RANGE SYSTEMS™

Model: Pro-Turn 360
Electric Turning Target System
Operation and Maintenance Manual

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TO PURCHASE REPLACEMENT PARTS OR ACCESSORIES PLEASE EMAIL:
SALES@RANGE-SYSTEMS.COM

SYSTEM OVERVIEW

The Pro-Turn 360 is an electric turning target system designed for live-fire training. The target mechanism can present FRIEND, EDGE, and FOE positions when used with a compatible Range Systems controller.

This manual covers the Pro-Turn target hardware, installation and mounting, hit-sensing hardware, target holders, maintenance, and battery information for portable units. Controller operation and programming are covered in separate controller manuals.

Controller-specific procedures are intentionally not included in this manual.

Receiving and Unpacking

Before installation, verify that the shipment includes the components required for the project. Depending on the system configuration, this may include the target unit and mount, target holder with hardware kit, antenna, hit sensor (if included), and system documentation.

Retain the antenna and hit sensor (if included) for installation.

WARNING: Do not lift the target unit by the rotating arm or target holder. Doing so may damage the arm or create an unsafe condition.

Target Settings

The target stores operating parameters in nonvolatile memory. Depending on the controller being used, authorized settings may include target number, target speed, group membership, hit mode, hit sensitivity, hit count, hit position, die face, and port configuration.

Refer to the manual supplied with the controller for instructions on reading or changing target settings.

TARGET INSTALLATION AND MOUNTING

Site-Specific Installation

Each installation location has its own requirements and conditions which may very from project to project including but not limited to target placement, mounting method, electrical requirements, clearances, and surrounding range construction.

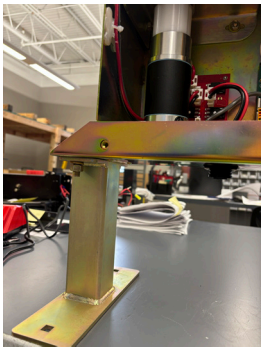
Note: Always refer to the Range Systems project drawings and approved installation documents for the specific requirements of the installation. Project drawings take precedence over the general mounting information provided in this manual.

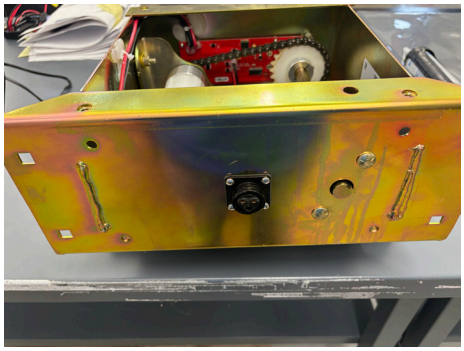
Target Unit

Install the target unit on the stand or mounting structure using the supplied hardware, or the hardware specified for the project.

Mounting

Install the target stand or mounting structure at the location and in the manner shown on the project drawings. Use anchors and mounting hardware appropriate for the specified installation. The target unit must remain stable during movement to maintain reliable operation and hit sensing. Confirm all fasteners are secure before installing the target holder and backer.





Electrical Connection

Connect the target system to the electrical source specified on the project drawings. Electrical requirements vary between permanently installed and portable configurations; follow the approved project documents and supplied system components for the installation.

WARNING: Turn target power OFF before mounting or servicing the target holder or rotating arm.

Clearance and Pre-Operation Check

Verify that the target arm and target holder have sufficient clearance through their full range of motion in accordance with the project drawings. Before operating the system, remove personnel, tools, and other obstructions from the movement area.

TARGET BATTERY – PORTABLE UNITS ONLY

This section applies only to portable Pro-Turn units equipped with an internal rechargeable battery. Permanently installed Pro-Turn systems do not use an internal battery and are powered by the range electrical system.



Portable units use a rechargeable 12-volt battery. Recharge the battery by connecting the supplied charger to either port on the target unit and charging for approximately 12 hours.

A fully charged battery will power the portable unit for approximately 50 hours when the target is not being cycled. When operated at approximately one cycle per minute, expected operating time is approximately 10 hours.

Keep the target power switch OFF when the portable unit is not in use to prevent unnecessary battery drain. Monitor the battery voltage during operation and recharge the battery when the voltage drops to 11.5 volts. Avoid allowing the battery to become deeply discharged, as repeated deep discharges can reduce battery life.

Connect the supplied charger and select the charging mode appropriate for the installed battery type. The charger will automatically charge the battery and transition to maintenance mode once the battery is fully charged. The charger may remain connected while the portable unit is not in use. In maintenance mode, the charger monitors the battery and automatically supplies charging as needed to maintain a full charge without overcharging.

HIT SENSING (If Equipped)

General Information

Hit sensing is accomplished using a thin-film vibration sensor. The sensor produces a voltage when a bullet passes through the target. The target electronics condition the signal so that a hit can be registered.

Movement of an improperly mounted target against a hard surface can create false hit counts. Keep the target unit firmly mounted and make sure the target and backer do not have loose parts that can vibrate or wobble during movement.

For reliable hit detection, fire only after the target has reached its commanded position. Rounds fired while the target is moving into position may not be detected by the system. Once the target is in position, the system can detect consecutive hits at a rate up to five rounds per second. The target ships with Hit Mode OFF. Hit Mode and related settings are configured using the controller supplied with the system. Refer to that controller's manual for setup instructions.

Hit Sensitivity (If Equipped)

Hit sensitivity determines how much vibration is required for the system to register a hit. The original Pro-Turn configuration provides an adjustable sensitivity range, with lower values producing greater sensitivity. The factory default is intended to work for most applications. Refer to that controller's manual for setup instructions.

Hit Count

Hit Count determines the number of detected hits required before a response occurs. Each time the target is cycled down and back up, the active count is cleared so each presentation begins with the programmed hit requirement.

Hit Score

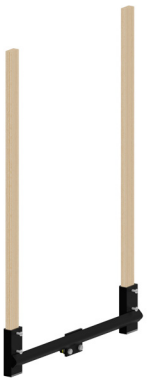
Hit Score is accumulated in the target electronics until the target is powered off or the score is cleared by a compatible controller. The target can store up to 225 hits.

Hit Position and Die Face

Hit Position and Die Face determine how the target responds when hit sensing is active. These settings are useful for standard, reverse-mounted, and bi-directional target configurations. Refer to the applicable controller manual for setting procedures.

TARGET HOLDERS

- Standard LE wooden-slat holder
- Military frame
- Foam target holder







Total maximum weight: 8 lb, including target holder and backer.
Maximum target length: 42 inches
Maximum target width: 28 inches

Test the backer material used with the hit sensor to make sure hits are reliably detected. Suitable lightweight materials may include laminated cardboard, lightweight plastic, art or foam board, lightweight lathing, masonite, and very lightweight plywood no more than 1/8 inch thick.
Account for wind loading and wet-weather conditions, which can increase the effective load on the target. Make sure the target has no loose parts or excessive movement that could create false hit indications.

MAINTENANCE AND OPERATIONAL NOTES

- Inspect mounting hardware and target-holder hardware regularly and tighten as required.
- Keep the target movement area clear of debris and obstructions.
- Inspect the hit sensor and its attachment to the backer before training (if equipped).
- Keep the target power OFF during target-holder installation or service.
- For portable units only, keep the battery charged and avoid deep discharge.
- If target behavior changes unexpectedly, inspect the mounting, backer, power source, and target hardware before returning the unit to service.

For controller communication, programming, target-number assignment, group assignment, hit-setting changes, scoring, and diagnostics, use the manual supplied with the controller.

CONTROLLER OPTIONS

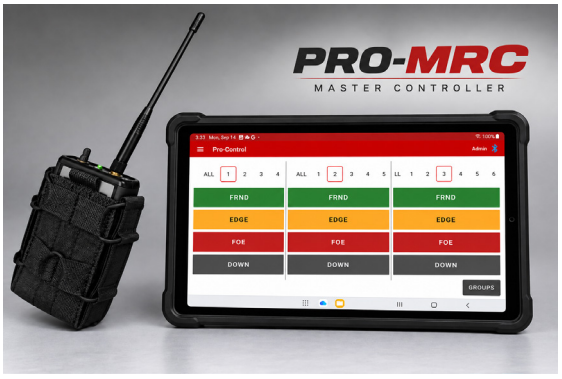
The Pro-Turn 360 can be operated with one of two Range Systems control options: the PTX600 Controller or the Pro-MRC with Pro-Control. Each control system provides a different level of functionality, allowing the Pro-Turn 360 to be configured for anything from straightforward target control to more advanced training and Course of Fire programming.
Controller operating and programming instructions are provided in separate manuals. Refer to the manual supplied with your control system for setup, programming, target configuration, and operating procedures.



PTX600 Controller

- The PTX600 is a handheld controller designed for direct wireless operation of Pro-Turn target systems. It provides quick access to individual targets and target groups and allows the operator to control target positions, create and run programs, adjust target settings, and configure hit-sensing functions.

For complete instructions, refer to the PTX600 Controller Operation and Programming Manual. Part Number YD5045



Pro-MRC with Pro-Control Software

The Pro-MRC with Pro-Control provides touchscreen based control through the Pro-Tab Master Controller and Controller Transmitter. Pro-Control expands target operation with manual target control, target groups, custom Courses of Fire, qualifications, target setup, diagnostics, hit scoring, and range-management functions.

For complete instructions, refer to the Pro-MRC with Pro-Control Software Manual.
Part Number YD5044

Note: The appropriate controller manual should always be used in conjunction with this Pro-Turn 360 Operation and Maintenance Manual.