Pioneer Eclipse

An AMANO Company

UHS Battery Burnisher

# PE300BU

## Operator's Manual

CE

# Instructions For Use

Failure to read and understand this manual before operating this machine or performing service on this machine may result in injury to the operator or nearby personnel or result in damage to the machine or nearby property. Each operator must be trained in the operation of this machine before being allowed to use it. Contact Amano Pioneer Eclipse Customer Service at 1-800-367-3550 or +1-336-372-8080 or an authorized Amano Pioneer Eclipse Distributor to inquire about training or to request a replacement manual.

## NOTICE

Proper maintenance is necessary with all battery powered floor machines. Following the scheduled maintenance procedures found in your operation manual will provide many years of uninterrupted service.

Pioneer Eclipse
An AMANO Company

In addition to the scheduled maintenance procedures listed it is recommended to have your machine serviced by certified service personnel every three months. This service should include an emissions check.

# ! FOR YOUR SAFETY !

## DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any or other appliance.

**Record This Important Information**

Date of Purchase _____

Purchased From _____

Address _____

City_____ State_____ Zip _____

Phone _____ Contact _____

Machine Model _____

Machine Serial Number _____

**Important Phone Numbers**

Medical Emergency _____

Police _____

Fire Department _____

In this Operation Manual you will find three statements that you must read and observe to ensure safe operation of this machine.

**DANGER!** indicates that the possibility of severe bodily injury or death can occur if DANGER! statements are ignored. Read and observe all DANGER! statements included in the Operation Manual and attached to the machine.

**WARNING!** indicates that the possibility of bodily injury to the operator and other people can occur if WARNING! statements are ignored. Read and observe all WARNING! statements included in the Operation Manual and attached to the machine.

**CAUTION!** indicates that the possibility of damage to the machine or other property can occur if CAUTION! statements are ignored. Read and observe all CAUTION! statements included in the Operation Manual and attached to the machine.

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# Quick Reference

## Specifications:

- Voltage: 36VDC (Qty. 3 - 12VDC Batteries)
- Burnish Rate: ±26,000 $ft^2$/hr (2415 $m^2$/hr) [20”]
  ±31,200 $ft^2$/hr (2899 $m^2$/hr) [24”]
  ±42,900 $ft^2$/hr (3985 $m^2$/hr) [30”]
- Overload Protection: Resettable Breakers
- Operating Time: Approximately 3 hours
- Pad Pressure: Adjustable

## Routine Maintenance Parts:

- Cloth Dust Bag: MP414100
- Paper Dust Bap: MP414200 (3 Per Pack)
- Pad Holder: MP414000 [20”]
  MP435000 [24”]
  MP448100 [30”] Qty. 2
- Pad Retainer: MP432400
- 3A Glass Fuse: MP234700
- Charger Fuse: MP265100 (115V)
  MP289100 (230V)
- Steel Skirt: MP425200 [20”]
  MP434200 [24”]
  MP456300 [30”]
- Skirt Edging: MP139800 - 6 ft (183 cm) [20”]
  MP139800 - 7 ft (214 cm) [24”]
  MP449200 [30”]
- Battery: MP223500 (12V Lead Acid) Qty. 3
  MP413600 (12V AGM) Qty. 3
- Gas Spring: MP415200 [20”]
  MP434500 [24”]
  MP450300 [30”]
- Deck Belt: MP449100 [30”]
- Burnish Motor Brush Kit: MP433200
- Transaxle Motor Brush Kit: MP433300

Your Authorized Amano Pioneer Eclipse Distributor: _____

Authorized Amano Pioneer Eclipse Distributor Phone Number: _____

Amano Pioneer Eclipse Phone Number: +1-336-372-8080

## Safety Precautions

***Anyone operating the machine should read the following carefully and be informed of potentially dangerous operating conditions. Operators should be familiar with the location and use of all safety devices on the machine. DO NOT use the machine if it is not in proper operating condition, and report any damage or operation faults immediately.***

**DANGER!** This machine has parts including the pad/brush assemblies that can cause severe injury if these parts are contacted while they are moving. **DO NOT** allow any part of the body or clothing to come in contact with these parts while they are moving. **DO NOT** try to change the pads/brushes while the machine is running. **DO NOT** allow other people to come near the machine while it is in operation. **DO NOT** allow the machine to run unattended. **DO NOT** leave the machine in a place where unauthorized or untrained personnel could use the machine. **DO NOT** run the machine with the pads/brushes off center, damaged or missing. **DO NOT** operate the machine if the machine has loose parts.

**WARNING!** Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep covers open when charging. **DO NOT** smoke around batteries. Avoid skin contact with the acid contained in the batteries. Never allow metal objects to lay across battery tops.

**WARNING!** Operate from the rear of the machine only.

**WARNING!** Inspect pad holders regularly. A fractured pad holder may result in pad fragments causing injury.

**WARNING!** Use caution when operating the machine on a ramp or incline. **DO NOT** turn the machine, or leave it unattended, on a ramp or incline.

**WARNING!** Store machine inside. Keep the electrical components of the machine dry. **DO NOT PRESSURE WASH MACHINE**.

**WARNING!** Modifications or alterations to this machine can lead to personal injury or damage to the machine. **DO NOT** make unauthorized modifications or alterations to this machine. Amano Pioneer Eclipse assumes no liabilities for injury or damage resulting from an unauthorized modification or alteration to the machine. Any unauthorized modification or alteration to this machine voids all warranties.

**WARNING!** The motor and motor controller become hot enough while the machine is in operation, and for a long time after the machine is shut off, to cause severe burns. **DO NOT** touch these parts of the machine until they have cooled.

**WARNING!** Injury can occur to the eyes and body while using the machine. Safety goggles, safety shoes, and safety clothing are recommended while operating the machine.

**WARNING!** Machine vibration may cause tingling or numbness in the fingers or hands. Gloves are recommended to reduce machine vibration. If tingling or numbness persists, shut off the machine. If the vibration is caused by loose parts such as an off center pad/brush, adjust or tighten these parts before using the machine again.

**WARNING! DO NOT** burnish on an incline. This machine is designed to burnish on a flat level floor.

**CAUTION! DO NOT** operate machine unless trained and authorized. **DO NOT** operate machine unless you have read and understand the operation manual. **DO NOT** operate machine in flammable or explosive areas.

**CAUTION!** Before starting machine ensure all safety devices are in place and functioning properly. Before starting machine check for proper operation.

**CAUTION!** When using machine, go slowly on inclines or slippery surfaces. Use care when operating machine in reverse. Follow all manufacturers instructions on chemical product containers when handling, mixing, or using chemical products.

**CAUTION!** When servicing machine, stay clear of moving parts. **DO NOT** wear loose clothing when working on machine. Block machine wheels before raising or jacking up machine. Use hoist stands that will support the weight of the machine. Wear eye and ear protection when using pressurized air. Disconnect battery connections before servicing machine. Use only replacement parts supplied by Amano Pioneer Eclipse or a Amano Pioneer Eclipse Authorized Distributor or Service Center.

## *This machine is manufactured for commercial use only.*

This machine is designed and manufactured for burnishing indoor hard floor surfaces. Amano Pioneer Eclipse does not recommend use of this machine in any environment other than an indoor environment.

Battery powered floor equipment is designed and manufactured for commercial use only. These machines are designed to burnish most modern types of floors including composition tile, stone, marble, terrazzo, and resilient floor covering, and some coated wood floors.

## *These machines should not be used*

- By unqualified or untrained personnel.
- Unless properly maintained and adjusted.
- On areas with obstructions such as thresholds, floor outlet boxes, etc.
- In areas where loose debris or other objects are present.

## *Operator Responsibility*

The operator is responsible for performing the recommended daily maintenance and checkups of the machine to keep it in good working condition. The operator must inform the service mechanic or supervisor when recommended maintenance procedures are required as described in the *"MAINTENANCE"* section of this manual.

- Read this manual carefully before operating this machine.
- FOR SAFETY: **DO NOT** operate machine before reading and understanding the operation manual.
- Check the machine for shipping damage.

Keep your machine regularly maintained by following the maintenance information in this manual. Order parts and supplies only from an Authorized Amano Pioneer Eclipse Distributor. Use the parts illustration section of your manual when ordering parts. During and after operation, perform the recommended daily and hourly procedures outlined in the Maintenance Chart.

## *Test for Operator-Ear Sound Pressure Level*

Amano Pioneer Eclipse measures and rates the operator-ear sound pressure level for hand-guided floor treatment and floor cleaning machines for industrial use. All tests are performed in accordance with European Machinery Directive (2006/42/EC).

- Outdoor test area consists of a flat open space free from effects of signboards, buildings or hillsides for at least 15 m (50 ft) from the center of the test surface. Indoor tests are conducted in a semi-anechoic or sound deadening room.
- The test surface is a single sheet of floor covering at least 1 m (3.3 ft) wider and longer than the equipment being tested. In order to not affect the sound reading, the observer taking readings is at least 2 m (6.6 ft.) from the equipment being tested, or standing directly behind the operator.
- All machines are tested while stationary and centered on the test surface. With the traction drive in neutral (where applicable) the test is conducted with the machine at maximum engine or motor speed as specified by the manufacturer.
- The operator is located in the normal operating position with the microphone or meter supported independent of the machine, 1,68 m (66 in) above the test surface, 25 cm (10 in) to the right and left centerline of the operators position, and 20 cm (8 in) to the rearmost point of the handle, with the handle in the most forward position.
- The sound level meter is observed for a minimum of 5 seconds or until a stabilized reading is obtained. The maximum repeatable sound level observed during the test at each microphone position is recorded and documented.

## *Test for Hand-Arm Vibration at the Grip Surface of Hand-Guided Machinery*

Amano Pioneer Eclipse measures and rates the vibration at the machine-hand contact surface of hand-guided machines that are provided with handles in accordance with European Machinery Directive (2006/42/EC).

- The test area consists of a flat open floor area that allows the machine to be operated normally.
- The transducer is mounted firmly at a point halfway along the length of the handle where the handle would normally be held.
- Machines are tested while stationary, with all mechanisms necessary for the equipment to perform its intended functions engaged and the traction drive in neutral (if applicable). The machine will be tested at maximum engine or motor speed as specified by the manufacturer of the subject machine.
- The measurements are recorded from the dominant axis.

# Machine Preparation

## *Unpacking the Machine*

The machine is shipped boxed on a wooden pallet. To unpack machine:

1. Cut and remove bands holding the box to the pallet.
2. Remove staples attaching the box to the platform at the bottom edge of the box.
3. With two people, one at either end of the box, lift box straight up and off machine.
4. Remove loose accessories from the top of machine.
5. Cut and remove bands securing the machine to the pallet.
6. Lower the attached ramp
7. If the machine has batteries then remove the battery cover and plug the battery pack plug into the machine, turn on the key, drive the machine down the ramp off the pallet. If the machine does not have batteries, pull the machine down the ramp and off the pallet. See the “Connecting the Batteries” section of the manual.
8. Carefully back the machine off of the pallet.

## *Machine Storage*

1. Machine should be stored in a dry environment.
2. Store machine away from objects that may fall and damage it.
3. Never store burnisher near an open flame or heat producing device.
4. Make sure burnisher is cleaned properly by wiping machine down with damp cloth before storing.

***CAUTION!*** *NEVER PRESSURE WASH MACHINE!*

5. Disconnect batteries before storage.

## *Repacking the Machine*

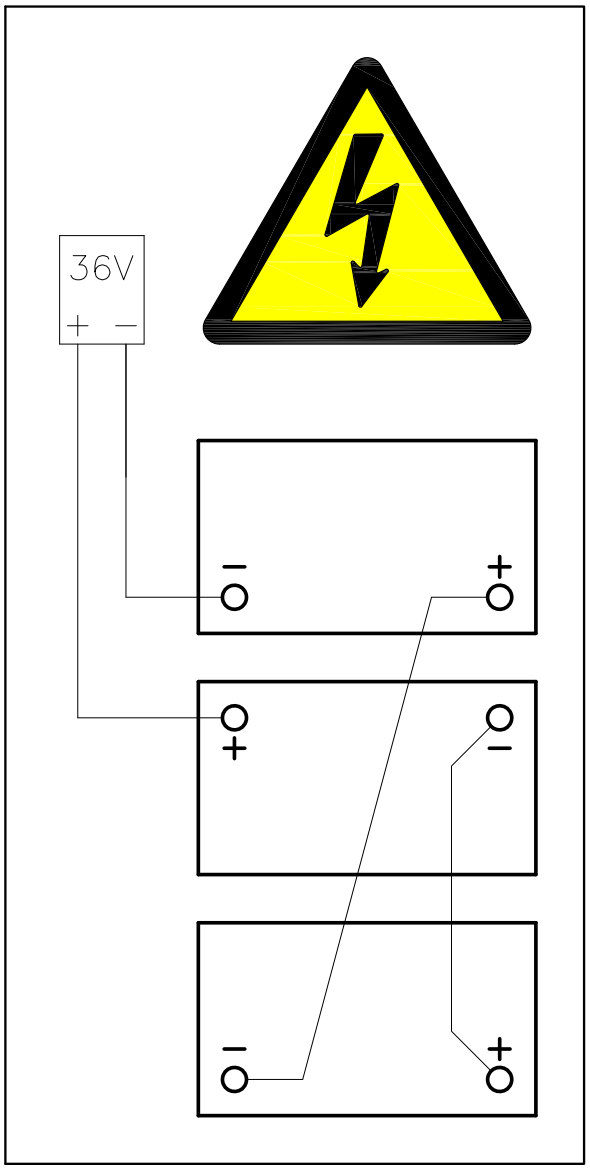
Refer to Unpacking section on page 8 and repack machine using original packing materials and container.

## *Transporting the Machine*

When shipping the machine, make sure the batteries are disconnected and the machine is secured in the transporting vehicle.

## Connecting the Batteries

1. Place the batteries in the machine oriented as shown in diagram.
2. Connect the batteries as shown in the battery connection diagram.
3. **DANGER! Incorrect connection of batteries can cause explosion and/or serious injury.**
4. Double check battery connections.
5. Connect the battery pack plug to the machine.




## Installing the Skirt

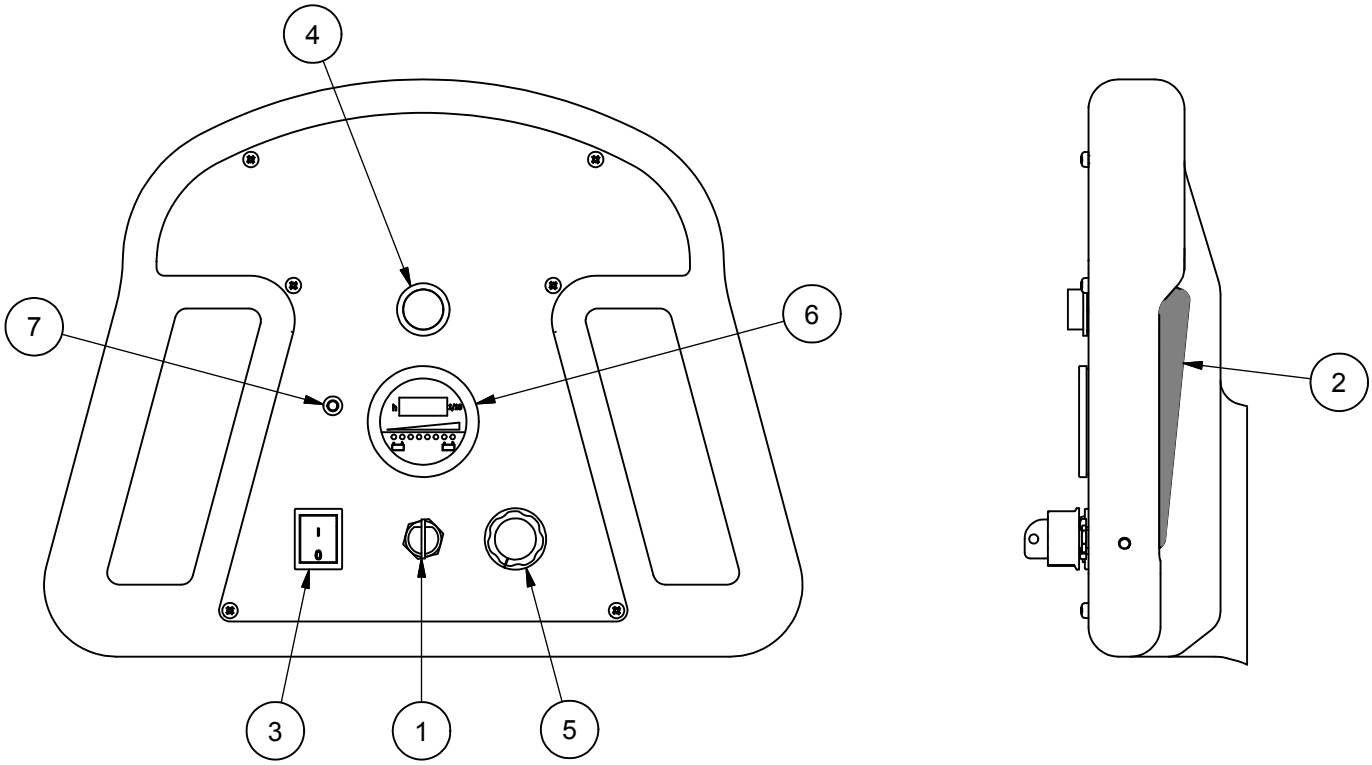
1. Lift the deck upward about 90 degrees by pulling up on the front of the deck. At this point, the tilt latch will hold the deck in the pad change position. (Ref. Machine Operation - Installing/Changing Burnishing Pad)
2. Remove steel skirt from bubble wrap packing and on the outside of the skirt, loosen the 1/4” hex bolt with jam.
3. Slide the skirt onto the burnish head aligning the slots in the skirt with the tabs on the deck. Make sure the 1/4” bolt is at the back of the shroud.

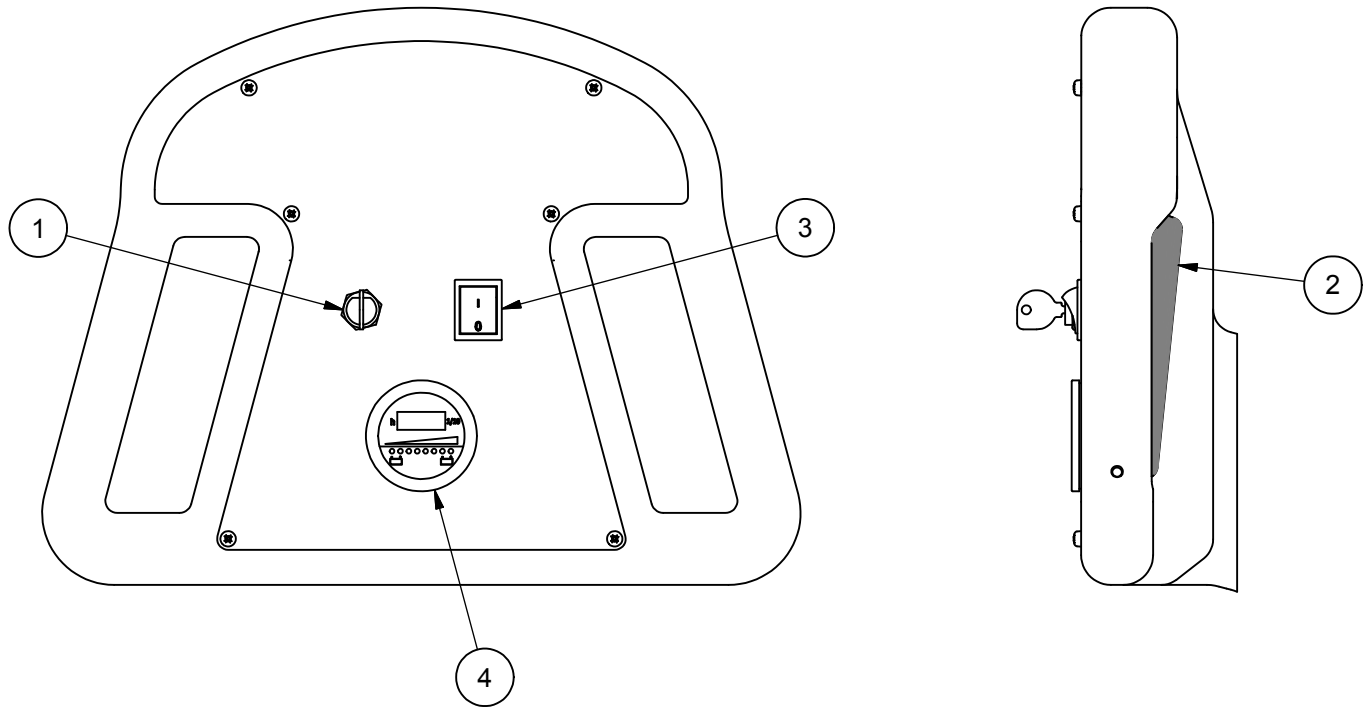
4. Tighten the 1/4” bolt until the skirt is snug around the deck but also floats up and down freely.
5. Tighten jam nut and lower deck to burnish position. (Ref. Machine Operation: Installing/Changing Burnishing Pad)

# Machine Components

## *Controls and Instruments*

### Traction




### Pad Assist

## 300BU Traction Model

1. **Key Switch** - Turns the machine on/off.
2. **Handle Lever** - When the lever is engaged the machine will move forward. If the Burnish switch is on, the pad will also start turning. If the burnish head is tilted up into the pad change position, the burnish motor will not engage.

   ***NOTE:*** *The machine needs to be moving when the burnish switch is turned on or off in order to keep from burning the floor.*
3. **Burnish Switch** - Turns burnish function on/off. The burnish motor will not engage unless the burnish switch is on and the handle lever is engaged. If the burnish head is tilted up into the pad change position, the burnish motor will not engage.
4. **Reverse Switch** - Hold down this switch while the handle lever is engaged and the machine will move in reverse. Once the reverse switch is released the machine will start moving forward.
5. **Traction Speed Control** - Turn the knob clockwise to increase speed. Turn the knob counter-clockwise to decrease speed.
6. **Hour Meter / Battery Discharge Indicator** - The LCD displays the number of burnishing hours. The machine will only count hours while burnishing. The row of LEDs display the charge level of the battery pack. When all the yellow LEDs are lit, the battery pack is fully charged. In order to protect the battery pack, when the red LED is lit, the burnish motor will stop and the machine should be recharged.
7. **Alarm LED** - Displays trouble codes as a blink pattern. In normal operation this LED will be off. If it comes on, refer to the troubleshooting section.

## 300BU Pad Assist Model

1. **Key Switch** - Turns the machine on/off.
2. **Handle Lever** - When the lever is engaged, if the burnish switch is on, the pad will start turning. If the burnish head is tilted up into the pad change position, the burnish motor will not engage.

   ***NOTE:*** *The machine needs to be moving when the burnish switch is turned on or off in order to keep from burning the floor.*
3. **Burnish Switch** - Turns burnish function on/off. The burnish motor will not engage unless the burnish switch is on and the handle lever is engaged. If the burnish head is tilted up into the pad change position, the burnish motor will not engage.
4. **Hour Meter / Battery Discharge Indicator** - The LCD displays the number of burnishing hours. The machine will only count hours while burnishing. The row of LEDs display the charge level of the battery pack. When all the yellow LEDs are lit the battery pack is fully charged. In order to protect the battery pack, when the red LED is lit the burnish motor will stop and the machine should be recharged.

## Over Current Protection

1. 70A Breaker - Over current protection for the burnish motor. Push to reset.
2. 40A Breaker - Over current protection for the traction drive. Push to reset (Only on Traction models).
3. 3A Fuse In-Line holder - Over current protection for key switch.

## Onboard Battery Charger

To charge the batteries, first drive the machine to a flat, dry, well-ventilated area then turn the machine off. If using lead acid batteries, check the water level in all the battery cells (see *Battery Maintenance* section). If the level is low, add just enough distilled water to cover the plates. ****DO NOT OVERFILL!****

Then plug the charger cord into a wall socket. The battery charger will initialize and then soft start the charging cycle.

***WARNING!*** *Batteries emit hydrogen gas when charging. Explosion or fire can result. Keep sparks and open flame away when charging.*

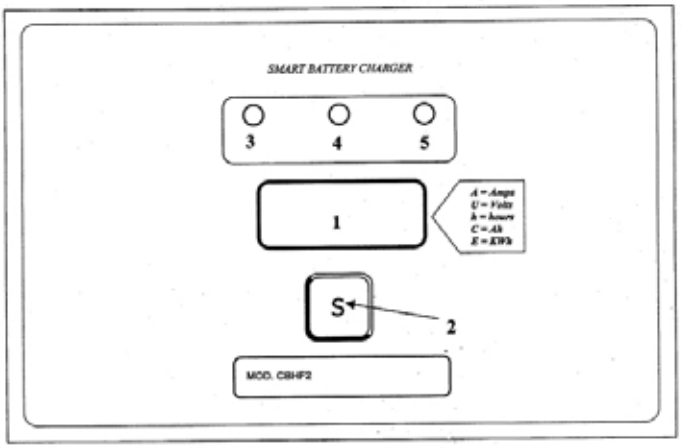
***CAUTION!*** *When servicing machine, wear protective gloves and goggles when handling batteries or battery cables. Avoid contact with battery acid.*

## Battery Charger Controls

1. Three-digit display + symbol (1), to view A=charging current, U=battery voltage, h=charging time, C=charging ampere-hours (AH), E=energy used to charge (KWh)
2. Button for the Selection of the display mode (2): A, U, h, C, E. After 10 seconds the display returns to the display of charging current.
3. Red control indicator (3): when it is on, the charging cycle has started.
4. Yellow control indicator (4): when it is on, the final phase of the charging cycle has started.
5. Green control indicator (5): when it is on, the charging cycle has finished.

Once the charge cycle is complete, the charger will remain active in a trickle charge mode to maintain the charge on the batteries until the charger is unplugged from the wall socket.

FRONT PANEL OF BATTERY CHARGER MODEL CBHF2



## Charger Settings

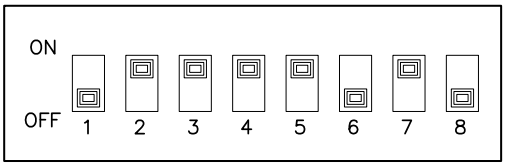
The On-Board battery charger settings need to be set for your battery type before charging. Failure to properly set will result in battery damage.

To determine your battery type, see battery label or contact your battery supplier.

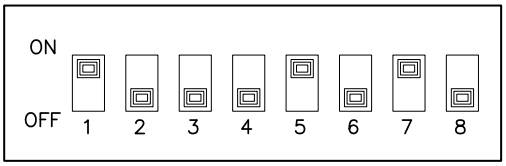
To change charger settings:

1. Unplug the charger.
2. Peel back the corner of the display label.
3. Set the DIP switches, according to your battery pack, as shown below. If your battery pack type is not listed please call Amano Pioneer Eclipse at +1 -336-372-8080 for correct setting.

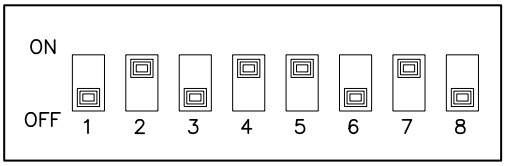
LEAD ACID BATTERY
DIP SWITCH CONFIGURATION




DISCOVER SEALED BATTERY
DIP SWITCH CONFIGURATION




FULL RIVER SEALED BATTERY
DIP SWITCH CONFIGURATION




## Battery Charger Fault Codes

| Fault | Description | Remedy |
|---|---|---|
| No Display | No display on the charger, no LED indicators. | Check that the plug is connected to an operating wall outlet. Check fuse. 20A fuse MP265100. |
| bAt | Incorrect battery connection or no battery connection. | Check the connection and the polarity of the battery connection. |
| E01 | The maximum voltage admissible by the battery has been exceeded. The charge cycle was interrupted. | Restart the charge cycle. If problem persists, battery pack may be damaged. |
| E02 | The maximum temperature has been exceeded. The charge cycle was interrupted. | Restart the charge cycle. If problem persists, battery pack may be damaged. |
| E03 | The maximum time for the charging phase has been exceeded. The charge cycle was interrupted. | Restart the charge cycle. If problem persists, battery pack may be damaged. |
| SCt | The total safety time has interrupted the charge cycle. | Restart the charge cycle. If problem persists, battery pack may be damaged. |
| Srt | Internal charger fault. | Replace battery charger. |

## How the Machine Works

The Burnish components of the machine are:

- Burnish pad holder
- Burnish pad
- Burnish motor
- Dust Collection Bag

As the machine moves forward, the burnish pad shines the floor. Any excess dirt or wax gets picked up by the pad and distributed into the dust collection bag via the dust collection system.

## Pre-Operation Checklist

Before operating the machine:

- Check that the Burnish Switch is in the off position.
- Check the pad holder to ensure there are no breaks or cracks.
- Check correct connection of the batteries.
- Check that the Dust Collection Bag is empty.
- Release caster breaks.

## Turning on the Machine

1. Complete pre-operation check.
2. Turn the Key to the ON position.
3. Turn on the burnish switch and engage the handle levers.
4. Adjust speed as needed with traction speed control knob. (Traction Models Only)

## Changing Direction

When the handle levers are engaged the machine will travel in the forward direction. To travel in reverse, while the handle levers are engaged, hold down the reverse switch. The machine will change from forward direction to reverse direction. The machine will continue in the reverse direction until the reverse switch is released.

## Stopping & Turning Off Machine

To stop the machine, release the handle levers and the machine will smoothly break to a stop and after 3 seconds the burnish motor will stop. When turning the machine off, turn off the burnish switch and then turn off the key switch.

## Operation on Inclines

***CAUTION!*** *When the machine is traversing on an incline, up or down, move slowly.*

***CAUTION!*** *Do not run burnish pad on an incline. The maximum rated climb and descent incline is 6°.*

## Installing / Changing Burnishing Pad

1. Make sure the Burnish Switch is OFF.
2. Lift on the front of the deck and tilt deck into the pad change position.

3. Remove the center device by turning counter-clockwise and carefully remove the old pad from the Velcro material.

***CAUTION!*** *CAREFULLY INSPECT THE PAD HOLDER FOR CRACKS OR DAMAGE! REPLACE IF NECESSARY.*

4. Pull center from new pad, align pad on pad holder and secure with centering device by turning clockwise.
5. Press pad firmly onto pad holder face.
6. Lift the front of the shroud and lift the shroud release lever and SLOWLY let the shroud return to the down position.

***CAUTION!*** *KEEP HOLD OF THE DECK TO AVOID INJURY!*

## Dust Bag Removal

The machine has two dust bag options. A re-usable cloth bag and a disposable paper bag. Monitor the dust bag carefully and empty/change as needed. The dust

collection system will not operate effectively when the dust bag is full. Under heavy burnishing conditions the dust bag should be emptied/changed every hour.

1. Turn off the Burnish Motor.
2. Unscrew the knobs holding the dust bag cover to the shroud.

3. Pull the dust bag off the dust tube.

4. Empty/Change dust bag.

## Caster Parking Brake

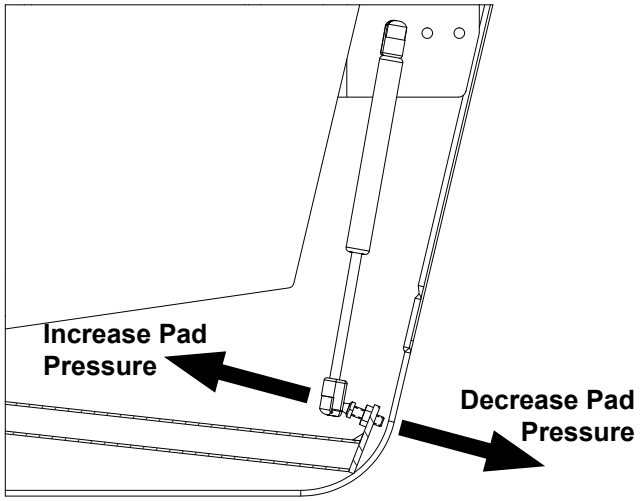
The two rear casters are equipped with brakes. To set the brake, push down the “ON” side of the brake lever. To release the brake push down the “OFF” side of the brake lever. The caster breaks should only be used as a parking brake if needed. Before moving the machine make sure both breaks are released.

## Pad Pressure Adjustment

The pad pressure is set at the factory for optimal burnish performance in most conditions. If the pad pressure needs to be adjusted, follow the procedure outlined below.

***NOTE:*** *Pad pressure adjustments should only be performed by a qualified technician.*

1. Turn burnish switch off.
2. Remove back panel.
3. Adjust ball end to increase or decrease pad pressure as shown in diagram.




## Post Operation Checklist

Turn the machine OFF and perform the following checks:

- Check for wire, string, or twine wrapped around the burnish pad.
- Check for frayed wires or damage.
- Empty the dust collection bag.
- Inspect batteries.
- Plug in on-board battery charger.

# Maintenance

## *Scheduled Maintenance*

| Operation | Interval | | | | | | |
|---|---|---|---|---|---|---|---|
| | Daily | Every 25 Hrs | Every 50 Hrs | Every 100 Hrs | Every 200 Hrs | Every 500 Hrs | Every 1000 Hrs |
| Empty/Clean Dust Bag | ● | | | | | | |
| Inspect Pad Holder | ● | | | | | | |
| Inspect Battery water level (Lead Acid only) | | | ● | | | | |
| Check wiring harness for fray or cut | | ● | | | | | |
| Check for loose/missing nuts or screws | ● | | | | | | |
| Tighten nuts and screws | | | | ● | | | |
| Check brushes on transaxle motor and burnish motor | | | | | | | ● |
| Lubricate rear casters | | | | ● | | | |
| Check Burnish motor ampere draw | | | | | ● | | |
| Replace the gas shock | | | | | | ● | |
| Inspect Burnishing Head Assembly (30”) | | | ● | | | | |
| Inspect Deck Drive Belt (30”) | | | | ● | | | |
| Replace Drive Belt (30”) | As Required | | | | | | |

These items must be performed with the proper tools and training. Contact a Amano Pioneer Eclipse Factory Certified Technician unless you have the proper equipment and mechanical proficiency.

## Body & Battery Cover

The body may be cleaned with a damp cloth to remove dust and scuff marks. More stubborn scuff marks on the tank exterior can be removed with a vinyl cleaner

## Battery Maintenance

The batteries are deep cycle 12 volt batteries. The lifetime of the batteries is limited by the number of charges the batteries receive. To get the most life from the batteries, charge them when the battery discharge LED (Red) starts to blink (20% charge left). Use only the on-board battery charger supplied to charge the batteries.

Periodically clean the top surface of the batteries and the terminals, and check for loose connections. Use a strong solution of baking soda and water. Brush the solution sparingly over the battery tops, terminals, and cable clamps.

***CAUTION! DO NOT ALLOW ANY BAKING SODA SOLUTION TO ENTER THE BATTERIES!***

Use a wire brush to clean the terminal posts and cable connectors. After cleaning, apply a coating of clear battery post protectant to the terminals and the cable connectors. Keep the tops of the batteries clean and dry.

To prevent a possible short circuit, keep all metallic objects off the top of the batteries. Replace any worn or damaged wires.

## Lead Acid Batteries

***Sealed batteries no additional maintenance required.***

***CAUTION!*** *When working with batteries, always wear eye protection and protective clothing.*

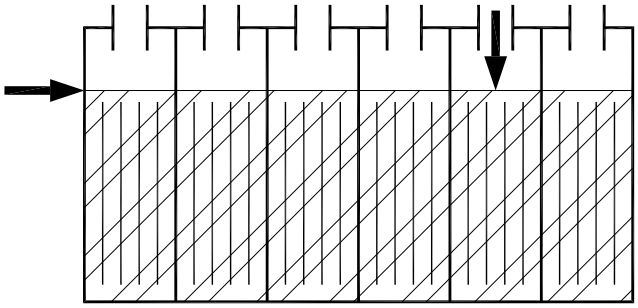
***CAUTION!*** *Batteries emit hydrogen gas. NO SMOKING!*

Never add acid to the batteries, only distilled water. Always keep the battery caps on, except when adding water or taking hydrometer readings.

***CAUTION!*** *Never use tap water to fill battery cells. Tap water contains contaminants that will damage the battery. Only use distilled water to fill battery cells.*

Check the electrolyte level in each battery cell before and after charging, and after every 50 hours of operation. Do not charge the batteries unless the fluid is slightly above the battery plates. If needed, add just enough distilled water to cover the plates. Never add acid to the batteries.

***CAUTION! DO NOT OVERFILL!***



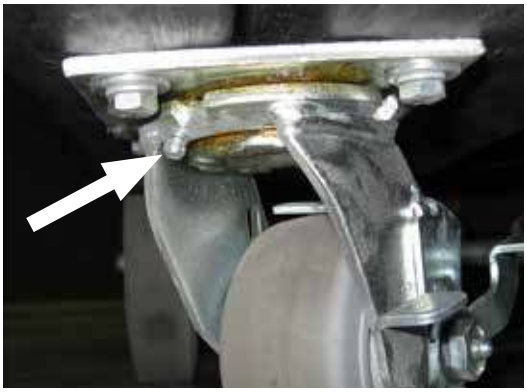
Measuring the specific gravity, using a hydrometer, is a way to determine the charge level and condition of the batteries. If one or more of the battery cells test lower than the other battery cell (0.050 or more), the cell is damaged, shorted, or is about to fail.

***CAUTION!*** *Battery damage will occur if the electrolyte level does not cover the battery plates.*

***CAUTION!*** *Machine and/or battery damage can occur if the electrolyte level is above the bottom of the tube in each cell.*

## Rear Casters

Each of the two rear casters has two grease fittings. Lubricate each caster with a grease gun every 100 hours of machine operation



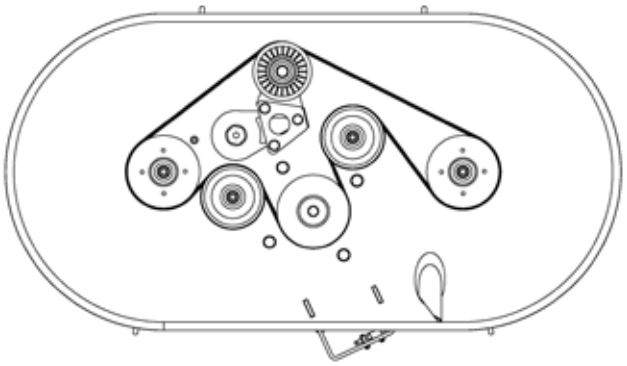
## Belt Maintenance (30” Models)

1. Push machine to level surface.
2. Turn machine off and disconnect the battery pack.
3. Lift up on the front of the deck, placing the deck in the pad change position.
4. Remove the pad retainer and pads from the pad holders.
5. Remove the pad holders from each of the drive pulleys, by removing the (4) bolts in the center of the pad holder.
6. Locate and remove the (4) bolts that fasten the pulley cover to the deck.
7. Rotate the deck belt. If there are excessive cracks in the belt ribs and chunks that have broken off the ribs, the belt needs to be replaced.

## Belt Replacement

***Part No: MP449100***

1. Place a 9/16” wrench on the bolt of the tensioner idler pulley and rotate the tensioner downward.
2. With the tension removed, remove the belt from the tensioner pulley.
3. Slowly allow the tensioner to rotate to a natural position.
4. Remove the belt from the deck.
5. With belt removed, inspect all of the fasteners for proper tightness. Also check the bearings for wear and the condition of each pulley.
6. Install the new belt using the belt diagram.



7. Use a 9/16” wrench to rotate the tensioner down so the new belt can be installed.
8. Slowly allow the tensioner to tighten against the belt.
9. Turn the belt through several revolutions to make sure the belt tracks properly.
10. Reinstall the pulley cover.
11. Reinstall the pad holders on to the drive pulleys.
12. Turn the pad holders to verify that there is no interference.
13. Install pads onto the pad holders.
14. Slowly lower the deck back to the operating position.

# Alarm Codes *(Traction Only)*

*Given the following alarm codes, troubleshooting should only be done by a Amano Pioneer Eclipse Factory Certified Technician. A programming handset may be required for troubleshooting.

| Number of Flashes | Description | Possible Cause |
|---|---|---|
| 1 (fast) | **Low Battery Voltage** | The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery. |
| 1 (medium) | **Handle lever engaged at key on** | Disengage the handle lever, key off and key back on to clear |
| 1 (slow) | **Machine Time Out** | The machine has been left with the key on. Turn the key off and then back on again. |
| 2 | **Motor Disconnected** | The motor has a bad connection. Check all the connections and leads between the motor and the controller. |
| 3 | **Motor Wiring Trip** | The motor has a short circuit to a battery. Check all the connections and leads between the motor and the battery. |
| 6 | I**nhibit Active** | The controller is being inhibited from driving. Check the state of the Inhibit unputs. |
| 7 | **Throttle Trip** | A throttle trip is indicated. Make sure that the throttle is in the rest position before switching on the vehicle. |
| 8 | **Possible Controller Trip** | A possible controller trip is indicated. Make sure that all connections are secure. |
| 9 | **Solenoid Brake Trip** | The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the controller connections are secure. |
| 10 | **High Battery Voltage** | An excessive voltage has been applied to the controller. This is usually caused by a poor battery connection. Check the battery connections. |

## *Machine Troubleshooting*

| Problem | Possible Cause | Remedy |
|---|---|---|
| Machine will not turn on | Breaker Tripped | Push breaker button to reset |
| | Incorrect battery connection | Check batteries are wired together correctly via the battery connection diagram, check the Anderson connectors are plugged together |
| | On-board battery charger plugged in | Unplug the charging cord from the machine |
| | Key switch failure | Check key switch is functioning and wiring to the key switch is correct |
| | Failed Fuse | Check the fuse in the in line fuse holder. |
| Burnish motor will not start | Deck tilted into pad change position | Lower the deck to the burnish position |
| | Speed control knob turned all the way counter-clockwise (off) | Turn speed control knob clockwise to increase speed |
| | Burnish switch off | Turn on burnish switch |
| | Handle levers not engaged | Engage handle levers |
| | 70A breaker tripped | Push 70A breaker to reset. DO NOT use round pads on the PE300BU30X. Using round pads will shorten the run time and trip the breaker. The use of round pads on this machine will damage the burnish motor and void the warranty. |
| | Battery lockout | Batteries need to be charged |
| Red LED Flashing on Dash | Check alarm code reference sheet | Troubleshoot accordingly |
| Machine exhibits poor burnishing performance | Pad dirty | Remove debris or string/twine from pads; clean pad; replace pad |
| | Incorrect pad | Use more aggressive burnishing pad |
| | Pad worn down | Replace pad |
| Machine exhibits very aggressive burnish performance | Gas Spring faulty | Check ampere draw of burnish motor (should not be above 50 amps); replace gas spring |
| | Incorrect pad | Use less aggressive burnishing pad |
| Dust collection not working properly | Dust collection bad, is not collecting dust | Empty dust bag |
| | | Check the dust tube to see if there is an obstruction |
| | Skirt is not sealing to the floor | Skirt is bent or damaged. Replace if necessary. |
| | | Adjust the skirt to fit tightly against the seal, but still able to move freely |
| | | Check wear edge on bottom of the skirt and replace if necessary |
| (30") Smell of burnt rubber | Belt out of adjustment | Check the automatic tensioner |

# Machine Specifications

| | |
|---|---|
| Voltage: | 36VDC (Qty. 3 - 12VDC Batteries) |
| Sound Level: | < 70 dB(A) |
| Vibration: | Less than 2.5 $m/s^2$ |
| Forward Speed: | 3.25 mph (5.23 km/h) *Traction Only* |
| Reverse Speed: | 1.5 mph (2.4 km/h) *Traction Only* |
| Burnish Motor: | 2.5 hp (1.86 kw) Permanent Magnet |
| Transaxle: | .25 hp (186 watts) *Traction Only* |
| Battery Charger: | 36V 25A On-Board |
| Wheels: | 8 in. (20.3 cm) Solid |
| Battery: | 12VDC Lead Acid 228 Ah (Qty. 3)<br>*Weight 126 lbs (57 kg) each - Total Battery Weight 378 lbs (171.5 kg)*<br>12VDC AGM 235 Ah (Qty. 3)<br>*Weight 140 lbs (63.5 kg) each - Total Battery Weight 418 lbs (189.6 kg)* |

## 20” Machines

| | |
|---|---|
| Pad Size: | 20” (51 cm) |
| Pad Speed: | 2000 RPM |
| Deck Width: | 22” (56 cm) |
| Length: | 49” (124 cm) *Head Up*<br>58” (147 cm) *Head Down* |
| Height: | 45” (114 cm) |
| Weight: | *w/o Batteries*<br>200 lbs (91 kg) *Pad-Assist*<br>219 lbs (99 kg) *Traction* |

## 24” Machines

| | |
|---|---|
| Pad Size: | 24” (61.0 cm) |
| Pad Speed: | 1800 RPM |
| Deck Width: | 26” (66 cm) |
| Length: | 49” (124 cm) *Head Up*<br>61” (155 cm) *Head Down* |
| Height: | 45” (114 cm) |
| Weight: | *w/o Batteries*<br>212 lbs (96 kg) *Pad-Assist*<br>231 lbs (105 kg) *Traction* |

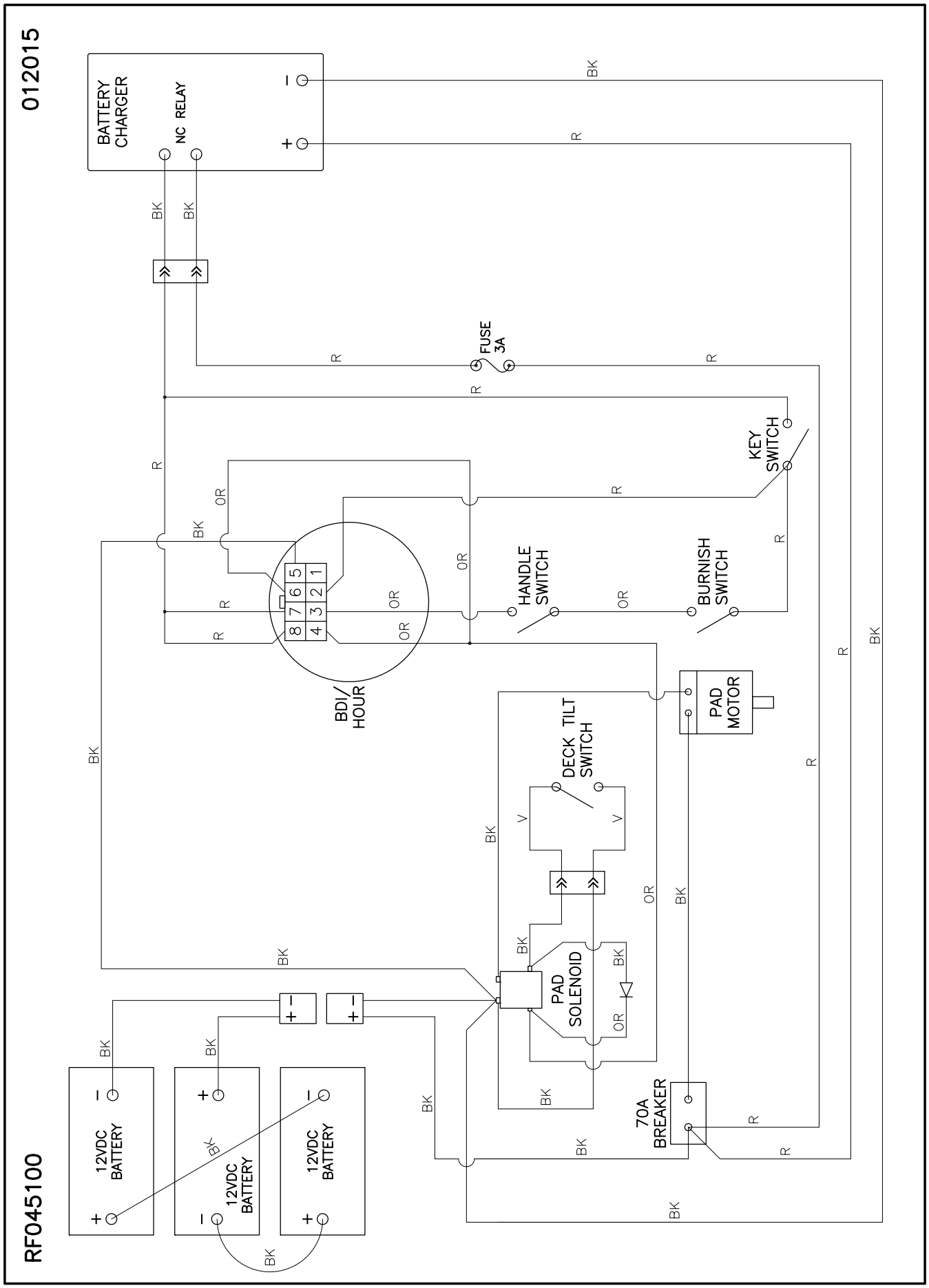
## 30” Machines

| | |
|---|---|
| Pad Size: | 16” (41 cm) Qty. 2 |
| Pad Speed: | 2000 RPM |
| Deck Width: | 33” (84 cm) |
| Length: | 51” (130 cm) *Head Up*<br>60” (152 cm) *Head Down* |
| Height: | 45” (114 cm) |
| Weight: | *w/o Batteries*<br>245 lbs (111 kg) *Traction* |

# PE300BU
## Battery Burnisher
### Parts Manual

Notes:

Pioneer Eclipse
An AMANO Company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RF045100
BATTERY CHARGER
NC RELAY
FUSE 3A
KEY SWITCH
HANDLE SWITCH
BURNISH SWITCH
BDI/ HOUR
PAD MOTOR
DECK TILT SWITCH
PAD SOLENOID
70A BREAKER
12VDC BATTERY
12VDC BATTERY
12VDC BATTERY
BK
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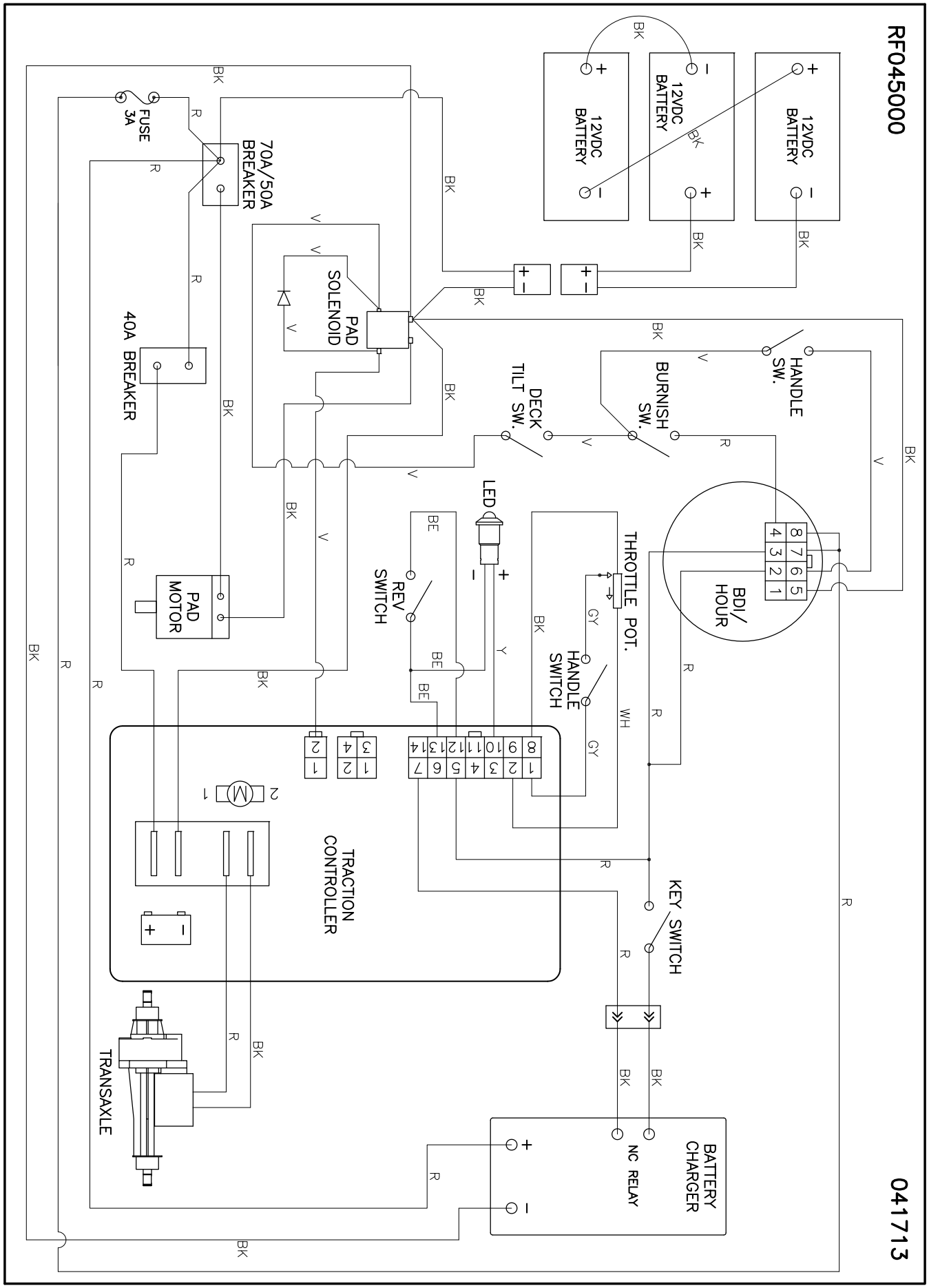
OR
V


RF045000
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12VDC BATTERY
12VDC BATTERY
12VDC BATTERY
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70A/50A BREAKER
40A BREAKER
PAD SOLENOID
PAD MOTOR
HANDLE SW.
BURNISH SW.
DECK TILT SW.
LED
REV SWITCH
THROTTLE POT.
HANDLE SWITCH
BDI/ HOUR
TRACTION CONTROLLER
KEY SWITCH
NC RELAY
BATTERY CHARGER
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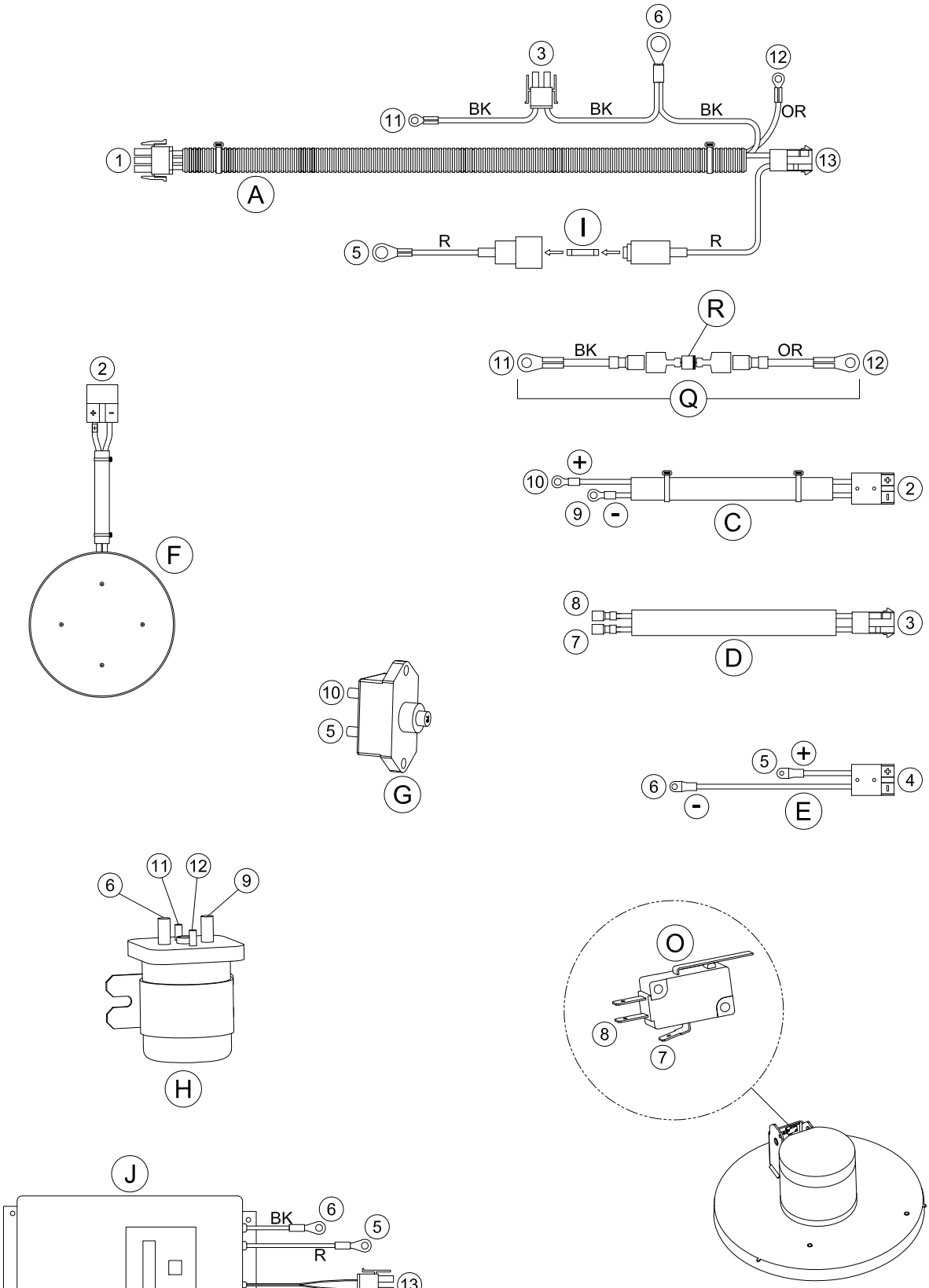
## *Connections - Pad Assist*

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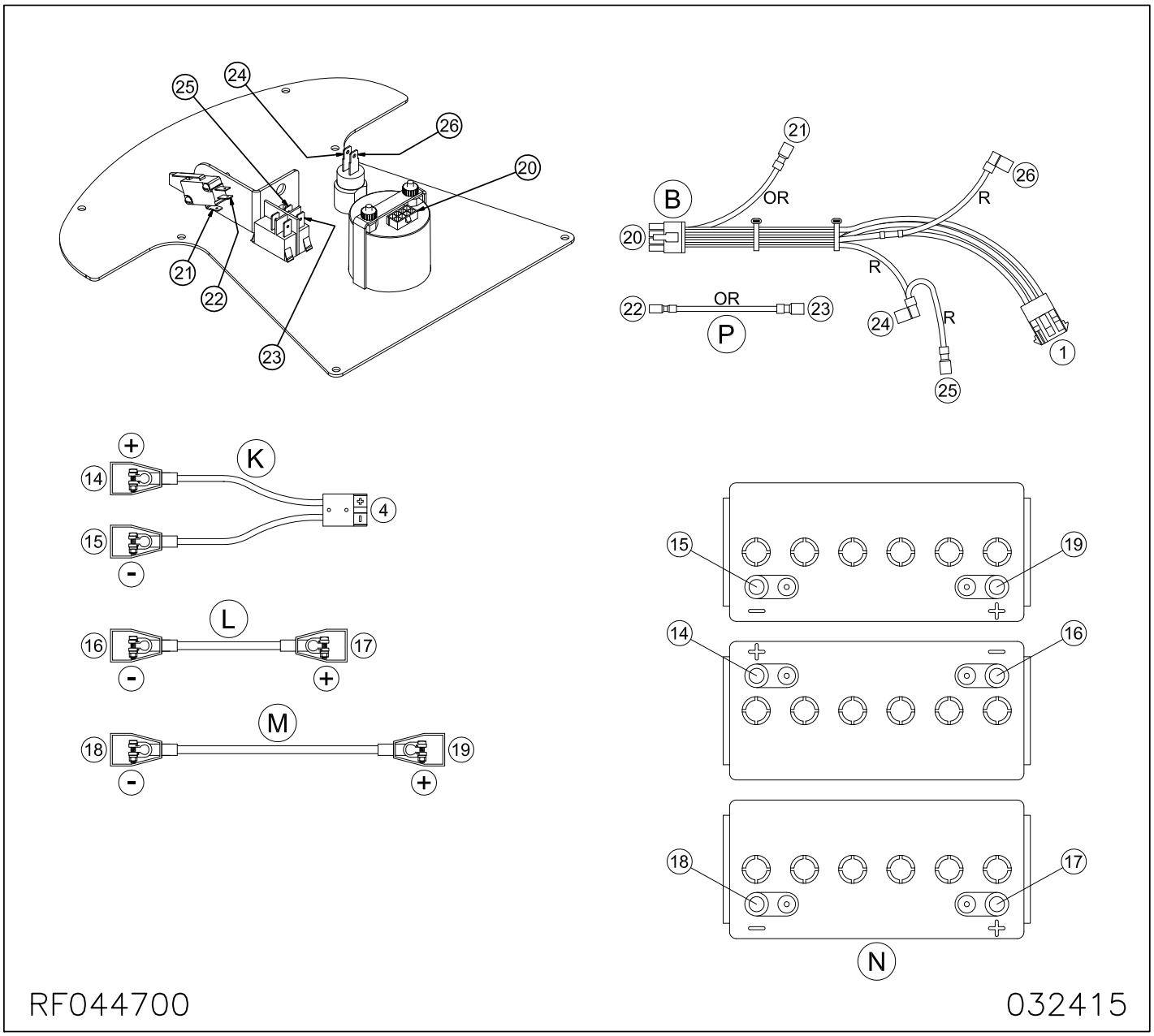
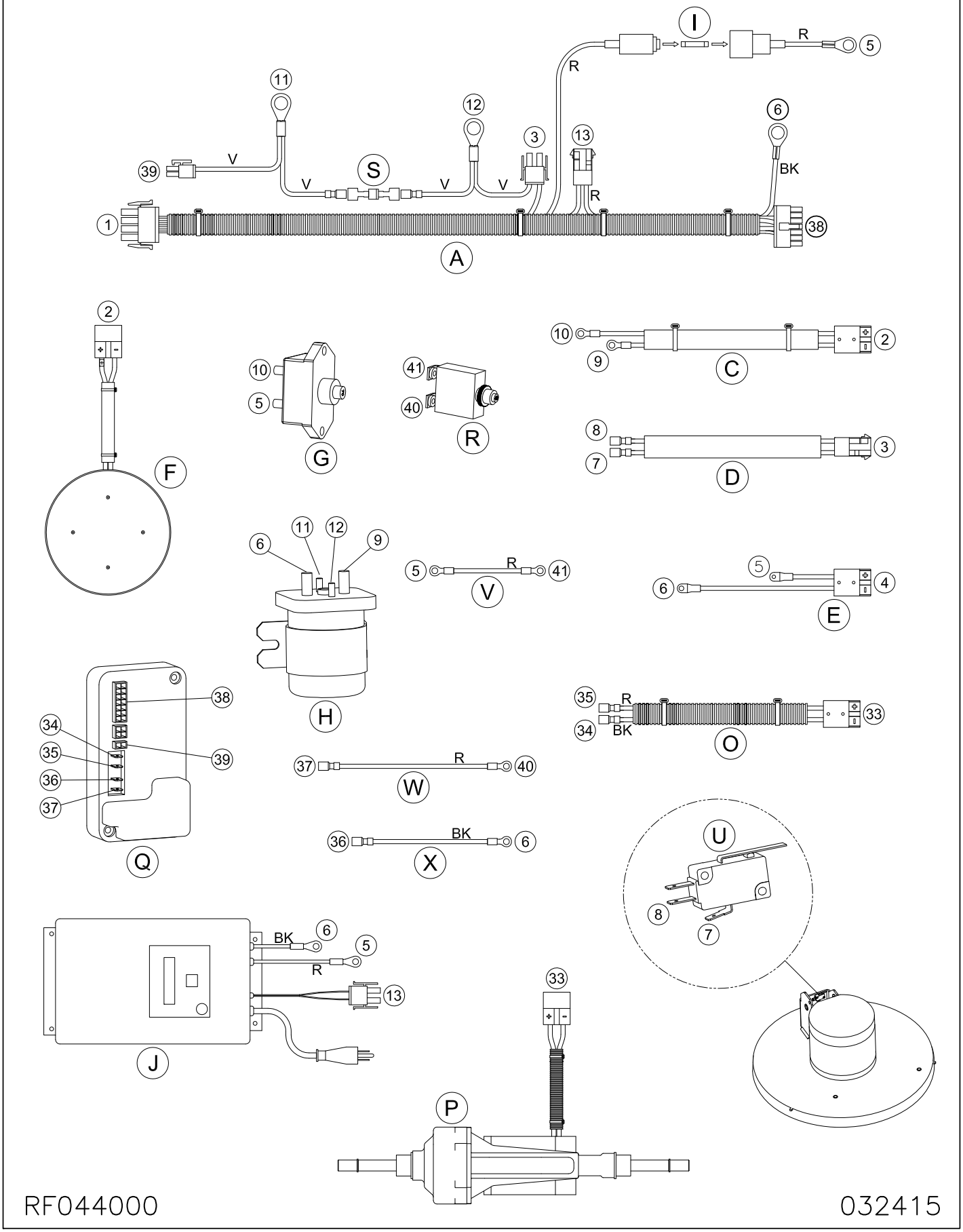



| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| A | MP426500 | HARNESS, MAIN, PAD ASSIST | 1 |
| B | MP426700 | HARNESS, C.PANEL, PAD ASST. | 1 |
| C | MP426800 | HARNESS, MOTOR, BURNISH | 1 |
| D | MP427000 | HARNESS, SWITCH, TILT | 1 |
| E | MP427200 | CABLE, BATTERY, SOLENOID | 1 |
| F1 | MP424200 | MOTOR, 2000 RPM, ASM. (20”/30”) | 1 |
| F2 | MP434100 | MOTOR, 1800 RPM, ASM. (24”) | 1 |
| G | MP414800 | BREAKER, CIRCUIT, 70A | 1 |
| H | MP207000 | SOLENOID, 36VDC, SPNO | 1 |
| I | MP234700 | FUSE, 3A, GLASS | 1 |
| J1 | SA027500 | CHARGER, 110V, 36V, ASM. | 1 |
| J2 | SA027600 | CHARGER, 220V, 36V, ASM. | 1 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| K | MP279700 | CABLE, BATTERY, w/ PLUG | 1 |
| L | MP238200 | CABLE, BATTERY, 13.5” | 1 |
| M | MP279800 | CABLE, BATTERY | 1 |
| N1 | MP223500 | BATTERY, 12V, LEAD ACID | 3 |
| N2 | MP413600 | BATTERY, 12V, SEALED | 3 |
| O | MP318400 | SWITCH, MICRO, 12V | 1 |
| P | MP427800 | WIRE, SWITCH, 3” | 1 |
| Q | MP482400 | WIRE, DIODE, ASM. | 1 |
| R | MP254600 | DIODE, 6A, ASM. | 1 |


I
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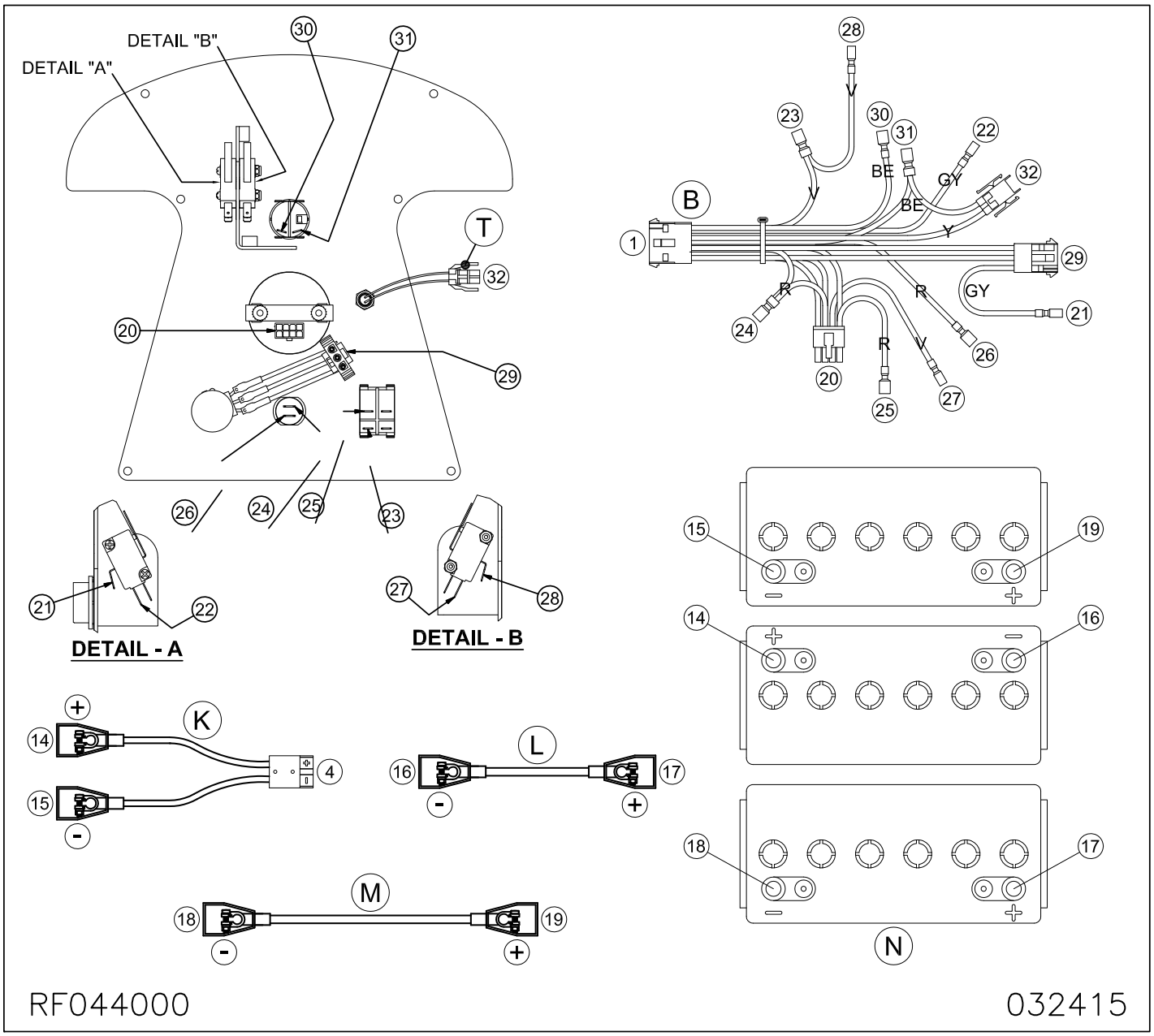
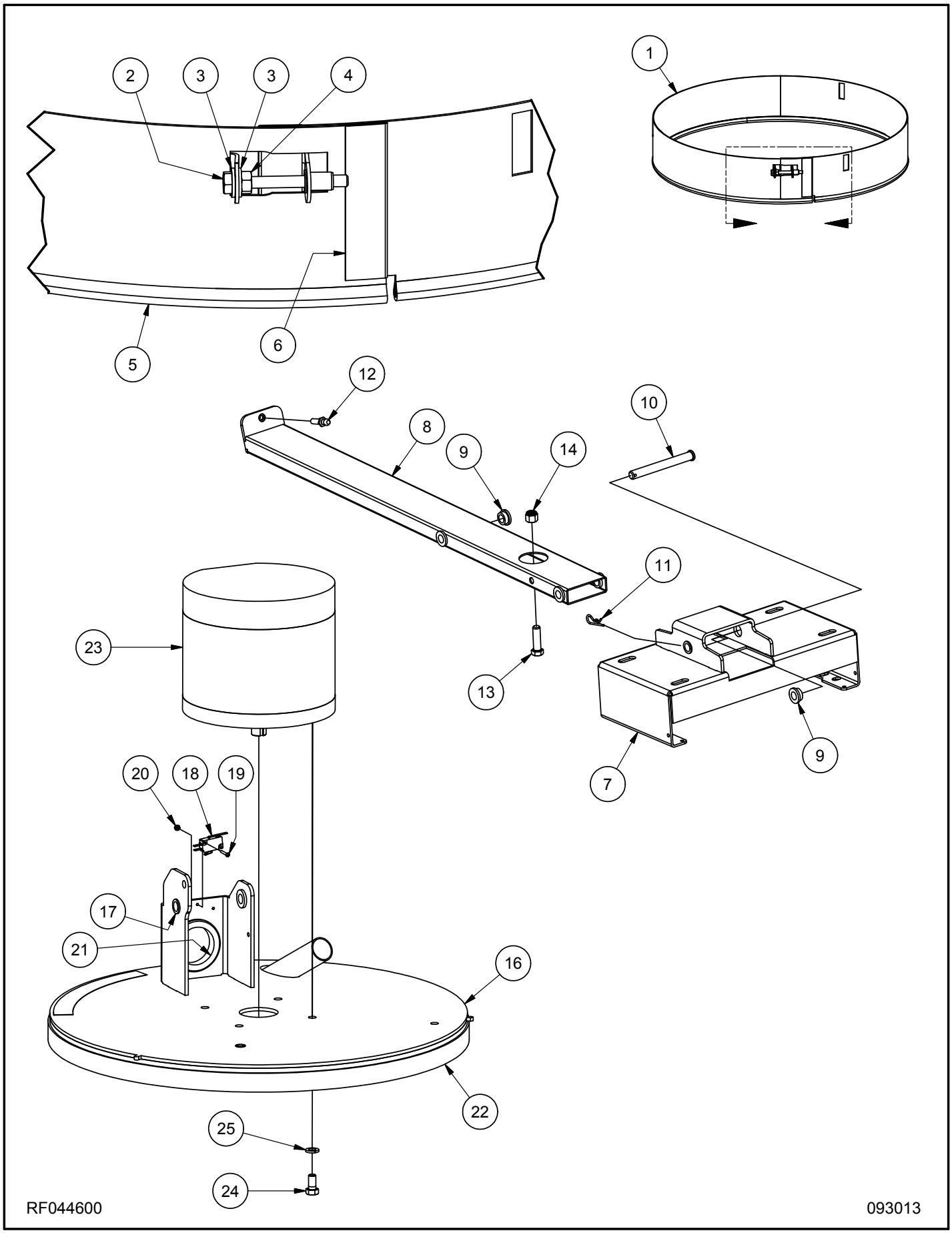
## Connections - Traction (Continued)




| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| A | MP432200 | HARNESS, MAIN, TRACTION | 1 |
| B | MP432100 | HARNESS, C.PANEL, TRACTION | 1 |
| C | MP426800 | HARNESS, MOTOR, BURNISH | 1 |
| D | MP427000 | HARNESS, SWITCH, TILT | 1 |
| E | MP427200 | CABLE, BATTERY, SOLENOID | 1 |
| F1 | MP424200 | MOTOR, 2000 RPM, ASM. (20”/30”) | 1 |
| F2 | MP434100 | MOTOR, 1800 RPM, ASM. (24”) | 1 |
| G | MP414800 | BREAKER, CIRCUIT, 70A | 1 |
| H | MP207000 | SOLENOID, 36VDC, SPNO | 1 |
| I | MP234700 | FUSE, 3A, GLASS | 1 |
| J1 | SA027500 | CHARGER, 110V, 36V, ASM. | 1 |
| J2 | SA027600 | CHARGER, 220V, 36V, ASM. | 1 |
| K | MP279700 | CABLE, BATTERY, w/ PLUG | 1 |
| L | MP238200 | CABLE, BATTERY, 13.5” | 1 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| M | MP279800 | CABLE, BATTERY | 1 |
| N1 | MP223500 | BATTERY, 12V, LEAD ACID | 3 |
| N2 | MP413600 | BATTERY, 12V, SEALED | 3 |
| O | MP426900 | HARNESS, WIRING, TR. AXLE | 1 |
| P | MP424500 | TRANSAXLE, 36V, ASM. | 1 |
| Q | MP409401 | CONTROLLER, TRACTION | 1 |
| R | MP414900 | BREAKER, CIRCUIT, 40A | 1 |
| S | MP254600 | DIODE, 6A, ASM. | 1 |
| T | SA028000 | LED, RED, REPLACEMENT | 1 |
| U | MP318400 | SWITCH, MICRO, 12V | 1 |
| V | MP427500 | WIRE, 10AWG, RED, 3”L | 1 |
| W | MP427600 | WIRE, 10AWG, REG, 16”L | 1 |
| X | MP427700 | WIRE, 10AWG, BLK, 12”L | 1 |

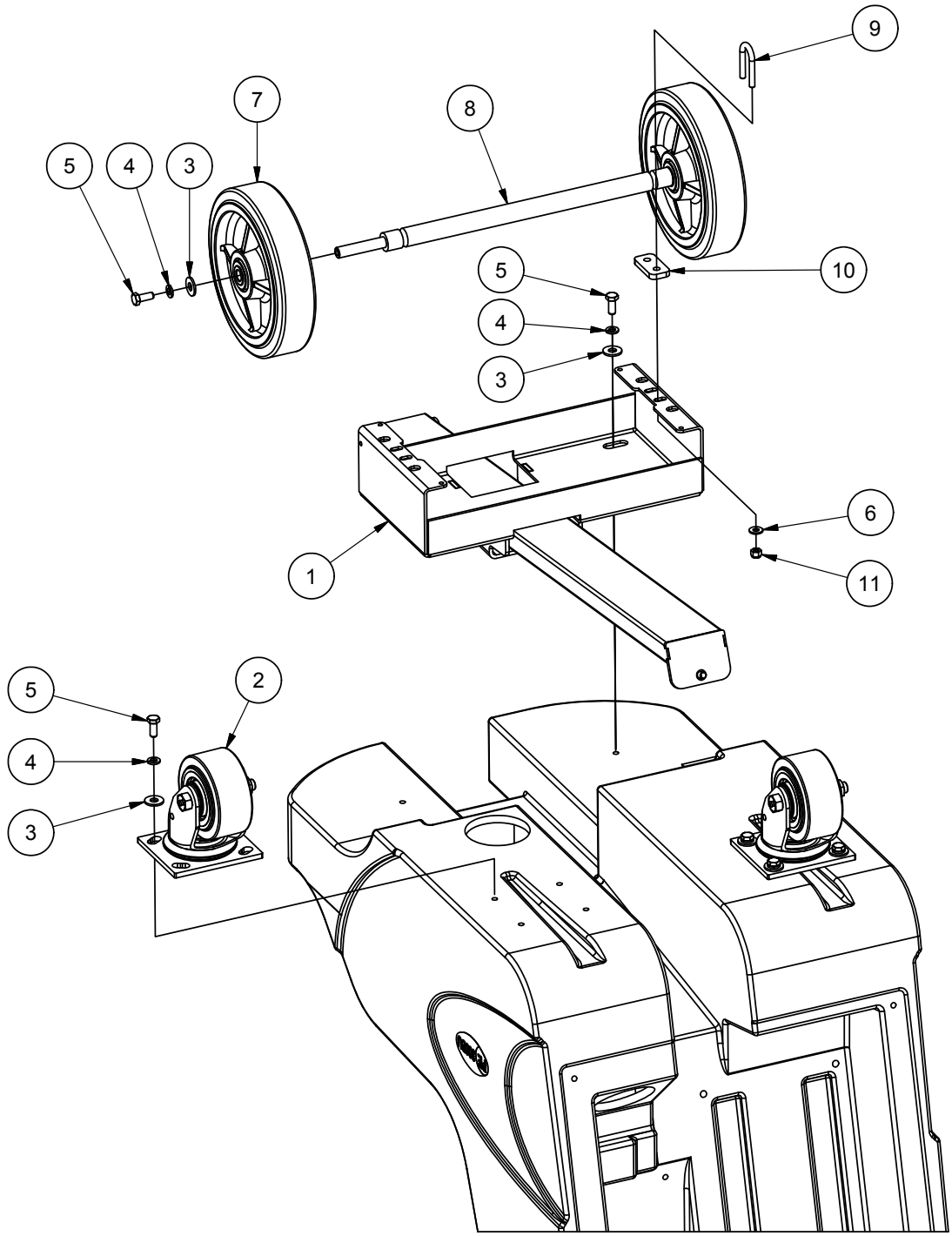
## *Skirt, Deck & Axle Bracket Assembly*



## *Skirt, Deck & Axle Bracket Assembly (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1A | MP425200 | SKIRT, 20”, ASM. | 1 |
| 1B | MP434200 | SKIRT, 24”, ASM. | 1 |
| 2 | NB050600 | BOLT, HEX, 1/4” X 2-1/2” | 1 |
| 3 | NB3350 | WASHER, FLAT, 1/4” | 2 |
| 4 | MX1045 | NUT, HEX, 1/4” | 1 |
| 5A | MP139800 | EDGING, WEAR, SKIRT (20”) | 6 FT |
| 5B | MP139800 | EDGING, WEAR, SKIRT (24”) | 7 FT |
| 6 | MP6600 | FELT, VELCRO, BLK, 2” | 2 (4”) |
| 7 | MP423700 | BRACKET, AXLE / TRANSAXLE | 1 |
| 8 | MP423800 | TUBE, MOUNT, SHROUD | 1 |
| 9 | MP237100 | BUSHING, FLANGED, 1/2” | 6 |
| 10 | NB039704 | PIN, CLEVIS, 1/2” X 4-1/2” | 1 |
| 11 | NB025600 | PIN, PRESTO, 3/32” X 1-5/8” | 1 |
| 12 | MP414300 | BALL, STUD, 10MM | 1 |
| 13A | NB068900 | BOLT, HEX, 1/2” X 1-1/2” (20”) | 1 |
| 13B | NB068800 | BOLT, HEX, 7/16” X 1-1/2” (24”/ 30”) | 1 |
| 14A | NB014600 | NUT, LOCK, 1/2” (20”) | 1 |
| 14B | NB067700 | NUT, LOCK, 7/16” (24”) | 1 |
| 15 | N/A | N/A | - |
| 16A | MP432600 | SHROUD, 20”, ASM. | 1 |
| 16B | MP438800 | SHROUD, 24”, ASM. | 1 |
| 17 | MP237100 | BUSHING, FLANGED, 1/2” | 2 |
| 18 | MP318400 | SWITCH, MICRO, 12V | 1 |
| 19 | NB9625 | SCREW, #4 X 3/4” | 2 |
| 20 | NB007000 | NUT, LOCK, #4 | 2 |
| 21 | NB043800 | GROMMET, 2” ID | 1 |
| 22A | MP415100 | FELT, VELCRO, BLK, 1” (20”) | 6 FT |
| 22B | MP415100 | FELT, VELCRO, BLK, 1” (24”) | 7 FT |
| 23A | MP424200 | MOTOR, 2000 RPM, ASM. (20”/30”) | 1 |
| 23B | MP434100 | MOTOR, 1800 RPM, ASM. (24”) | 1 |
| 24 | NB6851 | BOLT, HEX, 3/8” X 3/4” | 4 |
| 25 | MX1075 | WASHER, LOCK, 3/8” | 4 |

## *Main Bottom Assembly - Pad Assist*



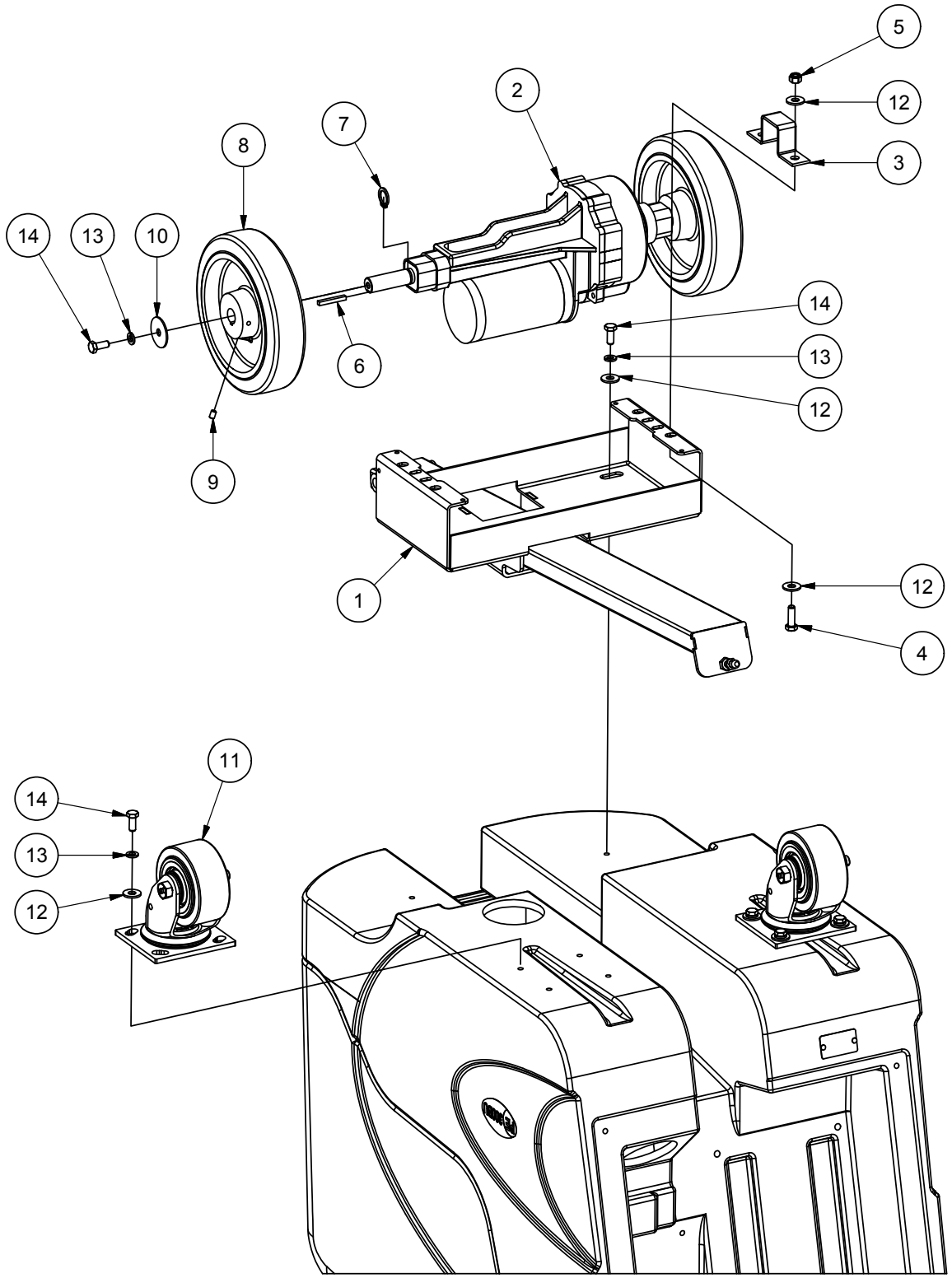

RF044500

073112

## *Main Bottom Assembly - Pad-Assist (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1A | MP424400 | BRACKET, AXLE, ASM. (20”) | 1 |
| 1B | MP440800 | BRACKET, AXLE, ASM. (24”) | 1 |
| 2 | MP432500 | CASTER, 4”, w/ BRAKE | 2 |
| 3 | NB9267 | WASHER, FLAT, 5/16” | 14 |
| 4 | NB6111 | WASHER, LOCK, 5/16” | 14 |
| 5 | NB9745 | BOLT, HEX, 5/16” X 3/4” | 14 |
| 6 | NB3350 | WASHER, FLAT, 1/4” | 4 |
| 7 | MP409900 | WHEEL, 8” X 2” | 2 |
| 8 | MP423500 | AXLE | 1 |
| 9 | NB061600 | BOLT, U, 1/4” | 2 |
| 10 | MP425301 | SPACER, AXLE | 2 |
| 11 | NB3275 | NUT, LOCK, 1/4” | 4 |

## *Main Bottom Assembly - Traction*



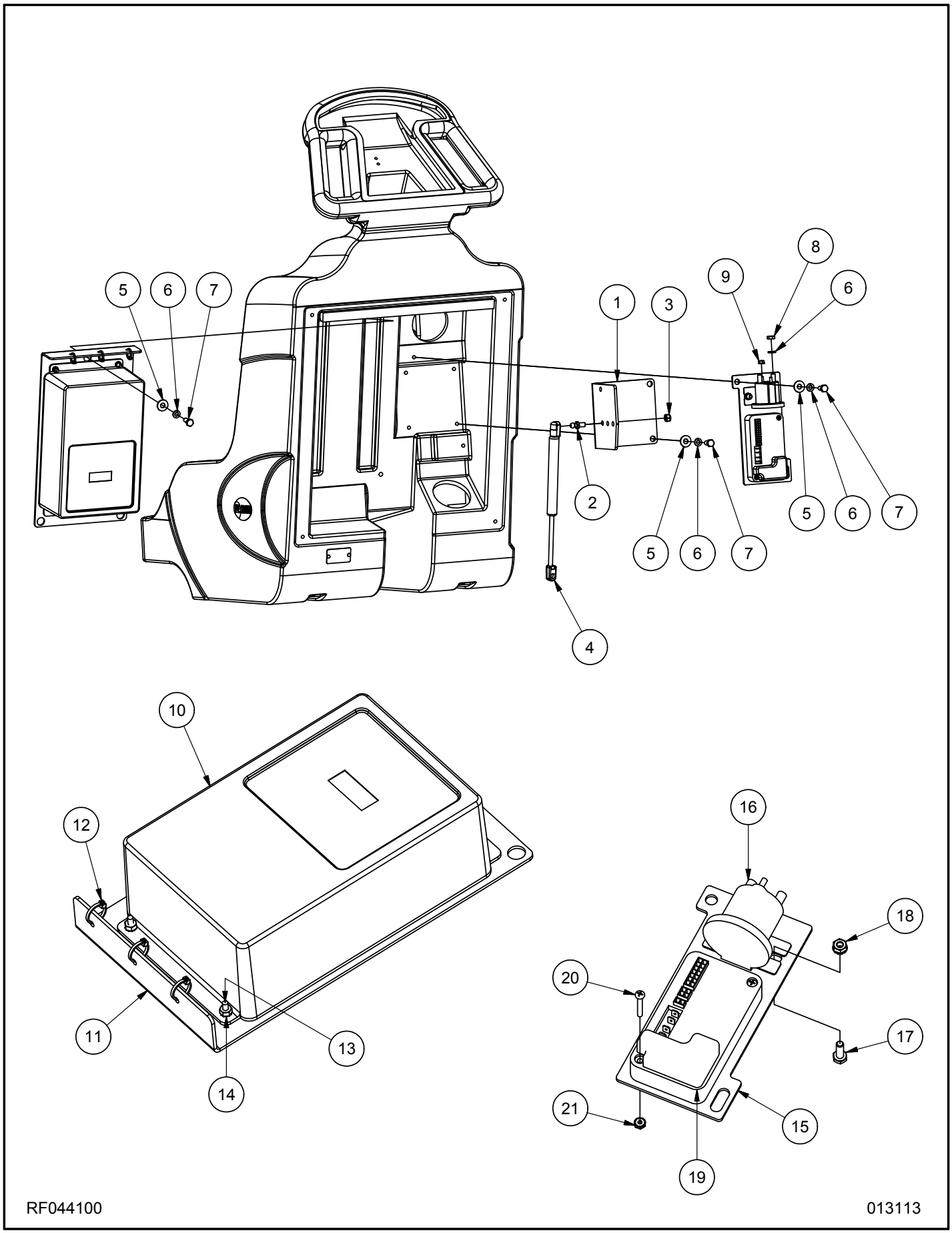

RF044400

041713

## *Main Bottom Assembly - Traction (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1A | MP424400 | BRACKET, AXLE, ASM. (20”) | 1 |
| 1B | MP440800 | BRACKET, AXLE, ASM. (24”) | 1 |
| 2 | MP424500 | TRANSAXLE, 36V, ASM. | 1 |
| 3 | PG001801 | BRACKET, TRANSAXLE | 2 |
| 4 | NB6545 | BOLT, HEX, 5/16” X 1” | 4 |
| 5 | NB3265 | NUT, LOCK, 5/16” | 4 |
| 6 | BA003300 | KEY, 3/16” X 1-1/2” | 2 |
| 7 | NB018500 | RING, RETAINING, 3/4” | 2 |
| 8 | MP409800 | WHEEL, 8” X 2” | 2 |
| 9 | NB9302 | SCREW, SET, 1/4” X 3/8” | 4 |
| 10 | NB9505 | WASHER, FLAT, 5/16” X 1-1/2” | 2 |
| 11 | MP432500 | CASTER, 4”, w/ BRAKE | 2 |
| 12 | NB9267 | WASHER, FLAT, 5/16” | 20 |
| 13 | NB6111 | WASHER, LOCK, 5/16” | 14 |
| 14 | NB9745 | BOLT, HEX, 5/16” X 3/4” | 14 |

## *Main Rear Assembly*

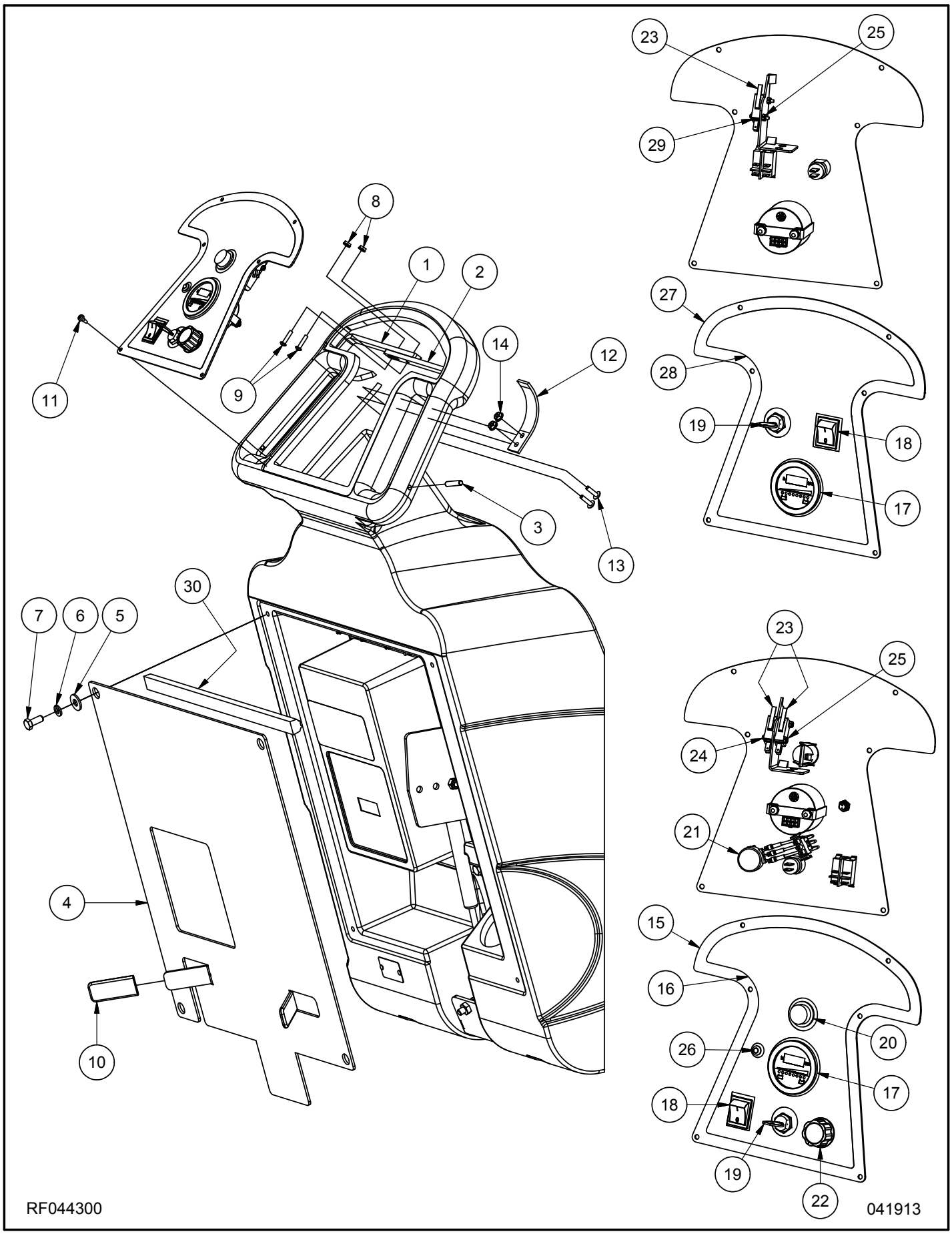


## *Main Rear Assembly (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1 | MP422901 | PLATE, MOUNT, SHOCK | 1 |
| 2 | MP206000 | BALL, STUD, 10MM | 1 |
| 3 | NB3265 | NUT, LOCK, 5/16” | 1 |
| 4A | MP415200 | SPRING, GAS (20”) | 1 |
| 4B | MP434500 | SPRING, GAS (24”) | 1 |
| 4C | MP450300 | SPRING, GAS (30”) | 1 |
| 5 | NB9267 | WASHER, FLAT, 5/16” | 9 |
| 6 | NB6111 | WASHER, LOCK, 5/16” | 11 |
| 7 | NB9745 | BOLT, HEX, 5/16” X 3/4” | 9 |
| 8 | NB005700 | NUT, JAM, 5/16” | 2 |
| 9 | NB006600 | NUT, KEPS, #10 | 2 |
| 10A | SA027500 | CHARGER, 110V, 36V, ASM. | 1 |
| 10B | SA027600 | CHARGER, 220V, 36V, ASM. | 1 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 11 | MP423101 | PLATE, MOUNT, CHARGER | 1 |
| 12 | NB6035 | TIE, CABLE, 1/8” X 4” | 3 |
| 13 | NB040400 | SCREW, PH, #10 X 3/4” | 4 |
| 14 | NB006600 | NUT, KEPS, #10 | 4 |
| 15 | MP423001 | PLATE, MOUNT, SOLENOID | 1 |
| 16 | MP207000 | SOLENOID, 36VDC, SPNO | 1 |
| 17 | NB6535 | BOLT, HEX, 1/4” X 3/4” | 2 |
| 18 | NB9845 | NUT, KEPS, 1/4” | 2 |
| 19 | MP409401 | CONTROLLER, TRACTION | 1 |
| 20 | MX1011 | SCREW, #8 X 1-1/4” (TRACTION) | 2 |
| 21 | NB9710 | NUT, KEPS, #8 (TRACTION) | 2 |

## *Main Top Assembly*

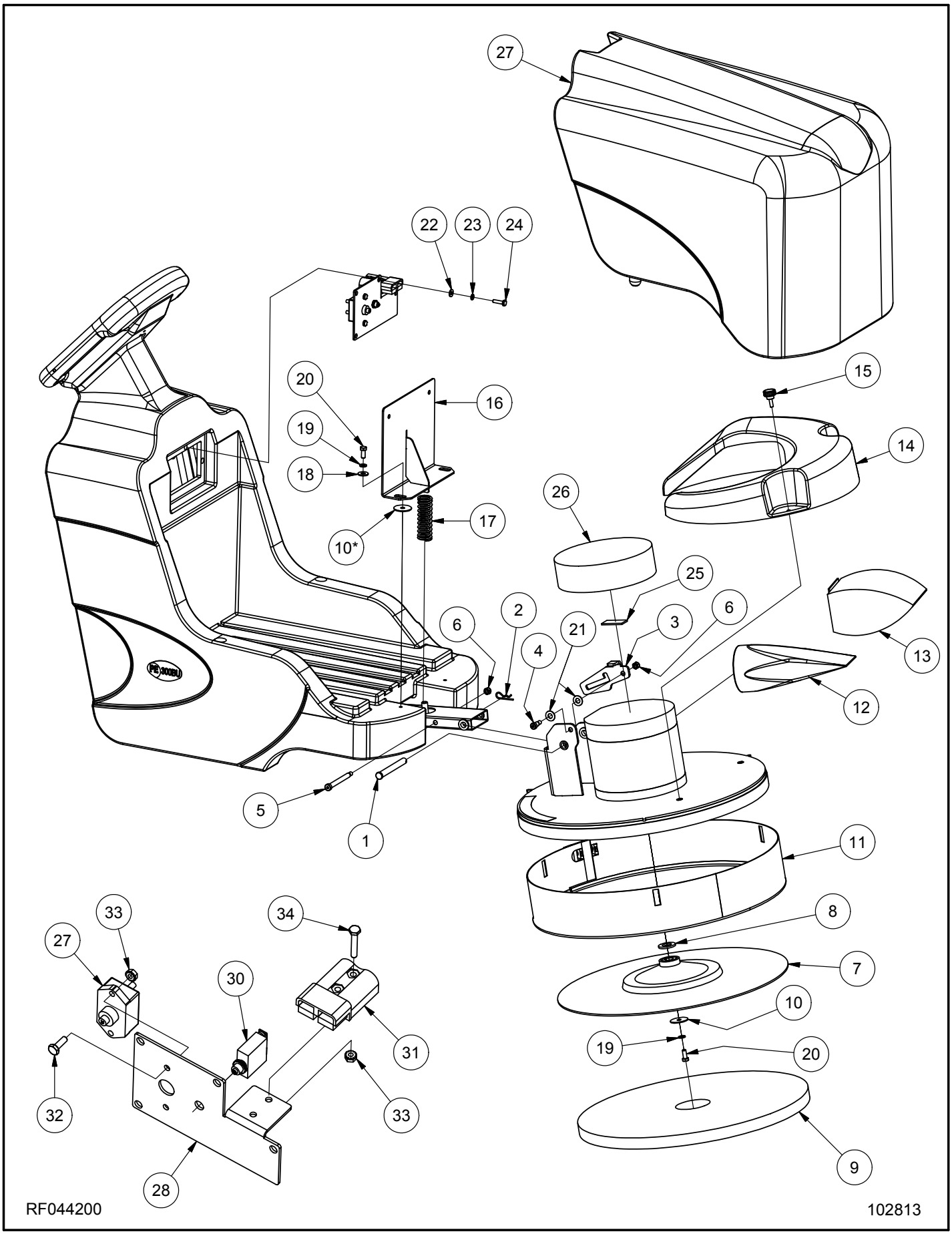


## *Main Top Assembly (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1 | MP423201 | LEVER, HANDLE, LEFT | 1 |
| 2 | MP423202 | LEVER, HANDLE, RIGHT | 1 |
| 3 | NB6390 | PIN, ROLL, 1/4” X 1-1/8” | 2 |
| 4 | MP431401 | PLATE, COVER, REAR | 1 |
| 5 | NB9267 | WASHER, FLAT, 5/16” | 4 |
| 6 | NB6111 | WASHER, LOCK, 5/16” | 4 |
| 7 | NB9745 | BOLT, HEX, 5/16” X 3/4” | 4 |
| 8 | NB9710 | NUT, KEPS, #8 | 2 |
| 9 | NB041200 | SCREW, PH, #8 X 3/4” | 2 |
| 10 | MP077400 | COVER, VINYL | 2 |
| 11 | NB043600 | SCREW, PH, #8 X 3/8” | 6 |
| 12 | MP432900 | SPRING, LEVER, HANDLE | 1 |
| 13 | MX1025 | SCREW, PH, #10 X 3/4” | 2 |
| 14 | NB9510 | NUT, FLANGE, #10 | 2 |
| 15 | MP431600 | PANEL, CONTROL, TRACTION | 1 |
| 16 | MP426200 | DECAL, C.PANEL, TRACTION | 1 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 17 | MP414501 | METER, HOUR / BATTERY | 1 |
| 18 | MP494800 | SWITCH, ROCKER, DPST | 1 |
| 19A | MP411300 | SWITCH, 36V | 1 |
| 19B | KC4834001 | KEY, SWITCH (NOT SHOWN) | 1 |
| 20 | MP505600 | SWITCH, PUSH BUTTON, MOMENTARY, 250V | 1 |
| 21 | PG016400 | POTENTIOMETER (TRACTION) | 1 |
| 22 | MP418000 | KNOB (TRACTION) | 1 |
| 23 | MP318400 | SWITCH, MICRO, 12V | 1 |
| 24 | NB051000 | SCREW, #4 X 1” | 2 |
| 25 | NB007000 | NUT, LOCK, #4 | 4 |
| 26 | SA028000 | LED, RED, 36V | 1 |
| 27 | MP424100 | PANEL, CONTROL, PAD ASSIST | 1 |
| 28 | MP426300 | DECAL, C.PANEL, PAD ASSIST | 1 |
| 29 | NB9625 | SCREW, #4 X 3/4” | 2 |
| 30 | MP038300 | MOLDING, TRIM | 16” |

## Main Front Assembly

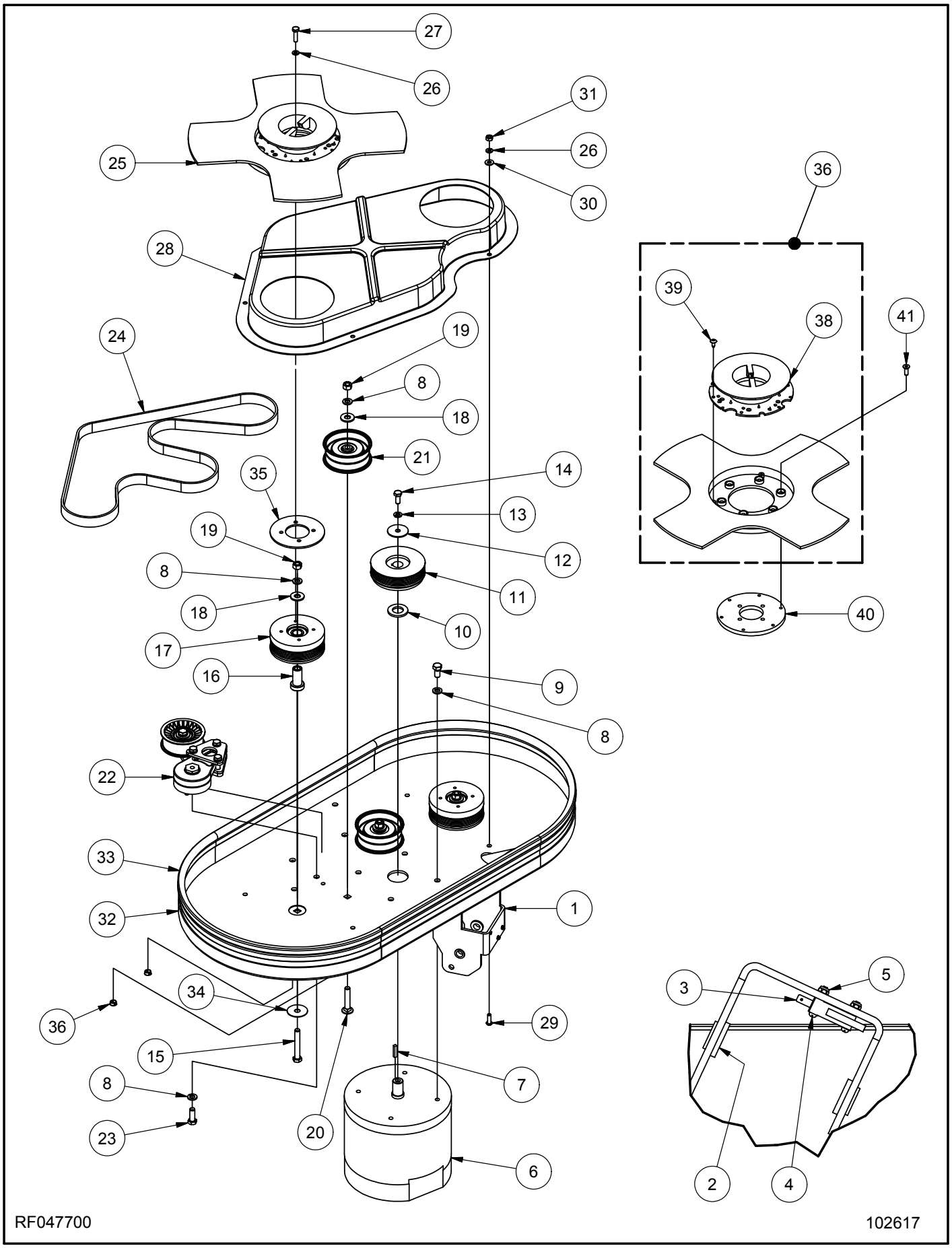


## *Main Front Assembly (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1 | NB039704 | PIN, CLEVIS, 1/2” X 4-1/2” | 1 |
| 2 | NB025600 | PIN, PRESTO, 3/32” X 1-5/8” | 1 |
| 3 | MP423301 | LATCH, TILT | 1 |
| 4 | NB026200 | BOLT, SHLD, 3/8” X 1/2” | 1 |
| 5 | NB038600 | BOLT, SHLD, 3/8” X 3-1/2” | 1 |
| 6 | NB3265 | NUT, LOCK, 5/16” | 2 |
| 7A | MP414000 | PAD HOLDER, 20” | 1 |
| 7B | MP435000 | PAD HOLDER, 24” | 1 |
| 7C | MP432400 | RETAINER, PAD *(NOT SHOWN)* | 1 |
| 8 | NB018600 | WASHER, FLAT, 3/4” | 1 |
| 9 | N/A | N/A | - |
| 10 | NB9505 | WASHER, FLAT, 5/16” X 1-1/2” | 1 |
| 11A | MP425200 | SKIRT, 20”, ASM. | 1 |
| 11B | MP434200 | SKIRT, 24”, ASM. | 1 |
| 12 | MP414100 | BAG, DUST, CLOTH | 1 |
| 13 | MP414200 | BAG, DUST, PAPER | 1 |
| 14 | MP431300 | COVER, BAG, DUST | 1 |
| 15 | MP155600 | KNOB, 1/4” X 3/4” | 2 |
| 16 | MP423900 | RETAINER, BATTERY | 1 |
| 17A | MP415300 | SPRING, COMP., .90” ID (20”) | 1 |
| 17B | MP434400 | SPRING, COMP., .81” ID (24”) | 1 |
| 17C | MP448800 | SPRING, COMP., .83” ID (30”) | 1 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 18 | NB9267 | WASHER, FLAT, 5/16” | 2 |
| 19 | NB6111 | WASHER, LOCK, 5/16” | 3 |
| 20 | NB9745 | BOLT, HEX, 5/16” X 3/4” | 3 |
| 21 | NB025200 | WASHER, FLAT, 3/8” | 2 |
| 22 | NB3350 | WASHER, FLAT, 1/4” | 4 |
| 23 | NB6110 | WASHER, LOCK, 1/4” | 4 |
| 24 | NB6530 | BOLT, HEX, 1/4” X 1” | 4 |
| 25 | MP8300 | HOOK, VELCRO, 1” | 2” |
| 26 | MP464800 | FILTER, DUST, MOTOR | 1 |
| 27 | MP432700 | COVER, BATTERY, ASM. | 1 |
| 28 | MP422801 | PLATE, MOUNT, PLUG | 1 |
| 29 | MP414800 | BREAKER, CIRCUIT, 70A | 1 |
| 30 | MP414900 | BREAKER, CIRCUIT, 40A *(TRAC.)* | 1 |
| 31 | MP427200 | CABLE, BATTERY, SOLENOID | 1 |
| 32 | NB6535 | BOLT, HEX, 1/4” X 3/4” | 2 |
| 33 | NB9845 | NUT, KEPS, 1/4” | 4 |
| 34 | NB9000 | BOLT, HEX, 1/4” X 1-1/2” | 2 |

## *30” Deck Assembly*



| Parts List | | | |
|---|---|---|---|
| ITEM | QTY | PART NUMBER | DESCRIPTION |
| 1 | 1 | MP456700 | SHROUD, 30", ASM |
| 2 | 2 | MP237100 | BUSHING, FLANGED, 1/2 ID X 3/8 L |
| 3 | 1 | MP318400 | SWITCH, MICRO, 12V |
| 4 | 2 | NB9625 | SCREW, 4-40 X 3/4" |
| 5 | 2 | NB007000 | NUT, LOCK, NYLON, 4-40 |
| 6 | 1 | MP424200 | MOTOR, 2000 RPM, ASM. |
| 7 | 1 | BA003200 | KEY, 3/16 X 1 |
| 8 | 9 | MX1075 | WASHER, LOCK, 3/8" |
| 9 | 4 | NB6851 | SCREW, CAP, HH, 3/8-16 X 3/4 |
| 10 | 1 | NB018600 | WASHER, FLAT, 3/4" |
| 11 | 1 | MP445600 | PULLEY, 4", 6 GROOVE |
| 12 | 1 | NB9505 | WASHER, FLAT, 5/16" X 1 1/2" |
| 13 | 1 | NB6111 | WASHER, LOCK, 5/16" |
| 14 | 1 | NB9745 | SCREW, CAP, 5/16"-18 X 3/4" |
| 15 | 2 | NB1588 | SCREW, CAP, HH, 3/8" X 2 1/2", NC |
| 16 | 2 | MP453300 | SPACER, PULLEY, MOUNT, 1.65 L |
| 17 | 2 | MP453500 | PULLEY, 4", 6 GROVE, ASM. |
| 18 | 4 | NB3450 | WASHER, FLAT, 3/8" |
| 19 | 4 | NB046200 | NUT, HEX, 3/8-16, GD5 |
| 20 | 2 | NB010100 | BOLT, CARRIAGE, 3/8-16 X 2 |
| 21 | 2 | MP262400 | IDLER, FLAT, 3.2" |
| 22 | 1 | MP449500 | TENSIONER, BELT, ASM. |
| 23 | 1 | NB6042 | SCREW, CAP, 3/8" X 1" |
| 24 | 1 | MP449100 | BELT, K060620, MICRO-V |
| 25 | 2 | MP450100 | PADHOLDER, 16", w/ SPACER, ASM. |
| 26 | 12 | NB6110 | WASHER, LOCK, 1/4" |
| 27 | 8 | NB6530 | SCREW, CAP, HH, 1/4-20 X 1 |
| 28 | 1 | MP454100 | COVER, BELT, w/ SEAL, ASM |
| 29 | 4 | NB049000 | SCREW, BH, 1/4-20 X 3/4, SS |
| 30 | 4 | NB3350 | WASHER, FLAT, 1/4" |
| 31 | 4 | MX1045 | NUT, HEX, 1/4-20 |
| 32 | 87" | MP415100 | VELCRO, LOOP, 1" |
| 33 | 87" | MP285500 | SEAL, TRIM, w/ BULB |
| 34 | 2 | NB034800 | WASHER, FENDER, 3/8" X 1 1/2" |
| 35 | 1 | MP504900 | PLATE, PADHOLDER, SPACER |
| 36 | 2 | 57165A | PLUG NYLON HOLE 3DS |

| Parts List | | | |
|---|---|---|---|
| ITEM | QTY | PART NUMBER | DESCRIPTION |
| 37 | 1 | MP448100 | PADHOLDER, 16", RET., ASM. |
| 38 | 1 | MP432400 | RETAINER, PAD, BLUE, |
| 39 | 3 | NB064900 | SCREW, #10 x 1/2" |
| 40 | 1 | MP448301 | PLATE, PADHOLER, ADAPTER |
| 41 | 6 | NB068200 | SCREW, SOCKET, 1/4-20 X 3/4 |

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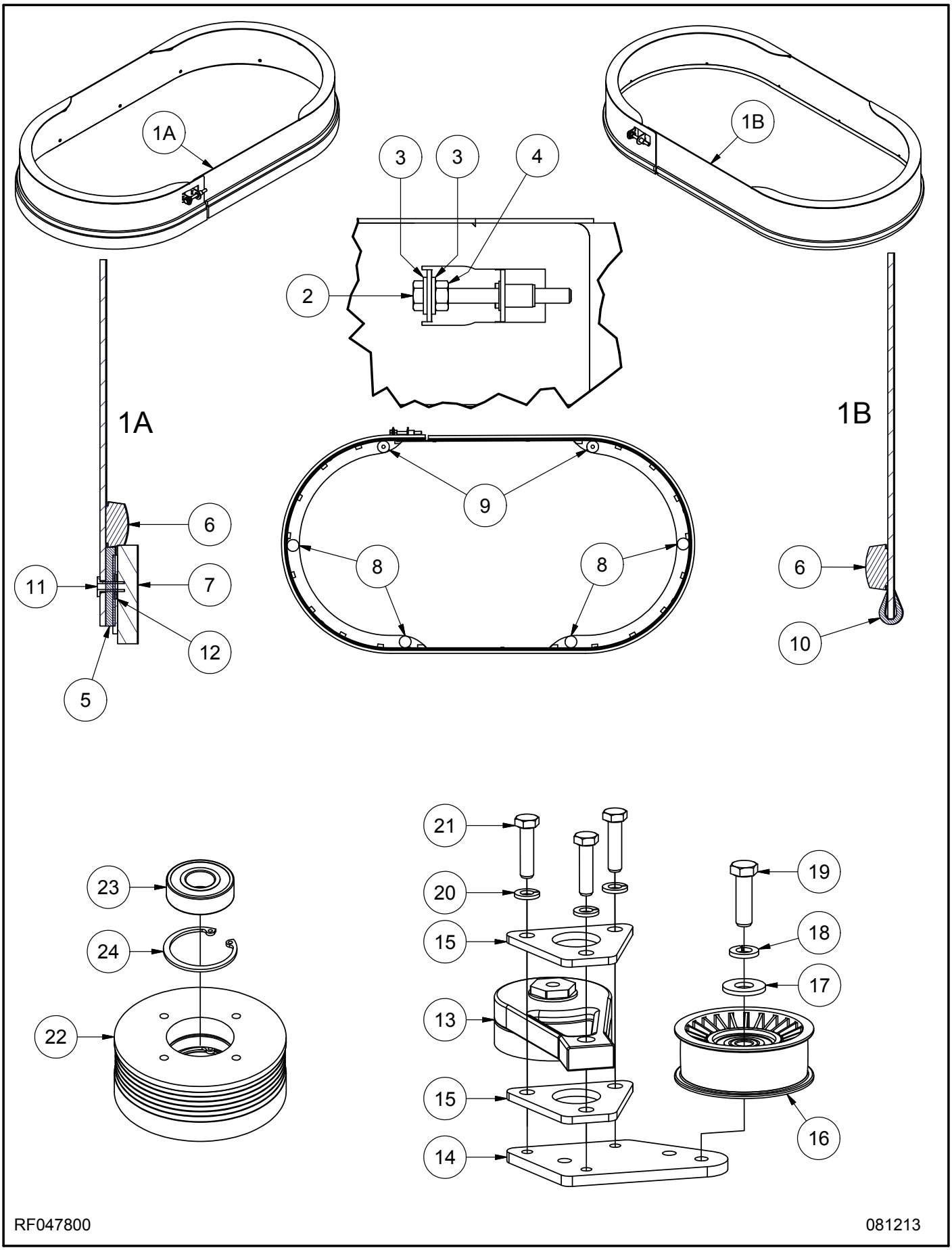
## 30” Skirt, Pulley & Tensioner Assembly

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## *30” Skirt, Pulley & Tensioner Assembly (continued)*

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 1A | MP456300 | SKIRT, 30”, ASM. (w/ FELT) | 1 |
| 1B | MP459800 | SKIRT, 30”, ASM. (w/ EDGING) | 1 |
| 2 | NB050600 | BOLT, HEX, 1/4” X 2-1/2” | 1 |
| 3 | NB3350 | WASHER, FLAT, 1/4” | 2 |
| 4 | MX1045 | NUT, HEX, 1/4” | 1 |
| 5 | MP8300 | HOOK, VELCRO, 1” | 90” |
| 6 | MP449300 | MOLDING, BLK | 90” |
| 7 | MP449200 | EDGE, WEAR, FELT | 1 |
| 8 | MP140000 | DOT, FELT | 4 |
| 9 | MP373100 | WASHER, RUBBER | 2 |
| 10 | MP139800 | EDGING, WEAR | 90” |
| 11 | NB023600 | RIVET, 1/8” X 5/16” | 12 |
| 12 | NB048300 | WASHER, FLAT, #4 | 12 |

| Item | Ref. No. | Description | Qty |
|---|---|---|---|
| 13 | MP449000 | BODY, TENSIONER | 1 |
| 14 | MP452401 | PLATE, EXT., TENSIONER | 1 |
| 15 | MP448501 | PLATE, MOUNT, TENSIONER | 2 |
| 16 | MP448900 | IDLER, FLAT, 3.24” X 1” | 1 |
| 17 | NB3450 | WASHER, FLAT, 3/8” | 1 |
| 18 | MX1075 | WASHER, LOCK, 3/8” | 1 |
| 19 | NB051800 | BOLT, HEX, 3/8” X 1-1/4” | 1 |
| 20 | NB6111 | WASHER, LOCK, 5/16” | 3 |
| 21 | NB001800 | BOLT, HEX, 5/16” X 1-1/4” | 3 |
| 22 | MP453400 | PULLEY, 4” | 1 |
| 23 | MP453200 | BEARING, 6203 | 2 |
| 24 | NB017000 | RING, RETAINING, 40MM | 2 |

# Limited Warranty

***PE300BU***

**TO QUALIFY FOR THIS WARRANTY**

(1) Machine must be registered at the time of purchase on a form provided by Amano Pioneer Eclipse Corporation. Your Amano Pioneer Eclipse Distributor is responsible for the registration of your machine. Please cooperate with your Distributor in supplying necessary information on the card.

(2) The machine must have been purchased from Amano Pioneer Eclipse Corporation or an authorized Amano Pioneer Eclipse Distributor.

(3) This warranty extends to the original purchaser only and is not transferable to subsequent owners.

**TIME PERIODS**

(1) Rotational molded parts are warranted for eight (8) years.

(2) Batteries warranted by battery manufacturer for one (1) year.

(3) THREE (3) YEAR WARRANTY - For parts on the PE300BU. Warranted to be free from defects in material and workmanship for a period of three (3) years from the date of purchase by the original owners. (See Exclusions)

(4) ONE (1) YEAR WARRANTY - For labor necessary to make warranty repairs.

**EXCLUSIONS (Not Covered by Warranty)**

(1) Parts that fail through normal wear by reason of their characteristics (cords, pads, belts, skirt, wheels, pad holder, or other consumable parts).

(2) This warranty does not extend to parts affected by misuse, neglect, abuse or improper maintenance. All defective parts must be returned to the distributor for credit.

**THE OBLIGATION OF AMANO PIONEER ECLIPSE CORPORATION**

(1) The obligation of Amano Pioneer Eclipse under this warranty is limited to repairing or replacing, at its option, any part which is proven to be defective in material or workmanship under normal use for the applicable period stated above.

(2) Warranty repairs will be made by your Amano Pioneer Eclipse Distributor without charge for parts and labor. They will be compensated with a warranty labor rate of $45.00 per hour, for the first year of ownership.

(3) Parts repaired or replaced under this warranty are warranted only during the balance of the original warranty period. All defective parts replaced under these warranties become the property of Amano Pioneer Eclipse.

**WARRANTY SERVICE**

To obtain warranty service, take your machine and proof of purchase to any authorized Amano Pioneer Eclipse Distributor. Amano Pioneer Eclipse will not reimburse expenses for service calls or travel. For the Distributor in your area, call Amano Pioneer Eclipse Customer Service Department at 800-367-3550 or 336-372-8080. If you are dissatisfied with the service that you receive, call or write Amano Pioneer Eclipse Customer Service Department for further assistance.

**INSTRUCTIONS AND CONDITIONS FOR WARRANTY REIMBURSEMENT**

- Order replacement part: Orders will be processed and charged, as normal procedure.
- Call Amano Pioneer Eclipse for R/A number.
- You will need the Machine Serial Number and the Machine Model Number.
- Parts must be returned, accompanied with the R/A number to be eligible for warranty credit.
- All Warranty Parts will be shipped prepaid UPS Ground, any other method will be at the recipients expense.
- Freight on any Warranty Part after 30 days must be paid for by the Purchaser.
- Warranty labor rate is $45.00 per hour.
- Credit will be issued upon completion of the above steps, at the above rates.

**DISCLAIMER OF CONSEQUENTIAL**

AMANO PIONEER ECLIPSE DISCLAIMS ANY RESPONSIBILITY FOR LOSS OF USER TIME OF THE AMANO PIONEER ECLIPSE MACHINE OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGE EXCEPT AS STATED IN THE WARRANTY APPLICABLE TO EACH MACHINE. EXCEPT AS STATED IN SUCH WARRANTIES, THE COMPANY DOES NOT OTHERWISE WARRANT ANY MACHINE AND NO WARRANTY, EXPRESS, IMPLIED OR STATUTORY IS MADE BY THE COMPANY.

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EC Machinery Directive 2006/42/EC,
EC Restriction of Hazardous Substances Directive (2011/65/EU)
Harmonized Standards Applied: EN 12100-1, EN12100-2

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