

Hunter Revolution™ Series Tire Changer

Model TCR1, TCR1S, TCR1X and TCRH Operation Instructions

Form 6700-T 11-21



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1. Getting Started

1.1. Corporate Information

Hunter Engineering Company

11250 Hunter Drive

Bridgeton, MO 63044 USA

Phone: 314-731-3020

web: www.Hunter.com

1.1.1. Domestic Support Documents

Domestic Product Support page of <https://salesandservice.hunter.com/> → Product Support

1.1.2. Export Support Documents

• Export Product Support page of <https://export.hunter.com/> → Product Support

1.2. For Your Safety

1.2.1. Hazard Definitions

Watch for these symbols:



CAUTION

Caution: Hazards or unsafe practices, which could result in minor personal injury or product or property damage.



WARNING

Warning: Hazards or unsafe practices, which could result in severe personal injury or death.



DANGER

Danger: Immediate hazards, which will result in severe personal injury or death.

These symbols identify situations that could be detrimental to your safety and or cause equipment damage.

1.2.2. Important Safety Instructions - Electrical

Do not operate equipment with a damaged cord or equipment that has been dropped or damaged until examined by a Hunter Service Representative.

If an extension cord is necessary, it must have a current rating equal to or more than that of the equipment. Cords rated for less may overheat. Arrange the cord so that it will not be tripped over or pulled.

Never use the cord to pull the plug from the outlet

Verify that the electrical supply circuit and the receptacle are properly grounded.

To reduce the risk of electrical shock, do not use on wet surfaces or expose to rain.

Verify the appropriate electrical supply circuit is the same voltage and amperage ratings as marked on the equipment before operating.



WARNING

DO NOT ALTER THE ELECTRICAL PLUG. Plugging the electrical plug into an unsuitable supply circuit will damage the equipment and may result in personal injury.

When servicing the Revolution, power must be disconnected by removing the power cord from the electrical outlet.

Ensure that the Revolution power switch is in the off position ("O" position) before plugging the power cord into the electrical power outlet.

1.2.3. Important Safety Instructions - Operation

To reduce the risk of fire, do not operate equipment near open containers of flammable liquids (gasoline).

Read and follow all caution and warning labels affixed to your equipment and tools. Misuse of this equipment can cause personal injury and shorten the life of the equipment.

Keep all instructions permanently with the unit.

Keep all decals, labels, and notices clean and visible.

To prevent accidents and/or damage to the Tire Changer-recommended accessories.

Use equipment only as described in this manual.

Never stand on the Tire Changer.

Wear non-slip safety footwear when operating the Tire Changer.

Keep hair, loose clothing, neckties, jewelry, fingers, and all parts of body away from all moving parts.

ALWAYS WEAR OSHA APPROVED SAFETY GLASSES. Eyeglasses that have only impact resistant lenses are NOT safety glasses.

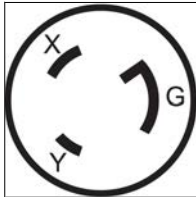


CALIFORNIA WARNING

This product may contain chemicals known to the State of California to cause cancer and reproductive harm. www.P65Warnings.ca.gov

1.3. Power Source Precaution

Revolution is intended to operate from a power source that will apply 230VAC +10% / -15%, 1 phase, 24 amp 50/60 Hz power, power cable includes NEMA 30 amp plug, L6-30P, between the supply conductors of the power cord. Tire Changer is also capable of operating on 210-240VAC, 50 Hz at 24A for use in the international market. The power cord supplied utilizes a twist lock connector, NEMA L6-30P. This machine must be connected to a 30 amp branch circuit, or as directed by local ordinances.



CAUTION

A protective ground connection, through the grounding conductor is the power cord, is essential for safe operation. Use only a power cord that is in good condition.

1.4. Equipment Specification

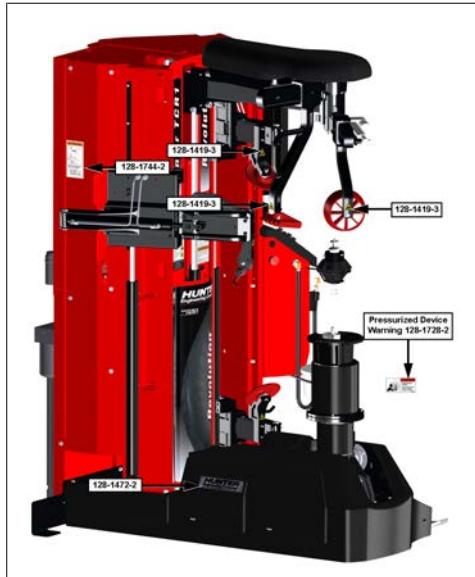
Electrical (North America)	
Voltage:	208-230 VAC, 1 phase, 50/60 Hz, NEMA 30 amp plug, L6-30P
Amperage:	24 amperes
Wattage:	5520 watts (peak)
Electrical (International)	
Voltage:	210-240VAC, 50 Hz, NEMA 30 amp plug, L6-30P
Amperage:	24 amperes
Wattage:	5320 watts (peak)
Air	
Air Pressure Requirements:	125 ± 25 PSI (8.6 ± 1.7 bar)
Approximate Air Consumption:	1 SCFM (27 Liters/Minute)
Mechanical	
Clamping System / Rotating Speed:	Center w/Quick Clamp and Cam Plate / Variable up to 15 rpm CW / CCW
Torque:	875 ft-lbs (1,186 Nm)
Max Tire Diameter:	50 in. (1,270 mm)
Maximum Wheel Width:	15 in. (381 mm)
Rim Diameter Range:	12 in. - 30 in. (305 mm - 762 mm)
Hydraulic	
Hydraulic Pressure:	1,700 psi (117 bar)
Hydraulic Flow:	4.1 gpm (16 lpm)
Atmospheric	
Temperature:	+32°F to +122°F (0°C to +50°C)
Relative Humidity:	Up to 95% Non-condensing
Altitude:	Up to 10000 ft. (3048 m)

1.5. Explanation of Symbols

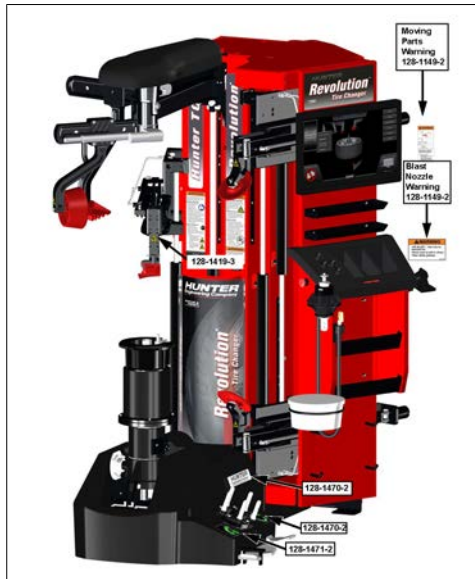
	Alternating Current
	Earth ground terminal
	Protective conductor terminal
	ON / OFF (Supply) condition
	Risk of electrical shock
	Stand-by Switch
	Not intended for connection to public network

1.6. Decal Information

1.6.1. Revolution Decal Left Side View



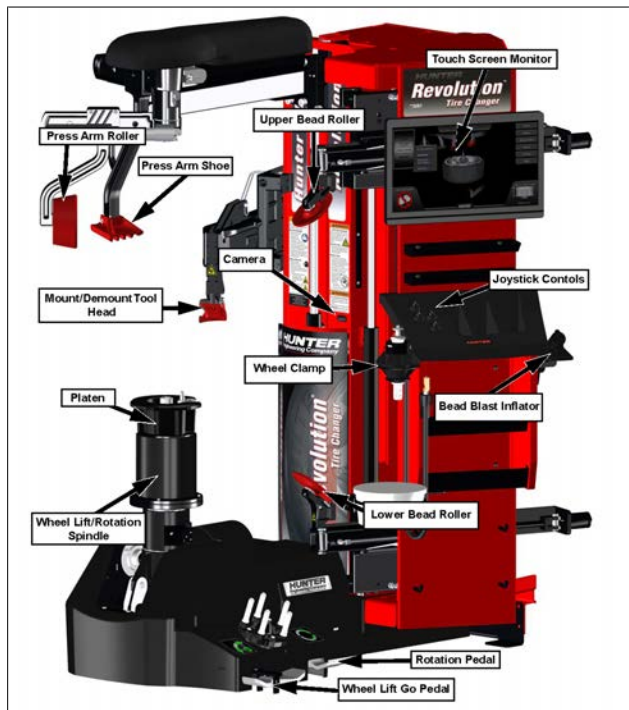
1.6.2. Revolution Decal Right Side View



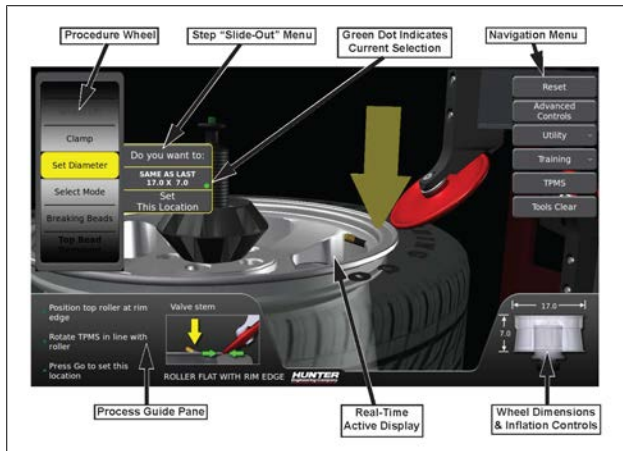
1.6.3. Revolution Decal Front View



1.7. Revolution Equipment Components

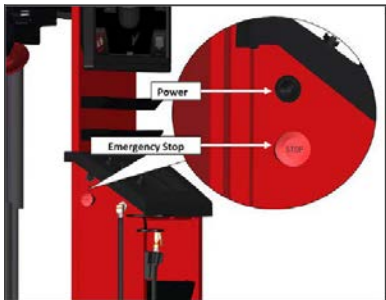


1.8. Touch Screen Display Components



1.9. Turning Power ON/OFF

Tire Changer is equipped with a push button power switch located on the right side of the console, above the emergency stop switch. Use this switch for normal shut down and restarting procedures. The emergency stop switch located right below the power switch. Push this stop for an immediate termination of all hydraulic functions, e.g., spindle rotation, tool movement, etc. Pull the switch back out to resume hydraulic functions.



1.10. Touch Screen Display

A procedure wheel is located on the left side of the screen. Steps can be skipped and accessed by rolling the wheel up or down and touching the desired selection. In most cases, touching a selection initiates a "slide-out" menu providing additional functions.



1.11. Wheel Lift / GO Pedal



NOTE

During normal operation, the GO pedal is pressed the majority of the time to complete procedures. Releasing the GO pedal will pause the current procedure. Slide-out menus on the touch screen procedure wheel may change, allowing for other options. In most cases, pressing back down on the GO pedal will continue the previously paused procedure.

To raise the wheel lift, press and hold down the right side of the pedal. To lower the wheel lift, press and hold down left side of the pedal. Once the spindle is vertical, the right side of the pedal becomes the GO pedal. If the wheel lift is less than vertical, the "GO" function is disabled until the spindle is vertical.



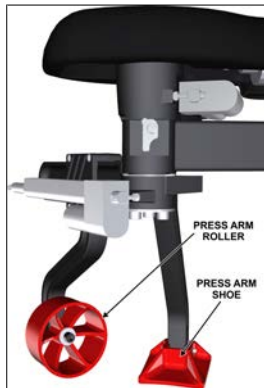
1.12. Rotation Pedal

To rotate the spindle clockwise, press and hold down the rotation pedal. Release when assembly is rotated to desired position. To rotate the spindle counter clockwise, lift and hold the rotation pedal. Release when assembly is rotated to desired position.



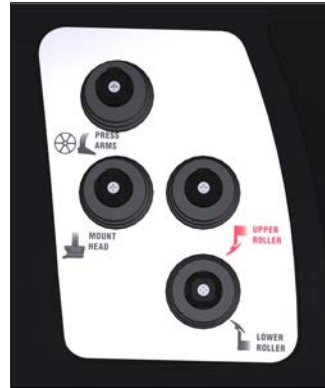
1.13. Press Arms

The bead pushers assist with mounting. The pushers move in tandem with the mount / demount tool head.



1.14. Tool Control Joysticks

To move the tools for operations such as setting rim diameter, manual controls, etc., use the joystick that corresponds to the appropriate tool.



2. Operation

2.1. Using Wheel Lift

To lower the wheel lift, press and hold down the left side of the pedal. Release the pedal when the spindle is at the appropriate height for the wheel to be serviced.



Raise or lower the spindle as needed to align the center hole.



With top of the spindle in the rim center hole, press and hold down the right side of the pedal to raise the wheel assembly. Release the pedal when the wheel assembly reaches operating position. Rotate the wheel assembly until the anti-rotation pin enters a lug hole in the rim. The anti-rotation pin will spring up into place.

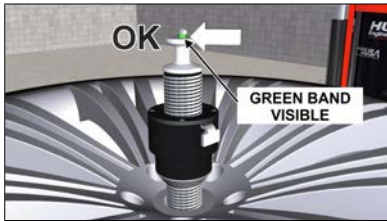


2.2. Clamping the Wheel

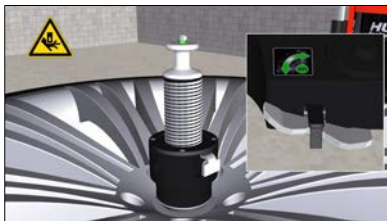
Fully depress the button on the top of the clamp assembly. Insert the clamp through the rim center hole and into the top of the spindle.



When the clamp is properly inserted, the button on the top of the clamp will spring up, showing the green band. If the green band is not visible, re-seat the clamp. Do not proceed unless the green band is visible.



Press and release the right “GO” side of the pedal to fully seat the clamp and secure the wheel.



2.3. Set Rim Diameter



CAUTION

Remove the valve core before proceeding with the following steps. Failure to do so could result in personal injury and/or tire and/or wheel damage.



CAUTION

Incorrect setting of the diameter can cause damage to rim and/or TPMS unit.

Setting rim diameter is the most important step of the tire changing process on the Hunter Revolution™ Tire Changer. Setting the diameter correctly ensures that all following steps can be performed correctly and automatically.

2.3.1. Upper Roller Initial Position

Position the upper roller close to the rim. It should not contact the rim or tire at this time.



2.3.2. TPMS Position

Rotate the wheel assembly to position the TPMS sensor in-line with the upper roller.

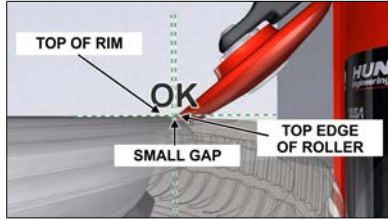


The TPMS sensor should be directly in-line with the upper roller.



2.3.3. Upper Roller Set Diameter Position

Position the upper roller so its top edge is nearly flush with the top edge of the rim. It may be necessary to slightly depress the sidewall of the tire with the roller. A small gap between the edge of the roller and the edge of the rim is ok.



2.3.4. Complete the Process

Once the upper roller is correctly positioned, press and release the right “GO” side of the pedal to set the rim diameter.

2.4. Bead Breaking Procedure

Press and hold the right “GO” side of the pedal to break the beads. The upper and lower rollers will begin to break the beads as the wheel assembly rotates. Look at the top and bottom beads to confirm they are fully broken from the rim.



2.5. Top Bead Demount

Press and hold the right “GO” side of the pedal to demount the top bead. The mount/demount tool head will lower to the rim edge as the wheel assembly rotates.



The lower roller will raise with the mount/demount tool head with bead hook. The wheel assembly will then rotate clockwise as the bottom bead is fully demounted. The wheel assembly will then rotate clockwise as the top bead is fully demounted.



2.6. Bottom Bead Demount

Press and hold the right “GO” side of the pedal to demount the bottom bead. The mount/demount tool with head with bead hook will raise the tire as the wheel assembly rotates.



The lower roller will raise with the mount/demount tool head with bead hook. The wheel assembly will then rotate clockwise as the bottom bead is fully demounted.



2.7. Bottom Bead Mount

Verify the TPMS is in the four o'clock position. If not, press and hold the right “GO” side of the pedal and let the tire changer finish automatic positioning.



Tilt the tire on the rim and create a gap for the mount/demount tool head.



Using a clenched fist, push down on the sidewall of the tire while pressing and holding the right “GO” side of the pedal. The bottom bead will mount as the wheel assembly rotates clockwise.



2.8. Top Bead Mount

Tilt the tire on the rim so the top bead is over the left side of the mount/demount tool head, and under the bead hook.



Using a clenched fist, push down on the sidewall of the tire while pressing and holding the right “GO” side of the pedal. The upper bead roller will lower the tire as the wheel assembly rotates clockwise. When the tire is mounted, all tools will move to their home positions.

2.9. Inflation



WARNING

Activate blast inflation nozzle only when seating beads. Never point the blast inflation nozzle at yourself or others.

Do not lean or reach over tire changer when inflating.

Do not exceed this pressure limitation - bead seating 40 PSI (2.8 bar)

Do not operate the blast inflation nozzle if the tire is not properly clamped.



CAUTION

Hold the blast inflation nozzle firmly. The nozzle has a kick-back and can strike the operator if not held firmly.

If present, remove the valve stem core from the valve stem. Connect the inflation hose to the valve stem.



The bottom right interface tab shows inflation controls. Touch the left and right arrows above the pressure gauge to adjust the target air pressure.



After beads have been seated, disconnect inflation hose and reinstall valve stem core previously removed. Re-connect the inflation hose and inflate tire to the specified target pressure. Disconnect the inflation hose.

2.9.1. Blast Inflater

With the inflation hose still connected, lift the bottom side-wall of the tire. Quickly and firmly press the blast inflater nozzle against the rim edge.



After beads have been seated, disconnect inflation hose and reinstall valve stem core previously removed. Re-connect the inflation hose and inflate tire to the specified target pressure. Disconnect the inflation hose.

2.10. Unclamping

From the procedure wheel slide-out menu, touch “Un-clamp” or press the right “GO” side of the pedal. Depress the button on the top of the clamp and remove the clamp from the rim. Lower the wheel lift by pressing and holding down the left side of the pedal. Release the pedal when the wheel assembly contacts the ground.

3. Maintenance and Calibration

3.1. Maintenance Schedule



CAUTION

Do not hose down or power wash the tire changer.

Daily: Turn the tire changer power off at the end of the work day. At a minimum, depress the emergency stop switch. Never leave a wheel assembly on the tire changer overnight. Always remove all assemblies and ensure tools are returned to their home position. Check for worn or damaged rubber and nylon components that should be replaced to prevent damage from occurring. Replace worn parts as needed (rubber pads and blocks, rollers, and mount/demount head). Clean all areas that contact rims or tires to prevent possible scratching to rim.

Weekly: Clean the tire changer with shop towels or a vacuum cleaner. Do not clean with or use compressed air, which can blast dirt between moving parts. Do not use cleaning solvents to clean pressure regulator/oiler.

Annually: Change hydraulic fluid and filter once per year. Contact your Hunter Service Representative for this service.

Periodically: Check for loose bolts and tighten per specifications. Contact your Hunter Service Representative for information.

3.2. End User License Agreement

Use of equipment and its operating software is acknowledgment of agreement to the terms of the End User Licensing Agreement (“EULA”). The entire EULA can be found by scanning the QR Code below.



3.3. Parts Warranty Summary

Hunter Engineering Company warrants new equipment to be free from defects in material and workmanship under normal conditions of use for a period of one (1) year from the date of installation. Exceptions to this warranty are listed below.

- All circuit boards are warranted for a period of three (3) years.
- PC's and options installed inside the PC are warranted for a period of three (3) years.
- LCD's are warranted for a period of three (3) years.
- Power supplies are warranted for a period of three (3) years.

- Transducers are warranted for a period of three (3) years.
- Wheel Balancer motors are warranted for a period of three (3) years.
- Wheel Balancer shafts are warranted for a period of three (3) years.
- Tire Changers are fully warranted for a period of three (3) years with the exception of consumable parts and TCR1 power units.
- All lift and Hunter TCR1 power units are warranted for a period of two (2) years.
- Normal wear items are not covered with the exception of batteries, which are covered for a period of six (6) months.
- Replacement parts purchased through the Hunter Service Center and no longer covered by machine warranty are warranted for a period of six (6) months.

Warranted parts may be replaced with new or refurbished parts at the discretion of Hunter Engineering Company.

This warranty does **not** include normal wear items and does not apply to any product which has been subject to abuse, misuse, alterations, accident, exposure to the elements, tampering, unreasonable use, or failure to provide reasonable and necessary maintenance.

All warranty claims must be made to your local Hunter Service representation. Labor warranties can vary and additional policies and restrictions may apply.

This is Hunter Engineering Companies' only warranty with respect to new equipment

See our document library at www.Hunter.com for additional details.