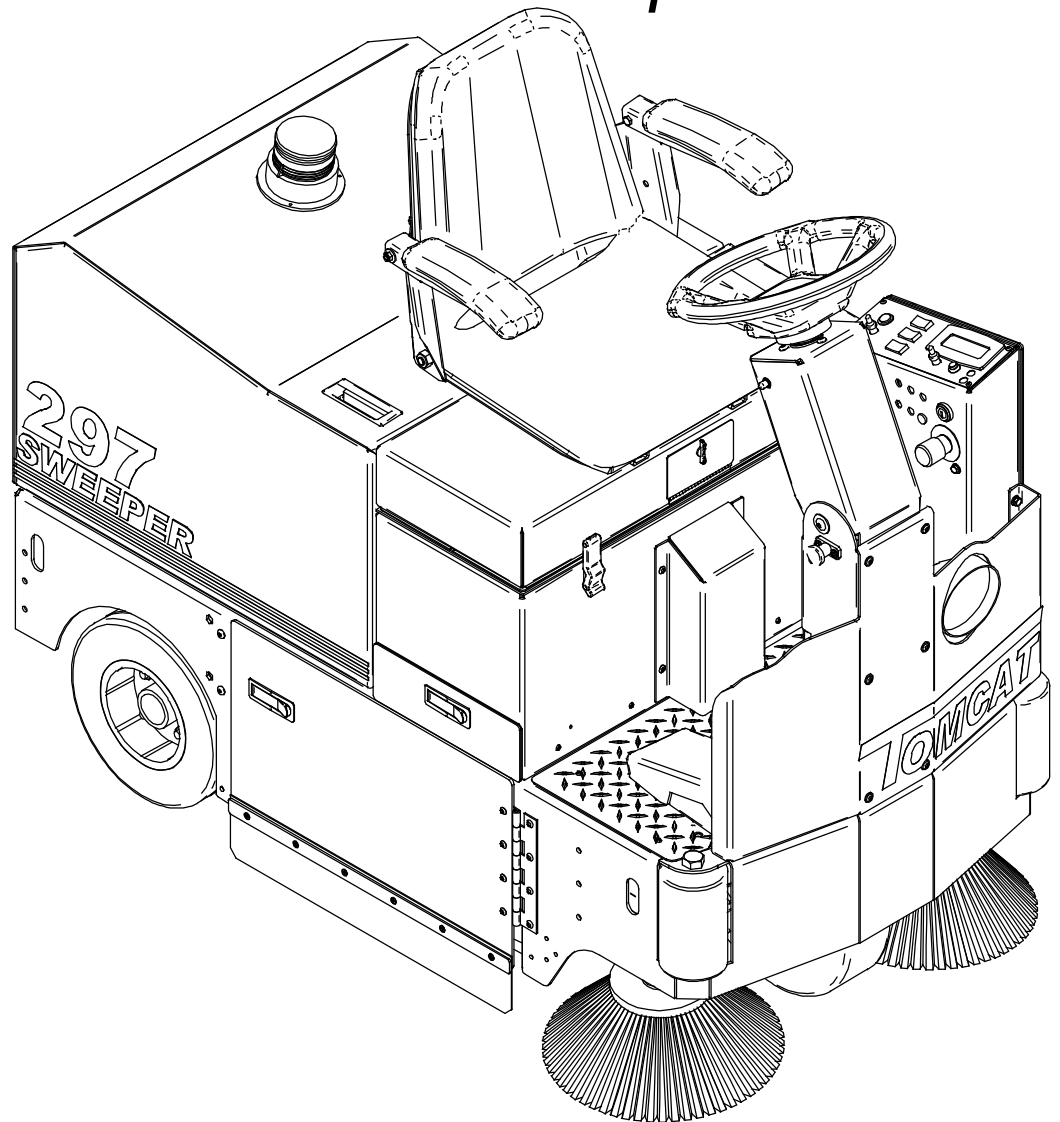


297 SERIES

TOMCAT

Operator and Parts Manual 297 Rider Sweeper



Mid-Central Corporation
P.O. Box 241
Racine, Wisconsin 53401

Phone: 1-800-450-9824
Fax: 1-866-632-6961

www.tomcatequip.com

TOMCAT

297 RIDER SWEEPER

THE TOMCAT 297 RIDER SWEEPER IS COMPACT, BUT BUILT TOUGH, SO IT SHOULD BE WORKING YEARS FROM NOW, EVEN IN ABUSIVE ENVIRONMENTS. WITH A WIDTH OF ONLY 29" IT EASILY PASSES THROUGH 32" DOORS, AND ELEVATORS ARE NOT A PROBLEM DUE TO ITS 59" LENGTH.

DEBRIS ON THE FLOOR LIKE WOOD CHIPS, CARPETING LINT, POPCORN, LEAVES, METAL PIECES, BROKEN GLASS, SAND, AND FINE CONCRETE DUST ARE PICKED UP IN A SINGLE PASS. THE MATERIAL IS SWEEPED UP BY THE POWERFUL MAIN BROOM, AND THROWN INTO THE RUGGED HOPPER. THE HOPPER SLIDES OUT THE SIDE OF THE MACHINE FOR EASY DISPOSAL OF DEBRIS WHEN ITS FULL.

OUR "ONE TOUCH SWEEPING" AND CENTRAL COMMAND II KEEP THE MAIN BROOM'S PRESSURE AT ONE OF FIVE SETTINGS, SO YOU WILL NOT HAVE TO ADJUST OR REVERSE IT, AND THE BROOM AUTOMATICALLY ADJUSTS TO IRREGULAR FLOORS.

THE DUST CONTROL ON THE TOMCAT 297 IS THE INDUSTRIES BEST. OUR EXCLUSIVE "BAGHOUSE" STYLE FILTER ENABLES THE MACHINE TO SWEEP THROUGH AN 80 POUND BAG OF CEMENT POWDER AND NOT BLOW DUST. THE FILTER'S HIGH CAPACITY DESIGN IS SIMILAR TO THE DUST COLLECTION SYSTEM ON STREETSWEEPERS, NOT VACUUM CLEANERS.

OUR 250 CFM FAN MOVES HIGH VOLUMES OF AIR, BUT AT A LOWER VELOCITY. THIS ALLOWS EXCELLENT DUST CONTROL, EVEN WITH A "DIRTY FILTER". THE LINT FROM CARPETING OR TENNIS COURTS IS EASILY CONTAINED IN THE LONG LIFE FILTER. THE FILTER IS CLEANED AT THE TOUCH OF A BUTTON, AND THE DUST IS EASILY REMOVED IN A SEPARATE SLIDING DRAWER.

THE TOMCAT 297 HAS A POWERFUL 2.0 HP SEALED DRIVE MOTOR FOR CLIMBING STEEP RAMPS, AND THE AVAILABLE NON-MARKING TIRES PROTECT EXPENSIVE FLOORS. THE OPERATOR'S HIGH BACK SEAT INCLUDES ARMREST, IS ADJUSTABLE, AND THE PARKING BRAKE SETS AUTOMATICALLY.

THE UNIT IS BATTERY POWERED, AND WILL RUN UP TO A FULL SHIFT ON A CHARGE. THE CHARGER IS FULLY AUTOMATIC, AND PLUGS INTO 110 VOLT OUTLET (USA).

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MACHINE INFORMATION

PLEASE FILL THIS AREA OUT AT THE TIME OF INSTALLATION FOR FUTURE REFERENCE.

MODEL NUMBER: _____

SERIAL NUMBER: _____

INSTALLATION DATE: _____

INSTALLING DEALER: _____

DEALER CONTACT: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: _____

THIS OPERATOR'S AND PARTS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF THE UNIT AND SHOULD REMAIN WITH THE UNIT AT ALL TIMES. THIS OPERATOR'S AND PARTS MANUAL COVERS ALL THE TOMCAT 297 SERIES SVEEPERS. YOU MAY FIND DESCRIPTIONS AND FEATURES THAT ARE NOT ON YOUR PARTICULAR MODEL. THE INFORMATION AND SPECIFICATION INCLUDED IN THIS PUBLICATION WERE IN EFFECT AT THE TIME OF PRINTING. MID-CENTRAL RESERVES THE RIGHT TO MAKE CHANGES WITHOUT NOTICE INCURRING ANY OBLIGATION.

TO REGISTER FOR WARRANTY, FAX YOUR DELIVERY FORM TODAY!



MID-CENTRAL CORPORATION
P.O. BOX 241
RACINE, WI 53401
PHONE: 800-450-9824
FAX 866-632-6961
WWW.TOMCATEQUIP.COM

MACHINE DELIVERY FORM

DEALER: _____

SERIAL NUMBER: _____

LOCATION (CITY, STATE): _____

INSTALL DATE: _____

CUSTOMER: _____

HOURLY METER: _____

CONTACT: _____

INSTALLED BY: _____

ADDRESS: _____

CITY: _____ STATE _____ ZIP _____

PHONE: _____ FAX: _____

TOMCAT MODEL NUMBER: _____

OPTIONS: 1. _____

4. _____

2. _____

5. _____

3. _____

6. _____

MAIN BROOMS: _____

SIDE BROOMS: _____

BUYER'S REPRESENTATIVE HAS:

1. RECEIVED INSTRUCTION IN PROPER OPERATION OF THIS MACHINE.
2. RECEIVED OPERATOR'S MANUAL FOR THIS MACHINE.
3. BEEN MADE AWARE THAT ANY OPERATOR SHOULD READ THE MANUAL BEFORE OPERATING THIS MACHINE.

DEALER REP. PRINT: _____

SIGN: _____

CUSTOMER PRINT: _____

SIGN: _____

MODEL

297

BODY CONSTRUCTION/DIMENSIONS

| | |
|-----------------------------|-------------|
| CHASSIS CONSTRUCTION: | 3/16" STEEL |
| REAR WHEELS: | 12" X 5" |
| FRONT WHEEL: | 12" X 4" |
| SIZE (L X W X H): | 61 X 29 X H |
| WEIGHT (WITHOUT BATTERIES): | 932 LBS. |
| WEIGHT (WITH BATTERIES): | 1,412 LBS |

SWEEPING SYSTEM

| | |
|------------------------|----------------|
| BROOM DIAMETER: | 10 INCHES |
| BROOM LENGTH: | 25 INCHES |
| MAIN BROOM POWER: | 1.0 HP |
| MAIN BROOM SPEED: | 400 RPM |
| MAIN BROOM SUSPENSION: | TRAILING ARM |
| SIDE BROOM SIZE: | (2) 11 INCHES |
| SIDE BROOM POWER: | (2) 0.3 HP |
| SIDE BROOM SPEED: | 95 RPM |
| HOPPER CAPACITY: | 2.0 CUBIC FEET |

FILTERING SYSTEM

| | |
|-----------------------|------------------|
| FILTER MATERIAL: | POLYMER FELT |
| FILTER RATING: | 1 MICRON |
| SIZE: | 3,528 SQ. INCHES |
| VACUUM RATING: | 250 CFM |
| DUST HOPPER CAPACITY: | 280 CUBIC INCHES |

BATTERY SYSTEM

| | |
|----------------------|------------------|
| SYSTEM VOLTAGE | 24 VOLT |
| BATTERY AH RATING: | (4) 305 AH |
| BATTERY RUN TIME: | UP TO 6 HRS. |
| CHARGER (AUTOMATIC): | 24 AMP, 110 VOLT |

DRIVE SYSTEM

| | |
|------------------------|--------------------|
| TRANSAXLE DESCRIPTION: | 2.0 HP, SEALED |
| SPEED CONTROL: | VARIABLE 0-320 FT. |
| NOISE LEVEL: | 70 dBA |

PRODUCTIVITY

| | |
|------------------------------|------------------|
| CLEANING WIDTH: | 36 INCHES |
| CLEANING RATE/HOUR (MAX): | 55,000 SQ. FT/HR |
| CLEANING RATE/HOUR (NORMAL): | 39,586 SQ. FT/HR |

WARRANTY

| | |
|--------|---------|
| PARTS: | 3 YEARS |
| LABOR: | 1 YEAR |

COMMON WEAR PARTS

ITEM

MODEL 297

WE RECOMMEND YOU USE OUR BROOMS. THEY ARE MADE FOR YOUR MACHINE. OUR BRAND OF BROOMS HAS A PRECISION PLASTIC CORE THAT IS CAREFULLY BALANCED AND HAS MACHINED INSERT POINTS SO THE BROOM FITS TIGHTLY ON THE MACHINE'S HUBS. BROOMS MADE BY "WILL FIT" COMPANIES TO FIT OUR MACHINES ARE OFTEN MADE WITH ROUGH DRAIN-PIPE CORES. THEY OFTEN BOUNCE EVEN WHEN NEW. BOUNCING BROOMS DO NOT SWEEP.

MAIN BROOM

| | |
|----------------|-----------|
| UNION | 290-401 U |
| NYLON | 290-401 N |
| POLY | 290-401 |
| CARPET | 290-401NN |
| WIRE | 290-401W |
| UNION STEEL | 290-401US |
| POLY AND STEEL | 290-401S |

SIDE BROOM

QUANTITY REQUIRED (2) 14 INCH BROOMS

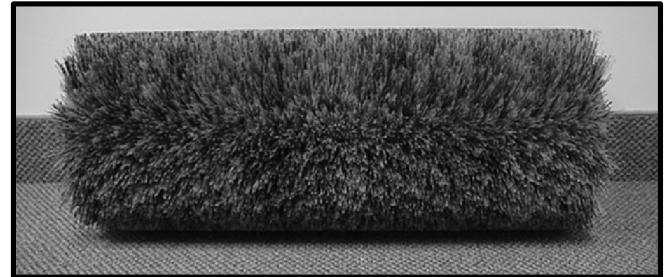
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|----------------|---------|
| POLY | 4-402 |
| NYLON | 4-402 N |
| POLY AND STEEL | 4-402 S |

FLAPS KITS

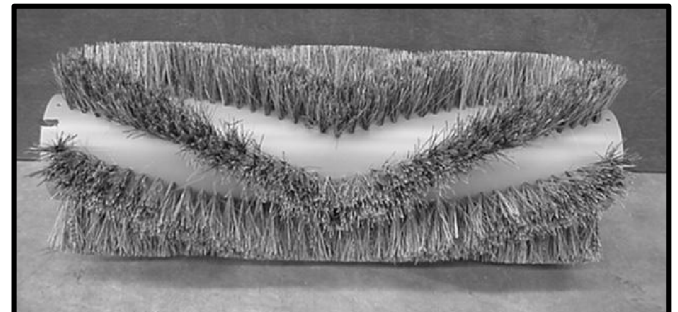
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HOPPER FLAP

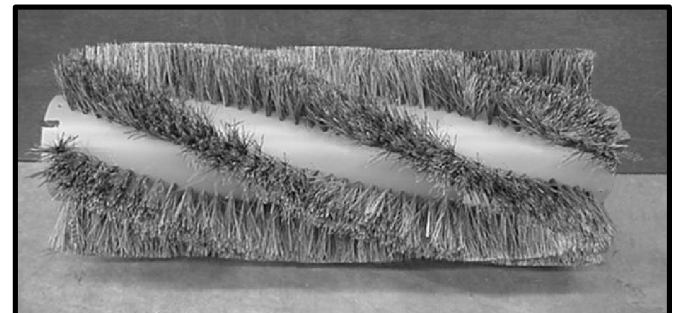
| | |
|-----------|-----------|
| 1/8 INCH | 290-571 H |
| 1/16 INCH | 290-571 |
| 1/32 INCH | 290-571 L |



*DOUBLE FIBER VEE-BROOM.
USED MORE FOR CARPETED FLOORS*



VEE-BROOM. PREFERRED STYLE



*SPIRAL-BROOM. DOES NOT SWEEP
AS WELL AS VEE BROOM.*

KIT INCLUDES: (1) HOPPER FLAP, (1) RIGHT SIDE, (1) LEFT SIDE AND (1) REAR FLAP

NOTE: CHECK YOUR HOPPER FLAP FOR THICKNESS. THE THIN (1/32 INCH) FLAP WORKS BEST ON LIGHT DEBRIS, BUT IT CAN BE MORE EASILY DAMAGED. THE STANDARD SIZES ARE (1/16 INSH)

SAFETY MESSAGES

YOUR SAFETY, AND THE SAFETY OF OTHERS, IS VERY IMPORTANT, AND OPERATING THIS UNIT SAFELY IS AN IMPORTANT RESPONSIBILITY.

TO HELP YOU MAKE INFORMED DECISIONS ABOUT SAFETY, WE HAVE PROVIDED OPERATING PROCEDURES AND OTHER SAFETY INFORMATION IN THE MANUAL. THIS INFORMATION INFORMS YOU OF POTENTIAL HAZARDS THAT COULD HURT YOU OR OTHERS.

IT IS NOT PRACTICAL OR POSSIBLE TO WARN YOU OF ALL THE HAZARDS ASSOCIATED WITH OPERATING THIS UNIT. YOU MUST USE YOUR OWN GOOD JUDGEMENT.

THIS IS INTENDED FOR COMMERCIAL USE. IT IS DESIGNED TO BE USED ON HARD FLOORS IN AN INDOOR ENVIRONMENT, WITH THE RECOMMENDED BRUSHES.

1. DO NOT OPERATE UNIT:

UNLESS TRAINED AND AUTHORIZED.
UNLESS OPERATOR MANUAL IS READ AND UNDER STOOD.
IF UNIT IS NOT PROPER CONDITION.

2. WHEN OPERATING UNIT:

KEEP HANDS AND FEET AWAY FROM REVOLVING SIDE BROOMS.
DO NOT OPERATE MACHINE WHERE FLAMMABLE LIQUIDS ARE PRESENT.
USE EXTREME CAUTION WHEN MANUEVERING.

3. BEFORE LEAVING:

MAKE SURE MACHINE IS TURNED OFF.
STOP ON LEVEL SURFACES.
DISCONNECT BATTERIES.

4. BEFORE SERVICING:

STOP ON LEVEL SURFACE, AND SECURE MACHINE.
DISCONNECT BATTERIES.

!! SAFETY PRECAUTIONS!!

WARNING: HAZARDOUS VOLTAGE. SHOCK, BURNS OR ELECTROCUTION CAN RESULT. ALWAYS DISCONNECT THE BATTERIES BEFORE SERVICING MACHINE.

WARNING: BATTERIES EMIT HYDROGEN GASES, EXPLOSION OR FIRE CAN RESULT. KEEP SPARKS AND OPEN FLAMES AWAY.

WARNING: CHARGE UNIT IN A WELL VENTILATED AREA, AND KEEP BATTERY COMPARTMENT OPEN WHEN CHARGING. EXPLOSION OR FIRE COULD RESULT.

WARNING: BATTERY ACID CAN CAUSE BURNS. WEAR PROTECTIVE EYE WEAR AND GLOVES WHEN SERVICING BATTERIES.

WARNING: DO NOT STORE OUTDOORS OR PRESSURE WASH. PREVENT FROM GETTING ELECTRONIC COMPONENTS WET.

WARNING: THE USE OF PARTS AND SOLUTIONS OTHER THAN RECOMMENDED BY THE MANUFACTURER MAY CAUSE DAMAGE OR ENDANGER PEOPLE.

WARNING: DRESS SAFELY. DO NOT WEAR RINGS OR METAL WRIST WATCHES WHILE WORKING ON THIS MACHINE. THEY CAN CAUSE AN ELECTRICAL SHORT, WHICH, CAN CAUSE SERIOUS BURNS. DO NOT WORK ON THIS MACHINE WHILE WEARING A TIE, SCARF OR OTHER LOOSE, DANGLING NECKWARE OR CLOTHING. THESE LOOSE ITEMS CAN TANGLE IN THE ROTATING PARTS AND CAUSE SERIOUS INJURY OR EVEN DEATH.

WARNING: DO NOT USE THE MACHINE AS A STEP LADDER OR CHAIR.

WARNING: ONLY OPERATE THIS MACHINE FROM THE OPERATORS SEAT. IT WAS NOT DESIGNED TO CARRY PASSENGERS.

WARNING: DO NOT OPERATE THIS MACHINE ON RAMPS OR UNEVEN SURFACES. WHEN CLIMBING A RAMP, ALWAYS DRIVE THE MACHINE IN FORWARD STRAIGHT UP OR DOWN THE RAMP. NEVER DRIVE ACROSS THE INCLINE. DO NOT BACK DOWN OR TURN ON RAMPS!

WARNING: ALWAYS USE THE CHARGER PROVIDED BY THE MANUFACTURER TO CHARGE THE MACHINE. IT IS AN AUTOMATIC CHARGER, SPECIFICALLY DESIGNED TO CHARGE AT THE APPROPRIATE RATE. IF YOU MUST USE A DIFFERENT CHARGER, DISCONNECT THE BATTERIES BEFORE CHARGING. THIS WILL PREVENT DAMAGE TO THE ELECTRONIC SPEED CONTROLLER.

WARNING: UNDERSTAND THE DYNAMIC BRAKING SYSTEM BEFORE YOU OPERATE THE MACHINE ON RAMPS. MACHINE DOES NOT COAST. RELEASING THE FOOTPEDAL WILL AUTOMATICALLY APPLY BRAKING FORCE, AND STOP THE MACHINE.

WARNING: DO NOT PARK THE MACHINE ON RAMPS OR SLOPES. THE MACHINE HAS A PARKING BRAKE, BUT IT IS RECOMMENDED THAT IT ALWAYS BE PARKED ON LEVEL GROUND.

WARNING: DO NOT OPERATE THE MACHINE IF ANY PARTS HAVE BEEN REMOVED OR DAMAGED.

WARNING: DO NOT REMOVE, PAINT OVER, OR DESTROY WARNING DECALS. IF WARNING DECALS BECOME DAMAGED, THEY MUST BE REPLACED.

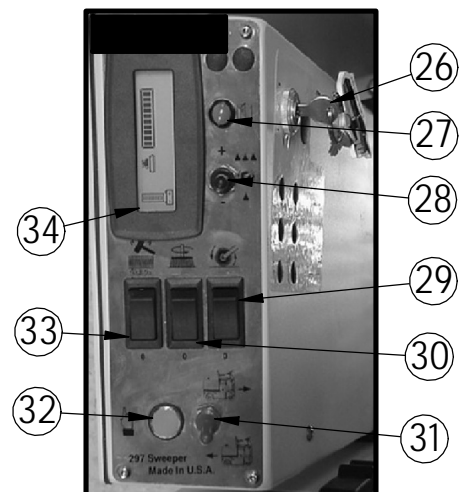
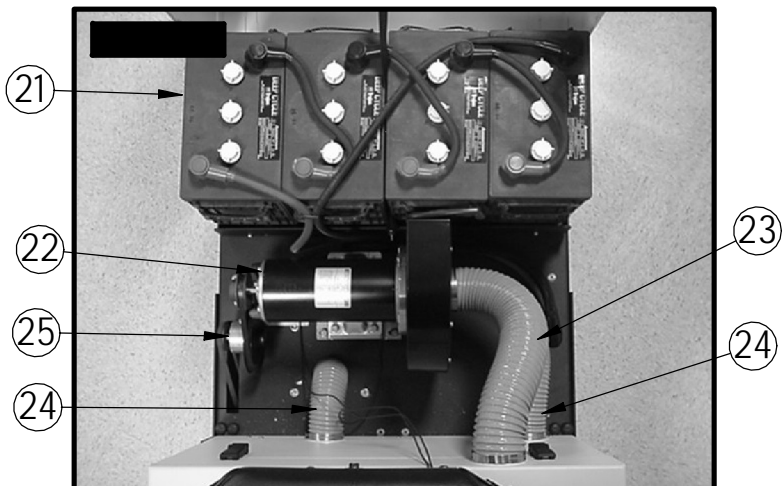
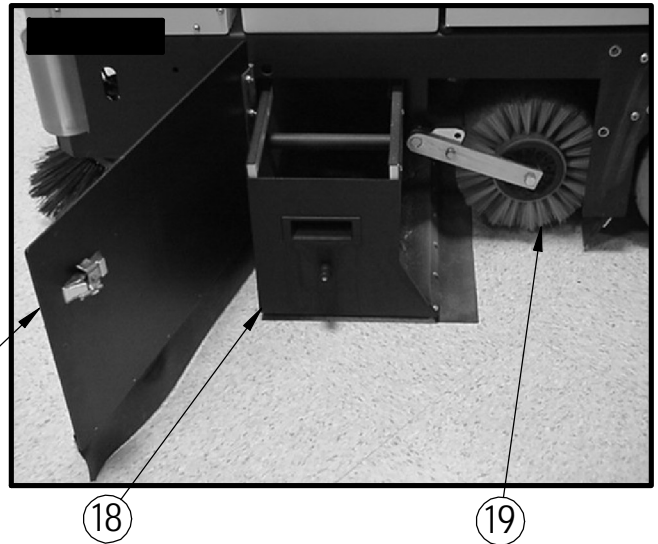
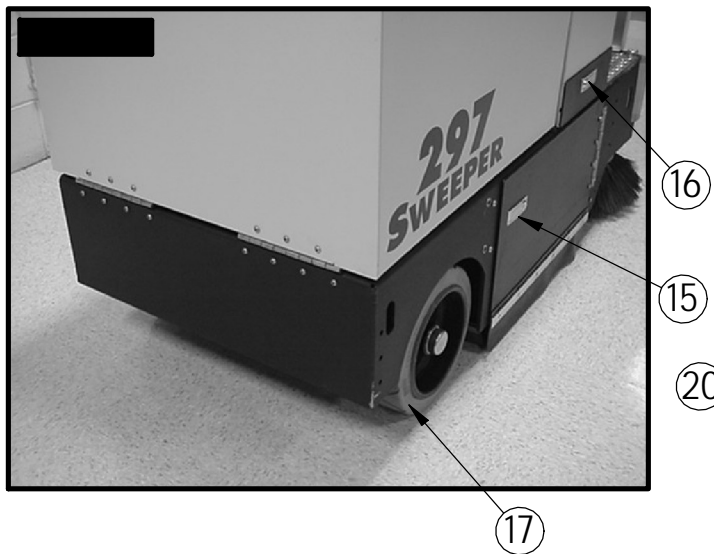
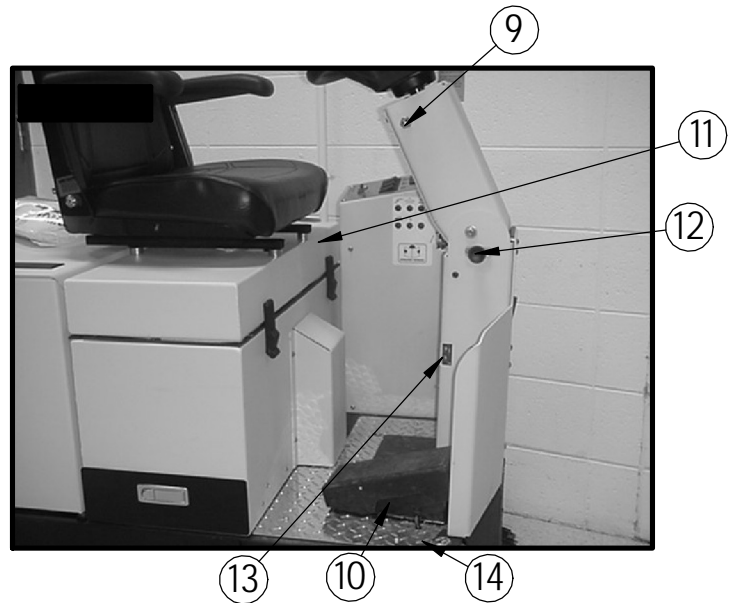
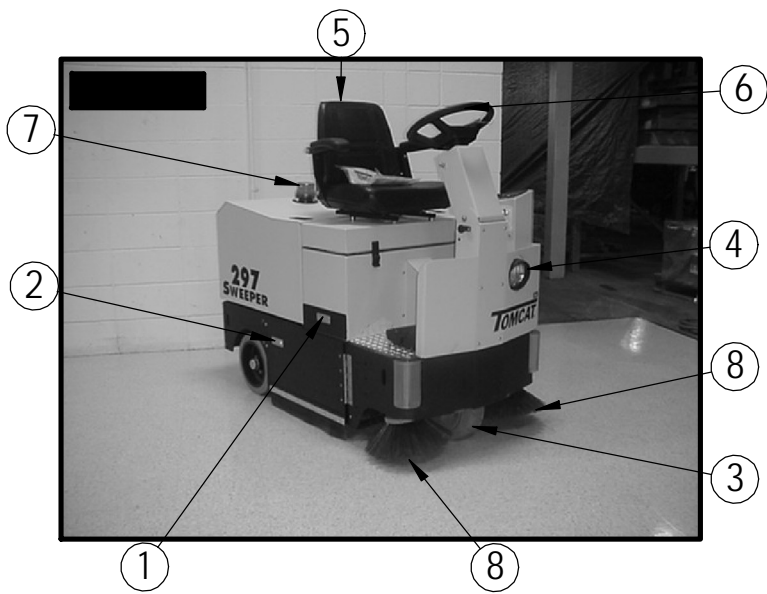
WARNING: DO NOT OPERATE MACHINE IN UNSAFE CONDITION. IF THE MACHINE IS IN NEED OF REPAIR OR IS IN ANY WAY UNSAFE TO OPERATE, THE MATTER SHOULD BE REPORTED IMMEDIATELY TO THE SHIFT SUPERVISOR. DO NOT OPERATE THE MACHINE UNTIL IT IS RETURNED TO PROPER OPERATING CONDITION.

WARNING: THIS MACHINE MUST ONLY BE OPERATED BY TRAINED OPERATOR. AS PART OF HIS OR HER TRAINING, THEY MUST READ THIS MANUAL THOROUGHLY. IF EXTRA COPIES ARE NEEDED, CONTACT YOUR LOCAL DEALER.

WARNING: ALWAYS TURN OFF THE MACHINE, BEFORE LEAVING IT UNATTENDED.

WARNING: DO NOT SWEEP OVER ELECTRICAL FLOOR OUTLETS. MAY RESULTS IN SERIOUS INJURY.

MACHINE CONTROLS AND FEATURES



CONTROLS AND FUNCTIONS

SEE FIG. (1-6) ON PAGE 7

FIGURE 1.

1. DUST TRAY LATCH: KEEPS DUST TRAY IN PLACE.
2. IDLER ARM ACCESS DOOR LATCH: KEEPS ACCESS DOOR LOCKED.
3. FRONT WHEEL: STEERS AND PROPELS MACHINE.
4. HEADLIGHT: HELPS YOU SEE IN LOW LIGHT AREAS AND TO WARN ONCOMING TRAFFIC.
5. SEAT: ADJUSTABLE SEAT FOR OPERATOR COMFORT AND EASE OF ENTRY.
6. STEERING WHEEL: USED TO STEER THE MACHINE.
7. STROBE LIGHT: SAFETY LIGHT. (OPTIONAL)
8. SIDE BROOMS: HELPS CLEAN AGAINST WALLS AND OBJECTS.

FIGURE 2.

9. HORN BUTTON: SOUNDS HORN.
10. FOOT PEDAL: MAKES MACHINE GO AND RELEASE PEDAL TO STOP.
11. WET SWEEP BY-PASS: YOU SWEEP OVER WATER WITHOUT SUCKING THE WATER UP INTO THE FILTER.
12. ADJUSTABLE STERING: ADJUSTABLE STERING WHEEL FOR COMFORT AND EASE OF ENTRY.
13. CHARGE PORT: RED 50 USED TO RECEIVE CHARGER INPUT. (NOTE: ONLY USE CHARGER PROVIDED)
14. NON SLIP FLOOR PLATE: HELPS PREVENT SLIPING WHEN GETTING ON AND OFF OF MACHINE.

FIGURE 3.

15. IDLER ARM ACCESS DOOR: GIVES YOU EASY ACCESS TO IDLER ARM AND BELTS.
16. DUST TRAY: FILTER SHAKER DROPS DUST FROM THE FILTER ON TO THE DUST TRAY.
17. REAR TIRES: NON-MARKING AND EXTRA WIDE FOR STABILITY

FIGURE 4.

18. HOPPER: HOLDS DEBRIS AND IS REMOVABLE FOR EASY DISPOSAL.
19. MAIN BROOM: SWEEPS DEBRIS INTO HOPPER.
20. MAIN BROOM/HOPPER ACCESS DOOR: PROVIDES EASY ACCESS TO MAIN BROOM AND HOPPER.

FIGURE 5.

21. BATTERIES: PROVIDE POWER TO RUN MACHINE.
22. MAIN BROOM/VACUUM FAN MOTOR: PROVIDES POWER TO MAIN BROOM AND VACUUM SYSTEM.
23. MAIN FAN HOSE: VACUUM FAN PULLS CLEAN AIR FROM THE FILTER BOX THROUGH THE MAIN FAN HOSE.
24. LEFT AND RIGHT VACCUM HOSES: THESE HOSES PULL DUST FROM THE MAIN BROOM TO THE FILTER BOX.
25. JACK SHAFT: ALLOWS THE VACUUM FAN MOTOR TO ALSO POWER THE MAIN BROOM.

FIGURE 6.

26. KEY SWITCH: TURNS POWER TO MACHINE ON AND OFF.
27. MENU CONTROL: SCROLLS THROUGH DIFFERENT OPTIONS ON THE LCD DISPLAY.
28. BROOM PRESSURE ADJUSTMENT TOGGLE SWITCH: SETTINGS #1 (MINIMUM) - #5 (MAXIMUM).
29. MAIN BROOM SWITCH: RAISES AND LOWERS THE MAIN BROOM.
30. SIDE BROOM SWITCH: RAISES AND LOWERS SIDE BROOMS.
31. FORWARD/REVERSE SWITCH: CONTROLS THE DIRECTION OF THE TRACTION MOTOR.
32. ONE TOUCH BUTTON: ACTIVATES THE MAIN BROOM, DUST CONTROL SYSTEM, AND THE SIDE BROOMS SIMULTANEOUSLY.
33. FILTER SHAKER SWITCH: SHAKES DEBRIS FROM FILTER AND DROPS THEM INTO HOPPER.
34. LCD SCREEN DISPLAY: LISTS FUNCTIONS AND SETTINGS OF THE MACHINE.

MACHINE PREP

UNCRATING MACHINE

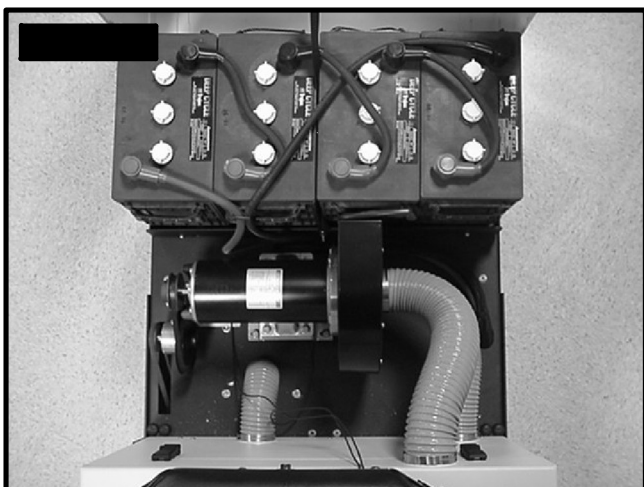
CAREFULLY CHECK THE CRATE FOR ANY SIGNS OF DAMAGE. BATTERIES ARE IN THE UNIT.

TO UNCRATE THE MACHINE, REMOVE BANDING FROM AROUND THE CRATE. TAKE OFF THE TOP AND SIDES AND DISPOSE OF PROPERLY. REMOVE BANDING FROM MACHINE. REMOVE THE CHOCKS AROUND THE DRIVE WHEELS. FOLD DOWN RAMP, AND ROLL MACHINE OFF OF THE BASE. NOTIFY THE CARRIER IMMEDIATELY IF CONCEALED DAMAGE IS DISCOVERED.

CONNECTING BATTERIES

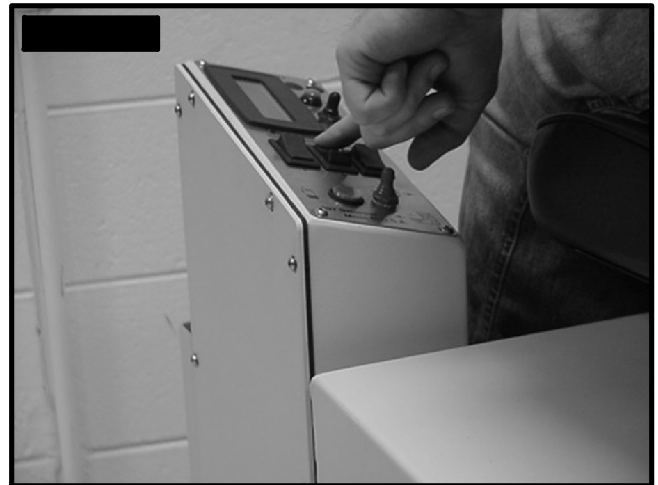
YOUR MACHINE IS EQUIPPED WITH (FOUR) 6 VOLT, DEEP CYCLE, 305 OR 395 AMP HOURS BATTERIES, WHICH FORM A 24 VOLT SYSTEM. MAXIMUM BATTERY DIMENSIONS ARE 7"W X 15"L X 15"H.

1. TURN ALL SWITCHES TO THE OFF POSITION AND REMOVE KEY.
2. HINGE OPEN THE BATTERY ACCESS LID TO ACCESS THE BATTERY COMPARTMENT.
3. ALL FOUR OF THE BATTERY CABLES ARE CONNECTED TO THE BATTERIES. LOCATE ANY LOOSE ONES AND TIGHTEN WITH 9/16" WRENCH. (SEE FIG. 7)
4. TURN ON MAIN POWER SWITCH AND CHECK THE BATTERY CONDITION METER TO ENSURE CORRECT INSTALLATION. CHARGE BATTERIES IF NEEDED. (SEE: BATTERY CHARGING)



ATTACHING SIDE BROOMS

1. LOWER THE SIDE BROOM LINKAGE BY PRESSING THE TOP HALF OF THE SIDE BROOM SWITCH. (SEE FIGURE 8.)



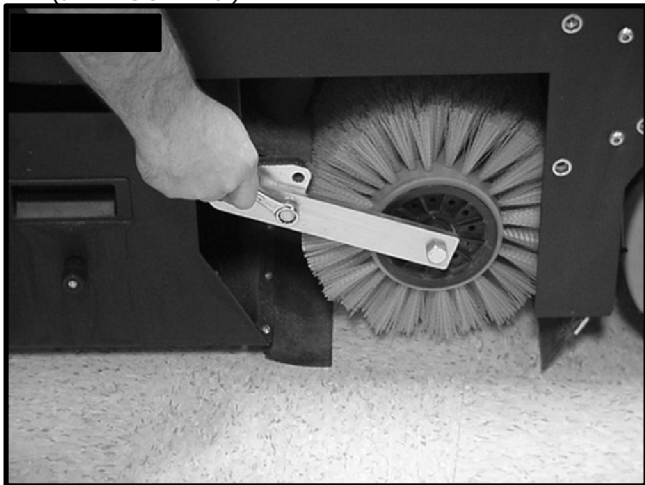
2. REMOVE THE SIDE BROOMS FROM THE SHIPPING BOX.
3. INSTALL THE SIDE BROOMS ONTO THE MOTOR SHAFT, BY SLIDING THEM UPWARDS. LINE UP THE HOLES AND INSTALL THE CLEVIS PIN WITH SAETY CLIP (SEE FIGURE 9.)
4. YOU MAY NEED TO ADJUST THE SIDE BROOM HEIGHT, BY USING THE ADJUSTMENT SCREW.



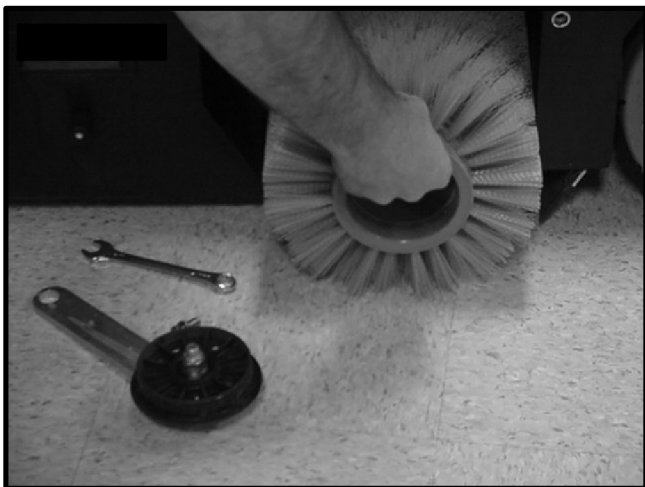
MACHINE SETUP

REPLACING MAIN BROOM

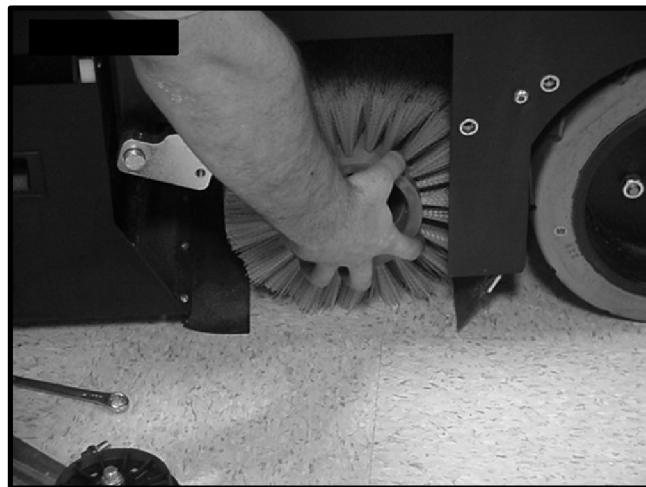
1. TURN THE MACHINE OFF. USE A 9/16 INCH WRENCH TO REMOVE THE 3/8-16 HCS BOLT IN THE CENTER OF ARM AND REMOVE THE IDLER ARM ASSEMBLY. (SEE FIGURE 10.)



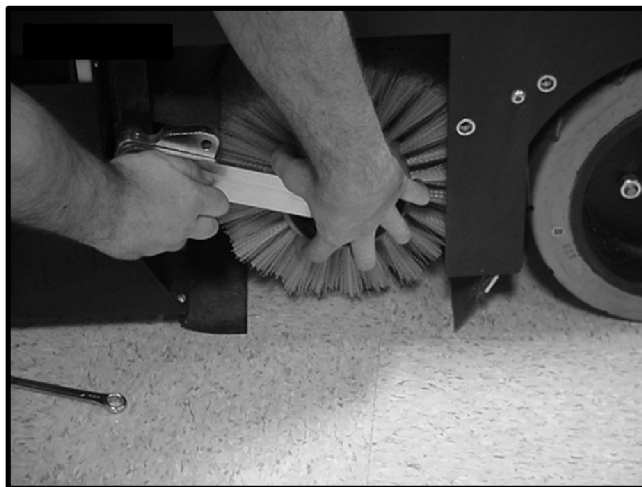
2. THE MAIN BROOM SHOULD SLIDE OUT THE SIDE OF THE MACHINE EASILY. (SEE FIGURE 12.)



3. SLIDE THE NEW BROOM IN. WHEN YOU GET THE BRUSH ON THE DRIVER SPIN IT WITH YOUR HAND UNTIL YOU FEEL IT CATCH ON THE DRIVER AND THEN PRESS IT COMPLETELY ON. (SEE FIGURE 12.)



4. WITH THE MAIN BROOM COMPLETELY INSTALLED, REPLACE THE IDLER ARM AND THE FASTENERS. THE ARM SHOULD GO ON EASILY, AND METAL TO METAL. IF THERE IS ANY GAPS LEFT BEFORE TIGHTENING, IT HAS NOT BEEN INSTALLED PROPERLY. (SEE FIGURE 13.)



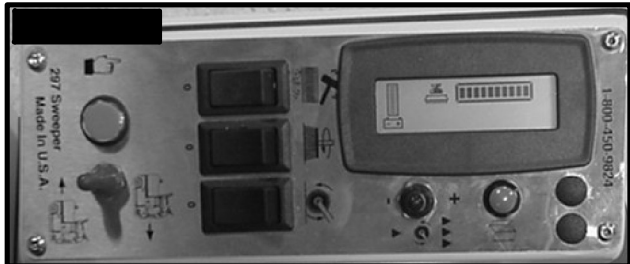
WARNING: IF THE BROOM IS NOT FULLY ENGAGED WITH THE DRIVERS, THE BRUSHES WILL BE DAMAGED. DO NOT FORCE THE IDLER ARM BACK ON. THIS USUALLY INDICATES IMPROPER INSTALLATION

NOTE: SELECT THE BROOM FIBER THAT BEST MEETS YOUR CLEANING APPLICATION CONSULT YOUR LOCAL CEALER FOR ASSISTANCE. (SEE BRUSH TYPES ON PAGE 4.)

PRE- SWEEPING CHECK LIST

READ AND UNDERSTAND SAFETY INSTRUCTIONS ON PAGE 5 AND 6
BEFORE OPERATING THIS MACHINE

1. CHECK BATTERY CONDITION ON BATTERY CONDITION METER. MAKE SURE BATTERIES ARE FULLY CHARGED BEFORE USING. (SEE FIGURE 14.)



2. CHECK CONDITION OF MAIN BROOM AND MAKE SURE IT IS SECURELY IN PLACE.

3. REMOVE ALL STRING BANDING, OR ANYTHING WOUND AROUND THE IDLER PULLEY AND BEARING. (SEE FIGURE 15.)



4. CHECK CONDITION OF SIDE BROOMS AND MAKE SURE THEY LIFT AND LOWER CORRECTLY.



5. CHECK THE SIDE BROOMS TO SEE IF THEY ARE AT THE CORRECT SETTING FOR SWEEPING. (SEE FIGURE 16.)

6. CLEAN THE FILTER BY PRESSING THE SHAKER SWITCH FOR ABOUT 10 SECONDS. (SEE FIGURE 17.)



7. PRESS THE DOOR LATCH, AND OPEN DOOR ON THE SIDE OF THE MACHINE. SLIDE OUT HOPPER FROM THE MACHINE. (SEE FIGURE 18.)



8. EMPTY THE HOPPER INTO A TRASH RECEPTACLE.

9. INSTALL THE HOPPER BACK INTO THE MACHINE AND DEPRESS THE DOOR LATCH. (SEE FIGURE 19.)



OPERATION

ONE PASS SWEEPING

1. TURN MACHINE ON WITH THE KEYSWITCH.
2. TURN ON THE FILTER BEATER FOR ABOUT TEN SECONDS TO CLEAR THE FILTER.
3. PUSH THE GREEN ONE TOUCH BUTTON.
(SEE FIGURE 20.)



4. BEGIN SWEEPING BY DEPRESSING THE FOOT PEDAL SLOWLY AND THEN TO THE SPEED REQUIRED.
5. ONCE THE MAIN BROOM BEGINS TO MOVE, CHECK THE PRESSURE GAUGE. (SEE FIGURE 21.)



6. TO OPERATE MACHINE IN REVERSE, SIMPLY SWITCH THE REVERSE SWITCH TO THE REVERSE POSITION. (SEE FIGURE 22.)



7. TO STOP THE MACHINE, LET OFF OF THE FOOT PEDAL, AND THE MACHINE WILL STOP AUTOMATICALLY.

OPERATING HINTS

1. OBSERVE THE SPEED OF THE MACHINE AND ADJUST TO THE DESIRED RATE. TO INCREASE THE SPEED, DEPRESS THE FOOTPEDAL MORE. TO STOP THE MACHINE, LET OFF THE FOOTPEDAL AND THE BRAKE WILL AUTOMATICALLY BE APPLIED.
2. KEEP AN EYE ON THE VACUUM MOTOR TO MAKE SURE THERE IS NO DUST BLOW-THRU. IF DUST BEGINS TO DEVELOP, THE FILTER SHOULD BE CLEANED. PRESS THE FILTER SHAKER SWITCH TO CLEAN THE FILTER.
3. ALWAYS OPERATE AT LOWER SPEEDS WHEN SWEEPING AROUND WALLS AND OBJECTS. YOU SHOULD REDUCE THE SPEED, TO MAINTAIN CONTROL WHEN TURNING.
4. IF THE MACHINE STARTS TO TRAIL, STOP AND EMPTY THE HOPPER. IF THE TRAILING DEBRIS CONTINUES, YOU MAY NEED TO REPLACE THE SKIRTS THAT SURROUND THE SWEEPING CHAMBER.
5. CHANGE THE BRUSHES WHEN WORN TO A FIBER LENGTH OF 1 INCH.
6. STAY CLEAR OF OBJECTS PROTRUDING FROM THE FLOOR, SUCH AS ELECTRICAL SOCKETS, AND PIPES, FOR THEY CAN DAMAGE THE LOWER SKIRTS AND BE DANGEROUS.
7. YOU SHOULD TRY TO AVOID WATER, OIL AND, OTHER LIQUIDS SPILLED ON THE FLOOR. BE SURE TO USE THE WET SWEEP BY-PASS WHEN SMALL AMOUNTS OF MOISTURE ARE ENCOUNTERED.
8. ALWAYS KEEP AN EYE ON YOUR GAUGES. THEY ARE THERE TO HELP YOU CLEAN MORE EFFICIENTLY, BY LETTING YOU KNOW THE STATUS OF THAT PARTICULAR SYSTEM AT A GLANCE. IF YOUR BATTERY GAUGE IS READING LOW, YOU MUST STOP IMMEDIATELY, AND RECHARGE. RUNNING THE BATTERY DEAD, WILL RESULT IN DAMAGE TO THE BATTERIES.
9. KEEPING THE EXTERIOR APPEARANCE OF THE MACHINE IN GOOD CONDITION, WILL GENERALLY ENCOURAGE OTHERS TO TREAT THE MACHINE WITH MORE CARE.
10. WHEN YOU ARE READY TO STOP, PICK UP THE BROOMS, DRIVE THE MACHINE BACK TO THE CHARGING AREA AND BE SURE TO TURN OFF THE POWER SWITCH. BE SURE TO EMPTY THE HOPPER AND CLEAN THE FILTER BEFORE STORING.

BATTERY CHARGING

CAUTION: THE FOLLOWING INSTRUCTIONS ARE INTENDED FOR THE 24V CHARGER SUPPLIED WITH THE MACHINE. DO NOT USE ANY OTHER CHARGER WITH THIS MACHINE.

CHARGER SPECIFICATIONS

OUTPUT VOLTAGE OF 24 VOLTS.

OUTPUT CURRENT OF 36 AMPS MAX.

INPUT VOLTAGE OF 110 VOLTS/60 Hz.

AUTOMATIC SHUT OFF CIRCUIT.

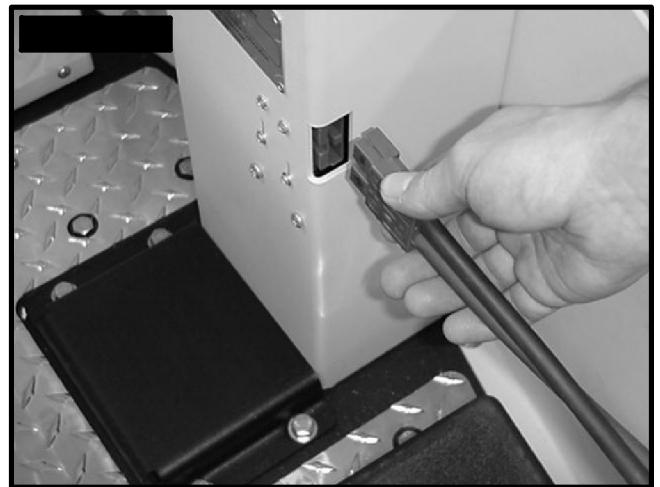
MADE FOR DEEP CYCLE BATTERIES.

DANGER: ALWAYS CHARGE BATTERIES IN A WELL VENTILATED AREA. BATTERIES EMIT HYDROGEN GAS. EXPLOSION OR FIRE CAN RESULT. KEEP SPARKS AND FLAME AWAY. SHIELD EYES WHEN SERVICING BATTERIES AND AVOID CONTACT WITH BATTERY ACID. LEAVE BATTERY HOOD OPEN!

1. TRANSPORT MACHINE TO A WELL VENTILATED AREA FOR CHARGING.
2. TURN THE MACHINE OFF.
3. HINGE OPEN THE BATTERY ACCESS HOOD TO EXPOSE THE BATTERIES. (SEE FIG. 23)
(CAUTION ALWAYS WEAR EYE PROTECTION WHEN BATTERIES ARE EXPOSED)



4. CHECK THE WATER LEVEL IN EACH BATTERY. DO NOT CHARGE THE MACHINE UNLESS THE WATER IS SLIGHTLY HIGHER THAN THE PLATES. IF NEEDED, ADD ENOUGH *DISTILLED* WATER TO JUST SLIGHTLY COVER THE PLATES. DO NOT OVER FILL. BATTERIES CAN OVERFLOW DURING CHARGING. REPLACE CAPS BEFORE CHARGING.
5. WITH THE RED CHARGER PLUG DISCONNECTED FROM THE MACHINE, PLUG THE CHARGER POWER CORD INTO A GROUNDED 110 VOLT STANDARD WALL OUTLET.
(SEE FIGURE 24)
6. CONNECT THE RED CHARGER PLUG INTO THE BATTERY CHARGING PORT LOCATED ON THE LOWER PORTION OF THE STEERING TOWER.



7. THE CHARGER WILL AUTOMATICALLY BEGIN CHARGING, AND AUTOMATICALLY SHUT OFF WHEN FULLY CHARGED (CHECK GAUGE)
8. AFTER THE CHARGER HAS TURNED OFF, UNPLUG THE RED CHARGER PLUG FROM THE MACHINE AND DISCONNECT THE CHARGER FROM THE WALL OUTLET.
9. RECHECK THE CELL LEVEL AFTER CHARGING. IF NEEDED, ADD *DISTILLED* WATER UP TO THE CORRECT LEVEL. BE CERTAIN TO REPLACE THE CAPS SECURELY AND TO WIPE OFF THE TOP OF THE BATTERIES WITH A CLEAN CLOTH.

MAINTENANCE

DAILY MAINTENANCE

1. CLEAN THE FILTER WITH THE SHAKER SWITCH FOR 20 SECONDS.
2. REMOVE AND CLEAN DEBRIS FROM THE HOPPER AND RINSE OUT IF NECESSARY.
3. CHARGE THE MACHINE WITH THE HOOD OPEN TO ALLOW THE BATTERIES TO VENTILATE PROPERLY.
4. REPORT ANY DAMAGE TO A SUPERVISOR.
5. WIPE DOWN MACHINE IF NEEDED. USE A NONABRASIVE, NON SOLVENT CLEANER, OR A CLEAN DAMP CLOTH.
6. RECHARGE THE BATTERIES IF NEEDED.

WEEKLY MAINTENANCE

1. CHECK BATTERY WATER LEVEL.
2. CHECK CONDITION OF ALL THREE TIRES.
3. CHECK CONDITION OF DUST CURTAINS ON SHROUD.
4. CHECK CONDITION OF DUST CURTAIN ON WALLS.
5. CHECK TO SEE IF VACUUM EXHAUST IS CLEAR.

MONTHLY MAINTENANCE

1. CHECK MACHINE FOR VACUUM LEAKS AND LOOSE NUTS AND BOLTS

YEARLY MAINTENANCE

1. CALL YOUR LOCAL DEALER FOR YEARLY MAINTENANCE.

STORING MACHINE

1. BE SURE TO CLEAN FILTER
2. EMPTY HOPPER INTO TRASH RECEPTACLE.
3. RAISE MAIN BROOM AND SIDE BROOMS.

NOTE: IF YOU LEAVE BROOMS DOWN ON FLOOR FOR EXTENDED PERIOD WHILE MACHINE IS NOT IN USE THEY WILL DEVELOP FLAT SPOTS. THIS WILL CAUSE " BROOM BOUNCE" AND BAD SWEEPING, AND CAN WEAR OUT THE BELT TENSIONING MECHANISIM.

PREVENTATIVE MAINTENANCE RECORDS

USE THIS FORM TO MAKE COPIES FOR YOUR INTERNAL RECORDS

PREVENTATIVE MAINTENANCE

CHECKED

NOTE

| | | |
|-------------------------------|-------|-------|
| CHECK MAIN BROOM | _____ | _____ |
| CHECK FILTER | _____ | _____ |
| CHECK VACUUM HOSE (ALL THREE) | _____ | _____ |
| CHECK SHROUD CURTAIN | _____ | _____ |
| CHECK DOOR CURTAIN | _____ | _____ |
| CHECK FRONT AND REAR CURTAINS | _____ | _____ |
| CHECK BATTERY WATER LEVEL | _____ | _____ |
| CHECK BATTERY VOLTAGE | _____ | _____ |
| CHECK CHARGER CONDITION | _____ | _____ |
| CHECK MACHINE PERFORMANCE | _____ | _____ |
| SWEEPING POWER | _____ | _____ |
| VACUUM POWER | _____ | _____ |
| CONTROLS | _____ | _____ |
| GAUGES | _____ | _____ |
| CHECK WHEEL TRACTION | _____ | _____ |

OTHER: _____

OTHER: _____

PAST HOUR METER READING: _____

CURRENT HOUR METER READING: _____

AVERAGE WEEKLY USAGE: _____

TECHNICIAN PRINT: _____

TECHNICIAN SIGNATURE: _____

DATE: _____

MANAGER SIGNATURE: _____

DATE: _____

PREVENTATIVE MAINTENANCE RECORDS

USE THIS FORM TO MAKE COPIES FOR YOUR INTERNAL RECORDS

PREVENTATIVE MAINTENANCE

CHECKED

NOTE

CHECK MAIN BROOM

CHECK FILTER

CHECK VACUUM HOSE (ALL THREE)

CHECK SHROUD CURTAIN

CHECK DOOR CURTAIN

CHECK FRONT AND REAR CURTAINS

CHECK BATTERY WATER LEVEL

CHECK BATTERY VOLTAGE

CHECK CHARGER CONDITION

CHECK MACHINE PERFORMANCE

SWEEPING POWER

VACUUM POWER

CONTROLS

GAUGES

CHECK WHEEL TRACTION

OTHER: _____

OTHER: _____

PAST HOUR METER READING: _____

CURRENT HOUR METER READING: _____

AVERAGE WEEKLY USAGE: _____

TECHNICIAN PRINT: _____

TECHNICIAN SIGNATURE: _____

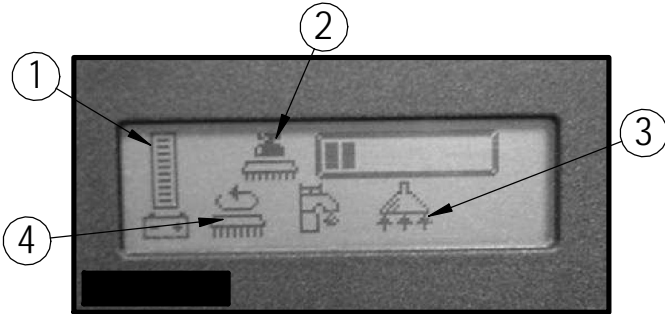
MANAGER SIGNATURE: _____

DATE: _____

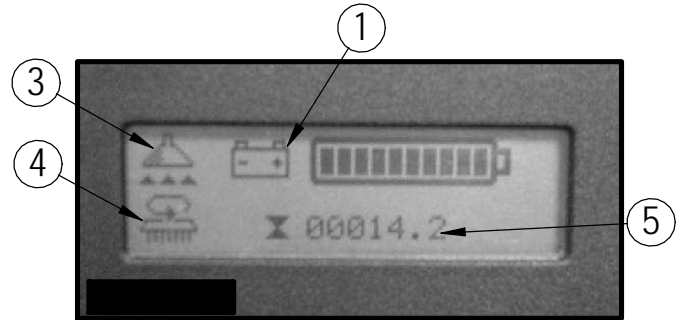
DATE: _____

LCD SCREEN MENU DISPLAYS

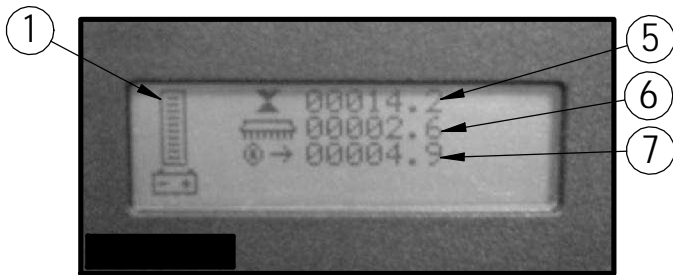
SCREEN # 1



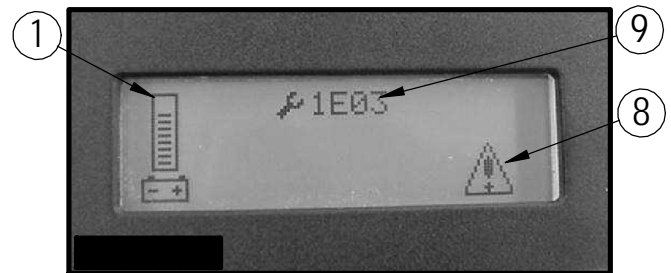
SCREEN # 2



SCREEN # 3



SCREEN # 1 W/ERROR CODE



*** USE GREEN MENU SELECTION BUTTON ON CONTROL PANEL TO CHANGE SCREENS***

FIGURES 13-14.

1. BATTERY LEVEL INDICATOR - INDICATES THE ENERGY LEVEL REMAINING IN THE BATTERIES. (SHOWN ON ALL MENU DISPLAYS)
2. MAIN BROOM DOWN PRESSURE GAUGE - SETS THE DOWN PRESSURE ON THE MAIN BROOM. (SEE FIGURE 13.)
3. VACCUM/FAN ON - TELLS YOU WHEN THE VACUUM FAN IS ON. (SEE FIGURES 25. AND 26.)
4. BROOM MOTOR ON - TELLS YOU WHEN THE MAIN BROOM IS RUNNING. (SEE FIGURES 25. AND 26.)
5. KEY SWITCH HOUR METER - TELLS YOU THE TOTAL HOURS THE MACHINE HAS BEEN ON. (SEE FIGURES 26. AND 27.)
6. MAIN BROOM HOUR METER - TELLS YOU THE TOTAL HOURS THE MAIN BROOM MOTOR HAS BEEN USED. (SEE FIGURE 27.)
7. TRANSPORT HOUR METER - TELLS YOU THE TOTAL HOURS THE DRIVE SYSTEM HAS BEEN USED. (SEE FIGURE 27.)
8. ERROR WARNING SYMBOL - INDICATES WHEN THERE HAS BEEN A DIAGNOSTIC CODE ERROR. (SEE FIGURE 28.)
9. DIAGNOSTIC CODE - WHEN THE MACHINE HAS DETECTED AN ERROR IT WILL DISPLAY THE WARNING SYMBOL AND A DIAGNOSTIC CODE WHICH TELL YOU WHATS WRONG. (SEE FIGURE 28.)

(FOR COMMAN ERROR CODES AND DISCRIPTIONS SEE PAGE 19)

TROUBLESHOOTING CENTRAL COMMAND

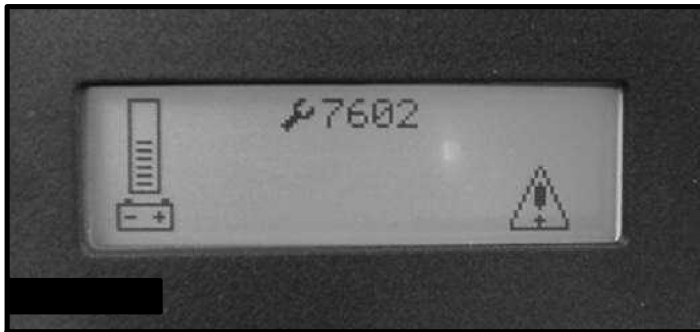
NOTE: THIS MACHINE IS OPERATED BY A SOPHYSTICATED ELECTRONIC "BRAIN" THAT HAS MANY FAIL-SAFES WITHIN IT. THE BRAIN SELF-ANALYZES PROBLEMS AND FLASHES A FOUR-DIGIT NUMERIC CODE OF WHAT IS WRONG IN THE LCD WINDOW.

MOST OF THESE CODES REQUIRE A TECHNICIAN'S ATTENTION. YOU SHOULD NOT ATTEMPT REPAIRS YOU ARE UNCOMFORTABLE WITH, ESPECIALLY IF YOU ARE NOT USED TO WORKING ON ELECTRONICS.

THE COMPLETE LIST OF CODES IS PUBLISHED IN THE *SIMPLIFIED ELECTRONIC TROBLESHOOTING MANUAL*, WHICH IS AVAILABLE TO TECNICAL PEOPLE. HOWEVER, WE HAVE INCLUDED THE BASIC CODES THAT YOU CAN USUALLY RESOLVE YOURSELF.



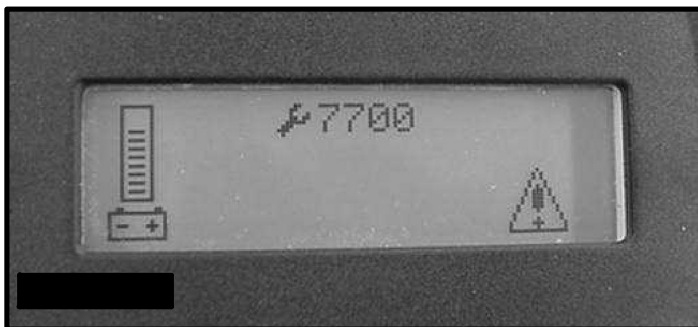
1. 1E03 AND 1E04 ERROR. CHECK THE SMALL SAFETY SWITCH NEXT TO THE RED PLUG BELOW THE DASHBOARD. THIS SWITCH WILL TURN OFF THE TRACTION DRIVE AND BRUSHES AS A SAFETY FEATURE WHILE THE CHARGER IS PLUGGED IN. THE SWITCH MAY BE STUCK, OR THE PLUG TWISTED AT AN ANGLE, ENGAGING THE SWITCH. THIS CODE WILL ALSO FLASH IF THE WIRING BECOMES VERY WET. IN THIS CASE, ETHER WAIT UNTIL THE WIRING DRIES OUT, OR CALL A TECHNICIAN.



2. 7601 AND 7602 ERROR. PAD CURRENT OVER LOAD. THIS CAN CAN OCCUR WHEN THE MAIN BROOM HIT A BUMP IN THE FLOOR. TO RESTART THE BROOM, TURN OFF THE KEY AND TURN IT ON AGAIN. TO AVOID THIS ERROR, EITHER SLOW DOWN ON BUMPY PARTS OF THE FLOOR, OR REDUCE DOWNPRESSURE ON THE BROOM.



3. 1600 ERROR. VOLTAGE EXCEEDS THE MAXIMUM. EITHER THE BATTERIES ARE MIS-WIRED, OR THE CHARGER IS STILL PLUGGED INTO THE MACHINE.

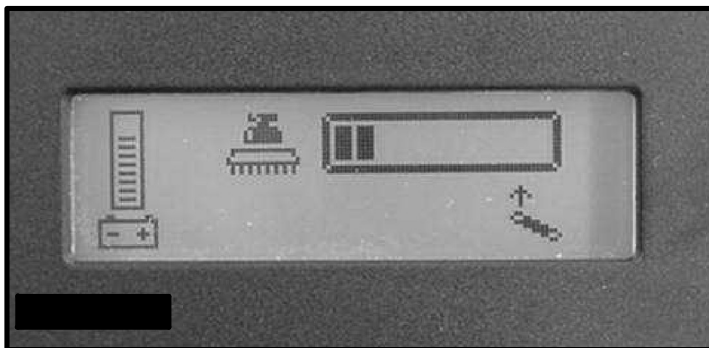


4. 7700, 7701, 7702, AND 7703 ERROR. THE VACUUM MOTOR HAS EXCEEDED THEIR AUTHORIZED POWER LIMITS. TURN OFF KEY AND TURN ON AGAIN TO CLEEAR.

TROUBLESHOOTING CENTRAL COMMAND



5. 7900 AND 7901 ERROR. THE EMERGENCY STOP BUTTON IS OUT



6. 2FO1 ERROR. YOU PRESSED THE FOOT PEDAL BEFORE TURNING ON THE KEY. TURN OFF THE KEY AND TRY AGAIN, LEAVING FOOT OFF OF THE PEDAL.



7. 2C00 AND 2C01 ERROR. LOW VOLTAGE WARNING. VOLTAGE HAS DROPPED DOWN BELOW THE MINIMUM REQUIRED TO OPERATE THE MACHINE. IF YOU WAIT A FEW MINUTES, THE BATTERIES MAY COAST UP A BIT IN VOLTAGE, ALLOWING YOU TO DRIVE VERY SLOWLY TO THE RECHARGE STATION. IF NOT, YOU WILL HAVE TO RELEASE THE PARKING BRAKE (ON THE FRONT WHEEL, PULL LEVER TOWARD THE FRONT OF THE MACHINE TO RELEASE) AND PUSH THE MACHINE TO RECHARGEING STATION.



8. 7802 ERROR. THE TRACTION MOTOR WAS USED TO CLIMB A RAMP, AND WAS RUNNING UP THE RAMP FOR MORE THAN THE 60 SECONDS ALLOWED FOR THIS. TURN OFF THE KEY, TURN ON AGAIN, AND CONTINUE. YOU SHOULD NOT USE THIS MACHINE TO CLIMB RAMPS SO STEEP AND SO LONG THAT THIS CODE COMES UP REPEATEDLY, OR YOU COULD OVERHEAT THE TRACTION MOTOR.

9. ALL OTHER ERROR CODES. TURN OFF THE KEY, AND DISCONNECT THE POSITIVE BATTERY CABLE FROM THE BATTERIES FOR MORE THAN ONE MINUTE (THE TIME IS NEEDED TO DRAIN THE BRAIN'S ON-BOARD CAPACITOR). RECONNECT CABLES, BEING SURE THAT IT IS TIGHT. TOO LOOSE AND YOU WILL BURN BATTERY. IF YOU OVERTIGHTEN THE CABLES YOU CAN DAMAGE THE BATTERY'S LEAD TERMINAL. TRY AGAIN.

10. IF THE PROBLEMS CANNOT BE SOLVED BY ANY OF THESE SOLUTION CALL YOUR LOCAL DEALER'S SERVICE DEPARTMENT.

TROUBLE SHOOTING

| <u>PROBLEM</u> | <u>CAUSE</u> | <u>SOLUTION</u> |
|-----------------------------------|---|---|
| NO POWER, NOTHING OPERATES | FAULTY KEY SWITCH BATTERIES NEED CHARGING FAULTY BATTERY LOOSE BATTERY CABLE MAIN CIRCUIT BREAKER TRIPPED | CONTACT LOCAL SERVICING DEALER SEE CHARGING BATTERIES REPLACE BATTERY TIGHTEN LOOSE CABLE WAIT 5 MINUTES FOR AUTO RESET DETERMINE CAUSE AND CORRECT |
| MAIN BROOM DOES NOT OPERATE | MAIN BROOM IS NOT DOWN FOOT PEDAL IS NOT DEPRESSED MAIN BROOM CIRCUIT BREAKER TRIPPED CARBON BRUSHES WORN FAULTY MOTOR OR WIRES | PUT MAIN BROOM DOWN ENGAGE FOOT PEDAL WAIT 5 MINUTS FOR AUTO RESET DETERMINE CAUSE AND CORRECT CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER |
| DRIVE MOTOR DOES NOT OPERATE | RECHARGE SWITCH MISADJUSTED FAULTY SPEED CONTROLLER OR WIRES FAULTY DRIVE MOTOR FAULTY WIRING CARBON BRUSHES WORN | CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER |
| DUST CONTROL FAN DOES NOT OPERATE | FAULTY VACUUM SWITCH VACUUM CIRCUIT BREAKER TRIPPED FAULTY VACCUM MOTOR CARBON BRUSHES WORN | TRY OPERATING "WHITE " TOGGLE WAIT 5 MINUTES FOR AUTO RESET DETERMINE CAUSE AND CORRECT CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER |
| DRIVE MOTOR RUNS INCORRECTLY | FAULTY SPEED CONTROLLER OR WIRES FAULTY POTENTIOMETER LOOSE WIRES | CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER CONTACT LOCAL SERVICING DEALER |

TROUBLE SHOOTING

PROBLEM

CAUSE

SOLUTION

POOR DUST CONTROL

MAIN VACUUM HOSE DISCONNECTED
MAIN BROOM HOSE DISCONNECTED
MAIN BROOM HOSE CLOGGED
DAMAGED MAIN VACUUM HOSE
DAMAGED BROOM GUARD HOSE
FILTER CLOGGED
HOPPER NOT CLOSED TIGHTLY

HOPPER GASKET FAULTY
HOPPER FULL
FAULTY VACUUM FAN
BATTERY CHARGE IS LOW

RECONNECT HOSE
RECONNECT HOSE
REMOVE DEBRIS
CONTACT LOCAL SERVICING DEALER
CONTACT LOCAL SERVICING DEALER
TURN ON FILTER BEATER
ADJUST SCREW ON HOPPER CLAMP
TO TIGHTEN SEAL
CONTACT LOCAL SERVICING DEALER
REMOVE DEBRIS
CONTACT LOCAL SERVICING DEALER
CHARGE BATTERIES OVERNIGHT

POOR SWEEPING QUALITY

MAIN BROOM WORN OUT
DEBRIS STUCK TO MAIN BROOM
BROKEN MAIN BROOM BELT
BROKEN MOTOR TO JACKSHAFT BELT
MAIN BROOM BELT FELL OFF
MOTOR TO JACK SHAFT BELT FELL OFF
BATTERY CHARGE IS LOW

REPLACE MAIN BROOM
REMOVE DEBRIS
REPLACE BELT
REPLACE BELT
PUT BELT BACK ON
PUT BELT BACK ON
CHARGE BATTERIES OVERNIGHT

MAIN BROOM NOISY

DEBRIS STUCK IN MAIN BROOM
MAIN BROOM OUT OF ROUND
DEBRI STUCK IN MAIN BROOM BELT

REMOVE DEBRIS
REPLACE MAIN BROOM
REMOVE DEBRIS

REAR TIRES NOISY

BEARINGS DRY
FAULTY HUBS

GREASE BEARINGS
CONTACT LOCAL SERVICING DEALER

POOR TRACTION

EXCESSIVE MAIN BROOM PRESSURE
WORN DRIVE TIRE

REDUCE PRESSURE WITH SWITCH
CONTACT LOCAL SERVICING DEALER

SHORT RUN TIME

BATTERIES RUN DOWN
BATTERIES STILL DOWN
BATTERIES LOW ON WATER

BATTERIES OVER CYCLED

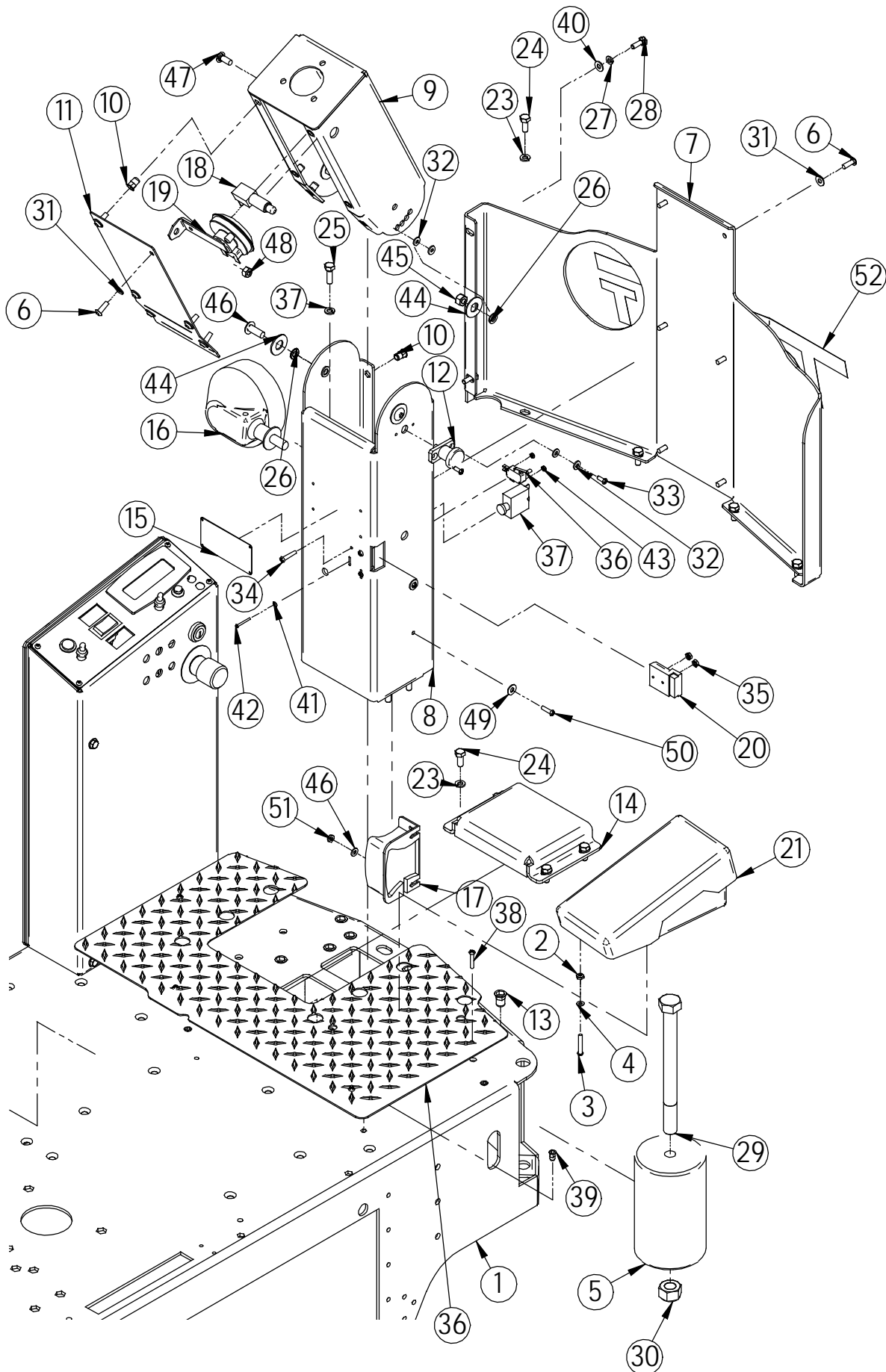
CHARGE BATTERIES TWICE
CONTACT LOCAL SERVICING DEALER
FILL WITH DISTILLED WATER TO 3/4"
ABOVE THE LEAD PLATES
CONTACT LOCAL SERVICING DEALER

MODEL 297

MACHINE PARTS SECTION

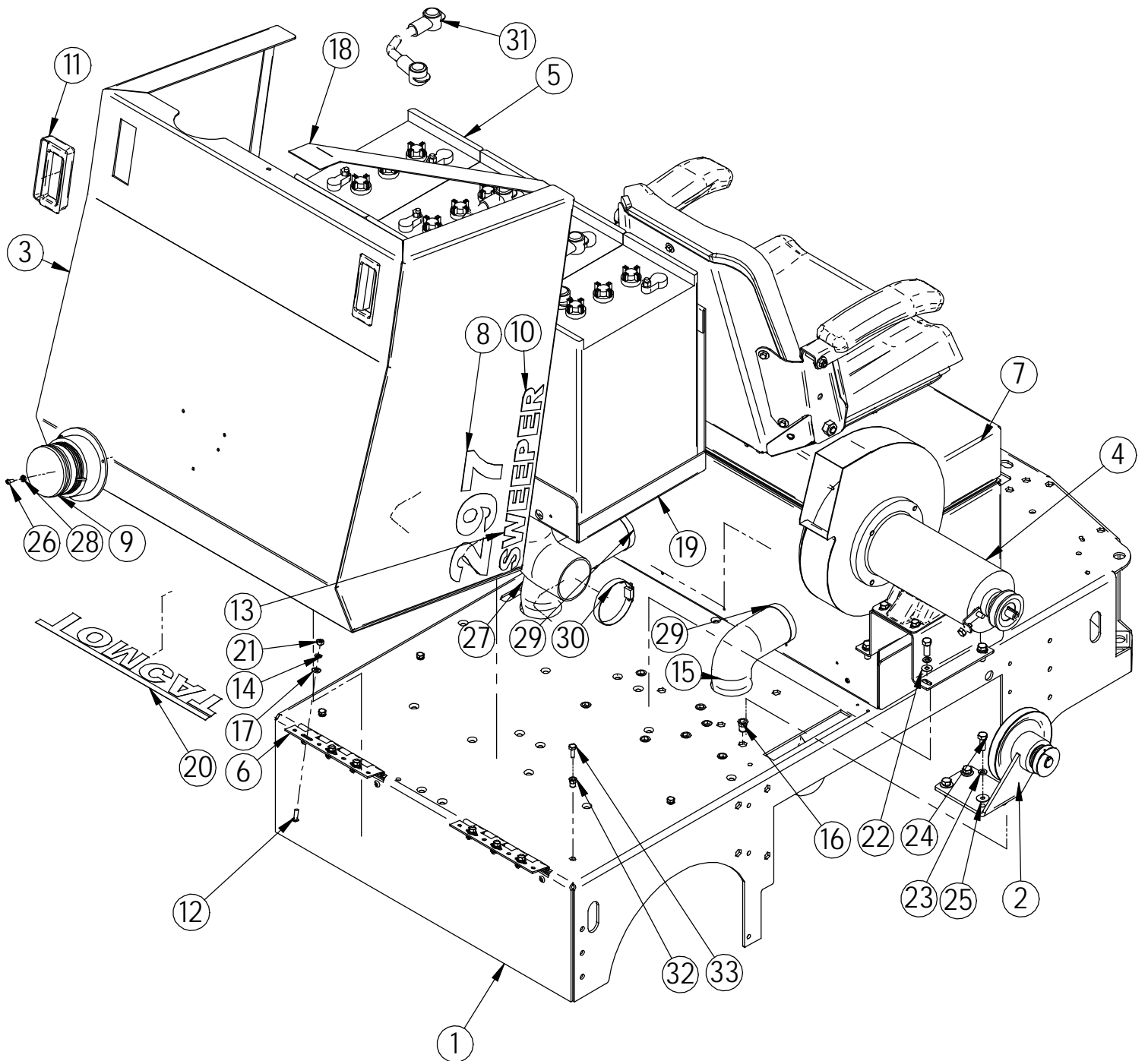
SOME PARTS ARE MADE IN RED AND YELLOW. IF YOU NEED YELLOW PARTS USE THE ALTERNATE PART NUMBER WHICH WILL START WITH (291-XXXX). IF YOU NEED RED PARTS, USE THE NORMAL PART NUMBER THAT WILL START WITH (290-XXXX). IF THERE IS ONLY ONE PART NUMBER, THAT IS THE ONLY COLOR THAT PART COMES IN.

FRAME TOP FRONT



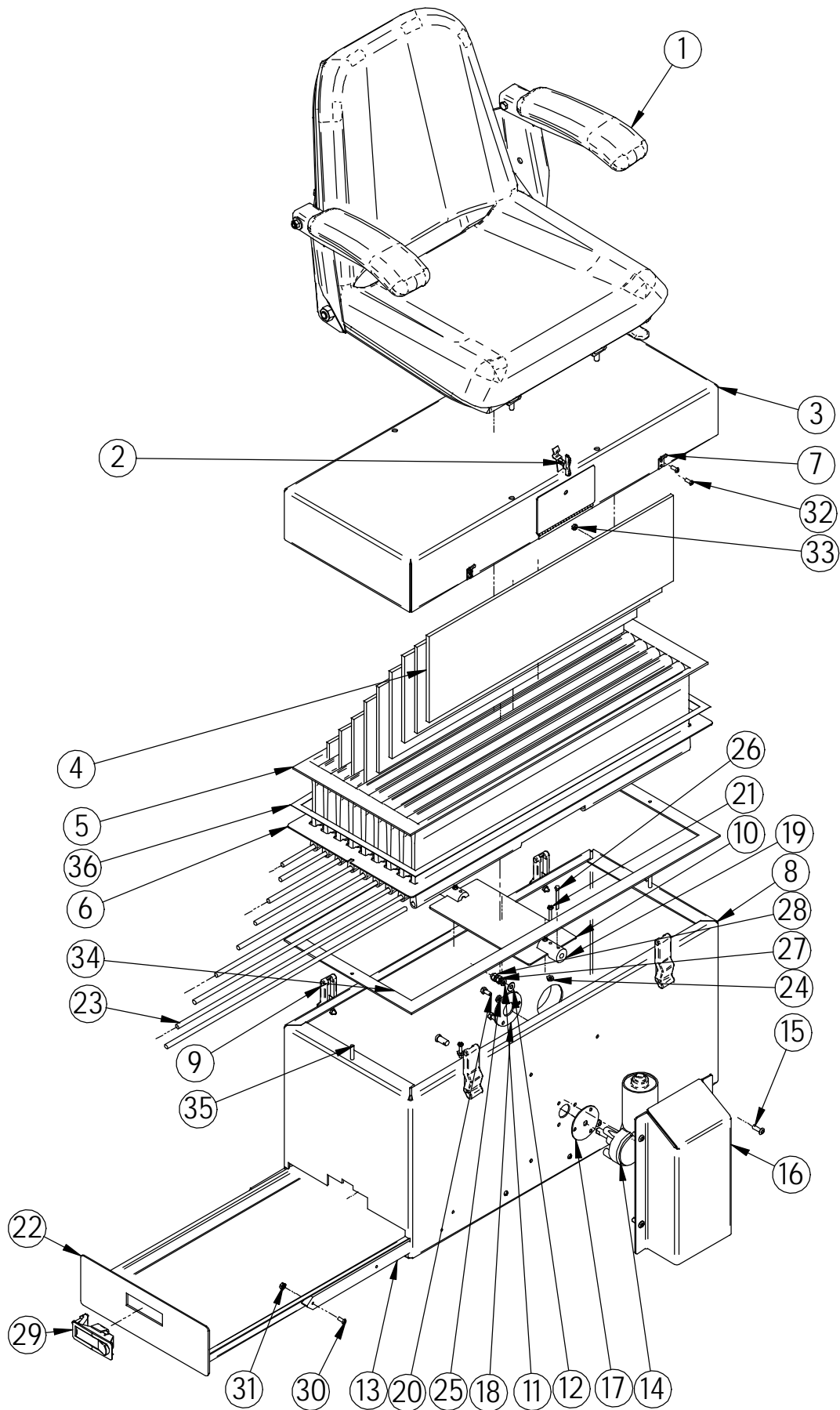
| Item | Part No. | Alt. Part No. | Part Description | Qty |
|------|-----------|---------------|----------------------------|-----|
| 1 | 290-9502 | | FRAME WELDMENT | 1 |
| 2 | H-70858 | | NYLOK #10-32 SS | 2 |
| 3 | H-73747 | | RPH #10-32 X 1 1/4" SS | 2 |
| 4 | H-78009 | | FW 3/16" X 7/16" SS | 2 |
| 5 | 7-125A | | ROLLER | 2 |
| 6 | H-73754 | | BHSCS 1/4 - 20 X 3/4 SS | 13 |
| 7 | 290-1180 | 291-1180 | FRONT APRON | 1 |
| 8 | 290-1170 | 291-1170 | LOWER STEERING TOWER | 1 |
| 9 | 290-1171 | 291-1171 | UPPER STEERING TOWER | 1 |
| 10 | H-250HCN | | HCN 1/4"-20 | 12 |
| 11 | 290-1172 | 291-1172 | COVER | 1 |
| 12 | 290-7050 | | INDEX PLUNGER | 1 |
| 13 | H-312HCN | | HCN 5/16"-18 | 17 |
| 14 | 290-1173 | | DRIVE COVER | 1 |
| 15 | 21-0101 | | SERIAL NO. PL. (TOMCAT) | 1 |
| 16 | 8-291 | | HEADLIGHT | 1 |
| 17 | 8-292 | | BACKUP ALARM | 1 |
| 18 | 8-294B | | PUSH BUTTON SWITCH, SILVER | 1 |
| 19 | 8-294 | | HORN | 1 |
| 20 | 4-257 | | CONNECTOR, RED 50 | 1 |
| 21 | 5-275 | | FOOT PEDAL | 1 |
| 22 | 21-2230 | | MICRO SWITCH | 1 |
| 23 | H-33620 | | LW 5/16" | 12 |
| 24 | H-13053 | | HCS 5/16"-18 X 3/4" | 8 |
| 25 | H-13055 | | HCS 5/16"-18 X 1" | 4 |
| 26 | H-76063 | | FW 3/8" NYLON | 5 |
| 27 | H-71063 | | LW 1/4" SS | 2 |
| 28 | H-70003 | | HCS 1/4"- 20 X 3/4" SS | 2 |
| 29 | H-11380 | | HCS 3/4-10 X 8-1/2 | 2 |
| 30 | H-37039 | | NYLOK 3/4"- 10 | 2 |
| 31 | H-76061 | | FW 1/4" NYLON | 12 |
| 32 | H-33074 | | FW #10 SAE | 6 |
| 33 | H-29048 | | RPH #10-32 X 1/2" | 2 |
| 34 | H-28902 | | RPH #8-32 X 1" | 2 |
| 35 | H-37406 | | KN #8-32 | 2 |
| 36 | 290-1610 | | NON SKID FLOOR PLATE | 1 |
| 37 | 7-837 | | FUSE RESETTABLE 2 AMP | 1 |
| 38 | H-29072 | | RPH #10-32 X 1" | 4 |
| 39 | H-1032HCN | | HCN #10-32 | 4 |
| 40 | H-71013 | | FW 1/4" X 5/8" SS | 2 |
| 41 | H-33066 | | FW #4 SAE | 2 |
| 42 | H-28678 | | RPH #4-40 X 1" | 2 |
| 43 | H-37006 | | NYLOK #4-40 | 2 |
| 44 | H-71021 | | FW 3/8" X 7/8" SS | 4 |
| 45 | H-37024 | | NYLOK 3/8"-16 | 2 |
| 46 | H-73815 | | BHSCS 3/8"- 16 X 1" SS | 2 |
| 47 | H-21253 | | CB 5/16"- 18 X 3/4" | 1 |
| 48 | H-36104 | | HN 5/16"-18 | 1 |
| 49 | H-71009 | | FW #10 SS | 2 |
| 50 | H-29060 | | RPH #10-32 X 3/4" | 2 |
| 51 | H-37015 | | NYLOK #10-32 | 2 |
| 52 | 21-1530 | | FRONT TOMCAT STICKER | 1 |

FRAME TOP REAR



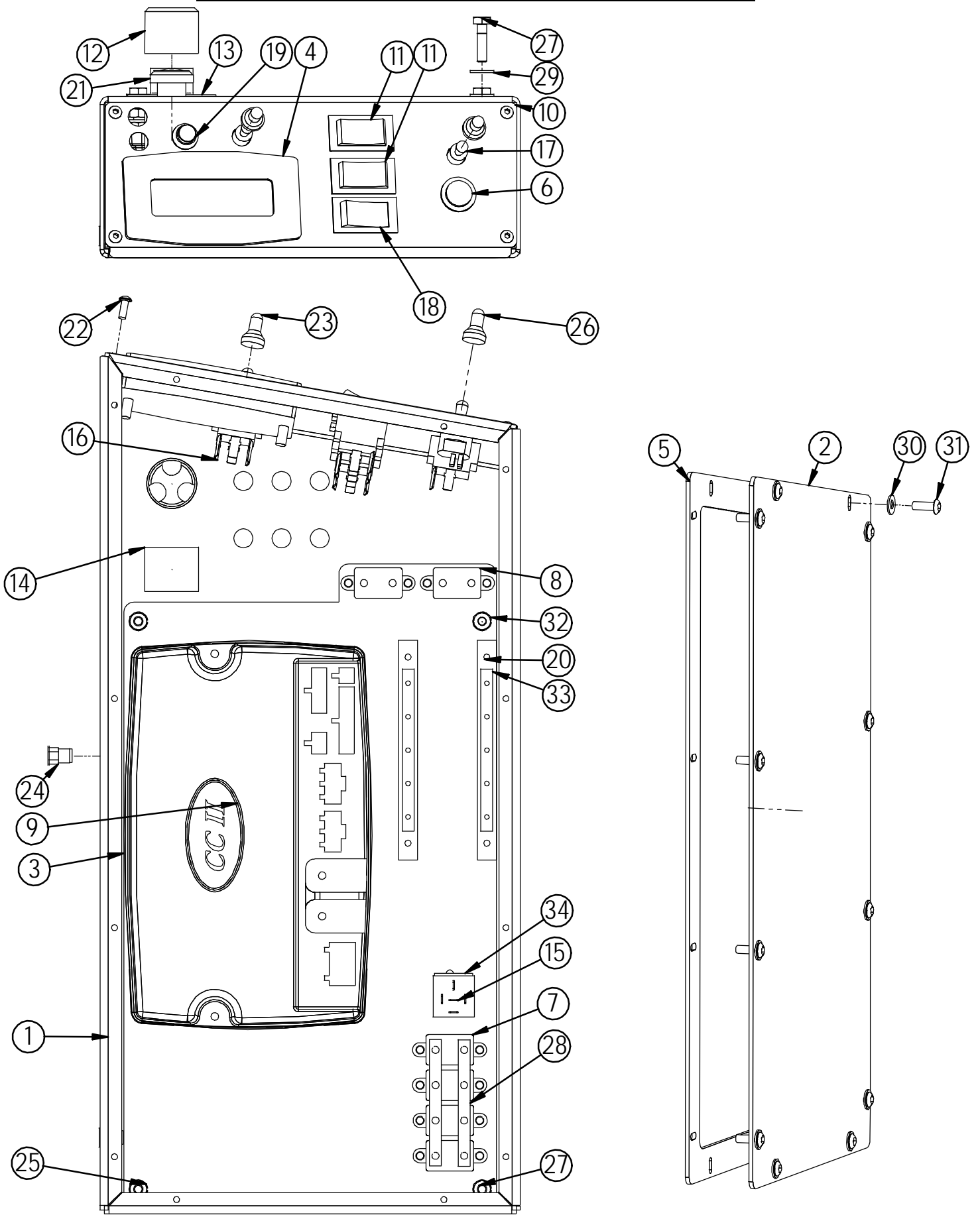
| Item | Part No. | Alt. Part No. | Part Description | Qty |
|------|------------------------|---------------|---------------------------|-----|
| 1 | 290-9502 | | FRAME WELDMENT | 1 |
| 2 | SEE PAGES 37 AND 38 | | JACK SHAFT | 1 |
| 3 | 290-9512 | 291-9512 | HOOD | 1 |
| 4 | SEE PAGES 37 AND 38 | | MOTOR MOUNT AND FAN | 1 |
| 5 | 290-2110 | | BATTERY 6 VOLT 395 AH | 4 |
| 6 | 5-122 | | HINGE 8" SS | 2 |
| 7 | SEE PAGES 29 AND 30 | | DUST CONTROL SYSTEM | 1 |
| 8 | 290-9553 | | 297 STICKER | 2 |
| 9 | 8-293 | | STROBE LIGHT | 1 |
| 10 | 290-9554 | | SWEEPER STICKER | 2 |
| 11 | 5-849 | | RECESSED HANDLE | 2 |
| 12 | H-73754 | | BHSCS 1/4 - 20 X 3/4 SS | 14 |
| 13 | 290-9525 | | (3") MAIN VACUUM HOSE | 1 |
| 14 | H-71063 | | LW 1/4" SS | 6 |
| 15 | 290-9505 | | (2.5") RIGHT HOSE | 1 |
| 16 | H-312HCN | | HCN 5/16"-18 | 8 |
| 17 | H-71013 | | FW 1/4" X 5/8" SS | 6 |
| 18 | 290-9589 | | ACCESS LID STRAP | 1 |
| 19 | 290-9545 | | BATTERY BOX | 1 |
| 20 | 290-9504 | | BACK TOMCAT STICKER | 1 |
| 21 | H-70710 | | HN 1/4"- 20 SS | 8 |
| 22 | H-78015 | | FW 5/16" X 3/4" SS | 3 |
| 23 | H-71065 | | LW 5/16" SS | 6 |
| 24 | H-70055 | | HB 5/16"- 18 X 1" SS | 7 |
| 25 | H-71016 | | FW 5/16" X 7/8" USS | 3 |
| 26 | H-72563 | | RPH #10-32 X 1/2" SS | 3 |
| 27 | 209-9505 | | (2.5") LEFT HOSE | 1 |
| 28 | H-37408 | | KN #10-32 | 1 |
| 29 | H-62091 | | CLAMP 1 9/16 - 2 1/2 " SS | 2 |
| 30 | H-62091 | | CLAMP 1 9/16 - 2 1/2 " SS | 1 |
| 31 | 290-9588 | | BATTERY CABLE KIT | 3 |
| 32 | H-250HCN | | HCN 1/4"-20 | 4 |
| 33 | H-70003 | | HCS 1/4"- 20 X 3/4" SS | 4 |

FILTER BOX ASSEMBLY



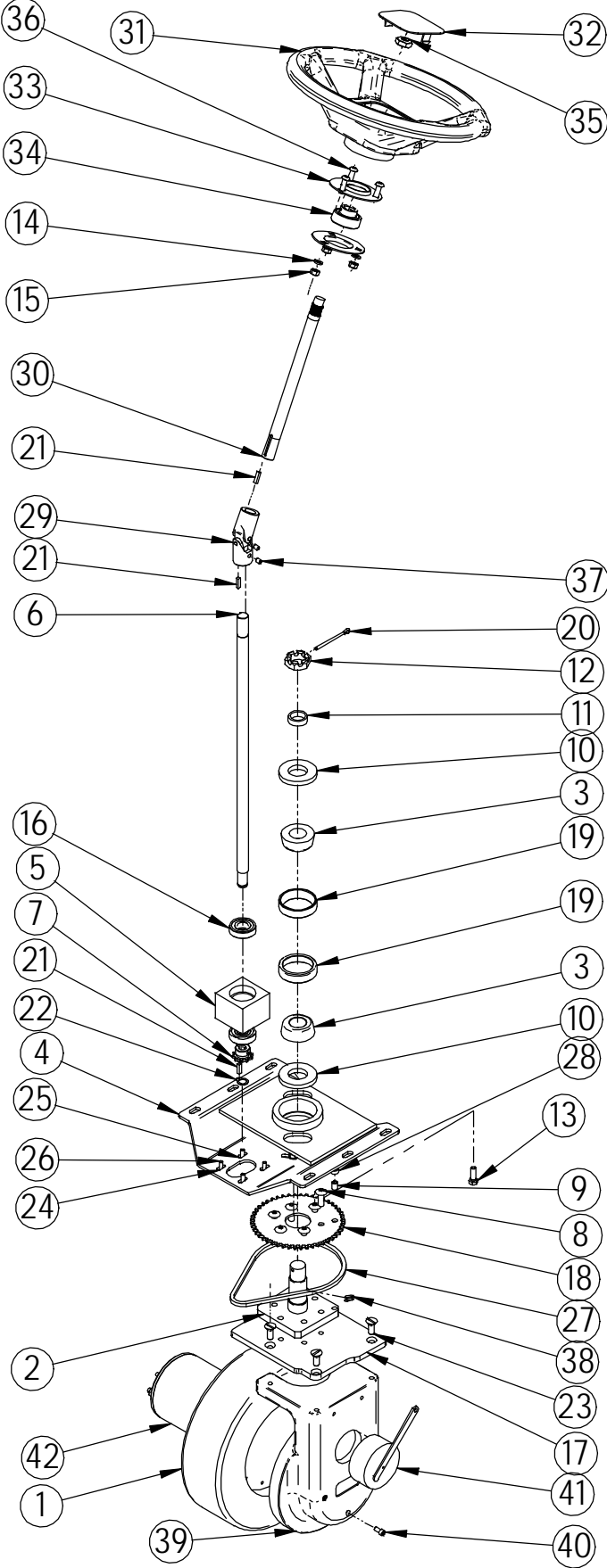
| Item | Part No. | Alt. Part Number | Part Description | Qty. |
|------|----------|------------------|------------------------------|------|
| 1 | 8-143 | | SEAT WITH ARM RESTS | 1 |
| 2 | 4-522 | | DOOR LATCH | 1 |
| 3 | 290-9524 | 291-9524 | FILTER HOOD | 1 |
| 4 | 290-9520 | | FILTER SEPARATOR | 9 |
| 5 | 290-9522 | | FILTER ELEMENT | 1 |
| 6 | 290-9535 | | FILTER GRILL | 1 |
| 7 | 4-124-01 | | CLIP | 4 |
| 8 | 290-9518 | 291-9518 | FILTER CHAMBER | 1 |
| 9 | 4-124 | | HOOD LATCH | 4 |
| 10 | 290-9549 | | FILTER BEATER BAR PLATE | 1 |
| 11 | H-71063 | | LW 1/4" SS | 5 |
| 12 | H-71013 | | FW 1/4" X 5/8" SS | 5 |
| 13 | 290-9529 | | HDPE SLIDE RAIL | 2 |
| 14 | 8-221 | | 24 VOLT/100 RPM MOTOR | 1 |
| 15 | H-73754 | | BHSCS 1/4 - 20 X 3/4 SS | 5 |
| 16 | 290-9519 | 291-9519 | FILTER CLEANER MOTOR COVER | 1 |
| 17 | 8-222 | | MOTOR GASKET | 1 |
| 18 | 8-223 | | GASKET BACKING PLATE | 1 |
| 19 | 8-561 | | FILTER CLEANER MOTOR COUPLER | 2 |
| 20 | H-38558 | | HCS M6-1.0 X 14 | 3 |
| 21 | H-29073 | | PPH #10-32 X 1" | 4 |
| 22 | 290-9517 | 291-9517 | DUST TRAY | 1 |
| 23 | 4-503A | | FILTER WEIGHT ROD | 9 |
| 24 | H-37015 | | NYLOK #10-32 | 4 |
| 25 | H-33618 | | LW 1/4" | 3 |
| 26 | H-65105 | | 1/4" X 1 1/5" COTTER PIN | 1 |
| 27 | H-70710 | | HN 1/4"- 20 SS | 5 |
| 28 | H-37708 | | 1/4-20 LC ACORN NUT | 5 |
| 29 | 5-130 | | DOOR LATCH | 1 |
| 30 | H-72563 | | RPH #10-32 X 1/2" SS | 10 |
| 31 | | | KN #10-32 SS | 10 |
| 32 | H-72516 | | RPH #6-32 X 1/2" SS | 16 |
| 33 | H-70705 | | HN # 6-32 SS | 16 |
| 34 | 290-9550 | | GASKET | 1 |
| 35 | | | THREADED TAPER PIN | 2 |
| 36 | 4-502K | | .50 DBL SIDED TAPE | 1 |

CENTRAL COMMAND



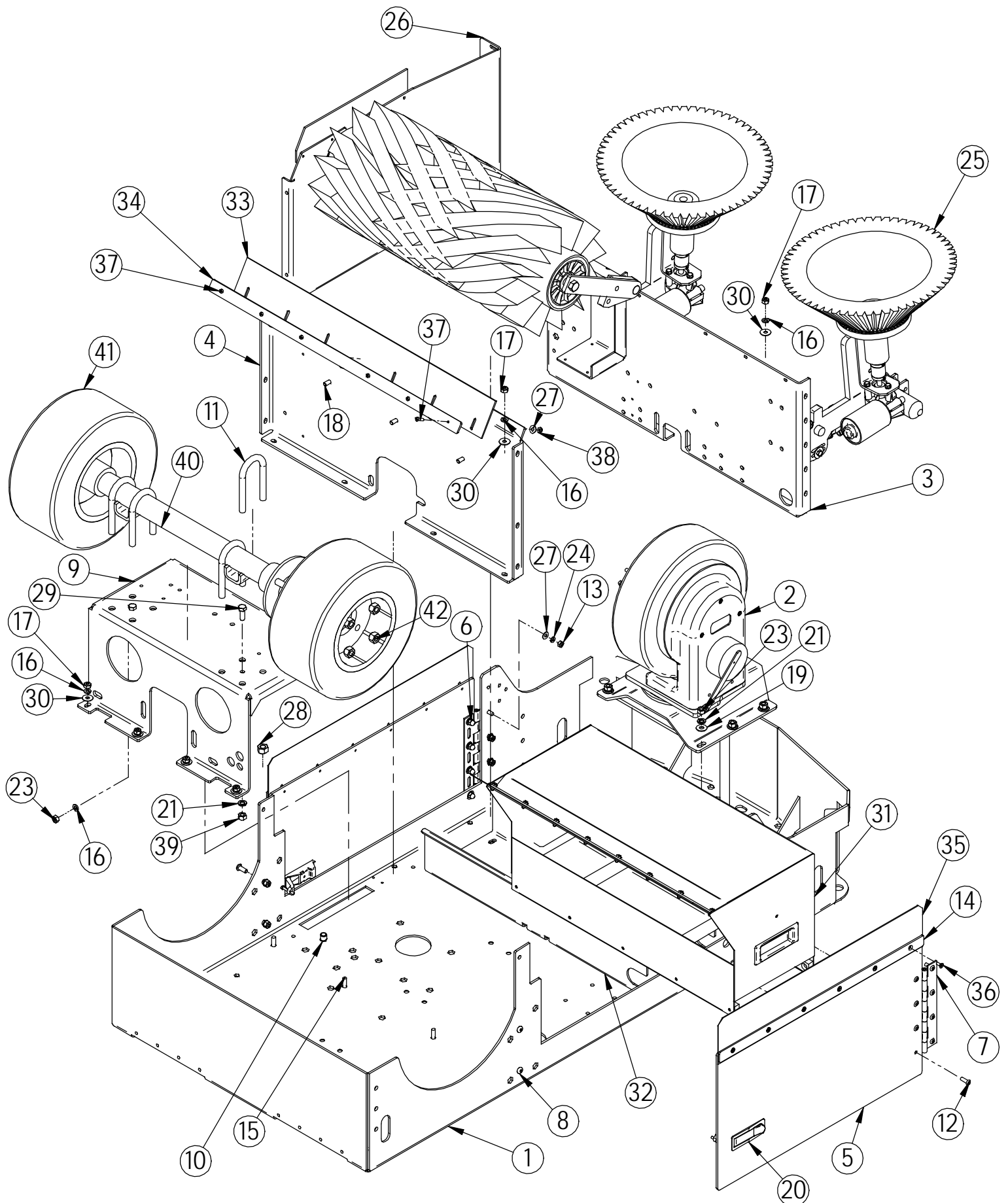
| Item | Part No. | Alt. Part No. | Part Description | Qty |
|------|----------|---------------|---|-----|
| 1 | 290-2010 | 291-2010 | CONTROL PANEL | 1 |
| 2 | 290-2001 | 291-2001 | ACCESS COVER | 1 |
| 3 | 290-2006 | | HARDWARE PANEL | 1 |
| 4 | 290-2891 | | LCD SCREEN | 1 |
| 5 | 290-2004 | | ACCESS COVER GASKET | 1 |
| 6 | 290-2015 | | ONE TOUCH BUTTON | 1 |
| 7 | 5-289 | | CIR BREAKER 24V 50A | 4 |
| 8 | 290-2815 | | CIR. BREAKER - 15A, 24V | 2 |
| 9 | 290-2890 | | COMPUTER CONTROL | 1 |
| 10 | 290-2013 | | CONT PANEL TOP PLATE | 1 |
| 11 | 5-234 | | SWITCH, ROCKER, DPDT, ON/ON | 2 |
| 12 | 5-300 | | EMERGENCY SHUT OFF (OPT) | 1 |
| 13 | 5-301 | | EMERG LEGEND PLATE (OPT) | 1 |
| 14 | 5-302 | | EMERG CONTACT BLK (OPT) | 1 |
| 15 | 5-293 | | 15 AMP RELAY | 1 |
| 16 | 7-283 | | SWITCH, TOGGLE, MOM/OFF/MOM (DPDT) | 1 |
| 17 | 5-892 | | TOGGLE, ON-OFF SPST | 1 |
| 18 | 8-233 | | OFF-MOM SPST | 1 |
| 19 | 7-229 | | PUSH BUTTON SWITCH | 1 |
| 20 | 7-287 | | BUSS BAR UHMW | 2 |
| 21 | 4-234 | | KEY SWITCH | 1 |
| 22 | H-73743 | | BHSCS 10-32 X 1/2" SS | 4 |
| 23 | H-01200 | | PROTECTIVE BOOT, TOGGLE SWITCH, (BLACK) | 1 |
| 24 | H-250HCN | | HCN 1/4"-20 | 2 |
| 25 | H-36102 | | HN 1/4"-20 | 12 |
| 26 | H-01196 | | PROTECTIVE BOOT, TOGGLE SWITCH, (RED) | 1 |
| 27 | H-13005 | | HCS 1/4"-20 X 1" | 4 |
| 28 | E-4HBB | | 4 HOLE BUSS BAR | 2 |
| 29 | H-33078 | | FW 1/4" SAE | 4 |
| 30 | H-71013 | | FW 1/4" X 5/8" SS | 12 |
| 31 | H-73754 | | BHSCS 1/4 - 20 X 3/4 SS | 12 |
| 32 | H-33618 | | LW 1/4" | 4 |
| 33 | E-5HBB | | 5 HOLE BUSS BAR | 2 |
| 34 | 290-2020 | | BRACKET | 1 |

STEERING AND TRACTION



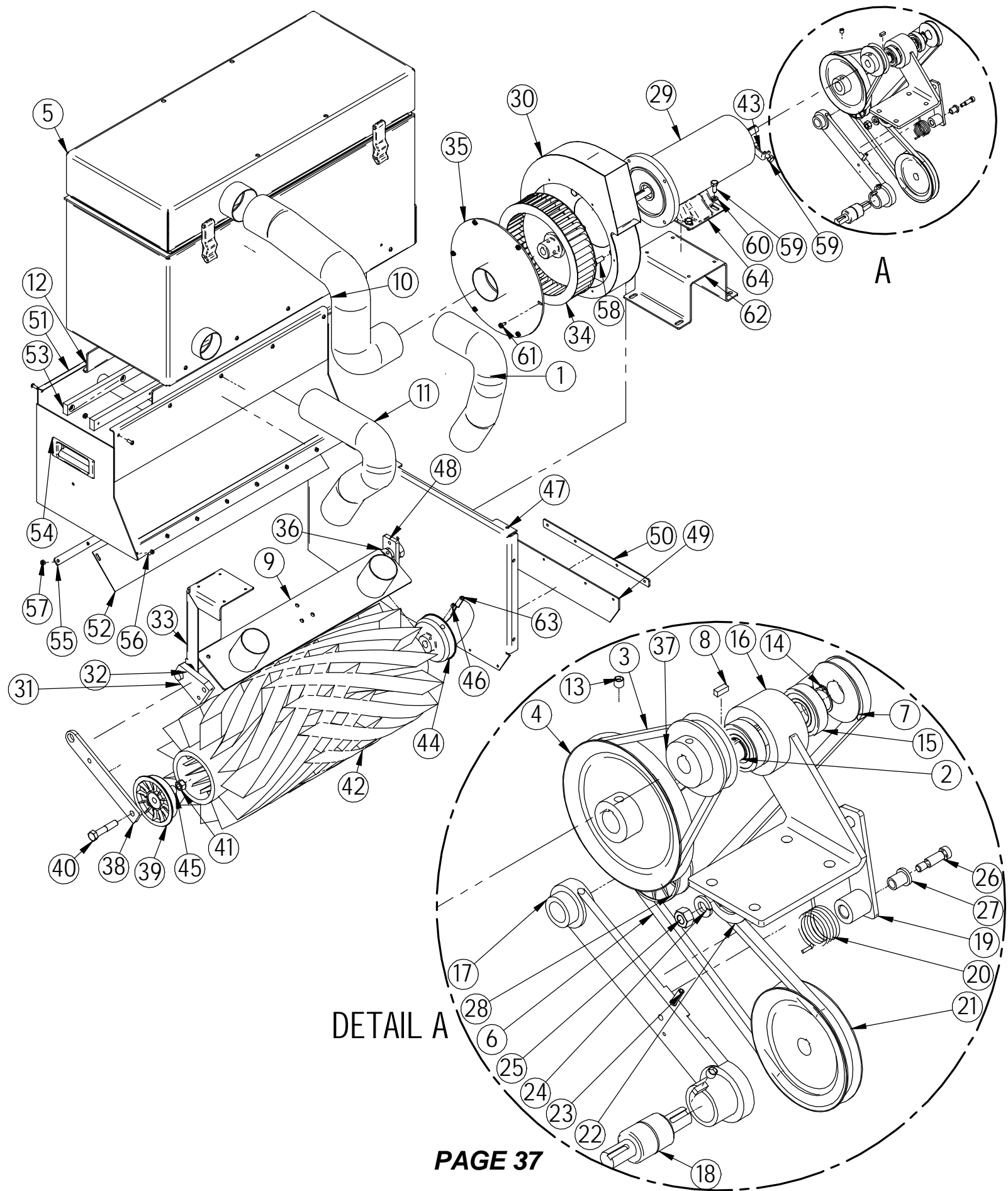
| Item | Part No. | Part Description | Qty |
|------|----------|--------------------------------|-----|
| 1 | 290-7331 | SMOOTH GREY TIRE | 1 |
| 2 | 37-7316 | PIVOT SHAFT | 1 |
| 3 | 37-7317 | TAPERED ROLLER BEARING | 2 |
| 4 | 37-7315 | DROP PLATE | 1 |
| 5 | 8-723 | BEARING BLOCK | 1 |
| 6 | 290-7120 | STEERING SHAFT, LOWER | 1 |
| 7 | 5-826 | 10 TOOTH SPROCKET | 1 |
| 8 | H-24103 | BHSCS 3/8"- 24 X 1" | 6 |
| 9 | H-25595 | SS CP 3/8"- 24 X 1/2" | 1 |
| 10 | 37-7319 | STEERING SHAFT SEAL | 2 |
| 11 | 37-7320 | PRE LOAD SLEEVE | 1 |
| 12 | 37-7321 | SLOTTED NUT, 2.0 - 12 | 1 |
| 13 | H-13055 | HCS 5/16"-18 X 1" | 2 |
| 14 | H-33620 | LW 5/16" | 5 |
| 15 | H-36104 | HN 5/16"-18 | 9 |
| 16 | 8-723B | BEARING | 2 |
| 17 | 290-7326 | PIVOT PLATE | 1 |
| 18 | 37-7314 | LARGE STEERING SPROCKET | 1 |
| 19 | 37-7318 | BEARING CAP | 2 |
| 20 | H-65129 | 3/16" X 2-1/2" COTTER PIN | 1 |
| 21 | H-00270 | 3/16" X 3/4" KEY | 3 |
| 22 | H-68013 | SNAPRING 5/8" | 1 |
| 23 | H-28121 | FHS 3/8-16 X 1" | 4 |
| 24 | H-33618 | LW 1/4" | 2 |
| 25 | H-24617 | SHCS, LOW HEAD, 1/4- 20 X 5/8" | 2 |
| 26 | H-13003 | HCS 1/4"-20 X 3/4" | 2 |
| 27 | 290-7327 | STEERING CHAIN | 1 |
| 28 | H-05233 | PVC TUBING | 1 |
| 29 | 290-7110 | U-JOINT | 1 |
| 30 | 290-7090 | STEERING SHAFT, UPPER | 1 |
| 31 | 8-703 | STEERING WHEEL | 1 |
| 32 | 8-701A | STEERING COVER | 1 |
| 33 | 4-364A | FLANGE, 1.75" ID | 2 |
| 34 | 4-352 | BEARING | 1 |
| 35 | H-37038 | JNYL 5/8"- 11 | 1 |
| 36 | H-94071 | BHSCS 5/16-18 X 1 | 3 |
| 37 | H-25328 | SSS CP 1/4"-20 X 3/8" | 2 |
| 38 | 5-831 | MASTER LINK | 1 |
| 39 | 5-2225 | END HOUSING | 1 |
| 40 | H-79041 | SHCS 1/4-20 X 1/2 SS | 3 |
| 41 | 290-7323 | 24 VOLT ELECTRIC BRAKE | 1 |
| 42 | 290-7313 | 24V, 2HP, MOTOR | 1 |

FRAME BOTTOM



| Item | Part No. | Part Description | Qty |
|------|------------------------|-------------------------|-----|
| 1 | 290-9502 | FRAME WELDMENT | 1 |
| 2 | SEE PAGES 33 AND 34 | CHASSISDRIVE SYSTEM | 1 |
| 3 | 290-9536 | FRONT PANEL | 1 |
| 4 | 290-9551 | REAR PANEL | 1 |
| 5 | 290-9507 | DOOR | 2 |
| 6 | H-37708 | 1/4-20 LC ACORN NUT | 4 |
| 7 | 5-122 | 8" SS HINGE | 2 |
| 8 | H-73779 | BHSCS 5/16-18 X 1 | 4 |
| 9 | 290-5000 | AXLE MOUNT | 1 |
| 10 | H-312HCN | HCN 5/16"-18 | 1 |
| 11 | 290-6186 | 1/2-13 X 1-1/4 " U BOLT | 4 |
| 12 | H-73754 | BHSCS 1/4 - 20 X 3/4 SS | 16 |
| 13 | H-36102 | HN 1/4"-20 | 3 |
| 14 | 290-9516 | DOOR CURTAIN BAND | 2 |
| 15 | H-29598 | FPH 5/16" - 18 X 1" | 6 |
| 16 | H-33620 | LW 5/16" | 19 |
| 17 | H-70861 | NYLOK 5/16" - 18 SS | 16 |
| 18 | H-13053 | HCS 5/16"-18 X 3/4" | 3 |
| 19 | H-71017 | FW 3/8" SS | 6 |
| 20 | 5-130 | SIDE DOOR LATCH | 2 |
| 21 | H-71067 | LW 3/8" SS | 8 |
| 22 | H-70732 | HN 3/8"- 24 SS | 6 |
| 23 | H-36104 | HN 5/16"-18 | 3 |
| 24 | H-71063 | LW 1/4" SS | 11 |
| 25 | SEE PAGES 41 AND 42 | SIDE BROOMS | 1 |
| 26 | SEE PAGES 37 AND 38 | MAIN BROOM ASM. | 1 |
| 27 | H-71013 | FW 1/4" X 5/8" SS | 18 |
| 28 | H-37130 | NYLOK NUT, 1/2"- 20 | 8 |
| 29 | H-70105 | HCS 3/8"- 16 X 1" SS | 2 |
| 30 | H-71016 | FW 5/16" X 7/8" USS | 12 |
| 31 | SEE PAGES 37 AND 38 | HOPPER | 1 |
| 32 | 290-9543 | HOPPER GUIDE | 1 |
| 33 | 290-9513 | LATERAL CURTAIN | 1 |
| 34 | 290-9514 | REAR CURTAIN MTG. STRIP | 1 |
| 35 | 290-9511 | SIDE CURTAIN | 2 |
| 36 | H-72682 | FHP #10-32 X 1/2" SS | 12 |
| 37 | H-72565 | RPH #10-32 X 3/4" SS | 6 |
| 38 | H-70858 | NYLOK #10-32 SS | 6 |
| 39 | H-70712 | HN 3/8"-16 SS | 2 |
| 40 | 290-6040 | REAR AXLE | 1 |
| 41 | 290-6181 | SMOOTH REAR WHEEL | 2 |
| 42 | 290-6187 | LUG NUT, 1/2"- 20 | 8 |

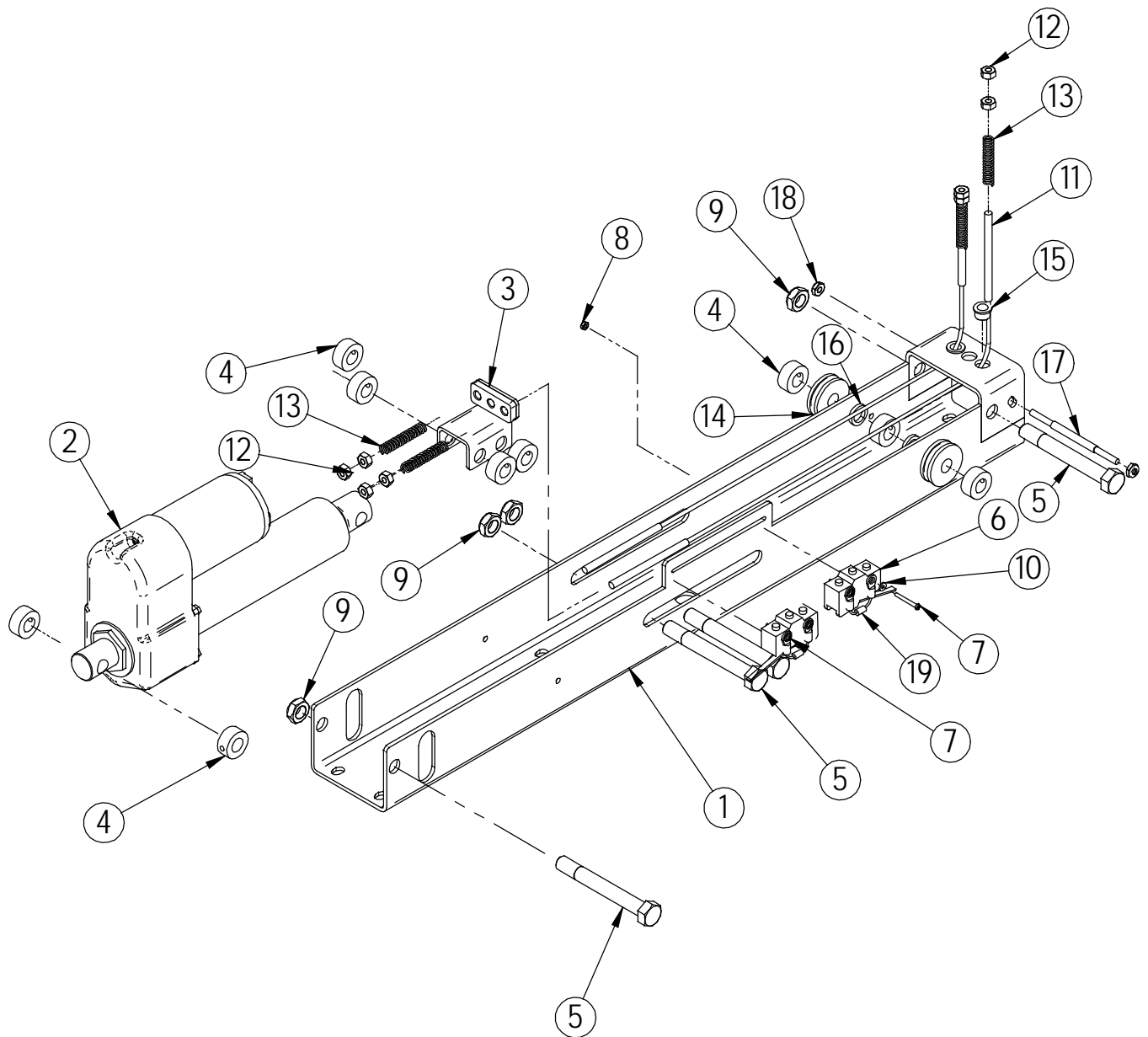
MAIN BROOM WITH MOTOR MOUNT AND FAN



| Item | Part No. | Part Description | Qty |
|------|------------------------|------------------------------|-----|
| 1 | 290-9505 | (2.5") RIGHT HOSE | 1 |
| 2 | 8-641 | JACKSHAFT SHAFT | 1 |
| 3 | 8-301 | MOTOR TO JACK SHAFT BELT | 1 |
| 4 | 4-312 | TRANS INPUT PULLEY | 1 |
| 5 | SEE PAGES 29 AND 30 | DUST CONTROL SYSTEM | 1 |
| 6 | 290-9573 | MAIN BROOM BELT | 1 |
| 7 | 4-320 | BROOM DRIVE PULLEY | 1 |
| 8 | H-K1432 | 3/16" X 1/2" KEY | 3 |
| 9 | 290-9540 | BRUSH GUARD | 1 |
| 10 | 290-9525 | (3") MAIN VACUUM HOSE | 1 |
| 11 | 209-9505 | (2.5") LEFT HOSE | 1 |
| 12 | 290-9543 | HOPPER GUIDE | 1 |
| 13 | H-25435 | SSS CP 5/16" X 1/4" | 2 |
| 14 | H-68015 | SNAPRING 3/4" | 2 |
| 15 | 8-723B | BEARING | 2 |
| 16 | 8-628 | MAIN BROOM JACKSHAFT BRACKET | 1 |
| 17 | 4-416 | BROOM LATERAL ARM | 1 |
| 18 | 4-412 | BROOM DRIVE BEARING | 1 |
| 19 | 4-360 | REVERSE IDLER ARM | 1 |
| 20 | 4-319 | TENSION SPRING | 1 |
| 21 | 4-316 | BROOM DRIVE PULLEY | 1 |
| 22 | 4-317 | IDLER PULLEY | 1 |
| 23 | H-25283 | SSS CP #10-32 X 1" | 1 |
| 24 | H-33622 | LW 3/8" | 1 |
| 25 | H-36106 | HN 3/8"-16 | 1 |
| 26 | H-26316 | SB 5/16" X 3/4" SS | 1 |
| 27 | 4-366 | BUSHING, IDLER ARM | 1 |
| 28 | 4-318 | IDLER PULLEY | 1 |
| 29 | 8-201 | 24V,TWIN SHAFT MOTOR | 1 |
| 30 | 4-511 | BLOWER HOUSING | 1 |
| 31 | 290-9541 | MAIN BROOM SUSPENSION ARM | 1 |
| 32 | 8-423A | MAIN BROOM BEARING SHELL | 1 |

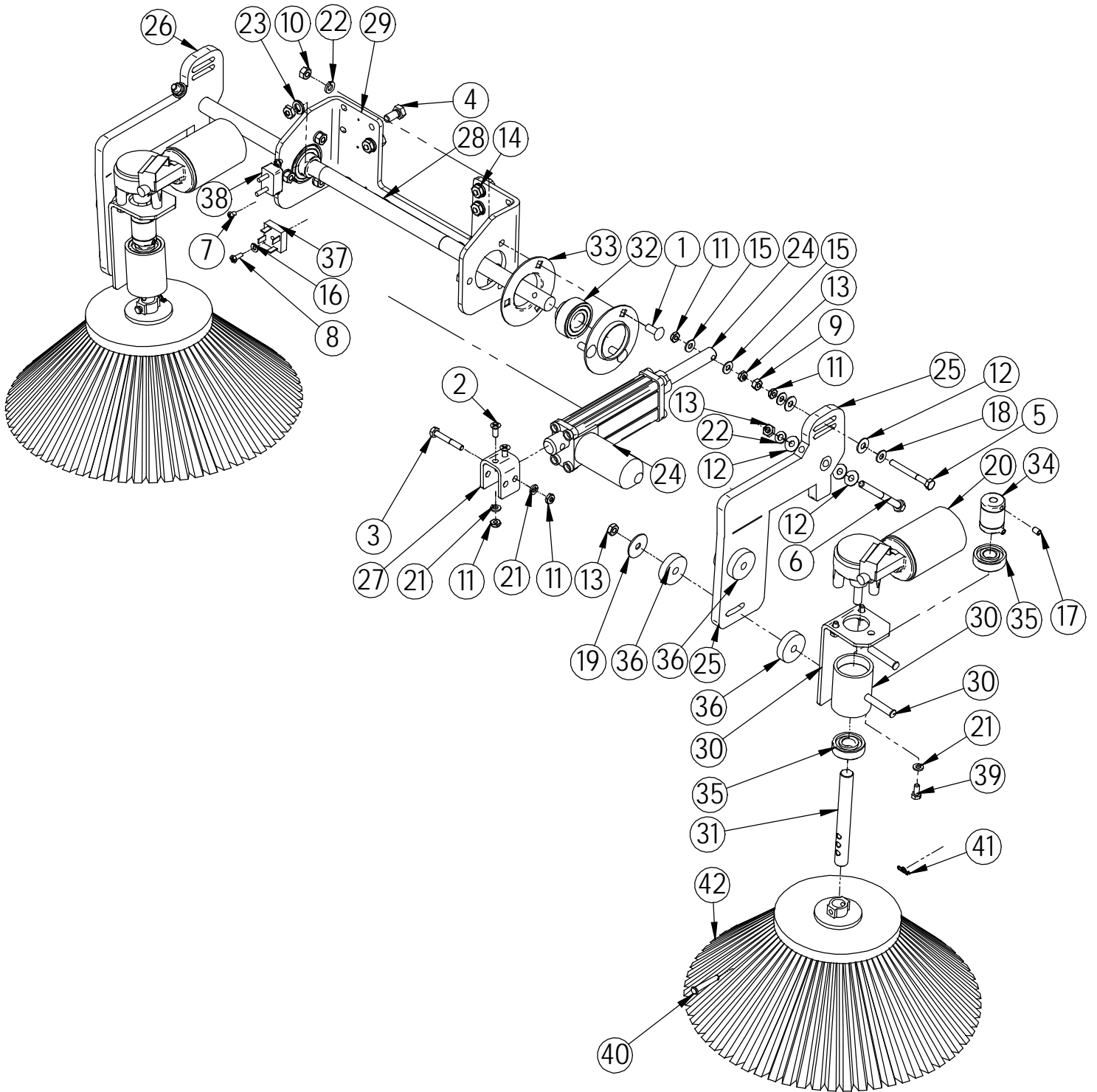
| Item | Part No. | Part Description | Qty |
|------|------------------|-------------------------------|-----|
| 33 | 8-423 | LEFT SUPPORT BEARING | 1 |
| 34 | 4-512 | BLOWER WHEEL | 1 |
| 35 | 290-9523 | BLOWER DOOR PLATE | 1 |
| 36 | 4-410A | SET COLLAR | 1 |
| 37 | 4-301 | MAIN DRIVE PULLEY | 1 |
| 38 | 4-430 | IDLER ARM | 1 |
| 39 | 4-432 | IDLER DRUM | 1 |
| 40 | H-13213 | HB 1/2" X 2 1/2" | 1 |
| 41 | H-37030 | NYLOK 1/2"-13 | 1 |
| 42 | 8-401US | MAIN BROOM, UNION STEEL | 1 |
| 43 | 4-210 | TERMINAL CLIP | 1 |
| 44 | 4-420 | BROOM DRIVER | 1 |
| 45 | 4-432A | IDLER DRUM SPACER | 1 |
| 46 | H-25328 | SSS CP 1/4"-20 X 3/8" | 2 |
| 47 | 290-9544 | BROOM COMPARTMENT INNER PANEL | 1 |
| 48 | 4-421 | SUPPORT BLOCK | 1 |
| 49 | 8-574 | FLOOR SEAL, R. | 1 |
| 50 | 8-576 | RIGHTHAND FLOOR SEAL CLAMP | 1 |
| 51 | 290-9537 | HOPPER | 1 |
| 52 | 290-9539 | HOPPER CURTAIN | 1 |
| 53 | 290-9529 | HDPE SLIDE RAIL | 2 |
| 54 | 4-127 | HANDLE | 2 |
| 55 | 290-9571 | HOPPER CURTAIN MTG. STRIP | 1 |
| 56 | H-72563 | RPH #10-32 X 1/2" SS | 18 |
| 57 | H-70858 | NYLOK #10-32 SS | 18 |
| 58 | H-13105 | HCS 3/8"- 16 X 1" | 4 |
| 59 | H-13053 | HCS 5/16"-18 X 3/4" | 5 |
| 60 | H-33620 | LW 5/16" | 4 |
| 61 | H-31810 | HW #10 X 1/2 | 6 |
| 62 | 8-165 | MOTOR SUPPORT BRACKET | 1 |
| 63 | H-10436-0 105 | 3/8" X 1 1/4" SPRING PIN | 2 |
| 64 | 4-201B | MOTOR CRADLE | 1 |

ACTUATOR SLIDE ASSEMBLY



| Item | Part No. | Part Description | Qty |
|------|----------|--|-----|
| 1 | 290-9503 | ACTUATOR CHANNEL | 1 |
| 2 | 7-221 | ACTUATOR; 1000 LB. LOAD (20:1) | 1 |
| 3 | 430-7710 | CABLE TROLLEY | 1 |
| 4 | H-33374 | SHAFT COLLAR, 1/2" ID | 9 |
| 5 | H-11219 | HCS 1/2"- 13 X 4.0" | 4 |
| 6 | 5-223 | LIMIT SWITCH | 2 |
| 7 | H-28679 | PPH #4-40 X 1" | 4 |
| 8 | H-37006 | NYLOK #4-40 | 4 |
| 9 | H-37032 | JAM NYLOK NUT, 1/2"- 13 | 4 |
| 10 | H-33066 | FW #4 SAE | 4 |
| 11 | 290-9560 | SQUEEGEE LIFT CABLE | 2 |
| 12 | H-36152 | HN 1/4"- 28 | 8 |
| 13 | 290-7712 | COMPRESSION SPRING | 4 |
| 14 | 5-772 | PULLEY, NYLON | 2 |
| 15 | H-6389 | FLANGED BUSHING 3/8" ID X 5/8" OD, NYLON | 2 |
| 16 | H-01320 | FW 1/2" ID X 1/8" THICK NYLON | 2 |
| 17 | H-01321 | DOUBLE ENDED STUD, 1/4-20 X 4" SS | 1 |
| 18 | H-NJ04C | JNYL 1/4" - 20 SS | 2 |
| 19 | 5-270 | EMF SUPP DIODE | 2 |

SIDE BROOMS



| Item | Part No. | Part Description | Qty |
|------|-----------|------------------------------------|-----|
| 1 | H-74429 | CB 5/16" - 18 X 3/4" SS | 6 |
| 2 | H-72706 | FHP 1/4" - 20 X 5/8" SS | 2 |
| 3 | H-77010 | HCS 1/4" - 20 X 1.75" SS | 1 |
| 4 | H-70103 | HCS 3/8" - 16 X 3/4" SS | 8 |
| 5 | H-77013 | HCS 1/4" - 20 X 2.5" SS | 1 |
| 6 | H-77067 | HCS 5/16" - 18 X 3.5" SS | 2 |
| 7 | H-72501 | RPH #6-32 X 1/4" SS | 2 |
| 8 | H-72516 | PPH #6-32 X 1/2" SS | 1 |
| 9 | H-70710 | HN 1/4" - 20 SS | 1 |
| 10 | H-70711 | HN 5/16" - 18 SS | 6 |
| 11 | H-NJ04C | JNYL 1/4" - 20 SS | 6 |
| 12 | H-78015 | FW 5/16" X 3/4" SS | 8 |
| 13 | H-NJ05C | JNYL 5/16" - 18 SS | 6 |
| 14 | H-0129158 | JNYL 3/8" - 16 SS | 8 |
| 15 | H-76061 | FW 1/4" NYLON | 2 |
| 16 | H-78009 | FW 3/16" X 7/16" SS | 1 |
| 17 | H-25328 | SSS CP 1/4" - 20 X 3/8" | 4 |
| 18 | H-71013 | FW 1/4" X 5/8" SS | 2 |
| 19 | H-71213 | FNW 5/16" X 1 1/4" SS | 4 |
| 20 | 8-220 | SIDE BROOM MOTOR | 2 |
| 21 | H-71063 | LW 1/4" SS | 9 |
| 22 | H-71065 | LW 5/16" SS | 8 |
| 23 | H-71067 | LW 3/8" SS | 8 |
| 24 | 290-2220 | ACTUATOR | 1 |
| 25 | 290-4420 | SIDE BROOM LIFT ARM (LH) | 1 |
| 26 | 290-4421 | SIDE BROOM LIFT ARM (RH) | 1 |
| 27 | 290-4435 | SIDE BROOM ACTUATOR SUPPT BRKT | 1 |
| 28 | 290-4620 | SIDE BROOM SUSPENSION AXLE SHAFT | 1 |
| 29 | 290-4630 | AXLE SUPPORT BRACKET | 1 |
| 30 | 290-8750 | SIDE BROOM MOTOR MOUNT | 2 |
| 31 | 290-4450 | SIDE BROOM DRIVE SHAFT | 2 |
| 32 | 4-352 | BEARING | 2 |
| 33 | 4-364A | FLANGE, 1.75" ID | 4 |
| 34 | 4-444 | BROOM SAFETY DRIVE CPLG | 2 |
| 35 | 4-445C | DRIVE TUBE BEARING | 4 |
| 36 | 4-446 | GROMMET - 3/8 ID X 1-1/2 OD X .375 | 8 |
| 37 | 5-296 | DIODE BRIDGE | 1 |
| 38 | 8-284 | CIR. BREAKER - 6A, 24V | 1 |
| 39 | H-82550 | HCS M6-1.0 X 14 SS | 6 |
| 40 | H-ZCP44 | 1/4" X 1 1/2" CLEVIS PIN | 2 |
| 41 | H-RUE8 | RUE RING COTTER | 2 |
| 42 | 1-402 | SIDE BROOM POLYPROPYLENE | 2 |