



Potentiometer Thrust Plate Kit (A50421) Installation & Operator's Instruction Manual

Thank You

The employees of Agile Manufacturing would like to thank you for your recent ProTerra® purchase. If a problem should arise, your ProTerra® distributor can supply the necessary information to help you.



General

The ProTerra® Thrust Plate Kit is used to hold the Potentiometer Gear in place, prolonging the life of the Potentiometer Gear on the Proterra® Winch. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury.

This manual is designed to provide comprehensive planning, installation, safety, operation, and parts listing information.

Safety Information

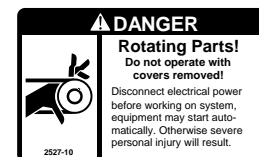
Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices. Keep safety signs in good condition. Replace missing or damaged safety signs.

DANGER: Electrical Hazard

Disconnect electrical power before inspecting or servicing equipment. Ground all electrical equipment for safety. All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes. Ground all non-current carrying metal parts to guard against electrical shock. With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.

DANGER: Rotating Parts

Severe personal injury will result, if the electrical power is not disconnected, prior to servicing the equipment. Do Not operate with cover removed.



Potentiometer Thrust Plate Kit Installation

Run the Winch to move the Bronze Nut all the way to the motor end, with the outer and inner shut-off Set Collars together at the end of the operating range (See Figure 1). If the Winch has been connected to an inlet cable system, and is set to stop at the inner Set Collar somewhere else on the Switch Rod, disconnect the Winch from the inlet system cable to allow the Set Collars to be located together. This will allow the Winch to be fully synchronized with the Potentiometer Assembly. Remove the four 1/4-20 Nuts (Item 3, Figure 1), and remove the existing Lower Cover Panel from the Winch Assembly. Remove the two Self-Tapping Sheet Metal Screws (Item 7) that hold the Potentiometer Assembly (Item 8) in place. **Do not** discard the Screws; they will be used to later to install the Potentiometer with the new Thrust plate.

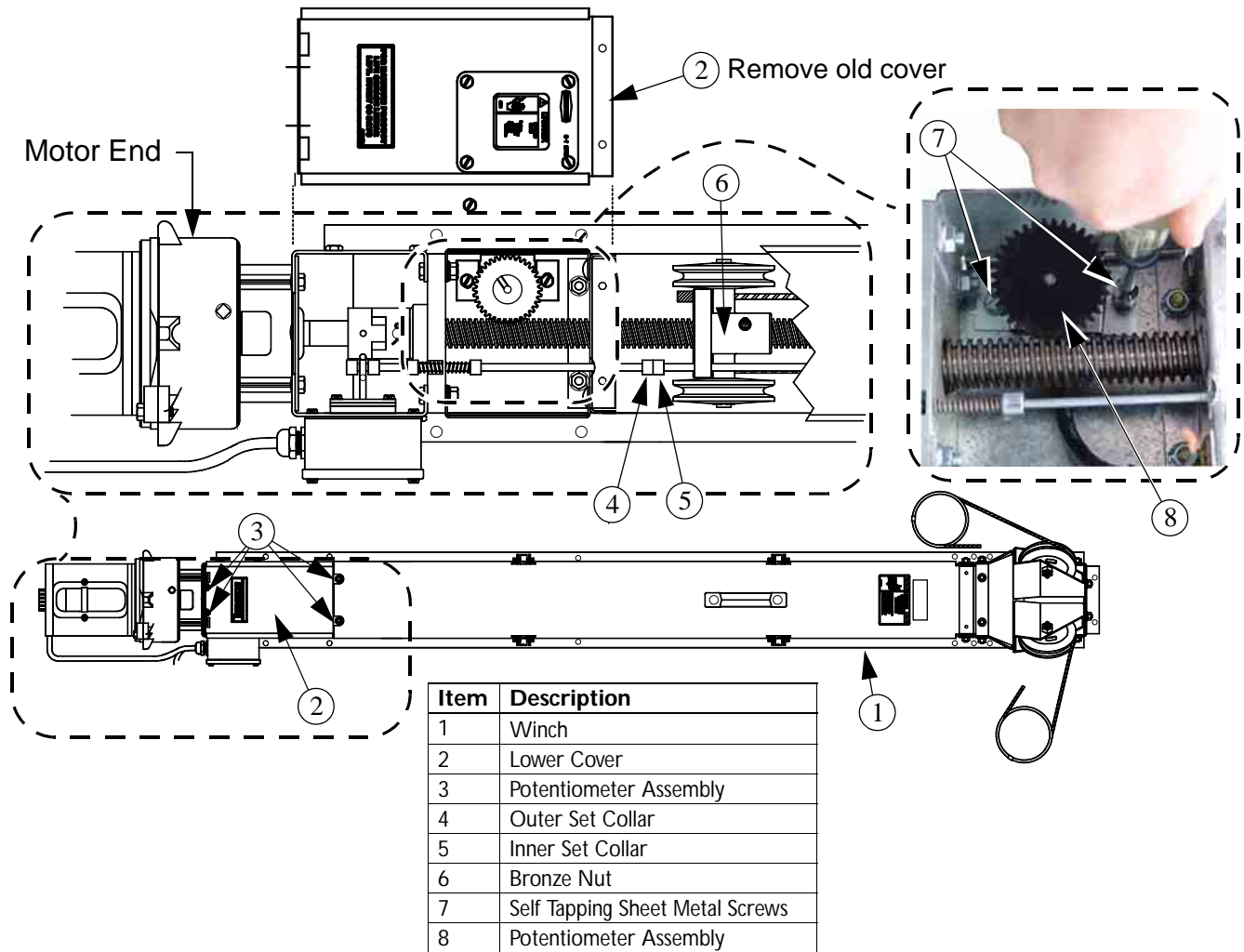


Figure 1. Removing the Cover and Potentiometer / Collar Position

With the cord pointed down as shown below, wind the Potentiometer Gear **CLOCKWISE** until it stops. Now turn the gear **COUNTER-CLOCKWISE** for half a turn. The Potentiometer Assembly is now reset for the full stroke range of the Winch.

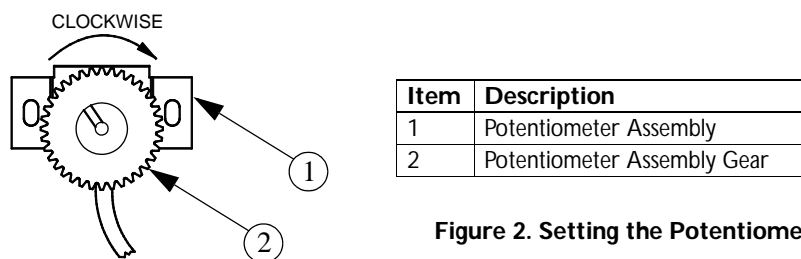


Figure 2. Setting the Potentiometer

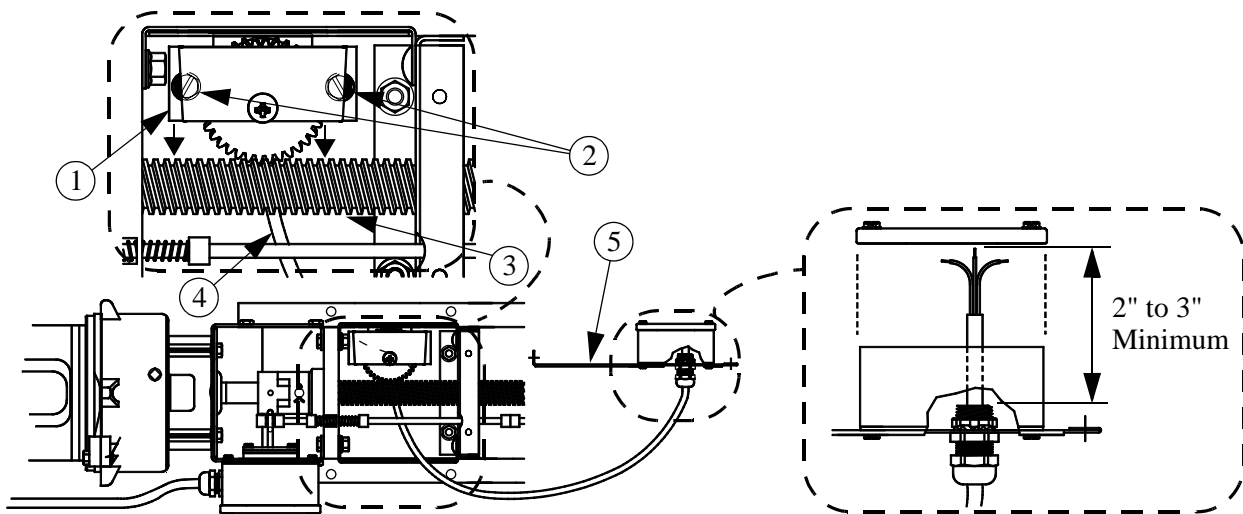
Insert the 1/4-20 Screw (Item 1) (incl. in parts pkg.) into the Thrust Bracket (Item 2) and attach it with the 1/4-20 Lock Nut (Item 3) (incl. in parts pkg.) as shown. Place the Thrust Bracket down onto the Potentiometer Assembly (Item 4), making sure that the 1/4-20 Screw is inserted into the hole in the Potentiometer Gear (Item 5).



| Item | Description |
|------|---|
| 1 | 1/4-20 Screw (Included in Parts Package) |
| 2 | Thrust Bracket |
| 3 | 1/4-20 Lock Nut (Included in Parts Package) |
| 4 | Potentiometer Assembly |
| 5 | Potentiometer Gear |

Figure 3. Assembling the Thrust Bracket

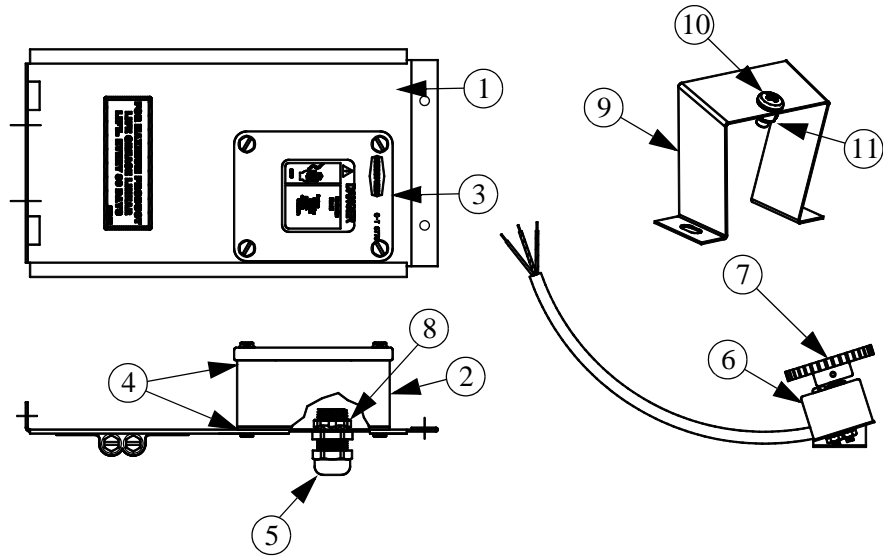
Set the Potentiometer Assembly, with the Thrust Bracket in place, over the same holes that you removed it from earlier (See Figure 4). Fasten the Potentiometer assembly and Thrust Bracket (Item 1) to the Base with the Sheet Metal Screws (Item 2) that you removed earlier, but do not tighten them at this time. Slide the Potentiometer Assembly toward the Threaded Drive Rod (Item 3) until the teeth of the Gear make full contact with the Drive Rod threads. Tighten the Screws in the Base. Route the cord (Item 4) under the threaded Drive Rod and the Switch Actuator Rod and on through the black fitting on the Cover Assembly (Item 5) that you removed earlier. Allow 2" to 3" of cord through the fitting for easy wire connection inside the white plastic connection box. Tighten the black fitting to the cord and re-attach the Cover Assembly to the Winch



| Item | Description |
|------|---|
| 1 | Potentiometer Assembly and Thrust Bracket |
| 2 | Sheet Metal Screws (removed earlier) |
| 3 | Threaded Drive Rod |
| 4 | Cord (routed under Threaded Rod) |
| 5 | Cover Assembly |

Figure 4. Positioning and Fastening Potentiometer Assembly

Parts List



| Item | Description | Part Number |
|------|--|-------------|
| 1 | Lower Winch Cover | 47835-2 |
| 2 | Terminal Box | 36649 |
| 3 | Switch Box Cover | 6776 |
| 4 | Gasket | 6777 |
| 5 | Liquid Tight Connector 1/2" | 23779 |
| 6 | Potentiometer Assembly | 48182 |
| 7 | Potentiometer Gear (16 Pitch 36 Tooth) | 41825 |
| 8 | Conduit Lock Nut with Seal | 39-20512 |
| 9 | Potentiometer Thrust Bracket | 50420 |
| 10 | 1/4-20 x .50 Philips Screw | 4424-1 |
| 11 | 1/4-20 HX Lock Nut | 8159 |

Figure 5. Parts List

Potentiometer Wiring and Mounting

The correct wiring of the Potentiometer leads for the Control signal depends on the mounting and application of the Winch.

Figure 6 shows how the unit can be used either to close the attachment by retracting cable into the unit or by extending cable out of the unit. The proper lead connections are shown in **Figure 6**.

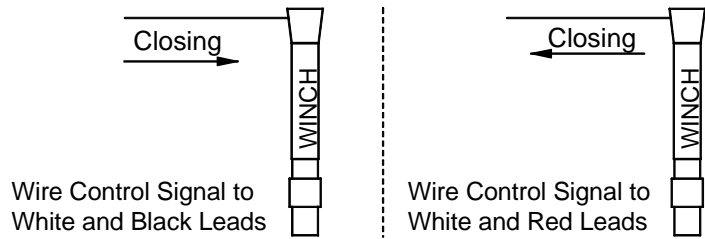


Figure 6. Wiring of Leads

Potentiometer Connection and Operation

Figure 7 shows the schematic of the Potentiometer and which color lines are associated with rotation, direction, and position of the Bronze Nut.

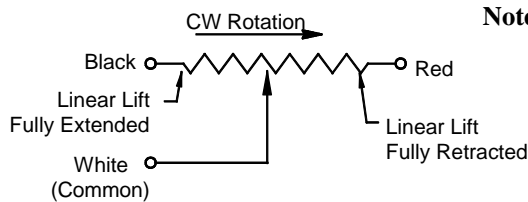


Figure 7. Connection and Operation

- Notes:**
- 1) Resistance across White & Red is maximum when fully extended.
 - 2) Resistance across White and Black is maximum when fully retracted.
 - 3) Potentiometer rotation is defined as the turning direction when viewed from the shaft side of the Potentiometer.
 - 4) Intelligro® Controllers read increasing resistance=curtain closing.
 - 5) Potentiometer is a 10-turn device that reads from 0 to 10 KOHM.

Warranty

Agile Manufacturing warrants each new ProTerra® product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void.**
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer.**
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The **Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. **“Consequential” or “Special Damages”** as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

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Revisions to this Manual

| Page No. | Description of Change |
|----------|-----------------------|
| | New Manual |

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