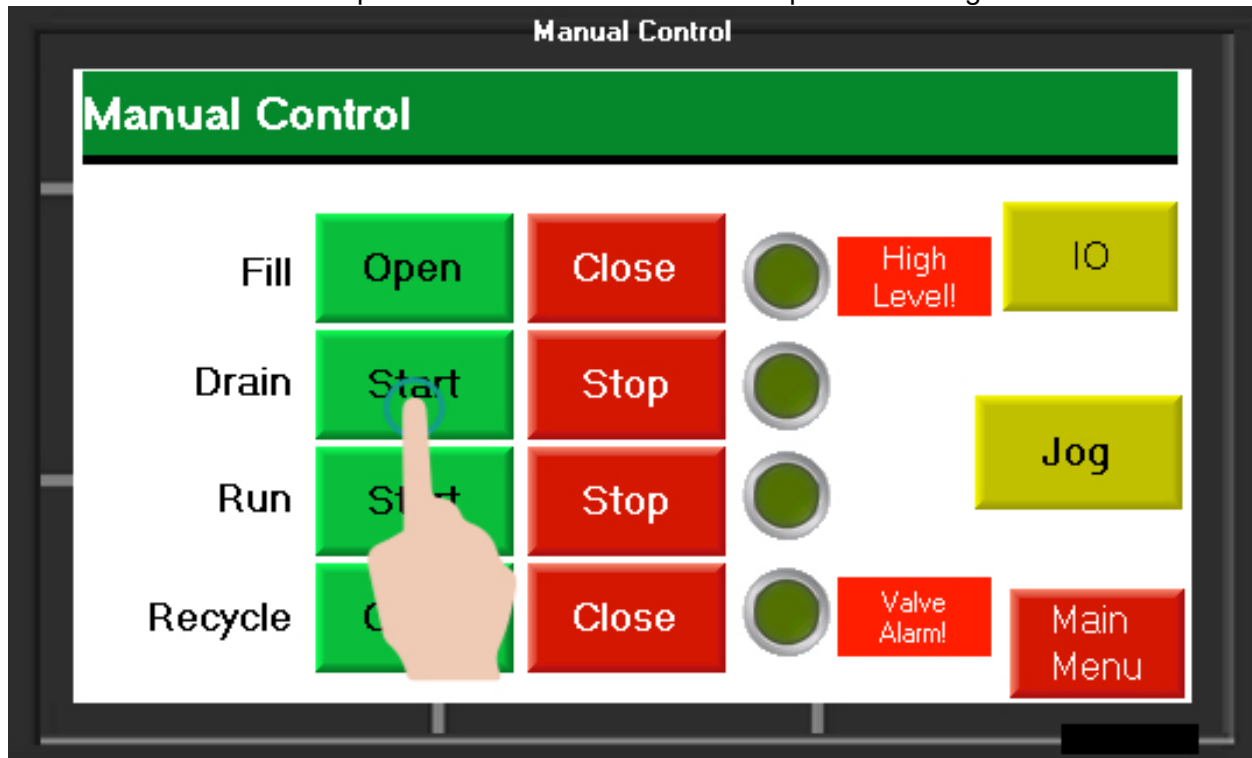
-As soon as the water level reaches the 200-gallon mark (pictured), press stop on the stopwatch and record the time

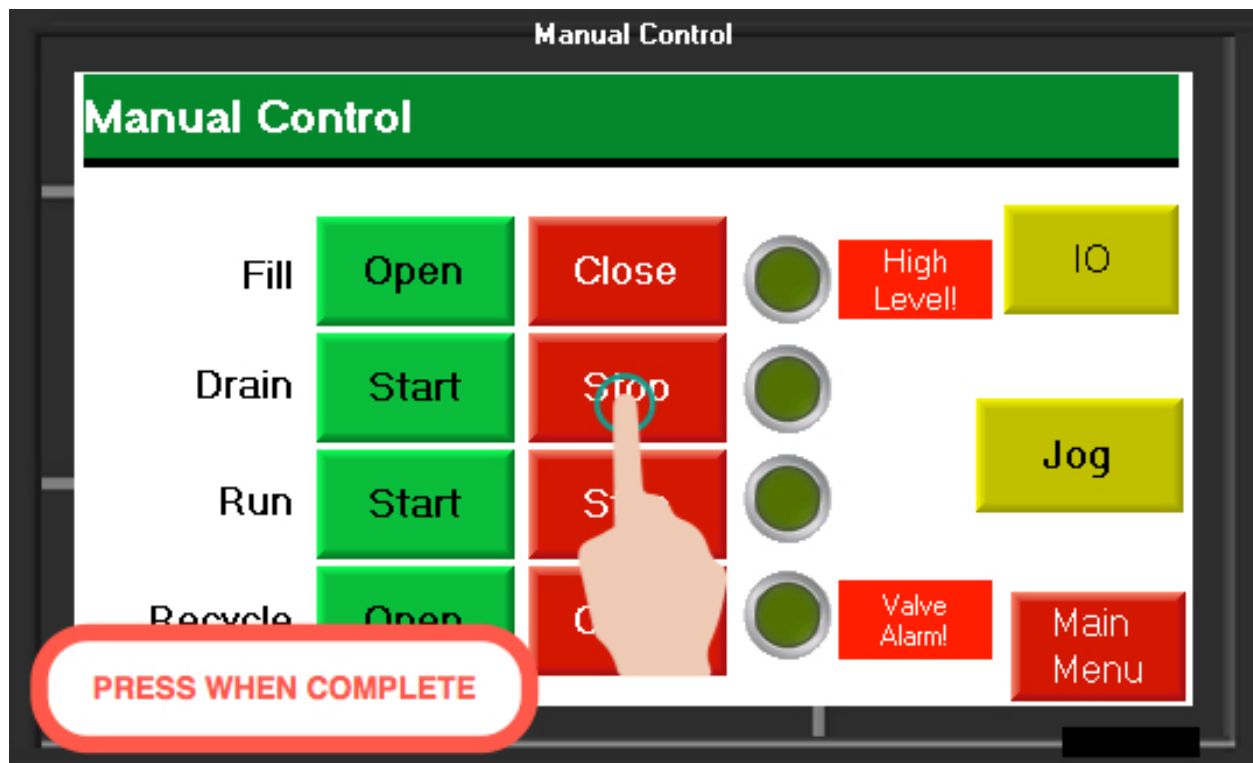


5) Select the red “close” button next to “Fill” to stop filling the machine



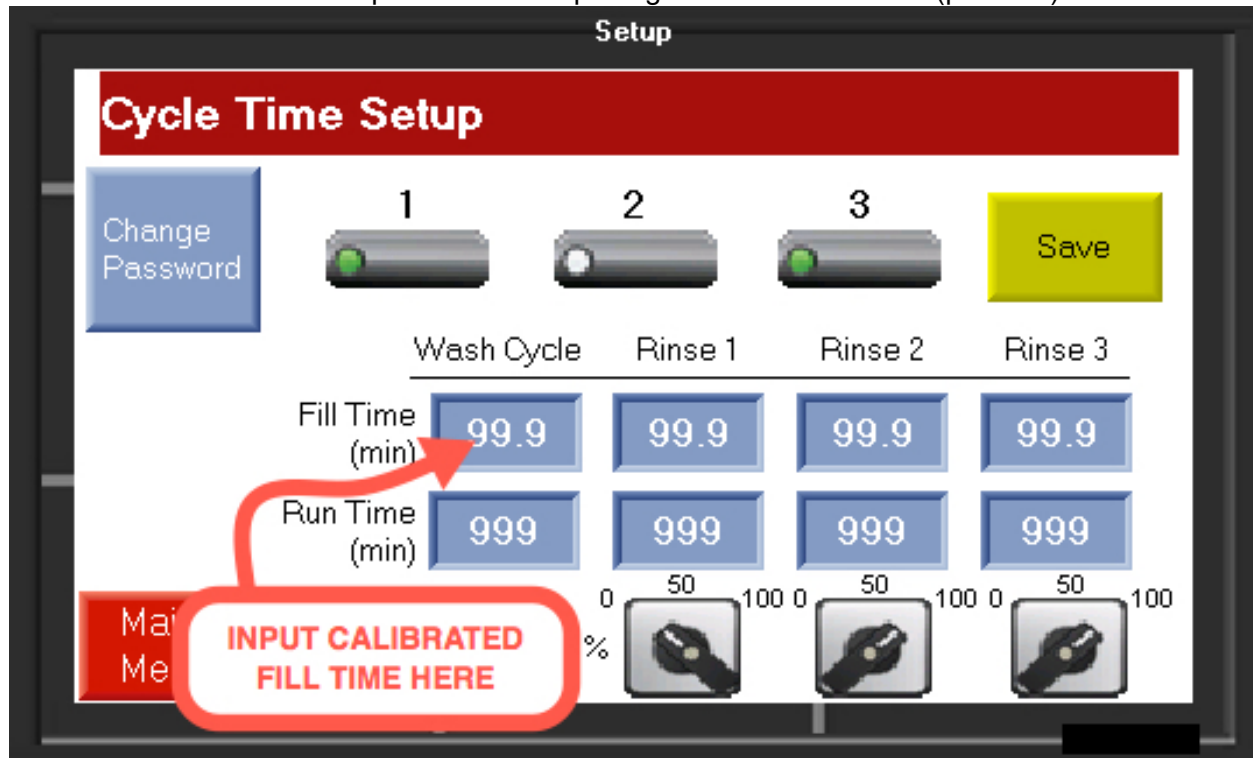
6) Then, Select the green “Start” button next to “Drain” to drain the water from the machine
-Select the red “Stop” button when machine has completed draining





7) Determine Fill Time

-When programming sequences in the next section: *Password & Wash Sequence Setup*, use the time reflected on the stopwatch when inputting fill time for full loads (pictured)



-For half loads, input the half of the time reflected on the stopwatch to fill half the amount

-Example:

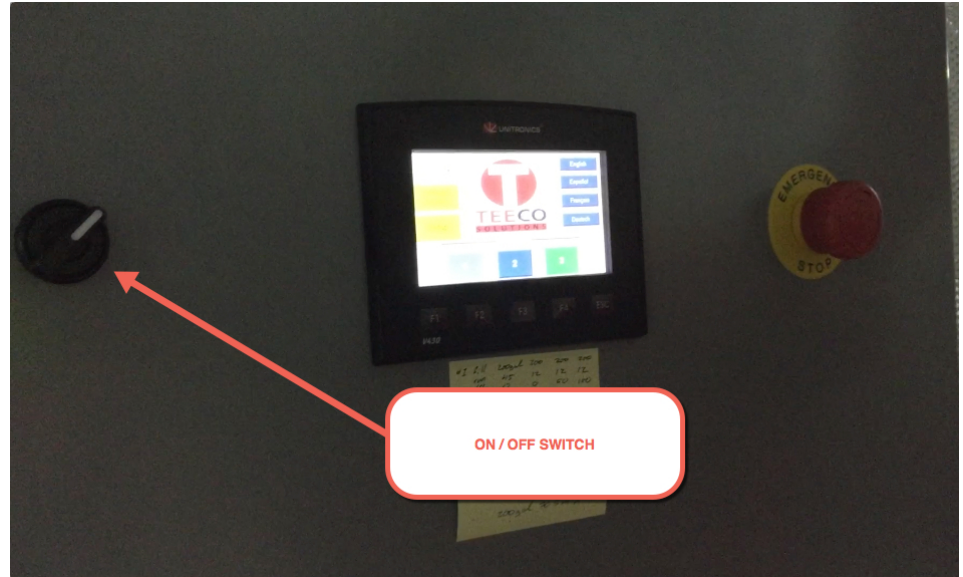
-4 minutes = 200 gallons of water (200 gallons are required for full loads)

-2 minutes = 100 gallons of water (100 gallons are required for half loads)

Section 10: Password & Wash Sequence Setup

Follow the steps below to complete Password & Wash Sequence Setup:

- 1) Turn on Machine
 - Use the black dial on the control panel to turn the machine on (pictured)
 - Allow the touch screen to load once machine is turned on



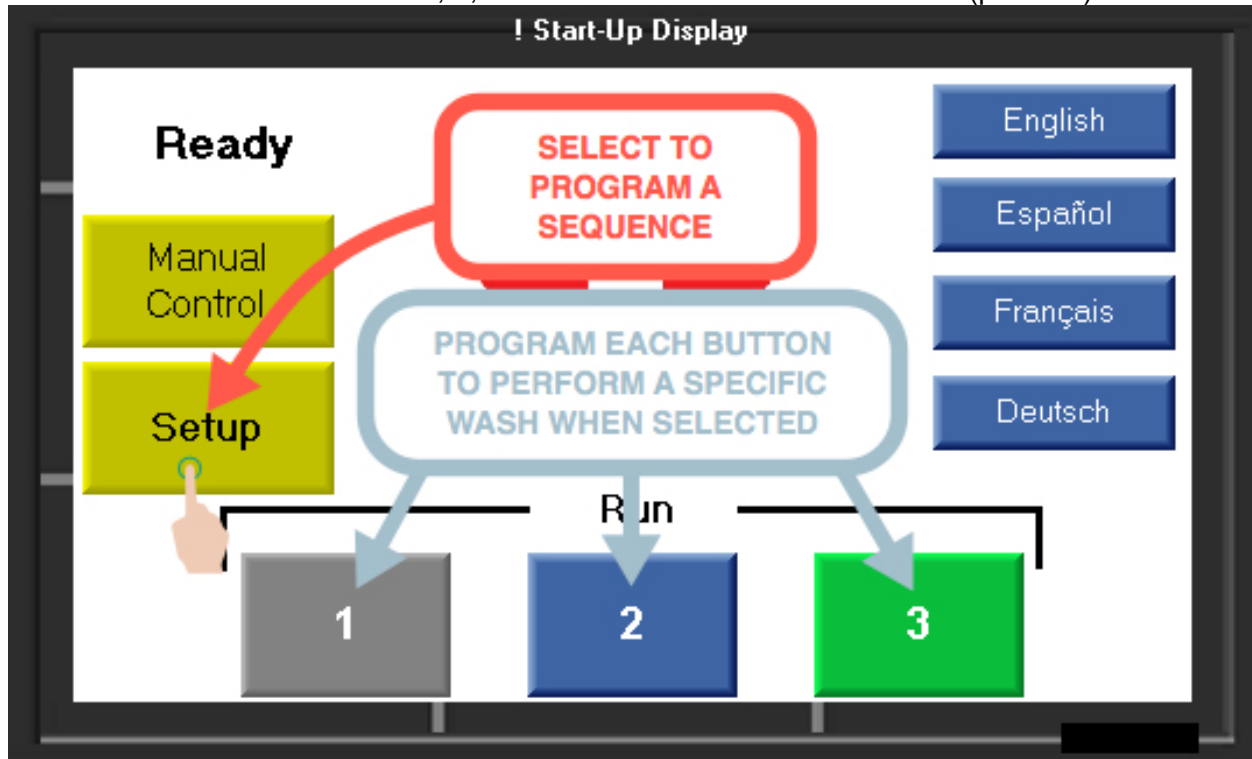
- 2) Set New Password
 - Be sure to set a new password (used for cycle setup purposes)
 - To set a new password, select the yellow "Setup" button on the main menu
 - Then, select the grey "Change Password" button on the setup menu
 - Enter the default password: **10242**
 - Once default password is entered, enter your new desired password
 - New password must be at least 3 characters or more



3) Set Desired Wash Sequences

-The machine can be programmed to run 3 separate washes

-Each button is labeled "1, 2, and 3" underneath the "Run" bracket (pictured)



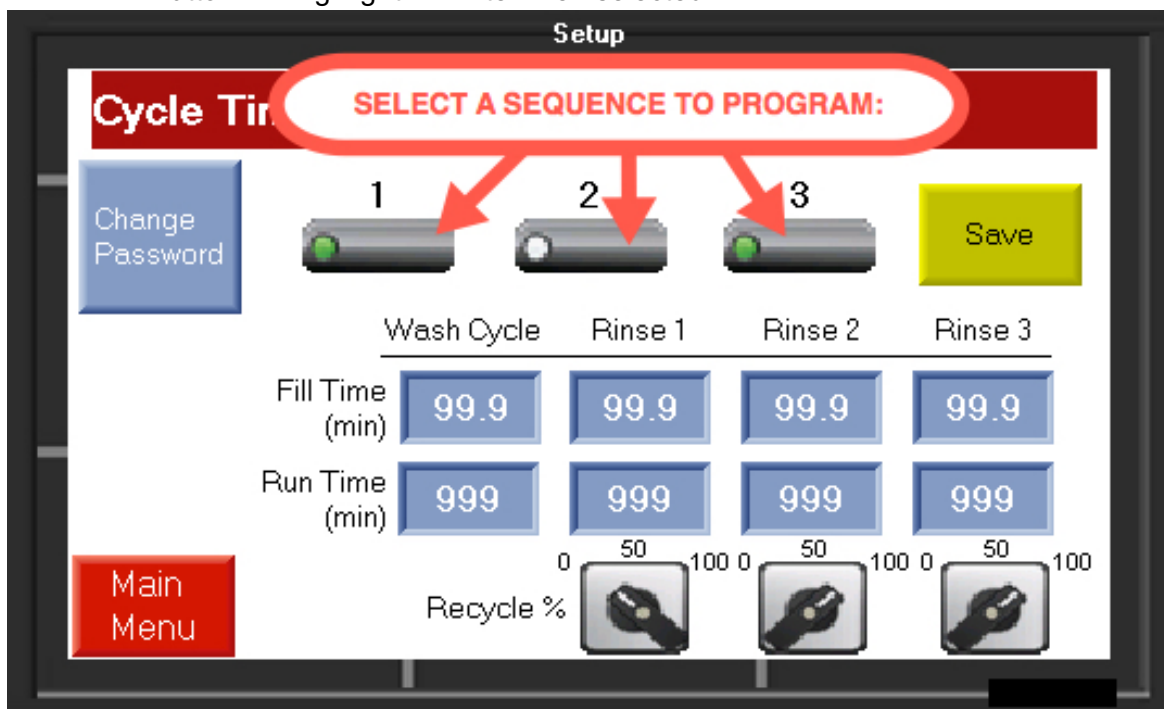
-Each button can be programmed to perform a specific wash sequence when selected

-To program a sequence:

-First, select the yellow "Setup" button to get to the setup menu

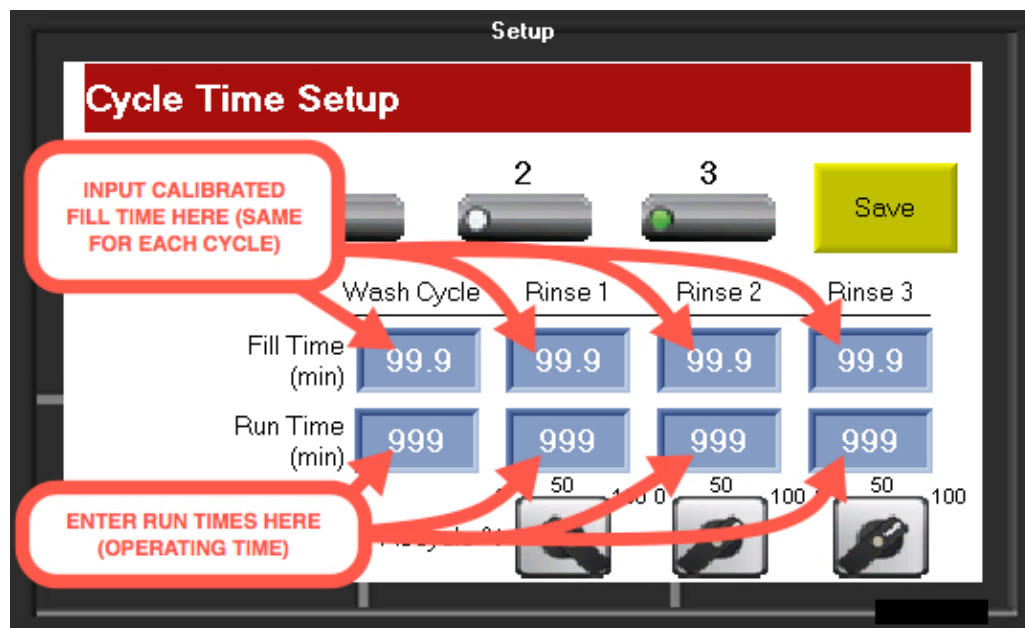
-Then, select the button (1, 2, or 3) that you want to program a sequence for (pictured)

-Button will highlight in white when selected



- Enter in desired fill times and run times
- Fill time is typically the same for each cycle
- For full loads: use the fill time that was calculated during
- For less than full loads: Use less time to fill with less water
- E.g. 150 gallons washes 3000 sq. feet
- E.g. 125 gallons washes 2000 sq. feet.
- Run time is the amount of time a cycle will run

-Refer to Section 8:
How to wash Tents for best Run Times



-Use the "toggle" buttons to program the amount of water you want to be recycled (reused) during rinse cycles (pictured)

- When toggle is at 0%, no water will be recycled
- When toggle is at 50%, half of the water will be recycled
- When toggle is at 100%, all water will be recycled



Section 11: Machine Operation

This section details all standard operating procedures.

This section covers all standard operating procedures to operate the machine while performing a tent wash. Section 4: *Assembly*, and Section 5: *Setup & Installation* **must** be completed prior to operating.

-Please review Section 8: *How to Wash Tents*, prior to actual operation

-Section 8 provides recommended tips for folding, loading, soap amounts, run times and techniques for washing more heavily soiled materials

-Review section 8, and then follow the steps below to perform your first tent wash:

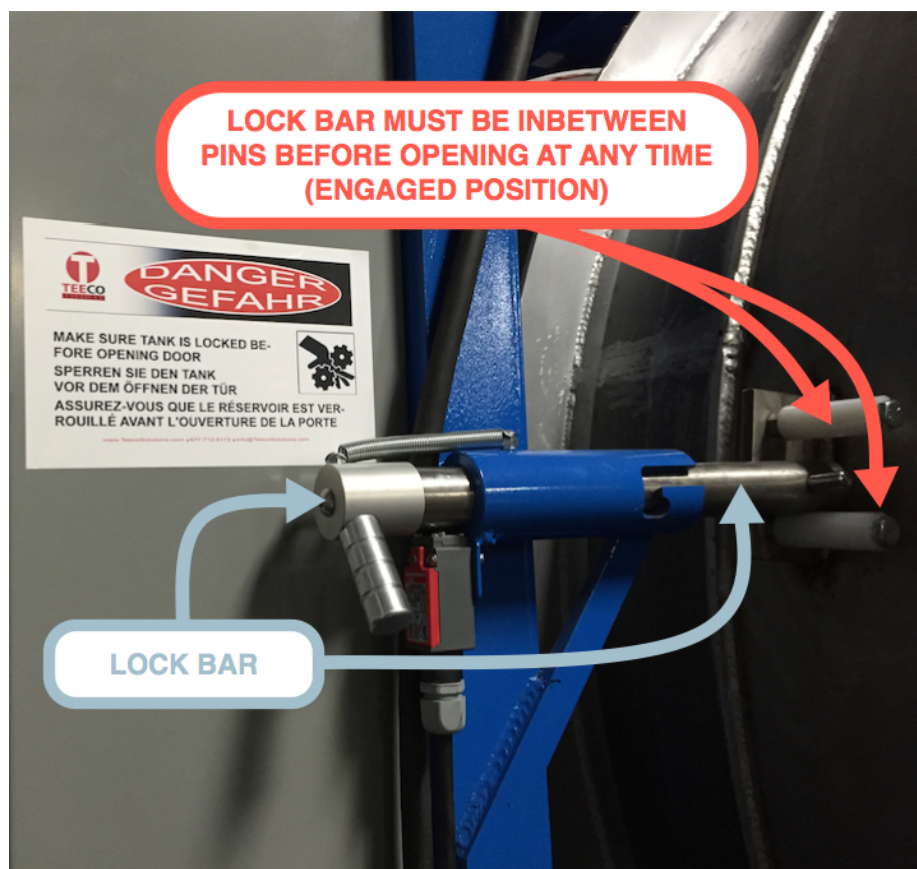
Automatic Machine Operation

Below are standard operation procedures when using programmed sequences to perform a wash. We recommend using this programmed machine operation when washing tents.

1) Load Tents & Soap

-When your machine is ready to perform a wash, begin by opening the washing machine door, and loading your dirty tent materials

-CAUTION: THE LOCK BAR MUST BE IN PLACE PRIOR TO OPENING DOOR OR SERIOUS INJURY CAN RESULT.



-Once the materials have been loaded into the machine, pour Teeco's Gentle Scrub onto materials (if needed), and seal the door (See *FAQ* for opening/closing door)

-For most effective results, lather chemical onto materials before loading

Soap chemical amounts (also found in Section 8: *How to wash Tents*)

Mild Dust/Mud (Category 1) – No soap required

Moderate Dust/Mud (Category 2) – 4 Pounds of Teeco's Gentle Scrub detergent

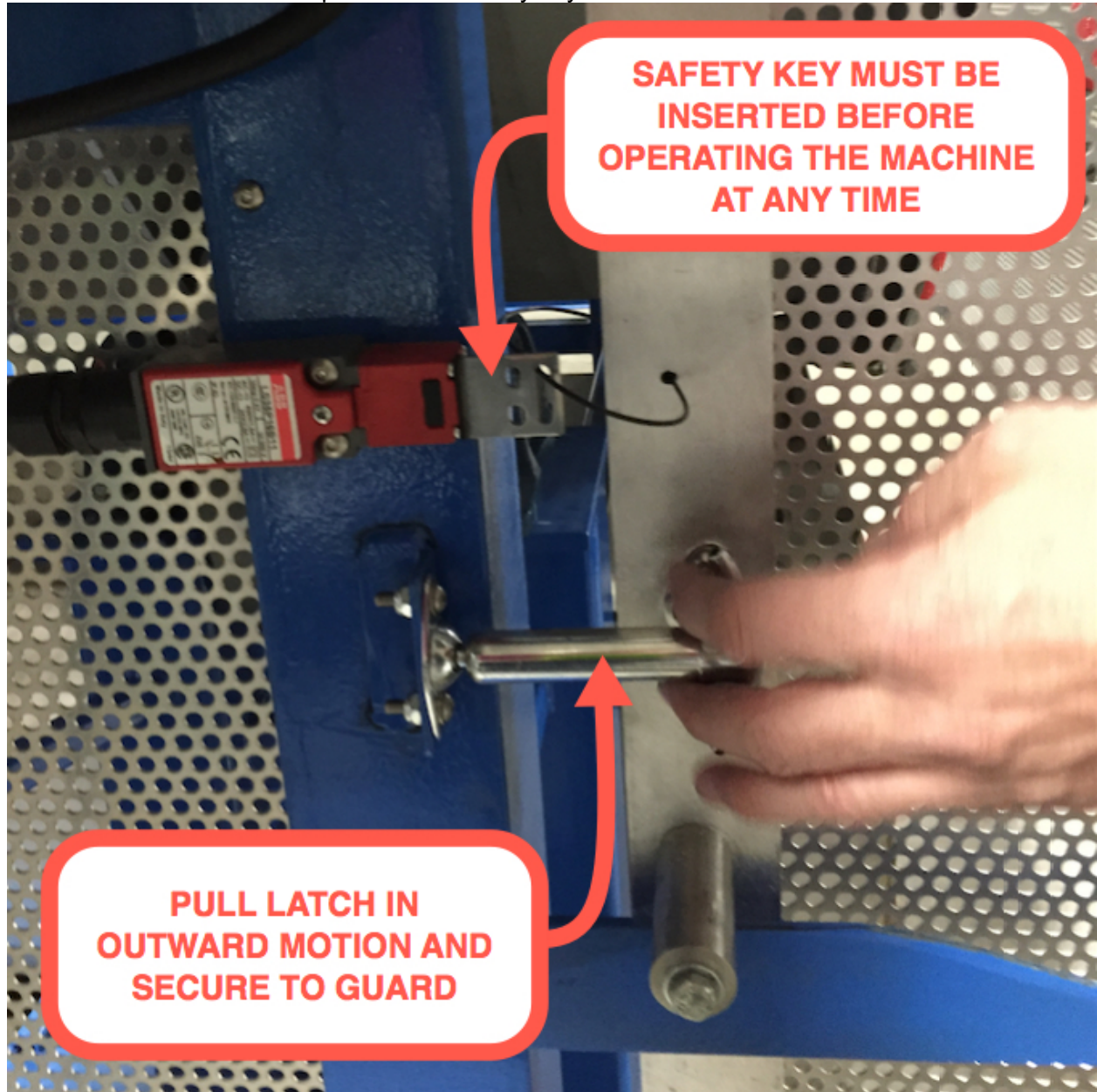
Heavy Dust/Mud (Category 3) – 10 Pounds of Gentle Scrub/Soap

2) Close Guard and Disengage Lock Bar

After the door is sealed, close the guard

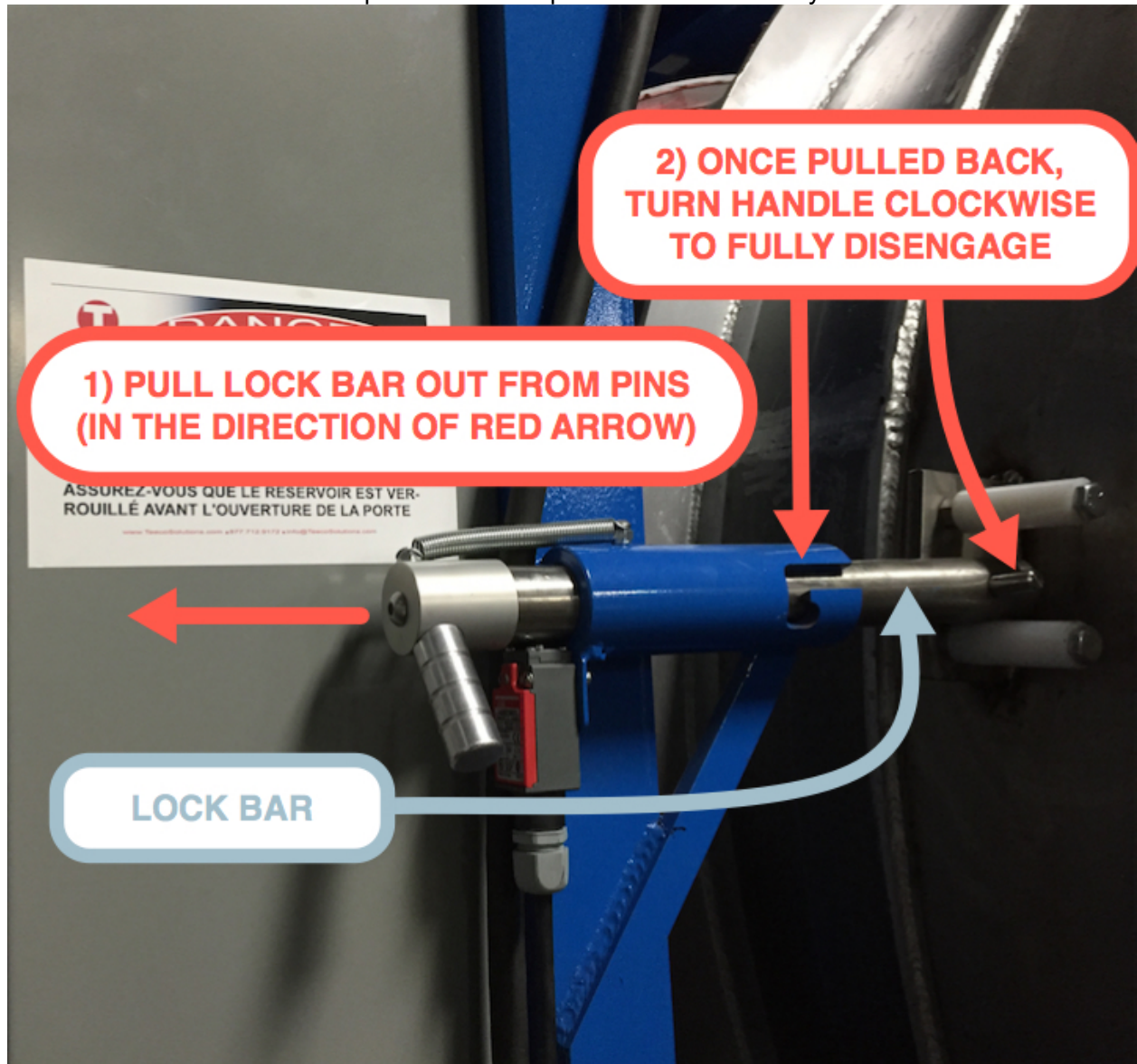
- Don't forget to insert the safety key into the red switch after latching the guard

- Machine will NOT operate if the safety key is not inserted



Disengage Lock Bar by pulling the handle in an outward motion

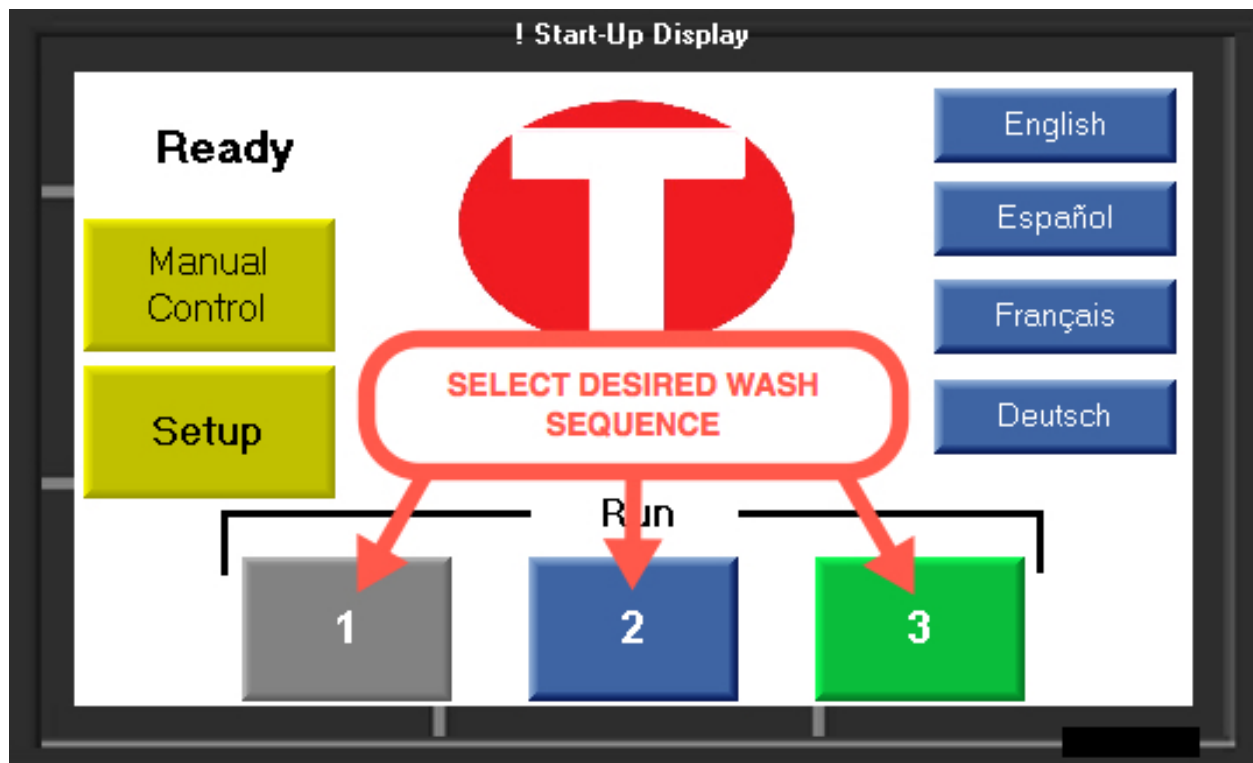
- Be sure to lock into place by turning the handle in a clockwise motion
- Lock Bar will lock into place when the pin is notched correctly



-CAUTION: NEVER OPERATE MACHINE WITH OUT ALL GUARDING IN PLACE
-CAUTION: NEVER OPERATE MACHINE WITHOUT ALL SAFETY SWITCHES IN FULL WORKING ORDER

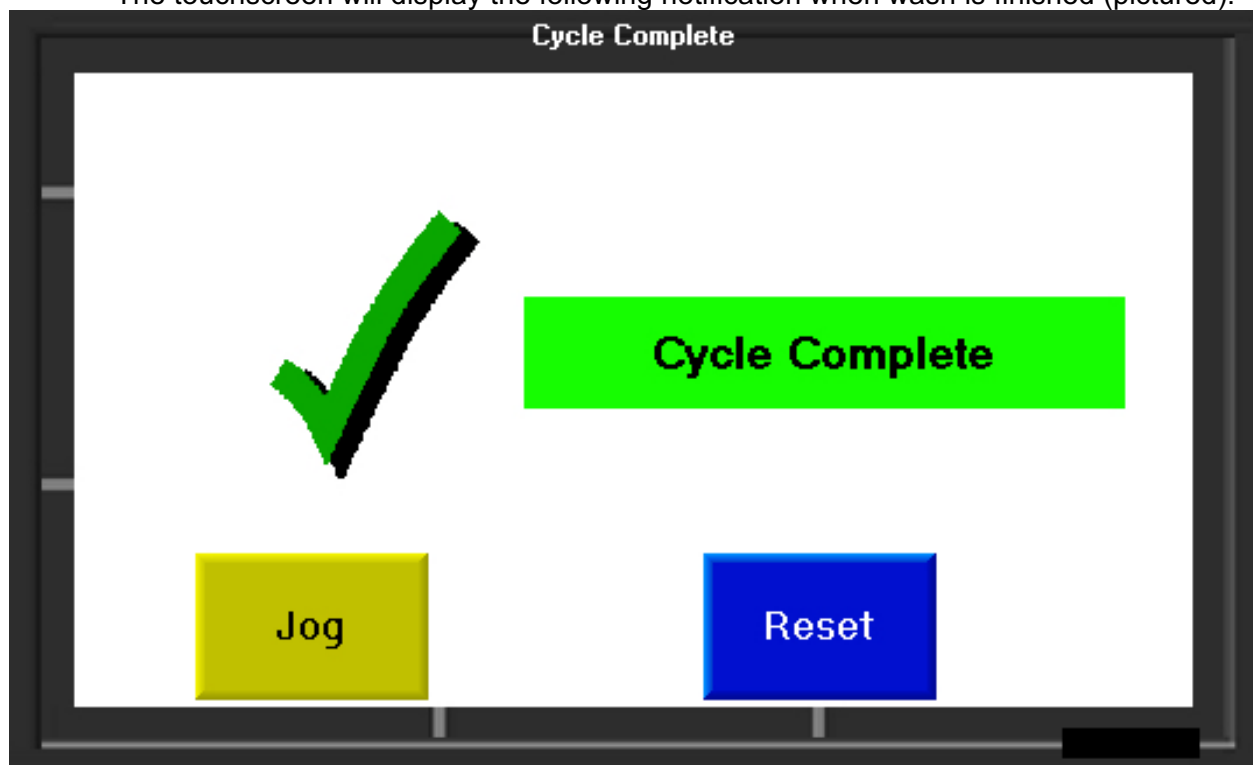
-See Section 10: FAQ for more Lock Bar and Safety Key information

3) Select the desired wash sequence on the touch screen and press the green “Start” button

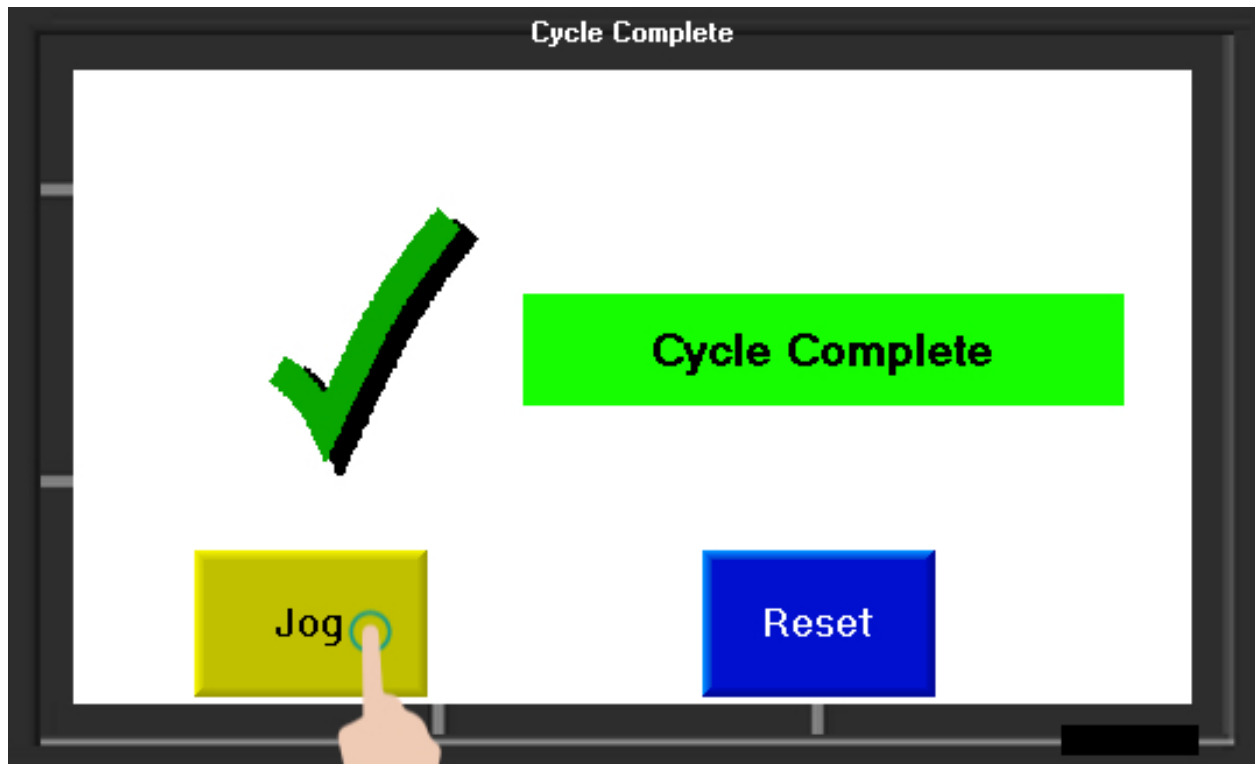


-Allow the machine to complete the wash

-The touchscreen will display the following notification when wash is finished (pictured):

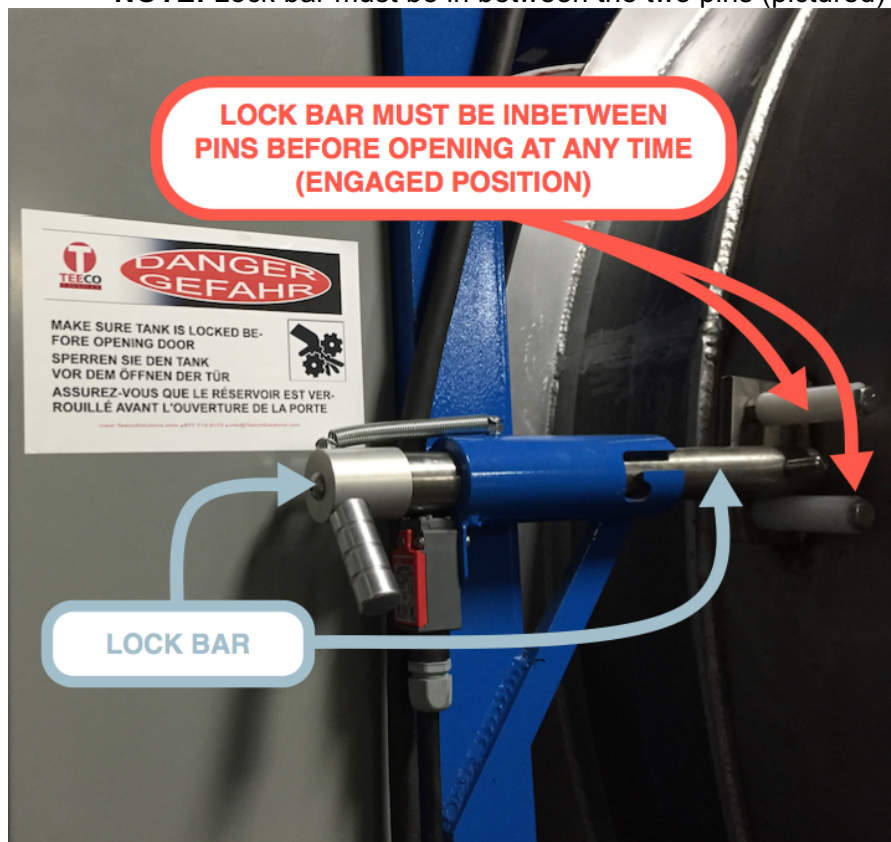


4) Use the "Jog" button to rotate the drum so that the drain can be opened (pictured)



-While "jogging," look for the two lock pins on the drum and quickly engage/release the lock bar when in position

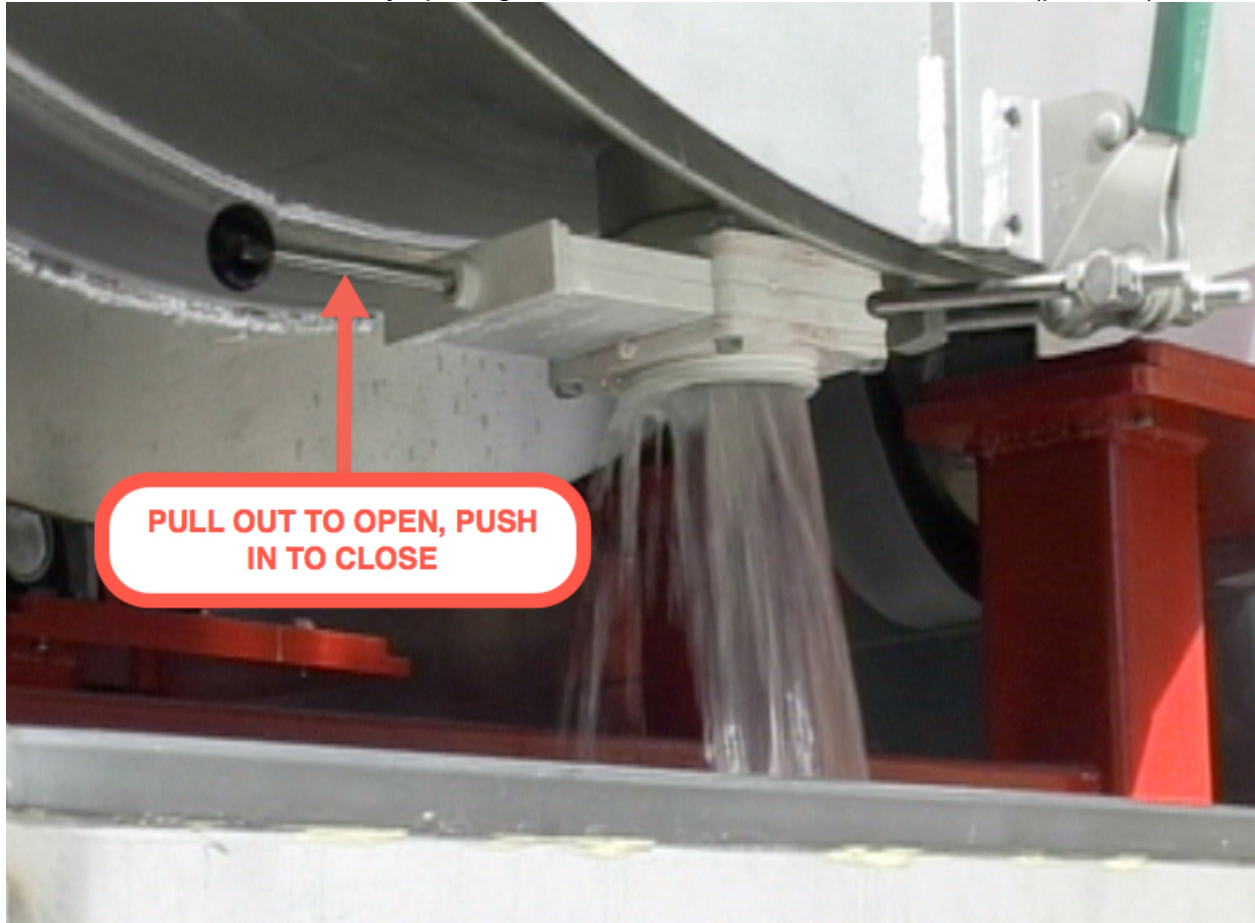
-NOTE: Lock bar must be in between the two pins (pictured)



-The Jog button can be repeatedly tapped to keep machine in position while engaging/releasing the lock bar

5) Once lock bar is engaged, open the guard and drain the excess water

-Drain excess water by opening the drain on the bottom of the machine (pictured)



6) Once water is drained, open the machine door and remove your tent materials

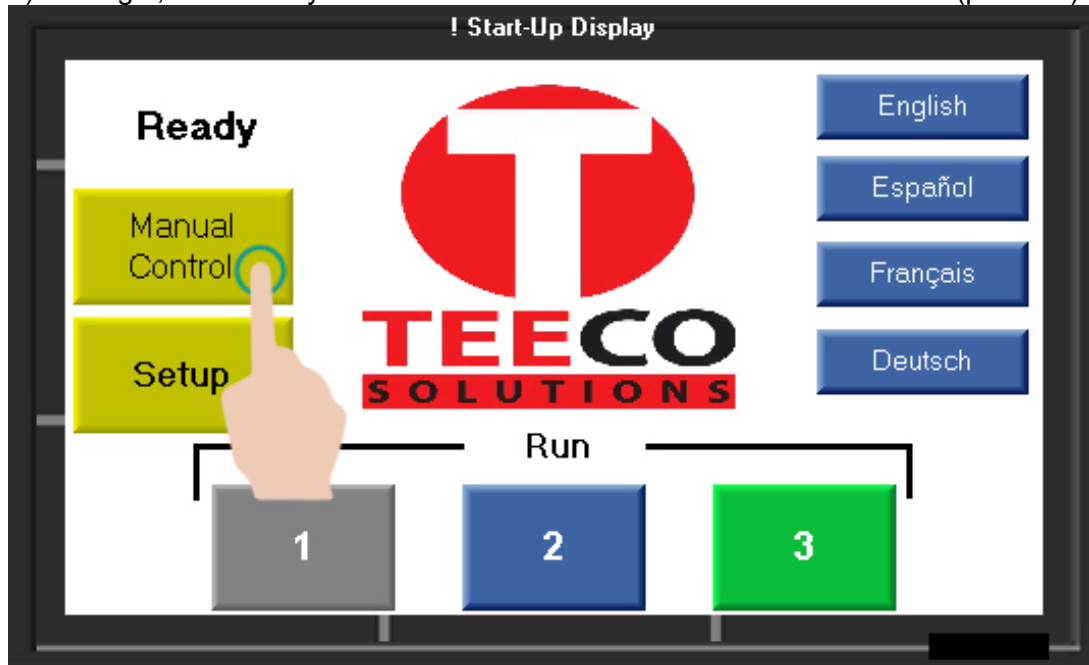
Please check the following if your machine is not operating:

- Red Emergency Stop button is pulled out (not pushed in)
- Safety Key on the guard is inserted completely into red switch
- Lock Bar is pulled completely out and locked into position

Non-Automatic Operation (Manual Control)

The information below details how to operate the machine manually.

1) To begin, select the yellow “Manual Control” button on the main menu (pictured)

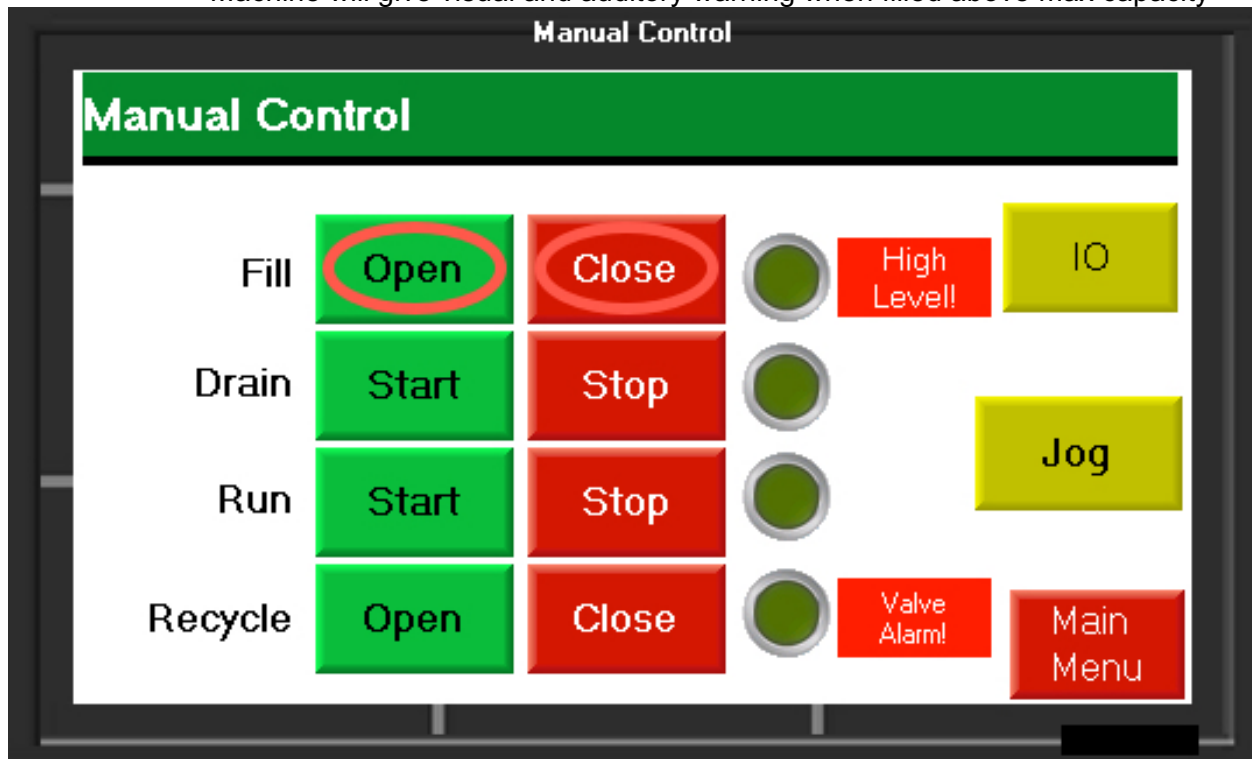


2) To fill the machine with water manually, select the green “Open” button (pictured)

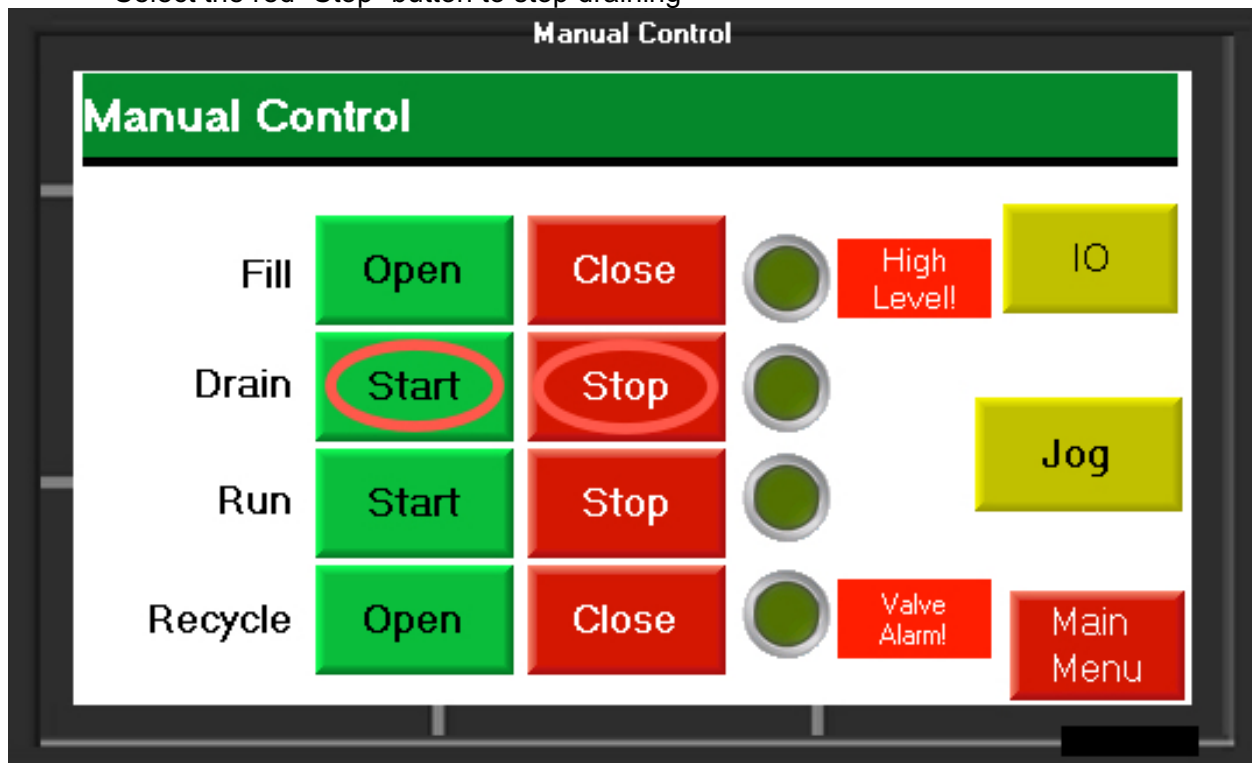
- Select the red “Close” to stop filling

- CAUTION: DO NOT FILL ABOVE MAX CAPACITY (200 Gallons)

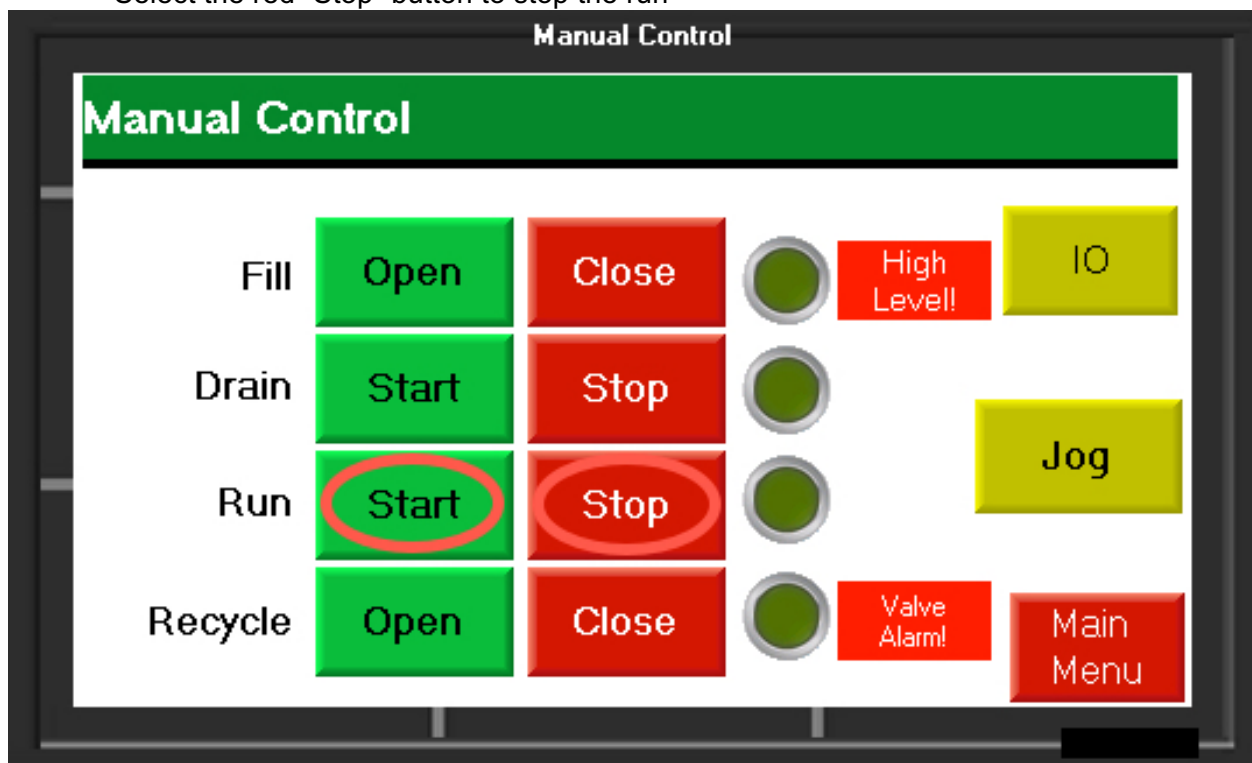
- Machine will give visual and auditory warning when filled above max capacity



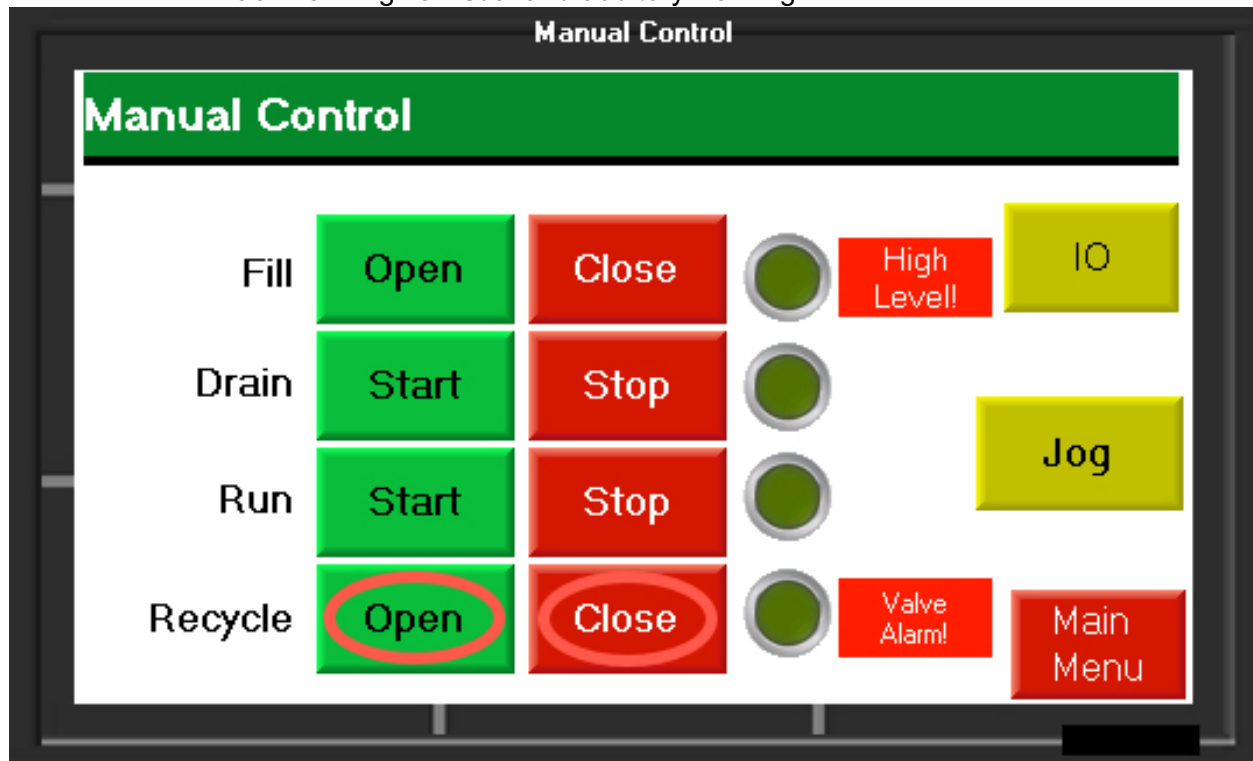
- 3) To drain the water from the machine, select the green “Start” button
 -Select the red “Stop” button to stop draining



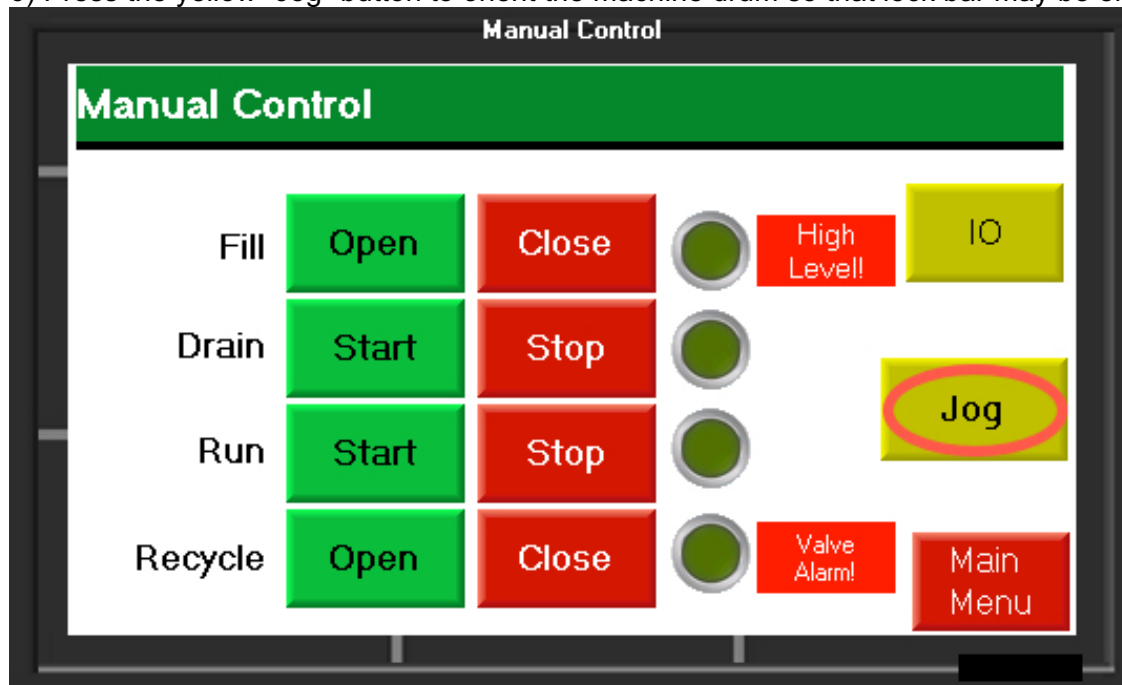
- 4) To run the machine (turn the drum), select the green “Start” button
 -Select the red “Stop” button to stop the run



- 5) To open the recycle valve, select the green “Open” button
- Select the red “Close” button to close the recycle valve
 - CAUTION: DO NOT LEAVE OPEN WHILE UNSUPERVISED. WATER HEATER TANK WILL OVERFLOW
 - Machine will give visual and auditory warning



- 6) Press the yellow “Jog” button to orient the machine drum so that lock bar may be engaged



Section 12: How to Wash Tents

This section will teach the most effective way to fold, load, and wash tent materials.

In this section you can find:

- How to fold materials before loading
- Recommended washing techniques
- Soap Chemical amounts
- Water Fill amounts
- Amount of cycle time required per load type

How to Fold and Prepare

Tent Tops

- For the best results, wash same size materials together
- When dealing with standard tent tops, we recommend the “Fan Fold” method
 - A folding aid is provided inside the washing machine when delivered to help instruct users on how to fan fold materials

-You can also learn the Fan Fold technique by following the steps below:

- 1) Lay top completely flat on the ground with no folds (pictured)



- 2) Any loose hanging ropes must be bound together using a zip tie or a wire tie
 - Ropes will tangle during wash resulting in extra time spent untangling if not bound
 - We recommend winding ropes around your hand, and using a tie through the middle to bound together (pictured)

**WIND ALL LOOSE ROPES
AROUND HAND AND ZIP
TIE THROUGH THE MIDDLE**



**PUT TIE THROUGH THE MIDDLE
TO PREVENT ROPES FROM
COMING LOOSE DURING WASH**

-Using this technique cleans ropes more efficiently, and prevents the rope from coming undone during the wash

3) Fold the tent on top of itself in 3-foot/1 yard sections (pictured)



- This fold allows soap to reach the entire surface area of the material
- Continue folding into 3-foot/1 yard sections until tent has been completely folded onto itself

4) Fold the remaining long section of the tent no more than 6-foot/2 yard increments (pictured)

- Folding in 3-foot/1 yard sections will allow the tent to fit easily inside the machine
- Folding the remaining long section does not require an actual fan fold technique



**FOLD REMAINING
LONG SECTION IN
NO MORE THAN 2
YARD INCREMENTS**

and -Folding in 6-foot/2 yard increments allows the tent to easily fit into the depth of machine,
the door to be closed



Side Walls

We recommend washing all sidewall material together separate from your tent tops

- Washing separately eliminates any potential for hooks to pierce tent tops
- For the best results, fold sidewall pieces separately with fan fold technique and load in a stack inside the machine

Clear Material (Tops & Sidewall)

For cleaning any clear material such as clear tent tops or sidewalls with clear windows, we recommend using a rinse aid (chemical used to wash clear dishware) to remove mineral spots

- Oftentimes washes can leave visible mineral spots from water on clear material
- Purchase any store-bought brand rinse aid (used for commercial dish washers)
- Simply pour rinse aid in with loads during rinse cycles
- As an extra measure, be sure to shake all droplets off of material before drying

Ropes

- Any unattached ropes or straps can also be cleaned inside the washing machine
- Put all ropes/straps into a mesh bag and then put the bag in with any regular tent wash
- Note: All ropes and straps must be thoroughly rinsed after washing as soap chemicals can weaken them

Recommended Techniques & Programming for Wash Sequences

Category 1 - Mild Dust/Dirt/Mud

- Program the following for tent materials that have mild dust or mud that simply need to be rinsed off
- Wash Cycle:
 - Fill Time: 0.0 minutes (No water will fill for cycle)

- Run Time: 0.0 minutes (No run time for cycle)
- Rinse 1:
 - Fill Time:
 - For full loads: input the fill time that was calculated during calibration
 - For less than full loads: input less time to fill with less water
 - E.g. 150 gallons washes 3000 sq. feet
 - E.g. 125 gallons washes 2000 sq. feet.
 - Run Time: 15.0 minutes (15 minute run time)
 - Recycle: Decide how much of this water you want recycled, then set desired recycle amount (0%, 50%, 100%)
- Rinse 2 & Rinse 3
 - Fill Time: 0.0 minutes (No water will fill for cycle)
 - Run Time: 0.0 minutes (No water will fill for cycle)
- No soap is required for Category 1 soiled materials
- When preparing to unload be sure to manually open drain at the bottom of drum before opening the door to drain all excess water

Category 2 – Moderate Dust/Dirt/Mud/Light Mold

- Program the following sequence for tent materials that have moderate Dirt/Mud that would require some scrubbing
- Wash Cycle:
 - Fill Time:
 - For full loads: input the fill time that was calculated during calibration
 - For less than full loads: Use less time to fill with less water
 - E.g. 150 gallons washes 3000 sq. feet
 - E.g. 125 gallons washes 2000 sq. feet.
 - Run Time: 30.0 minutes (cycle will run for 30 minutes)
- Rinse 1 & Rinse 2:
 - Fill Time: Set to same time used for wash cycle
 - Run Time: 10.0 minutes (10 minute run time)
 - Recycle: Decide how much of this water you want recycled, then set desired recycle amount (0%, 50%, 100%)
- Rinse 3
 - Fill Time: 0.0 minutes (No water will fill for cycle)
 - Run Time: 0.0 minutes (No water will fill for cycle)
- Follow the techniques below when using Category 2 Sequence:
 - Fan-Fold top and load into washing machine
 - Add 4 pounds of Teeco's Gentle Scrub detergent
- When preparing to unload be sure to manually open drain at the bottom of drum before opening the door to drain all excess water

Category 3 – Heavy Dust/Dirt/Mud/Mold

- Program the following sequence for tent materials that have been left up for long periods of time, and would require significant scrubbing
 - Examples include tents that have grey dirt ground deep into material
- Wash Cycle:
 - Fill Time:
 - For full loads: input the fill time that was calculated during calibration
 - For less than full loads: Use less time to fill with less water
 - E.g. 150 gallons washes 3000 sq. feet
 - E.g. 125 gallons washes 2000 sq. feet.

- Run Time: 50.0 minutes (cycle will run for 50 minutes)
- Rinse 1, Rinse 2, & Rinse 3:
 - Fill Time: Set time to same time used for wash cycle
 - Run Time: 10.0 minutes (10 minute run time)
- Follow the techniques below when using Category 3 sequence:
- Before folding material for the wash, we recommend starting by laying it out flat and pre-treating
 - Pre-treat by spreading Teeco's Gentle Scrub detergent directly onto the surface of the materials and spraying with a hose
 - For further effectiveness, use a brush to spread soap onto all parts of the material to ensure that soap is working on the entire surface of the material during the wash
 - CAUTION:** ALWAYS COMPLY WITH APPROPRIATE SAFETY MEASURES AS SPELLED OUT IN MSDS LITERATURE FOR CLEANING CHEMICALS
 - MSDS Sheet included in Section 9: *Manual Supplements*
- After applying detergent directly to the surface of the material, fold the material using the fan fold method, and load into machine with an additional 10 pounds of Teeco's Gentle Scrub
 - If material is heavily soiled, we recommend adding ½ gallon of 6% bleach to the wash
 - To add bleach: jog the drum so that the drain is at the top (while water is being filled)
 - Open drain and pour in the required amount (1/2 gallon)
- When preparing to unload be sure to manually open drain at the bottom of drum before opening the door to drain all excess water
- Material may require a second wash if too heavily soiled

Soap Chemical Amounts

- Category 1 – No Gentle Scrub required
- Category 2 – 4 Pounds of Gentle Scrub
- Category 3 – 10 Pounds of Gentle Scrub

Water Fill Amounts

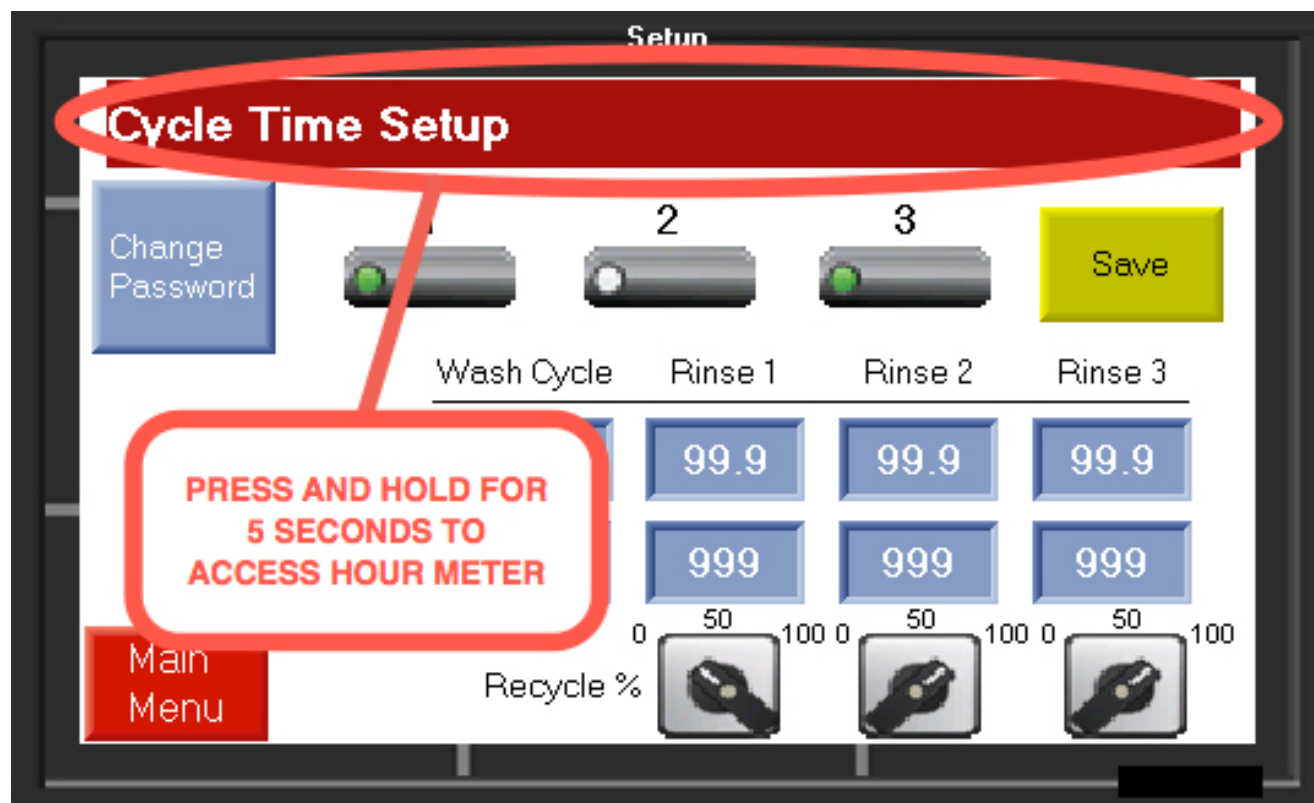
- Full loads (Max capacity) = 200 gallons
- Less than full loads:
 - 150 gallons washes 3000 sq. feet
 - 125 gallons washes 2000 sq. feet

Section 13: Machine Maintenance

This section contains all information relating to regular machine maintenance. Refer to the diagram below when performing maintenance. All maintenance below must be completed every stated amount of hours. Hourly maintenance schedule can be kept track of via the hour meter.

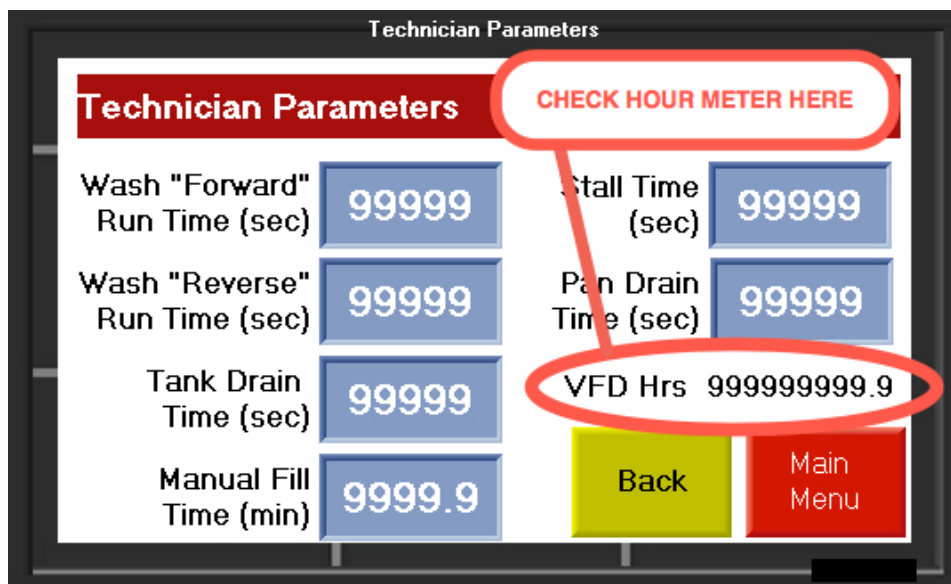
-How to check the Hour Meter:

-In the Setup Menu, press and hold the top "Title Bar" for 5 seconds (pictured)



-After 5 seconds, the Technician Parameters menu will open

-Check "VFD Hrs" for exact amount of hours on the machine (pictured to the right)



-See Diagram below for labeled parts:



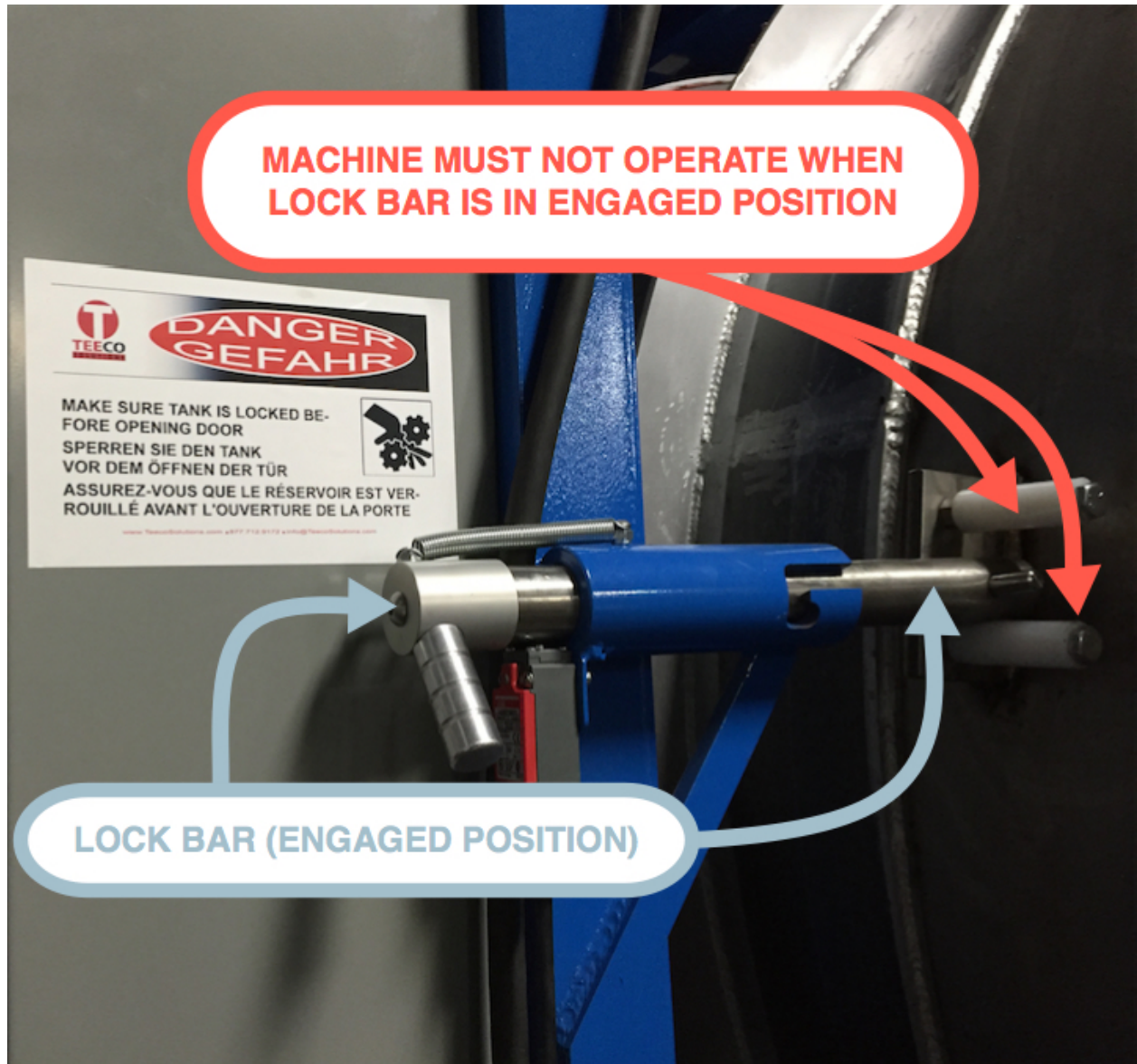
Every 50 Hours:

- Check to make sure safety switches are properly functioning
 - Machine must not operate when gate is open and/or safety key is not inserted
 - Machine must not operate when lock bar is engaged
 - CAUTION: NEVER OPERATE THE MACHINE WITHOUT ALL GUARDS IN PLACE
 - CAUTION: NEVER OPERATE THE MACHINE WITHOUT ALL SAFETY SWITCHES FULLY FUNCTIONAL

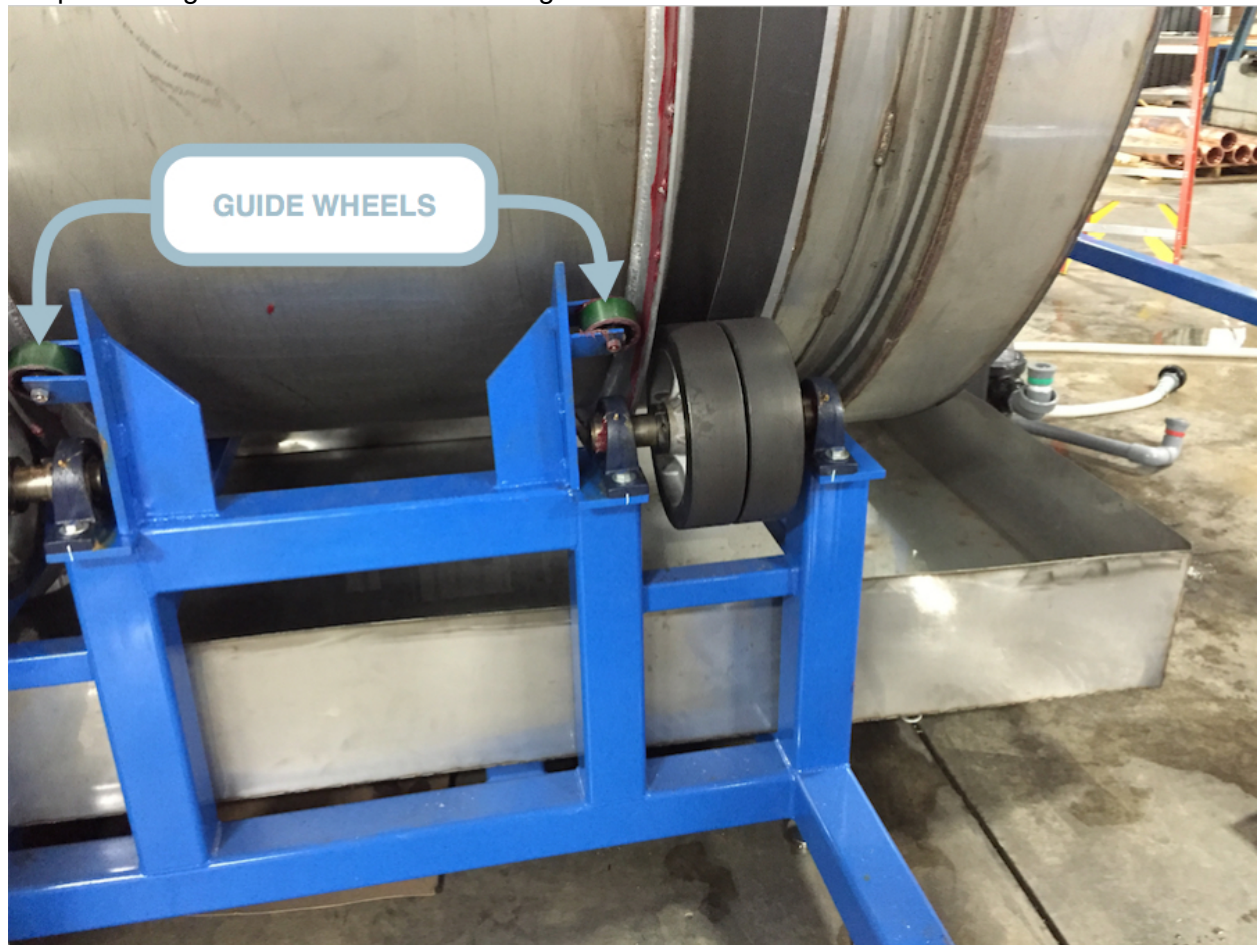


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- Check to make sure safety switches are properly functioning
 - Machine must not operate when gate is open and/or safety key is not inserted
 - Machine must not operate when lock bar is engaged
 - CAUTION: NEVER OPERATE THE MACHINE WITHOUT ALL GUARDS IN PLACE
 - CAUTION: NEVER OPERATE THE MACHINE WITHOUT ALL SAFETY SWITCHES FULLY FUNCTIONAL



-Inspect how guide wheels are functioning

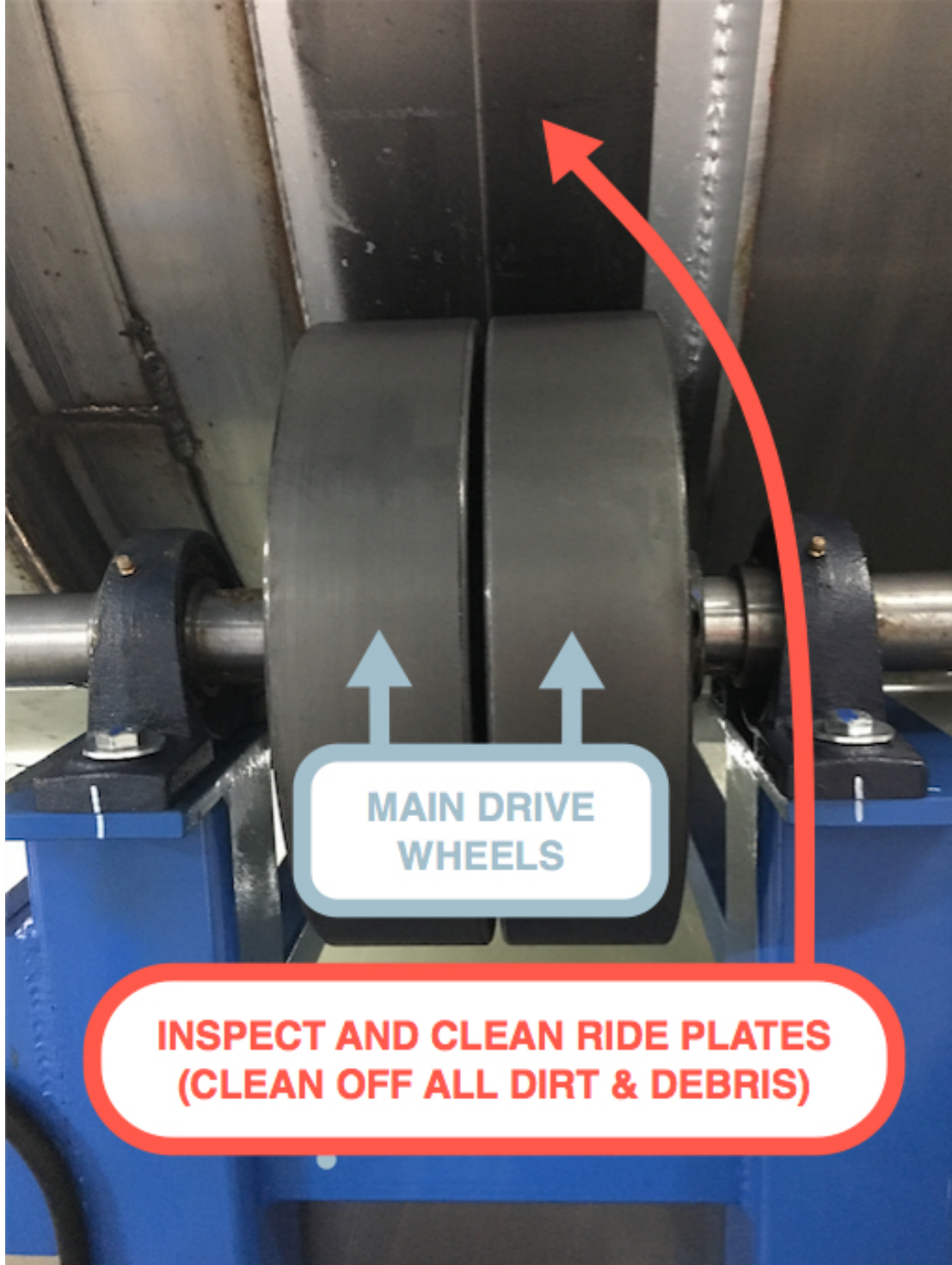


- As the washing machine is operating, inspect each guide wheel individually
 - Allow the washing machine to rotate drum in both directions (clockwise & counter clockwise)
- Guide wheels should make contact with alignment fins intermittently
- Guide wheels should not make contact with the alignment fins continuously
 - If continuous contact is made, the machine must be re-leveled
 - Continuous contact will wear out guide wheels pre-maturely



-Inspect and clean ride plates

-Ride plates (pictured) and wheels must be clean to ensure machine operates smoothly



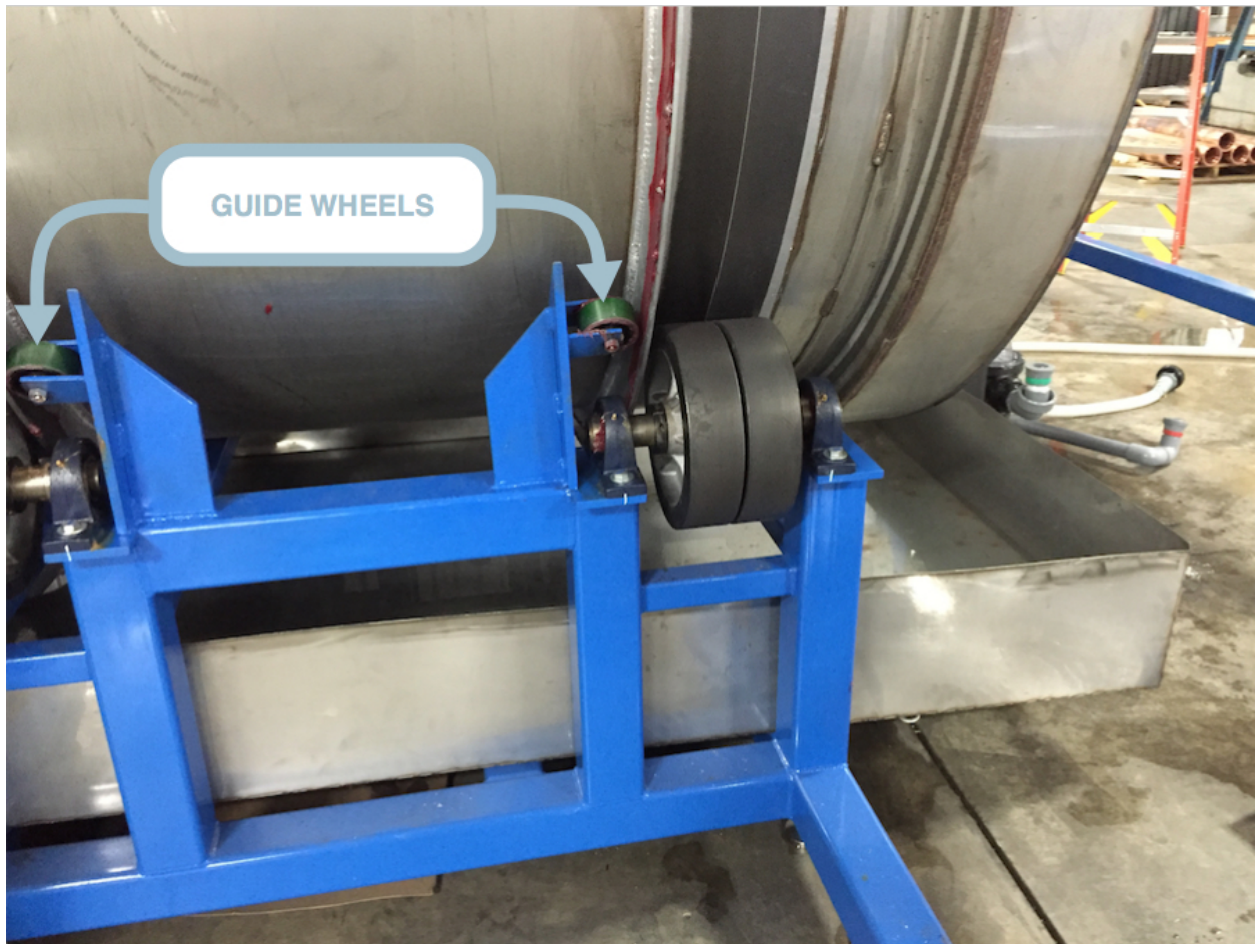
-Clean off any visible dirt, grit, grease, oil, or grime

-Wheels and ride plates must be dry when operating

-Inspect main drive wheels while in motion to ensure operation is smooth and unimpeded

-Re-grease guide wheels

- Re-grease guide wheels with a grease gun
- There are a total of four (4) guide wheels on machine (pictured)



- Each guide wheel is equipped with a zerk fitting
- Insert grease gun hose to zerk fitting and pump to re-grease (pictured)
- No more that two (2) pumps are required



Clean Pump Baskets

- Each pump (total of 3) must have pump baskets changed every 50 hours
- Drain machine of water, and unscrew clear plastic lid (pictured)
 - Remove basket and dispose of debris
 - Replace basket and screw lid on once cleaned



Clean Recycle Filters

- There are a total of 5 Recycle Filters (pictured to the right)
- Before removing filter sock filters, ensure that the machine is turned off



-To remove a sock filter, simply unscrew the four (4) hand screws on top of the lid (pictured)



-Once unscrewed, remove lid and remove sock (pictured)



- Dispose of all debris and replace filter
- CAUTION: MAKE SURE LIDS ARE SECURE BEFORE OPERATION. HAND SCREWS MUST BE FASTENED ONE ACROSS FROM THE OTHER WHEN SEALING LID
- Remove cleanout (pictured) and clean debris from tank
- CAUTION: FOLLOW ALL PROPER LOCKOUT/TAGOUT PROCEDURES BEFORE CLEANING. BE SURE THAT MACHINE ELECTRIC IS OFF PRIOR TO CLEANING
- Unscrew the black plug and dispose of all debris from the back of the drum

-Screw plug in once debris is removed



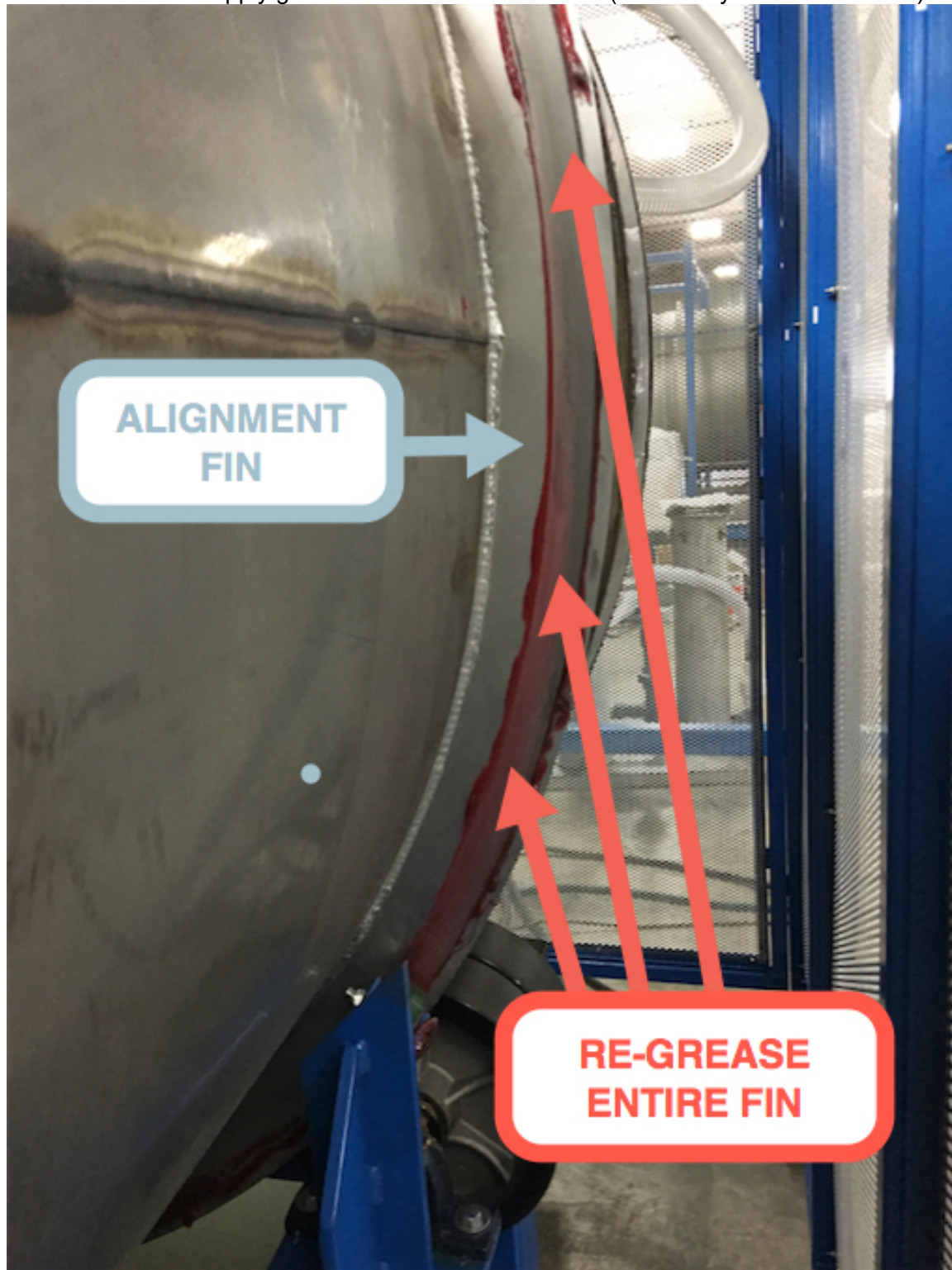
Every 100 Hours –

- Clean drain pan & drain pan filters
 - Clean all debris from drain pan
 - Clean all drain pan filters
 - Simply remove sock filters by hand, and dump debris into trash (pictured)



- Once cleaned, place sock filters back into drain pan
- Check washing machine for levelness
 - See Section 5: *Setup & Installation* for washing machine leveling instructions
- Check for tightness of all bolts
 - Re-tighten all loose bolts
 - Check to make sure there are no loose bolts that may affect machine performance

- Inspect and re-grease alignment fins for guide wheels
- Alignment fins must be greased (pictured)
- Grease can be applied with fingers directly onto fins
- Be sure to apply grease to entire surface of fins (all the way around the drum)



Every 200 Hours –

- Grease the main bearings (8)

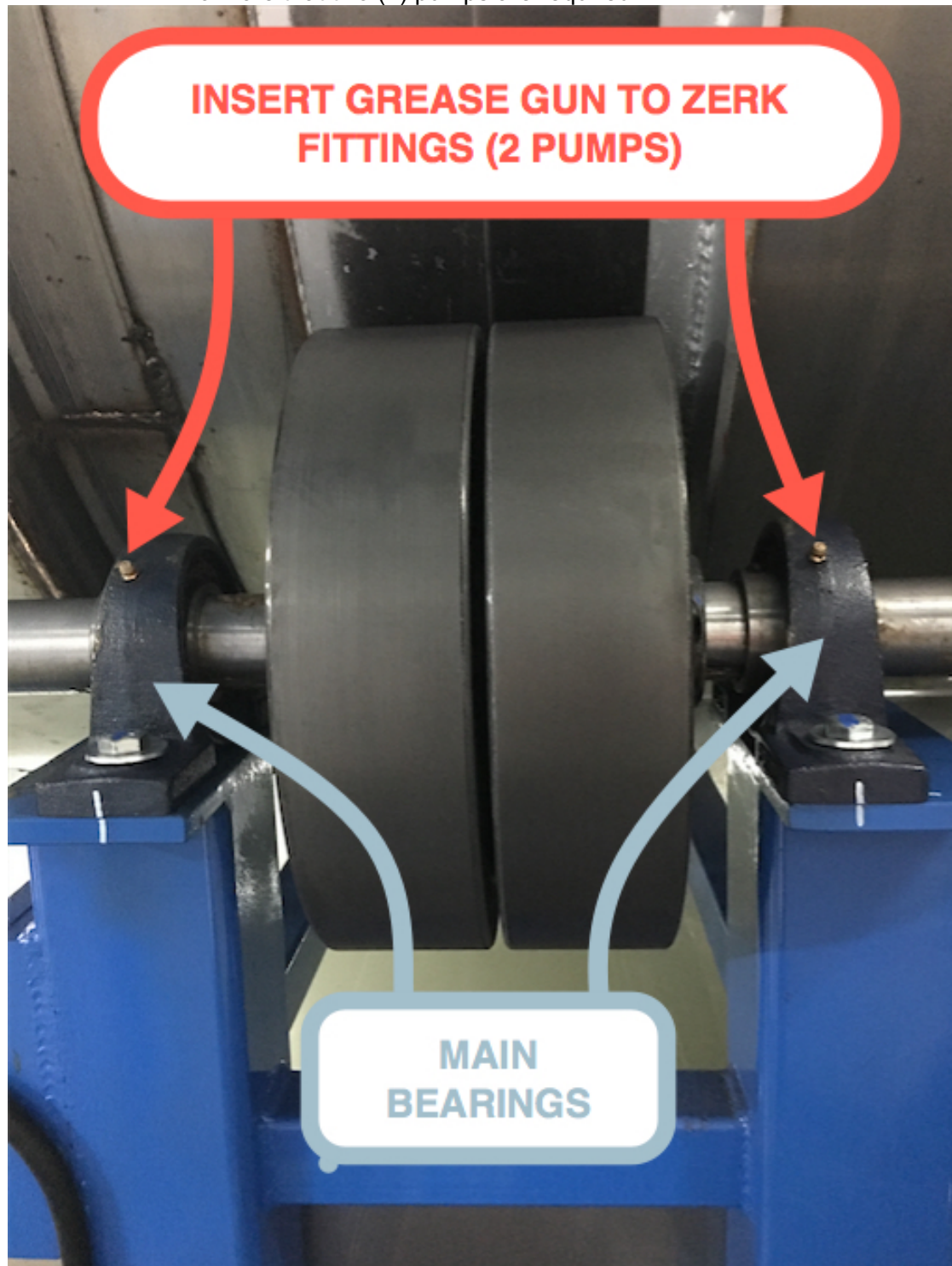
- Re-grease main bearings with a grease gun

- There are eight (8) total bearings on machine

- Each bearing is equipped with a zerk fitting

- Insert grease gun hose to zerk fitting and pump to re-grease (pictured)

- No more that two (2) pumps are required



Every 300 Hours –

-Replace Guide Wheels

-Guide wheels must be replaced every 300 hours

-Simply unscrew old guides and replace

-Call Teeco for replacement guide wheels

Every 400 Hours –

-Inspect and clean inside drain pump

-Please see the Drain Pump manual included in Section 9: Manual Supplements

Every 700 Hours –

-Change Oil on Gear Motor

-Please see Gear Motor manual included in Section 9: *Manual Supplements*

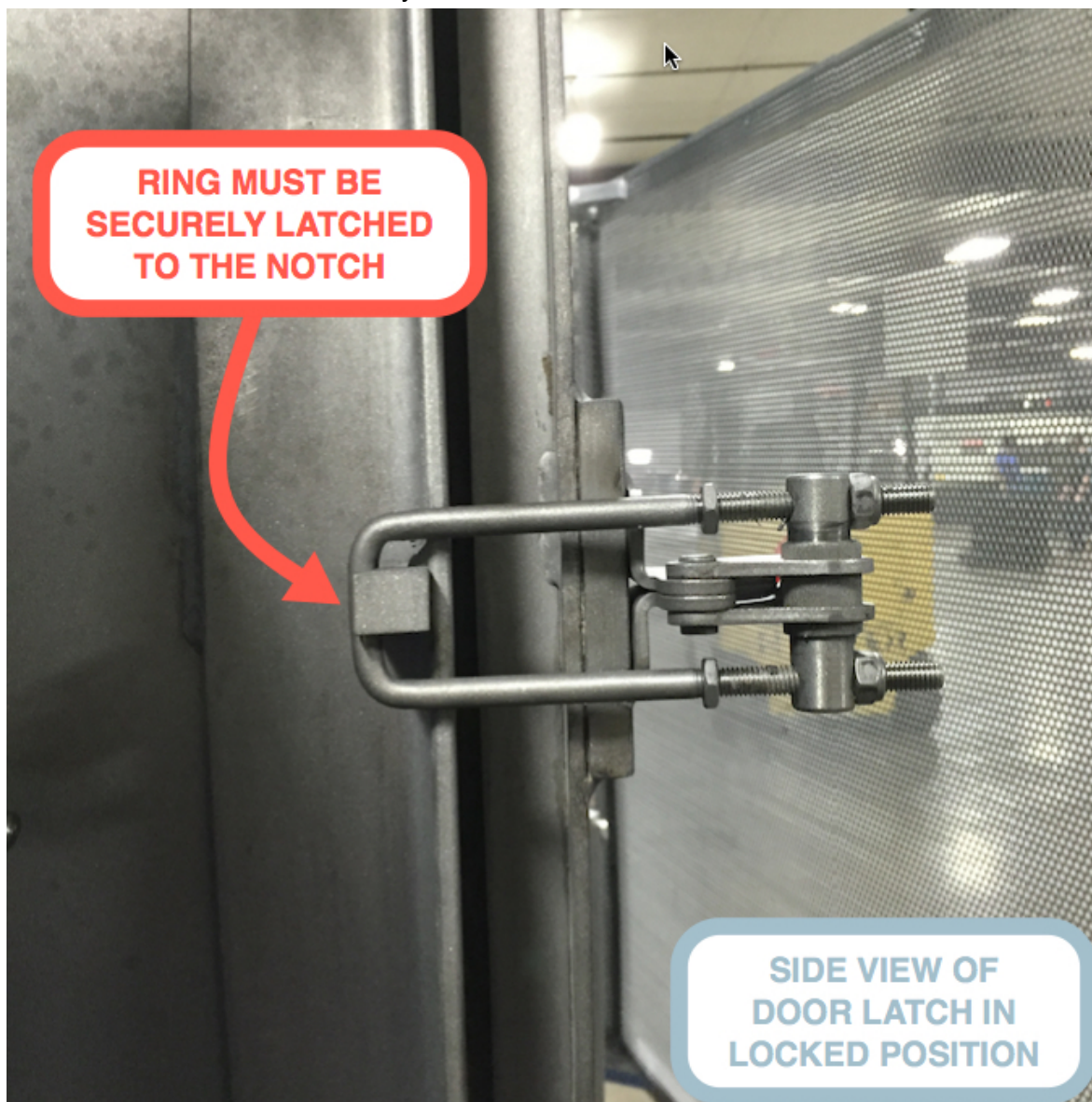
Section 13: Frequently Asked Questions

How do I open and close the washing machine door?

The washing machine door has five red door latches (pictured)

Opening and closing

- To open, pull the latch handle in an outward motion
- Once loose, pull the latch ring up and over the notch
- After all five latches have been undone; you can now open the door to the machine
- To close, flip the ring over the notch
- Ring must be notched correctly, or door will not be properly sealed
- Push the latch handle in an inward motion
- All 5 latches must be secured firmly

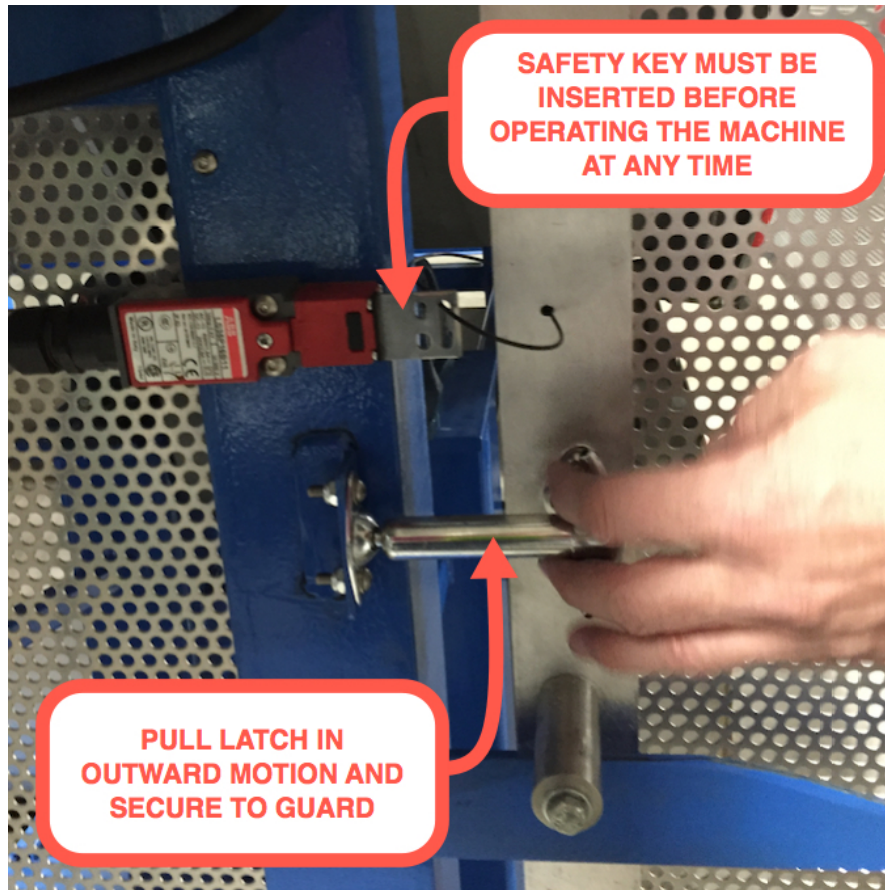


How do I open the guard?

The guard is equipped with 1 silver latch and a safety key

Opening

- To open, pull the latch in an outward motion and unhook the guard
- Once unhooked, pull out the safety key (prevents machine from operating while guard is open)
- After the safety key is out, the guard may be opened
- CAUTION: NEVER OPEN THE DRUM DOOR WITHOUT THE DRUM LOCK IN PLACE



Closing

- To close, swing the door to the closed position
- Pull the latch in an outward motion and hook the guard in place
- Once hooked, insert the safety key to enable machine operation

How do the Safety Switches work?

- There are two safety switches and one Emergency stop button that will not allow the machine to operate when:
 - Guard is not closed
 - The lock bar is not disengaged
 - When there is an emergency

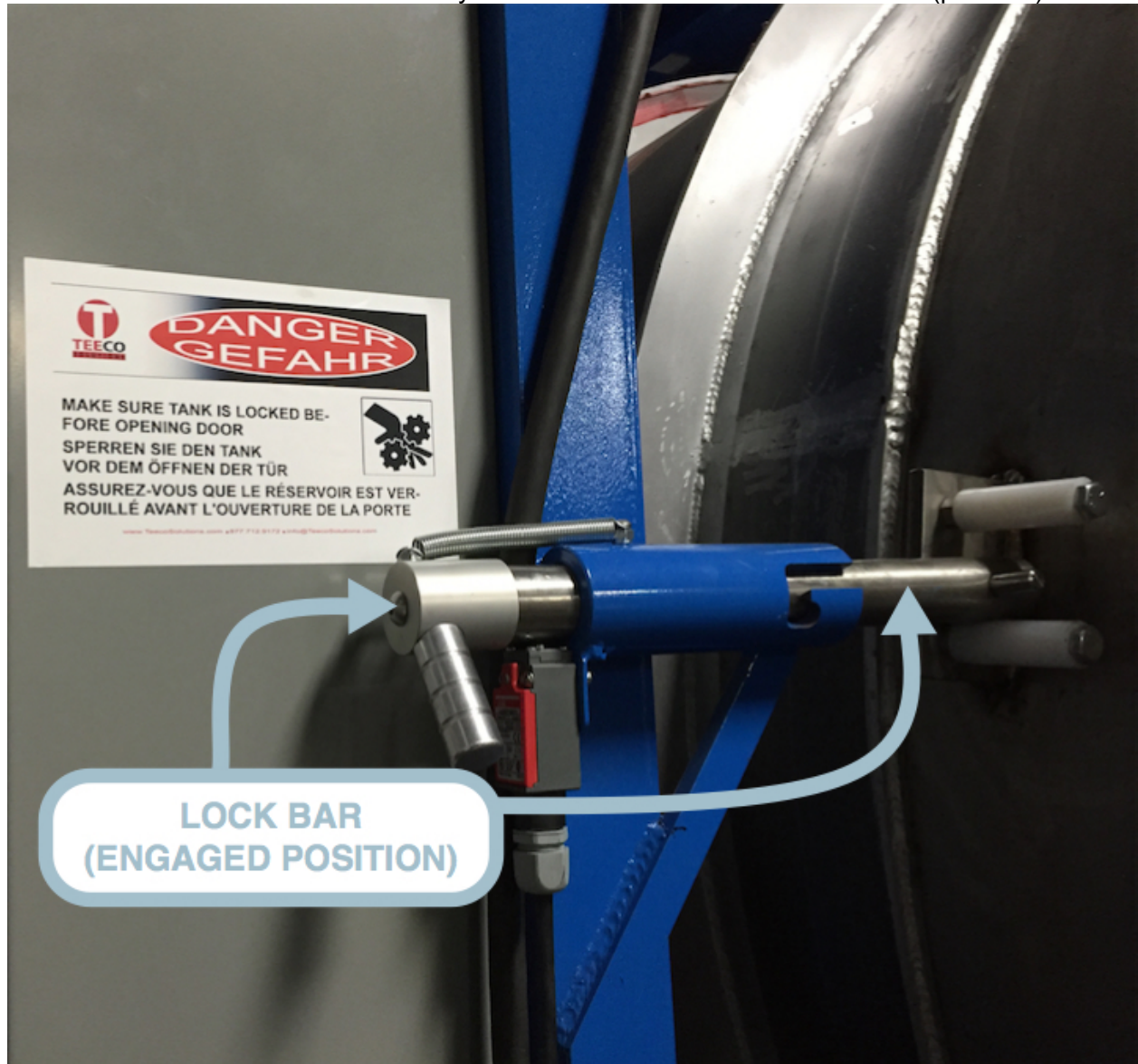
Guard Switch (Also referenced as the safety key)

The guard switch is located just above the latch to the guard (pictured)

- Machine will not operate when the key is not inserted
- Close the guard and insert the key into the red switch to operate the machine

Lock Bar Switch

- The Lock Bar Switch is located directly underneath the center of the Lock Bar (pictured)



- Machine will not operate when the Lock Bar is engaged
- Disengage the Lock Bar to operate the machine

Emergency Stop

The Emergency Stop button is located on the control panel

-This button is to only be used in an emergency situation where the machine must immediately stop operating

-It is important that this button only be used for an emergency scenario

-Using the Emergency Stop button as part of everyday use will cause significant damage

Can soap chemical be pre-mixed in the water heater?

Soap chemical **cannot** be pre-mixed inside the water heater tank

-Pre-mixing soap chemical inside the water heater will result in significant damages to the water heating elements

How do I use the leveling pads? / How do I level the washing machine?

For instructions on using leveling pads, please refer to Section 5: *Setup & Installation*

Is my forklift capable of moving these units?

Verify your forklift must meet the following requirements before moving or handling:

-Forklift must have a lifting capacity of at least 5000lbs/2268kg

-Forklift is capable of lifting loads a minimum of 10 feet/3.048 meters high

-Forklift is equipped with forks a minimum of 6 feet/1.83 meters long (fork extensions can be used)

-**WARNING:** always comply with common safe lifting practices and or all required safety regulations when operating a fork lift or fork truck. Only trained and certified forklift personnel should operate a forklift

Manual Supplements

Please see appendix for OEM component manuals