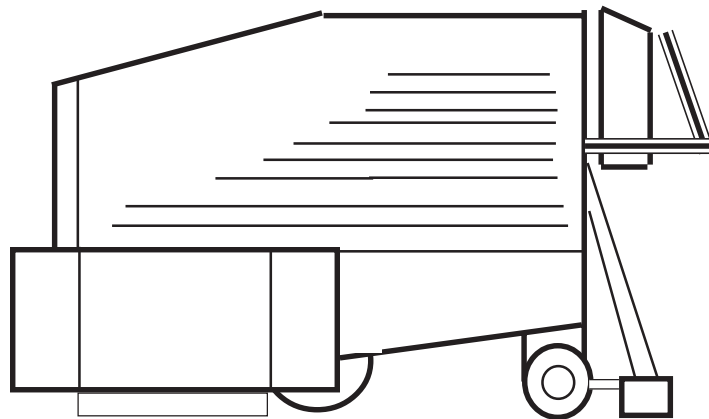




Models 29 & 35
Industrial Walk-Behind Scrubbers



Operator's Manual
Parts & Service Book

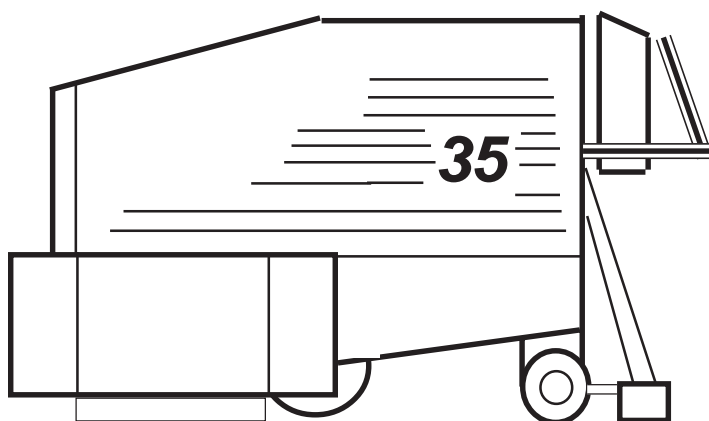
Note: This manual covers the painted-body machines of the 29-35 series. The stainless steel machines, properly called 29-35SS, are covered in a different manual.

PS-29-ENG.3

EDITION 4



Model 35
Industrial Walk-Behind Scrubbers



Operator's Manual
Parts & Service Book

FACTORY CAT MODELS 29 & 35 WALK-BEHIND SCRUBBERS

Operator's Manual & Parts Book

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SAFETY WARNINGS!

THESE WARNINGS ARE NOT MEANT TO BE A COMPLETE LIST AND ONLY THE OPERATOR'S INTELLIGENCE, GOOD SENSE AND CARE OF UNIT WILL ASSURE THAT MOST HAZARDS WILL BE AVOIDED.

1. **READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING, ADJUSTING OR REPAIRING THIS MACHINE.**
If you have a question concerning the machine or its operation, or would like extra copies of this book, you may call the Factory at 1-(800)-634-4060, or Fax your questions to us at 1-(414)- 632-3335.
2. **CHARGING THE BATTERIES WILL PRODUCE EXPLOSIVE HYDROGEN GAS.**
Do not smoke or allow open flame near a charging battery. Do not smoke while working around the machine. Do not charge battery with the hood (lid) of the machine closed or hydrogen gas may accumulate within.
3. **TO AVOID ACCIDENTALLY STARTING UP THE MACHINE, ALWAYS TURN OFF THE KEY SWITCH BEFORE LEAVING UNIT.**
A green warning light on the right-hand control panel shows when power is on.
4. **WHEN YOU LEAVE THE MACHINE UNATTENDED, ALWAYS SHUT OFF THE UNIT AND TAKE THE KEY.**
5. **DRESS SAFELY**
Do not wear rings or metal wrist watches while working on this machine. They can cause an electrical short, which, in turn, can cause burns.

Do not work on this machine while wearing a tie, scarf or other dangling neckware. These can tangle in the rotating brooms, belts and pulleys and cause serious injury or even death.
6. **DO NOT USE THE MACHINE AS A STEP LADDER OR CHAIR.**
7. **IF YOU MUST LIFT UNIT OFF OF GROUND, DO NOT WORK ON UNDERSIDE OF MACHINE WITHOUT PROPERLY SUPPORTING UNIT.**
8. **NO RIDERS!** These machines were not meant to carry passengers or the operator.
9. **WARNING: USING FLAMMABLE CLEANING CHEMICALS, OR VACUUMING UP FLAMMABLE CHEMICAL FROM THE FLOOR CAN CAUSE AN EXPLOSION.**
The vacuum motors can create sparks that will set off volatile chemicals.
10. **DO NOT BACK MACHINE DOWN RAMPS! Do not put yourself behind the machine. Machine is heavy and can tip backwards on steep ramp. ALWAYS DRIVE DOWN RAMP FORWARD--WITH YOURSELF UP HIGHER THAN THE MACHINE.**

SAFETY WARNINGS! (Continued)

11. **BEFORE WORKING ON THE MACHINE, TURN THE KEY OFF, REMOVE KEY, AND DISCONNECT THE BATTERY.** Be aware that the brush and vacuum motor can start if someone else pushes on the handlebar control while the key is turned on, even though the machine makes no noise, and appears "off". **Do not work on machine while someone else is sitting in operator's seat. They could accidentally turn on the power while you work.**
12. **ALWAYS UNPLUG CENTRAL COMMAND FROM BATTERIES BEFORE USING AN EXTERNAL CHARGER.** A power surge from a "dumb" charger could damage Central Command's electronics. This could destroy Central Command's ability to control traction motor speed, and could lead to a "runaway" machine. ***We do not recommend the use of a "dumb" (non-electronic) charger! If you must use one, you must be sure the battery back is disconnected from the Central Command module before connecting the charger.***
13. **STOPPING: UNDERSTAND THE DYNAMIC BRAKING SYSTEM BEFORE YOU OPERATE THE MACHINE ON SLICK RAMPS.** Machine does not coast. Releasing handlebar control automatically applies braking force. You control the amount of braking by the suddenness (or smoothness) with which you release the bail.
14. **PARKING: WE DO NOT RECOMMEND PARKING MACHINE ON RAMPS OR SLOPES.**
15. **TO AVOID TIPOVER, DO NOT MAKE TIGHT TURNS SIDEWAYS ON A RAMP. TURN AROUND ON FLAT GROUND OR FLOOR ONLY. DO NOT MAKE SHARP TURNS AT HIGH SPEED.**
16. **WHILE WORKING ON MACHINES EQUIPPED WITH THE THE AUTOMATIC SQUEEGEE LIFT SYSTEM, BE SURE KEY IS REMOVED FROM KEYSWITCH.** Inadvertent operation by another person of the squeegee lift mechanism while hands or fingers are in the way could pinch.
17. **DO NOT OPERATE THE MACHINE IF ANY PARTS HAVE BEEN REMOVED FROM IT.** Do not remove or paint over Warning decals. If Warning decals are damaged, they must be replaced.
18. **AUTHORIZED , TRAINED OPERATORS ONLY.** This machine should only be operated by a trained operator. As part of his training, he/she must read this manual thoroughly. If extra copies are needed, contact your local dealer, or the Factory directly at 1-800-634-4060.
19. **DO NOT OPERATE MACHINE IF IT IS IN UNSAFE CONDITION.** If the machine is in need of repair or is in any way unsafe or contributes to an unsafe condition, the matter should be reported immediately to the shift supervisor. Do not operate the machine until it is returned to proper operating condition.

Models 29 & 35: SHORT LIST OF DO'S AND DONT'S

1. **AUTOMATIC OPERATION:** Key Switch must be on. When Auto-Manual switch is in automatic mode, squeezing the "Power Bar" inside the handlebar will automatically:
 1. Turn on brush motors (if brush head is down)
 2. Turn on vacuum blowers (if vacuum squeegee is down)
 3. Turn on the solution flow (if flow valve is open)
 4. Accelerate machine forward.
2. **TO GO:** Set the speed control on a slow speed until you are used to the machine. Grip the handlebar to go. (The actuating "Power Bar" is on the inside of the handlebar). Choose direction (forward or reverse) by red switch on control panel.

By grabbing and releasing handlebar quickly, you can control speed of unit.

TO STOP: Let go of the handlebar. Practice stopping smoothly.
3. **DO NOT "SLAM-SHIFT" OR "PLUG".** This machine has dynamic braking. Always come to a full stop before shifting from forward to reverse, or from reverse to forward. *Otherwise, you could leave tire marks on the floor or even damage the machine.*
4. **TO SCRUB:** The brushhead has to be lowered, and the brushes on the ground. Brushes will start and stop with the bail (in automatic mode). You can build pressure on the brushes with the brushhead switch. **REMEMBER THAT EXCESS BRUSH PRESSURE WASTES BATTERY POWER AND WILL GREATLY LOWER RUN TIME ON A CHARGE.**
5. **TO SQUEEGEE** Lower the squeegee. Vacuum will start when you push on the control bail (in automatic mode), and will stop about 22 seconds after you release the handlebar. *In machines equipped with the optional electrically actuated squeegee, squeegee will automatically lift when you select reverse.*
6. **DON'T RUN BATTERIES ALL THE WAY DOWN!** Machine will begin to slow down--a lot--as batteries near the end of their charge. It is a bad idea to run the battery this far down. Watch the battery gauge, and stop before "Empty".
7. **TO RECHARGE:** To recharge battery, be sure the key switch is off. Open the rear cover, and plug in the external automatic charger supplied with the machine. A green light will come on. When the light goes out, battery is charged. **LEAVE THE BATTERY BOX COVER OPEN WHILE THE BATTERY IS CHARGING.**
8. **Use the charger that came with your machine. Use of a different charger may damage the batteries and void the warranty on them.**

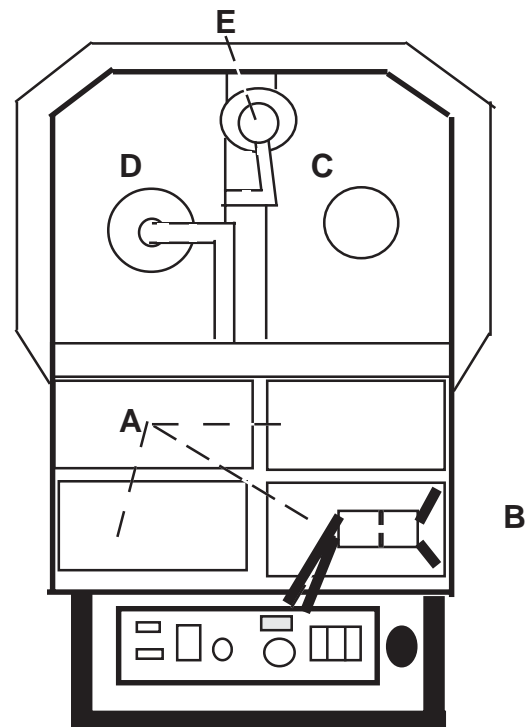
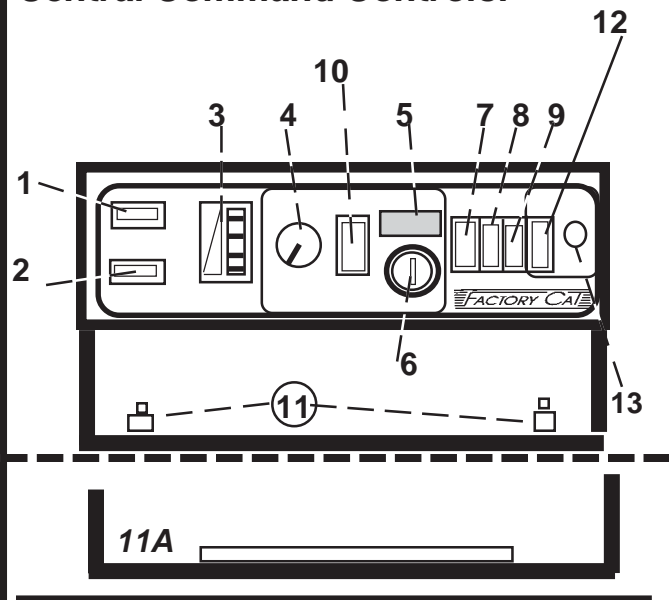
9. **CLEAN OUT THE MACHINE AT END OF DAY.** You can clean out the recovery tank by inserting a clean-water hose in the upper tank port. With the drain hose open and inserted in a drain use the clean water hose to flush sediment out of the tank .
10. **NEVER USE FLAMMABLE OR EXPLOSIVE CHEMICALS IN THE MACHINE.** Sparks from the vacuum motor will ignite flammable fluids kept in the tank. This could cause an explosion. Such chemicals include, but are not limited to cleaning fluid, gasoline, kerosene or other petroleum-based products. If in doubt about flammability, refer to the chemical product's M.S.D.S. sheet before using.
11. **DO NOT DRIVE MACHINE OVER BUMPS MORE THAN 2" HIGH UNDER ANY CIRCUMSTANCES.** If in doubt, check clearance with the brushhead of the unit.
12. **CLIMBING STEEP RAMPS:** You will find the approach angle is better if you back up a steep ramp. In this mode, you are also "on the high side" of the machine, so if it tips or rolls backward, it will not hurt you.
12. **MUST SCRUB GREAT.** No kidding, Models 29 & 35 are the world's best walk-behind scrubbers. If your scrubber isn't scrubbing just great, or seems hard to use, or is making funny noises, something is wrong. Here's what to do:
 - A. **Read this book.**
 - B. **Then call your dealer for info or service.**
Or you can call us at the Factory toll free: 1-800-634-4060.
We'll talk you through the problem.

OPERATING YOUR MACHINE

CONTROLS & FUNCTIONS

1. **Battery Indicator.** Shows relative battery strength with an LED readout--like a fuel gauge. Note that this gauge will reset to "full" whenever you unplug the batteries, whether or not the batteries are recharged. **When light flashes, you must stop to recharge!**
2. **Hour Meter.** Runs when key is on.
3. **Brush Downpressure Indicator.** (On some machines). Shows relative pressure on the brushes by vertical LED readout.
4. **Speed Control.** Turn clockwise to increase ground speed when bail (Item 10) is pushed or pulled.
5. **Power-On Light.** Glows green when the key is on and battery power is available.
6. **Key Switch.** Turn in either direction to turn machine on. Key is "off" when vertical.
7. **Brush Downpressure Switch.** Pushing on the top edge of this switch lowers the brushes, and, when they reach the floor, increases pressure. Pushing on the bottom edge reduces pressure and then raises the brushes off the floor.
8. **Vac Switch.** Not found on all machines. On machines with automatic squeegee lift pushing on the top of the switch turns the vacuum system on, and pushing on the bottom turns the vacuum off.
Early machines with manual squeegee lift also used this switch to turn the vac motors on and off.
9. **Auto-Manual Switch.** Not found on all machines. In "Auto" mode, (upper position of the switch) the solution, brush rotation and vacuum will automatically stop when the operator releases the bail (Item 10) In manual mode, these items will keep running until the operator stops them manually.
10. **Forward/Reverse Switch.** The switch in the center of the control panel chooses the direction the machine will go in when power is applied. When you select reverse, the machine will automatically reverse without your having to depress Power Buttons (Item 11 below).
11. **Power Button.** Inside the handlebar are two buttons. Touching either one will make the machine go forward.
- 11A *On earlier machines, squeezing the handlebar's built in switch makes the machine go in the direction you chose with the black forward/reverse switch.*
12. **Solution Off Switch.** Turn this off to stop solution. Note that solution also stops automatically whenever you turn off the brushes or stop the machine.
13. **Solution Flow Control.** Turning this knob varies the amount of solution that is laid down on the brushes. (Turn clockwise for less).

Central Command Controls:



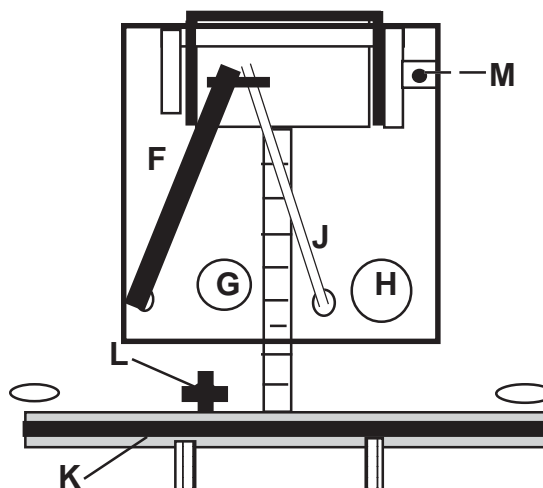
See Facing Page for Codes

COMPONENT LOCATIONS

- A. **Batteries.** (Under the rear hood. Check water every two weeks. Read battery section of this book.
- B. **Battery Connector** (Red 175 Connector). Disconnect this from the Central Command control panel, and connect to the charger to recharge batteries.
Leave the battery compartment hood open during recharging!
- C. **Solution Tank Door.** Add detergent and water here.
- D. **Recovery Tank.**
- E. **Vac Motor Housing.** Vacuum motor for recovery is kept here. Unscrew the top cover to access the motor. It is easily removed.

- F. **Recovery Drain Hose.** Drain and flush out the recovery tank every evening. If necessary, clean out the tank using *Item G. Recovery Cleanout Door.*
- G. **Recovery Cleanout Door.** Gives access to tank interior. Do not open until tank is first drained. Be sure you clean the sealing surface before screwing the door back on or door may leak.
- H. **Solution Cleanout Door.** Only found on machines with recycling. On other machines this door is not cut through the tank plastic. You may use the screw-on lid as a backup for the recovery tank.
- I. **Vacuum Hose.** Connects between squeegee and recovery tank. Hose is easily removed if clog occurs. Clog will generally occur at the squeegee.
- J. **Solution Tank Level Indicator and Drain.** This clear hose shows level of solution & can serve as a drain.
- K. **Squeegee.**
- L. **Squeegee Pitch Adjustment.** Adjust for maximum effectiveness. Moves front of squeegee up and down.

In general, back blades of squeegee must touch the floor in the corners. If squeegee trails in the middle--it is pitched too far forward. If it trails at the edges, it is pitched too far back.



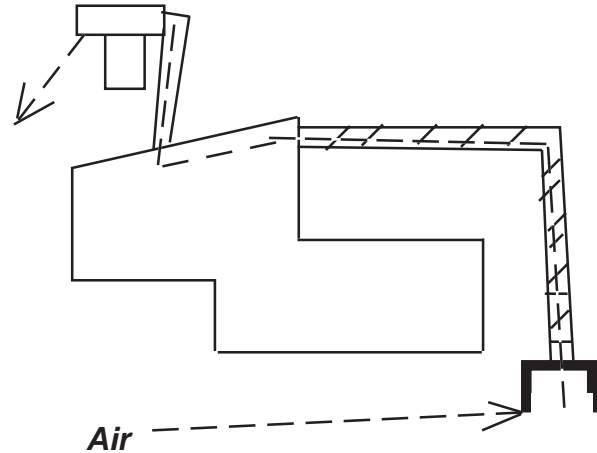
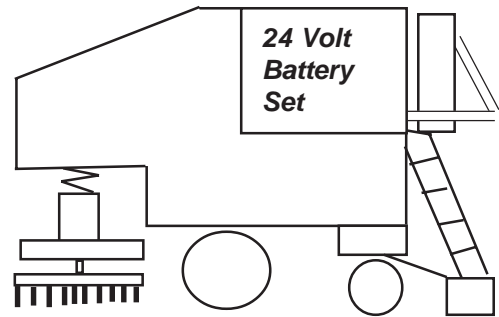
- M. **Squeegee Lift & Lower Handle**
Raises and lowers squeegee (on standard models without electric squeegee lift) and turns on the vacuum motor.

Lifting the handle turns the vac motor off after a 21 second delay.

The handle is not found on machines with electric squeegee lift.

HOW IT WORKS

1. **Scrub brushes**, under machine, rotate toward center of machine. Pressure is applied to them by the operator downpressure control.
2. **Solution** (detergent and water) flows from the solution tank in the righthand side of the machine.
3. The solution and brushing clean the floor.
4. **The squeegee**, at rear of machine, picks up the dirty water from the floor.
5. **The recovery tank** stores the dirty water for later dumping.
6. **The drive system** uses a variable speed motor. The motor drives a differential axle, and through it, the two front tires. The motor's speed, rate of acceleration and deceleration are controlled through the "*Central Command*" system located in the control panel box.
7. When the operator lets up on the power bar handlebar control, *Central Command* brings the machine to a smooth stop, and turns off the brush motors and solution flow. The vacuum motor will run for fifteen seconds, and then shut off automatically.
8. All motors take their energy from a 24-Volt deep-cycle battery set.



Vacuum Motor in the top of the tank creates vacuum, which pulls through the squeegee.

OPERATING INSTRUCTIONS

1. **PLEASE READ WARNINGS ON PAGE TWO OF THIS MANUAL CAREFULLY.**
Refer to Page 4 for Location of Controls.
2. **To make the machine move under its own power--without scrubbing**
 - Turn on Key Switch.
 - Make sure brush head is off ground.
(See Steps 5 & 6 Below)
 - Set speed control (Page 5; Item 4)
 - Gently squeeze handlebar. (Page 5, Item 11)
3. **To stop: Let go of the handlebar.**
Machine will automatically come to a stop.
4. **To turn:** You will find it much easier to turn if you power through the turns. By squeezing and releasing the handlebar quickly, you can easily control speed.
5. **Solution:**
Pull the solution flow knob (Page 5 Item 11) until you have the desired amount. To save expense, use the least amount of solution that will do the job.
6. **To scrub:**
Be sure you have solution in the solution tank. While driving forward slowly, push on the brush up/down control until you achieve desired brush pressure. (On some models, an LED Gauge shows relative brush pressure).
SPECIAL NOTE: The more down pressure you use, the faster you will consume battery power. Use the LEAST AMOUNT of pressure that will do the job.
7. **To vacuum up the solution:**

Machines with manual squeegee lift:
Lower the squeegee with the handle (Page 6 Item M). Then turn on vac switch (Page 5, Item 8).

Machines with electric squeegee lift:
Turn vac switch on. (Page 5, Item 8). Squeegee will automatically lower.
Note that when you turn the vac switch off, the squeegee will quickly raise, but the vacuum will continue to operate for about 15 seconds. This is to clear the pickup hose of solution.

SCRUBBING TIP 1: Save Battery Power!

The main consumer of power on your scrubber is the scrub brushes. The more pressure you use in scrubbing the faster the batteries will wear down. Use *the least amount of scrub pressure* that will do your job, and you will be able to scrub more on a charge.

SCRUBBING TIP 2: Save the Juice!

The solution that flows through your scrubber costs a good deal more than the scrubber itself. Do not overmix it--don't use more detergent than necessary. Often, using too little water with your detergent will lower the effectiveness of its cleaning.

Limit the solution flow to the minimum needed.

Generally speaking, the less solution you use, the faster the vac system can pick up what's on the floor.

SCRUBBING TIP No. 3: Save the Brushes

The brushes used for scrubbing are plenty tough, but plenty expensive as well. The less pressure you use, and the less aggressive the solution, the longer the brushes will last.

Reverse the brushes daily!

It is a good idea to rinse off the brushes at the end of the day, and to remove accumulated wire and thread that may be caught in them. They are easy to remove.

OPERATING INSTRUCTIONS

6. To Double Scrub

Especially when you first start using your new scrubber, you may find the floor of your building especially dirty. It may be necessary to "double scrub" to really clean the floor. To double scrub, simply turn off the vacuum system (raise the squeegee), and slowly scrub back-and-forth over the same area several times. Once you have laid down solution, you can shut off the solution flow with the black knob. All you need is "enough" solution. Too much just wastes money.

7. Using Auto/Manual

The auto-manual switch is designed to give you more control for special applications such as double scrubbing. When auto-manual is in "manual" mode, the scrub brushes will always run so long as they are on the floor and the key is on. They will not stop when the machine stops.

When this switch is in manual mode, solution solution will not stop flowing automatically when the machine stops--so only the black solution flow knob controls it.

Finally, in "manual" mode, the vacuum will run so long as the vac switch is on.

8. Watch Out For Low Battery.

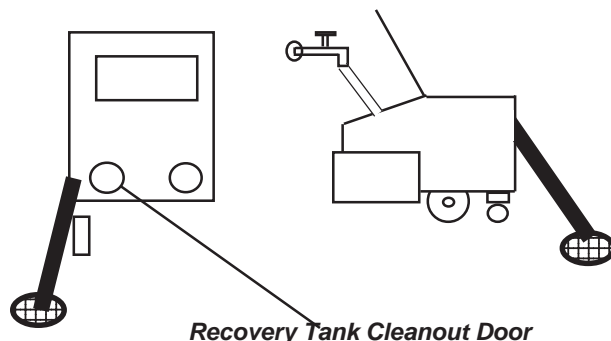
NOTE: The Central Command unit will cut power back when battery voltage gets too low. Low voltage could otherwise damage the motors.

Don't let this happen to you. Return back to base for a recharge as soon as the battery gauge shows you nearing empty. Depending upon the batteries your machine has on board, and how hard you work the machine, you should have between three and five hours of run time on a charge.

9. Safety Motor Stop

The Central Command unit will turn off the brush motors momentarily if one of them is overloaded. The brushes will turn on by themselves if you raise the brush head, and wait 30 seconds before continuing to scrub. This Safety Stop is most likely to occur if you start scrubbing on a dry floor with too much downpressure. To avoid safety stop, keep the pressure gauge set below the maximum level shown.

To Clean the Recovery Tank:



Use the drain hose at the rear of the machine to empty the tank.

If required, you can also flush out the tank: With the drain hose still in place, remove the recovery tank's top door (has hose connected to it), run a hose to it, and flush out the tank.

A cleanout door is provided, if dirt level is too great to flush through the hose.

RECHARGING: SAFETY TIP

1. To charge the batteries, you must turn the Key Switch off and disconnect the Batteries from the machine. Otherwise you could damage the Central Command.
2. Always Leave the Battery Compartment Hood (Lid) open when recharging. Otherwise, explosive hydrogen gas could build up inside the battery box.

Battery Condition Meter

See Page 4, Item 3.

This meter shows *relative* charge. If you unplug the batteries while the batteries are low, and then replug them into Central Command, you will "fool" the battery gauge into thinking they are fully charged.

To correct the gauge, recharge the batteries, then unplug and replug the battery set's Red 175 Amp connector.

OPERATING INSTRUCTIONS

10. Recharging Battery

Using the Factory Cat Supplied Console-Type Charger:

- *Turn off the machine
- *Open the battery box.
- *Unplug the Red 175 connector between Central Command and the batteries.
- *Plug the charger's Red 175 terminal into the battery pack.
- *Leave the battery box lid open during charging.
- *Plug in the charger to a wall outlet with the correct voltage.
- *The charger's charge gauge will show a positive reading.

In North America, our chargers are usually equipped for single-phase 110 Volt, 60 Hz. operation, the same power as used in houses. The three prong-plug requires a grounded outlet. Do not use without grounding. This Factory Cat charger is completely automatic. Its electronic circuitry will tell it when the battery is charged, and to shut itself off.

NOTE, however, that if the batteries are allowed to run down to below 16 volts, the automatic charger will not start its charge cycle. You must then bring the battery voltage back to 16 or more volts using a non-automatic external charger: See Below.

USING AN EXTERNAL BATTERY CHARGER:

If , for some reason, you use an external charger, **disconnect the batteries** using the "Red 175" connector provided. **Otherwise you can seriously damage the Central Command module.**

NOTE: Some battery chargers are not automatic, and will not shut off when the battery is charged. You can seriously damage a battery by overcharging it.

BATTERY CONDITION METER

(See page 4 for location). This gauge shows the relative condition of the battery, and reads like a fuel gauge in a car. Stay above empty!!!

NOTE: This gauge will reset itself everytime you disconnect the batteries. To avoid incorrect readings, recharge the batteries, then disconnect and reconnect when the batteries are fully charged.

BATTERY SAFETY WARNING!

Charging a battery produces explosive hydrogen gas.

Leave the battery box lid open while the battery is charging to avoid buildup of gas inside machine.

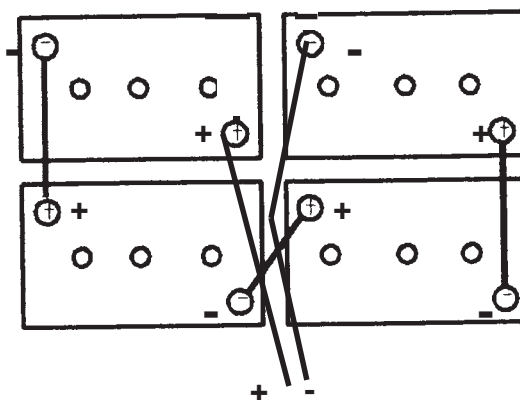
Do not smoke or expose open flame or spark to area around battery during charging.

Follow the instructions that came with your charger. Factory Cat chargers are automatic, However many chargers are not automatic and can over-heat the battery if not properly set. ***Such overcharging will void the warranty on the batteries.***

Watch for battery acid! If acid gets in the eye, wash out with water for twenty minutes and call a physician.

Battery Layouts: Battery posts must face as shown. System is 24 Volts.

Rear of Machine



(Illustration revised 6/01 to accommodate Trojan batteries)

SPECIAL OPERATING TIPS

HOW TO SCRUB

Good Scrubbing Requires:

1. **Knowledge of your floor surface.** What is it sensitive to? Be careful not to use chemicals that will hurt the floor surface, or to apply too much brush pressure or use the wrong kind of brush on your floor. Start out easy!
2. **The right chemical.** The chemical does most of the work. There are chemical formulas made specially for General Cleaning, Emulsification & Removal of Oil, Polishing, Removal of Tire Marks and others. You can ask **Factory Cat** for the correct formula. Call us at 800 634-4060.

U.S. law requires that you maintain the "M.S.D.S." sheet that comes with the chemical you use in a specific place in your plant.

For safety's sake, you must never use flammable chemicals in the scrubber. Arcing inside the vacuum motors could create an explosion.

For safety's sake, you should not use chemicals with potassium hydroxide in the formulas if you will be picking up aluminum particles. This material mixes with aluminum to form hydrogen, an explosive gas.

3. **The right brushes.** Factory Cat can supply you with many different brush types to suit your application. Four of the most popular brushes are:
 1. **Nylon.** Soft, and long lasting, but can't scrub hard.
 2. **Poly.** Scrubs harder than nylon. Still pretty soft.
 3. **Nylogrit.** Flexible bristles combined with grit.
 4. **Stratogrit.** Tough, non-flexing bristles, combined with grit. Recommended for tough, industrial applications. Best for removing build-up.
 5. **Pads.** Available in many different levels of abrasion from tile buff to stripping. Pads require a pad driver, that clips on the machine in replacement of a brush. The pads clip to the driver.

Brushes are very expensive, but, treated right can have a long service life. We strongly recommend that you remove your brushes from the machine after each day's work. Clean them off with cold water. Remove entangled wire, and etc, from them. Then install them on the opposite side to reverse the wear pattern on the bristles. This greatly extends brush life, while improving scrubber performance.

Pads are inexpensive, but have short lives in most applications.

4. **Brush pressure.** You can vary the pressure on Model 40 with the dash board button. Use as little pressure as will do the job. Excessive pressure will shorten the machine's run time on a battery charge, can shorten the life of your brushes, and could even damage some floors.
5. **Chemical Residence Time on the Floor.** Scrubbing slowly may improve the scrubbing job you do. By scrubbing slowly, the brushes stay longer over each square yard of surface, and so scrub more, and the chemical stays longer on the floor before being picked up by the squeegee.

For especially bad spots, you can "double-scrub". To double-scrub, leave the vacuum squeegee up and off. Scrub back-and-forth several times until the grit and grime on the floor has been loosened. Then vacuum it and the solution up.

6. **Adjust that Squeegee!** When your machine was new, it scrubbed and picked up perfectly--the best in the business. How's it picking up now? Not so hot? Then you should check the following:
 - A. **Blades in good shape?** The rear blade on the squeegee is especially important. It can be reversed front to back and from top to bottom, and so can be rotated four times. Look at the condition of the rear rubber's leading edge. If still sharp, it should work well for you. If worn flat, it will smear like an old windshield wiper blade. (See squeegee section of this manual for info on how to rotate the blades).
 - B. **Pitch angle?** The rear corners of the back blade of the squeegee must both touch the floor. Otherwise, the squeegee will only pick up in the middle of its path. To adjust, turn the knob. (See **Squeegee Section** of this manual--Page 19).
 - C. **All Clear?** Scrubbers pick up strange stuff, and lots of it. Is your recovery tank cleaned out? Is the path clear inside the squeegee? In the hose? In the inlet to the tank? Remove the vac motors and check the foam filters under them.
7. **STILL NEED HELP? Please call your dealer, or Factory Cat Technical Services, the latter at 1-800-634-4060, for advice.**

MAINTAINING YOUR MACHINE

DAILY CLEAN-UP

After you're done for the day, please lift the brush head with the dashboard switch, lift the squeegee and close the solution control valve. Drive to your service area and stop.

Open the brush door. Turn each brush until you see the "scissors handles" control. Push the scissors together to release the brush.

Remove the drain hose from its bracket. Carefully lower the hose to the drain. **WATCH OUT--MOVE TOO FAST AND YOU'LL GET WET.** You can squeeze the hose shut with your hand until you position it where you want it.

Drain the tank. Open the front hood. Remove the hose from the squeegee where it attaches to the vacuum tank. Put a hose in the squeegee hose port of the recovery tank (the righthand one), and using cold water and a spray nozzle, wash the dirt that has accumulated in the tank out toward the drain hose. If you succeed in cleaning the tank well enough, you do not need to use the cleanout door.

If the machine is still full of debris, open the cleanout door after the tank has drained its water. Rinse again with the hose if necessary.

Rinse off the brushes. Remove any debris that may have gotten caught in them. Remember to reverse the brushes daily.

Rinse squeegee with water. Wipe off the edges of the blades with a cloth.

If machine needs washing, use a regular garden hose to wash it, not a pressure washer! Do not spray the dashboard or the batteries. Wipe dry with a soft towel. Do not use paper towels or dirty shop towels, or you will scratch the powder paint finish. We recommend you wipe down your machine each day with a dry cloth and a liberal dose of Johnson Wax's **Pledge** furniture wax. This will keep the "paint", (it's really a thin plastic coating that encases the steel structure to prevent rust), lustrous and scratch free for years.

Store the machine in a clean dry place.

To recharge batteries, leave the box open, and unplug the machine from the batteries. Plug the red connector from the batteries into the charger provided with the machine. **Use only the charger provided or an equivalent "smart" charger. Do not use a "dial type".**

DAILY PRE-CHECK AND INSPECTION

Before each shift (every eight hours of operation), It is the operator's responsibility to carry out the following checks and inspections before beginning operation of the sweeper:

- * **WARNING DEVICES:** Battery condition gauge. Green "ignition-on" light.
- * **BATTERIES:** Visually inspect connections. Look for spills & Wipe Them Up. Use bakingsoda to neutralize spilled acid.
- * **CLEAN THE RECOVERY TANK.** Drain it completely every day through the drain hose. Hose out and check condition by looking in the flush-out door on top of the tank. If still full of debris, open the cleanout door (at back of the tank) and clean out the floor of the tank.
- * **CLEAN OFF MACHINE:** If dusty, clean machine with compressed air. To maintain paint, use S.C. Johnson's "Pledge" furniture polish and soft cloth, or an equivalent product.

We do not recommend washing, and especially do not recommend pressure washing this machine as misdirected water could damage electricals.

IF THE MACHINE IS IN NEED OF REPAIR OR IN ANY WAY UNSAFE OR CONTRIBUTES TO AN UNSAFE CONDITION, THE MATTER MUST BE REPORTED IMMEDIATELY TO THE SHIFT SUPERVISOR. DO NOT OPERATE THE MACHINE UNTIL IT IS RESTORED TO PROPER OPERATING CONDITION.

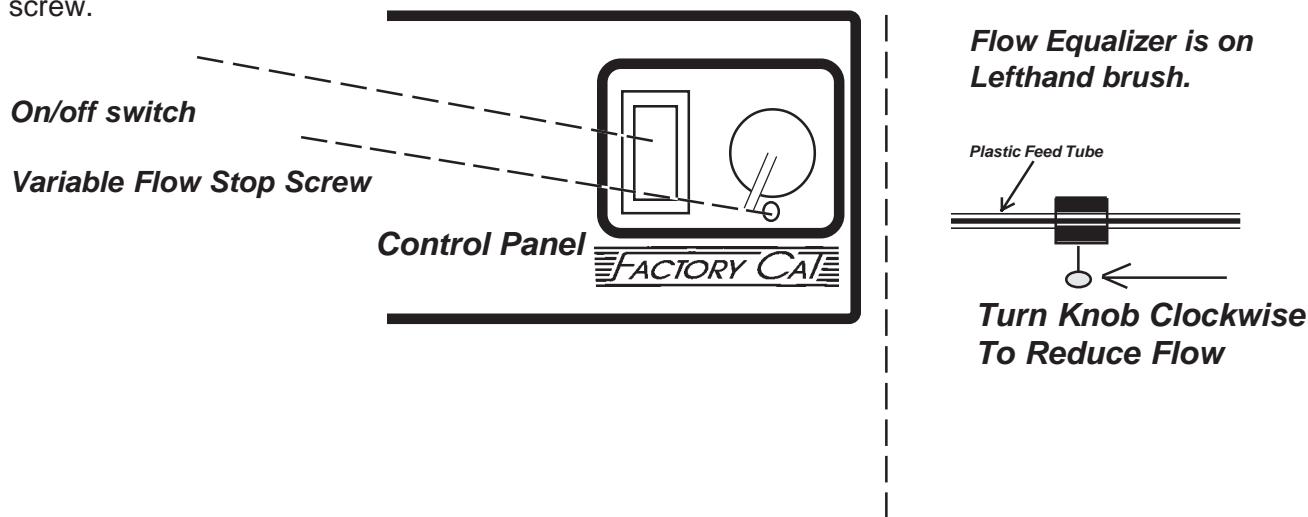
SOLUTION SYSTEM ADJUSTMENTS

Solution flows from the righthand tank, through the screen that is at the bottom of it, through a hose, through a variable-flow electrovalve, to a "tee" and then to each individual brush.

What goes wrong with this system:

1. **Dirt in the solution tank**, or detergents in powder form that have not properly dissolved, can clog the screen inside the tank. You can unscrew this, remove it and wash it off.
(Be careful, however, that particles not enter the plumbing below, or they can clog the electrovalve).
2. **Hose pulled off the fixtures.**
3. **Wire pulled off the electrovalve.**
4. **Grit is inside the valve because the tank screen is missing or was damaged.** (Valve must be removed, dismantled, cleaned and reinstalled).
5. **Variable flow cable to electrovalve disconnected or broken.** The electrovalve varies flow by a screw at the back of the valve. The control panel knob (Item 12 on Page 7) turns this screw via a "speedometer cable" that runs from the control panel to the valve.
6. **Dashboard flow on/off switch is off.** (Item 13 on page 7).
7. **Unequal Flow To Brushes.** There is a flow equalizer on the left brush. Tighten or loosen to increase/decrease flow to this brush.

Note that you can vary the flow output of the valve. If when the dashboard control is turned to maximum you do not have sufficient flow for your job, remove the dashboard stop screw, and turn the dash knob clockwise one or two turns--until flow is adequate. Then reinstall the stop screw.



The Soap You Use Can Hurt Your Machine. Some materials dissolve plastic, others brass. The soap you use could abuse your machine in ways that the warranty will not cover. If in doubt about what kind of soap to use, ask your Factory Cat dealer about **Factory Cat Solutions**.

For users of Factory Cat Solutions, the vacuum motor (which is sensitive to high foam) will be guaranteed for as long as our soap is continuously and exclusively used. If you would like to know about Factory Cat "Solutions", please call us at **800 634-4060** for details.

SQUEEGEE AND VAC SYSTEM

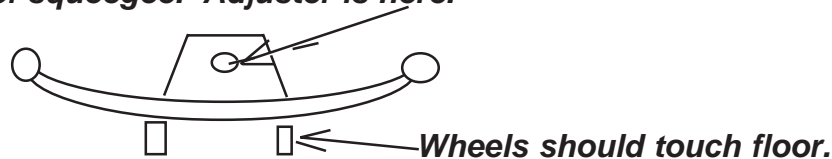
The vacuumized squeegee drags on the floor constantly while in use, and so is the most sensitive part of an automatic scrubber. Lucky for you, Factory Cat Models 29 & 35 feature squeegee and vacuum systems that are simple, straight-forward and easy to access.

GENERAL MAINTENANCE: Squeegees pick up all kinds of stuff. When the rubber blades are dirty, they streak. If you have a wad of newspaper stuck in the squeegee, it may not work at all. If the squeegee isn't performing right, raise the squeegee (while going forward slowly), and drop it on the floor again. This may dislodge whatever is stuck in it, and may help clean off the blade.

Still streaking? Inspect the blade. If it is coated with tar or some other industrial goo, you may have to wash it off or replace it.

ADJUSTMENT: Model 29 & 35's squeegee is self-adjusting except for the "pitch" the angle the squeegee's blades make with the floor. To adjust properly, turn the Adjustment Knob until the rear squeegee blade touches the floor evenly across the entire width. As a general guide to adjustment, turn knob until wheels begin to turn completely with forward motion.

Top view of squeegee. Adjuster is here.



REVERSING OR CHANGING THE BLADES: Bad blades don't work. Inspect the blade edge where it touches the floor. Is it still sharp--or is it blunt and frayed? If worn, you'll have to change it. Both blades are important.

Happily, you can reposition the squeegee blades four times. The back one is easy: just undo the buckle on the steel strap, and remove the two wing nuts. Turn the blade upside down for the first change out. For the second one, flip it around front-to-back. For the third change out, turn it upside down again.

For the front blade, there are some nuts to undo. Better to remove the squeegee from the machine for this one.

When the time comes to replace the blades, order Factory Cat's "Blade Kit" for your Model 29 or Model 35. This includes the two blades, and two replacement wheels for the back of the squeegee.

Squeegees are normally supplied with **Gum Rubber**, a tan-colored material. If your application requires that the machine run in oil, you might want to try **Neoprene** seals instead. Neoprene does not wipe as well as Gum, to our experience, but it is much more oil resistant than Gum. For speciality applications, we can supply **Linatex** rubber seals. Linatex is super abrasion-resistant, and squeegees well too, but is about as sensitive as gum rubber to oil and costs more than the other materials.

ABOUT BATTERIES:

We do not recommend use of anything but deep-cycle batteries, made to run a long time between recharging. Automotive batteries, designed to be recharged (by the car's alternator) right after short use, will give poor service.

Your unit came with a "smart" electronic external charger. If for some reason you use another charger, do not use a "dumb" or dial-type charger. Do not use an external charger of any type without first disconnecting the batteries from the Central Command unit!

Always leave the battery box open when recharging. Otherwise hydrogen gas could build up inside the battery box.

GENERAL RULES FOR BATTERY CARE:

1. **KEEP THE BATTERY CLEAN.** Dirt on the battery transmits electricity and can cause quicker discharge.
2. **KEEP THE BATTERY WATER AT THE CORRECT LEVEL.** The correct level is above the plates-- just to the bottom of the "ring" found inside each of the six cell caps.

A low water level can ruin the battery very quickly. Water should always cover the plates inside the battery. (You see the tops of them when you remove the cap). Many batteries have "rings" that are visible inside the cell holes. In these batteries, fill to ring. We recommend you use only distilled water. The minerals in ordinary water can coat the lead plates, shortening battery life.
3. **CHARGE THE BATTERY WITH THE CAPS IN PLACE.** Do not remove the caps for a normal charge. These caps include proper venting, and will keep the charging process from projecting a thin layer of acid on surrounding machine parts.

EXCEPTION: Quick-Charging. Follow the instructions that came with the quick charger. You may be asked to remove the battery caps. Note that quick-charging is not a good idea; it can lower battery life.
4. **ACID!** Batteries contain corrosive sulfuric acid. As mentioned above, leave the vented caps in place when charging, so acid will not bubble out of the battery. Take care that acid does not fall on the steel surfaces of the machine; eventually it will cause the machine to rust.

Treat acid spills with water to dilute the acid. To clean up: use solution of water and baking soda, applied with a small brush. Keep using the solution until the fizzing stops. This will neutralize the acid.
5. **MAKE SURE CONNECTIONS TO THE BATTERY ARE TIGHT.** Loose connections will cause arcing, which will eat into and destroy the battery terminals.
6. **WATCH THE GREASE.** Never put grease on the inside of the connector. The grease will cause arcing and deterioration of the connector. You can put grease on the **outside** of the terminal after it is mounted to the battery.
7. **DO NOT HAMMER ON THE BATTERY OR ITS CONNECTORS:** Batteries are heavy but fragile. Hammering on the posts on the battery can break the connectors inside. Use a puller to remove connectors, not a hammer or a screwdriver.

GENERAL MACHINE MAINTENANCE

BATTERIES: The highest maintenance item on your machine will be its storage batteries. Please read the "About Batteries" section of this book.

BRUSHES: Replace the brushes when they stop scrubbing to your standards. Note that choice of the proper brush fiber is very important to good scrubbing. There are several different fibers available. Rotate brushes often (every 8 hours of use).

Fibers include: polypropylene, nylon, Strato-Grit, Nylo-Grit, and Scrub-Grit. Please ask your dealer for his brush recommendation, or call the Factory at 1-800-634-4060 for advice from us.

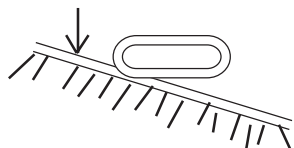
We recommend Factory Cat brushes. They are designed specifically for our machine. Their fiber is high quality and long-lasting, and use plastic cores that are tougher than the wood cores some "will-fit" makers provide. Finally, we believe you will find them reasonably priced.

REMOVING AND REPLACING BRUSHES

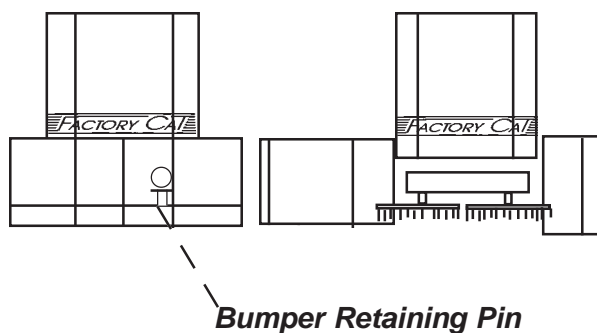
1. Raise the Brushhead (using the dashboard control) .
2. Pull and remove the pin on the front bumper.
3. Open the doors.
4. Turn the brush until you see the "scissors" on top of the brushhead.
5. Push the "scissors" together, and brush will dropt to floor.
6. To replace brushes, clip one end of the brush onto the driver.

Push on that same end of the brush.
The other end will rise into place and snap in.

Clip on, then push here. . .



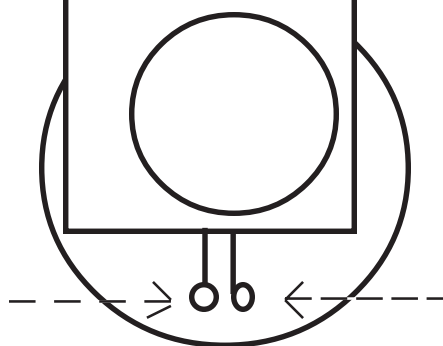
*Until brush snaps
into place.*



TO OPEN THE BRUSH ACCESS DOORS

1. Turn off key and remove from machine!
2. Pull out the bumper pin on the lefthand door.
3. Then open the doors.

Looking Down on the Brush Head



Push "Scissors" Together to Release

REMOVING BRUSHES:

Turn the brush until you see the "scissors handles".

Then push the scissors handles together, and brush will fall to floor.

CYLINDRICAL BRUSH SYSTEM

The **Optional** Cylindrical Brush System sweeps and scrubs simultaneously. The "C.B.S." brush head replaces the disk brush system. It includes one motor, two cylindrical brushes, and a dirt hopper.

OPERATION:

The Cylindrical Brush Head operates like our conventional disk brush head. Pushing down on the front edge of the brush pressure button raises pressure. Pushing down on the back lowers pressure, and will eventually raise the brushhead off the floor.

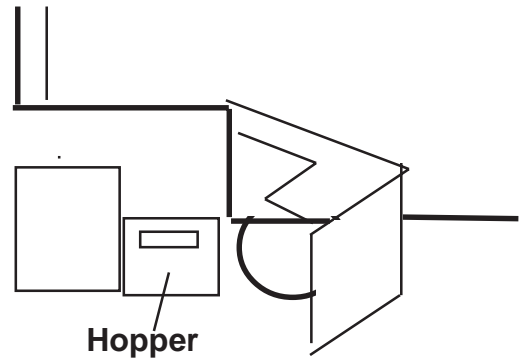
Too much pressure can cause the system to shut down automatically because of overload. In this case, back off on the pressure. Use the gauge as a relative indicator.

The brushes can only turn when you step on the foot pedal. It is important that you make sure the machine is always moving when the brushes run.

Brushes and soap solution flow will both stop when the machine stops.

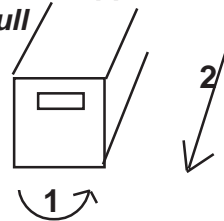
You should periodically empty the dirt hopper and clean it out. To do this, open the righthand door, and twist the handle in the hopper until the back of the hopper moves toward the rear of the machine. Then slide the hopper out of the machine.

Clean the hopper at the end of the machine's work cycle--whether or not it is full. Wash it out carefully. If you let dirt harden inside it will be much harder to clean out next time.



To access dirt hopper open lefthand front door of machine. Hopper is behind brush system.

To release hopper, twist handle clockwise, then pull



To change cylindrical brushes:

Open righthand door on machine.

Remove inner door, which is held on with four wing nuts. Do not lose the fasteners!

Pull the brushes out.

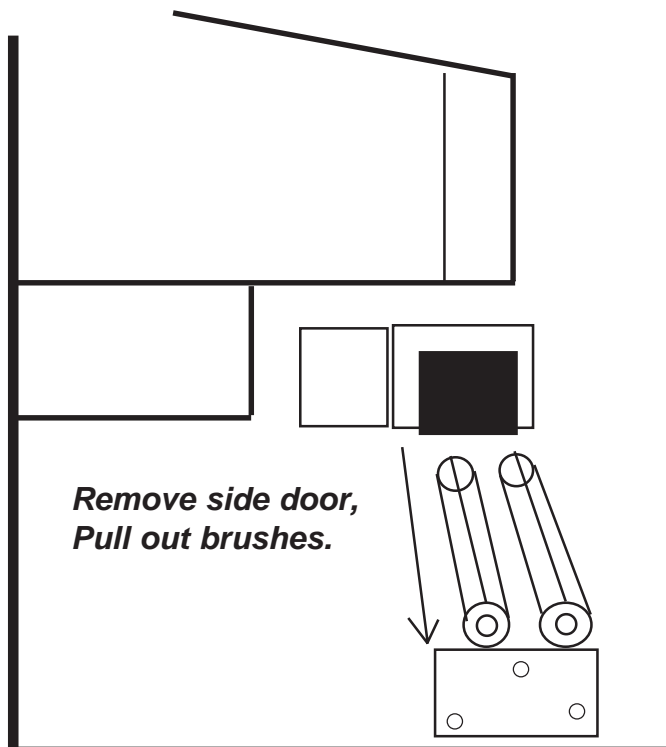
Put new brushes in place. Push against driver on other side of machine with tube and rotate tube slowly with your hand. If need be, go to other side of machine and reach around bottom of brushhead to seat brush on mount.

BRUSHES TO USE

The cylindrical system offers four brush types

1. **Soft Nylon** for use on fine finished floors. Bristles are clear or white in color.
2. **Regular Nylon:** Also white in color, brush has coarser, stiffer fiber, but is still safe for most fine surfaces.
3. **Grey Grit**, for general purpose cleaning on concrete and other less sensitive surfaces. BE CAREFUL AS GREY GRITS MAY DAMAGE SOME SENSITIVE SURFACES.
4. **Green Grit**, for very heavy cleaning in industrial settings. THESE WILL DAMAGE A SENSITIVE SURFACE.

If your cleaning conditions are harsh enough to need green grit brushes, we recommend you first try using just one green grit--for the front brush, followed by a grey grit. This combination will sweep much better than two green grits. The green grits are too stiff to "flick" many light objects into the hopper.



**Remove side door,
Pull out brushes.**

CYLINDRICAL BRUSH SYSTEM MAINTENANCE:

DAILY:

1. Empty and wash out the dirt hop per every day.
2. If you scrub hard, the brushes will last longer if every day you move the front brush to the back and the back brush to the front.
This brush rotation is not appropriate if you are using a combination of brushes, such as green grit in front and grey in the back.

WEEKLY:

1. Measure brush length. Bristle must be 1/2" long or longer. (New brush fiber is one inch long). Replace brushes as needed.

MONTHLY:

1. Remove black side cover on lefthand side of cylindrical unit.
2. Inspect chain. Chain is lubricated with long-lived silicone-based synthetic grease, and is maintained in place by non-adjustable sprockets and a spring-loaded tensioner.

TROUBLESHOOTING GUIDE

CENTRAL COMMAND

Models 29 & 35 walk-behind scrubbers are both very simple mechanically. This simplicity is possible in large part, because of the sophisticated "Central Command" control unit. This unit, which forms the box on which the controls are situated, directly controls the brushes, the recovery vacuum blower, the traction motor, the solution flow, and the dynamic braking. To conserve battery reserve power, *Central Command* turns motors off when they are not needed, and controls them so as to minimize strain and maximize component life.

Do not attempt to service the Central Command unit during the warranty period without written permission of the Factory or of your Authorized Factory Cat Dealer. Doing so will void the warranty.

In general, if a fault is traced to the *Central Command* module, the entire module will be exchanged under warranty with a Factory-tested replacement.

After warranty expiration, you may wish to repair the *Central Command* module yourself. We strongly recommend that you obtain our "Central Command Testing and Repair Manual" before doing this, however. In North America, please call **1-800-634-4060** to obtain a copy.

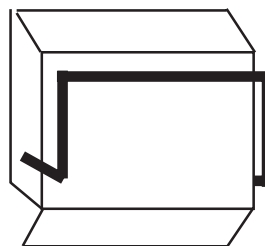
You can also send in your Central Command unit for repair or exchange at the Factory. To do this, call your Authorized Factory Cat dealer.

Central Commands can be removed from the machine within 15 minutes or so. To do this, you first disconnect the batteries from the Central Command (unplug the Red 175 plug inside the battery box), then disconnect the quick-connect cables that are found under the Central Command.

You must also disconnect the flow control's cable from the flow valve (in brush head area, behind brush head).

Finally, the Central Command's rear cover is removed, and it is unbolted from the body of the machine.

**When Servicing Central Command,
Always Disconnect the Battery Cable
(Item 4) First, and Reconnect It Last**



Wiring Connections for Central Command:

In replacing *Central Command*, the installer will have to match harnesses. To simplify troubleshooting, the system uses 7 independent number-coded harnesses, each with color-coded wires. These harnesses are as follows:

<u>CODE:</u>	<u>FUNCTION & WIRES:</u>
1.	To Traction Motor Red 50 Connector. 6 Gauge cables.
2.	To Scrub Motors Grey 50 Connector. 6 Gauge cables.
3.	To Vacuum Motors Grey 50 connectors. 6 Ga. Cables.
4.	From Batteries Red 175 Connector, large (I/O) cables.
5.	Solution Valve & Overflow Switch Harness. Four-pin Molex with Green, Yellow, black and orange wires.
6.	Auxiliary Power: Red & black & blue wires.
7.	Handlebar Control Switch. Green & green.

If a wiring fault occurs, chances are greater it is in the wiring leading to the *Central Command* unit than in the *Central Command* itself.

To make your *Central Command* unit easy to service, we have made all harnesses that lead to the *Central Command* so they are easy to disconnect.

Models 29& 35: Troubleshooting Guide

GENERAL: Models 29 & 35 are mechanically simple, but have a sophisticated "brain" to operate it in the form of the Central Command unit. This unit should be as reliable as the microprocessor for a modern automobile.

In most cases, the big question is to determine if the problem is :

- A. Mechanical, or
- B. Electrical, but in the wires or devices.
- C. Electrical, inside the *Central Command*.

If your problem is not easily solvable, please call us at **1-800-634-4060**. We can fax you a schematic or wire map to help you, and can provide you with advice by phone.

During the Warranty Period, if the problem is inside the *Central Command* unit, the entire unit must be replaced. After the Warranty Period, you may choose to repair the *Central Command* unit, and spare parts are available for it. **Please call us at 1-800-634-4060** for a copy of the "**Model 29 & 35 Electrical Manual and Troubleshooting Guide**" for detailed information.

ELECTRICAL PROBLEMS

1. Key On, But Nothing Happens: No Noise, No Action--Nothing!

- A. Operator is familiar with machine and knows that you have to step on the foot pedal before anything will operate.
- B. Battery Set is properly connected, and puts out at least 20 Volts.

NOTE: Central Command is extremely fussy about wire connections from the battery into it. A half-loose connection is sensed by the electronics and will not allow the machine to operate. Check and double check the battery connections!

- C. All Following Wires are Connected, Unbroken and Tight.
 - 1. Wires From Central Command to Traction Motor.
 - 2. Battery Cables To Central Command. (Inside battery box).
- D. Unplug the Battery Pack (Red 175 connector inside battery box). Then, carefully remove Rear Control Panel from Central Command. Reconnect battery box. Check for voltage to and from the keyswitch.
- E. Replace Central Command.

Models 29 & 35: Troubleshooting Guide

For each symptom, run through steps in order shown.

Electrical Problems

2. Key On Gets "Click", and Green Light Comes On, But Pushing or Pulling on Bail gets No Action.

- A. Be sure forward/reverse bail circuit wiring and speed rheostat wiring is all tight and unbroken.

Note that the speed-selecting rheostat may need periodic cleaning in some extreme work environments. To do this, use "**Contact Cleaner**" only, the kind used to clean radio and TV tuners. Open the Central Command, and spray some carefully down the shaft of the rheostat ***Cleaning almost always solves a rheostat problem.***

If you think the problem is in the speed-selecting rheostat, please call 1-800-634-4060 for a test procedure to verify its condition.

- B. Replace **Central Command**.
- C. If still a problem, call **1-800-634-4060** for advice.

3. Machine Runs Fine in Forward, But Cannot Be Shifted Into Reverse.

- A. Remove Rear Control Panel from Central Command and Check both mechanical Connection between bail and forward reverse switch and the electrical contacts. This switch receives power from the key switch, and sends it back to Central Command's microprocessor. No power = forward; power on = reverse.
- B. Check Switch Output.
- C. Replace Central Command.

Electrical Problems

5. Traction Circuit Runs Fine, And one or more, but not all of the Following Work Properly: Vacuum Motor; Brush Motors.

Check each defective circuit as follows:

A. Vacuum Motor.

- 1. High Solution Tank Shutoff.** There is a shutoff inside the tank so that when the tank is full the motors will not blow solution out the top of the machine. The shutoff uses a mechanical float switch. It can be accessed by removing the top of the recovery tank.
- 2. MicroSwitches.** On electric squeegee lift machines, the vac motors shut off when the squeegee is raised. The squeegee has two microswitches on it, one to turn the vac on and the other to turn the vac off. Check these out. They are situated on the squeegee's mounting bracket.
- 3. Wiring from Central Command.** Check continuity between the motors and the Central Command's output to the vac motors.

B. Brush Motors.

Check first to be sure the problem is electrical. It is possible the plastic "clutchplate" on the brush is damaged.

Note too that if there is too much pressure applied to the brushhead on an abrasive or dry surface, the motors will not have enough power to start, and so will kick off the circuit breaker inside Central Command. This will reset itself when power to the brushes is turned off for more than 30 seconds. Just raise the brushhead.

Microswitch. There is a microswitch on the brushhead that turns the motors on. It must be checked out. It is situated on the brushhead on the right hand side. Access it through the brush access door.

5. Machine Works Well Otherwise, But Insufficient Tractive Power.

- A. Is operator used to the machine? Is it developing its normal power?
- B. Machine has lost most of its power--power loss came on very suddenly.

Batteries are down. Central Command will automatically reduce available power when battery voltage drops below 18 to 20 volts. Recharge Immediately.

Electrical Problems

6.. Charger Does Not Charge

The automatic, electronic, console-type charger responds to the battery's condition. It rarely fails.

We note that: If the battery is already charged, the charger will switch on for only a few minutes before stopping the charging cycle. If the battery is very discharged (below 16 volts at time the charger is turned on) the charger will not "see" that batteries are connected, and will not charge.

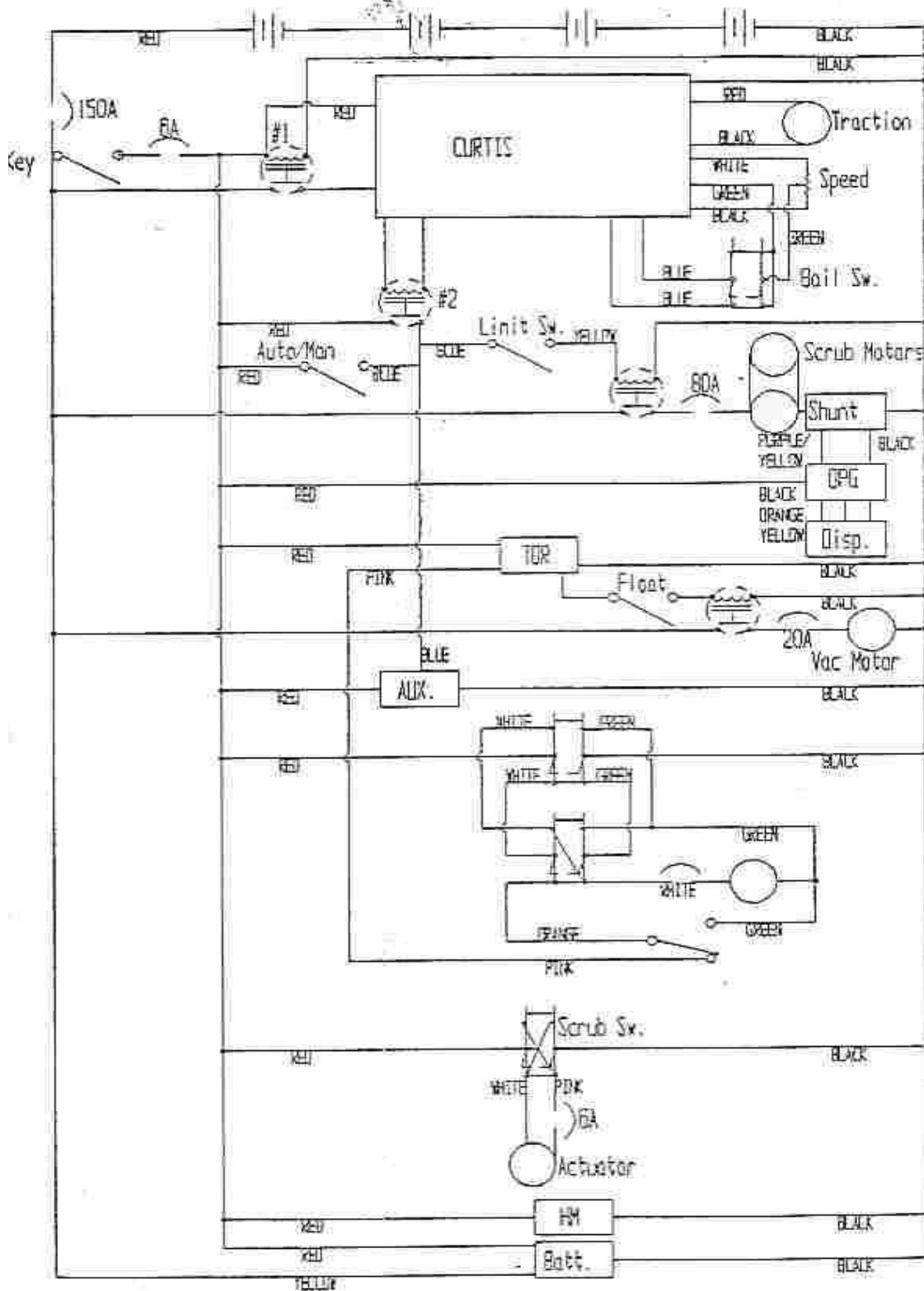
However, every time you turn on the charger, the charge cycle finishes with a three-hour "degassing" cycle, in which dissonant wave frequency current is introduced at high voltage (about 29 volts) and low amperage (about 3 Amps). The degassing cycle does not add "charge" to the battery, and should not be confused with charging.

Preliminary System Checkouts:

1. Are batteries full of water?
2. Are all connections tight?
3. Check system voltage: Above 16 volts?
4. Remove harness from batteries. Check voltage. Do all batteries have voltage above 8 volts?
5. Are batteries two years old or newer? If not, then check out with resistance check.
- 6.. Do you have proper electricity to the charger? Is this power source uninterrupted, or is it shut off accidentally at night when the lights are shut off?

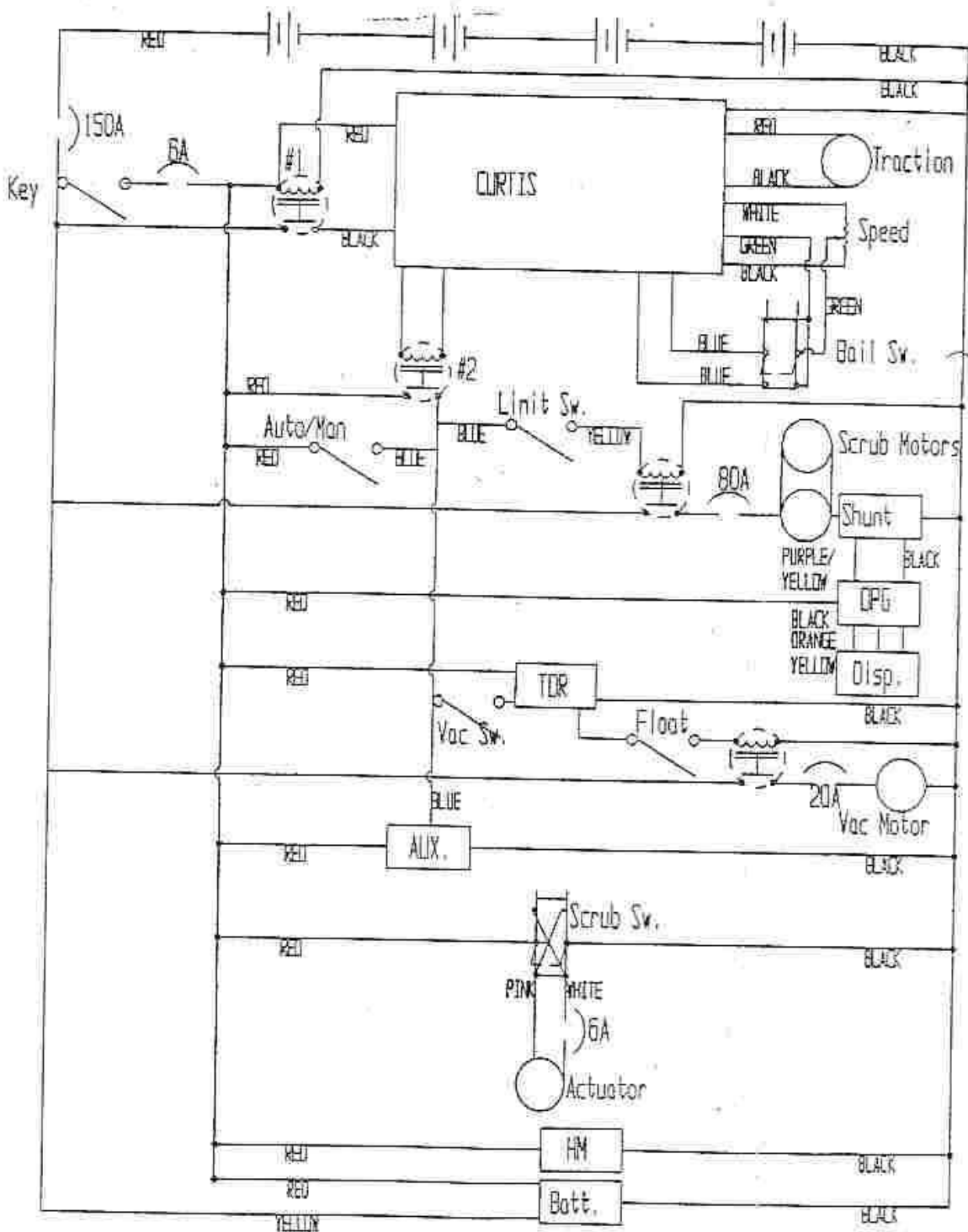
Please Call Tech Services at 800-634-4060 For Further Info

Schematic



Note: This schematic is archival.
More detailed schematics
are now available from the
factory. Pls call 800 634-4060
or write info@factorycat.com.

Electrical Schematic
Model 29 & 35



Electrical schematic
Model 29 & 35
Manual Squeegee lift

Note: This schematic is archival.
More detailed schematics
are now available from the
factory. Pls call 800 634-4060
or write info@factorycat.com.



SPARE PARTS BOOK

Models 29 & 35 Walk-Behind Scrubbers

Factory Cat spare parts are sold through Factory Cat Dealers. If you have forgotten your dealer's name, or have moved the machine to a new location, please call us at **1-(800) 634-4060**, or **FAX us at 1(414) 632-3335**, and we will re-establish dealer contact for you.

TO ORDER PARTS:

Please give Machine Serial Number with your order. Normally, ordinary parts orders are shipped out the same day received.

EMERGENCY ORDERS:

Within the Continental United States, Factory Cat can supply any part that weighs under 70 pounds within 3 workdays, not counting weekends or National Holidays.

However, if parts are ordered on an "emergency" basis, this means that R.P.S. will ship them by fastest means, generally by air courier service.

The emergency service is for breakdowns only. Please do not use it to order stock items.

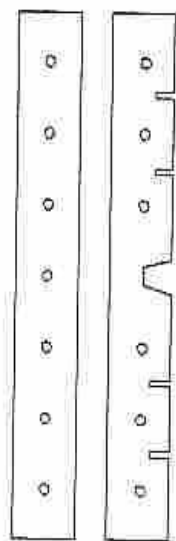
FREIGHT:

Within the United States, normal shipments are shipped by customer choice of shipment method, while emergency shipments are by Factory's choice--normally by fastest means. This means that emergency orders will generally cost the customer more than normal ones.

In both cases, the customer is responsible for payment for freight.

MODEL 29/35 WEAR PARTS

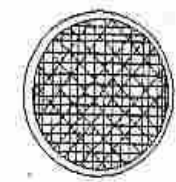
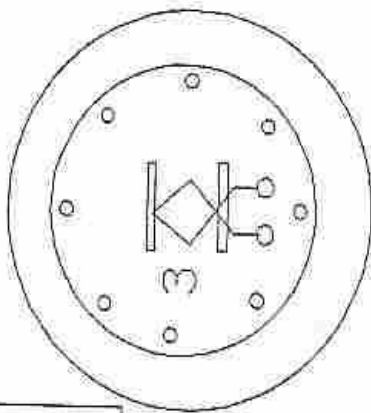
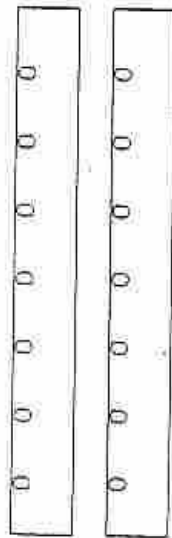
27 WEAR



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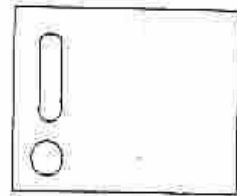
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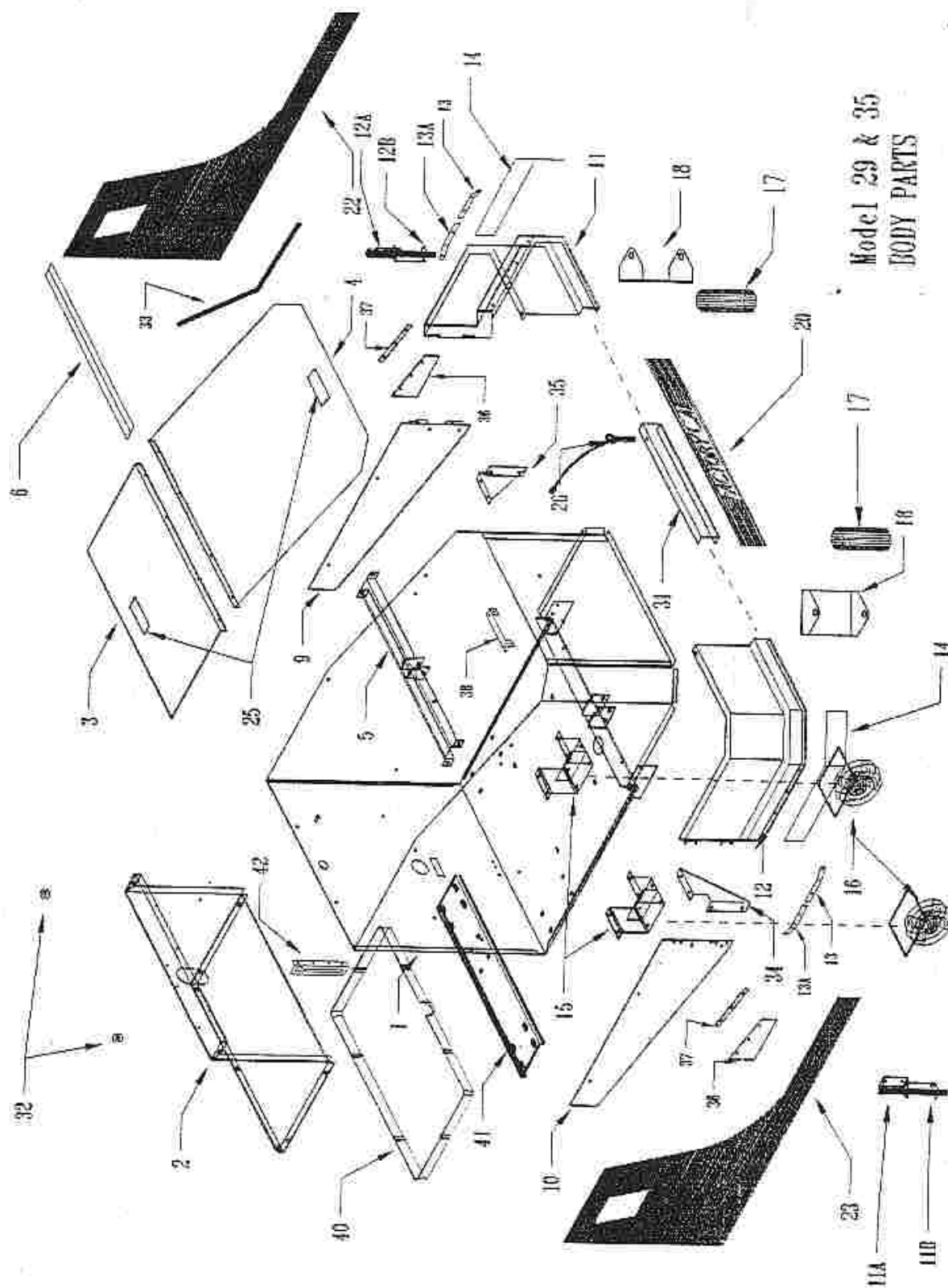


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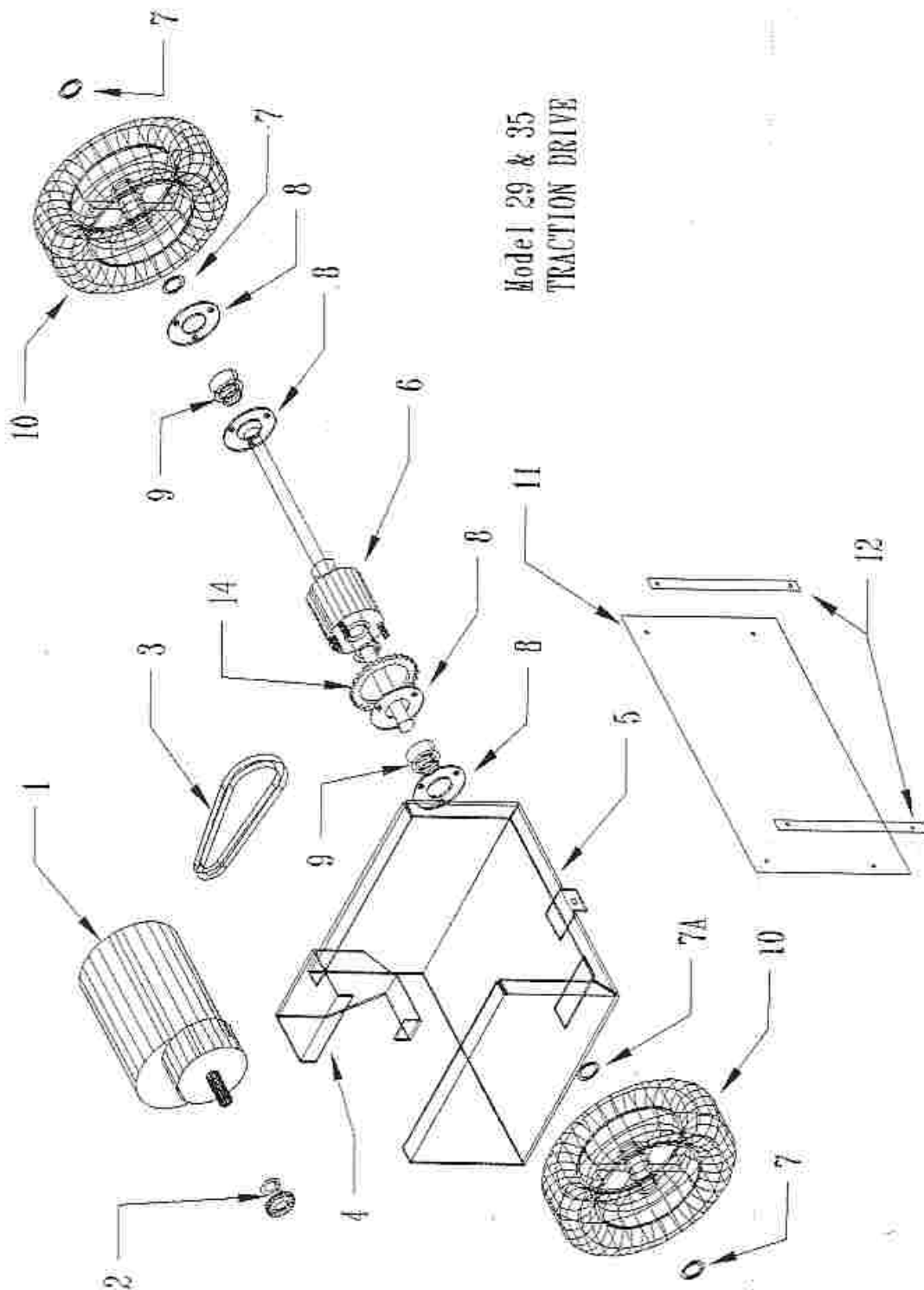
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Reference	DESCRIPTION	Part No.	Qty Req'd
WEAR PARTS: Model 35			
1	Squeegee Rebuild Kit	7-790	1
	Front Blade	7-756G	1
	Rear Blade	7-753G	1
	Backup wheels, 2 with axles & lockpins	5-797	2
2	Front Curtain Set, Model 35	7-131B	1 on 35
3	Brush Repair Kit	5-623	1
	<i>Includes "Scissor" handle, clutch plate and mounting hardware</i>		
4 thru 5	BRUSHES (from softest to most aggressive)		2
<i>All brushes below are the new-style 8-point driver. If you have an old-style 6-point driver on your machine, we will provide a new driver at no charge with brush order.</i>			
	8-Point DISK BRUSH DRIVER	21-5000	Choose
	Tampico	35-421T	According
	Nylosoft	35-421N	To
	Polypropylene	35-421P	Application
	Light-Grit	35-421PS	
	Mid-Grit	35-421C	
	Tough Grit	35-421S	
	Super Grit	35-421SS	
6	Pad Driver	35-421D	
7	Pad Assortment		
	Super Black (Stripping)	35-422BB	Choose
	Black	35-422B	According
	Blue	35-422BL	To
	Brown	35-422BR	Application
	Green	35-422G	
	White (Soft)	35-422W	
7A	Pad Retaining Ring	29-433	2
8	Vac Motor Filter (Optional)	5-709	1
9	Vac Motor Mounting Gasket	5-708	1
10	Internal Splash Curtain	7-164	2



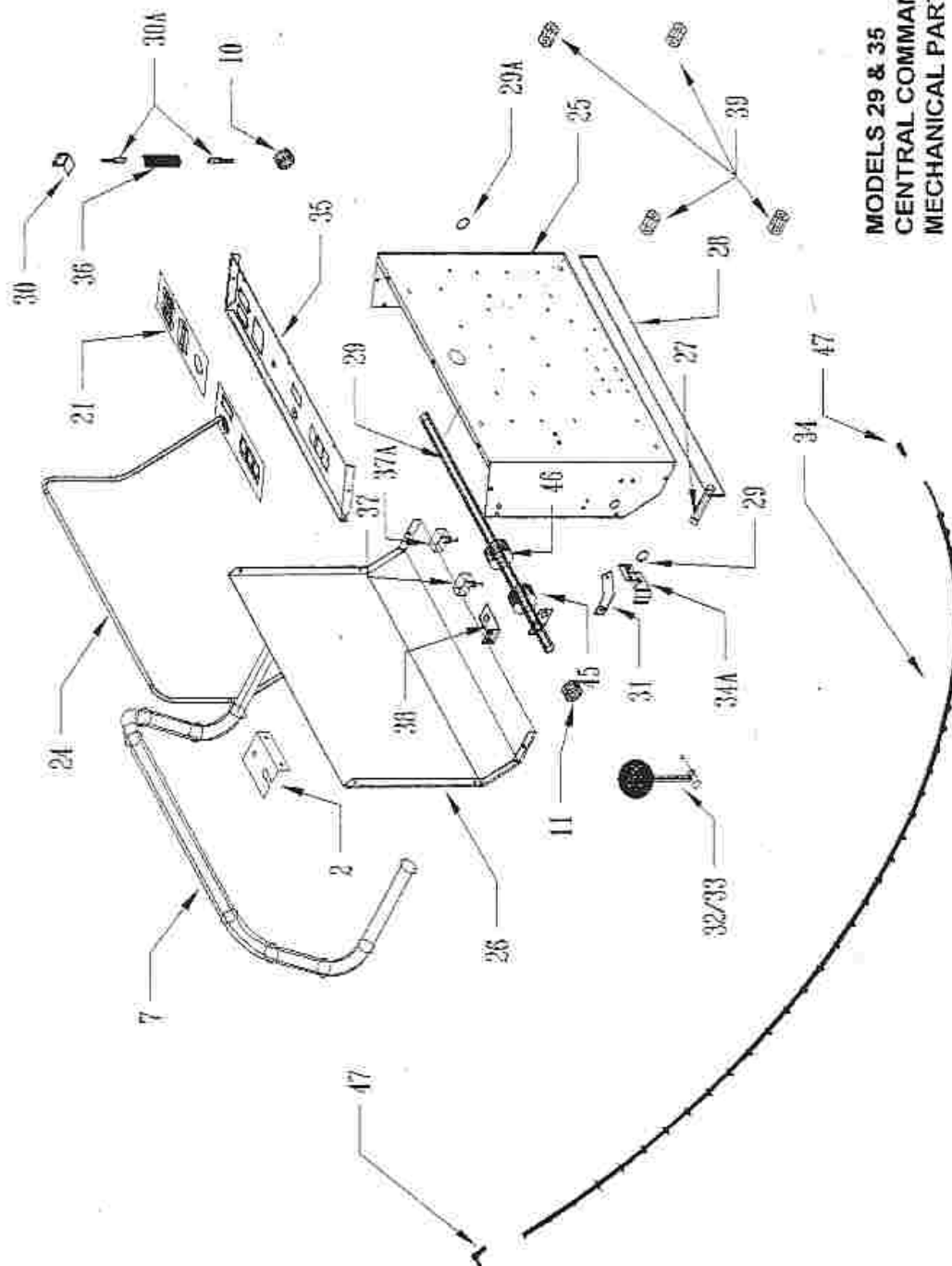
Model 29 & 35
BODY PARTS

Reference	DESCRIPTION	Part No.	Qty Req'd
BODY PARTS			
1	Mainframe	7-110	1
2	Battery Box	7-111	1
3	Rear Hood	7-112	1
4	Front Hood	7-113	1
5	Lateral Girder	7-114	1
6	Hood Hinge	4-131	2
9	Lefthand Quarter Panel	7-118	1
10	Righthand Quarter Panel	7-119	1
11	Left Bumper Half, Model 29	7-120	1
	Left Bumper Half, Model 35	7-135	1
11A	Left Bumper Hinge Pin	7-134L	1
11B	Left Bumper Hinge Retainer	7-134	1
12	Right Bumper Half, Model 29	7-128	1
	Right Bumper Half, Model 35	7-136	1
12A	Right Bumper Hinge Pin	7-134R	1
12B	Right Bumper Hinge Retainer	7-134	1
13	Bumper Curtain Clamp Front	7-122F	2
	Bumper Curtain Clamp Rear	7-122R	2
14	Splash Curtain R & L, Model 29	7-131	1 set on 29
	Splash Curtain R & L, Model 35	7-131B	1 set on 35
15	Caster Foot	7-124	2
16	Caster	7-130	2
17	Roller (Optional)	7-125	Opt 2
18	Roller Bracket	7-126	Opt 4
20	Factory Cat Sticker	8-152	1
22	Model 29 Lefthand Decal	7-151	1 for 29
	Model 35 Lefthand Decal	7-153	1 for 35
23	Model 29 Righthand Decal	7-152	1 for 29
	Model 35 Righthand Decal	7-154	1 for 35
25	Hood Handle	4-127	2
26	Bumper Retaining Pin with Retaining Cable	7-133	1
31	Bumper Locking Channel	7-162	1
32	Hood Grommets	7-112A	2
33	Hood Cable	7-113B	1
34	Righthand Quarter Panel Gusset	7-155R	1
35	Lefthand Quarter Panel Gusset	7-155L	1
36	Quarter Panel Curtain Left & Right (Fits 29 & 35)	7-161	1 Set
37	Quarter Panel Curtain Clamp	4-529	2
38	Hood Rest Angle	7-156	1
39	Tie-Down/Tow Point (not illustrated)	H-508	4
40	Battery box Liner	7-111A	
41	Caster Channel	7-109	
42	Lift Lever Guide	7-115	



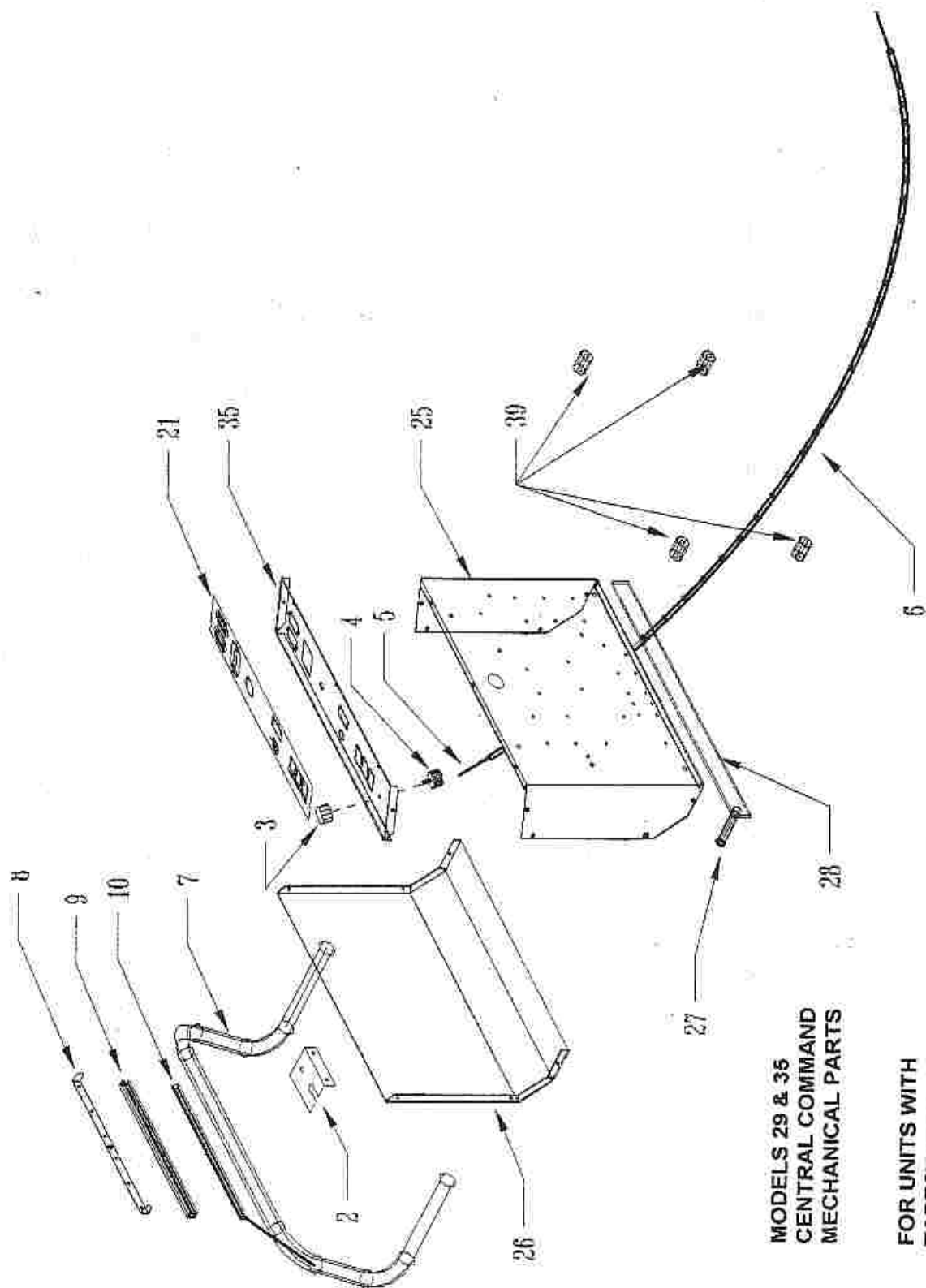
Model 29 & 35
TRACTION DRIVE

Reference	DESCRIPTION	Part No.	Qty Req'd
TRACTION DRIVE			
1	Traction Motor, 1 HP	5-222	1 Opt
	Traction Motor, 3/4 HP	7-222	1 Std
2	Motor Sprocket	7-354	1
3	Drive Chain	7-342	1
3A	Drive Chain Master Link	7-342A	1
4	Drive Motor Bracket	7-352	1
5	Axle Mounting Bracket	7-123	1
6	Differential Axle	7-350	1
7	Snap Ring, Wheel Retaining	8-611	4
7A	Spacer Ring	7-355	4
8	Axle Bearing Mounting Flanges	7-364	4
9	Axle Bearing	7-357	2
10	Wheel & Tire Assembly (Foam Filled)	7-353	2
Not Shown	Key - Drive Motor Sprocket	7-360	2
Not Shown	Key - Axle to Wheel	8-625	2
11	Motor Splash Curtain	7-361	1
12	Motor Splash Curtain Clamp	5-131S	2
13	Squeegie Ball Joint Bracket	7-121	
14	Replacement Sprocket for Differential	7-358	



MODELS 29 & 35
CENTRAL COMMAND
MECHANICAL PARTS
FOR UNITS WITH BAIL
SWITCH ONLY

Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND Mechanical Parts			
Early Machines with Bail Lever (Item 24)			
2	Drain Plugs Bracket	7-158	1
7	Handle Bar	7-116	1
10	Forward/Reverse Bail Centering Collar	7-288	1
11	Fwd/Rev Bail Switching Collar	7-288B	1
21	Control Decal Set	7-262	1 Set
24	Fwd / Rev bail	7-272	1
25	Central Command Box	7-270	1
26	Central command front Panel	7-271	1
27	Squeegee Lift handle	8-452	1
27A	Lift Handle Grip	4-448	1
28	Squeegee Lift Bar	7-160	1
29	Forward/Reverse Bail Crossbar	7-273	1
29A	F/R Bail Crossbar Ring Bearings	8-423A	2
30	Centering Spring Bracket	7-274A	1
30A	Spade Bolt	H-333	2
31	Solution Flow Lever, Interior	7-275	2
32	Solution Flow Lever Pivot Shaft	7-276	1
33	Solution Flow Lever, Exterior	7-277	1
33A	Solution Flow Control Knob	5-451	1
34	Solution Flow control Cable	5-448	1
	Solution Flow Control Cable Clip	5-448A	1
34A	Solution Cable Mounting Bracket	7-448	1
35	Central Command Control Panel	7-279	1
36	Fwd / Rev Bail Polymer Tension Spring	7-261	1
37	Fwd / Rev Switch	7-283	1
37A	Squeegee Actuator Switch	7-283	
38	Fwd / Rev Switch Mount	7-282	1
39	Central Command Spacers (Plastic)	7-270A	4
40	Solution Flow Cable Clamp Block	7-290	1
41	Solution Flow Cable Clamp (not illustrated)	7-291	1
45	Fwd / Rev Bail Switching Collar	7-288B	
46	Electric Actuator Collar	7-288C	
47	Solution Cable Ball Joint	5-454	

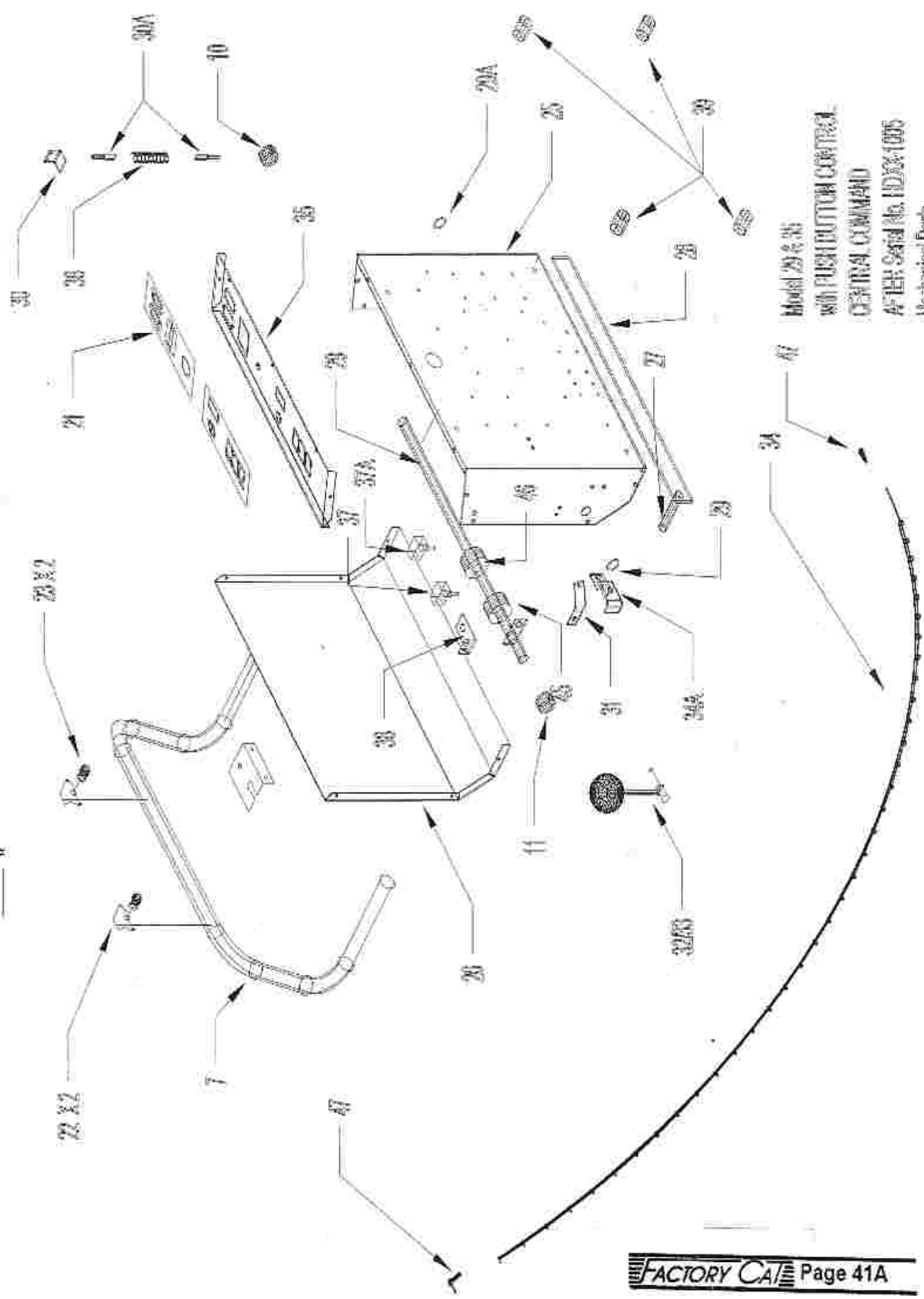


MODELS 29 & 35
CENTRAL COMMAND
MECHANICAL PARTS

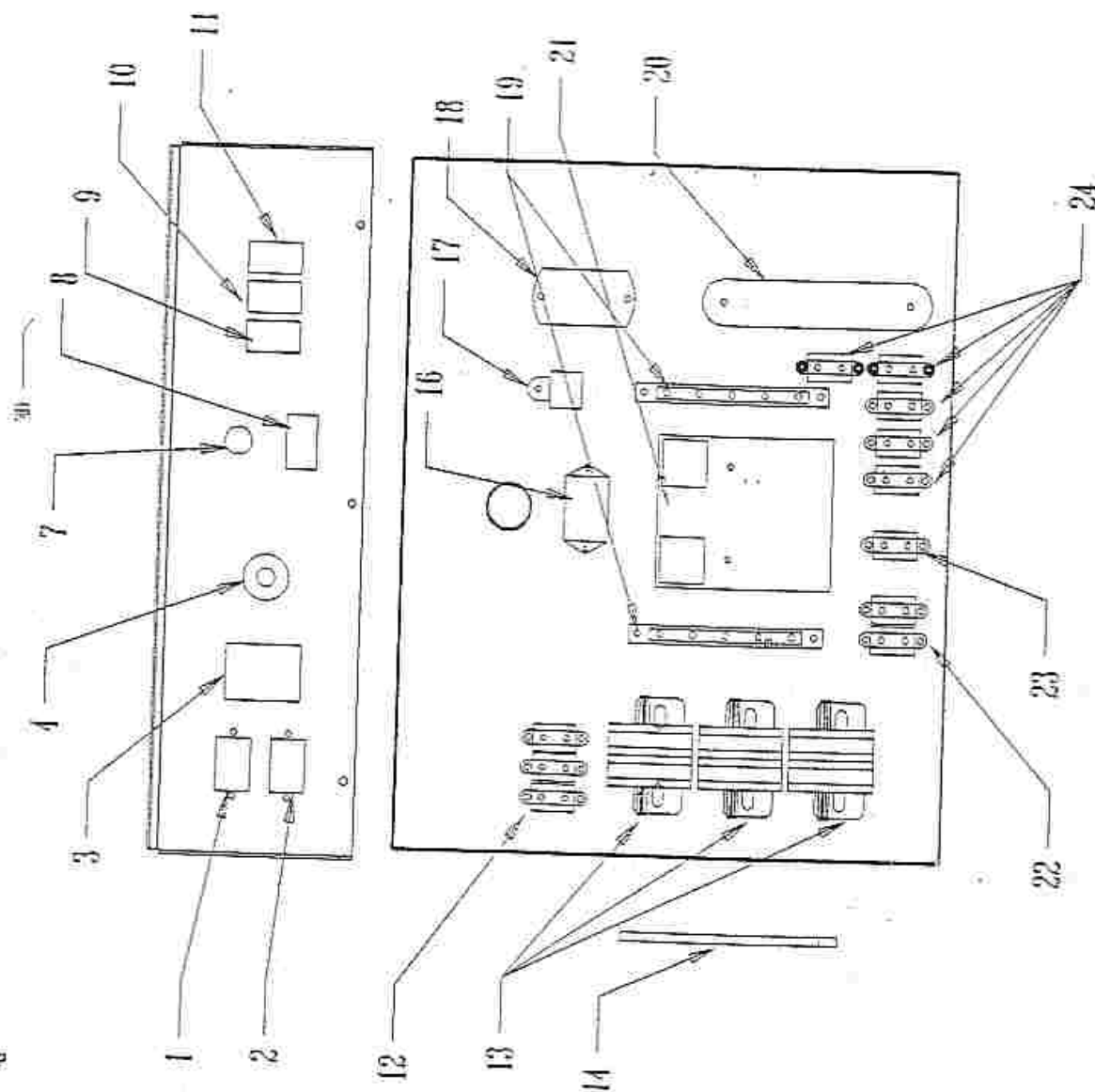
FOR UNITS WITH
TAPESWITCH
CONTROL ONLY

Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND Mechanical Parts: Tape Switch Control			
	Fits machines Equipped with Item 10 "Tapeswitch Control"		
2	Drain Plugs Bracket	7-158	1
3	Solution Flow Adjustment Knob	7-451	1
4	Solution Flow Upper Cable Coupler	7-446	1
5	Solution Flow Cable (inner core)	7-449	1
6	Solution Cable	7-450	1
7	Handle Bar	7-116	1
8	For / Rev Switch Back & Side Cover	7-231A	1
9	For / Rev Switch Mounting Strip	Included with #10	
10	For / Rev Tapeswitch	7-231	1
21	Control Panel Decal (one piece)	7-262A	1
25	Central Command Box	7-270	1
26	Central Command Front Panel	7-271	1
27	Squeegee Lift Handle	8-452	1
28	Squeegee Lift Bar	7-160	1
35	Central Command Control Panel	7-279	1
39	Central Command Spacers (Plastic)	7-270A	4

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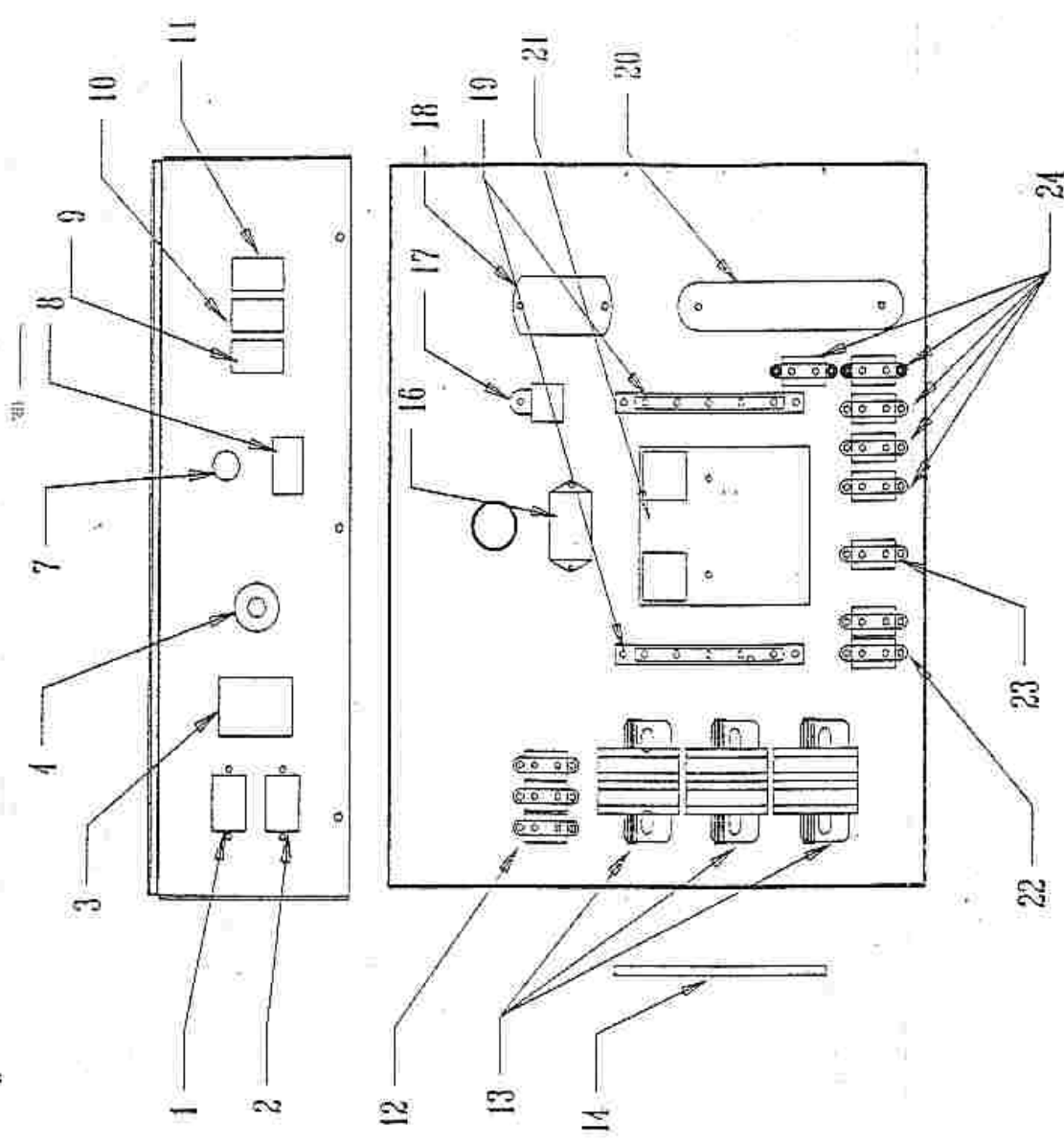
Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND Mechanical Parts: Button Control			
	Fits machines equipped with buttons int. handlebar (item 23A)		
2	Drain Plugs Bracket	7-158	1
3	Solution Flow Adjustment Knob	7-451	1
4	Solution Flow Upper Cable Coupler	7-446	1
5	Solution Flow Cable (inner core)	7-449	1
6	Solution Cable	7-450	1
7	Handle Bar	7-116	1
8	For / Rev Switch Back & Side Cover	7-231A	1
9	For / Rev Switch Mounting Strip	Included with #10	
10	For / Rev Tapeswitch	7-231	1
21	Control Panel Decal (one piece)	7-262A	1
22	Control Button Mount (plated steel)		2
23	Control Button		2
25	Central Command Box	7-270	1
26	Central Command Front Panel	7-271	1
27	Squeegee Lift Handle	8-452	1
28	Squeegee Lift Bar	7-160	1
35	Central Command Control Panel	7-279	1
39	Central Command Spacers (Plastic)	7-270A	4



Models 29 & 35
Central Command
Electrical Parts
*For Machines With
Bail Control Only.*

Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND PARTS; Electrical			
	See other section for Central Command Mechanical Parts		
	<i>This page covers early Central Commands with Bail Switch</i>		
	Complete Central Command, new	7-280	1
	Complete Central Command, rebuilt & tested	7-281	1
1	Battery Condition Meter	8-261	1
2	Hour Meter	8-262	1
3	Down Pressure Gauge (Optional) <i>Includes Control Module</i>	5-236	1
4	Speed Control Potentiometer (5K)	7-292	1
7	Speed Control Knob	4-452	1
8	Key Switch	4-234	1
9	Power On Warning Light	8-232	1
10	Scrubber Actuator Switch (Mom.-Off.-Mom)	5-233	1
11	Auto-Manual Switch (On-Off; SPST)	5-297	1
	Vacuum Motor Switch (On-On; DPDT)	5-234	1
	<i>Also works squeegee lift on models with electric squeegee lift</i>		
12	Main Circuit Breaker (150 Amp)	7-284	1
13	Main Relay	8-283	1
	Vac Relay	8-283	1
14	Scrub Relay	8-283	1
16	Relay Bank Buss Bar (Copper)	7-296	1
17	Vac Timer	5-294	1
18	15 Amp Relay (Bail Relay or Vac Signal Relay)	5-293	1
19	Down Pressure Gauge Module	5-236	1
20	Buss Bar	7-287	2
21	Shunt (for downpressure gauge module)	5-295	1
22	Computer Control	7-289	1
	Scrub Motor Breaker Set--3/4 HP Mtr (60 Amp)	7-285	1
	Scrub Motor Breaker Set--1 HP Mtr (80 Amp)	5-298	1 Opt

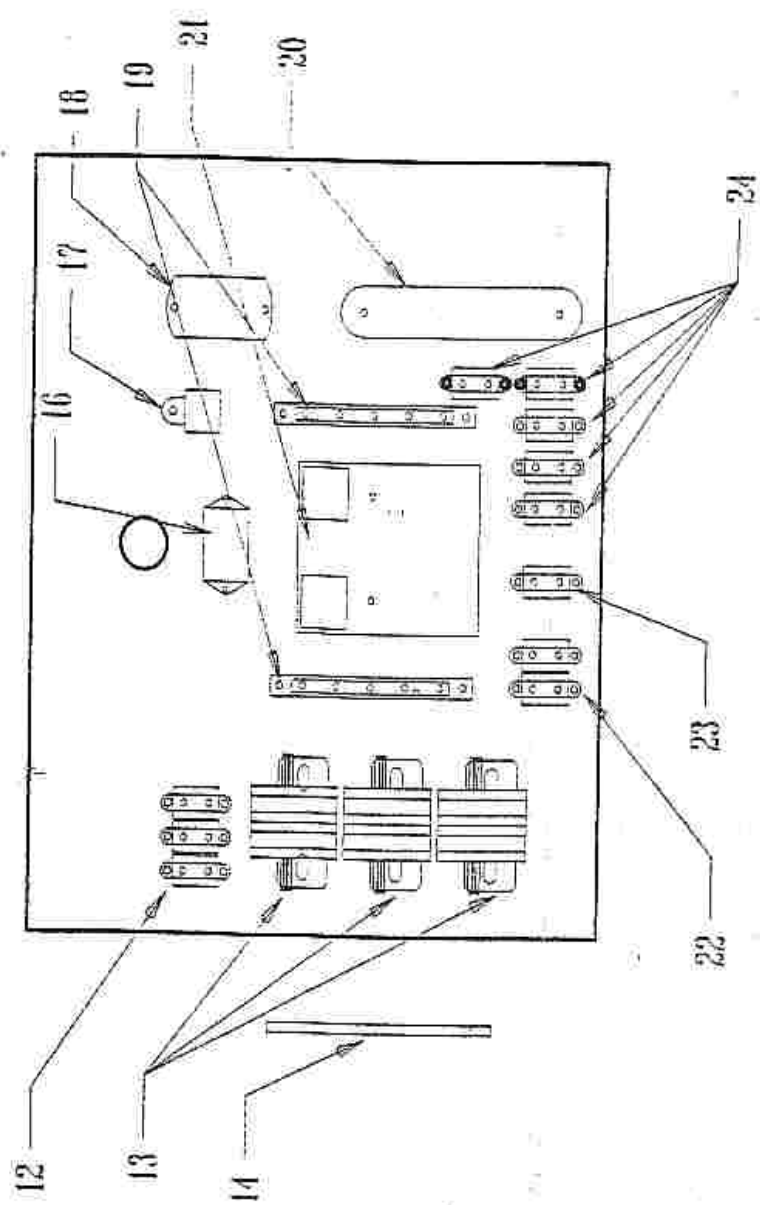
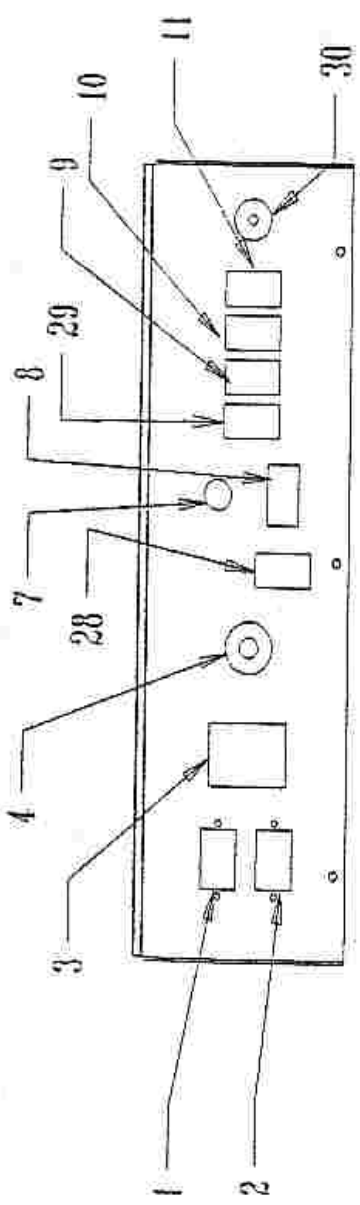
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**Models 29 & 35
Central Command
Electrical Parts**
***For Machines With
Ball Control Only.***

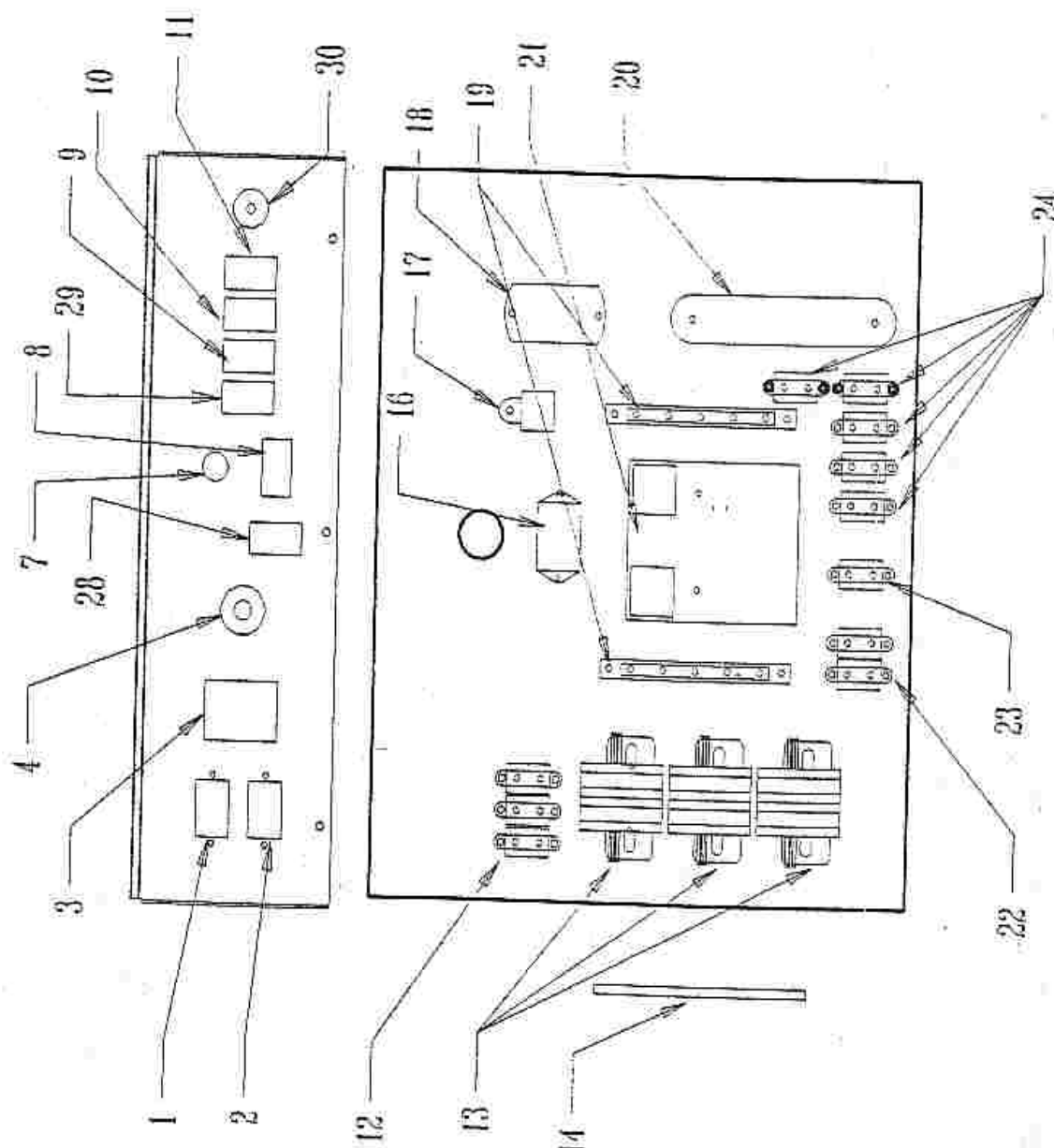
Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND PARTS; Electrical (Continued)			
	Bail Switch Models Only		
23	Vacuum Motor Breaker (25 Amp)	7-286	1
24	Solution Electrovalve Breaker (6 amp)	8-284	1
	Auxiliary Breaker	8-284	1
	Key Switch Breaker	8-284	1
	Scrubber Downpressure Actuator Breaker	8-284	1
	Squeegee Downpressure Actuator Breaker	8-284	1 Opt
25	Diode, Anti E.M.F. (mounts across large relay primaries)	5-270	3
26	Forward-Reverse Switch	7-283	1
27	Squeegee Up/Down Actuator switch	7-283	1 Opt

A ——— 7 ——— R



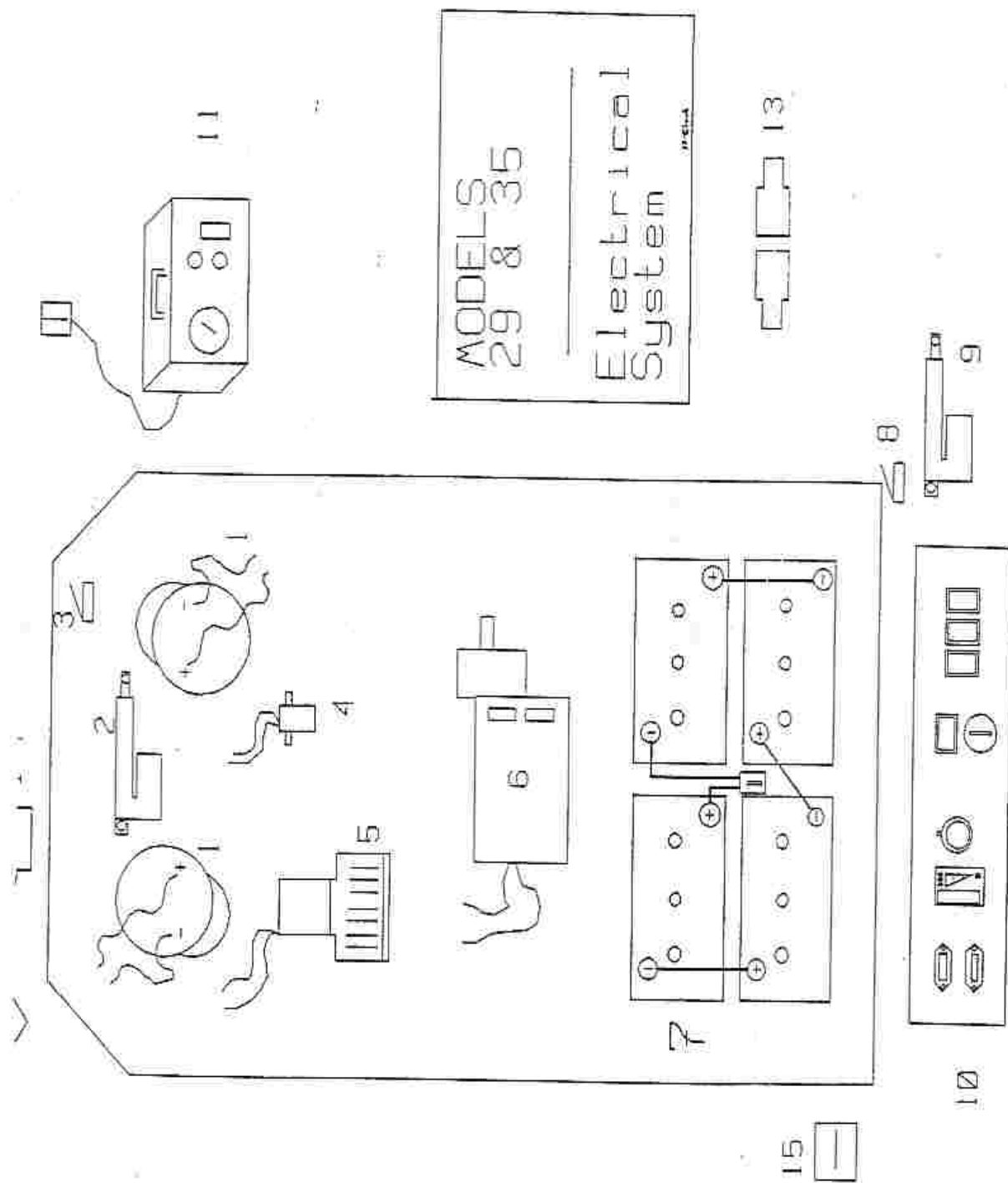
Models 29 & 35
Central Command
Electrical Parts
*For Machines with
Tapeswitch or Button
Controls Only.*

Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL	COMMAND PARTS; Electrical		
	See other section for Central Command Mechanical Parts		
	This Page covers units with Tapeswitch or Pushbutton controls ONLY		
	Does not include bail-equipped machines.		
	Complete Central Command, new	7-280	1
	Complete Central Command, rebuilt & tested	7-281	1
1	Battery Condition Meter	8-261	1
2	Hour Meter	8-262	1
3	Down Pressure Gauge (Optional) <i>Includes Control Module</i>	5-236	1
4	Speed Control Potentiometer (5K)	7-292	1
7	Speed Control Knob	4-452	1
8	Key Switch	4-234	1
9	Power On Warning Light	8-232	1
10	Auto / Manual Switch	5-297	1
11	Vacuum On / Off Switch	5-234	1
	Solution On / Off Switch	8-231	1
	<i>Also works squeegee lift on models with electric lift</i>		
12	Main Circuit Breaker (150 Amp)	7-284	1
13	Main Relay	8-283	1
	Vac Relay	8-283	1
	Scrub Relay	8-283	1
14	Relay Bank Buss Bar (Copper)	7-296	1
16	Vac Timer	5-294	1
17	15 Amp Relay (Bail Relay or Vac Signal Relay)	5-293	1
18	Down Pressure Gauge Module	5-236	1
19	Buss Bar	7-287	2
20	Shunt (for downpressure gauge module)	5-295	1
21	Computer Control	7-289	1
22	Scrub Motor Breaker Set--3/4 HP Mtr (60 Amp)	7-285	1
	Scrub Motor Breaker Set--1 HP Mtr (80 Amp)	5-298	1 Opt
23	Vacuum Motor Breaker (25 Amp)	7-286	1



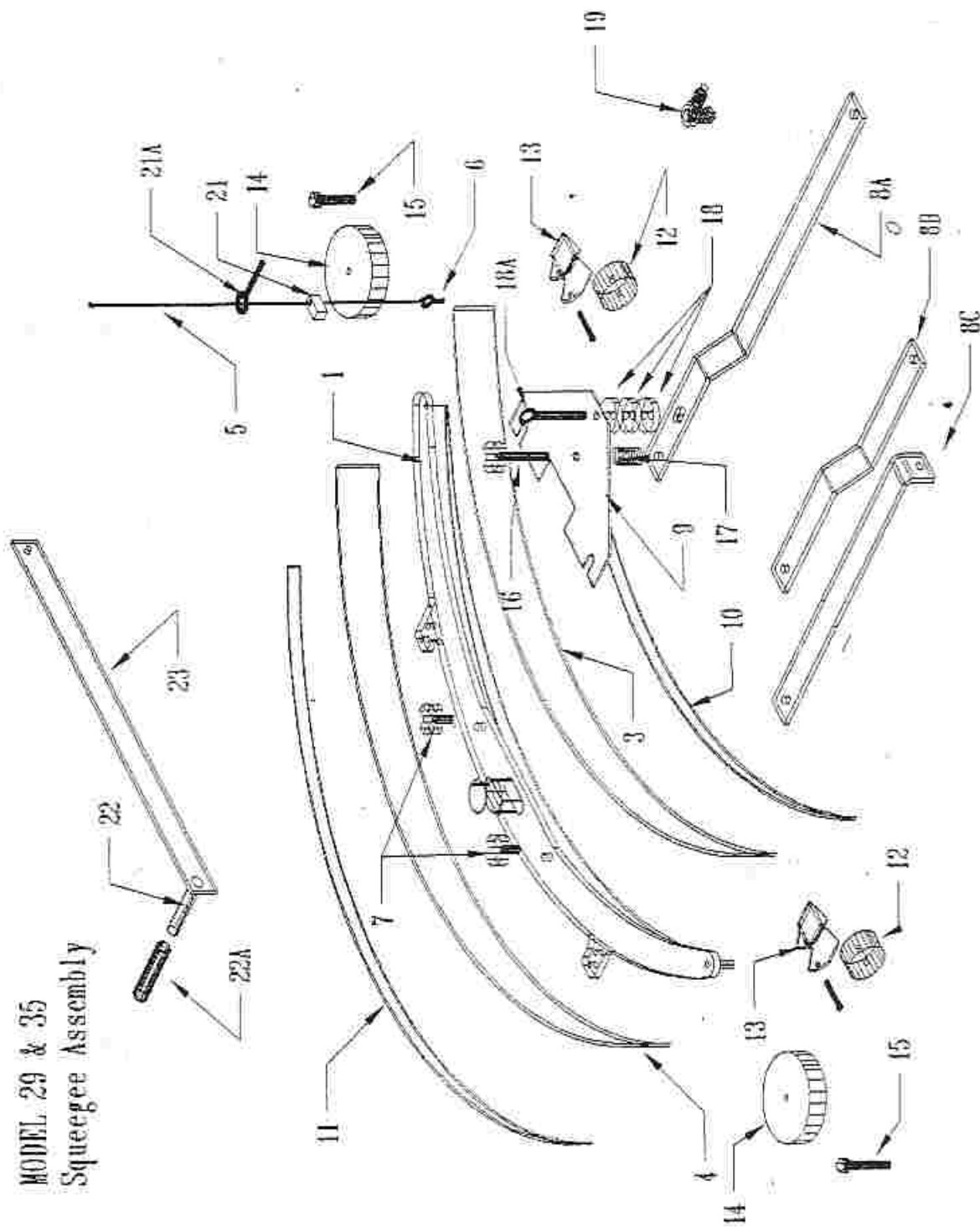
Models 29 & 35
 Central Command
 Electrical Parts
 For Machines with
 Tapeswitch or Button
 Controls Only.

Reference	DESCRIPTION	Part No.	Qty Req'd
CENTRAL COMMAND PARTS; Electrical (Continued)			
<i>This Page Covers Machines equipped with Tapeswitch or Pushbutton Controls only. Does not include machines with bail switch.</i>			
24	Solution Electrovalve Breaker (6 Amp)	8-284	1
	Auxiliary Breaker	8-284	1
	Key Switch Breaker	8-284	1
	Scrubber Downpressure Actuator Breaker	8-284	1
	Squeegee Downpressure Actuator Breaker	8-284	1 Opt
25	Diode, Anti E.M.F. (mounts across large relay primaries)	5-270	3
26	Fwd / Rev Switch	7-283	1
27	Squeegee Up / Down Actuator Switch	7-283	1 Opt
28	Fwd / Rev Switch (DPPT)	5-237	1
29	Scrub Brushes Up / Down	5-233	1
30	Solution Flow Control Knob	7-451	1



Reference	DESCRIPTION	Part No.	Qty Req'd
ELECTRICAL PARTS			
1	Scrub Motor, 1 HP	5-222	1 Opt
	Brush Motor, 3/4 HP	7-222	1 Std
2	Scrub Head Electric Actuator	5-221	1
3	Scrubhead Limit Switch	5-223	1
	Scrubhead Limit Switch Mounting Bracket	7-163	1
4	Solution flow electrovalve	5-244	1
5	Vac Motor	5-225	1
6	Traction Motor, 1 HP	5-222	1 Opt
	Traction Motor, 3/4 HP	7-222	1 Std
7	Battery, 325 Amp Hour (6 volt)	7-210	4 Std
	Battery, 370 Amp Hour (6 volt)	7-211	4 Opt
8	Limit Switch for Electrolift Squeegee (Optional)	7-820	1 Opt
9	Actuator for Electrolift squeegee (optional)	7-224	1 Opt
10	Central Command, Complete	7-280	1
	<i>See Central Command Section of This Book</i>		
11	36 Amp Automatic Charger (24 volt)	7-244	1 Std
13	Red 175 Connector--Replacement Connector	5-260	2
	False Connection Protection Strip (mounts on Red 175)	5-282	2
15	Battery Harness Including Battery Post Covers	7-214	1
	Complete Battery Cable Set--Includes:		1
	Battery Post Cover Set	7-216	1 Set
	Red post cover	7-216R	4
	Black post cover	7-216B	4
	Cable between batteries	7-212	3
	Cable to Red 175 Connector	7-213	1
16	Machine Harness Kit	7-214B	1
	<i>Complete Machine Harness Kit Includes:</i>		
	Traction Motor Harness	NSS	
	Vac Motor Harness	NSS	
	Scrub Motors Harness	NSS	
	Scrub Switch and Actuator Harness	NSS	
	Kipp Valve and Float Switch Harness	NSS	
	Auxiliary Power Harness	NSS	

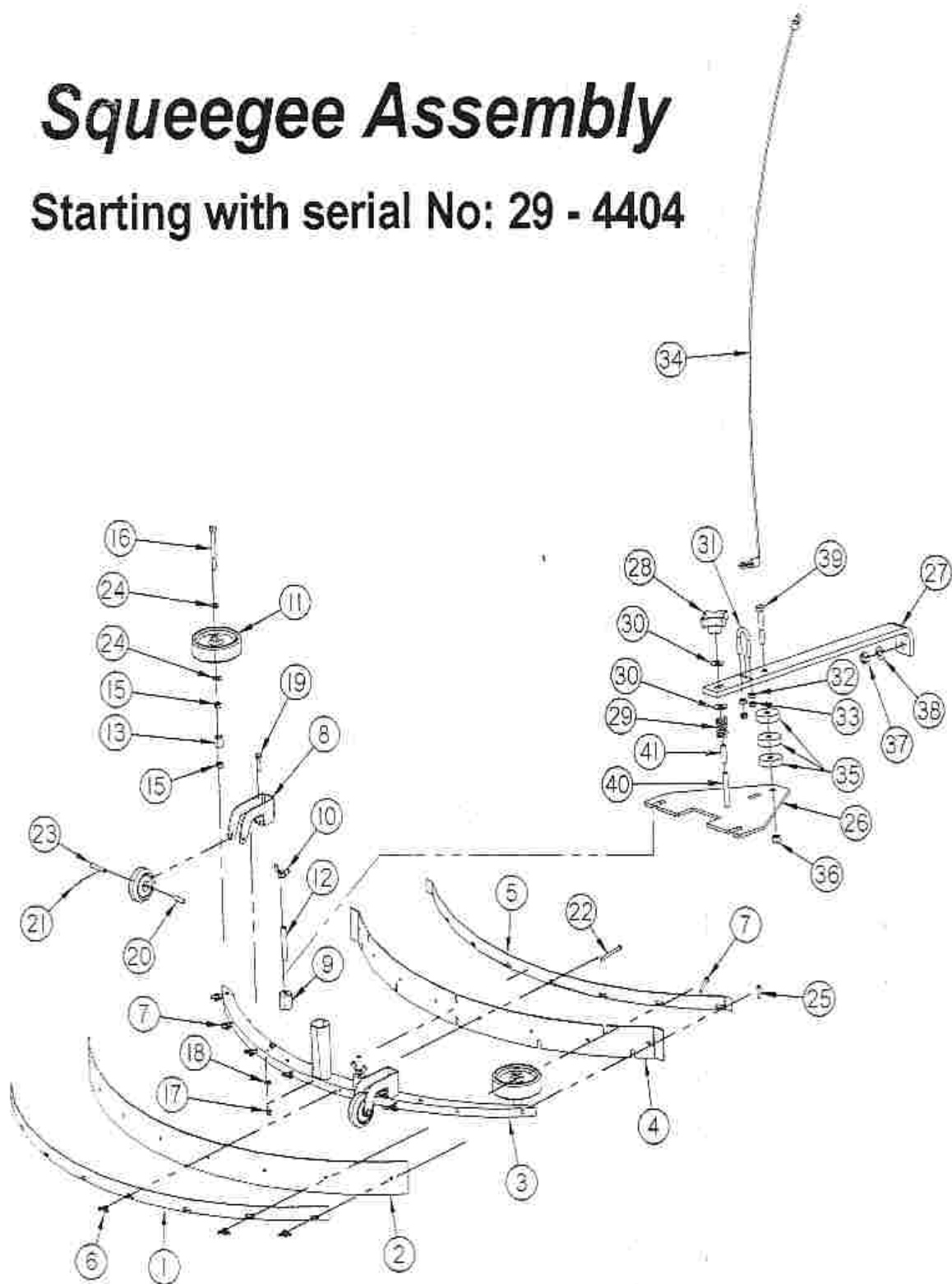
MODEL 29 & 35
Squeegee Assembly



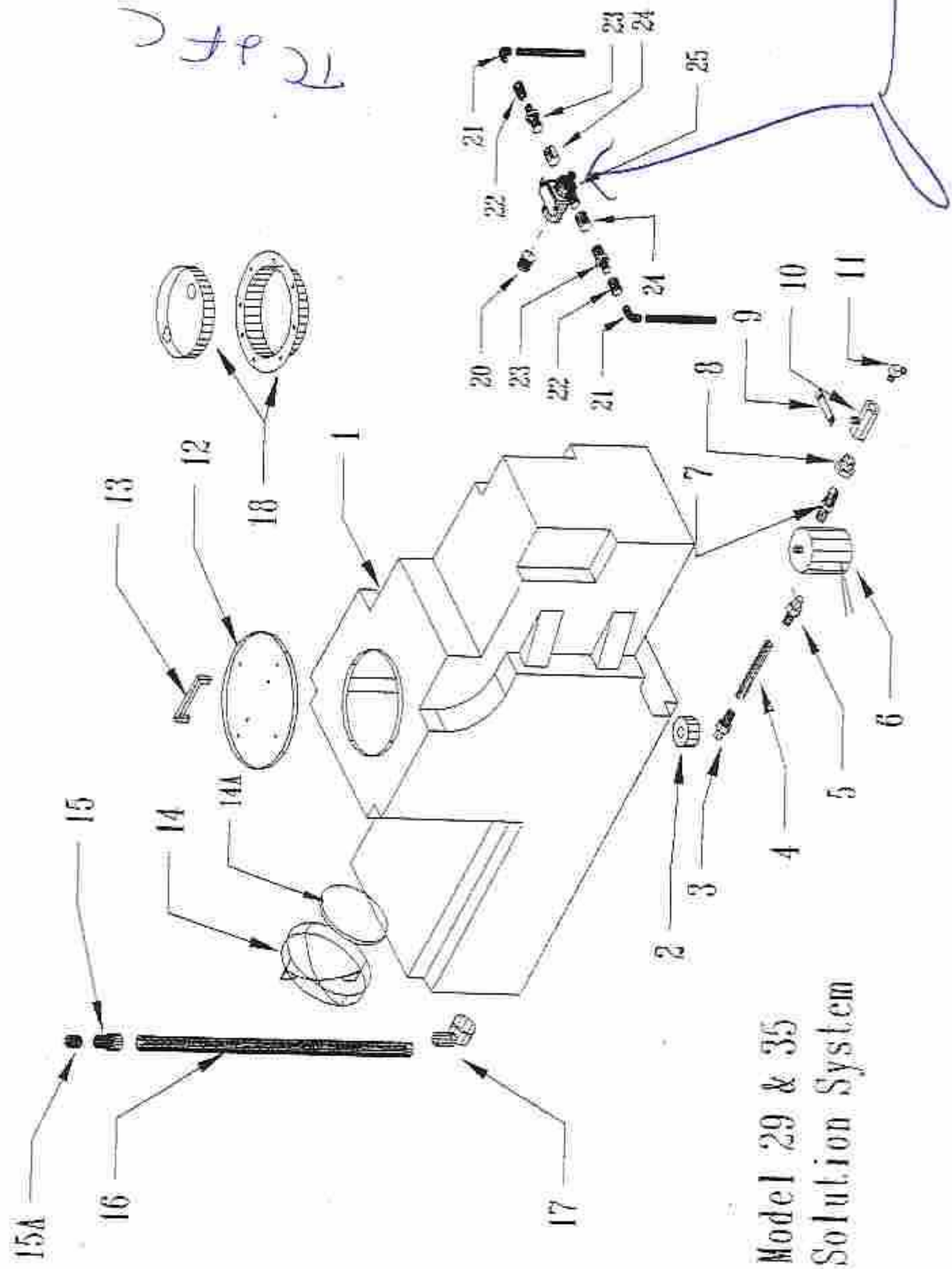
Reference	DESCRIPTION	Part No.	Qty Req'd
SQUEEGEE ASSEMBLY			
	Squeegee Rebuild Kit: Model 29	7-770	
	Squeegee Rebuild Kit: Model 35	7-769	
	<i>Includes front and rear blade, and replacement wheels</i>		
	Complete Replacement Squeegee for Model 27	7-780	
	Complete Replacement Squeegee for Model 33	7-781	
	<i>Includes body, blades, side wheels, rear wheels & blade mounting straps. Items 1,3,4,10,11,12,13,14,15</i>		
1	Squeegee body-Model 29	7-759	1 for 29
2	Squeegee body-Model 35	7-758	1 for 35
	Vac Hose-Squeegee to Tank, Includes cuffs	7-705	1
	Hose only	7-705A	1
3	Front squeegee blade Model 29	7-755G	1 for 29
	Front squeegee blade, Model 35	7-755G	1 for 35
4	Rear squeegee blade, Model 29	7-754G	1 for 29
	Rear squeegee blade, Model 35	7-753G	1 for 35
5	Squeegee Lift Cable	7-763	1
6	Squeegee Eye	7-757A	1
7	Squeegee Mounting Knob	5-780	2
8A	Squeegee Suspension Arm	7-760E	
8B	Squeegee Suspension Arm	7-760M	
8C	Squeegee Suspension Arm	7-760	
	NOTE -#8 A & B Must be Replaced by 8C**		
9	Squeegee Mounting Plate	7-761	1
10	Squeegee Blade Strap, Front-Model 29	7-771	1 for 29
	Squeegee Blade Strap, Front-Model 35	7-772	1 for 35
11	Squeegee Blade Strap, Rear, Model 29	7-773	1 for 29
	Squeegee Blade Strap, Rear, Model 35	7-774	1 for 35
11B	Squeegee Blade Stainless Wingnuts (not illustrated)	H-112SS	8
12	Wheel-Includes mounting pin & clevis & bushing	5-757	2
	Wheel bushing	5-757B	2
	Wheel clevis	5-757C	2
13	Wheel Bracket	5-758	1
14	Squeegee Side wheel	5-760	1
15	Side wheel mounting bolt	7-778	1
16	Pitch Adjusting Knob	7-782	1
17	Pitch Adjustment Holding Spring	7-787	1
18	Suspension Grommets	4-446	3
18B	Grommet Nylock Nut	H-111SSN	1
19	Squeegee Ball Joint	5-768	1
21	Squeegee Lift Cable Guide	7-783	1
21A	Squeegee Eye Bolt	7-783A	
22	Squeegee Lift Handle	8-452	1
22A	Squeegee Lift Handle Grip	4-448	1
23	Squeegee Lift Bar	7-160	1

Squeegee Assembly

Starting with serial No: 29 - 4404



Item	Part No.	Part Description	Qty
1	28-7160	38" SQUEEGEE BAND, REAR	1
2	28-755G	38" SQUEEGEE BLADE, REAR	1
3	28-7181	38" SQUEEGEE WELDMENT	1
4	28-754G	38" SQUEEGEE BLADE, FRONT	1
5	28-7170	38" SQUEEGEE BAND, FRONT	1
6	H-70908	WINGNUT 10-32 SS	8
7	H-00249	PPH #10-32 X 2 1/4" SS	4
8	21-7220	SQUEEGEE TRAIL MOUNTS	2
9	5-846	STAND OFF(1.03)	2
10	5-786	WINGNUT 3/8"-16 NICKEL	2
11	5-760B	SIDE WHEELS	2
12	H-00568	STUD 3/8"- 16 X 2 1/2" SS	2
13	5-793	IDLER SPACER	2
14	5-757D	BACK UP WHEEL	2
15	H-36104	HN 5/16"- 18	3
16	H-10831	HCS 5/16"- 18 X 3"	2
17	H-70710	HN 1/4"- 20 SS	2
18	H-71063	LW 1/4" SS	2
19	H-70005	HCS 1/4"- 20 X 1" SS	4
20	5-757B	BUSHING .255" X 1.03"	1
21	H-RUE8	1/4" RUE RING COTTER	1
22	H-00288	PPH #10-32 X 2 1/2" SS	2
23	H-CP44	CLEVIS PIN 1/4 X 1 1/2"	2
24	H-33080	FW 5/16" SAE	3
25	H-72555	PPH #10-32 X 1 3/4" SS	2
26	7-761	SQUEEGEE MTG PLATE	1
27	7-760	SQUEEGEE SUSP ARM	1
28	7-782A	5/16-18 4 PRONG KNOB	1
29	7-787	PITCH ADJUSTMENT HOLDING SPRING	1
30	H-71017	FW 3/8" SS	2
31	7-836	1/4-20 X 3/8" U-BOLT	1
32	H-36202	JN 1/4"- 20	2
33	H-37020	JNYL 1/4" - 20	2
34	7-763	SQUEEGEE LIFT CABLE	1
35	4-446	GROMMET - 3/8 ID X 1-1/2 OD X .375	3
36	H-37021	NYLOK 5/16"- 18	1
37	H-70732	HN 3/8"- 24 SS	1
38	H-33622	LW 3/8"	1
39	H-13061	HCS 5/16"- 18 X 2"	1
40	H-S105C	STUD 5/16"- 18 X 3.0 SS	1
41	7-782C	5/16 CLEAR TUBING	1



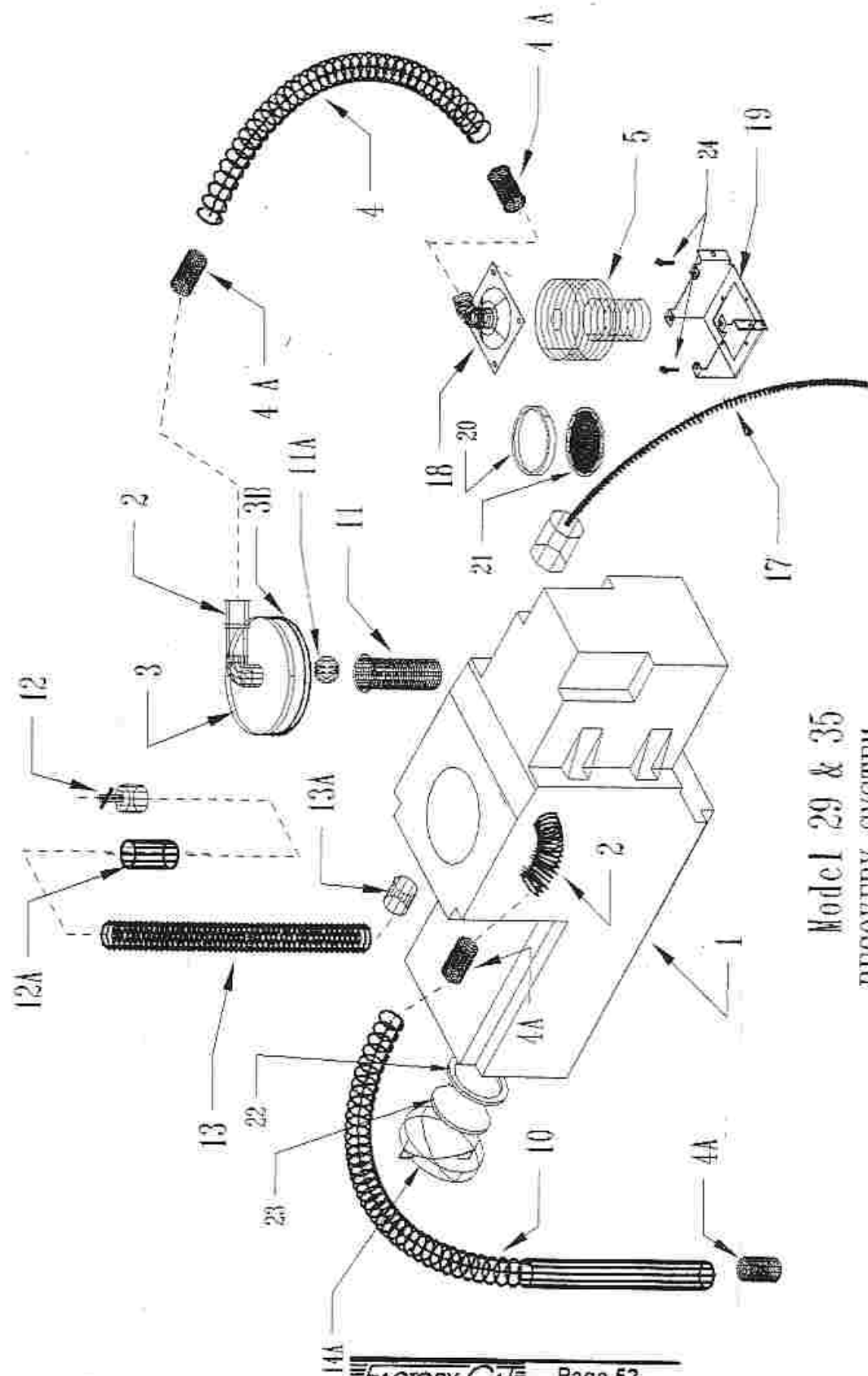
Model 29 & 35
Solution System

21-4500

Reference	DESCRIPTION	Part No.	Qty Req'd
SOLUTION SYSTEM (Polyethylene Tank)			
1	Solution Tank, PE	7-414	1
2	Solution Tank Bulkhead Fitting	7-414A	1
3	Elbow	7-413	2
4	Plastic Tubing (1/2 Reinforced)	5-440	as Req'd
5	Connector (3/8NPT to 1/2 Barb)	7-442	1
6	Solution electrovalve	5-244	1
7	Close Nipple (3/8 NPT)	7-443	1
8	Reducing Bushing (3/8 to 3/4 NPT)	7-444	1
9	Flow control valve lever	7-441	1
10	Flow Control Gate Valve	5-445B	1
11	3/4NPT-3/8" barb elbow	5-447	1
12	Solution Tank Fill Cap (includes Handle) (Replaced by #18)	7-424	1
13	Handle for Tank Fill Cap	7-415	2
14	Cleanout Door	7-416	2
14A	Cleanout door gasket <i>Also fits solution tank.</i>		
15	Solution Drain Hose End Barb	7-418	1
15A	Solution Drain Hose Cap	7-418A	1
16	Solution Level Sight & Drain Hose 1" id	7-417	1
17	Solution Drain Hose Elbow	7-430	1
18	Solution Tank Lid	7-425	
20	Solution Flow Lower Cable Coupler	7-447	-
21	1/2" to 1/2" Elbow Barb	7-248	
22	1/2" Hose	5-440	
23	5/8" to 1/2" Coupling Barb	7-247	
24	5/8" Hose	7-246	
25	Adjustable Solution Flow Valve	7-245	
26	Solution Tank Filter Screen (not illustrated)	5-415	1
	Water Spray Jet System (not illustrated)	5-899	(Option)

- 21-8611

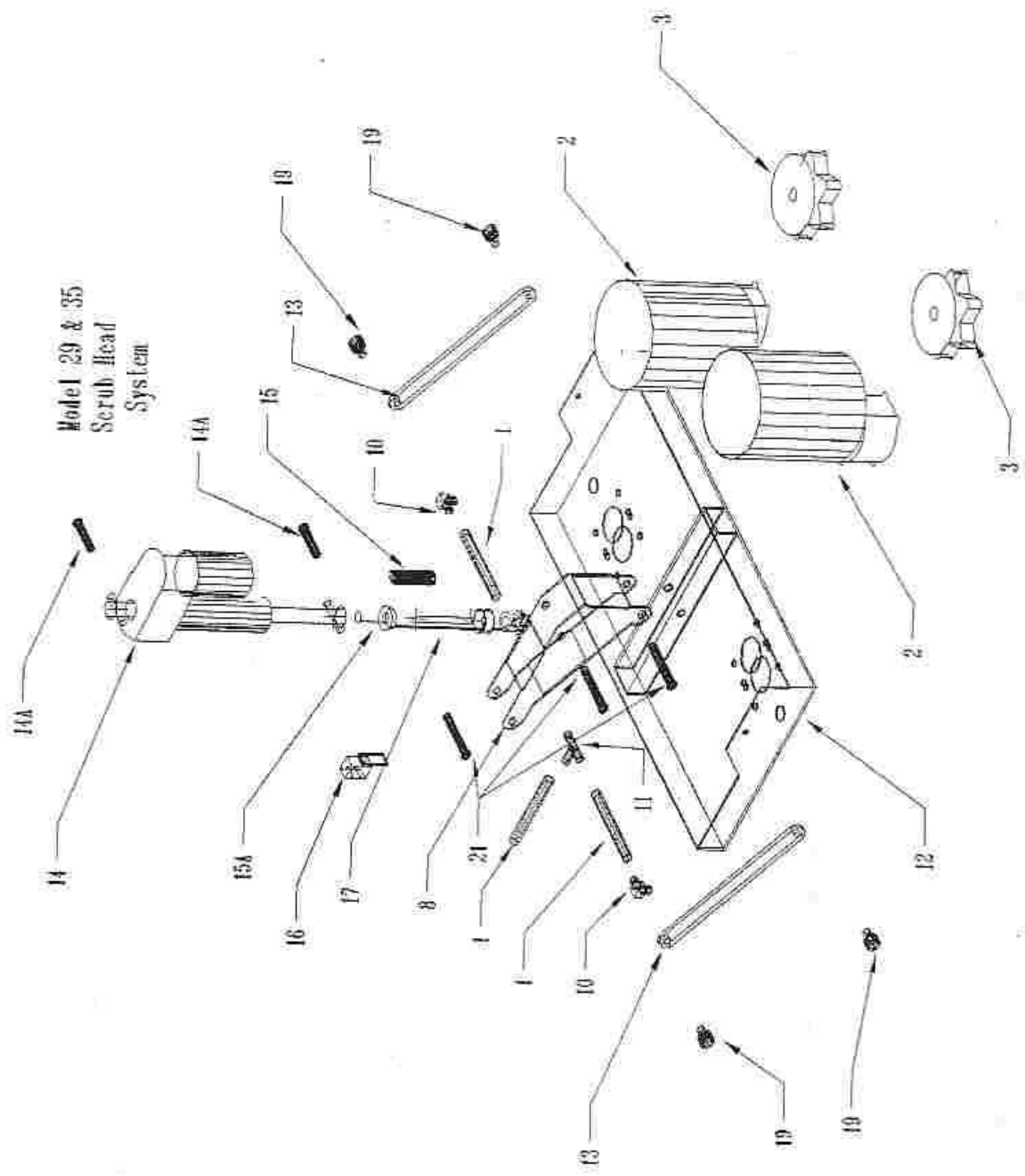
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Model 29 & 35
RECOVERY SYSTEM

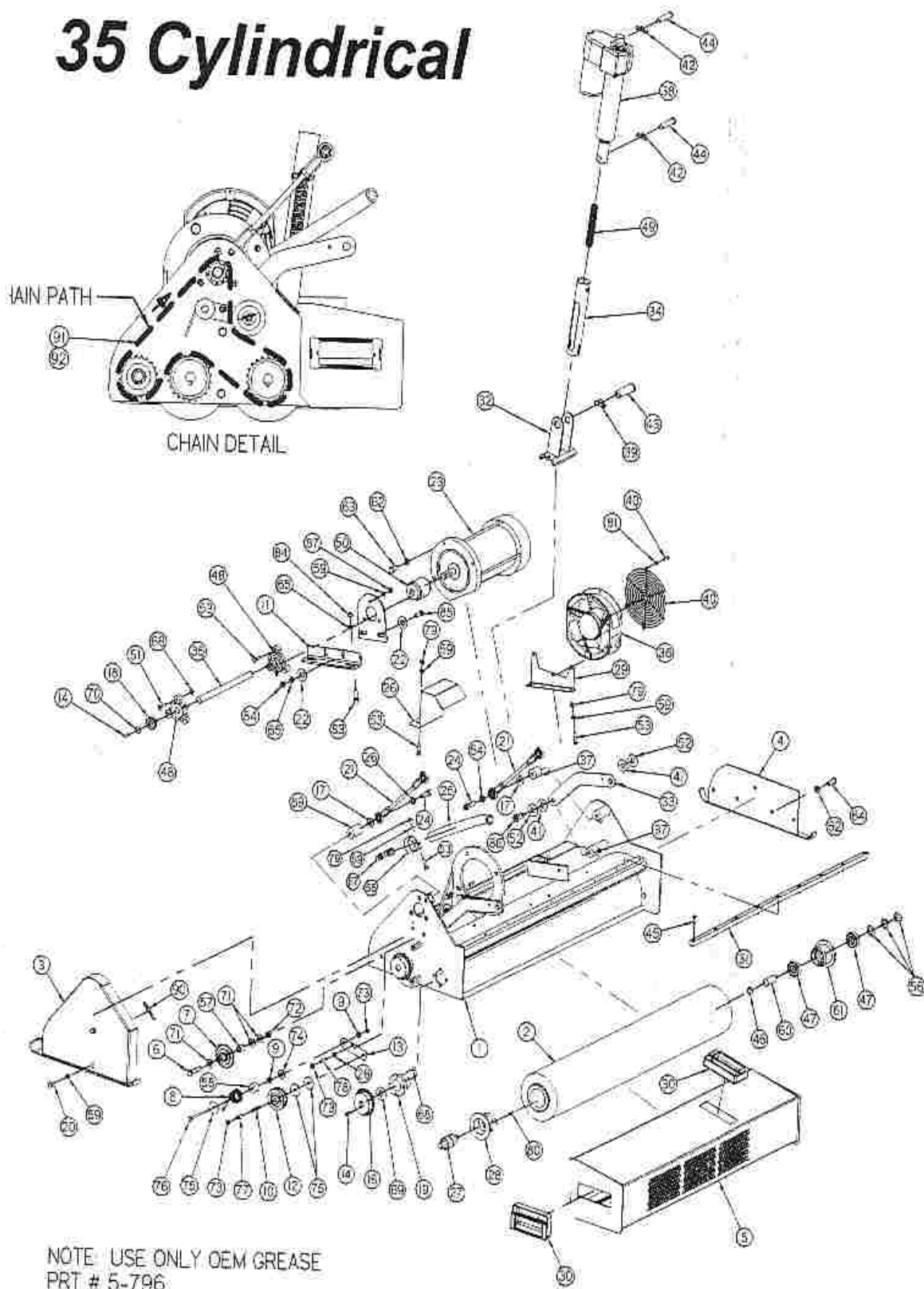
Reference	DESCRIPTION	Part No.	Qty Req'd
RECOVERY SYSTEM			
1	Recovery Tank (Polyethylene)	7-701	1
2	Recovery Tank Elbow	7-702	2
3	Recovery Tank Lid	7-423	1
3A	Recovery Tank Lid Latch	7-423B	2
3B	Recovery Tank Lid Gasket	7-426	1
4	Vacuum Hose -- Motor to Tank with Cuffs	7-704	1
	Hose	7-704A	1
4A	Hose Cuff	7-710	2
5	Vac Motor	5-225	1
Not Shown	Squeegee Limit Switch	5-223	1 Opt.
	<i>Optional--found only on electric squeegee lift system</i>		
10	Vac Hose--Squeegee to Tank, includes cuffs	7-705	1
	Hose only	7-705A	1
	Hose Cuff	7-710	2
11	Shutoff Ball Retainer Screen	7-711A	1
11A	Overflow Shut-Off Ball (PE)	7-712	1
12	Drain hose plug	5-727	1
12A	Drain Hose Tube End	5-720	1
13	Tank drain hose	5-721	1
13A	Pipe Nipple (PVC) Tank to Drain Hose 1.5 NPT	7-715	1
14	Cleanout door	7-415	1
	<i>Also fits solution tank</i>		
Not Shown	Hose clamp	5-719	2
17	Recovery Tank Vacuum Shut Off Float Switch (optional)	5-227	1
18	Vac Motor Air Cap	7-420	1
19	Vac Motor Mounting Box	7-419	1
20	Vac Motor Filter Gasket	5-708	1
21	Vac Motor Filter	5-709	1
22	O-Ring Gasket	7-416E	1
23	Cleanout & Solution Tank Door Gasket	7-416	1
	NOTE--#22 Must be Replaced by #23 & #14		
24	Vac Motor Thumb Screw	7-420A	

Model 29 & 35
Scrub Head
System



Reference	DESCRIPTION	Part No.	Qty Req'd
SCRUB SYSTEM			
1	Nylon reinforced hose. Buy it by the foot	5-894	4 ft
2	Scrub gearmotor 1 HP	5-222	2 Opt
3	Scrub gearmotor, 3/4 HP	7-222	2 Std
	Brush driver	21-5000	2
	NOTE: Brush driver style is now 8 point.		
	New style driver is free (if needed on your machine) with brush order.		
	Brush Driver Key	5-431	2
	Driver Mounting Bolt & Washer (not illustrated)	5-432	2
8	Brush suspension center arm	7-403	1
10	Plastic Water Jet Elbow	5-447	2
	Nut for Jet Elbow (not shown)	5-232	2
11	Plastic Barb Tee	5-446	1
12	Scrub Head Platform	7-402	1
13	Brush Suspension Side Arm	7-404	2
14	Scrubhead electric actuator	5-221	1
14A	Actuator Pin (1.5 in. long) w/itch pin (not illustrated)	7-225	2
15	Down Pressure Spring	5-408	1 Std
15A	Spring Retainer	5-409A	1
16	Scrubhead Limit Switch	5-223	1
17	Spring tube	7-406	1
	Spring Tube Pin	7-407	1
	Spring Tube Nut	7-405	1
18	Suspension Arm Pin (3" long); Includes keeper	5-405	3
19	Shoulder Bolts, Parallel Arms (stainless steel)	7-412	4
19A	Suspension Side Arm Washer	7-411	8
21	Brushhead Suspension Arm Pin 3"	7-410	3

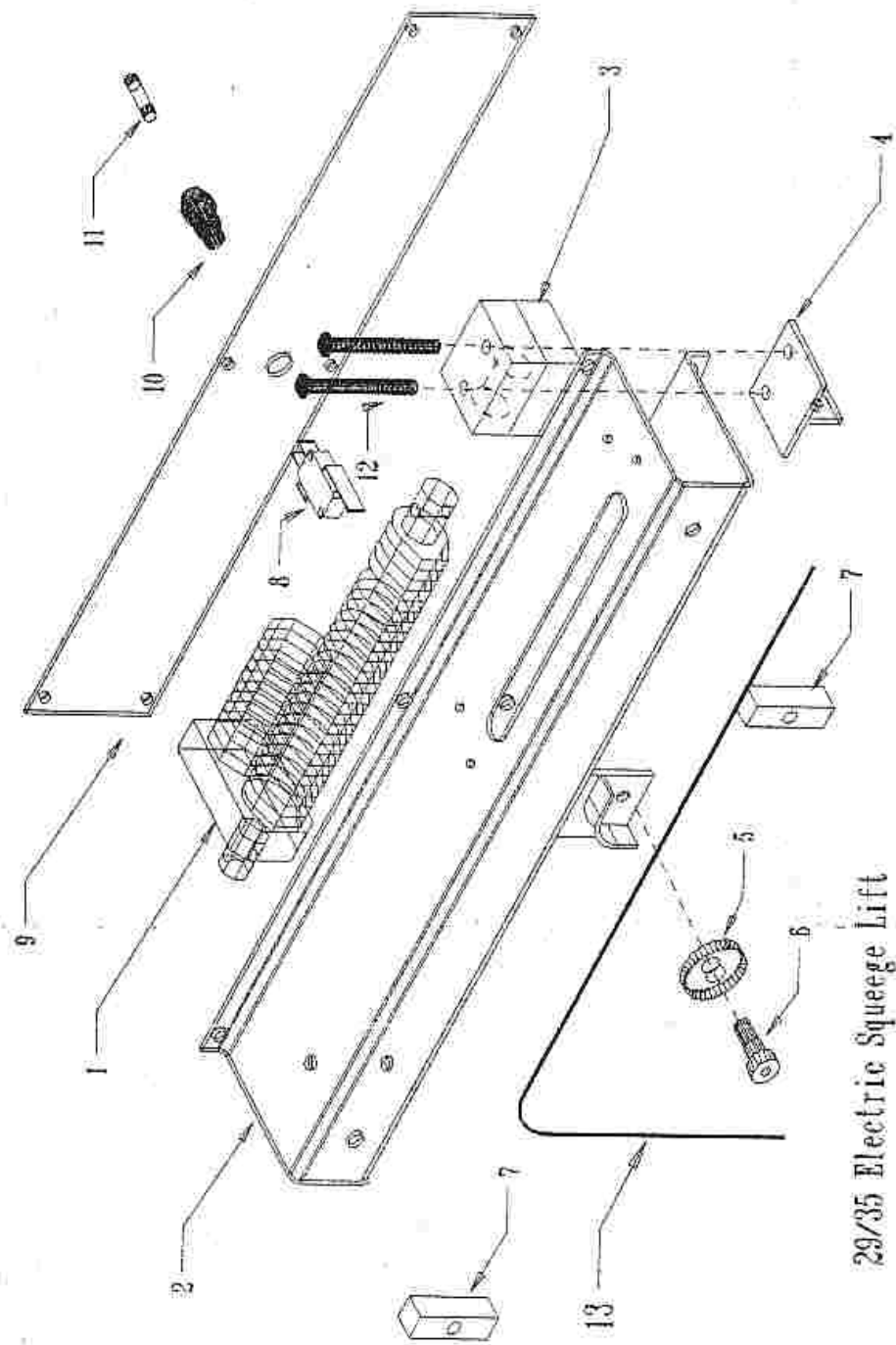
35 Cylindrical



Item	Part No.	Part Description	Qty
1	5-800	32" CYL BRUSH HEAD	1
2	5-521	CYLINDRICAL BRUSH	2
3	5-9021	CHAIN GUARD	1
4	5-801	IDLER DOOR	1
5	5-802	28" HOPPER	1
6	H-70145	HCS 3/8-24 X 1 3/4" SS	1
7	5-827	20 TOOTH SPROCKET	1
8	4-319	TENSION SPRING	1
9	H-76063	FW 3/8" NYLON	2
10	H-93580	SCS 1/4"- 20 X 1 1/4"	1
11	5-8101	BEARING MOUNT	1
12	4-317	IDLER PULLEY	1
13	22-7970	MOVABLE IDLER ARM	1
14	H-00270	3/16" X 3/4" KEY	5
15	5-8102	BEARING MOUNT	1
16	5-828	22 TOOTH SPROCKET	2
17	H-98025	FW 3/8" GRADE 8	2
18	5-826	10 TOOTH SPROCKET	1
19	1-305	BEARING HOUSING	2
20	H-70003	HCS 1/4"- 20 X 3/4" SS	2
21	7-843	ADJ LATERAL ARM	2
22	H-71021	FW 3/8" X 7/8" SS	4
23	22-2110	2 HP MOTOR	1
24	H-73541	SHCS 3/8"- 16 X 1 1/4" SS	2
25	7-4033	5/8 ID X 18" L CLEAR HOSE (VALVE TO BARB-TI)CYL)	1
26	7-815	DRIVE SHAFT GUARD	1
27	5-824	DRIVE BEARING	2
28	5-837	BROOM DRIVER	2
29	5-8100	FAN MTG BRACKET	1
30	5-849	HOPPER HANDLE	2
31	5-832	HOPPER RAIL	1
32	7-810	LIFT SLIDE	1
33	7-809	LIFT ARM	2
34	5-1101	SPRING TUBE	1
35	28-3010	DRIVE SHAFT	1
36	5-214	24V COOLING FAN	1
37	5-846	STAND OFF(1.03)	2
38	5-221	ACTUATOR, 1000 LB. LOAD	1
39	H-RUE34	RUE RING COTTER	1
40	5-214A	FAN GUARD	1
41	H-95611	FW 1/2" PVC	4
42	H-RUE22	1/2" RUE RING COTTER	2
43	H-CP286	3/4" X 2 1/2" CLEVIS PIN	1
44	H-ZCP230	1/2" X 2 1/4" CLEVIS PIN	2
45	H-72684	FHP #10-32 X 3/4" SS	9
46	H-35313	17mm SNAP RING	1

Item	Part No.	Part Description	Qty
47	1-421	IDLER BEARING	2
48	5-829	FLANGE BEARING	2
49	5-408	SPRING	1
50	8-613	FLEXIBLE COUPLER	1
51	H-72710	FHP 1/4"- 20 X 1"	1
52	H-71021	FW 1/2" USS	4
53	H-70005	HCS 1/4"- 20 X 1" SS	8
54	H-71067	LW 3/8" SS	2
55	H-3225T5	RUBBER LOOP CLAMP	1
56	H-17002	FW 17mm NYLON	3
57	5-793	IDLER SPACER	1
58	5-798	SPRING PIVOT	1
59	H-71063	LW 1/4" SS	10
60	5-858	IDLER SHAFT	1
61	5-838	BRUSH IDLER	1
62	H-71067	LOCKWASHER 3/8 SS	2
63	H-70105	HCS 3/8-16 X 1" SS	1
64	H-73815	BH SCHS 3/8-16 X 1" SS	1
65	H-71065	LW 5/16" SS	5
66	H-70860	NYLOK 1/4"- 20 SS	1
67	5-446	1/2" PLASTIC BARBED TEE	1
68	H-72682	FHP 10-32 X 1/2" SS	2
69	H-00279	WASHER 5/8 TEFLON	2
70	H-68013	5/8 SNAP RING	1
71	H-98025	WASHER 3/8 GRADE 8	3
72	H-70732	HN 3/8"- 24 SS	1
73	H-NJ04C	JNYL 1/4"- 20 SS	3
74	H-71017	FW 3/8" SS	1
75	H-33208	F W 1/4" X 1 1/4"	3
76	H-15009	HCS 1/4"- 20 X 1 1/2"	1
77	5-822	PULLEY SPACER	1
78	H-00272	SCS 1/4"- 20 X 1.0"	1
79	H-70710	HN 1/4"- 20 SS	6
80	H-K1432	3/16" X 1/2" KEY	1
81	H-33614	LW #10	1
82	H-72565	RPH #10-32 X 3/4" SS	1
83	H-70055	HB 5/16"- 18 X 1" SS	2
84	H-70711	HN 5/16"- 18 SS	4
85	H-70055	HCS 5/16"- 18 X 1" SS	2
86	H-2508C	SB 1/2" X 5/8" SS	2
87	H-37018	NYLOK 1/4"- 20	3
88	H-70911	WINGNUT 5/16"- 18 SS	1
89	5-847	STAND OFF(1.81)	2
90	5-845A	WINDLACING (WEATHER STRIPPING)	1
91	5-830	DRIVE CHAIN	1
92	5-831	MASTER LINK	1

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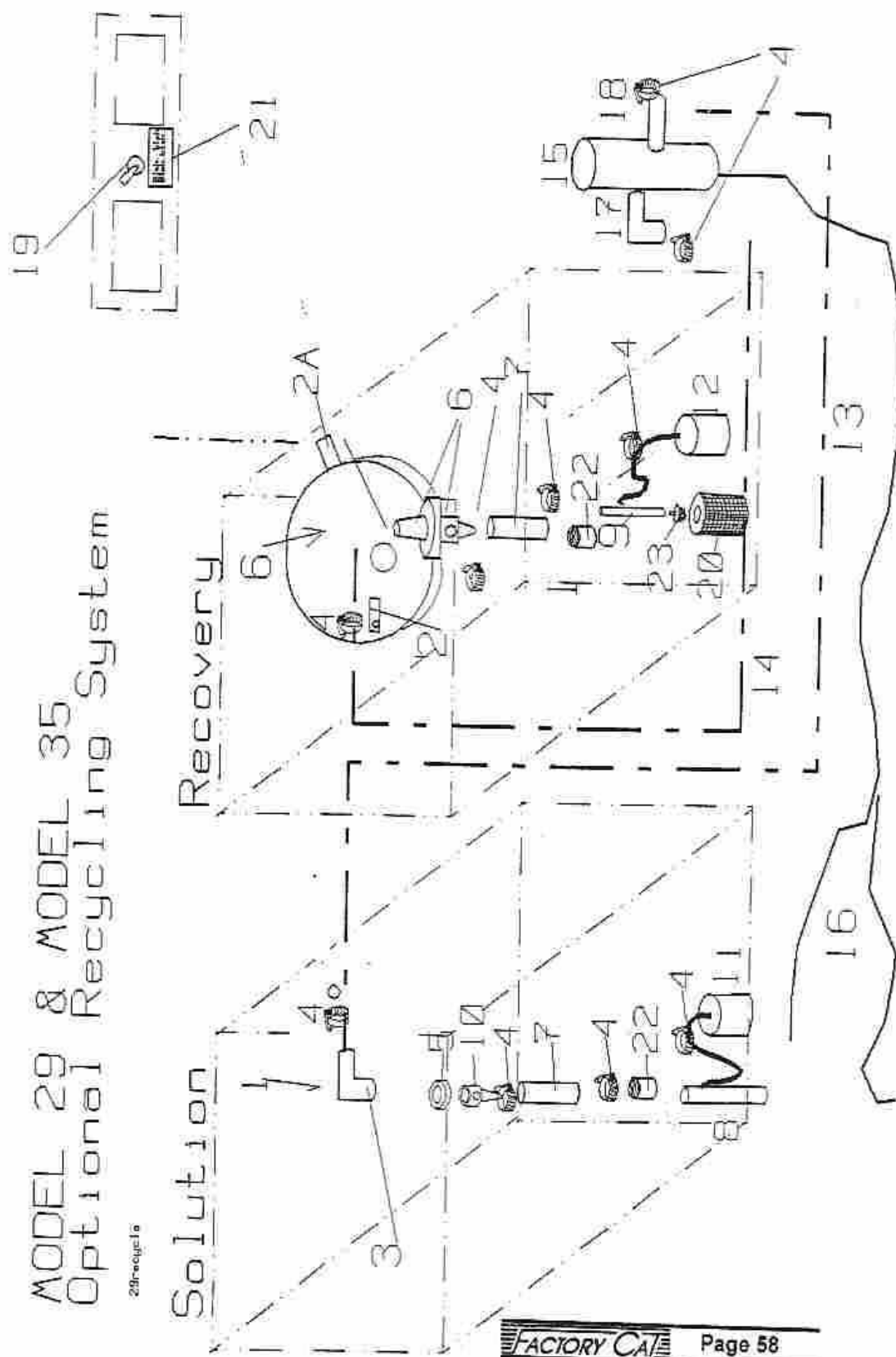


29/35 Electric Squeeze Lift

Reference	DESCRIPTION	Part No.	Qty Req'd
ELECTRIC SQUEEGEE LIFT			
1	Actuator	7-224	1
2	Trolley	7-823	1
3	Guide Block	7-824	1
4	Trolley Guideblock Cable Stop	7-833	1
5	Cable Pulley	7-827	1
6	Shoulder Bolt	7-412	1
7	Spacer	7-832	2
8	Limit Switch	7-820	1
9	Face Plate	7-822	1
10	Fuse Holder	7-825	1
11	Fuse	7-826	1
12	Guide Block Bolts	7-834	2
13	Lift Cable with Stop	7-830	1

MODEL 29 & MODEL 35
Optional Recycling System

29 received



Reference	DESCRIPTION	Part No.	Qty Req'd
RECYCLING SYSTEM (Optional on 29 and 35)			
	<i>Recycling System is Optional--Not found on all machines</i>		
	Complete System: Sold as field installation kit	7-850	1 Opt.
2	Tank lid latch (same as standard recovery lid)	7-423B	2
2A	Tank lid fixed tang (same as standard recovery lid)	H-CAM	NSS
3	Elbow	7-852	2
4	Hose clamp	5-858	10
5	Bulk Head Fitting: 3/4 NPT to 3/8 barb	7-867	2
6	Quick Disconnect (has two parts)	5-859	2
7	Flexible tube	5-857	2
8	Stainless steel outlet tube (solution tank)	7-860	1
9	Stainless steel inlet tube (recovery tank)	7-861	1
11	Solution shutoff switch (shuts off when tank level is high)	5-227	1
12	Recovery shutoff switch (shuts off when tank level is low)	5-229	1
13	Solution line (reinforced hose)	7-869	1
14	Recovery line (reinforced hose)	7-870	1
15	Pump	5-853	1
16	Wiring harness, complete	7-866	1
17	Pump elbow barb	7-867	1
18	Pump straight barb	7-868	1
19	On/Off Switch, with protective rubber boot	5-893	1
20	Filter	5-861	1
21	Dashboard Decal	5-894	1
22	Coupling, plastic 1/2 npt to 3/8 barb	7-862	1
23	3/4" to 1/2" bushing	5-862	1



STANDARD WARRANTY POLICY

R.P.S. Corporation warrants the

Factory Cat Model 29 /35 Walk-Behind Scrubber

as follows:

REPLACEMENT PARTS: 24 Months or 1,500 Hours from date of delivery to customer. This parts warranty includes all parts on the machine except normal wear parts. These exceptions are:

1. The scrub brushes.
2. The squeegee blades.
3. The squeegee's rear and side wheels.
4. The anti-splash curtains.
5. The squeegee lift cable (a failsafe device)
6. The vacuum and dump hoses.
7. Tank door seals.
8. The batteries. See below.

NOT COVERED: Parts damaged from abuse.

TANKS: Are warranted by Factory Cat for **Ten (10) Years** from date of delivery against leakage induced by other than collision damage.

BATTERIES: Are fully warranted by Factory Cat for **One (1) Year** from date of delivery.

NOT COVERED: Damage from lack of water, use of a non-automatic charger, or use of non-distilled water.

LABOR: **Six (6) Months** from date of delivery to customer.

NOT COVERED: Damage to machine due to abuse.

TRAVEL: **One (1) Month** from date of delivery to customer.

NOT COVERED: Damage to machine due to abuse.

Note that Abuse and Deliberate Misuse are not covered under any facet of this warranty. Also not covered: Routine Maintenance, Adjustments as outlined in the Operator's Manual, problems caused by Improper Maintenance, or Perceived "Problems" that are not real. Warranty is granted at the entire option of R.P.S. Corporation.

R.P.S. Corporation

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