

- After charging, check the electrolyte level (A) again. The level should be approximately 1 cm (0.38 in) from the bottom of the fill-port (B) (Figure 56). Add distilled water if needed. **DO NOT OVERFILL.**

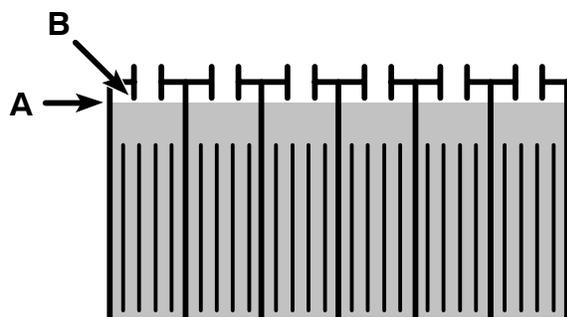


FIG. 56

## MACHINE MAINTENANCE

To keep machine in good working condition, simply follow daily, weekly and monthly maintenance procedures.

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

**⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.**

**ATTENTION: Contact an Authorized Service Center for machine repairs. Machine repairs performed by other than an authorized person will void your warranty.**

### DAILY MAINTENANCE (After Every Use)

- Drain and flush out tanks with clean water (Figure 57).



FIG. 57

- Remove recovery tank plug and flush intake opening with water (Figure 58).

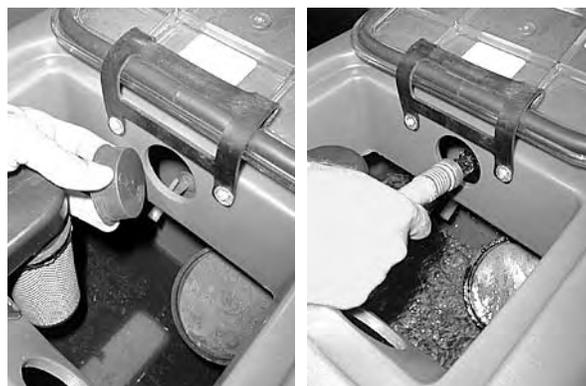


FIG. 58

- FaST Model Only: When FaST-PAK carton is not installed on machine, make sure that the supply hose is connected the hose storing plug. This will prevent the FaST solution system from drying out and clogging up (Figure 59). If any dried concentrate is visible on the FaST-PAK connector or the supply hose connector, soak in warm water to remove.

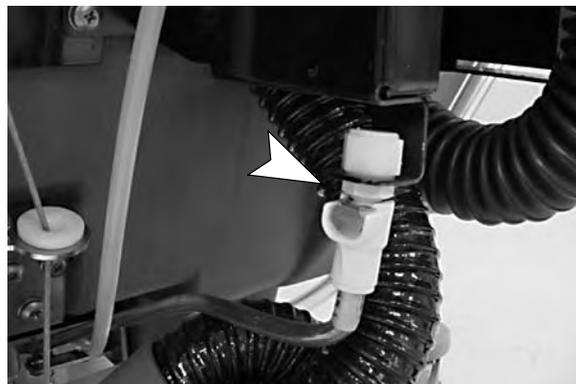


FIG. 59

- Remove and rinse float shut-off screen located in recovery tank (Figure 60).



FIG. 60

- Cylindrical brush scrub head: Empty and rinse debris trough (Figure 61).



FIG. 61

6. Check brushes for entangled debris.
7. Change pads or brushes if worn or damaged.
8. Check scrub head skirt(s) for wear and adjustment.
9. If equipped with ES option, remove ES filter and clean. Filter is located inside recovery tank (Figure 62).



FIG. 62

10. If equipped with ES option, clean ES float switch located inside recovery tank (Figure 63).

**NOTE:** If scrubbing an area where metal shavings are present, it is recommended that you clean the ES float switch more frequently. The ES float switch is equipped with a magnet which will attract metal shavings.



FIG. 63

Clean behind hinge

11. Raise squeegee and wipe it down with a dry cloth. Store squeegee in the up position to prevent squeegee damage.

12. Clean machine housing with an all purpose cleaner and damp cloth.

**ATTENTION: Do not power spray or hose off machine. Electrical component damage may result.**

13. Recharge the batteries after a total of 30 minutes of use or more (See CHARGING BATTERIES).

## MONTHLY MAINTENANCE (Every 80 Hours of Use)

1. Flush solution system. Pour 11.3 L (3 gal) of hot water into solution tank. Add an alkaline detergent according to mixing instructions. Over a floor drain, briefly operate machine, ES option and wand option for 30 seconds each. Turn key off and leave machine overnight. Next day, disperse remaining alkaline detergent and rinse solution system.
2. Remove bowl filter from underneath machine and clean screen. Make sure solution tank is empty before removing filter (Figure 64).

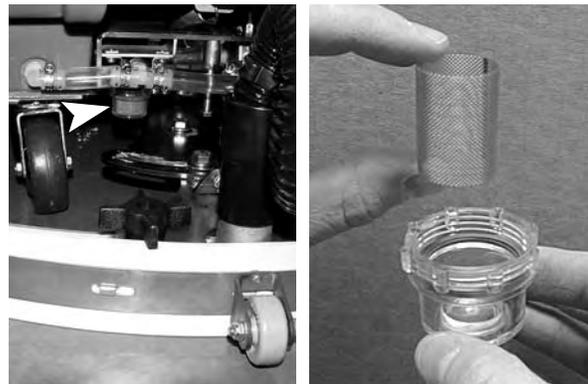


FIG. 64

3. Check fluid level in battery cells (See BATTERY MAINTENANCE).
4. Clean battery tops to prevent corrosion (See BATTERY MAINTENANCE).
5. Check for loose or corroded battery cables.
6. Check brushes for proper adjustment (See ADJUSTING SCRUB HEAD).
7. Lubricate caster grease fittings with a water resistant grease.
8. Check air pressure in tires. Proper air pressure for standard pneumatic tire is 315 to 345 kPa (45 to 50 psi).
9. Lubricate all pivot points and rollers with silicone spray then coat with a water resistant grease to maintain smooth operation.

10. Cylindrical Brush Scrub Head: Check brush belt tension. Proper belt deflection should be 3 mm (0.1 in) at midpoint, with 1.13–1.22 Kg (2.5–2.7 lbs) force (Figure 65).

**⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.**

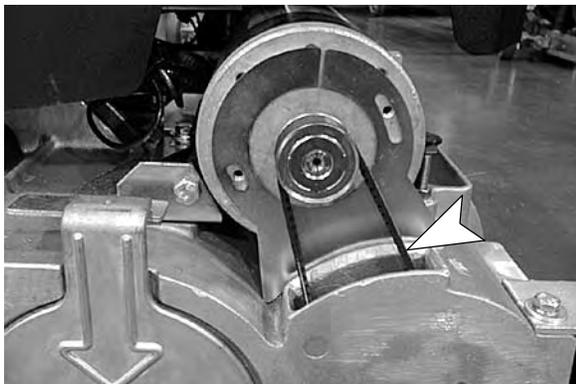


FIG. 65

**ATTENTION: Contact an Authorized Service Center for machine repairs.**

11. Check machine for water leaks and loose nuts and bolts.

## QUARTERLY MAINTENANCE (Every 250 Hours of Use)

1. Check the drive transaxle motor, the vacuum motor and the brush motor for carbon brush wear. Replace carbon brushes when worn to a length of 10 mm (0.38 in) or less.

**Contact an Authorized Service Center for machine repairs.**

**FOR SAFETY: When servicing machine, all repairs must be performed by a qualified service person.**

**⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.**

2. FaST Model Only: Remove and clean out the air filter with compressed air. The FaST system air filter is attached to the air pump (Figure 66).



FIG. 66

## SQUEEGEE BLADES

The squeegee has two squeegee blades. The front blade has two wiping edges. To use both of them, rotate the blade end-for-end.

The rear blade has four wiping edges. To use them all, start with one wiping edge. To use the next wiping edge, rotate the blade end-for-end. To use the next wiping edge, rotate the top edges down, bottom edges up. To use the last edge, rotate the blade end-for-end.

Replace any worn or damaged squeegee blades.

## REPLACING OR ROTATING THE FRONT SQUEEGEE BLADE

1. Turn the machine power off and set the parking brake if your machine has this option.

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

2. Make sure the squeegee is raised off the floor.
3. Remove the six thumbscrews holding the retainer and squeegee blade to the squeegee frame (Figure 67).

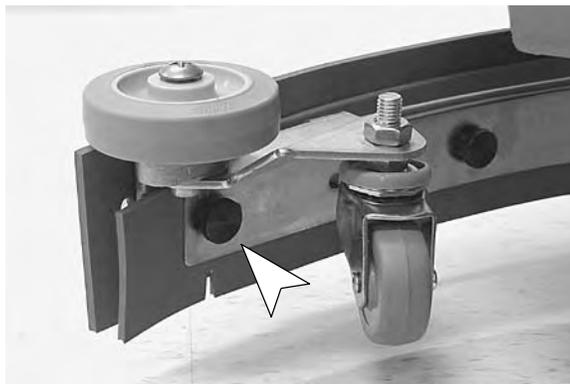


FIG. 67

4. Pull the squeegee blade off the squeegee frame.
5. Rotate the squeegee blade end for end to allow a new edge to face the front of the machine.
6. Line up the squeegee blade and the retainer to the squeegee frame
7. Secure the blade and retainer to the squeegee frame with the six thumbscrews.

# OPERATION

## REPLACING OR ROTATING THE REAR SQUEEGEE BLADE

1. Turn the machine power off and set the parking brake if your machine has this option.

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

2. Make sure the squeegee is raised off the floor.
3. Loosen the retainer clamp and remove the retainer from the squeegee frame (Figure 68).

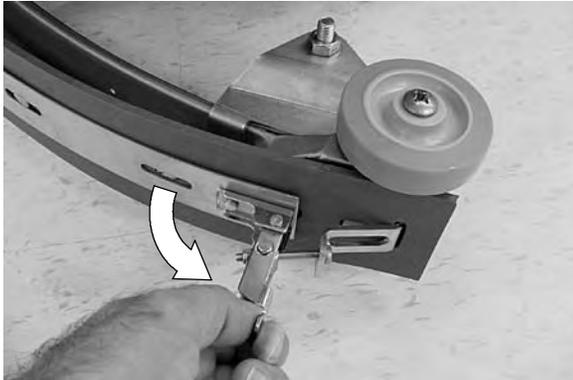


FIG. 68

4. Remove the squeegee blade and backup strip from the squeegee frame.
5. Replace or rotate the squeegee blade to allow a new edge to face the front of the machine.
6. Place the squeegee blade and backup strip on the squeegee frame
7. Secure the squeegee blade and backup strip with the retainer. Tighten the retainer clamp.

## SQUEEGEE BLADE ADJUSTMENT

The adjustment of the squeegee blades are factory set and require no further adjustment. Squeegee adjustment is only necessary if it comes out of adjustment.

For optimum squeegee blade performance, the squeegee assembly casters must be adjusted to a specified height as described below.

1. To check the squeegee assembly for proper adjustment, remove the squeegee assembly from the machine and place it on a level surface. Measure the distance between the caster and the surface. It should measure approximately 1.58 mm (1/16") (Figure 69).
2. To adjust the caster height, loosen the top nut and remove the plastic bearing cover to access the adjustment nut. Turn the adjustment nut until properly adjusted (Figure 69). After adjusting, tighten the top nut and replace the plastic bearing cover. Repeat step for the other caster.

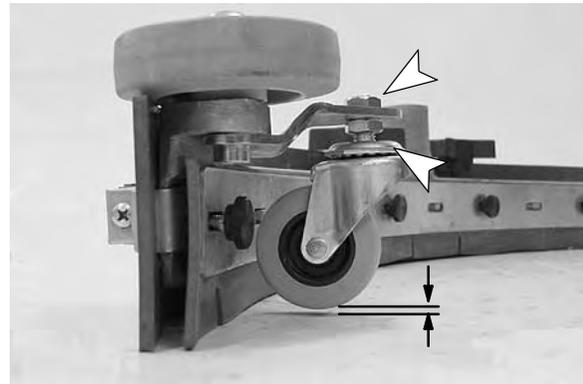


FIG. 69

3. During machine operation, with the casters properly adjusted, the squeegee blades should deflect as shown (Figure 70).



FIG. 70

**BATTERY MAINTENANCE**

**⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.**

**FOR SAFETY: When servicing machine, wear protective gloves and eye protection when handling batteries and battery cables. Avoid contact with battery acid.**

1. Check the specific gravity using a hydrometer to determine the charge level and the condition of the batteries (Figure 71). If one or more of the battery cells read lower than the other battery cells (0.050 or more), the cell is damaged, shorted, or is about to fail. Check the hydrometer readings against the following chart to determine the remaining battery charge level.

**NOTE:** Do not take readings immediately after adding distilled water. If the water and acid are not thoroughly mixed, the readings may not be accurate.



FIG. 71

SPECIFIC GRAVITY at 27°C (80°F)	BATTERY CHARGE
1.265	100% CHARGED
1.223	75% CHARGED
1.185	50% CHARGED
1.148	25% CHARGED
1.110	DISCHARGED

**NOTE:** If the readings are taken when the battery electrolyte is any temperature other than 27°C (80°F), the reading must be temperature corrected. Add or subtract to the specific gravity reading 0.004, 4 points, for each 6°C (43°F) above or below 27°C (80°F).

2. Always follow proper charging instructions (See CHARGING BATTERIES).

3. Check the electrolyte level (A) in each battery cell **after charging batteries**. The level should be approximately 1 cm from the bottom of the fill-port (B). Add distilled water if needed (Figure 72). **DO NOT OVERFILL.**

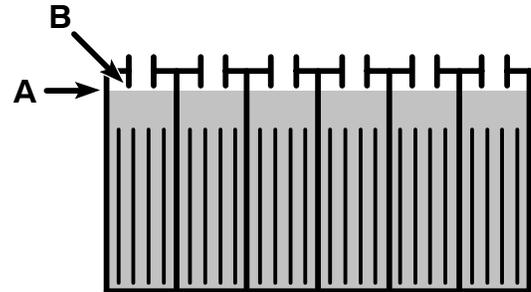


FIG. 72

4. Keep the battery tops clean to prevent battery corrosion.

To clean batteries:

**FOR SAFETY: When servicing machine, wear protective gloves and eye protection when handling batteries and battery cables. Avoid contact with battery acid.**

- a. Mix a strong solution of baking soda and water (Figure 73).



FIG. 73

- b. Brush the solution sparingly over the battery tops and cable connectors.

**NOTE:** Do not allow baking soda solution to enter battery cells.

- c. Use a wire brush to clean the battery terminals and cable connectors.
  - d. After cleaning, apply a coating of clear battery post protectant to the terminals and cable connectors.
5. Check for loose or worn cables. Replace if worn.