

## **Certification Test Report**

908.42 MHz Low Power Communication Device Transceiver 372 MHz Discrete Receiver

> FCC ID: KJ8-0001715 IC: 3540A-0001715

FCC Rule Part: 15.249 IC Radio Standards Specification: RSS-210

ACS Report Number: 07-0186 - 15C

Manufacturer: Wayne-Dalton Corporation Model: 3790-Z

### Installation Guide Section3

#### TorqueMaster<sup>®</sup> Installation

2	Cable Drum/ Drive Gear Installation	Tube Groove	<u>1/2 Wrap Shown</u>
Tools Needed: Step Ladder	<b>NOTE:</b> If you just installed the Torquemaster <sup>®</sup> Plus counterbalance, continue with Step 5 on page 13. If you have the Torquemaster <sup>®</sup> counterbalance system, complete Steps 2-4 on pages 11 and 12.	Winding Shaft Splines Cable Drum	Counterbalance Cable
	Shake the torque tube gently to extend the winding shafts out about 5" on each side. For single spring applications, there will be no left hand spring in the torque tube.	0 Winding Shaft Groove	Winding Shaft Groove align and seater
	Lift the torque tube and rest it on the top of the flagangles. Orient torque tube so that back of opener is flat against header/ mounting surface.	Torque Cablo Daux	in ro
	<b>NOTE:</b> Cable drums and torque tube are cam shaped to fit together only one way.	Tube Cable Drum	
	Pre-wrap the Torquemaster <sup>®</sup> cable drum with the counter balance cable 1/2 wrap (see illustrations).		
	To install the cable drum, slide the cable drum over the winding shaft until the cable drum seats against the torque tube. The winding shaft must extend past the cable drum far enough to expose the splines and the groove.	Left Hand Side Single Spring Application	Torsion Tube Winding
	Align the winding shaft groove with the round notch in the flagangle. Repeat for opposite side for double spring applications.	Cable Drum	Shaft
	For single spring applications, insert the loose winding shaft into the left hand cable drum prior to sliding the cable drum over the torque tube.	Cable Drum Winding	Hagangie
	<b>NOTE:</b> On single spring applications, take care in handling the loose winding shaft (left side) so that it does not slide back into the torque tube.	Shaft Splines	Lubricating Oil
	Beginning with the right hand side, lubricate entire circumference of the drive gear with lubricating oil. Slide the drive gear onto the winding shaft splines until it touches the flagangle.		Gear
	<b>NOTE:</b> On single spring applications, no drive gear is required on the left side.	Cable Drum	
	<b>NOTE:</b> If additional lubricating oil is required "Dura-Lube Engine Oil Treatment" is recommended.		Drive Gear Vinding Shaft



4	Counter Installation		Winding Shaft Inside End Bracket Counter / Gear
Tools Needed:	Install the right side counter gear, with the missing tooth toward the outside and		Missing Tooth
Step Ladder	away from the end bracket. Press the counter gear onto the end bracket until snaps engage.		Counter Cover
	Select the right hand counter cover and align the hex of the counter cam with the end of the winding shaft. Also, align the "0" on the counter cover with the raised rib on the end bracket. Press the counter cover	Raised Rib	
	against the counter gear until it locks into place.		Hex of the Counter Cam
	Repeat for left hand side for double spring applications.		
	<b>NOTE:</b> No drive gear, counter gear or counter cover is required on left hand side for single spring applications. Only an end bracket is needed.		
	IMPORTANT! AT THIS TIME DO NOT WIND COUNTERBALANCE SPRINGS!		
	After completing this step, continue with Step 5 on page 13.		

12 Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. You can reach us Toll Free at **1-888-827-3667** for Consumer Assistance or online at **www.wayne-dalton.com** 

5	Positioning Support Bracket	
Tools Needed: Power Drill 1/8" Drill Bit 7/16" Socket Driver Tape Measure Step Ladder	<ul> <li>NOTE: idrive<sup>®</sup> must be installed on a solid mounting surface.</li> <li>Locate the mounting surface. The mounting surface is a vertical board running directly above the center of the door. Remove (2) 1/4"-20 flange nuts from bottom of opener.</li> <li>NOTE: Do not discard flange nuts.</li> <li>Place the support bracket underneath opener, to the right side of motor, centered on mounting surface.</li> <li>Using a tape measure, maintain equal measurements between torque tube and top of door at both ends and in center to ensure torque tube is level. Once torque tube is level, with idrive resting on support bracket, drill 1/8" pilot holes for the lag screws.</li> <li>NOTE: If wood mounting surface is covered with dry wall, use 1/4" x 2" lag screws.</li> </ul>	Image: Nuts       Image: Nuts
6	Attaching Opener To Support Bracket	Mounting Studs Bracket Slots



Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. 13 You can reach us Toll Free at 1-888-827-3667 for Consumer Assistance or online at www.wayne-dalton.com

Mounting Surface

Torque Tube



14 Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. You can reach us Toll Free at 1-888-827-3667 for Consumer Assistance or online at www.wayne-dalton.com



9	Attaching Disconnect Handle
Tools Needed: Phillips Head Screwdriver Wire Cutters Flat Blade Screwdriver	<b>NOTE:</b> The motor must be in the fully down position before setting handle position on cable. Bring motor to the down position by pulling the disconnect cable while pushing the motor down. Insure opener disconnect teeth are engaged before installing disconnect handle. If motor is not fully down when teeth are engaged, turn motor shaft with screwdriver at back of motor counter clockwise until motor is fully down.
Sciewaniver	<b>NOTE:</b> Do not use power drill to assemble set screw to handle.
	Start the #6-20 x 1/2" screw into the disconnect handle. Thread the disconnect cable through the top of the disconnect handle bracket and then the disconnect handle.
	Locate the disconnect handle in full upper position of disconnect handle bracket.
	Remove all disconnect cable slack between the opener and the top of the disconnect handle bracket. Tighten #6-20 x 1/2" screw into the disconnect handle until snug, and then tighten screw an additional 1 to 1-1/2 turns to secure disconnect cable to the disconnect handle. Trim off excess cable from bottom of the disconnect handle.
	<b>CAUTION:</b> PULL CABLE ONLY TAUT ENOUGH TO REMOVE THE CABLE SLACK. PULLING THE CABLE MORE COULD CAUSE OPENER TO DISCONNECT FROM THE TORQUE TUBE AND CAUSE FAILURE OF THE DISCONNECT.



10		Manual operated position	Motor operated position
Disconnect Handle Usage			
Tools Needed: None	Apply emergency disconnect label next to the mounted bracket. Use mechanical fasteners if adhesive will not adhere.		
	Using the emergency disconnect, pull down on disconnect handle and place it in the manual door operated position (use disconnect label for reference). Motor will be rotated 90° from its packaged position.		Q
	troubleshooting section in this manual.		Emergency Disconnect Label

11	Cable Adjustments	Torquemaster®       1/2 Wrap Shown
Tools Needed: Pliers/Wire Cutter	Starting on the right hand side, rotate the cable drum until the set screw faces directly away from the header. Torque tube cam peak should be pointing straight up.	Counterbalance Cable Cam Peak Straight Up
Screwdriver Step Ladder	<b>NOTE:</b> Illustrations show the right hand cable drum, left hand cable drum is symmetrically opposite. <b>NOTE:</b> Cable tension is set during the initial	Cut Cable Here
	door installation. If there is slack between the counterbalance cable and the cable drum or unequal tension between the right and left hand counterbalance cables, the counterbalance cables will have to be readjusted. If there is no slack and cable tension is equal, proceed to Step 12.	Torquemaster® Plus     Counterbalance Cable       1/2 Wrap Shown     Cam Peak Straight Up
	Loosen the set screw no more than 1/2 turn. Using locking pliers, pull on the end of the cable to remove all cable slack.	First Groove
	<b>IMPORTANT!</b> A MINIMUM OF A 1/2 WRAP IS REQUIRED FOR PROPER DOOR OPERATION. CABLE MUST BE TAUT AND IN THE SPIRAL, OR THREAD, OF THE CABLE DRUM.	Cut Cable Here Right Hand Drum Set Screw
	Check to ensure the cable is aligned and seated in the first groove of the cable drum. Snug the set screw, and then tighten an additional 1-1/2 turns. Left side will be adjusted in Step 13.	1-1/2 Wrap Shown Counterbalance Cable Cam Peak Straight Up
	<b>IMPORTANT!</b> ENSURE THE CABLE IS ALIGNED AND SEATED IN THE FIRST GROOVE OF THE CABLE DRUM PRIOR TO WINDING SPRINGS.	Cut Cable Here Right Hand Drum
	Measure approximately 6" of cable, cut off excess cable, tuck end into cable drum (Torquemaster <sup>®</sup> ) or insert end in hole of cable drum (Torquemaster <sup>®</sup> Plus).	Hole Hole Contraction of the con



#### TorqueMaster<sup>®</sup> Plus



DRIVE® FOR TORQUEMASTER® INSTALLATION

PAWI KNOB

IN UPPER POSITION

Pawl

Ratchet

3" Extension

	Winding Spring(s) (Continued)			RECOMMEN	NDED SPRING TURNS
	To wind the opring rotate the winding shaft of	oolawicc		Door Height	Spring Turns
Tools Needed:	while watching the mark on the winding shaft	iockwise, i (or		6'-0"	14
	socket). Rotate the winding shaft to the require of turns for your door or the number recorded	ed number during the		6'-3"	14-1/2
	Pre-Installation Inspection on page II. Place ra	tchet pawl		6'-5"	15
	wind the right hand spring to the required nur	nber of		6'-6"	15
	Inspection on page II. Place ratchet pawl in lo	Installation wer		6'-8"	15-1/2
	position.			6'-9"	15-1/2
	IMPORTANT! DO NOT OVERWIND SPRINGS			7'-0"	16
	<b>NOTE:</b> Since total turns to balance door can from spring turn chart values by $\pm 1/2$ turns,	deviate		7'-3"	16-1/2
	adjustments to the recommended number of	spring		7'-6"	17
	completed.	Settidiy 13		7'-9"	17-1/2
	IMPORTANT! HOLD THE DOOR DOWN TO P	REVENT IT		8'-0"	18
	FROM RAISING UNEXPECTEDLY IN THE EVENT SPRING WAS OVERWOUND AND CAUTIOUSLY VICE CLAMPS FROM VERTICAL TRACKS.	THE REMOVE			
	IMPORTANT! ADJUSTMENTS TO THE RECO NUMBER OF TURNS MAY BE REQUIRED. IF DI RAISES OFF THE FLOOR UNDER SPRING TEN: ALONE, THEN REDUCE SPRING TENSION UNT RESTS ON THE FLOOR. IF THE DOOR IS HARL OR DRIFTS DOWN ON ITS OWN, THEN ADD S TENSION. AN UNBALANCED DOOR CAN CAUS OPERATION PROBLEMS. IMPORTANT! IF YOU ARE INSTALLING THE I OPENER ON A NEW GARAGE DOOR, REAR SU WILL NEED TO BE FABRICATED/ INSTALLED SUPPORT THE HORIZONTAL TRACKS. REAR S ARE CONSTRUCTED USING PERFORATED AN HEAD BOLTS/NUTS AND THEN THE MUST BE ATTACHED TO SOUND FRAMING MEMBERS N SCREWS. FOR DETAILED INFORMATION ON CONSTRUCTING/ SUPPORTING THE REAR SU REFER TO YOUR DOORS INSTALLATION INST AND OWNER'S MANUAL.	MMENDED DOR SION IL DOOR D TO RAISE SPRING SE IDRIVE® IPPORTS TO SUPPORTS GLES, HEX SECURELY WITH LAG PPORTS, RUCTIONS		Pawl Knob In	IN L Lower Position
14	Drum Wrap Installation		[ (	Drum Wrap Left Hand)	*
Tools Needed:	To install drum wraps, position the left hand	Groove Drum	in Drum (Left Hand)	13	
Step Ladder	with counterbalance cable; slide groove in	Drum Gear			
	drum wrap towards the left until tabs snap				
	gear. Repeat for right hand side.				Tabs
	IMPORTANT: Right and left hand are always				
	determined from inside the building looking			Groove	
				In Drum	
	After completing this Step, continue with			Ç	
	Siep 15 011 page 22.		Coun	terbalance Cable	
				Julianos Gubio	No la

PAWL KNOB IN LOWER POSITION

20 Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. You can reach us Toll Free at 1-888-827-3667 for Consumer Assistance or online at www.wayne-dalton.com

#### **TorqueMaster**®

13	Setting Spring Tension
Tools Needed:	See chart below for proper spring tension setting.
Power Drill 7/16" Socket Driver	Beginning with the right hand side, ensure the counterbalance cable is in the first groove of the cable drum. <b>NOTE:</b> Apply light pressure to the canoe clip on counter while winding springs.
7/16" Wrench Step Ladder	Using a power drill (high torque/gear reduced to 1300 RPM preferred) with a 7/16" socket driver, carefully rotate right hand winding bolt clockwise, until counter shows 2-3 turns. This will keep the counterbalance cable taut while adjusting the left hand side counterbalance cable.
	Adjust left hand counterbalance cable tension (Refer to step 11).
	<b>NOTE:</b> Single spring applications require no spring winding on left hand side, but need cable tension adjusted.
	<b>IMPORTANT!</b> Ensure counterbalance cable tension is equal for both sides prior to fully winding spring(s) to appropriate number of turns. If cable tension is unequal, refer to Step 11.
	See the Spring Turn chart.
	For SINGLE SPRING applications, return to the right hand side and carefully rotate the winding bolt head clockwise until the counter shows the correct number of turns for your door or the number record during the Pre-Installation Inspection on page II.
	<b>For DOUBLE SPRING applications,</b> remain on the left hand side and carefully rotate the winding bolt head clockwise until the counter shows the correct number of turns for your door or the number record during the Pre- Installation Inspection on page II. Then return to the right hand side and wind the right hand spring to the required number of turns for your door or the number recorded during the Pre-Installation inspection on page II.
	IMPORTANT! DO NOT OVERWIND.
	After spring is wound, hold the lock nut (in back of end bracket) stationary with a 7/16" wrench while rotating the winding bolt clockwise until snug. Tightening of the lock nut prevents spring from unwinding. Repeat for opposite side on double spring Torquemaster <sup>®</sup> systems.
	<b>IMPORTANT!</b> CAUTIOUSLY REMOVE VICE CLAMPS FROM VERTICAL TRACKS. ADJUSTMENTS TO THE RECOMMENDED NUMBER OF TURNS MAY BE REQUIRED. IF DOOR RAISES OFF THE FLOOR UNDER SPRING TENSION ALONE, THEN REDUCE SPRING TENSION UNTIL DOOR RESTS ON THE FLOOR. IF THE DOOR IS HARD TO RAISE OR DRIFTS DOWN ON ITS OWN, THEN ADD SPRING TENSION. AN UNBALANCED DOOR CAN CAUSE IDRIVE® OPERATION PROBLEMS.
	<b>IMPORTANT!</b> IF YOU ARE INSTALLING THE IDRIVE® OPENER ON A NEW GARAGE DOOR, REAR SUPPORTS WILL NEED TO BE FABRICATED/ INSTALLED TO SUPPORT THE HORIZONTAL TRACKS. REAR SUPPORTS ARE CONSTRUCTED USING PERFORATED ANGLES, HEX HEAD BOLTS/NUTS AND THEN THE MUST BE SECURELY ATTACHED TO SOUND FRAMING MEMBERS WITH LAG SCREWS. FOR DETAILED INFORMATION ON CONSTRUCTING/ SUPPORTING THE REAR SUPPORTS, REFER TO YOUR DOORS INSTALLATION INSTRUCTIONS

AND OWNER'S MANUAL.



**NOTE:** For 7' high doors, 8', 9', 10', 16' or 18' wide with windows, the recommended number of spring turns is 15.

RECOMMENDED SPRING TURNS				
Door Height Doors 11'-11" Wide or Less		Doors 12' Wide or Greater		
6'-0"	13-1/2	14		
6'-3"	14	14-1/2		
6'-5"	14-1/2	15		
6'-6"	14-1/2	15		
6'-8"	15	15-1/2		
6'-9"	15	15-1/2		
7'-0"	15-1/2	16		
7'-3"	16	16-1/2		
7'-6"	16-1/2	17		
7'-9"	17	17-1/2		
8'-0"	17-1/2	18		

Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. 21 You can reach us Toll Free at 1-888-827-3667 for Consumer Assistance or online at www.wayne-dalton.com

14	Drum Wrap Installation	
Tools Needed: Step Ladder	Drum wraps (supplied with Torquemaster <sup>®</sup> counterbalance systems) are identified as right and left.	Outside Flange
	To install, place the drum wrap over the cable drum and under the idrive <sup>®</sup> disconnect cable. Align the outside flange over the outside edge of the cable drum and push the drum wrap down onto the cable drum.	Cable Drum
		Drum Wrap Cable Drum
15	Mounting Wall Station	
Tools Needed: Tape Measure	<b>WARNING</b> TO PREVENT POSSIBLE INJURY, INSTALL WALL STATION OUT OF THE REACH OF CHILDREN AND IN A LOCATION WHERE THE DOOR CAN BE SEEN WHEN THE OPENER IS ACTIVATED. DO NOT MOUNT WALL STATION NEAR OR NEXT TO GARAGE DOOR.	
	<b>NOTE:</b> For proper operation, mount the wall station on a flat surface.	
	The wall station can be mounted to a NEMA standard electrical device box or directly to any wall surface. No wiring is required.	5' Min
	Select appropriate place to mount wall station. To keep wall station out of the reach of children, locate it at least five feet up from the floor.	

	Mounting Wall Station	Lower Screw Installation	Upper Screw Installation	
	(Continued)			
Tools Needed: Power Drill 3/16" or 3/32" Drill Bit Phillips Head Screwdriver	If mounting to a NEMA electrical device box, use machine thread screws provided in place of the wood screws. No drilling is required. If high voltage wiring is contained in the box, a standard NEMA solid faceplate must be installed between the box and the wall station. If fastening into drywall or concrete, use anchors provided. When mounting to wood use a 3/32" drill bit and the drilling template located on page 46.	Phillips Head Screw		
	Drill the two 3/32" mounting holes using the drill template. Drill 3/16" holes if using anchors.			
	Install lower screw leaving 7/16" of the screw exposed. Slide wall station keyhole slot onto the lower phillips head screw. Wall station should slide onto screw, providing a snug fit. If necessary remove wall station and loosen or tighten lower phillips head screw until a snug fit is achieved.	7/16"		
	Once wall station is fitted on lower screw, install upper screw. Do not over-tighten.	Phillips		
	<b>CAUTION:</b> Over-tightening the upper screw could deform plastic case.	Head Screw		
16	Installing Battery			
Tools Needed: None	Remove the battery cover (right-hand side of wall station) by disengaging the battery cover's lower clip.	LED Hress Here	<b>T</b>	
	Install two AAA batteries into the wall station observing the polarity, (+) and (-), of both batteries. After about three seconds, the red LED will begin to blink momentarily every three seconds.	Wall Station +	Battery	
	Re-install the battery cover by first inserting its top into the wall station then inserting and securing its bottom.	(2) AAA Batteries	Lower Clip	
	Apply entrapment warning label in a		<b>*</b>	



Please Do Not Return This Product To The Store. Call Us Directly! Our Trained Technicians Will Answer Your Questions and/or Ship Any Parts You May Need. 23 You can reach us Toll Free at **1-888-827-3667** for Consumer Assistance or online at **www.wayne-dalton.com** 

convenient location next to the wall station. Use mechanical fasteners if adhesive will

**NOTE:** To slow blink rate or turn off the red LED, refer to wall station operation page 35

not adhere.

"Backlit LED Light".



Tools Needed:

Phillips Head Screwdriver

Flat Tip Screwdriver

Step Ladder

#### **Installing the Light Fixture**

### 

TO AVOID ELECTRICAL SHOCK DISCONNECT POWER TO THE RECEPTACLE AT THE FUSE/BREAKER BOX, BEFORE PROCEEDING WITH THE INSTALLATION OF THE LIGHT FIXTURE.

**IMPORTANT!** THIS LIGHT FIXTURE HAS A GROUNDING TYPE PLUG WITH A THIRD (GROUNDING) PIN. THIS PLUG WILL ONLY FIT INTO A GROUNDING-TYPE OUTLET. IF THE PLUG DOES NOT FIT INTO YOUR OUTLET, CONTACT A QUALIFIED ELECTRICIAN TO INSTALL THE PROPER GROUNDING TYPE OUTLET. DO NOT ALTER THE PLUG IN ANY WAY.

# 

TO AVOID ELECTRICAL SHOCK/FIRE, DO NOT MOUNT THE LIGHT FIXTURE TO A RECEPTACLE WITH A METAL FACE PLATE.

**IMPORTANT!** GARAGE DOOR MUST CLEAR LIGHT FIXTURE WHEN THE DOOR IS IN THE OPEN POSITION.

The light fixture is designed to mount directly to a standard 120V duplex receptacle.

Remove the screw in the receptacle cover. Holding receptacle cover in place, insert light fixture into the receptacle that has the ground hole farthest from screw hole.

Secure light fixture to receptacle with a  $\#6-32 \times 3/4$ " phillips pan head screw.

Install hole plug into the screw hole in the light fixture.

**NOTE:** For temperature protection, the hole plug must be in place prior to using the light fixture.



18 Tools Needed: Step Ladder	Attaching Diffuser Screw a 75W (maximum) light bulb into light socket and snap diffuser into light fixture. When assembling diffuser, make sure all three snap tabs are aligned and fully snapped into the three mating slots of the light fixture. Turn receptacle power back on at fuse/ breaker box. The light should blink one time when the power is turned back on. NOTE: An accessory power outlet receptacle (600 Watt Maximum) is provided as part of the light fixture.	Mating Slots	Power Outlet Light Fixture Light Socket Snap Tabs Diffuser
19 Tools Needed: Phillips Head Screwdriver Step Ladder	Connecting Opener Power Cord	(Ceiling) Plug Into Nearest Power Outlet Power Outlet Discon Cat Discon Discon Cat Discon Discon Cat Discon	Cable Clips #6 x 7/8 Wood Screws

