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# **RIDE-ON TERMINATORS**

# T-3000EI COMPLETE MANUAL



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# ORIGINAL LANGUAGE OPERATING MANUAL FOR BARTELL RIDE-ON TERMINATORS

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| SAFETY PRECAUTIONS   |   |  |  |  |
|--|---|--|--|--|
|  | DANGER EXPLOSION HAZARD  Never operate the machine in an explosive atmosphere, near combustible materials, or where ventilation does not clear exhaust fumes.                 |  |  |  |
| The little like Lake   | WARNING BURN HAZARD  Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.                  |  |  |  |
| Tark to the same of the same o | WARNING ROTATING HAZARD Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.                                    |  |  |  |
|  | CAUTION MOVING PARTS Before starting the machine, ensure that all guards and safety devices are in place and functioning properly.  |  |  |  |
|  | ATTENTION READ OWNER'S MANUAL Read and understand owner's manual before using this machine. Failure to follow operating instructions could result in serious injury or death. |  |  |  |

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### 1. Introduction

The Terminator® Carpet and Tile Removal Machine is intended for use on large demolition and asbestos abatement projects as well as smaller floor covering removal jobs. Designed and built by experienced floor covering demolition and installation experts, the machine incorporates several design features that are essential for efficient operation:

- Tricycle wheelbase and short turning radius allows for better turning ability especially in narrow spaces.
- Jaw position and tool position adjustments allow for changing the angle of the blade for any application.
- Ballasts in the front and rear provides extra traction needed for tile and glue removal.
- Built-in forklift transportation slots allow for easy loading and unloading at job sites.
- Foot control for a smooth start and stop.

If operated and cared for as instructed in this Manual, the Terminator® provides trouble-free, safe, and efficient performance.

### 2. About This Manual

This Manual contains the information and procedures to assist you to operate and maintain the Terminator® machine safely and correctly. Read this Manual before you operate or service the equipment. If you need additional information or assistance, please get in touch with our Customer Service Department:

Innovatech Products & Equipment Co. 4701 Allmond Ave Louisville, KY 40209 (425) 402-1881 or 800-267-6682 Fax (425) 402-8547

Email: service@InnovatechProducts.com

NOTE: Throughout this Manual, directional instructions (left, right, up, down, push, pull, etc.) are given from the point of view of the operator performing the action.

### 3. Important Safety Instructions



**WARNING:** When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following: **READ ALL INSTRUCTIONS** 

- 1. Safety Instructions for All Tools
- KEEP GUARDS IN PLACE and in working order.
- **REMOVE ADJUSTING TOOLS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the Terminator® before turning tool on.
- KEEP WORK AREA CLEAN. Cluttered areas invite accidents.
- KEEP CHILDREN AWAY. All visitors should be kept a safe distance from the work area.
- WEAR PROPPER APPAREL. No loose clothing, gloves, neckties, rings, bracelets or other jewelry to get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- ALWAYS WEAR SAFETY GLASSES. Also use a face or dust mask if operating in a dusty environment. All users and bystanders must wear eye protection that conforms to ANSI Z87.1. (CAN/CSA Z94.3)
- MAINTAIN EQUIPMENT WITH CARE. Keep equipment clean for best and safest performance. Follow instructions for lubrication and changing accessories.
- DISCONNECT BATTERY before servicing.
- REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure handles are centered.
- **USE RECOMMENDED ACCESSORIES.** Consult the instruction manual for recommended accessories.
- NEVER STAND ON TOOL. Serious injury could occur if the machine is tipped or rocked.
- CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced. Do not use tool if switch does not turn it on and off.
- NEVER LEAVE EQUIPMENT RUNNING UNATTENDED. TURN POWER OFF. Don't leave equipment until it comes to a complete stop.
- DO NOT OPERATE ELECTRIC TOOLS NEAR FLAMABLE LIQUIDS OR GASSES OR EXPLOSIVE ATMOSPHERES. Motors in these tools may spark and ignite fumes.

#### 2. Additional Safety Rules for Riding Floor Scrapers



CAUTION: FAILURE TO HEED THESE WARNINGS MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH AND SERIOUS DAMAGE TO THE TERMINATOR®.

The Terminator<sup>®</sup> is to be operated only by qualified, trained personnel.

DON'T attempt to operate the Terminator® if you are not thoroughly familiar with the operation of the Terminator®.

DON'T operate the Terminator® unless every guard, warning notice or sign is in place.

DON'T use the Terminator® on roofs or floors not designed to carry the weight of the machine.

DON'T attempt to operate on anything but the designated voltage.

DON'T wedge anything against the motor fan to hold motor shaft.

DON'T operate equipment without guards in place.

DON'T operate the Terminator® near an open flame or smoking materials

DON'T stand directly behind or in front of the Terminator® when power is enabled.

DON'T lift the hood, inspect the blade, or otherwise service or maintain the Terminator® while power is enabled.

DON'T operate the Terminator<sup>®</sup> if the top cover is open.

DON'T overreach. Keep proper footing and balance at all times.

DON'T run the machine into piles of debris, as this may cause the machine to become unstable and tip over.

DON'T sit on or stand next to, under or around the Terminator® when it is being transported in a moving vehicle, whether by itself or with other equipment.

DON'T attempt to use the Terminator<sup>®</sup> on a non-horizontal surface or turn the Terminator<sup>®</sup> around on a ramp or hill.

DON'T put your hands or feet in the blade area when the Terminator® is running.

DO turn the power off when not in use.

DO use personal safety equipment such as steel toe shoes, safety glasses, gloves, and ear plugs.

DO use gloves when changing blades and removal tools. Tools may be hot and cause burns.

DO familiarize yourself with all safety features and controls before each use.

DO use the Terminator<sup>®</sup> only for the purpose for which it was designed. Attempting to alter the Terminator<sup>®</sup> will invalidate applicable warranties and possibly damage the machine.

DO reduce speed next to walls, machinery and other objects.

DO pre-survey the floor for cracks, ditches, trenches, electrical outlets or bolts, which could catch the blade of the machine.

DO operate the Terminator® at a safe speed.

### 4. General Operating Instructions for the Terminator®

The Terminator® is designed to remove carpet, tile and glue residue from floors.

- When removing product, position removed product so it rolls to the side of the machine or have someone on the side of the machine remove the product. NEVER WALK IN FRONT OF OR BEHIND THE TERMINATOR® WHILE IT IS RUNNING.
- Sharpen blades or dice material into narrower widths if machine slows down or seems to be struggling.
- Do not use the Terminator® within one foot of walls or stationary objects. Damage to objects may occur if the Terminator® strikes them.
- Use safe, OSHA-approved tools and methods for sharpening blades.
- Make sure the Terminator<sup>®</sup> has a charged fire extinguisher, working backup alarm, and strobe light before operating.

### 5. Safety Features

The Terminator<sup>®</sup> is equipped with several features to help ensure your safety and the safety of workers around you.

#### 1. Auto Stop

The Terminator® has two drive levers located to the right and left of the operator seat and a jaw height lever to the left of the operator seat. The drive levers control the forward, reverse, left, and right directions of the machine; the jaw height lever raises and lowers the jaw assembly. You must push (forward) or pull (reverse) and hold the levers in position to drive the machine or move the jaw assembly in the direction desired. When you release a lever, the Terminator® or jaw automatically STOPS and will not move again until you push/pull and hold the levers again. However, these levers are not meant as brakes. Block wheels with a floor block when stopping on a ramp and use the emergency brake. Without the emergency brake the machine may roll forward or backwards on any sloping surface.

### 2. Warning Light and Back-Up Alarm

An amber light is installed on the top section of the rear battery box. When the ignition is in the ON position, the warning light will flash. When the drive control is set in REVERSE, the back-up alarm will sound.

#### 3. Fire Extinguisher

A fire extinguisher with gauge is installed on the hood behind the operator's seat within the operator's reach. As a safety measure, regularly inspect the gauge and recharge the fire extinguisher as needed to maintain full capacity. Always recharge the extinguisher after each use.

#### 4. Emergency Stop Button

To the right side of the operator seat is a red emergency stop button. This will remove power from the motor and other electronic components. **Warning!** Removing power from the Terminator<sup>®</sup> while on a hill or ramp can lead to a dangerous rollaway situation. Always engage the parking brake before disconnecting power.

#### 5. Safety Instructions

The Terminator® is designed for safe operation by trained, designated personnel. To help ensure your safety as a designated operator, read these safety instructions before you operate the equipment. Regardless of your experience with machinery, the Terminator® has unique features and systems which you need to know about and understand before you operate or service the machine.

# 6. <u>T-3000El Terminator<sup>®</sup> Specifications</u>

| Element                         | English      | Metric          |
|---------------------------------|--------------|-----------------|
| Length                          | 66"          | 1676 mm         |
| Width                           | 26.5"        | 673 mm          |
| Height                          | 47"          | 1194 mm         |
| Weight                          | 2783 lbs     | 1262 kg         |
| Tires (OD x W)                  | 15" x 8"     | 381 mm x 203 mm |
| Motor Voltage                   | 48 VDC       |                 |
| Motor Power                     | 10 HP        | 7.5 kW          |
| Batteries                       | 6 VDC 415 Ah |                 |
| Motor Operating Speed           | 0-3600       | ) RPM           |
| Hydraulic Oil Type              | ISC          | 9 46            |
| Hydraulic Oil Capacity          | 11 Gal       | 41.6 L          |
| Hydraulic Relief Valve Pressure | 2200 psi     | 15.17 MPa       |

#### 1. Tools and Supplies

Maintenance tools and supplies are not provided with the machine. The following are suggested items to have on the job site.

- 1. 4" or 7" Grinder
- 2. 10"-15" Crescent Wrench
- 3. 16-20 oz. Hammer
- 4. 3/8" or 1/2" Socket Set
- 5. Grease Gun
- 6. WD 40
- 7. 3/4" Open End and Box Wrench
- 8. Screw Driver Set
- 9. Safety Glasses
- 10. Ear Plugs

### 7. Ventilation Requirements

Charge the batteries only in well-ventilated areas. (See Battery Safety section)

### 8. Guards, Warning Notices & Signs

The guards, warning notices and signs are placed on the Terminator® for your protection. If one of them becomes damaged or is lost, contact our Customer Service Department to order a replacement.

### 9. Service Instructions & Personnel

Like other machinery, the Terminator® requires regular inspection and maintenance of the batteries, motor, hydraulic system and other parts. To prolong the safe and efficient operating life of the machine, clean and service it as instructed in the Maintenance section of this manual.

**Always** use trained personnel to service the equipment. **Never** allow anyone to service the equipment that has not been specifically trained to do so.

If you need help with a service or maintenance problem, contact our Customer Service Department.

### 10. Replacement Parts & Materials

The Terminator® is designed and engineered to operate safely and efficiently with the parts and materials installed on it in our factory. To ensure the continued safe and efficient operation of the equipment, use replacement parts and materials that meet both of the following requirements:

- Innovatech must solely authorize replacement parts and materials.
- Replacement parts and materials must be identical to the items originally provided with the machine, except as authorized by Innovatech.

Never use "equivalent" or substitute parts, except as expressly authorized by Innovatech.

If you fail to adhere to these instructions, you may cause injury to yourself and/or others, cause damage to the Terminator<sup>®</sup>, and invalidate applicable warranties.

If you are in doubt about any replacement parts or materials, call our Customer Service Department for assistance.

# 11. <u>Uncrating and Preparing the Terminator® for Operation</u>

When you receive the Terminator<sup>®</sup>, inspect the outside of the crate completely, to detect damage to the crate itself. If it is damaged, notify the carrier immediately and follow his/her instructions to file a claim.

Carefully uncrate the machine and inspect it for damage that may have occurred during shipping. If the shipment is damaged, notify the carrier immediately and file a claim in the normal manner.

Check packing slip for complete shipment. If shipment is incomplete, notify our Customer Service Department within 24 hours.

Remove the crate debris, set aside the blades and other packages, and prepare the Terminator® for operation:

CAUTION! If using conventional non-AGM lead acid batteries, wear acid-resistant gloves and safety glasses and use extreme care when checking battery water levels.

#### 1. To remove the Terminator® from a crate with a forklift:

1. Forklift slots have been provided on the sides of the Terminator® for moving the terminator with a forklift.

#### 2. To remove the Terminator® from a crate without a forklift:

- 1. Take 2 x 4's off the edge of the crate and between the wheels.
- 2. Place 2 x 4's behind the crate of the rear of the machine.
- 3. Make a ramp with the 2 x 4's and the crate material.
- 4. To enable power to the Terminator<sup>®</sup>, turn the key, pull up on the red knob.
- 5. Pull back the left and right handles evenly and depress the foot pedal slowly. The machine will start moving slowly backwards.
- 6. Ensure that both rear wheels come off the crate evenly. Failure to back off evenly could result in the machine tipping over and harm to the operator.
- 7. As the machine moves back, ensure that the center wheel clears the crate. If the center wheel does not clear the crate, raise the machine until the wheel clears.
- 8. Once the machine is on the ramp, slide it all the way to the bottom, then raise the jaw assembly up and set the center wheel down on the ground.
- 9. Whenever mounting or dismounting the Terminator®, ALWAYS disable the power by pressing down on the red power knob.

### 12. Loading/Unloading Procedures

- Do not load or unload the Terminator® on uneven ground.
- Ensure ramps into moving vehicles are stable and square to the ground.
- Always turn off the Terminator® before transporting it.
- Load and unload the machine with a properly weighted forklift or lift-gate.
- Make sure all safety stops are installed on a lift-gate before loading or unloading.
- Never position yourself under/around the machine while moving it with other machinery.
- Park the machine with the jaw completely down after loading.
- Properly secure the machine with chains, tire chocks, and other necessary tie downs.
- Never ride in a moving vehicle next to a Terminator®. It may tip, causing severe injury.

## 13. Operator Controls

#### 1. Drive/Jaw Controls, Foot Pedal

The drive and jaw controls (three levers) are located to the left and right of the operator seat. The drive levers (left and right) control the direction of rotation of the rear wheels. The jaw height lever (left) controls the vertical position of the jaw assembly. The foot pedal controls the speed of the hydraulic pump. The levers only work when the foot pedal is partially depressed and the pump is running.

Push the left and right levers forward together and hold them in position, then slowly
depress the foot pedal to move the machine forward.

- Pull the left and right levers back **together** and hold them in position, then slowly depress the foot pedal to move the machine in reverse the alarm will sound.
- Push only the left lever forward to turn the machine to the right.
- Push only the right lever forward to turn the machine to the left.
- To adjust the jaw assembly down, push and hold the jaw lever and depress the foot pedal. To adjust the jaw assembly up, pull and hold the jaw lever back and depress the foot pedal.

#### 2. Auto Stop

When you release the drive or jaw lever, the motor continues to run (with foot pedal depressed) but the drive or jaw motion automatically stops and will not start again until you push or pull the levers.

#### 3. Emergency Brake

The Terminator<sup>®</sup> is supplied with an emergency brake to prevent unintended movement when left unattended. The brake handle is located to the left of the operator seat. Pull the handle up to engage the brake, push the handle down to release the brake. To increase tension on the brake you can rotate the end of the handle in a clockwise direction. Rotate the end of the handle counter clockwise to reduce the tension.

#### 4. Power Limiter

The power limiter allows the top speed output to be set from 70% to 100%. This will allow you to conserve power during normal operation when to speed is not required.

#### 5. Manual Disconnect and Lockout

The manual disconnect is located to the right side of the operator seat. To enable operation of the Terminator® unlock the manual disconnect lock and pull up. In case of emergency push down to remove power from all electrical components. Always push down this switch to OFF when the Terminator is not in use.

### 14. Display & Indicators

#### 1. Battery Display and Hour Meter

The battery display shows pump use time, key power time, and battery life. When the last light starts to blink you have roughly 15 minutes before all power is depleted.

#### 2. Hydraulic Oil Over Temperature Indicator

Normal temperatures are below 120°F. Do not allow the hydraulic fluid to exceed 200°F because it may damage the hydraulic system and in turn damage the Terminator<sup>®</sup>. If the indicator light is continually coming on, turn the machine off and let it cool down for 45-60 minutes. If the light is still regularly turning on, please call Innovatech.

#### 3. Hydraulic Filter Clog Indicator

The hydraulic oil filter is equipped with a clog indicator which will illuminate when the hydraulic oil filter is clogged. The indicator may briefly illuminate in cases of extreme cold, and will turn off when the hydraulic oil was warmed to a normal operating temperature.

### 15. Electric Motor & Batteries

The electric motor and batteries are located under the top cover. The electric motor provides the power to the hydraulic pump to drive the Terminator<sup>®</sup>. The electric motor requires little maintenance, inspect wire connections and check for debris to maintain its efficiency and prolong its operating life.

Battery life can be ensured by proper periodic maintenance. Check that the battery water levels remain sufficiently high to cover the battery electrode plates – replenish low levels with distilled or deionized water. Do not use tap water as the minerals present will reduce the effectiveness of the batteries and shorten total battery life. The batteries should be charged before storing the Terminator® into long-term storage, and charged monthly when not in use to prolong battery life. A maintenance charge cycle should be performed every fifth charge to maintain optimum battery performance.

## 16. Blade Assembly

Blades are available in different configurations and thickness. An assortment of blades is included in the purchase price of the Terminator<sup>®</sup>. Extra blades are available upon request from Innovatech Products & Equipment Co., Inc.

#### Installing a Blade:

- 1. Raise the jaw assembly to maximum up position.
- 2. Unwrap the pre-sharpened blades and select the blade thickness and length you need for the job.
- 3. Loosen the 7 holding bolts.
- 4. Insert the sharpened blade.
- 5. Tighten bolts firmly, starting from the center and working out. Bolts should be snug but not over-tightened.

### 17. Taking Up Floor Coverings

- 1. Insert the blade. (See Blade Assembly)
- 2. Lower the jaw assembly to the floor. Lift the caster wheel off the floor 1/4 inch. Use previous procedures to drive forward.
- 3. As the Terminator<sup>®</sup> is removing flooring material, it is recommended to have another person at the side of the machine removing accumulating debris.

### 18. Ballast

The T-3000El Terminator® can be equipped with weight plates in the front (38 lbs. each) and in the rear (75 lbs. each) to provide traction for tough jobs. These weights can be easily removed to reduce traction or assist in transportation. Wear gloves whenever handling the weights to reduce the risk of injury, following OSHA approved lifting techniques.

### 19. Tricycle or Caster Wheelbase and Tires

The tricycle wheelbase is designed for a better turning ability. The wheel bearings on the front caster roller require lubrication with grease every 30 hours of machine operation. There are three fittings, two on the wheel and one on the housing. When running over debris such as carpet, the carpet yarn will get caught between the wheel and the housing. Clean out wheel and housing regularly.

The rear tires are solid rubber, tubeless, and require no maintenance. Over time, they may wear out and need replacing. Before each job, inspect the rear tires and lug bolts. Tighten the lug bolts as needed to 70 ft.-lbs. torque – it is important to keep the lug bolts tight.

The wheel hubs should be tightened from 310 to 350 ft.-lbs. Inspect and re-torque every 60 hours of operation. Lift the machine off the floor so no weight is on the wheel when retorqueing the pack nut.

### 20. Battery Safety

#### 1. Receiving the Terminator®

After receiving the Terminator<sup>®</sup>, examine the covers and battery catch tray for signs of damage. Attention should be given to the crate and pallet of the Terminator<sup>®</sup> when it arrives for any damage that may have happened during shipment. If you see any dented or crushed housing parts contact Innovatech for procedures to repair shipping damage. If you see a wet area, the batteries may have tipped during shipping.

The following is only applicable for standard lead-acid (Non-AGM) batteries:

Only trained or authorized personnel should change, repair or charge batteries. Every cell should be inspected to be sure that the electrolyte is above the battery plates. When used properly, a lead-acid battery is a safe, dependable source of electrical power. However, if proper care and safety precautions are not exercised when handling said battery, it can be a dangerous piece of equipment.

#### 2. Lifting Batteries

Always use proper lifting equipment to reduce the risk of battery damage, shorting and possible injury. An insulated lifting device used with an overhead hoist is the safest way to move a battery. Chain hoists used to handle batteries should be equipped with a non-metallic container or bucket to prevent the chains from dangling and possibly causing a short by coming in contact with exposed cell connectors on the top of the battery.

Never lift batteries by the inter-cell connecting cables, the connectors will come apart while the battery is in midair. Connectors on these cables are designed for maximum current flow, not strength. Connect the lifting device to the negative terminal only if there is not a lifting strap in place. Lifting by both terminals could cause the negative and positive terminals to short.

#### 3. Wear Protective Clothing

When working on or near batteries, always wear proper protective clothes including a face shield, safety glasses, long sleeved shirt, and acid-resistant gloves. Do not wear

any metal jewelry including rings, as they can short circuit a battery and become extremely hot if it accidentally contacts exposed intercell connectors.

### 21. Setting up a Charging Area

All owners of the Terminator<sup>®</sup> need to designate a charging area to charge the battery pack at the end of a workday or while storing the Terminator<sup>®</sup>. This area should have all the proper battery handling equipment and be well ventilated, even for trickle-charge scenarios. Ventilation is considered satisfactory if the hydrogen concentration does not exceed 1.5-2% in any one location. Concentrations above 4% are explosive and dangerous.

Factors determining proper ventilation include the number of Terminator® machines or other battery-operated machinery such as forklifts that are stored in the location, as well as the size, height, and air-tightness of the storage location.

Many instruments, such as combustible gas indicators and flammable vapor indicators, are available for continuous and automatic analysis of hydrogen content in the air. A floor standing fan of box fan will significantly help to disperse off-gassing.

A source of running water is desirable, preferably a water hose at the charging and filling station(s). The floor in the battery charging and filling area(s) should have an acid resistant coating and able to be washed down with clean water after a spill. The spill should be neutralized with baking soda or soda ash before it is cleaned up. While these products are relatively safe to handle, the chemical reaction with the spill will produce carbon dioxide, a heavy gas that tends to collect in low places if not properly ventilated.

Carbon dioxide is a non-toxic gas on its own, but if its presence dilutes the oxygen content of the air from the normal 21% to 16% or below, breathing in that air can cause injury or death. Proper ventilation will control this hazard in open spaces, although extra care should be taken when neutralizing significant quantities of sulphuric acid in closed areas.

Neutralizing sulphuric acid with lime, caustic soda, or ammonium hydroxide will not produce carbon dioxide but are dangerous chemicals themselves, and should ONLY be handled by qualified, chemically trained individuals

#### 1. Connecting/Disconnecting Charger

Always turn the charger off at the charging unit before connecting or disconnecting the battery charger leads. The Battery Connector below the seat is shipped in a disconnected state; this will have to be reconnected to operate the Terminator<sup>®</sup>. It is also good practice to leave this main power connector unplugged during storage.

Live leads can cause arcing and sparks which could cause an explosion if battery gases are present, please check that the main contactor/disconnector is not in the on condition when you connect or disconnect the battery terminal plug. In addition, the battery connector terminals will become pitted over time resulting in poor connections and increased heat generation in the battery leads and connectors.

#### 2. Basic Charging Facts

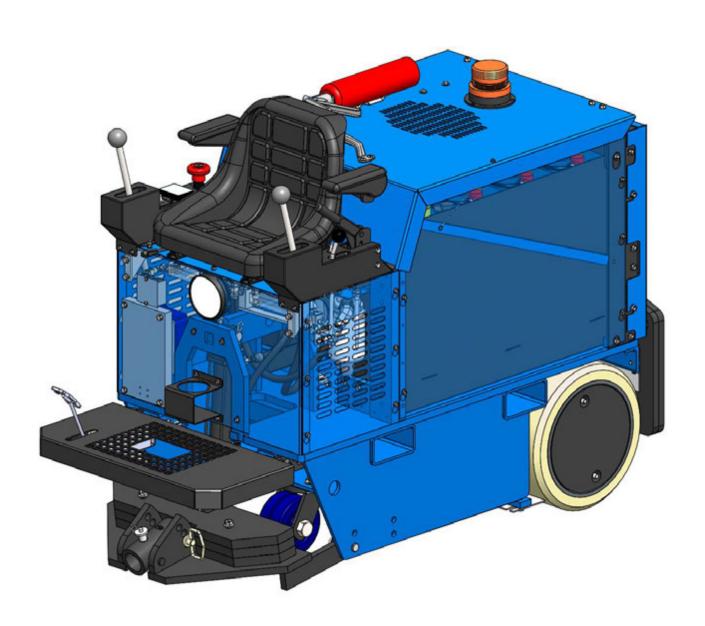
- Proper charging is essential for maximum battery life.
- In general, the proper charging rate is any rate that does not produce a battery temperature higher than 115°F (46°C) and/or does not produce excessive gassing.
- The T-3000El Terminator® is supplied with a CEB 48V 50A charging unit, which has been sized for optimum charging time without causing excessive heat or gassing.
- Do not use a 12V battery charger on the T-3000El Terminator® battery pack, this will
  cause damage to the charger as well as the battery pack

### 22. Maintenance Procedures

- 1. Grease Caster Wheel at three fittings every 30 hours.
- 2. Check Hydraulic Oil once a month. Change every 18 months with NUTO H 46 or ISO 46 or if fluid is overheated 200°F or higher.
- 3. Change hydraulic filter every 60 hours.
- 4. Clean Caster Wheel and Back Tires with wire wheel when necessary.
- 5. Look for leaks, find and tighten fittings. Do not over-tighten fittings.
- 6. Check all hoses and clamps once a week.
- 7. Inspect rear tires and lug bolts. Tighten lug bolts as needed to 70 ft.-lbs. torque.
- 8. Check wheel hub every 60 hours of operation. Wheel hub pack nut should be torqued from 310 to 350 ft.-lbs.

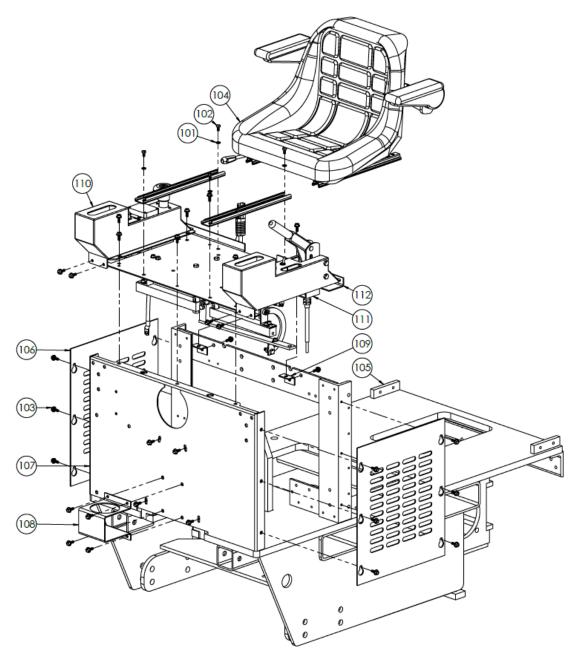
# 23. Parts List

# **T-3000El Terminator**



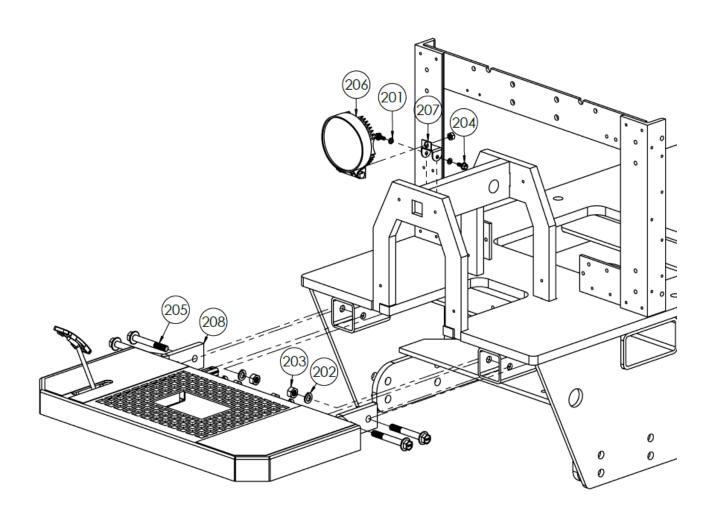
# Front Panels & Seat Breakdown

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 101      | 12-0018-06  | Lock Washer, M6                          | 4    |
| 102      | 12-0026     | Hex Head Cap Screw, M6-1.0 x 12mm        | 4    |
| 103      | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 35   |
| 104      | 13-0049     | GT50 Seat                                | 1    |
| 105      | 53-0363     | Uni-Frame Assembly                       | 1    |
| 106      | 53-0370     | Uni-Frame Front Side Panel               | 2    |
| 107      | 53-0371     | El Front Panel                           | 1    |
| 108      | 53-0376     | Uni-Frame Cup Holder                     | 1    |
| 109      | 53-0397     | Uni-Frame Seat Mounting Bracket          | 2    |
| 110      | 96-0344     | El Right Console Assembly                | 1    |
| 111      | 96-0370     | Uni-Frame Left Console Assembly          | 1    |
| 112      | 96-0390     | El Seat Platform Assembly                | 1    |



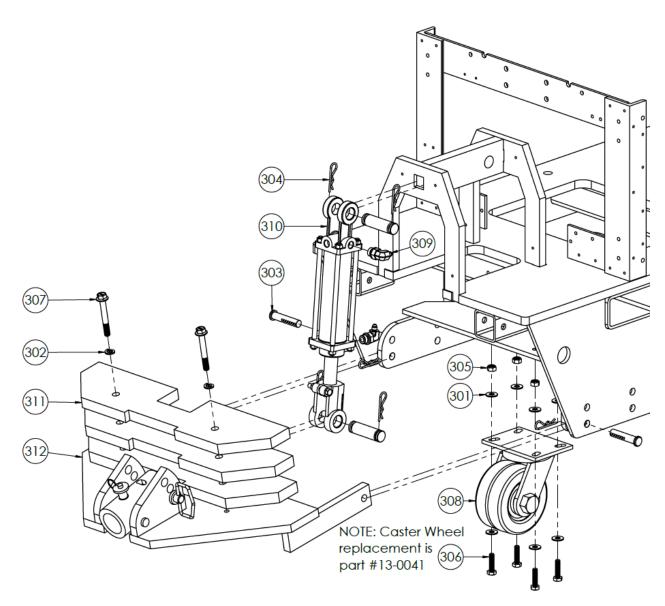
# Front Exterior (1) Breakdown

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 201      | 12-0018-06  | Lock Washer, M6                          | 2    |
| 202      | 12-0018-12  | Lock Washer, M12                         | 4    |
| 203      | 12-0027-12  | Hex Nut, M12-1.75                        | 4    |
| 204      | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 2    |
| 205      | 12-0046     | Flange Head Cap Screw, M12-1.75 x 90mm   | 4    |
| 206      | 22-0065     | 4.5" LED Headlight                       | 1    |
| 207      | 53-0400     | Headlight Mount                          | 1    |
| 208      | 96-0353     | Uni-Frame Foot Rest Assembly             | 1    |



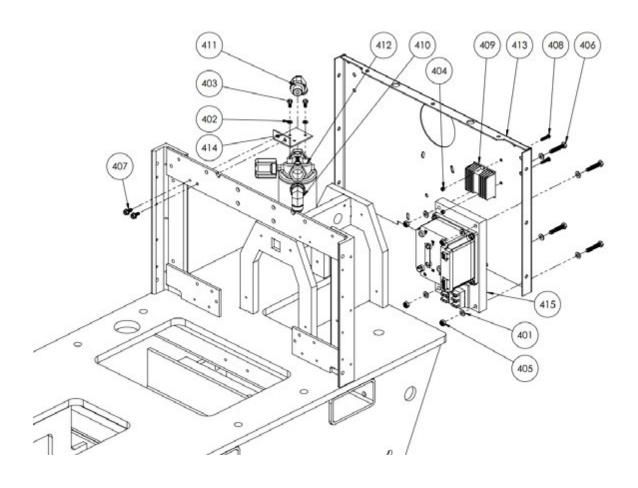
# Front Exterior (2) Breakdown

| Item No. | Part Number | Description                             | Qty. |
|----------|-------------|---|------|
| 301      | 11-0035     | USS Flat Washer, 3/8"                   | 8    |
| 302      | 11-0041     | Lock Washer, 1/2"                       | 2    |
| 303      | 11-0045     | Adjustable Clevis Pin, 5/8" x 3" L      | 2    |
| 304      | 11-0052     | Hitch Pin                               | 6    |
| 305      | 12-0021-10  | Nyloc Nut, M10-1.5                      | 4    |
| 306      | 12-0034-40  | Hex Head Cap Screw, M10-1.5 x 40mm      | 4    |
| 307      | 12-0046     | Flange Head Cap Screw, M12-1.75 x 90mm  | 2    |
| 308      | 13-0378     | Caster Wheel Replacement                | 1    |
| 309      | 31-0043     | Hydraulic Fitting, 90 deg 4 JIC – 8 SAE | 2    |
| 310      | 34-0015     | Front Hydraulic Ram (90 deg)            | 1    |
| 311      | 51-1070     | Uni-Frame Pivoting Jaw Weight           | 3    |
| 312      | 96-0386     | Pivoting Jaw Assembly                   | 1    |



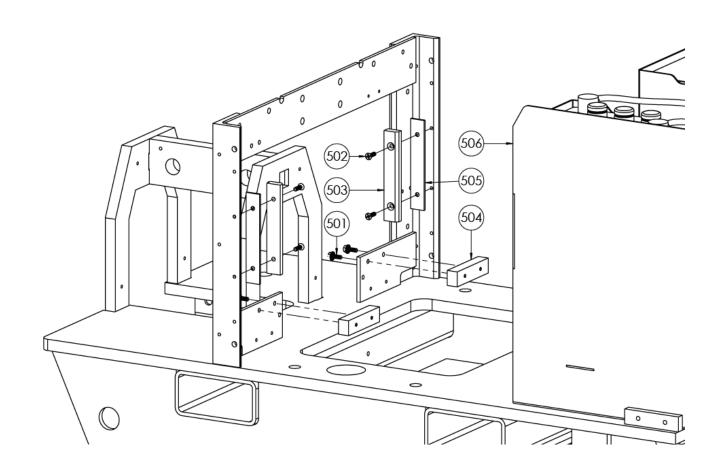
# Front Interior Breakdown

| Item No. | Part Number | Description                               | Qty. |
|----------|-------------|---|------|
| 401      | 12-0035-08  | Flat Washer, M8                           | 8    |
| 402      | 11-0069     | Lock Washer, 1/4 "                        | 2    |
| 403      | 11-0092     | Hex Head Cap Screw, 1/4"-20 x 1/2"        | 2    |
| 404      | 12-0021-05  | Nyloc Nut, M5-0.8                         | 4    |
| 405      | 12-0021-08  | Nyloc Nut, M8-1.25                        | 4    |
| 406      | 12-0032-45  | Hex Head Cap Screw, M8-1.25 x 45mm        | 2    |
| 407      | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm  | 2    |
| 408      | 12-0047-25  | Pan Head Philips Screw, M5-0.8 x 25mm     | 1    |
| 409      | 24-0199     | 48-12V DC Converter                       | 1    |
| 410      | 31-0051     | Hydraulic Fitting, 90 deg 12 JIC – 12 SAE | 1    |
| 411      | 31-0052     | Hydraulic Fitting, 90 deg 10 JIC – 12 SAE | 1    |
| 412      | 35-0036     | Hydraulic Oil Filter                      | 1    |
| 413      | 53-0371     | El Front Panel                            | 1    |
| 414      | 53-0398     | Filter Bracket                            | 1    |
| 415      | 96-0345     | Power Control Module                      | 1    |



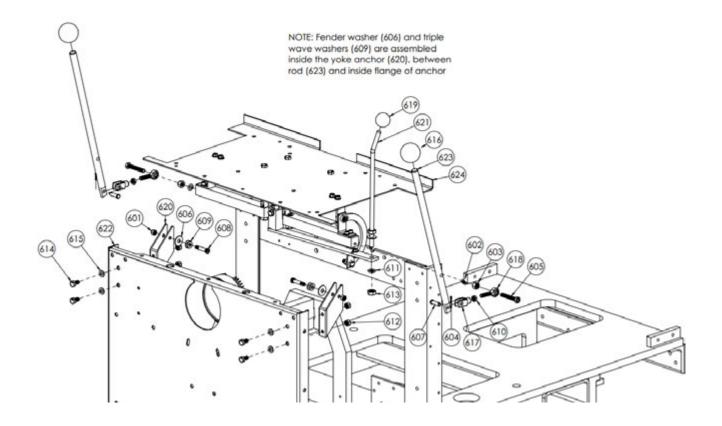
# **Battery Area Breakdown**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 501      | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 4    |
| 502      | 12-0045-20  | Flat Head Phillips Screw, M6-1.0 x 20mm  | 4    |
| 503      | 51-1050     | Uni-Frame Battery Guide, Front           | 2    |
| 504      | 53-0399     | Uni-Frame Battery Stop                   | 2    |
| 505      | 53-0405     | Uni-Frame Battery Guide Spacer, Front    | 2    |
| 506      | 71-0014     | T3000El Battery Pack, Non-AGM            | 1    |



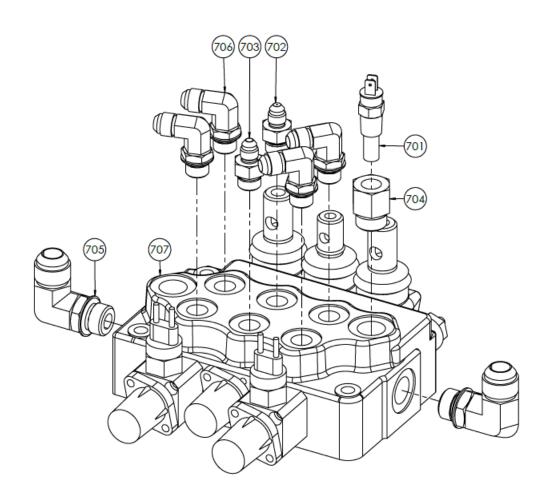
# Linkages Breakdown

| Item No. | Part Number | Description                                     | Qty. |
|----------|-------------|---|------|
| 601      | 11-0024     | Nyloc Nut, 1/4"-20                              | 2    |
| 602      | 11-0040     | Lock Washer, 5/16"                              | 2    |
| 603      | 11-0067     | Hex Nut, 5/16"-18                               | 2    |
| 604      | 11-0073     | Cotter Pin                                      | 2    |
| 605      | 11-0175     | Hex Head Cap Screw, 5/16"-18 x 3"               | 2    |
| 606      | 11-0232     | Fender Washer, 5/16"                            | 2    |
| 607      | 11-0277     | Clevis Pin, 5/16" x 1"                          | 2    |
| 608      | 11-0294-16  | Socket Head Shoulder Screw, 5/16" x 1", 1/4"-20 | 2    |
| 609      | 11-0303     | Triple Wave Washer, 1/4" – 5/16"                | 4    |
| 610      | 11-0352     | Hex Jam Nut, 5/16"-24                           | 2    |
| 611      | 12-0018-10  | Lock Washer, M10                                | 1    |
| 612      | 12-0021-08  | Nyloc Nut, M8-1.25                              | 4    |
| 613      | 12-0027-10  | Hex Nut, M10-1.5                                | 2    |
| 614      | 12-0032-25  | Hex Head Cap Screw, M8-1.25 x 25mm              | 4    |
| 615      | 12-0035-08  | Flat Washer, M8                                 | 4    |
| 616      | 13-0300     | Knob, SØ 1 7/8", 5/8"-11                        | 2    |
| 617      | 13-0380     | Linkage Yoke End                                | 2    |
| 618      | 13-0381     | Linkage Rod End                                 | 2    |
| 619      | 13-0383     | Knob, SØ 35mm, M10-1.5                          | 1    |
| 620      | 51-0699     | Yoke Anchor                                     | 2    |
| 621      | 53-0409     | Uni-Frame Jaw Joystick Rod                      | 1    |
| 622      | 53-0371     | El Front Panel                                  | 1    |
| 623      | 53-0389     | Uni-Frame Joy Stick Rod                         | 2    |
| 624      | 96-0390     | El Seat Platform Assembly                       | 1    |



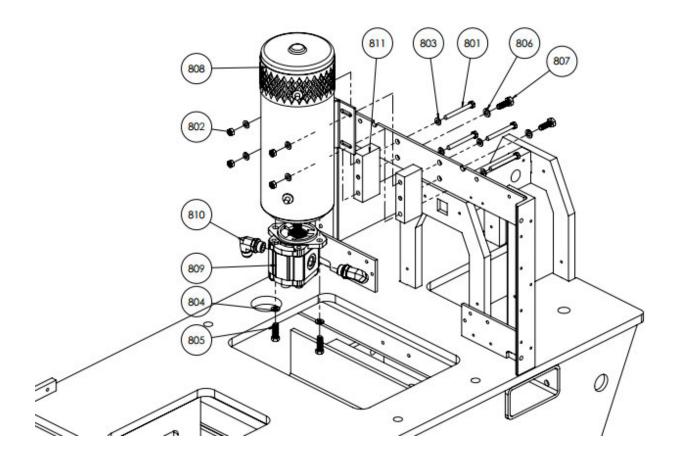
# Valve Block Breakdown

| Item No. | Part Number | Description                                   | Qty. |
|----------|-------------|---|------|
| 701      | 22-0007     | Oil Temperature Switch                        | 1    |
| 702      | 31-0022     | Hydraulic Fitting, Flow Reducer 4 JIC – 6 SAE | 1    |
| 703      | 31-0024     | Hydraulic Fitting, 4 JIC – 6 SAE              | 1    |
| 704      | 31-0045     | Hydraulic Fitting, 8 SAE – 1/4" NPTF          | 1    |
| 705      | 31-0048     | Hydraulic Fitting, 90 deg 10 JIC – 8 SAE      | 2    |
| 706      | 31-0056     | Hydraulic Fitting, 90 deg 6 JIC – 6 SAE       | 4    |
| 707      | 35-0050     | 3-Section Hydraulic Control Valve             | 1    |



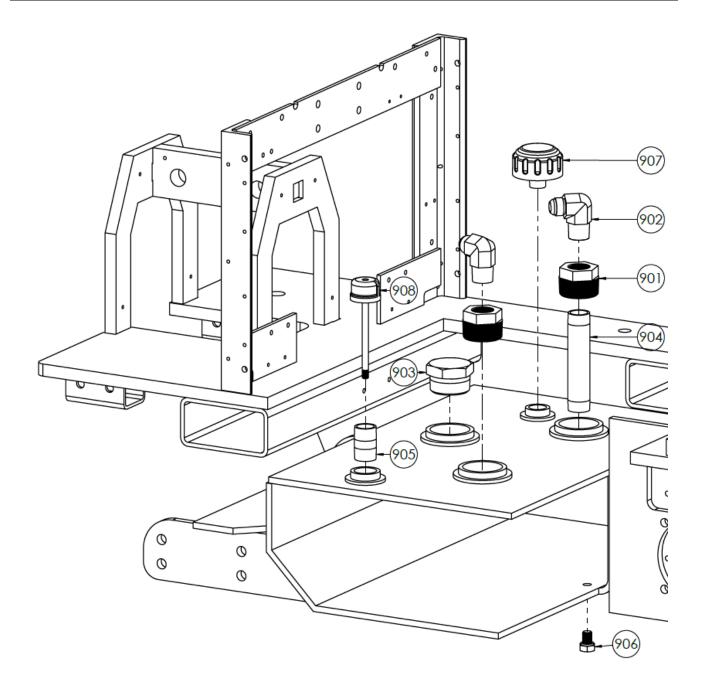
# **Motor & Pump Breakdown**

| Item No. | Part Number | Description                               | Qty. |
|----------|-------------|---|------|
| 801      | 11-0005     | Hex Head Cap Screw, 5/16"-18 x 3"         | 4    |
| 802      | 11-0025     | Nyloc Nut, 5/16"-18                       | 4    |
| 803      | 11-0034     | USS Flat Washer, 5/16"                    | 8    |
| 804      | 11-0129     | Lock Washer, 3/8"                         | 2    |
| 805      | 11-0295-20  | Hex Head Cap Screw, 3/8"-24 x 1 1/4"      | 2    |
| 806      | 12-0018-10  | Lock Washer, M10                          | 2    |
| 807      | 12-0024     | Hex Head Cap Screw, M10-1.5 x 30mm        | 2    |
| 808      | 23-0002     | 48V Electric Motor                        | 1    |
| 809      | 31-0020     | El Gear Pump                              | 1    |
| 810      | 31-0038     | Hydraulic Fitting, 90 deg 10 JIC – 10 SAE | 2    |
| 811      | 53-0396     | El Motor Mount                            | 2    |



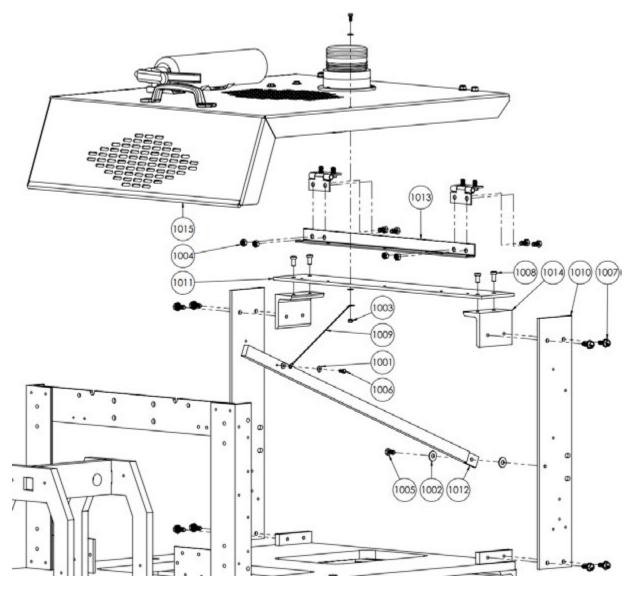
# **Tank Fittings Breakdown**

| Item No. | Part Number | Description                                     | Qty. |
|----------|-------------|---|------|
| 901      | 31-0124     | Threaded Tank Fitting, 2" Male, 1" x 1" Female  | 2    |
| 902      | 31-0128     | Hydraulic Fitting, 90 deg 12 JIC – 1" NPTF Male | 2    |
| 903      | 31-0252     | Hex Head Pipe Plug, 2" NPT                      | 1    |
| 904      | 35-0004     | Pipe Nipple, 1" NPT x 6" L                      | 1    |
| 905      | 35-0047     | Pipe Nipple, 1" NPT x 2" L                      | 1    |
| 906      | 35-0051     | Drain Plug, M14-1.5                             | 1    |
| 907      | 35-0052     | Hydraulic Breather Cap                          | 1    |
| 908      | 53-0277     | Dip Stick Unit                                  | 1    |



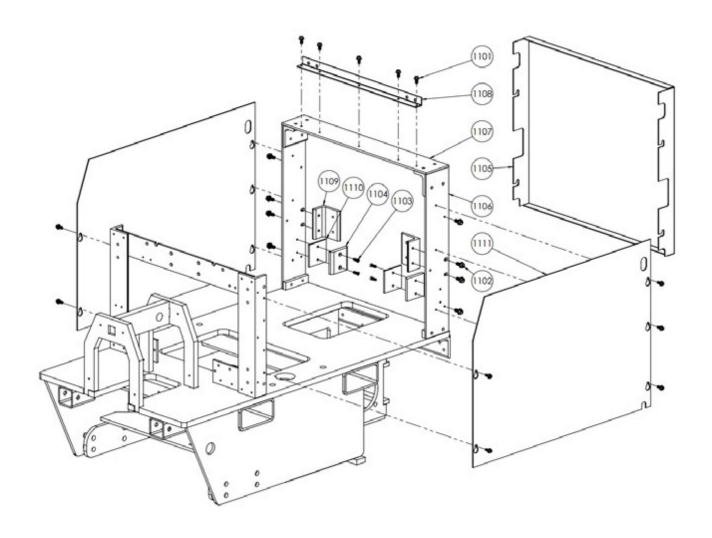
# **Hood Arm Breakdown**

| Item No. | Part Number | Description                               | Qty. |
|----------|-------------|---|------|
| 1001     | 11-0030     | SAE Flat Washer, #10                      | 4    |
| 1002     | 11-0034     | USS Flat Washer, 5/16"                    | 2    |
| 1003     | 12-0021-05  | Nyloc Nut, M5-0.8                         | 1    |
| 1004     | 12-0021-08  | Nyloc Nut, M8-1.25                        | 4    |
| 1005     | 12-0032-16  | Hex Head Cap Screw, M8-1.25 x 16mm        | 5    |
| 1006     | 12-0041-12  | Hex Head Cap Screw, M5-0.8 x 12mm         | 2    |
| 1007     | 12-0040-20  | Serrated Flange Cap Screw, M8-1.25 x 20mm | 8    |
| 1008     | 12-0050-16  | Low Socket Cap Screw, M8-1.25 x 16mm      | 4    |
| 1009     | 13-0387     | 12" Lanyard                               | 1    |
| 1010     | 53-0391     | Uni-Frame Rear Side Support               | 2    |
| 1011     | 53-0392     | Uni-Frame Rear Cross Support              | 1    |
| 1012     | 53-0393     | Uni-Frame Hood Support                    | 1    |
| 1013     | 53-0394     | Uni-Frame Top Cover Mounting Bracket      | 1    |
| 1014     | 53-0395     | Uni-Frame Rear Support Bracket            | 2    |
| 1015     | 96-0343     | El Top Cover Assembly                     | 1    |



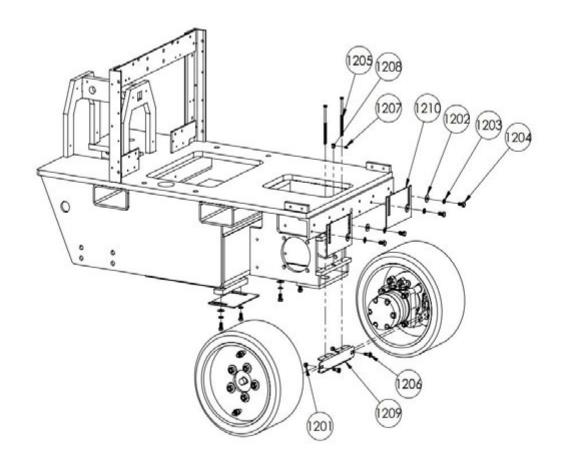
# Rear Panels & Support Breakdown

| Item No. | Part Number | Description                               | Qty. |
|----------|-------------|---|------|
| 1101     | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm  | 15   |
| 1102     | 12-0044-20  | Serrated Flange Cap Screw, M8-1.25 x 20mm | 8    |
| 1103     | 12-0045-20  | Flat Head Phillips Screw, M6-1.0 x 20mm   | 4    |
| 1104     | 51-1048     | Uni-Frame Battery Guide, Rear             | 2    |
| 1105     | 53-0373     | Uni-Frame Back Panel                      | 1    |
| 1106     | 53-0391     | Uni-Frame Rear Side Support               | 2    |
| 1107     | 53-0392     | Uni-Frame Rear Cross Support              | 1    |
| 1108     | 53-0394     | Uni-Frame Top Cover Mounting Bracket      | 1    |
| 1109     | 53-0395     | Uni-Frame Rear Support Bracket            | 4    |
| 1110     | 53-0406     | Uni-Frame Battery Guide Spacer, Rear      | 2    |
| 1111     | 53-0415     | Uni-Frame Side Panel                      | 1    |



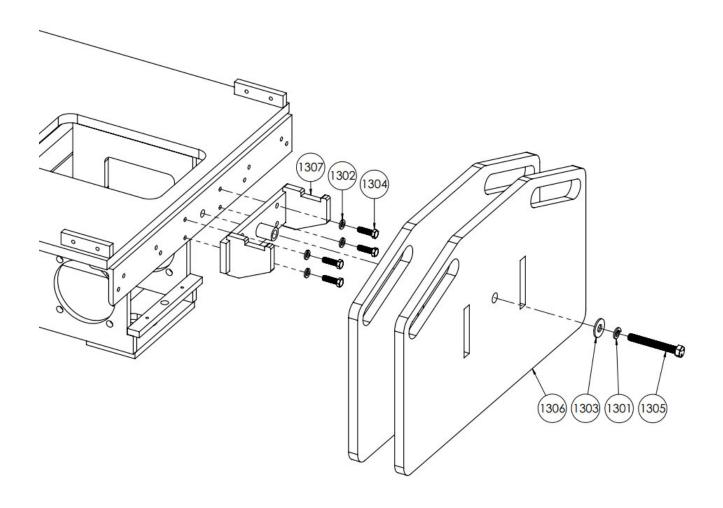
# **Rear Wheels Breakdown**

| Item No. | Part Number | Description                                       | Qty. |
|----------|-------------|---|------|
| 1201     | 11-0025     | Nyloc Nut, 5/16"-18                               | 2    |
| 1202     | 11-0035     | USS Flat Washer, 3/8"                             | 8    |
| 1203     | 11-0129     | Lock Washer, 3/8"                                 | 8    |
| 1204     | 11-0130     | Hex Head Cap Screw, 3/8"-16 x 3/4"                | 8    |
| 1205     | 11-0279-88  | Hex Head Cap Screw, 1/4"-20 x 5 1/2"              | 2    |
| 1206     | 11-0287     | Socket Head Shoulder Screw, 3/8" x 3/8", 5/16"-18 | 2    |
| 1207     | 11-0353     | Set Screw, #10-32 x 3/8"                          | 1    |
| 1208     | 51-0513     | Cable Clamp                                       | 1    |
| 1209     | 53-0134     | Brake Actuator                                    | 1    |
| 1210     | 81-0091     | Wheel Scraper Blade, 7.5" x 4.5"                  | 4    |



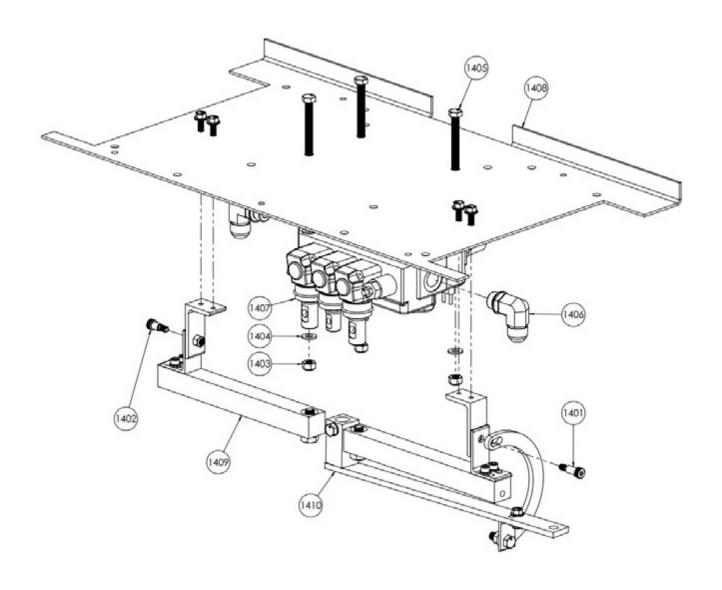
# **Rear Weights Breakdown**

| Item No. | Part Number | Description                          | Qty. |
|----------|-------------|--------------------------------------|------|
| 1301     | 11-0041     | Lock Washer, 1/2"                    | 1    |
| 1302     | 11-0129     | Lock Washer, 3/8"                    | 4    |
| 1303     | 11-0230     | USS Flat Washer, 1/2"                | 1    |
| 1304     | 11-0290     | Hex Head Cap Screw, 3/8"-16 x 1 1/4" | 4    |
| 1305     | 11-0298     | Hex Head Cap Screw, 1/2"-13 x 4"     | 1    |
| 1306     | 53-0119     | Rear Weight (75 lbs)                 | 2    |
| 1307     | 53-0344     | Rear Weight Holder                   | 1    |



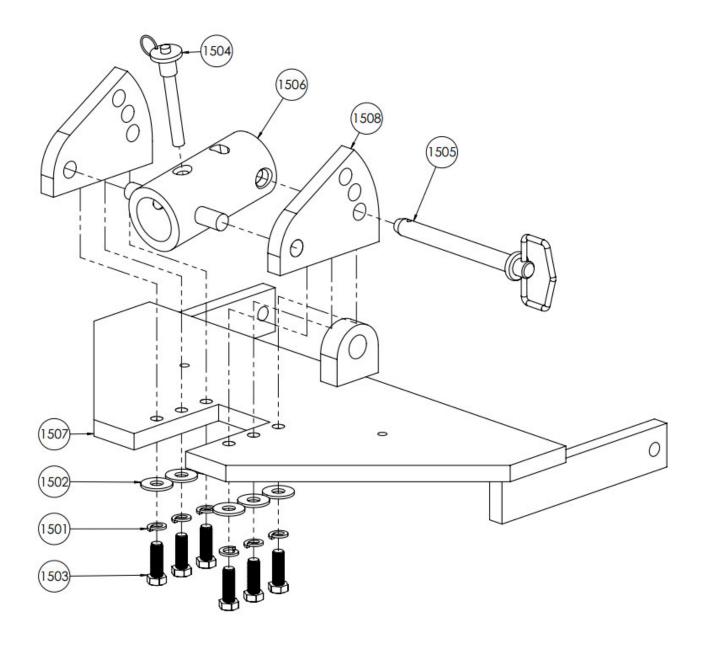
# El Seat Platform Assembly - Part # 96-0390

| Item No. | Part Number | Description                                       | Qty. |
|----------|-------------|---|------|
| 1401     | 11-0304     | Socket Head Shoulder Screw, 5/16" x 5/8", 1/4"-20 | 1    |
| 1402     | 11-0306     | Socket Head Shoulder Screw, 5/16" x 3/8", 1/4"-20 | 1    |
| 1403     | 12-0021-08  | Nyloc Nut, M8-1.25                                | 3    |
| 1404     | 12-0035-08  | Flat Washer, M8                                   | 3    |
| 1405     | 12-0049-65  | Hex Head Cap Screw, M8-1.25 x 65mm                | 3    |
| 1406     | 31-0048     | Hydraulic Fitting, 90 deg 10 JIC – 8 SAE          | 2    |
| 1407     | 35-0050     | 3-Section Hydraulic Control Valve                 | 1    |
| 1408     | 53-0372     | El Seat Platform                                  | 1    |
| 1409     | 96-0354     | Uni-Frame Joy Stick Linkage                       | 2    |
| 1410     | 96-0355     | Uni-Frame Jaw Linkage                             | 1    |



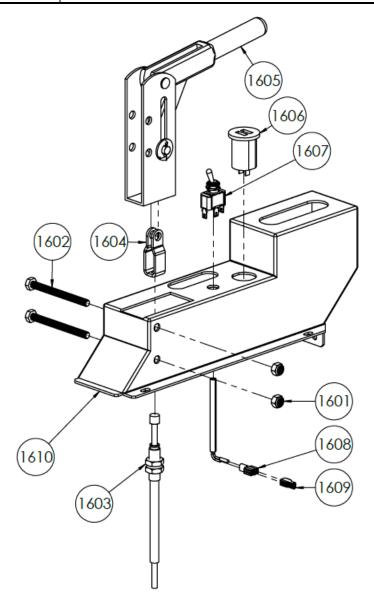
# Pivoting Jaw Assembly - Part # 96-0386

| Item No. | Part Number | Description                          | Qty. |
|----------|-------------|--------------------------------------|------|
| 1501     | 11-0041     | Lock Washer, 1/2"                    | 6    |
| 1502     | 11-0230     | USS Flat Washer, 1/2"                | 6    |
| 1503     | 11-0296     | Hex Head Cap Screw, 1/2"-13 x 1 1/2" | 6    |
| 1504     | 13-0035     | Quick Release Pin, 1/2" x 3"         | 1    |
| 1505     | 13-0386     | Pivoting Jaw Position Pin            | 1    |
| 1506     | 53-0407     | Uni-Frame Receiving Tube             | 1    |
| 1507     | 53-0411     | Uni-Frame Pivoting Jaw Weld Assembly | 1    |
| 1508     | 53-0428     | Uni-Frame Jaw Pivot Plate            | 2    |



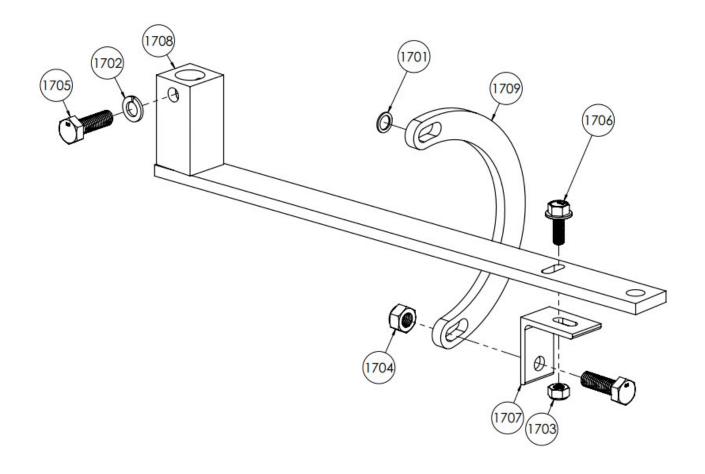
# **Uni-Frame Left Console Assembly - Part # 96-0370**

| Item No. | Part Number | Description                        | Qty. |
|----------|-------------|------------------------------------|------|
| 1601     | 12-0021-08  | Nyloc Nut, M8-1.25                 | 2    |
| 1602     | 12-0049-90  | Hex Head Cap Screw, M8-1.25 x 90mm | 2    |
| 1603     | 13-0023     | Brake Cable                        | 1    |
| 1604     | 13-0027     | Brake Cable Clevis                 | 1    |
| 1605     | 13-0050     | Brake Lever                        | 1    |
| 1606     | 23-0152     | USB Charging Port                  | 1    |
| 1607     | 24-0200     | Toggle Switch                      | 1    |
| 1608     | 25-0034     | Spade Connector, Female, 16-14ga   | 2    |
| 1609     | 25-0051     | Spade Connector, Male, 16-14ga     | 2    |
| 1610     | 53-0379     | Uni-Frame Left Console             | 1    |



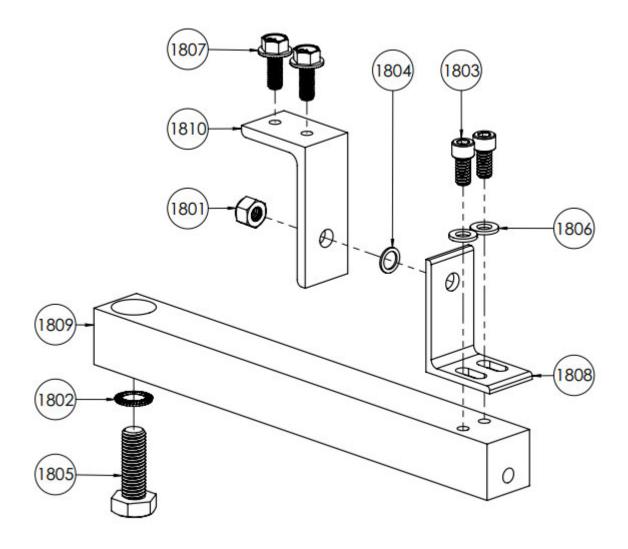
# **Uni-Frame Jaw Linkage - Part # 96-0355**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 1701     | 11-0307     | Shim Washer, 5/16" ID x 7/16" OD x 0.32" | 1    |
| 1702     | 12-0018-08  | Lock Washer, M8                          | 1    |
| 1703     | 12-0021-06  | Nyloc Nut, M6-1.0                        | 1    |
| 1704     | 12-0021-08  | Nyloc Nut, M8-1.25                       | 1    |
| 1705     | 12-0032-25  | Hex Head Cap Screw, M8-1.25 x 25mm       | 2    |
| 1706     | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 1    |
| 1707     | 51-0708     | Uni-Frame Jaw Linkage Connector Hinge    | 1    |
| 1708     | 53-0367     | Uni-Frame Jaw Linkage Base               | 1    |
| 1709     | 53-0390     | Uni-Frame Jaw Linkage Connector          | 1    |



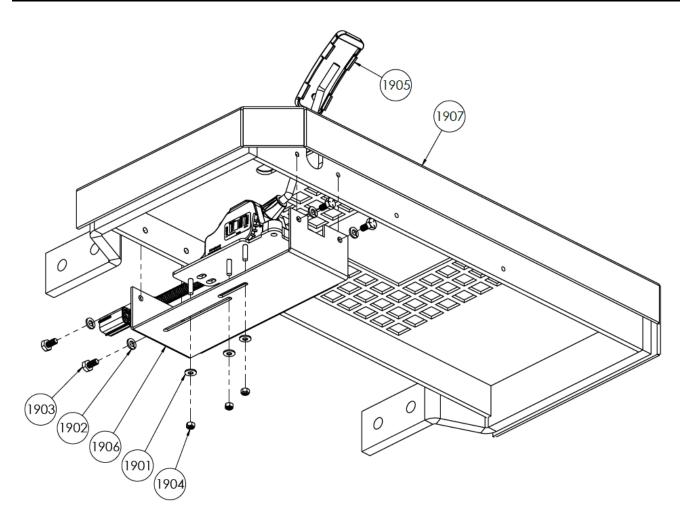
#### **Uni-Frame Joy Stick Linkage - Part # 96-0354**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 1801     | 11-0024     | Nyloc Nut, 1/4"-20                       | 1    |
| 1802     | 11-0162     | Belleville Washer, 3/8"                  | 1    |
| 1803     | 11-0164     | Socket Head Cap Screw, 1/4"-20 x 1/2"    | 2    |
| 1804     | 11-0307     | Shim Washer, 5/16" ID x 7/16" OD x 0.32" | 1    |
| 1805     | 12-0024     | Hex Head Cap Screw, M10-1.5 x 30mm       | 1    |
| 1806     | 12-0035-06  | Flat Washer, M6                          | 2    |
| 1807     | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 2    |
| 1808     | 51-0704     | Uni-Frame Joy Stick Linkage Hinge        | 1    |
| 1809     | 51-1037     | Uni-Frame Joy Stick Linkage Seat Bracket | 1    |
| 1810     | 53-0401     | Uni-Frame Joy Stick Linkage Base         | 1    |



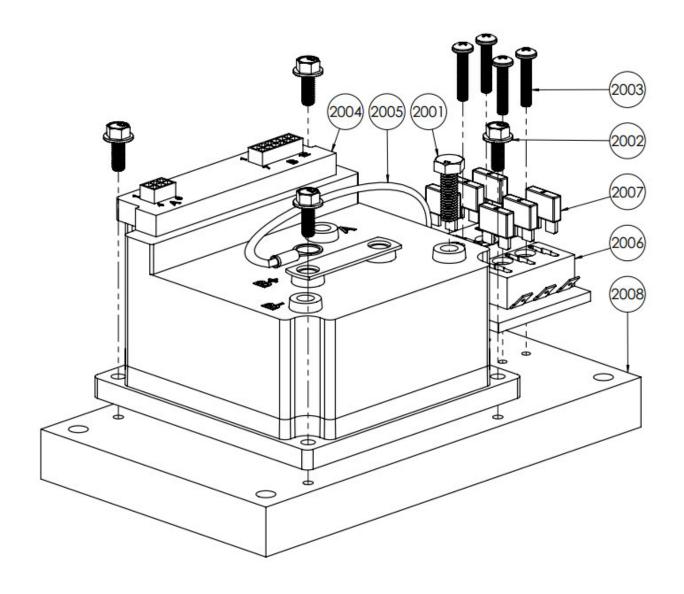
# El Foot Rest Assembly - Part # 96-0353

| Item No. | Part Number | Description                        | Qty. |
|----------|-------------|------------------------------------|------|
| 1901     | 11-0030     | SAE Flat Washer, #10               | 3    |
| 1902     | 11-0069     | Lock Washer, 1/4"                  | 4    |
| 1903     | 11-0092     | Hex Head Cap Screw, 1/4"-20 x 1/2" | 4    |
| 1904     | 12-0021-05  | Nyloc Nut, M5-0.8                  | 3    |
| 1905     | 23-0125     | Foot Pedal                         | 1    |
| 1906     | 52-0264     | Foot Pedal Bracket                 | 1    |
| 1907     | 53-0366     | Foot Rest Support Frame            | 1    |



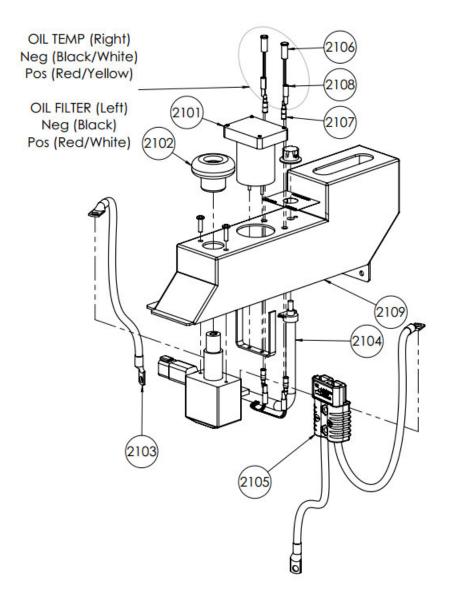
#### **Electric Control Module - Part # 96-0345**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 2001     | 12-0032-25  | Hex Head Cap Screw, M8-1.25 x 25mm       | 1    |
| 2002     | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm | 4    |
| 2003     | 12-0047-25  | Pan Head Phillips Screw, M5-0.8 x 25mm   | 4    |
| 2004     | 23-0032     | Power Control Module                     | 1    |
| 2005     | 24-0166     | Wire Assembly, Fuse Block to Power Pack  | 1    |
| 2006     | 25-0032     | Fuse Block, 6-Gang ATO                   | 1    |
| 2007     | 25-0053     | Blade Fuse, 5A                           | 6    |
| 2008     | 51-1022     | Heat Sink Plate                          | 1    |



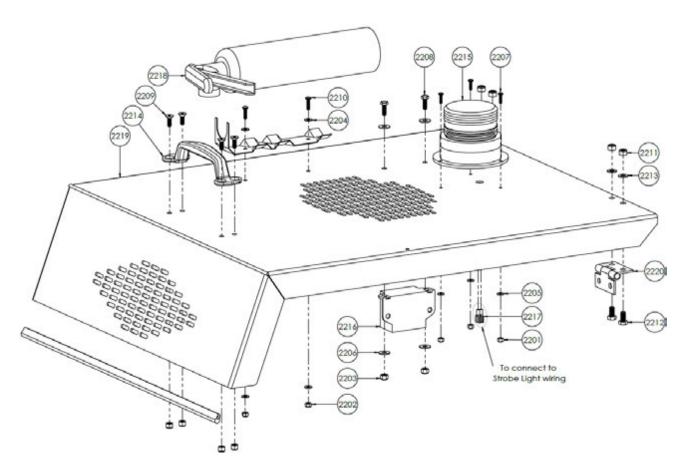
#### El Right Console Assembly – Part # 96-0344

| Item No. | Part Number | Description                               | Qty. |
|----------|-------------|---|------|
| 2101     | 23-0030-1   | S.T.D. Display                            | 1    |
| 2102     | 23-0031     | Manual Disconnect Switch                  | 1    |
| 2103     | 24-0137     | Wire Assembly, Power Switch to Power Pack | 1    |
| 2104     | 24-0164-P   | Uni-Frame Right Console Wire Harness      | 1    |
| 2105     | 24-0187     | Wire Assembly, Blue Plug Power Pigtail    | 1    |
| 2106     | 25-0002     | Red Panel Light                           | 2    |
| 2107     | 25-0135     | Bullet Connector, Male, 22-18ga           | 2    |
| 2108     | 25-0136     | Bullet Connector, Female, 22-18ga         | 2    |
| 2109     | 53-0378     | Uni-Frame Right Console                   | 1    |



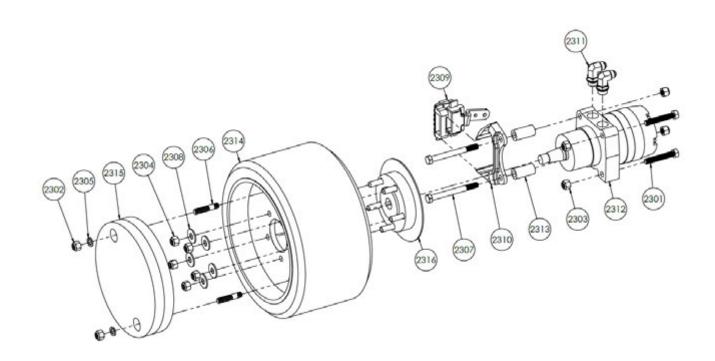
#### El Top Cover Assembly - Part # 96-0343

| Item No. | Part Number | Description                            | Qty. |
|----------|-------------|--|------|
| 2201     | 11-0022     | Nyloc Nut, #8-32                       | 3    |
| 2202     | 11-0023     | Nyloc Nut, #10-24                      | 2    |
| 2203     | 11-0024     | Nyloc Nut, 1/4"-20                     | 6    |
| 2204     | 11-0030     | SAE Flat Washer, #10                   | 4    |
| 2205     | 11-0031     | SAE Flat Washer, #8                    | 3    |
| 2206     | 11-0033     | USS Flat Washer, 1/4"                  | 4    |
| 2207     | 11-0102     | Pan Head Phillips Screw, #8-32 x 5/8"  | 3    |
| 2208     | 11-0133     | Hex Head Cap Screw, 1/4"-20 x 3/4"     | 2    |
| 2209     | 11-0140     | Flat Head Socket Screw, 1/4"-20 x 3/4" | 4    |
| 2210     | 11-0250-12  | Pan Head Phillips Screw, #10-24 x 3/4" | 2    |
| 2211     | 12-0021-08  | Nyloc Nut, M8-1.25                     | 4    |
| 2212     | 12-0032-16  | Hex Head Cap Screw, M8-1.25 x 16mm     | 4    |
| 2213     | 12-0035-08  | Flat Washer, M8                        | 4    |
| 2214     | 13-0005     | Chrome Handle                          | 1    |
| 2215     | 22-0006     | Strobe Light                           | 1    |
| 2216     | 22-0073     | Backup Alarm, 87 dB                    | 1    |
| 2217     | 25-0034     | Spade Connector, Female, 16-14ga       | 2    |
| 2218     | 42-0001     | Fire Extinguisher                      | 1    |
| 2219     | 53-0377     | El Top Cover                           | 1    |
| 2220     | 53-0402     | Uni-Frame Hood Hinge                   | 2    |



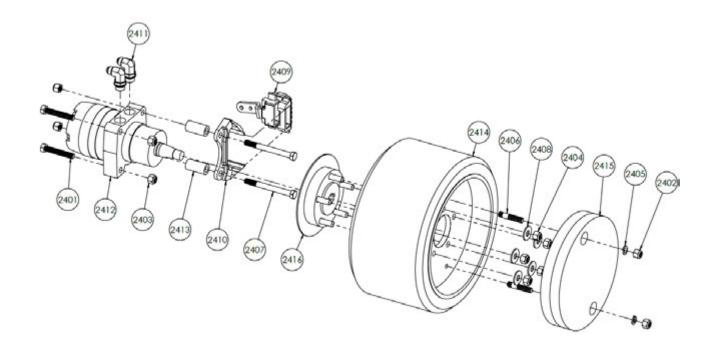
# **El Right Wheel Assembly**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 2301     | 11-0013     | Hex Head Cap Screw, 1/2"-13 x 3"         | 2    |
| 2302     | 11-0019     | Hex Nut, 1/2"-13                         | 2    |
| 2303     | 11-0028     | Nyloc Nut, 1/2"-13                       | 4    |
| 2304     | 11-0029     | Nyloc Nut, 1/2"-20                       | 5    |
| 2305     | 11-0041     | Lock Washer, 1/2"                        | 2    |
| 2306     | 11-0187     | Double Ended Stud, 1/2"-13 x 2 1/2"      | 2    |
| 2307     | 11-0228     | Hex Head Cap Screw, 1/2"-13 x 5"         | 2    |
| 2308     | 11-0230     | USS Flat Washer, 1/2"                    | 5    |
| 2309     | 13-0021     | Right Brake Caliper                      | 1    |
| 2310     | 13-0022     | Brake Mounting Bracket                   | 1    |
| 2311     | 31-0053     | Hydraulic Fitting, 90 deg 8 JIC – 10 SAE | 2    |
| 2312     | 33-0003     | Right Wheel Motor                        | 1    |
| 2313     | 51-0491     | Brake Spacer Standoff                    | 2    |
| 2314     | 53-0208     | Wheel and Tire Assembly                  | 1    |
| 2315     | 53-0212     | Wheel Weight (45 lbs)                    | 1    |
| 2316     | 70-0016     | Wheel Hub with Brake Disc                | 1    |



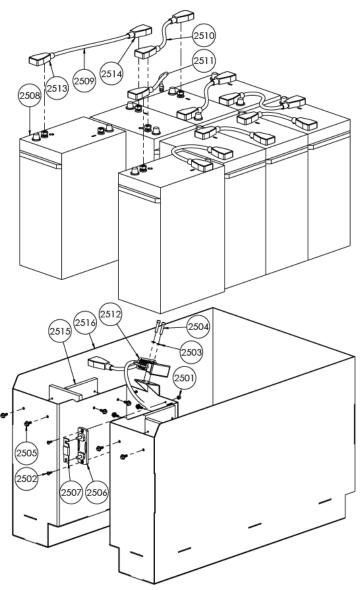
# **El Left Wheel Assembly**

| Item No. | Part Number | Description                              | Qty. |
|----------|-------------|--|------|
| 2401     | 11-0013     | Hex Head Cap Screw, 1/2"-13 x 3"         | 2    |
| 2402     | 11-0019     | Hex Nut, 1/2"-13                         | 2    |
| 2403     | 11-0028     | Nyloc Nut, 1/2"-13                       | 4    |
| 2404     | 11-0029     | Nyloc Nut, 1/2"-20                       | 5    |
| 2405     | 11-0041     | Lock Washer, 1/2"                        | 2    |
| 2406     | 11-0187     | Double Ended Stud, 1/2"-13 x 2 1/2"      | 2    |
| 2407     | 11-0228     | Hex Head Cap Screw, 1/2"-13 x 5"         | 2    |
| 2408     | 11-0230     | USS Flat Washer, 1/2"                    | 5    |
| 2409     | 13-0020     | Left Brake Caliper                       | 1    |
| 2410     | 13-0022     | Brake Mounting Bracket                   | 1    |
| 2411     | 31-0053     | Hydraulic Fitting, 90 deg 8 JIC – 10 SAE | 2    |
| 2412     | 33-0002     | Left Wheel Motor                         | 1    |
| 2413     | 51-0491     | Brake Spacer Standoff                    | 2    |
| 2414     | 53-0208     | Wheel and Tire Assembly                  | 1    |
| 2415     | 53-0212     | Wheel Weight (45 lbs)                    | 1    |
| 2416     | 70-0016     | Wheel Hub with Brake Disc                | 1    |



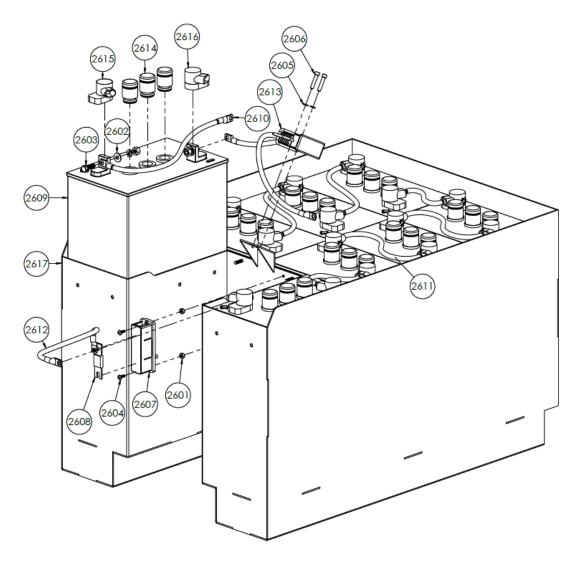
# El Battery Pack (AGM) - Part # 71-0023

| Item No. | Part Number | Description                                 | Qty. |
|----------|-------------|---|------|
| 2501     | 11-0023     | Nyloc Nut, #10-24                           | 2    |
| 2502     | 11-0250-08  | Pan Head Phillips Screw, #10-24 x 1/2"      | 2    |
| 2503     | 12-0018-06  | Lock Washer, M6                             | 2    |
| 2504     | 12-0020     | Socket Head Cap Screw, M6-1.0 x 30mm        | 2    |
| 2505     | 12-0043-16  | Serrated Flange Cap Screw, M6-1.0 x 16mm    | 8    |
| 2506     | 23-0009     | Fuse Holder                                 | 1    |
| 2507     | 23-0010     | Fuse, 250A                                  | 1    |
| 2508     | 23-0141     | AGM Battery, 6V                             | 8    |
| 2509     | 24-0032     | Battery Pack Wire Assembly, 13.5"           | 1    |
| 2510     | 24-0033     | Battery Pack Wire Assembly, 11"             | 6    |
| 2511     | 24-0140     | Wire Assembly, Pos. Battery to Fuse         | 1    |
| 2512     | 24-0143     | Wire Assembly, Blue Plug Pigtail to Battery | 1    |
| 2513     | 25-0103     | Battery Boot, Red                           | 8    |
| 2514     | 25-0104     | Battery Boot, Black                         | 8    |
| 2515     | 51-1079     | AGM Battery Shim                            | 4    |
| 2516     | 53-0241     | Removable Battery Tray                      | 1    |



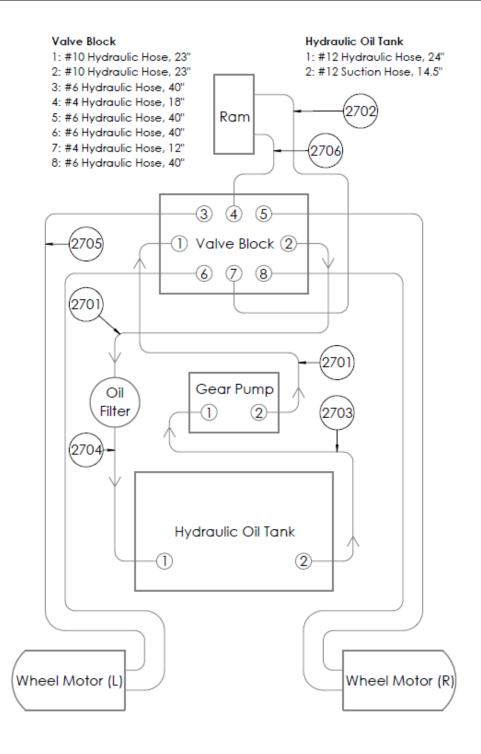
# El Battery Pack (Non-AGM) - Part # 71-0014

| Item No. | Part Number | Description                                 | Qty. |
|----------|-------------|---|------|
| 2601     | 11-0023     | Nyloc Nut, #10-24                           | 2    |
| 2602     | 11-0033     | USS Flat Washer, 1/4"                       | 16   |
| 2603     | 11-0132     | Hex Head Cap Screw, 5/16"-18 x 1"           | 16   |
| 2604     | 11-0250-08  | Pan Head Phillips Screw, #10-24 x 1/2"      | 2    |
| 2605     | 12-0018-06  | Lock Washer, M6                             | 2    |
| 2606     | 12-0020     | Socket Head Cap Screw, M6-1.0 x 30mm        | 2    |
| 2607     | 23-0009     | Fuse Holder                                 | 1    |
| 2608     | 23-0010     | Fuse, 250A                                  | 1    |
| 2609     | 23-0013     | Battery, 6V                                 | 8    |
| 2610     | 24-0032     | Battery Pack Wire Assembly, 13.5"           | 1    |
| 2611     | 24-0033     | Battery Pack Wire Assembly, 11"             | 6    |
| 2612     | 24-0140     | Wire Assembly, Pos. Battery to Fuse         | 1    |
| 2613     | 24-0143     | Wire Assembly, Blue Plug Pigtail to Battery | 1    |
| 2614     | 25-0010     | Battery Flip Cap                            | 24   |
| 2615     | 25-0156     | Battery Lug Cap, Red                        | 8    |
| 2616     | 25-0157     | Battery Lug Cap, Black                      | 8    |
| 2617     | 53-0241     | Removable Battery Tray                      | 1    |



#### **T3000 El Hydraulics**

| Item No. | Part Number | Description                                    | Qty. |
|----------|-------------|--|------|
| 2701     | 31-0005     | Hose Assembly, EI/XME, Pump-Valve/Valve-Filter | 2    |
| 2702     | 31-0018     | Hose Assembly, EI/XME, Valve to Ram Top        | 1    |
| 2703     | 31-0237     | Hose Assembly, EI/XME/PRO, Tank Suction        | 1    |
| 2704     | 31-0250     | Hose Assembly, EI, Filter to Tank Return       | 1    |
| 2705     | 31-0253     | Hose Assembly, EI, Valve to Wheel (Universal)  | 4    |
| 2706     | 31-0254     | Hose Assembly, EI, Valve to Ram Bottom         | 1    |



#### 24. Warranty

Innovatech warrants to the original buyer, for a period of one (1) year or 300 operating hours (whichever comes first) from the date of delivery, that the Equipment is free from defects in materials and workmanship and that the Equipment conforms to the operating specifications supplied with the Equipment. The foregoing warranty is subject to proper operation and maintenance of the Equipment in accordance with the operating instruction and manual supplied to Buyer with the Equipment.

Warranty claims shall be made by Buyer in writing. Innovatech's sole obligation under the foregoing warranty, where it appears to Innovatech's satisfaction that the defect was present at the time of delivery, is at Innovatech's sole option, to repair, replace or correct any such defect.

EXCEPT AS STATED ABOVE THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED. INNOVATECH EXPRESSLY DISCLAIMS ANY WARRANTY, EXPRESS OR IMPLIED, THAT EQUIPMENT SOLD HERE UNDER IS OF MERCHANTABLE QUALITY OR THAT IT CAN BE USED FOR OR IS FIT FOR ANY PARTICULAR PURPOSE. ANY DESCRIPTION OF THE EQUIPMENT IN THIS AGREEMENT OR IN MANUALS, BROCHURES OR LITERATURE AND ANY USE OF ANY SAMPLE, MODEL OR PROTOTYPE OF THE EQUIPMENT IS FOR THE SOLE PURPOSE OF IDENTIFYING OR ILLUSTRATING THE EQUIPMENT, IS NOT PART OF THE BASIS OF THE AGREEMENT BETWEEN INNOVATECH AND BUYER, AND DOES NOT CONSTITUTE A WARRANTY THAT THE EQUIPMENT, AS SUPPLIED, WILL CONFORM TO ANY DESCRIPTION OR TO ANY SAMPLE, MODEL OR PROTOTYPE. INNOVATECH DISCLAIMS ANY WARRANTY RESPECTING OPERATING CAPACITY OR CAPABILITY OF THE EQUIPMENT OR THE ABILITY OF THE EQUIPMENT TO MEET ANY PARTICULAR NEEDS OF THE BUYER. THE EQUIPMENT IS POWERED TO OPERATE AS STATED IN THE OPERATING SPECIFICATIONS SUPPLIED WITH THE EQUIPMENT BUT IT IS UNDERSTOOD AND AGREED TO BUY BUYER THAT ACTUAL OPERATING CAPABILITIES VARY UNDER DIFFERENT OPERATING CONDITIONS FOR WHICH INNOVATECH CAN ASSUME NO RESPONSIBILITY.

BUYER'S EXCLUSIVE REMEDY FOR CLAIMS ARISING UNDER THIS AGREEMENT SHALL BE FOR REPAIR OR, AT INNOVATECH'S SOLE OPTION, REPLACEMENT OF ANY ITEM OF DEFECTIVE EQUIPMENT. INNOVATECH'S LIABILITY FOR ANY LOSSES OR DAMAGE, WHETHER ON ACCOUNT OF NEGLIGENCE, BREACH, AND WARRANTY OR OTHERWISE SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PARTICULAR ITEM OF EQUIPMENT WITH RESPECT TO WHICH SUCH LOSSES OR DAMAGE OCCURRED.

IN NO EVENT WILL INNOVATECH BE LIABLE FOR ANY DAMAGES CAUSED BY BUYER'S FAILURE TO PERFORM BUYER'S RESPONSIBILITIES, OR FOR ANY LOST PROFITS, LOST PRODUCTION, LOSS OF ANTICIPATED PROFITS OF OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF INNOVATECH HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IN NO EVENT WILL INNOVATECH BE LIABLE FOR ANY DAMAGES RESULTING FROM ANY CLAIM AGAINST BUYER BY ANY OTHER PARTY.

#### FACTORY SERVICE

A warranty will not be valid unless a written claim authorization comes with returned parts. Innovatech will not provide for any shipping costs for items returned for repair. To obtain warranty repairs, buyer must prepay shipment and return all warranty parts to Innovatech. Damage occurring during shipment is deemed the responsibility of the carrier and claims should be made directly with such carrier.

It will be the customer's responsibility to pay for any non-warranty replacement parts plus the current hourly labor rates for any work done on any machine or part. Service is available upon request; call Innovatech for current labor rates.

























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