RANGE SYSTEMS™

Model: Pro-Touch Gen 1
Electric Target Retrieval System
Installation Manual

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Introduction

The Pro-Touch System is designed to deliver reliable and efficient operation with a straightforward installation process. This manual provides all necessary steps, safety notes, and component descriptions to ensure proper setup.
The drive unit is the key component of the Pro-Touch Target Retrieval System. The components of the drive unit are the power supply, DC gear motor, and touchscreen. After a target backer has been fixed on the target clamp, the user actuates the touchscreen button to send the target carrier to the desired distance.

Safety Information

Only qualified personnel should install the system, and power must be disconnected before any servicing or adjustment of mechanical components. Installers should use proper personal protective equipment (PPE) throughout the process, and all mounting surfaces must be verified to support the required loads to ensure a safe and reliable installation.

Tools & Materials Required

Installation requires a 1 1/8" drive (included) along with standard hand tools such as wrenches, screwdrivers, a socket set, and a power drill. A CAT6 cable is provided for system connectivity, and a ladder or lift may be necessary depending on the mounting height. Ensure access to a suitable power source, such as a 120/240 VAC outlet, to complete the setup.

Component Overview

- Motor Assembly
- Track Assembly
- Carrier & Tensioner Assembly
- Cable & Tensioner Spring
- Touchscreen Interface
- Drive Unit
- Cowling Assembly

Drive Unit

The drive unit consists of a fabricated structure on which is mounted a 24 DC reversible electric motor, power supply that converts the 110-240 VAC 50-60 Hz power to 24 VDCA robust plastic cover is provided with the drive unit to protect it from dust and debris. The drive unit is mounted near the firing line behind the shooter position and is supported by the ceiling or by the shooting partitions. The drive unit is mechanically attached to the track assembly.

Track System

The track system consists of 11-gauge zinc plated steel structural members assembled in 5-foot increments for easy installation. The track sections are overlapped and bolted together to provide a rigid and straight track assembly. The track system is suspended from the ceiling with easy to install track hangers. The track system is provided with end stop/bumpers at each extremity to provide a

positive stopping point to the carrier as well to absorb the impact energy in case the carrier is not stopped when reaching either end of the track.

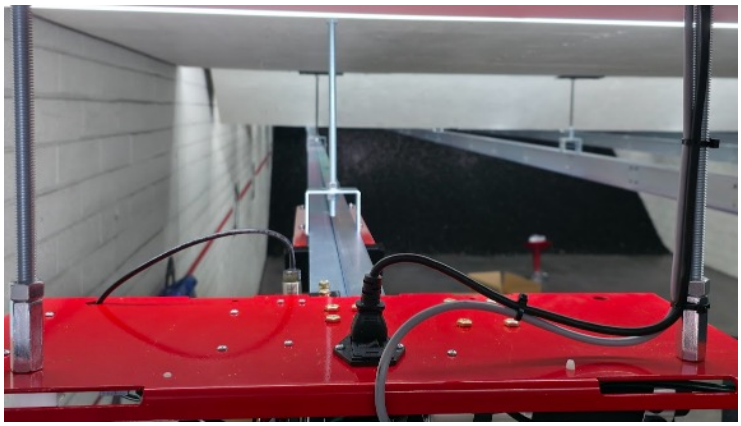
Target Retrieval System

Target carrier displacement speed is approximately 11 feet per second. Ramp up and ramp down are controlled by the initial set-up. The release of the bi-directional switch at the desired position begins a deceleration. To bring the carrier at a desired shooting distance, jog the carrier using the switch, or press one of your presets that were saved.

Warning End of Track: Use great caution when setting the maximum track length. A track length setting longer than the track length will result in the system attempting to travel beyond the end stops. This may damage system components. Do not crash the carrier at either end of the track, rather stop the carrier in proximity of the end of track and gently jog the carrier to the proper position.

Product Setup

The track system requires most of the installation work. The drive unit is delivered pre-assembled from Range Systems factory. The target carrier is delivered pre-assembled from our factory in MN. The track system is delivered unassembled, It requires site assembly and is suspended from the ceiling or a structure on site with the factory provided hardware.



NOTE: Please do not hesitate to call Range Systems for help during your installation.

Step 1. Hanging The Drive Unit

Unpack one lane at a time—each box will be numbered to match its corresponding lane. Verify that all components are included, and contact us immediately if you believe anything is missing. Begin by mounting the drive motor, securing the drive unit in its designated overhead or ceiling-mounted location. Ensure all mounting hardware is tight and properly aligned. The unit may be mounted using Unistrut or directly to a cross-member bar. Before performing the final bolt and nut tightening, confirm that the drive unit housing is level.

Step 2: Hang Track Assembly

Install the vertical supports from the ceiling, Unistrut, or your chosen structure, ensuring they are straight, secure, and properly tightened—this step is critical for overall system alignment. Position the track assembly so it aligns with the motor assembly, confirming that it is level and firmly fastened. For easier handling with a two-person team, we recommend assembling only 4–6 track sections at a time on the floor before lifting them into place. Use a laser level to maintain a straight track, and ensure the joints at the bottom of each track section are perfectly aligned (see reference image).

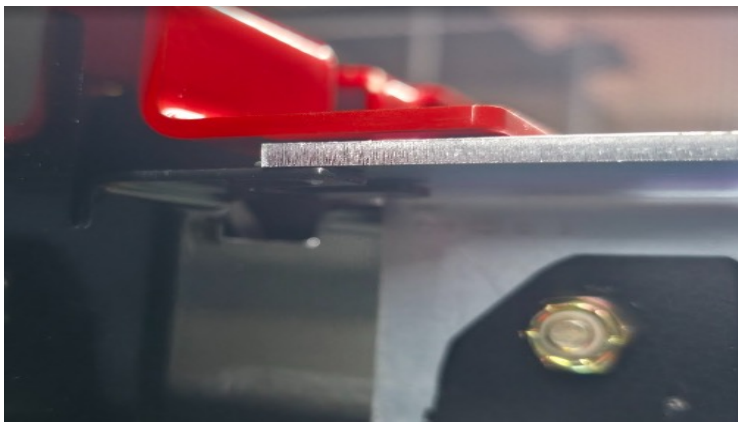
For optimal performance, the track should measure 7' 8" from the top of the track to the floor.

Confirm that the track hanger is tight and fully seated on the track. Be sure to install the trolley onto the track before completing the track assembly. Continue adding the remaining track sections and install the tail pulley assembly, including the two required bumpers.

When assembling the track, only lightly tighten the nuts and bolts at first. Make sure all track sections sit perfectly flush on the rail—C-clamps are recommended to help maintain alignment (see reference image below).

Ensure the track hanger is making full contact on both sides before clamping it down. We recommend waiting until the end to tighten all track nuts and bolts so you can properly level the entire assembly using a string line or digital laser.

Be sure to line up the drive unit housing, the track, and the brass shield as shown before adding bolts to fasten. Drive unit housing on the top, track in the middle, finally the brass shield on the bottom of the track. See PIC below for reference

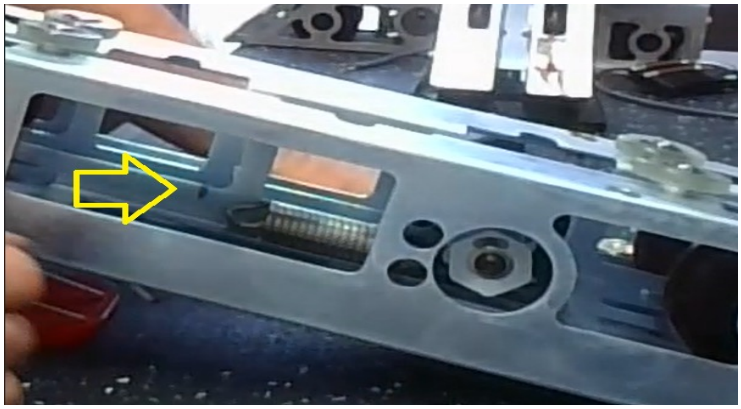


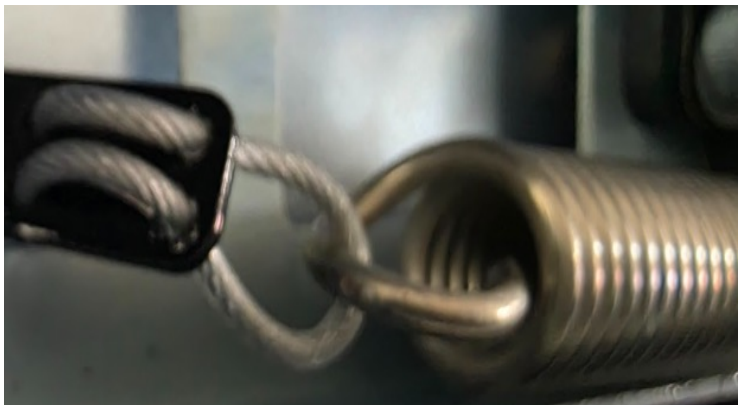
Step 3: Install the Drive Cable & Apply Tension

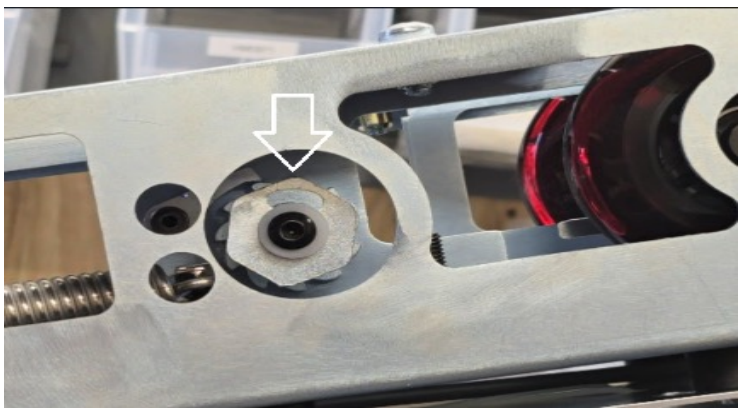
Begin routing the cable from the drive unit toward the bullet trap, allowing it to rest on top of the track. Loop the cable around the tail pulley, then run it back toward the trolley, where it will rest along the lower portion of the track where the wheels travel. Once the cable is in place, use a set of vise grips to secure the trolley in position so it cannot move forward or backward.

Connect the cable loop as shown and attach it to the spring inside the trolley.
Next, run the cable through the 1 1/8" tensioner, loop it, and tie it off at least twice (see reference image). Trim any excess cable to avoid snags. Repeat this process for both connection points.

NOTE: Refer to the image to the right, when properly tensioned, the spring should be stretched approximately 3/8". Correct cable tension is critical for proper system operation. If you have any questions during this step, please contact us for support.







4. Connect CAT6 to Touchscreen & Mount Touchscreen

Run a CAT6 cable to the rear port of the touchscreen. Mount the touchscreen in an accessible and visible location.

5. Connect Touchscreen to Drive Unit

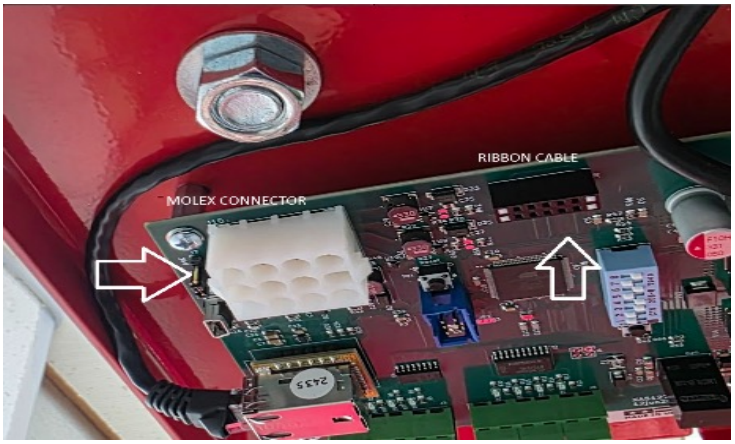
Use the CAT6 cable to link the touchscreen interface to the drive unit. Confirm the connection is secure. Route the cable up to the drive unit and plug into the POE converter located under the cowling next to the drive motor. See PIC for reference.

Step 6: Connect to Power

Plug the drive unit into a 120/240 VAC outlet, ensuring the outlet is compliant with electrical code and within proper reach of the unit. Locate the power switch on top of the drive unit plate next to the 120V connection, and turn it to the ON position after plugging in.

Step 7: Install Cowling Assembly

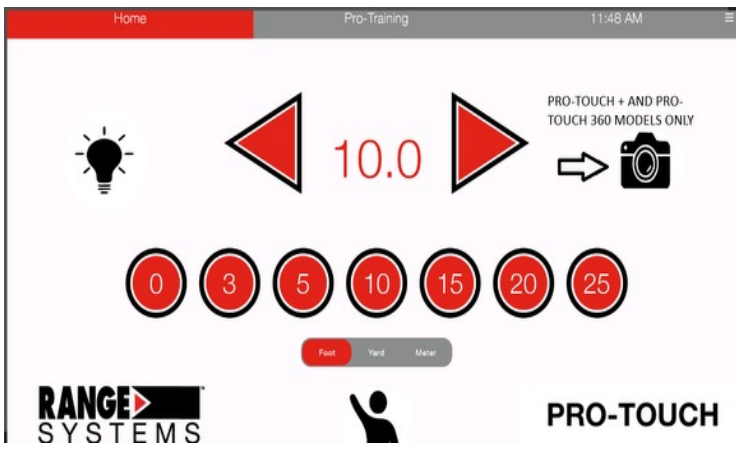
Connect the cowling assembly by attaching the Molex connector and ribbon cable. The ribbon cable is keyed and will only insert in one orientation into the 10-pin black connector on the board.
Place the cowling over the drive components, ensuring there is sufficient clearance and that it is securely fastened. Double-check that no CAT6 cable or wire harness is obstructing the cowling before fully closing it. (See reference image for Molex and board connections.)



System Test & Verification

Step 8:

Power on the drive unit with the power switch on top of the Drive unit.
The startup takes approximately 60 seconds after the power switch is turned on



Step 9: Verify touchscreen communication.

To set up the Elo touch screen press the 3 hash marks in the top right corner of the

tablet.

Enter code 1911 ENTER. From here you will be able to set the far stop in Feet, Meters, or Yards. Once you set the far stop you can set your preset desired distances. Lastly set the “auto home” feature to 2200, this will bring all the trolleys home at 10PM nightly, or pick a desired time, just don’t use 2400 the tablet will not recognize that.

Run a manual test cycle to ensure smooth carrier movement by jogging the carrier down range, bring back home, and try your presets. If everything is working and you have confirmed the track is straight and level, you can now begin to tighten all nuts and bolts

Check cable tension and track alignment one last time to make sure it has no slipping. Inspect installation for loose hardware

You’re ready to repeat the process for the rest of the lanes.

Maintenance

- Check for any brass that may get caught inside the trolley, doing this at least once a week will prevent possible damage to the wheels or drive line
- Check the tension on the drive cable monthly, these are steel cables and can stretch overtime. If this happen simply take the 1 1/8” socket and tighten the cable.
- Lower the housing around the drive motor assembly and remove any trapped brass that may have been caught inside, this can be done monthly as well.
- Inspect the drive and stabilizer wheel a couple times a year to ensure they don’t have any damage to them. if you hear the trolley bumping bolts while traveling there is a chance this could be the cause.
- heck the track and track hanger nuts and bolts a couple times a year to ensure they do not come lose, they are nylon nuts and shouldn’t but always good to check as a good habit.
- Service plans available, please contact us to get a custom schedule worked out for your Range needs

Service/Replacement Parts List

XA5126	Complete Drive Unit Assembly
XA5216	Cowling Assembly
HM0959	Motor
XA1411	24VDC Power Supply
XA2250	Drive Pulley
HM0899	Drive Pulley Bearing
XA1416	POE Module
HM0189	High Tolerance Drive Coupler
HM0970	Power Entry/Fuse Holder/Switch Assembly
XR1035	Ceiling Bracket
HS0009	Track Suspension Rod (Threaded rod)
XR6002	Safety Ceiling Bracket
XR6003	Baffle Angle Bracket
XR6004	Baffle Vertical Bracket
XR1047	Bracket Mount Ceiling/Vertical Baffle
XR1032	Track Hanger Bracket for existing ceiling
XR5071	Bracket mount ceiling baffle
XA5257	Pro-Touch Track Hanger Assembly
XR1029	Baffle Mounting Bracket
XA2227	Track Starter Right
XA2228	Track Starter Left
XA2225	Standard Track 5'
XA2226	Standard Track 2.5"
XA5218	Trolley Assembly
XA2157	Trolley Deflector Plate Standard (Pro-RS, Pro-Touch, Pro-Touch+)
XA5288	Trolley Deflector Plate Large (Pro-Touch360 Only)
XA2243	Trolley Wheel Large
XA2242	Trolley Wheel Small
HM0895	Spring
XA1459	Spring Retainer
HM0161	Drive Cable Standard Length (up to 75' track)
XA5217	Idler Assembly
HM0944	Idler Wheel
SA1815	Idler Protective Angle Plate
XA1439	Touch Screen (Must have POE Adapter)
XA1550	Touch Screen POE Adapter
HM0953	CAT 5 Cable
HM0573	Proximity Sensor