

## SAFETY AND OPERATING PROCEDURES FOR THE RENOVATING LEVELER WITH ELECTRIC ACTUATOR ON CUTTING BED

To achieve optimum performance from your Advance Track Setting Systems (ATS) Renovating Leveler and to ensure your personal safety and the safety of others, please follow the recommended safety and operating procedures.

### **SAFETY FIRST!**

- **Always conduct a pre-use hazard assessment and ensure appropriate controls are considered before grooming.**
- **Always be aware and respectful of all trail users while grooming and that you may not be able to control their behaviors. Expect the unexpected.**
- **Do not allow riders on this implement while in tow.**
- This equipment is intended for grooming snow covered surfaces only.
- Be sure the surface to be groomed is free from obstacles that may interfere with the various grooming procedures such as rocks, trees trunks, tree stumps, protruding pipes, culverts, posts or any steel markers.
- Use proper body mechanics when loading, unloading or maneuvering any ATS implement.
- Always get assistance to load or unload the Renovating Leveler to/from truck or trailer.
- Reduce risk of strain or slipping when pulling on the Renovating Leveler loaded with weights manually by using two people or removing the weights or snow first.
- Do not place weights on the Renovating Leveler in a manner where one or more could fall off.
- It is recommended to use weights with a one and one quarter inch hole in them where they can easily slide over the weight pin.
- Be aware of pinch points when adding or removing weights.
- Always remove any weights before attempting to lift onto its side for storage.
- Use only the supplied flat plate or ball style hitch connector when attaching the Renovating Leveler to your towing vehicle.

### **ASSEMBLING THE RENOVATING LEVELER AFTER SHIPMENT**

- The Renovating Leveler will require reassembly after receipt and unpacking. The procedure is straight forward.
- Remove the tie down straps and carefully lift the Renovating Leveler off of the pallet.
  - It is recommended to use two people for this little operation.
  - The Tow Bar is located under the Renovating Leveler.
- Install the Tow Bar with supplied lynch pins. Ensure washers are installed.



## ELECTICAL CONNECTION FOR THE ELECTRONIC ACTUATOR

- This Renovating Leveler was ordered based on the towing machine having electrical control switch for activating the extension and retraction of the actuator. Controls will vary



- The Red and Black conductor cable goes to the Renovator actuator.



- Follow the attached 12V DC linear actuator wiring diagram in the instruction manual. **Failure to do so may cause damage to the actuator and void the warranty.**
  - It is recommended to solder all connections
  - It is recommended to heat shrink connections
  - It is recommended the system use a 20A fusible link.
- Some tow machines may have a spare 12V DC terminal/fuse available while other machines will require connections directly to the 12V battery.
- Ensure the conductor cable has enough length to allow for turning.
- Ensure the conductor cable is secured to prevent being caught on moving parts or dragged on the ground.
- Use tie wraps to secure cable to Tow Bar.
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## **OPERATING THE RENOVATING LEVELER**

*This Renovating Leveler has an Electronically Actuated Renovating Cutting Bed*

*There are critical operating requirements/procedures that must be followed to prevent damaged to the Renovating Leveler and get satisfactory grooming and track setting results.*

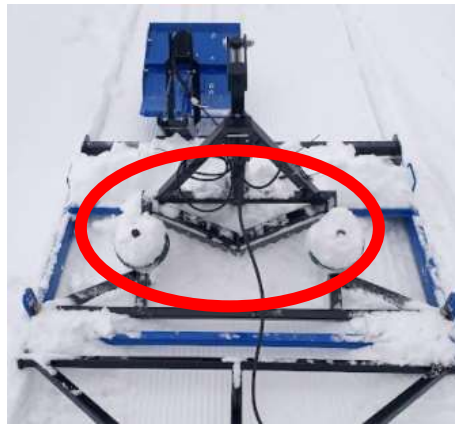
- **ALWAYS LIFT THE CUTTING BED UP BEFORE MAKING ANY SHARP TURNS**
- **ALWAYS LIFT THE CUTTING BED UP BEFORE PROCEEDING THROUGH AN DEEP DITCHES**
- **ALWAYS LIFT THE CUTTING BED UP BEFORE BACKING UP**
- **ALWAYS LIFT THE CUTTING BED UP FULLY BEFORE CROSSING GRAVELLED, ASPHALT, CONCRETE ROADS OR SIDEWALKS**
- **ALWAYS PROTECT THE ELECTONIC ACTUATOR FROM BEING STRUCK, BENT OR SCRATCHED.**



- **DO NOT OPERATE THE RENOVATING LEVELER IN TEMPERATURES LOWER THAN -26 DEG.C AS DAMAGE TO LINEAR ACTUATOR MAY OCCUR**
- **ALWAYS DISCONNECT THE ELECTRIAL CONDUCTOR TO THE RENOVATING LEVELER WHEN UNHOOKING THE FROM THE TOWING MACHINE.**
- **THE RENOVATING LEVELER MUST HAVE SUPPLEMENTARY WEIGHTS ADDED TO BALANCE THE UNIT AND APPLY DOWNWARD FORCE ON THE CUTTING BED**

## RENOVATING AND LEVELING

- Hook the Renovating Leveler up to the tow machine.
- Hook up the electrical conductor.
- The Renovating Leveler is designed to pack new snow or renovate the existing base by either grinding new snow into the base to add air (decrease density) or remove air (increase density).
- **The rear of the cutting bed is lifted with the electric actuator. The front of the cutting bed pivots on the mounting pins and can be adjusted up or down by changing the pin locations.**
- When packing, lower the cutting bed to “mechanically age” new snow while towing. If there is too much resistance, raise the cutting bed to a height where towing is possible.
- Under very deep snow conditions you will have to prepack some of the new snow with just the towing vehicle.
- To mix new snow into the base or tear up an older base to renovate, lower the cutting bed as far as needed using both front mounting pins and electric actuator. Multiple passes maybe required and will depend on your desired results.
- For optimal leveling and renovating results when working hard packed or icy snow, the Renovating Leveler should have 100-200 lbs of weight added on the weight pins. Allowing snow to accumulate on top of pan adds weight as well.



- Maximum recommended towing speed for packing and leveling is 5 to 10 kpm. For best results, the slower the better.



## ***MAINTENANCE AND STORAGE***

- Do not use sharp tools to remove any build up of ice on the Renovating Leveler. Gently tap ice with a soft hammer or piece of wood.
- Remove snow from the pan before storing the Renovating Leveler on it's side or off the snow.
- Place wooden blocks under runners to prevent sticking to snow.
- Store in a dry area to help prevent rusting over time if possible.
- It is recommended that the implement be tarped for long term off-season storage.
- Ensure the polyurethane comb are protected from ultraviolet rays during long term storage.
- Check the wiring connections regularly
- Ensure tow bar and cutting bed retaining pins are in place and secured with lynch pins.
- Lubricate the pivot points on the Renovating Leveler monthly during grooming season with a moly spray lubricant or lubricating oil.