



Torque Limiter Single & Dual Air Pressure Control Systems

TL Series

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this manual are subject to change without notice. Technical data listed in this manual are based on the latest information available at the time of printing and are also subject to change without notice.

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DANGER

Read this manual carefully before installation and operation.

Follow Nexen's instructions and integrate this unit into your system with care.

This unit should be installed, operated and maintained by qualified personnel ONLY.

Improper installation can damage your system or cause injury or death.

Comply with all applicable codes.

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ISO 9001 Certified

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INSTALLATION

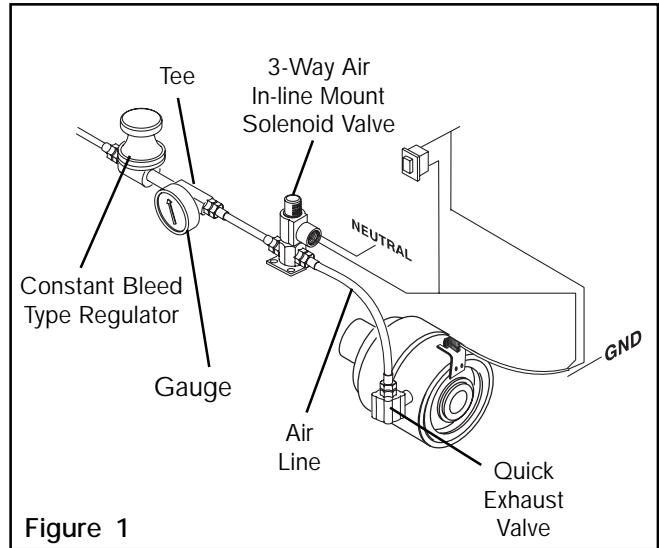
SINGLE AIR PRESSURE CONTROL SYSTEM

(NEXEN PRODUCT NO. 801578 MODELS TL10 - 60)

(NEXEN PRODUCT NO. 801576 MODELS TL70 - 80)

Nexen's Single Air Pressure Control System consists of: Constant Bleed Type Regulator, Tee, 3-Way In-line Mount N.C. (Normally Closed) Solenoid Valve, Quick Exhaust Valve, and Air Line (See Fig. 1).

NOTE: Nipple and Bushing (Items 11, & 12) are used when making air line connections between Quick Exhaust Valve and Model 70 or 80 Torque Limiter.



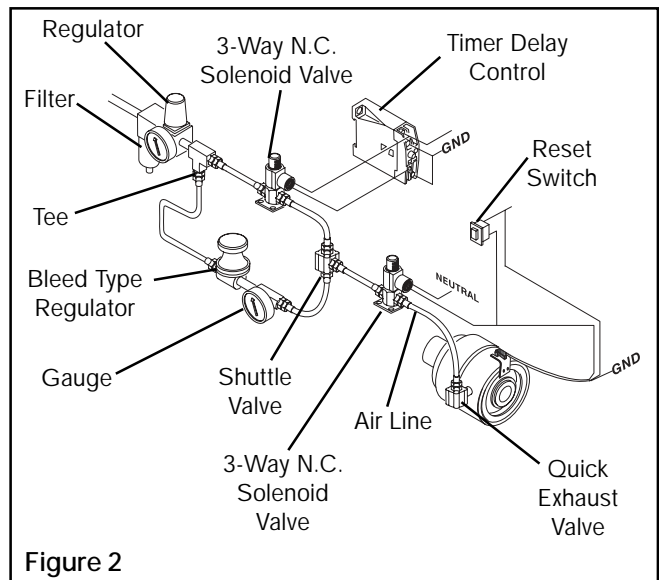
DUAL AIR PRESSURE CONTROL SYSTEM

(NEXEN PRODUCT NO. 801579 MODELS TL10 - 60)

(NEXEN PRODUCT NO. 801577 MODELS TL70 - 80)

Nexen's Dual Air Pressure Control System consists of: Filter, Regulator, two 3-Way In-line Mount N.C. (Normally Closed) Solenoid Valves, Timer Delay Control, Constant Bleed Type Regulator, Gauge, Tee, Shuttle Valve, Quick Exhaust Valve, and Air Line (See Fig. 2).

NOTE: Nipple and Bushing (Items 11, & 12) are used when making air line connections between Quick Exhaust Valve and Model 70 or 80 Torque Limiter.



ELECTRICAL CONNECTIONS

PROXIMITY SENSOR

(SINGLE AND DUAL AIR PRESSURE SYSTEMS)

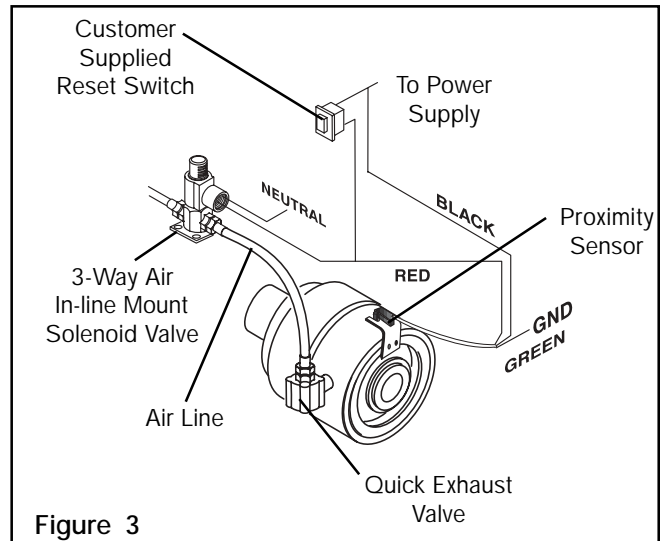
1. Connect **GREEN** lead of Proximity Sensor to Ground (See Fig. 3)
2. Connect **BLACK** Lead of Proximity Sensor to 110 V Power Supply or customer supplied Reset Switch (See Fig. 3).

NOTE: A customer supplied, manually operated, Reset Switch may be installed between the Proximity Sensor and 3-Way N.C. Solenoid Valve. This allows the operator to apply running air pressure to the Torque Limiter (See Fig. 3). Flexible electrical conduit must be used when making electrical connections between Proximity Sensor, 3-Way In-line Mount Solenoid Valve, and Power Supply. Do not use rigid electrical conduit for these connections.

3. Connect one lead of 3-Way Air Inlet N.C. Solenoid Valve to RED Lead of Proximity Sensor and tape off the end of the WHITE Lead (See Fig. 3)

NOTE: The **WHITE** Lead is only used when a N.O. Solenoid Valve is used.

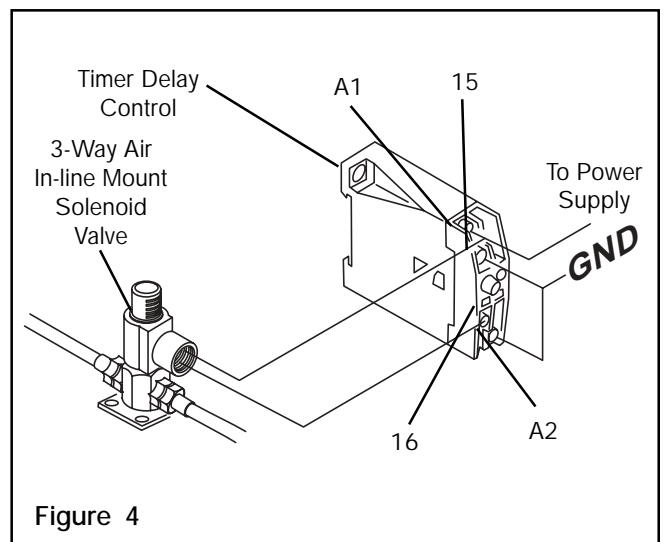
4. Connect second wire of 3-Way Air Inlet N.C. Solenoid Valve to Ground or Neutral (See Fig. 3).



TIMER DELAY CONTROL

(DUAL AIR PRESSURE SYSTEM)

1. Connect Terminal **A1** of Timer Delay Control to 110V power Supply (See Fig. 4).
2. Connect one lead wire of 3-Way In-line Mount N.C. solenoid Valve to Terminal **A1** of timer Delay Control (See Fig. 4).
3. Connect other lead wire of 3-Way In-line Mount N.C. solenoid Valve to Terminal **16** of Timer Delay Control (See Fig. 4).
4. Connect Jumper Wire between Terminals **15**, and **A2** of Timer Delay Control to ground (See Fig. 4).

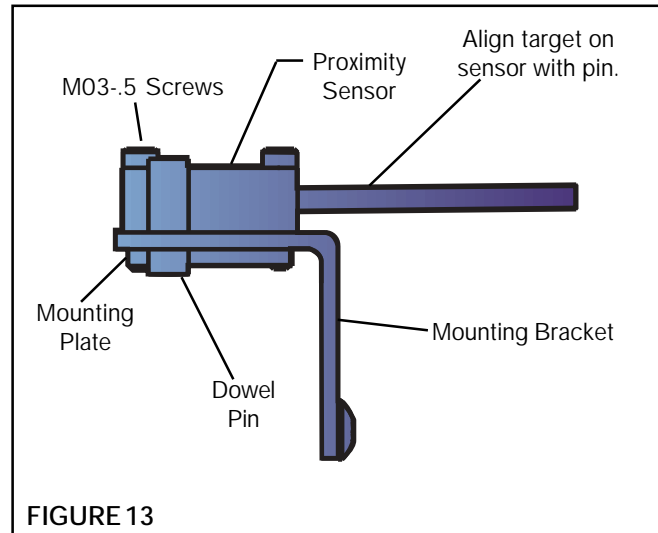


ADJUSTMENTS

PROXIMITY SENSOR

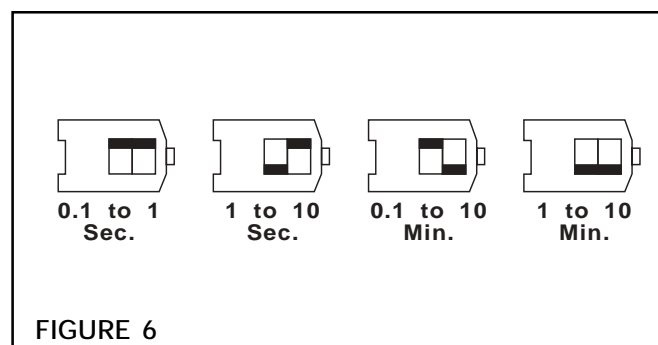
NOTE: The Nexen Torque Limiter is equipped with a proximity sensor to detect torque overloads. It is important that the sensor be positioned so the dowel pin just moves into the sensor's field of view when the Torque Limiter is engaged. At this time, the proximity sensor's output circuit will be closed. When the Torque Limiter is overloaded, the dowel pin will move immediately outside the proximity sensor's field of view and its output circuit will open.

1. Apply air pressure to the Torque Limiter.
2. Rotate the Drive Flange Assembly until the positioning balls are seated into the detents.
3. Slide the Proximity Sensor (Item 55) on the Bracket (Item 3) until the LED on the Proximity Sensor is until the instant the Proximity Sensor's LED lights.
4. Tighten the screws securing the Proximity Sensor to the Mounting Bracket.
5. Run the machine to verify proper operation of the Torque Limiter.
6. If nuisance tripping occurs, realign the proximity sensor with the Dowel Pin until it operates properly.



TIMER DELAY CONTROL

1. Set Dip Switches on side of Timer Delay Control to desired time delay (See Fig. 6).
2. Rotate Timer Delay Control Adjustment Knob to fine tune Timer Delay Control.



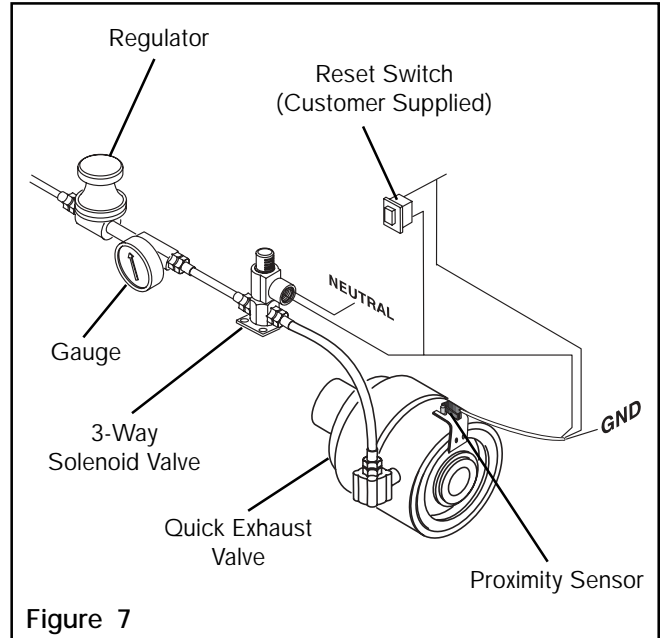
OPERATION

SINGLE AIR PRESSURE CONTROL SYSTEM (NEXEN PRODUCT No. 801578 & 801576)

1. Set Regulator to an air pressure high enough to allow machine start-up without tripping and engage Torque Limiter (See Fig. 7).
2. Start Machine.

NOTE: Torque Limiter must be engaged before starting machine.

3. Set Regulator to an air pressure that will allow machine operation, but low enough to allow Torque Limiter disengagement in the event of a machine overload (See Fig. 7).
4. If an overload occurs, the Torque Limiter Interface separates, moving the cylinder to the outer position. This movement is detected by the Proximity Sensor, which de-energizes the 3-Way Solenoid Valve, thus exhausting air from the Torque Limiter. Internal springs provide assistance for a total, crisp, Torque Limiter release (See Figure 7).

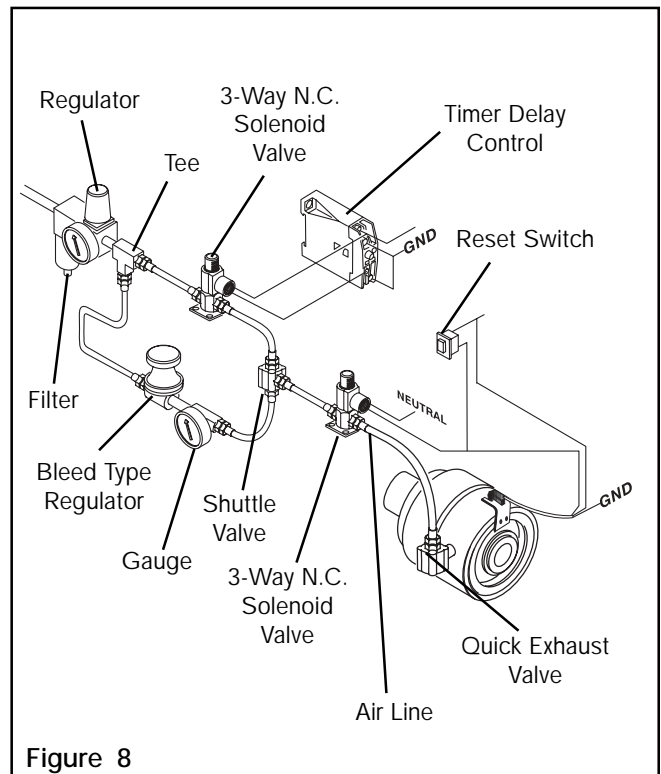


DUAL AIR PRESSURE CONTROL SYSTEM (NEXEN PRODUCT No. 801579 & 801577)

1. Set Regulator No. 1 to an air pressure high enough to allow machine start-up without tripping of the Torque Limiter (See Fig. 8).
2. Set Regulator No. 2 to an air pressure that will allow machine operation, but low enough to allow Torque Limiter disengagement in the event of a machine overload (See Fig. 8).
3. Start machine.

NOTE: Torque Limiter must be engaged before starting machine.

4. After a preset period of time, the Timer Delay Control will de-energized the 3-Way In-line Mount Solenoid Valve and allow only the lower running air pressure set by Regulator No. 2 to the Torque Limiter (See Fig. 8).
5. If an overload occurs, the Torque Limiter Interface separates, moving the cylinder to the outer position. This movement is detected by the 3-Way Air In-line Mount Solenoid Valve, thus exhausting air from the Torque Limiter. Internal springs provide assistance for a total, crisp, Torque Limiter Release.



REPLACEMENT PARTS

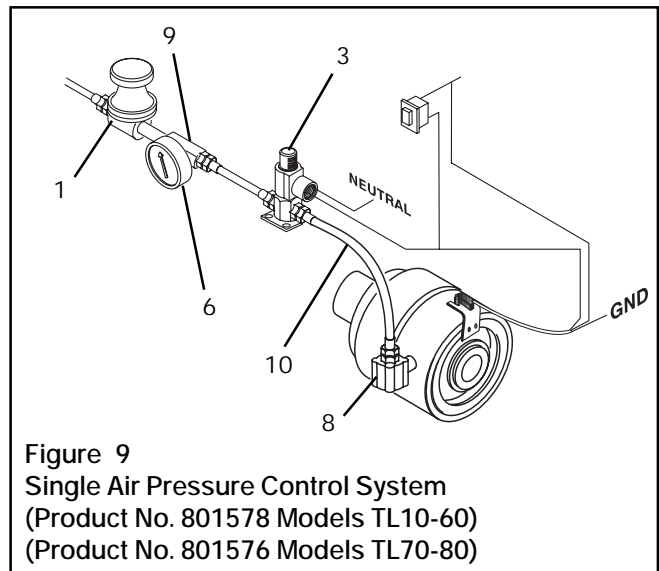
The item or balloon number for all Nexen products is used for part identification on all product parts lists, product price lists, unit assembly drawings, bills of materials, and instruction manuals.

When ordering replacement parts, specify model designation, item number, part description, and quantity. Purchase replacement parts through your local Nexen Distributor.

PARTS LIST

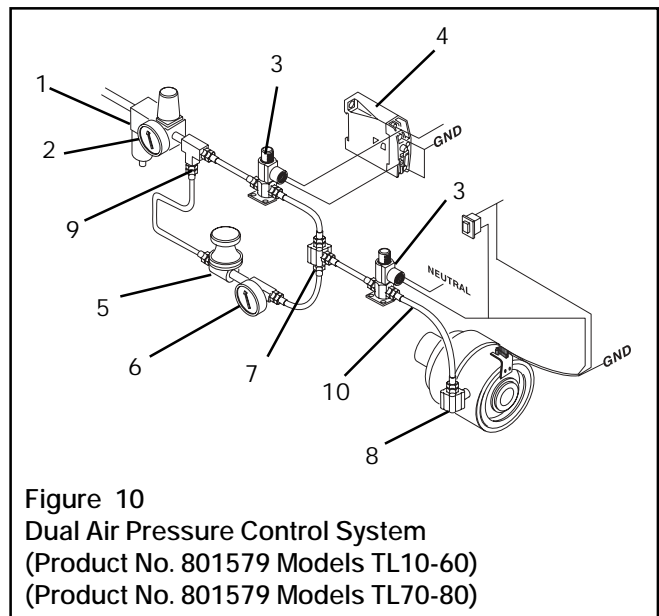
SINGLE AIR PRESSURE CONTROL SYSTEM (NEXEN PRODUCT NO. 801578)

ITEM	DESCRIPTION	QTY
5	Air Regulator	1
6	Gauge (0-100 psi)	1
3	3-Way N.C. Solenoid Valve (in-line mount)	1
8	Quick Exhaust Valve	1
9	Fitting (tee)	1
10	Air Line	1
11	Nipple (not shown, models TL70 & 80)	1
12	Bushing (not shown, models TL70 & 80)	1



DUAL AIR PRESSURE CONTROL SYSTEM (NEXEN PRODUCT NO. 801579)

ITEM	DESCRIPTION	QTY
1	Air Filter	1
2	Regulator	1
3	3-Way N.C. Solenoid Valve (in-line mount)	2
4	Timer Delay	1
5	Air Regulator	1
6	Gauge (0-100 psi)	1
7	Quick Exhaust / Shuttle Valve	1
8	Quick Exhaust	1
9	Fitting (tee)	2
10	Air Line	1
11	Nipple (not shown, models TL70 & 80)	1
12	Bushing (not shown, models TL70 & 80)	1



WARRANTIES

Warranties

Nexen warrants that the Products will be free from any defects in material or workmanship for a period of 12 months from the date of shipment. NEXEN MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. This warranty applies only if (a) the Product has been installed, used and maintained in accordance with any applicable Nexen installation or maintenance manual for the Product; (b) the alleged defect is not attributable to normal wear and tear; (c) the Product has not been altered, misused or used for purposes other than those for which it was intended; and (d) Buyer has given written notice of the alleged defect to Nexen, and delivered the allegedly defective Product to Nexen, within one year of the date of shipment.

Exclusive Remedy

The exclusive remedy of the Buyer for any breach of the warranties set out above will be, at the sole discretion of Nexen, a repair or replacement with new, serviceably used or reconditioned Product, or issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

Limitation of Nexen's Liability

TO THE EXTENT PERMITTED BY LAW NEXEN SHALL HAVE NO LIABILITY TO BUYER OR ANY OTHER PERSON FOR INCIDENTAL DAMAGES, SPECIAL DAMAGES, CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OF ANY KIND OR NATURE WHATSOEVER, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, EVEN IF NEXEN SHALL HAVE BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH POTENTIAL LOSS OR DAMAGE. For all of the purposes hereof, the term "consequential damages" shall include lost profits, penalties, delay damages, liquidated damages or other damages and liabilities which Buyer shall be obligated to pay or which Buyer may incur based upon, related to or arising out of its contracts with its customers or other third parties. In no event shall Nexen be liable for any amount of damages in excess of amounts paid by Buyer for Products or services as to which a breach of contract has been determined to exist. The parties expressly agree that the price for the Products and the services was determined in consideration of the limitation on damages set forth herein and such limitation has been specifically bargained for and constitutes an agreed allocation of risk which shall survive the determination of any court of competent jurisdiction that any remedy herein fails of its essential purpose.

Limitation of Damages

In no event shall Nexen be liable for any consequential, indirect, incidental, or special damages of any nature whatsoever, including without limitation, lost profits arising from the sale or use of the Products.

Warranty Claim Procedures

To make a claim under this warranty, the claimant must give written notice of the alleged defect to whom the Product was purchased from and deliver the Product to same within one year of the date on which the alleged defect first became apparent.

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