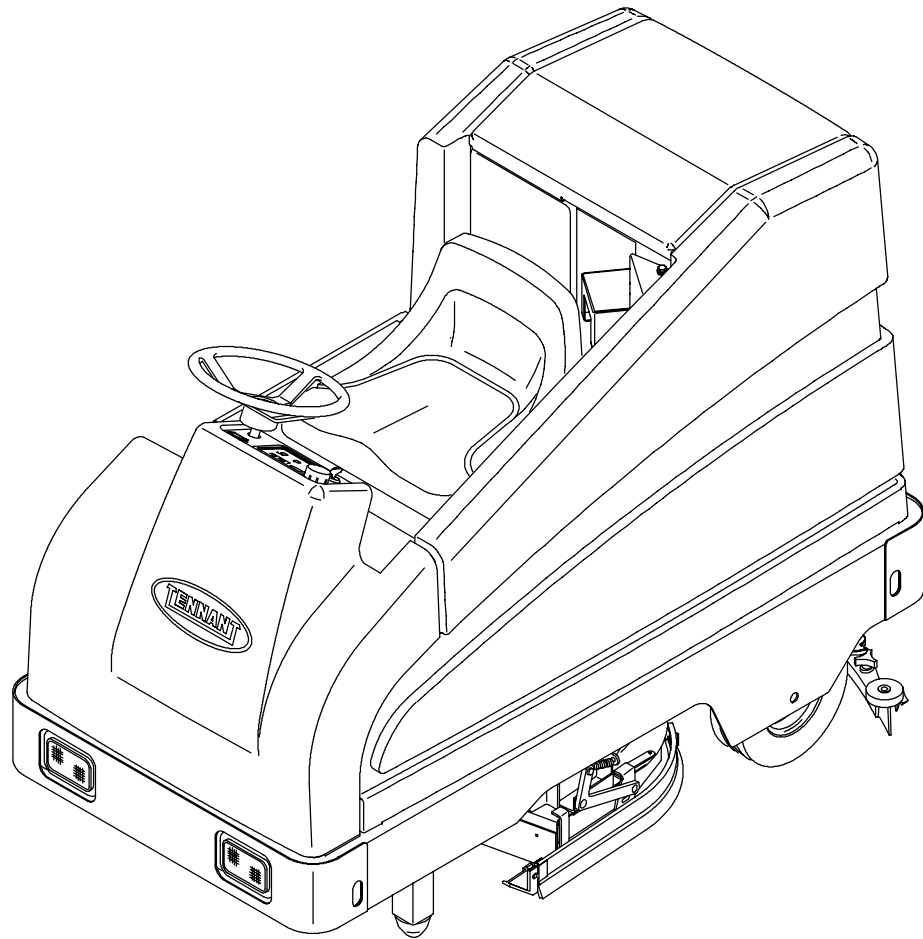




**7200**

**Operator Manual**

***FaST***  
Foam Scrubbing Technology<sup>®</sup>  
*The safe scrubbing alternative<sup>®</sup>*



**330040**

**Rev. 10**



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**CONTROL PANEL SYMBOLS**

These symbols identify controls and displays on the machine:



Key switch



Battery charge



Scrubbing



Squeegee



Brush pressure



ES - Extended Scrub (Option)



FaST



Recovery tank full



Solution flow



Pre-Sweep (option)



Dust control (option)



Circuit breaker #1



Circuit breaker #2



Circuit breaker #3



Circuit breaker #4



Circuit breaker #5



Circuit breaker #6



Circuit breaker #7



Circuit breaker #8



Circuit breaker #9



Circuit breaker #10



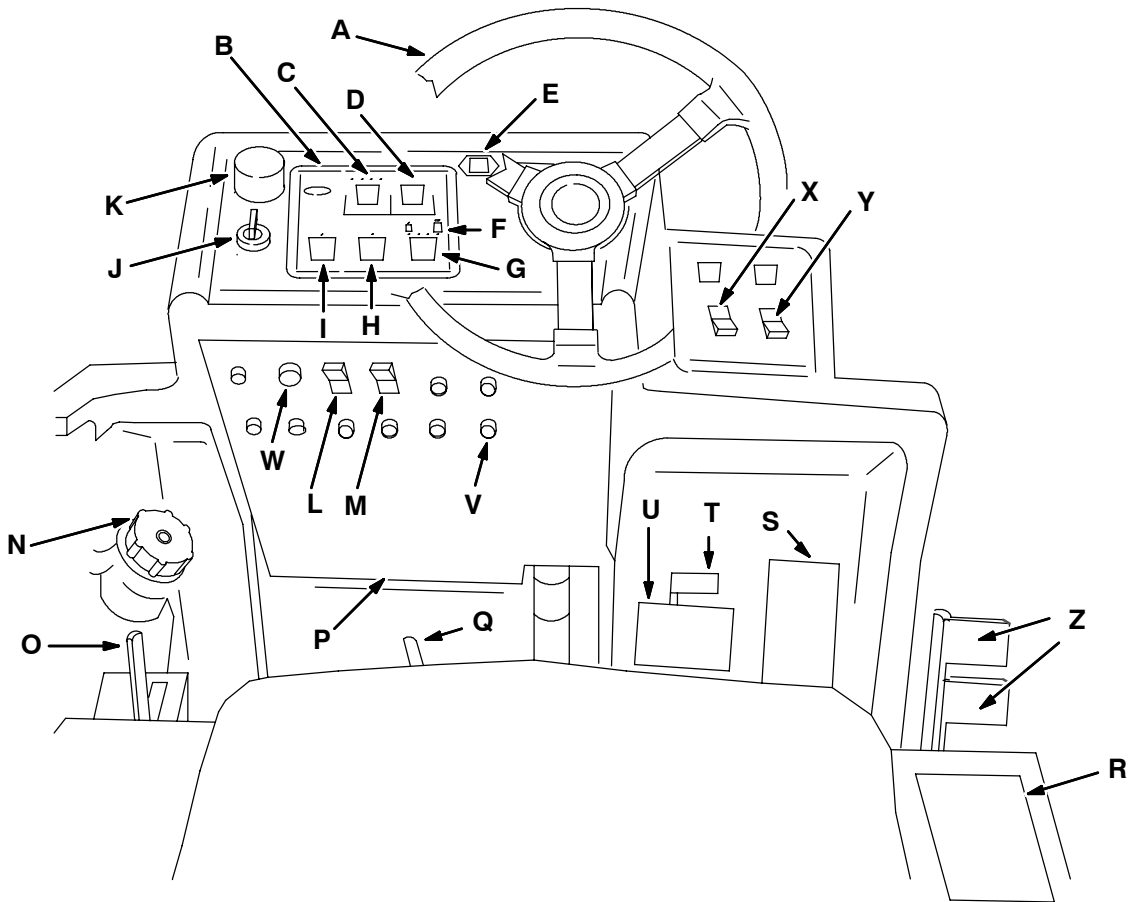
Circuit breaker #11



Circuit breaker #12

# OPERATION

## CONTROLS AND INSTRUMENTS



350655

- A. Steering wheel
- B. Control panel
- C. Battery discharge indicator
- D. Recovery tank full indicator
- E. Hourmeter
- F. Brush pressure indicator
- G. Scrubbing switch
- H. Squeegee switch
- I. ES (Extended Scrub) switch (option) or FaST switch
- J. Key switch
- K. Power kill switch
- L. Operating lights switch
- M. Power wand switch (option)
- N. Recovery tank clean-out port
- O. Solution flow lever
- P. Operator console
- Q. Seat adjustment lever
- R. Use and care guide
- S. Directional pedal
- T. Parking brake pedal
- U. Brake pedal
- V. Circuit breakers
- W. Horn button
- X. Dust control switch (option)
- Y. Pre-Sweep switch (option)
- Z. Side brush pedals (option)

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**OPERATION OF CONTROLS**


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**DIRECTIONAL PEDAL**

The directional pedal controls the machine's direction of travel and propelling speed. The machine's speed is controlled by the amount of pressure placed on the pedal; the farther the pedal is pressed, the faster the machine will travel.

When the machine is moving forward and the directional pedal is reversed, the machine will coast for a short distance before changing direction. Use the brake pedal to stop the machine.

Forward: Press the top of the directional pedal with the upper part of your foot.

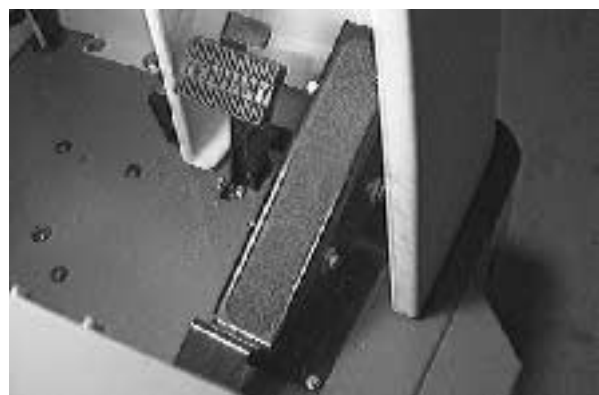
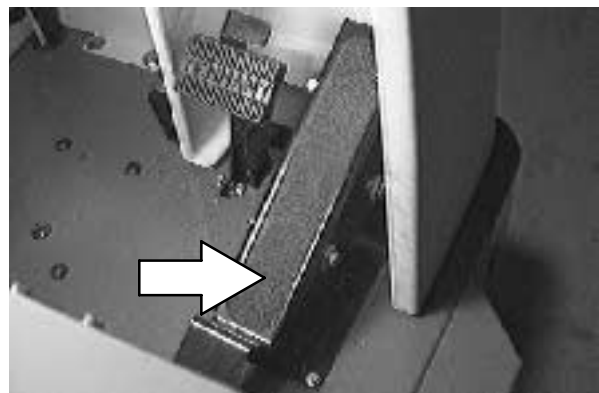
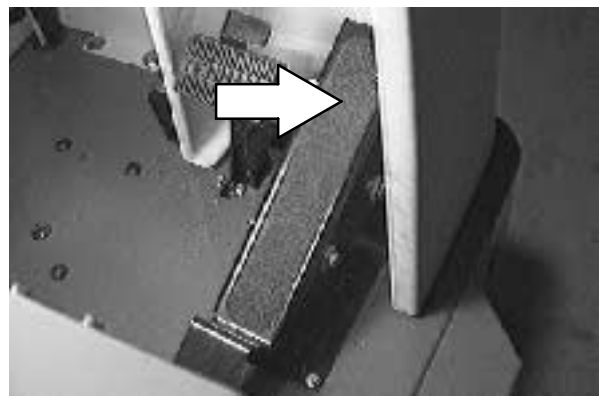
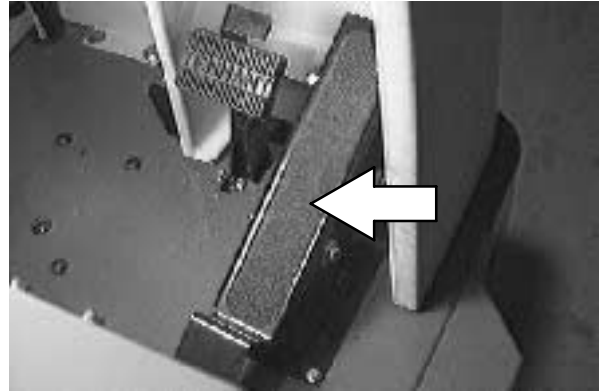
*NOTE: A seat switch is located under the operator seat. If there is no weight on the operator seat, the machine WILL NOT propel in any direction.*

Reverse: Press the bottom of the directional pedal with the heel of your foot.

When the directional pedal is placed into the reverse position, the rear squeegee will automatically raise. After a short delay, the vacuum will stop.

Neutral: The machine will automatically return to the Neutral position when you take your foot off the directional pedal.

When the directional pedal returns to the neutral position, the scrub brushes will stop and after a short delay, the scrub head will raise.



## OPERATION

### BRAKE PEDAL

The brake pedal stops the machine.

Stop: Take your foot off the directional pedal and allow it to return to the Neutral position. Step on the brake pedal.



### PARKING BRAKE PEDAL

The parking brake pedal sets the parking brake.

Set: While pressing the brake pedal as far as it will go, set the parking brake by pressing the parking brake pedal with the toe portion of your foot.

**FOR SAFETY: Before leaving or servicing machine, stop on level surface, set parking brake, turn off machine, and remove key.**

Release: Press the brake pedal to unlock the parking brake pedal.

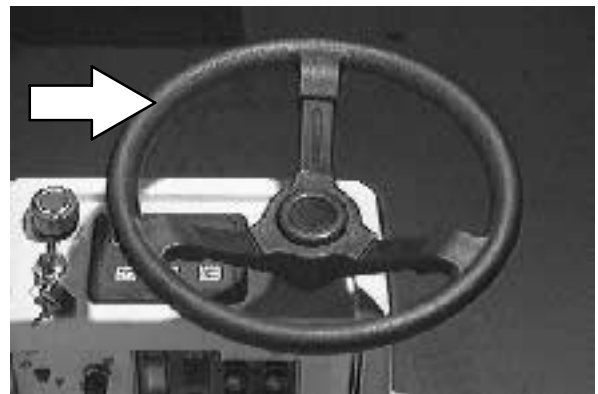


### STEERING WHEEL

The steering wheel controls the machine's direction of travel.

Left: Turn the steering wheel to the left.

Right: Turn the steering wheel to the right.

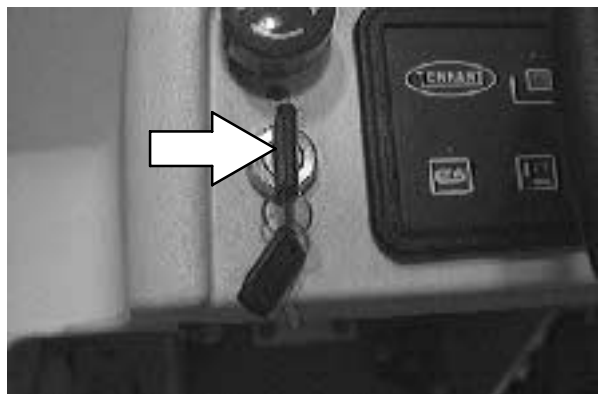


### KEY SWITCH

The key switch turns the machine's power on and off.

On: Turn the key fully clockwise and release it to the on position.

Off: Turn the key to the left until it clicks.

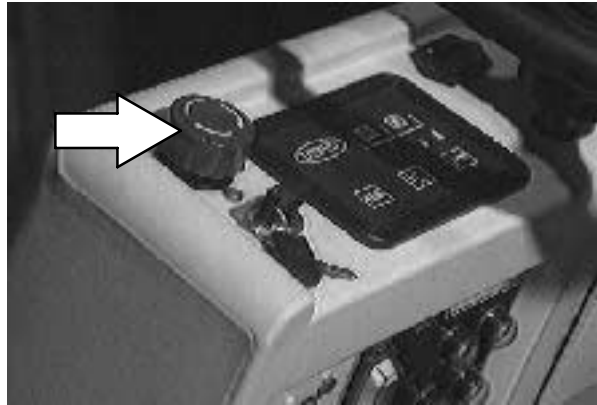


### POWER KILL SWITCH

The power kill switch immediately stops all power to the machine.

Stop machine power: Press the power kill switch.

Restart machine power: Release the power kill switch by turning it to the right. Turn the key switch off, then turn the key fully clockwise and release it to the on position.

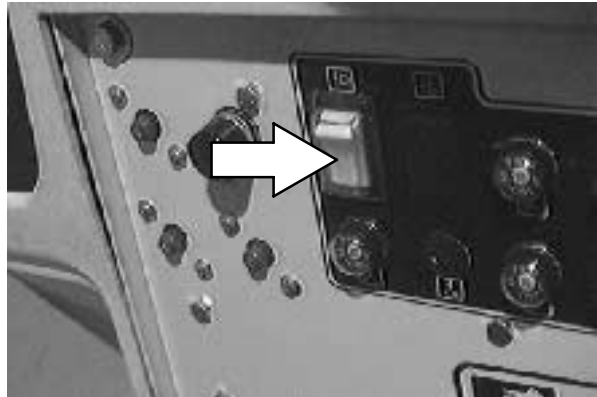


### OPERATING LIGHTS SWITCH

The operating lights switch powers the headlights and taillights on and off.

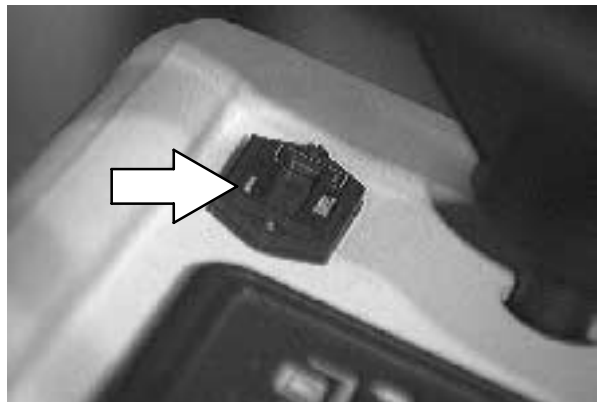
On: Press the top of the operating lights switch.

Off: Press the bottom of the operating lights switch.



### HOURMETER

The hourmeter records the number of hours the machine has been operated. Check the hourmeter regularly; this information is used to determine when to perform routine machine maintenance.

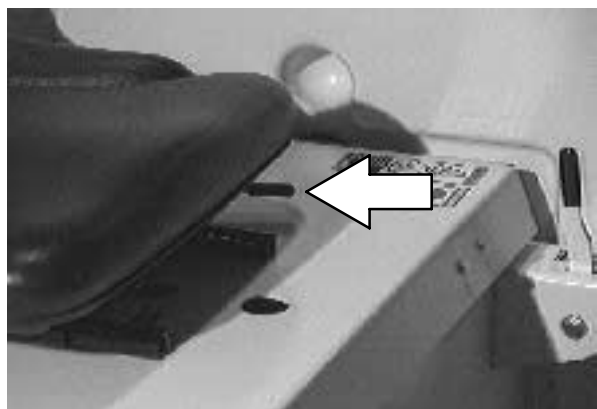


### OPERATOR SEAT

The operator seat is designed to be adjusted forward and backward.

Adjust: Move the lever toward the center of the seat, slide the seat backward or forward to the desired position, and release the lever.

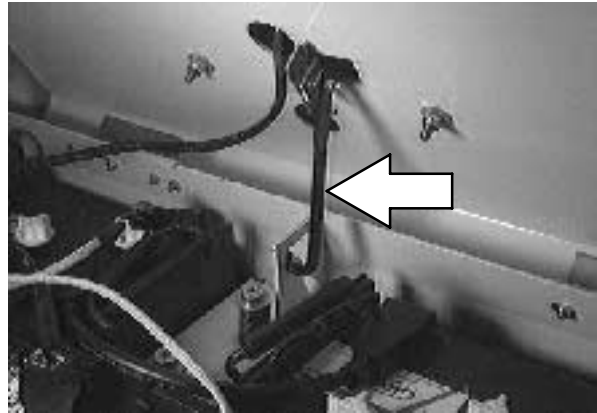
*NOTE: A seat switch is located under the operator seat. If there is no weight on the operator seat, the machine WILL NOT propel in any direction.*



## OPERATION

### SEAT SUPPORT ARM

The seat support arm holds the seat up to allow access to the batteries. The support arm automatically engages when the seat is lifted all the way up. Lower the seat support by slightly raising it while pushing the support arm inward.



### SOLUTION FLOW LEVER

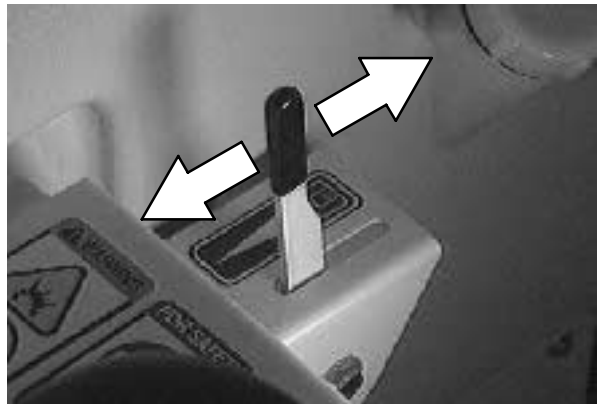
The solution flow lever controls the amount of solution that flows to the floor while scrubbing.

Increase solution flow: Push the lever forward.

Decrease solution flow: Pull the lever backward.

*NOTE: The machine is equipped with a solenoid valve that automatically stops the solution flow when the directional pedal is in the neutral position or when the scrub head is raised.*

*NOTE: When using the FaST system, the solution flow lever is nonfunctional. The FaST system flow rate is pre-set.*





## SCRUBBING SWITCH

The scrubbing switch controls the scrub head, scrub brushes, squeegee, and vacuum fan. The scrubbing switch is also used to set the scrub brush pressure.

**Start scrubbing:** Press the scrubbing switch. The indicator light will illuminate, the squeegee will lower, and the vacuum fan will start. The scrubbing system and solution flow will start when the directional pedal is pressed and the machine begins to move forward.

**Stop scrubbing:** Press the scrubbing switch. The pressure indicator light will go out. The scrub brushes stop, the scrub head will raise, and the solution flow will stop. After a short delay, the rear squeegee will automatically raise. After another delay, the vacuum will stop.

The brush down pressure indicators display the pressure selection. The brush pressure switch has four positions. Brush pressure increases as the indicator light moves to the right across the display. Travel speed and floor conditions will affect the scrubbing performance. Under normal conditions, the brush pressure should be set in the one of the minimum settings. Set the brush pressure in one of the maximum settings to scrub a heavily soiled floor.

**Change brush pressure:** Press and hold the scrubbing switch. The pressure indicator light will cycle through the four brush pressure settings. When the switch is pressed and held, the brush pressure will increase until it reaches the maximum setting. The pressure will then return to the minimum setting. Release the scrubbing switch when the desired setting is indicated on the display.

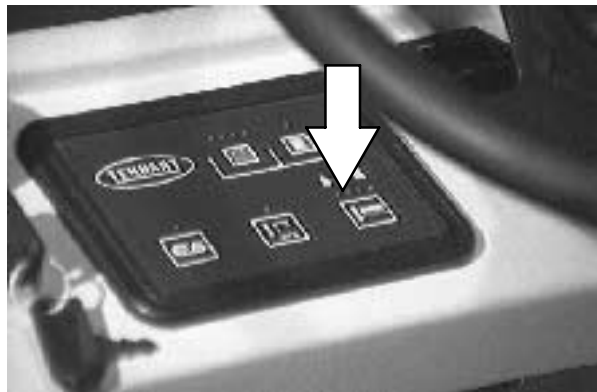
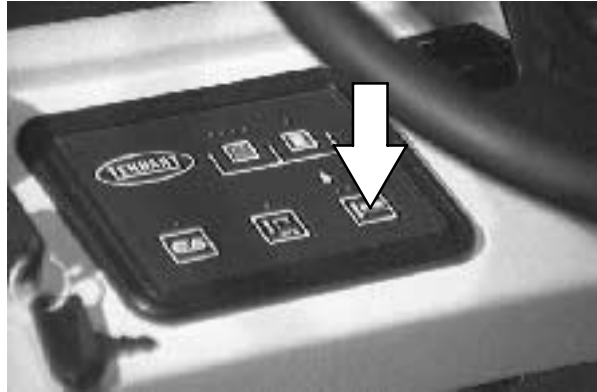
*NOTE: When the machine power is turned off, the brush pressure will remain in the last setting used.*

## SQUEEGEE SWITCH

The squeegee switch controls the rear squeegee and vacuum fan.

**Lower squeegee and turn vacuum fan on:** Press the switch. The indicator light will illuminate when the squeegee is lowered.

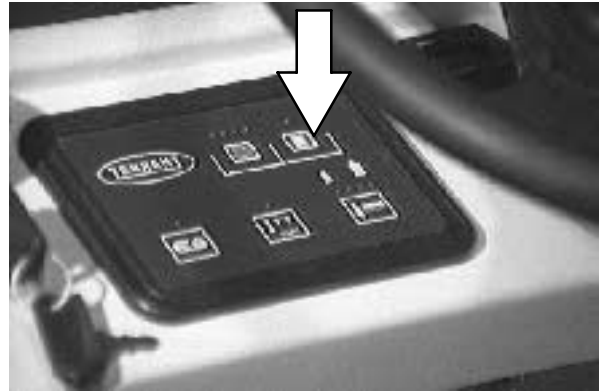
**Raise squeegee and turn vacuum fan off:** Press the switch. The indicator light will go out when the squeegee is raised.



### RECOVERY TANK FULL INDICATOR

The recovery tank full indicator light will illuminate when the recovery tank is full.

*NOTE: When the indicator illuminates, all scrubbing functions will shut off automatically.*

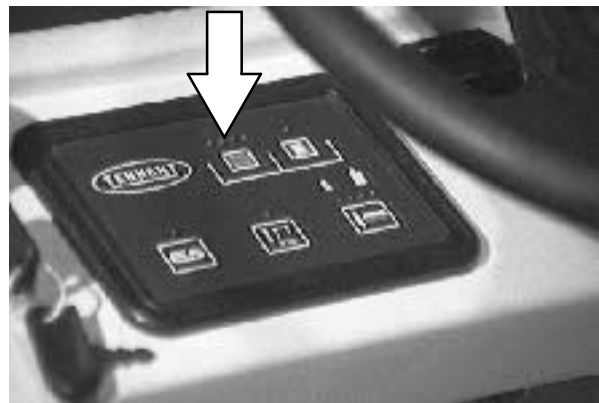


### BATTERY DISCHARGE INDICATOR

The battery discharge indicator displays the charge level of the batteries while the machine is operating.

When the batteries are fully charged, all four indicator lights are lit. As the batteries discharge, the indicator lights will go out from right to left. The batteries should be recharged when the indicator on the left flashes. *When the indicator flashes, all scrubbing functions will shut off automatically.* Drive the machine to the battery charging area and charge the batteries immediately after the battery discharge indicator begins to flash.

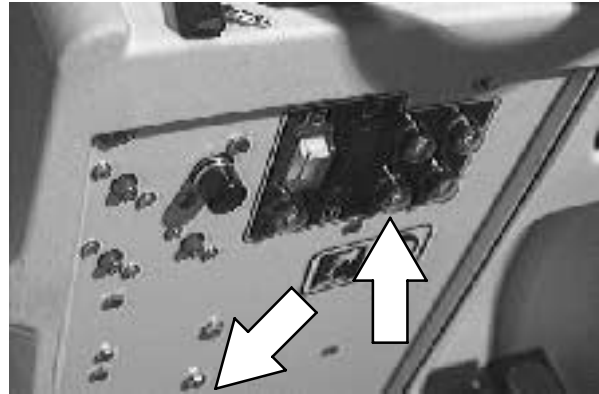
*NOTE: The reading on the battery discharge indicator may not be accurate when the machine is first powered on. Operate the machine for a few minutes before reading the charge level of the batteries.*



**CIRCUIT BREAKERS**

Circuit breakers are resettable electrical circuit protection devices designed to stop the flow of current in the event of a circuit overload. Once a circuit breaker is tripped, reset it manually by pressing the reset button after the breaker has cooled down. Circuit breakers 1-10 are located on the upper part of the operator console. Circuit breaker 11 is located on the lower part of the operator console.

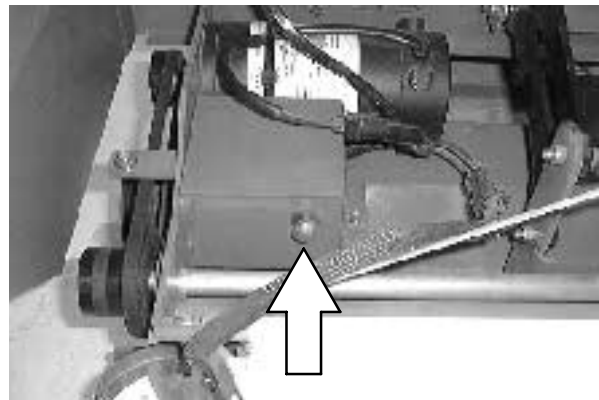
*NOTE: If the scrub system stops and the 4 brush indicator lights blink, CB8 or CB9 may need to be reset.*



Circuit breaker 12 is located inside the Pre-Sweep assembly (option).

If the overload that caused the circuit breaker to trip is still present, the circuit breaker will continue to stop current flow until the problem is corrected.

The chart below shows the circuit breakers and the electrical components they protect.



<b>Circuit Breaker</b>	<b>Rating</b>	<b>Circuit Protected</b>
CB1	10 A	Machine power
CB2	10 A	Battery discharge indicator
CB3	15 A	Head lights
CB4	10 A	Power wand / Side brush (option)
CB5	10 A	Horn
CB6	15 A	Instrument panel
CB7	20 A	Vacuum Fan
CB7	40 A	Heavy duty vacuum fan
CB8	25 A	RH Scrub brush motor
CB9	25 A	LH Scrub brush motor
CB10	25 A	Pre-Sweep (option)
CB11	10 A	FaST System
CB12	10 A	Pre-Sweep Side brush motors (option)

## OPERATION

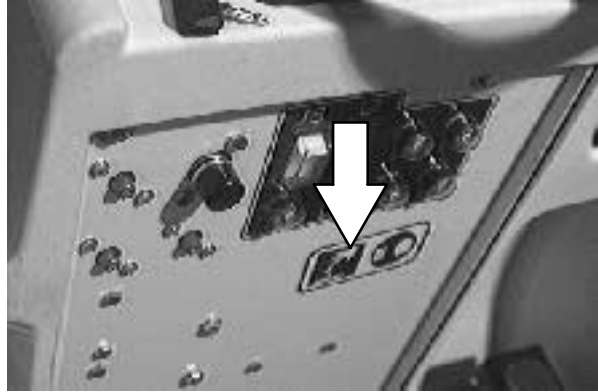
### FUSE

The fuse is a one-time protection device designed to stop the flow of current in the event of a circuit overload.

*NOTE: Always replace the fuse with a fuse of the same amperage.*

The fuse is located behind the operator console. Access the fuse by lowering the operator console.

Fuse	Rating	Circuit Protected
FU-1	80 A	Propelling

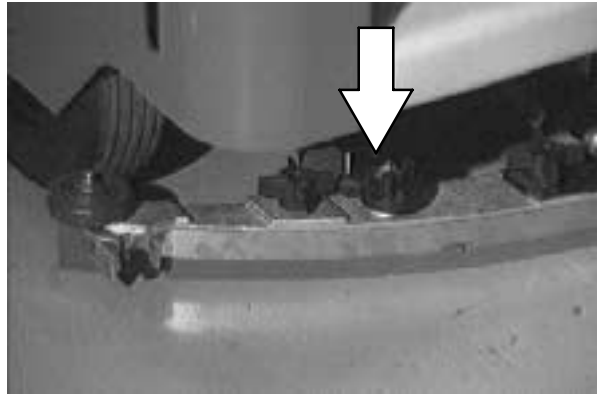


### SQUEEGEE WHEEL CAMS

The squeegee wheel cams adjust the squeegee deflection along the entire length of the squeegee. There are wheel cams at either end of the squeegee.

Increase deflection: Turn the cams counter-clockwise.

Decrease deflection: Turn the cams clockwise.



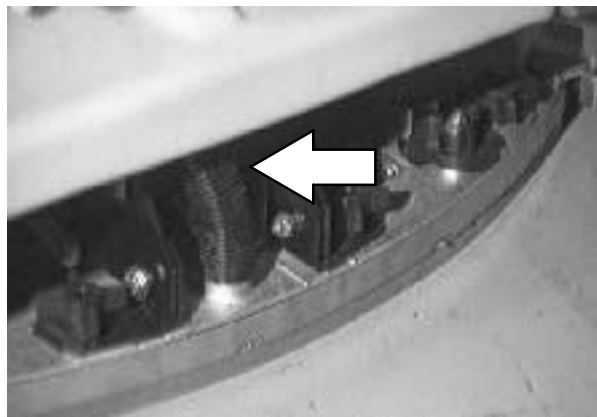
### SQUEEGEE LEVELING KNOB

The squeegee leveling knob adjusts the deflection at the ends of the squeegee.

The squeegee leveling knob is located directly behind the squeegee suction hose. **DO NOT** disconnect the suction hose from the squeegee frame when leveling the squeegee.

Increase end deflection: Turn the squeegee leveling knob counter-clockwise to increase the deflection at the end of the squeegees.

Decrease end deflection: Turn the squeegee leveling knob clockwise to decrease the deflection at the end of the squeegees.



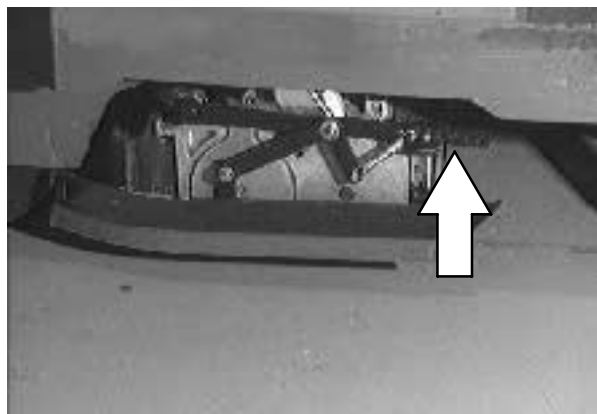
### SIDE SQUEEGEE DOWN PRESSURE CONTROLS

The side squeegee down pressure controls increase or decrease the amount of the side squeegee pressure to the floor

Increase down pressure: Remove spring from pin and move the pin toward the rear of the machine into a new setting. Re-attach spring to pin.

Decrease down pressure: Remove spring from pin and move the pin toward the front of the machine into a new setting. Re-attach spring to pin.

*NOTE: Adjust the side squeegee down pressure controls equally.*



## HOW THE MACHINE WORKS

---

The following machine components work together to effectively clean dirty floors: Pre-Sweep (option) or side brush (option), solution tank, scrub brushes, squeegee, vacuum fan, and recovery tank.

The Pre-Sweep (option) and the side brush (option) sweep up light debris in the path of the machine.

Water and detergent from the solution tank flow to the floor through a solution valve. The brushes use the detergent and water solution to scrub the floor clean. As the machine propels forward, the squeegee wipes the dirty solution from the floor. The suction created by the vacuum fan then draws the dirty solution from the squeegee into the recovery tank.

The directional pedal controls the speed and direction of the machine. The brake pedal slows and stops the machine.

When using the ES mode (option), the dirty solution in the recovery tank is filtered and returned to the solution tank to be reused for extended scrubbing.

The two available scrub head types use *disk* or *cylindrical* brushes.

*NOTE: The amount and type of soilage play an important role in determining the type of brushes to be used. For specific recommendations, contact your Tennant representative.*



## PRE-OPERATION CHECKLIST

---

Perform the following steps before operating the machine:

- Check under the machine for leaks.
- Check the brakes and steering for proper operation.
- Check for wire, string, or twine wrapped around the scrub brushes.
- Check the squeegees for wear or damage.
- Check the squeegee suction hose for obstructions.
- Cylindrical brushes: Check that the debris tray is empty and clean.
- ES machines. Check that the ES filter is clean.
- Check the recovery tank cover seals for wear or damage.
- Check that the vacuum fan inlet filter is clean.
- FaST Scrubbing: Check the FaST PAK concentrate agent level, replace carton as needed. See the INSTALLING THE FaST PAK AGENT section of the manual.
- FaST Scrubbing: Check that all conventional cleaning agents/restorers are drained and rinsed from the solution tank.
- FaST Scrubbing: Check that solution tank is filled with **clear cool water only**.
- Pre-Sweep machines: Empty the Pre-Sweep debris hopper. Check the dust control water reservoir.

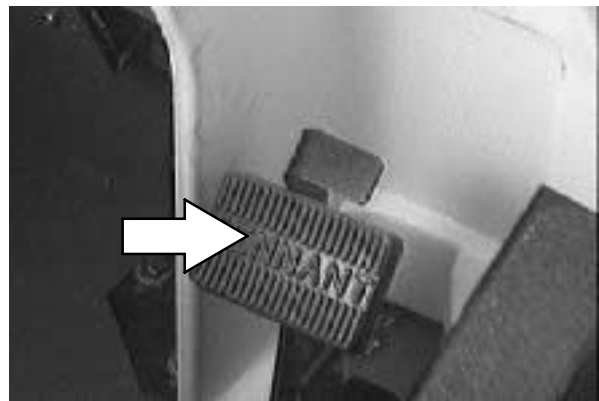
**FILLING THE TANKS**

1. Turn the machine power on.
2. Release the machine parking brake.
3. Drive the machine to the tank filling site.



4. Turn the machine power off.
5. Set the parking brake.

**FOR SAFETY: Before leaving or servicing machine, stop on level surface, set parking brake, turn off machine, and remove key.**



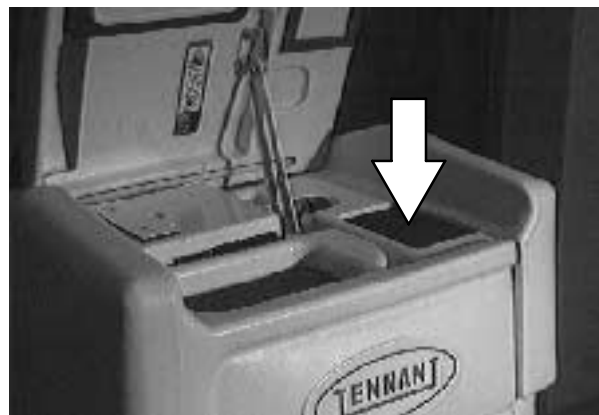
6. CONVENTIONAL SCRUBBING: Lift the tank cover. Measure and pour in the correct amount of detergent. Fill the rest of the solution tank to the top with water.

*NOTE: Floor conditions, water condition, amount of soilage, type of soilage, and brush pressure all play an important role in determining the type and concentration of detergent to be used. For specific recommendations, contact your Tennant representative.*



**WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).**

**FOR SAFETY: When using machine, follow mixing and handling instructions on chemical containers.**





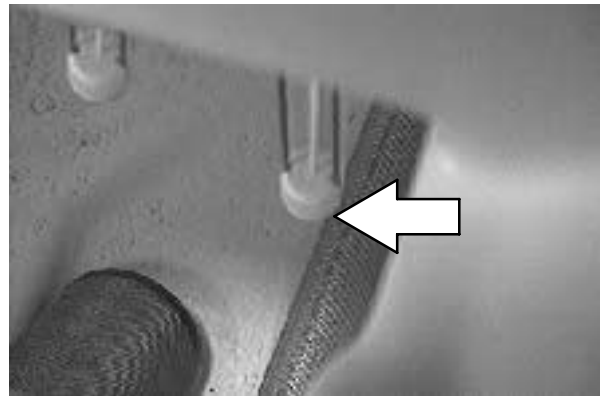
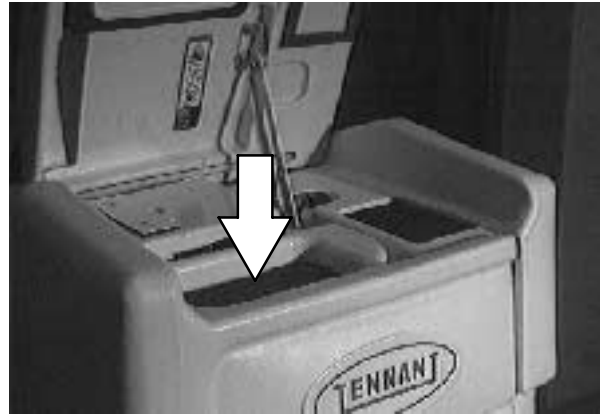
## OPERATION

7. ES mode (option): Fill the recovery tank with water and detergent up to the lower sensor float to extend scrub time. Make sure the ES system is on.

**! WARNING:** Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).

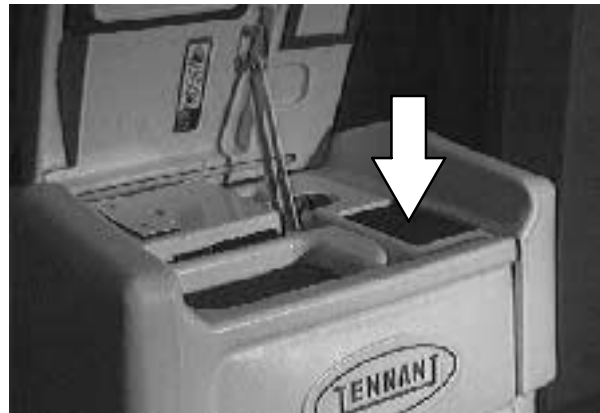
**FOR SAFETY:** When using machine, follow mixing and handling instructions on chemical containers.

*NOTE: If you **DO NOT** want to use the ES mode (option), **DO NOT** put water in the recovery tank and make sure the ES system is off.*

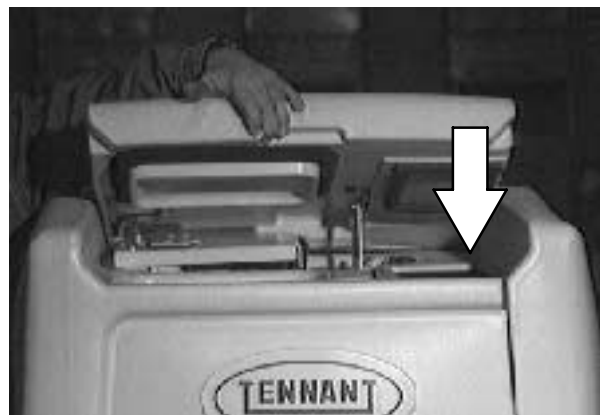


8. FaST SCRUBBING: Lift the tank cover and fill the solution tank to the top with cool clear water only. Do not add cleaning detergents.

*NOTE: When cleaning using FaST USE CLEAR COOL WATER ONLY. DO NOT add cleaning detergents in solution tank. Conventional cleaning detergents/restorers may cause failure to the FaST solution system.*



9. Lower the tank cover.



## SCRUBBING

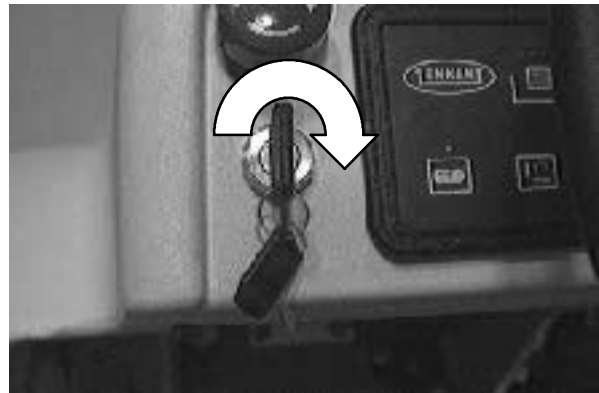
- Pick up oversized debris before scrubbing. Pick up pieces of wire, string, twine, etc., which could become wrapped around the scrub brush.
- Plan the scrubbing in advance. Try to arrange long runs with minimum stopping and starting. Do an entire floor or section at one time.
- Try to scrub as straight a path as possible. Avoid bumping into posts or scraping the sides of the machine. When scrubbing dead end aisles, start at the closed end of the aisle and scrub your way out. Overlap the scrub paths by 50 - 75 mm (2 - 3 in).
- If the machine is scrubbing poorly, stop scrubbing and refer to the *MACHINE TROUBLESHOOTING* section of this manual. Basic troubleshooting procedures are also covered in the Use and Care Guide located near the operator seat.



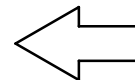
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1. Start the machine.

2. Drive the machine to the area to be scrubbed.



3. Pre-sweep machines: Press the top of the Pre-sweep switch to lower the Pre-sweep assembly.

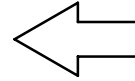


## OPERATION

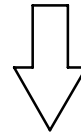
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4. Pre-sweep machines: Press the top of the dust control switch to start the dust control system.

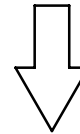
*NOTE: The dust control system will only operate if the Pre-Sweep option is on.*



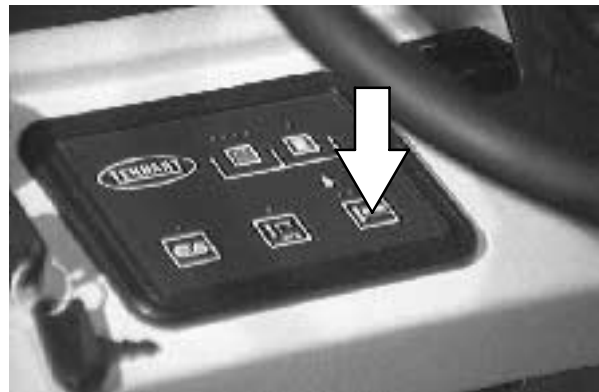
5. Press the *ES switch (option)* if extended scrubbing is necessary.



6. FaST SCRUBBING: Press the *FaST switch* to enable the FaST system. See the FaST SWITCH section of the manual.

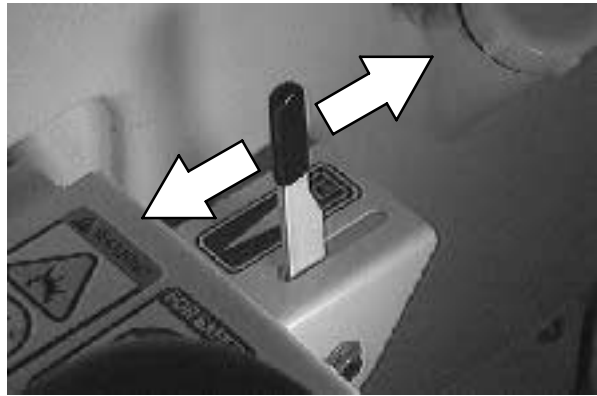


7. Press the scrubbing switch.

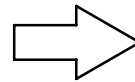


- 8. CONVENTIONAL SCRUBBING: Adjust the solution flow as needed.


*NOTE: When using the FaST system, the solution flow lever is nonfunctional. The FaST system flow rate is pre-set.*



- 9.



- 10. Drive the machine forward and scrub as required.

 **WARNING: Flammable materials or reactive metals can cause an explosion or fire. Do not pickup.**

## OPERATION

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### DOUBLE SCRUBBING

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Double scrubbing is the process of making two or more scrubbing passes over a heavily soiled area. The first scrubbing pass is made with rear squeegee up to allow the solution to soak into the floor.

Double scrubbing can be performed using the FaST SCRUBBING SYSTEM or CONVENTIONAL SCRUBBING methods.

Pre-sweep and side brush (option) machines: Leave the Pre-sweep and side brush (options) in the raised position while double scrubbing.

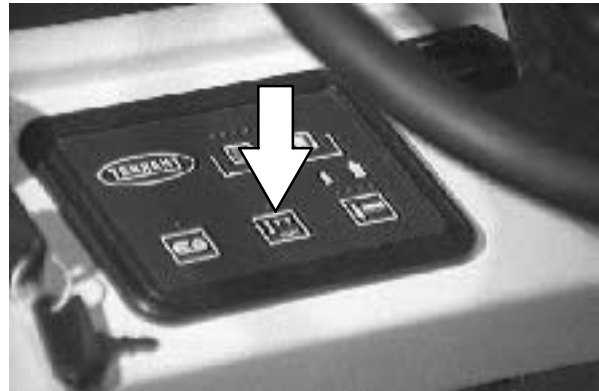
Press the scrubbing switch to start the normal scrubbing operations.

Press the squeegee switch to raise the rear squeegee and turn off the vacuum system.

Make a scrubbing pass over the heavily soiled area with the rear squeegee raised. The solution dispensed on the first scrubbing pass will remain on the floor and break down heavy soilage. Allow the solution to remain on the floor for 15 to 20 minutes. Make a second scrubbing pass with the squeegee down while continuing to dispense solution to the floor.

*NOTE: When using the FaST system, the solution flow lever is nonfunctional. The FaST system flow rate is pre-set.*

**FOR SAFETY: When using machine, go slow on inclines and slippery surfaces.**



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### OPERATION ON INCLINES

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Drive the machine slowly on inclines.

**FOR SAFETY: When using machine, go slow on inclines and slippery surfaces.**

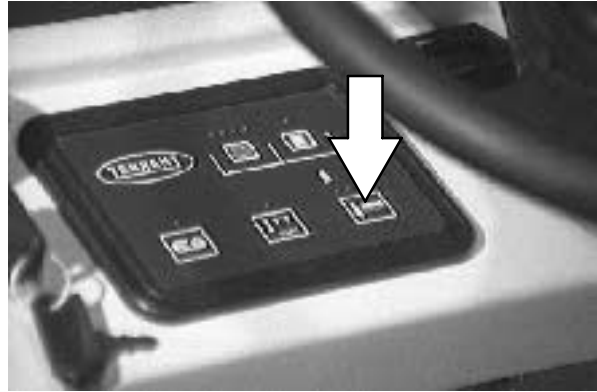
The maximum rated climb and descent incline with empty tanks is 8°, with full tanks is 4°.

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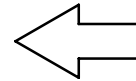
**STOP SCRUBBING**

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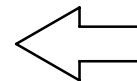
1. Press the scrubbing switch to stop the scrubbing operations while the machine is still in motion. The squeegee will briefly remain lowered to the floor to pick up the water in the scrub head.



2. Pre-sweep machines: Press the bottom of the dust control switch to stop the dust control (option).



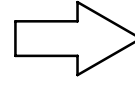
3. Pre-sweep machines: Press the bottom of the Pre-sweep switch to stop the Pre-sweep assembly.



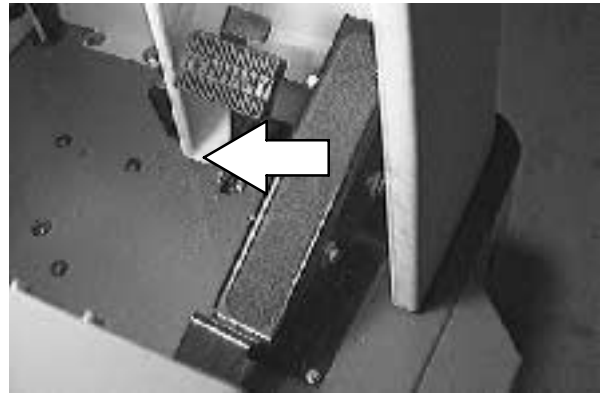
## OPERATION

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4. Press the top side brush pedal to raise the side brush (option).



5. When the squeegee raises, take your foot off the directional pedal.



6. Press the brake to stop the machine.



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**DRAINING AND CLEANING THE TANKS**

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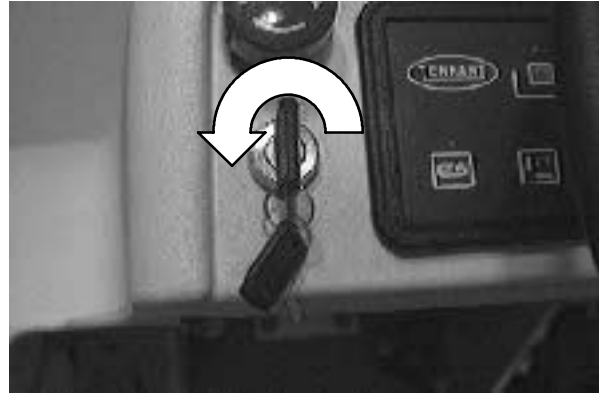
When you are finished scrubbing, or when the recovery tank full indicator illuminates, the recovery tank should be drained and cleaned. The solution tank can then be filled again for additional scrubbing if necessary.

If you used the machine in ES mode (option), the solution tank should also be drained and cleaned when you drain and clean the recovery tank.

Tank draining and cleaning procedures are covered in the Use and Care Guide located near the operator seat.

1. Stop scrubbing.
2. Drive the machine next to a floor drain.
3. Turn the machine power off.

**FOR SAFETY: Before leaving or servicing machine, stop on level surface, and turn off machine.**



4. Set the parking brake.

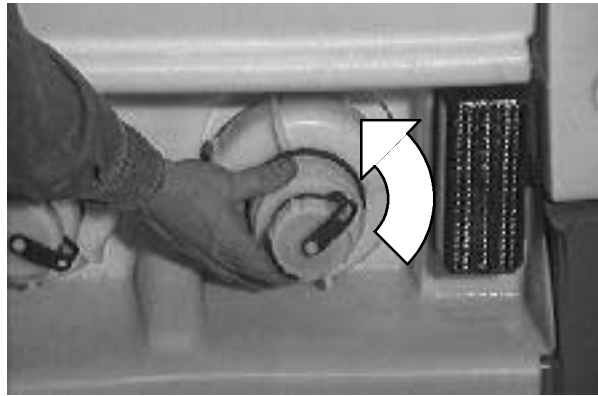
**FOR SAFETY: Before leaving or servicing machine, stop on level surface, set parking brake, turn off machine, and remove key.**



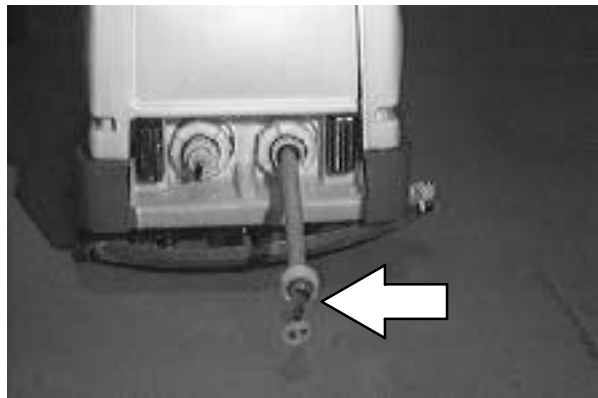


## OPERATION

5. ES mode (option): Access the solution tank drain hose by loosening the retaining ring and then pulling the hose out.

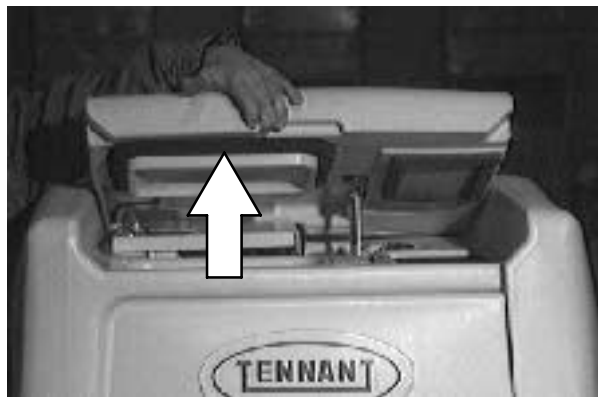


6. ES mode (option): Remove the drain hose cap while holding the hose up, then slowly lower the drain hose to the floor drain.

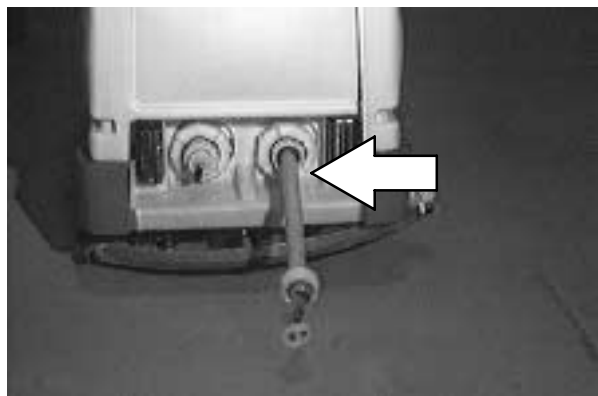


7. ES mode (option): Lift the tank cover and flush out the solution tank with clean water. Rinse the filter at the bottom of the solution tank and the sensor float near the top of the tank.

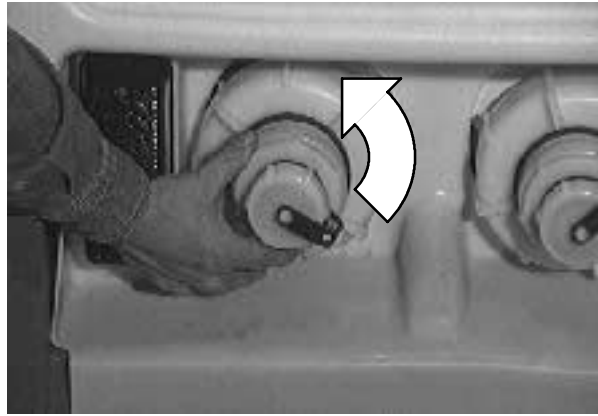
**NOTE: DO NOT** use steam to clean the tanks. Excessive heat can damage the tanks and components.



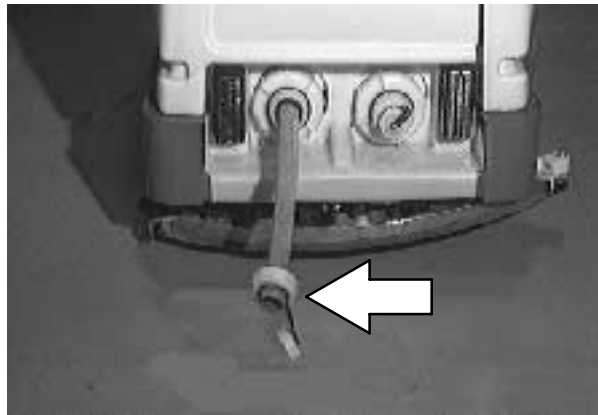
8. ES mode (option): When the solution tank has completely drained, replace the drain hose cap on the end of the solution tank drain hose. Slide the hose assembly back into the machine and secure by tightening the retaining ring.



9. Access the recovery tank drain hose by loosening the retaining ring and then pulling the hose out.

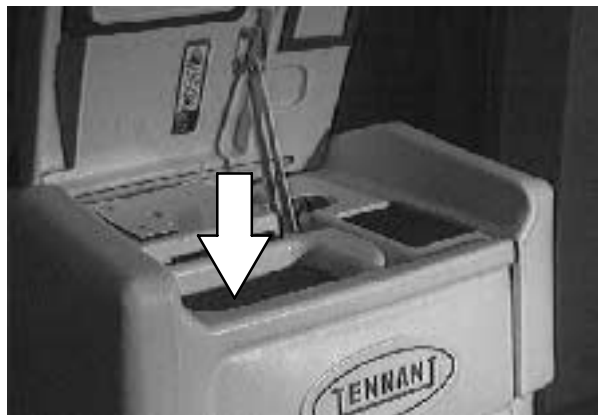


10. Remove the drain hose cap while holding the hose up, then slowly lower the drain hose to the floor drain.



11. Flush out the inside of the recovery tank with clean water.
12. ES mode (option): Flush out the recovery tank with clean water. Rinse the ES filter at the bottom, and the sensor floats near the top of the tank.

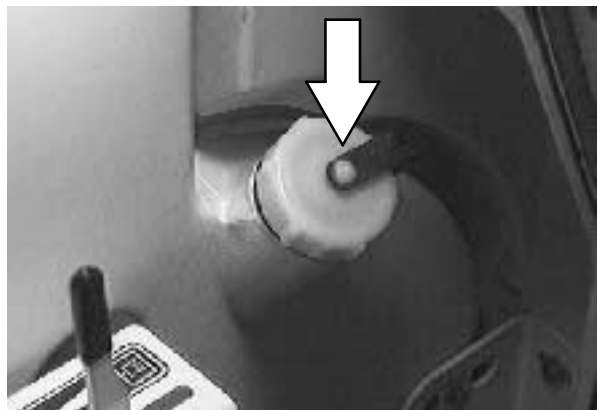
**NOTE:** ***DO NOT** use steam to clean the tanks. Excessive heat can damage the tanks and components.*



13. When heavy deposits of sand and debris collect on the bottom of the tank, flush out the recovery tank by placing a hose into the side clean-out port.



**WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).**

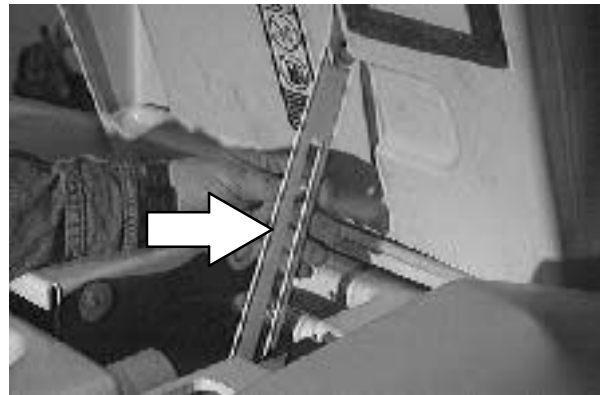


## OPERATION

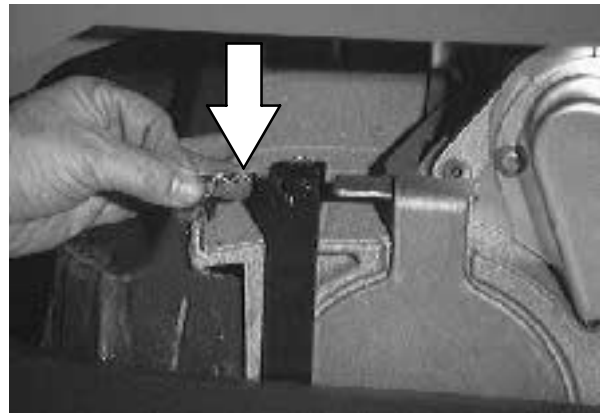
14. Check the vacuum fan inlet filter daily. Clean inlet filter with a damp cloth or hose when dirty. Allow filter to dry completely before replacing it into machine.



15. Lower the tank cover by raising it slightly, then push inward on the support arm.



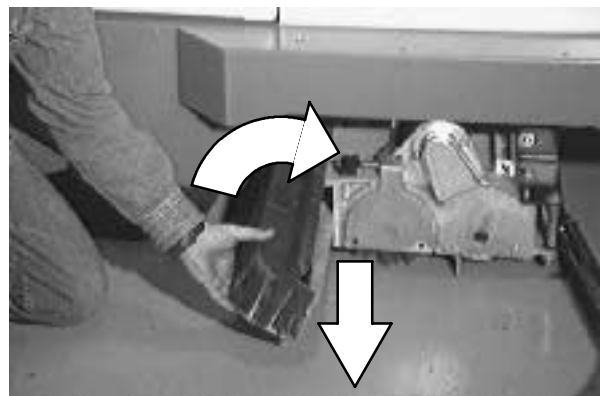
16. Cylindrical scrub head: Remove the cotter pin that holds the side squeegee in place. Swing the squeegee away from the scrub head.



17. Cylindrical scrub head: Remove and clean the debris trough. Place the trough back in the scrub head when clean.

*NOTE: The scrub head must be lowered approximately 25 mm (1 in) to remove debris trough.*

*NOTE: The debris trough can be removed from the right hand side of the machine only.*



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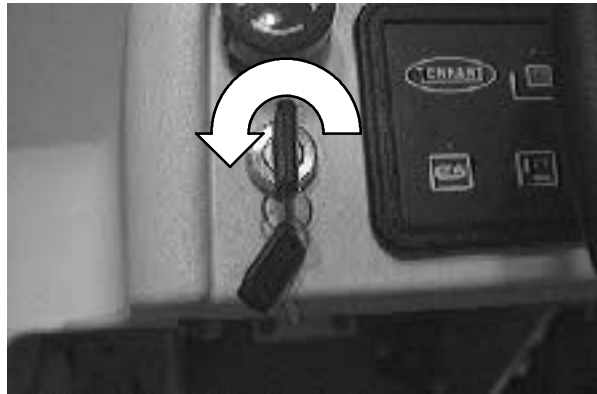
**STOP THE MACHINE**

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1. Stop scrubbing. *See the STOP SCRUBBING section of the manual.*
2. Press the brake to stop the machine.



3. Turn the machine power off.



4. Set the parking brake.

**FOR SAFETY:** Before leaving or servicing machine, stop on level surface, set parking brake, turn off machine, and remove key.



## POST-OPERATION CHECKLIST

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Check over this list of items after you have finished cleaning with the machine powered on.

- Check the battery charge level.

*NOTE: The reading on the battery discharge indicator may not be accurate when the machine is first powered on. Operate the machine a few minutes before reading the charge level of the batteries.*

- Check for wire, string, or twine wrapped around the brushes.
- Check the squeegees for wear or damage.
- Check the squeegee suction hose for obstructions.
- Cylindrical brushes: Empty and clean the debris tray.
- Drain and clean the recovery tank.
- ES machines: Drain and clean the solution tank and ES filter. Flush the ES pump with clean water
- Pre-Sweep machines: Empty the Pre-Sweep debris hopper. Check the dust control water reservoir.
- Check under the machine for leaks.
- Check the service records to determine maintenance requirements.
- FaST scrubbing: If FaST PAK is empty after scrubbing, install the new FaST PAK or connect the supply hose to the storage plug.

# OPERATION

## MACHINE TROUBLESHOOTING

Problem	Cause	Remedy
Poor sweeping performance	Worn brush bristles	Replace brushes
	Sweeping brushes not adjusted	Adjust brushes
	Hopper full	Empty hopper
	Hopper skirts worn or damaged	Replace skirts
	Brush drive failure	Check with TENNANT representative for advice
Trailing water - poor or no water pickup	Worn squeegee blades	Rotate or replace squeegee blades
	Squeegee out of adjustment	Adjust squeegee
	Vacuum hose clogged	Flush vacuum hoses
	Vacuum fan inlet filter dirty	Clean inlet filter
	Debris caught on squeegee	Remove debris
	Vacuum hose to squeegee or recovery tank disconnected or damaged	Reconnect or replace vacuum hose
	Tank cover not completely closed	Check for obstructions
	Torn seals on recovery tank	Replace seals
Vacuum fan will not turn on	Recovery tank full	Drain recovery tank
	Foam filling recovery tank	Empty recovery tank
		Use less or change detergent
		Use a defoamer
Vacuum fan circuit breaker tripped	Reset circuit breaker	
Little or no solution flow to the floor	Solution tank empty	Fill solution tank
	Solution control rod broken or out of adjustment	Replace and/or adjust rod
	Solution flow turned off	Turn solution flow on
	Solution supply lines plugged	Flush solution supply lines
	Solution solenoid clogged or stuck	Clean or replace
	ES mode (option): ES switch off	Turn ES switch on
Poor scrubbing performance	Debris caught on scrub brushes	Remove debris
	Improper detergent or brush used	Check with TENNANT representative for advice
	Worn scrub brush(es)	Replace scrub brush(es)
	Scrub brush motor circuit breaker(s) tripped	Reset circuit breaker(s)
		Reduce scrub brush down pressure
		Uneven brush pressure, level scrub head
		Broken brush drive belts on cylindrical scrub head, replace belt
		Check with TENNANT representative for advice
	Low battery charge	Charge batteries until the charger automatically turns off

Problem	Cause	Remedy
FaST System does not operate	FaST switch is turned off	Turn on the FaST switch.
	FaST circuit breaker tripped	Determine cause and reset the 10A circuit breaker button
	Clogged FaST PAK supply hose and/or connector	Soak connector and hose in warm water and clean
	FaST PAK carton is empty or not connected	Replace FaST PAK carton and/or connect supply hose
	FaST system is not primed	To prime, operate the FaST solution system for 5 to 10 minutes.
	Clogged flow control orifice/screen	Remove and clean orifice/screen
	Faulty pump or air compressor	Contact Tennant representative
	Clogged filter screen	Drain solution tank, remove and clean filter screen
	Faulty detergent timer module	Contact Tennant representative

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**SELF-DIAGNOSTIC TEST**

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The machine is capable of running a self-diagnostic test of its electrical system and components.

1. Turn the machine power off.
2. Press and hold the squeegee switch while turning the machine power on. Continue holding the squeegee switch for five seconds, then release the switch.
3. While the self-diagnostic test is running, the battery discharge indicator on the far right will flash. The machine systems will activate as follows:
  - The brushes and squeegee raise.
  - The vacuum fan starts and the squeegee lowers. The squeegee raises and the vacuum fan shuts off.
  - The scrub head lowers and raises.
  - The brushes turn on and off.
  - The solution valve turns on and off.
  - If the machine has the ES option, the ES pump turns on and off.
  - If the machine has FaST, the FaST system turns on and off.
  - The vacuum fan starts and shuts off.
  - The brushes turn on and off.

