

PowerMate®

Stair Climbing Hand Trucks & LiftGates



PowerMate LV-7 Ballnut Replacement Instructions

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This process should take approximately ¾ - 1 hour.

Step A: Remove the Screw Guard

PROCEDURE: Swing the LiftGate unit out of the vehicle and engage the base main arm lock pin.

Extend the unit until the toeplate is just touching the ground. This is to make disengaging the outer frame from the screw assembly easier.

Move the circuit breaker switch to the OFF position and depress the red heavy duty switch to OFF.

Remove the two (2) Phillips screws from the top of the screw guard and the remove guard.



Step B: Remove the Drive Screw Assembly

PROCEDURE: Remove the four (4) top ¼" countersunk screws holding the bearing retainer (7/16" wrench and 5/32" Allen key).

Remove the shim from between the bearing retainer and the inner frame.



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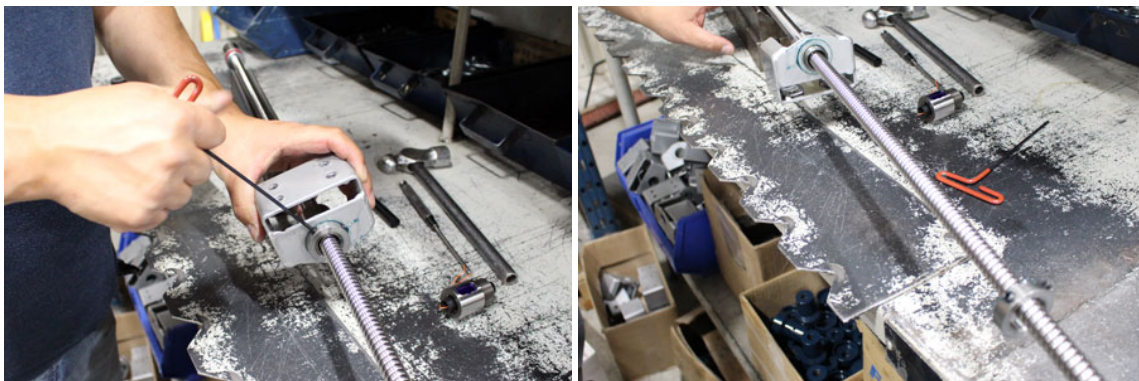
Remove the four (4) button head cap screws (3/16" Allen key) holding the outer frame to the screw assembly ballnut bracket.

Grip the screw assembly and remove up and out, disengaging the drive screw from the motor.



Step C: Remove Ballnut Locknut

PROCEDURE: Loosen the two (2) set screws in the ballnut locknut. Unthread the ballnut locknut from the ballnut.



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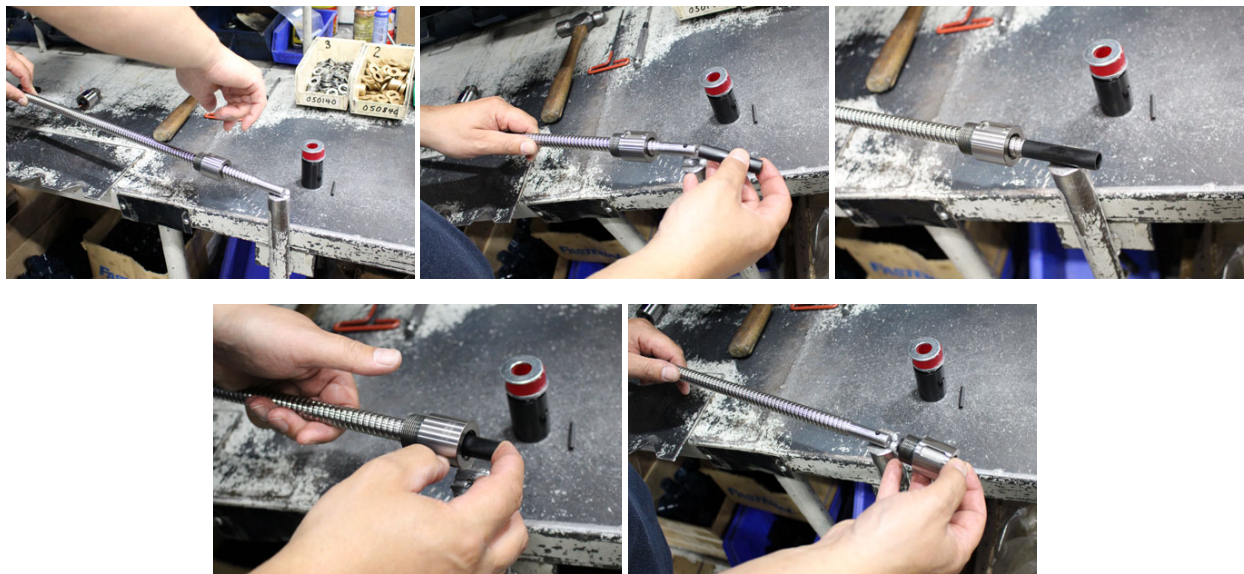
Step D: Remove Lower Drive Components

PROCEDURE: Remove roll pin from lower coupling using a 3/16" punch. Be sure to properly support drive screw so as not to bend it. Remove the lower components from drive screw.



Step E: Remove Original Ballnut

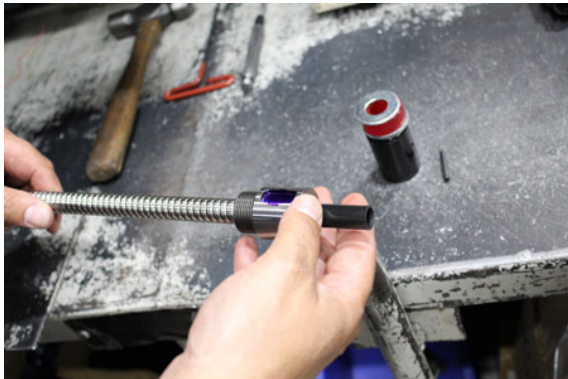
PROCEDURE: Hand-turn the ballnut towards bottom end of drive screw. Place arbor tool onto end of drive screw. Continue to wind ballnut down and onto the arbor.



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Step F: Add New Ballnut

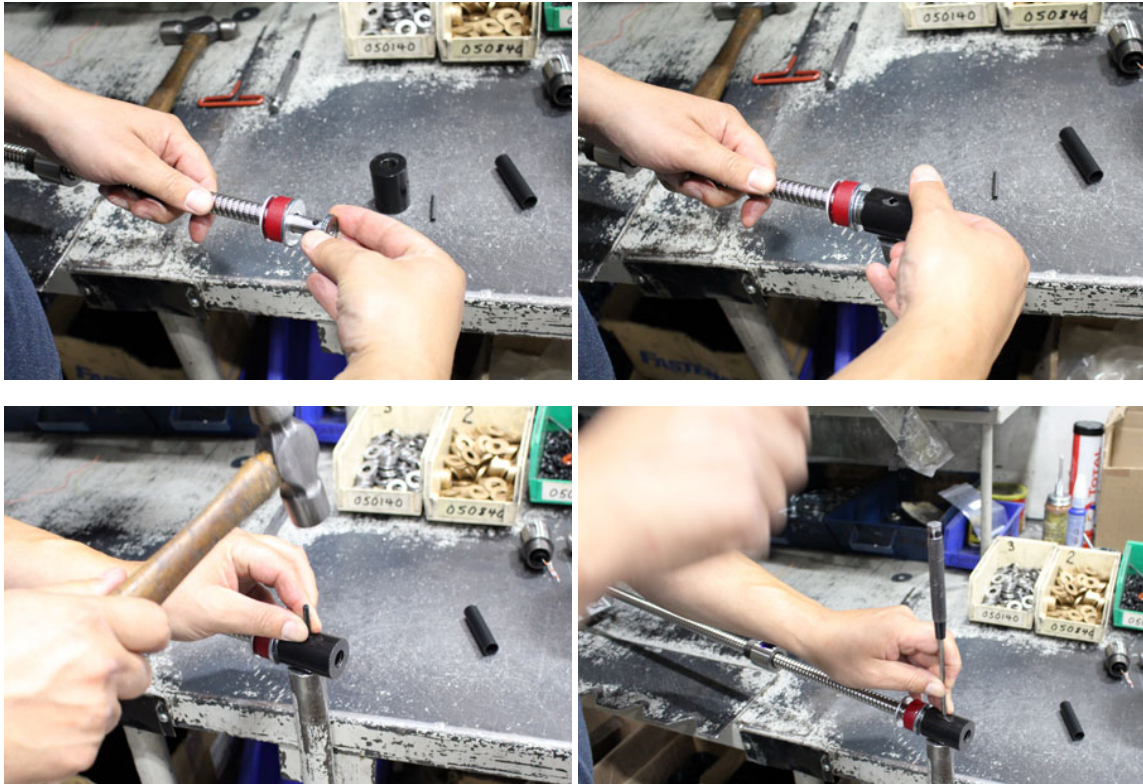
PROCEDURE: Transfer the new ballnut onto the arbor tool. Slide the arbor and ballnut onto the bottom end of drive screw. Wind the ballnut onto thread of drive screw then remove the arbor.



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Step G: Add Lower Drive Components

PROCEDURE: Re-install lower components of drive screw assembly in the correct order. Re-install the roll pin into the coupling. Support the drive screw so as not to bend it.



Step H: Grind Flat Spot on Ballnut Thread

PROCEDURE: Dry fit the ballnut, disc spring washer, ballnut bracket, and ballnut locknut. Hand-tighten the ballnut locknut and then 1/8th of a turn extra. Mark position of 1st set screw on the ballnut with a black marker.

Unthread the ballnut and release components to allow access to the ballnut.

Using an angle grinder, create a flat spot on the thread of the ballnut located at the black mark.



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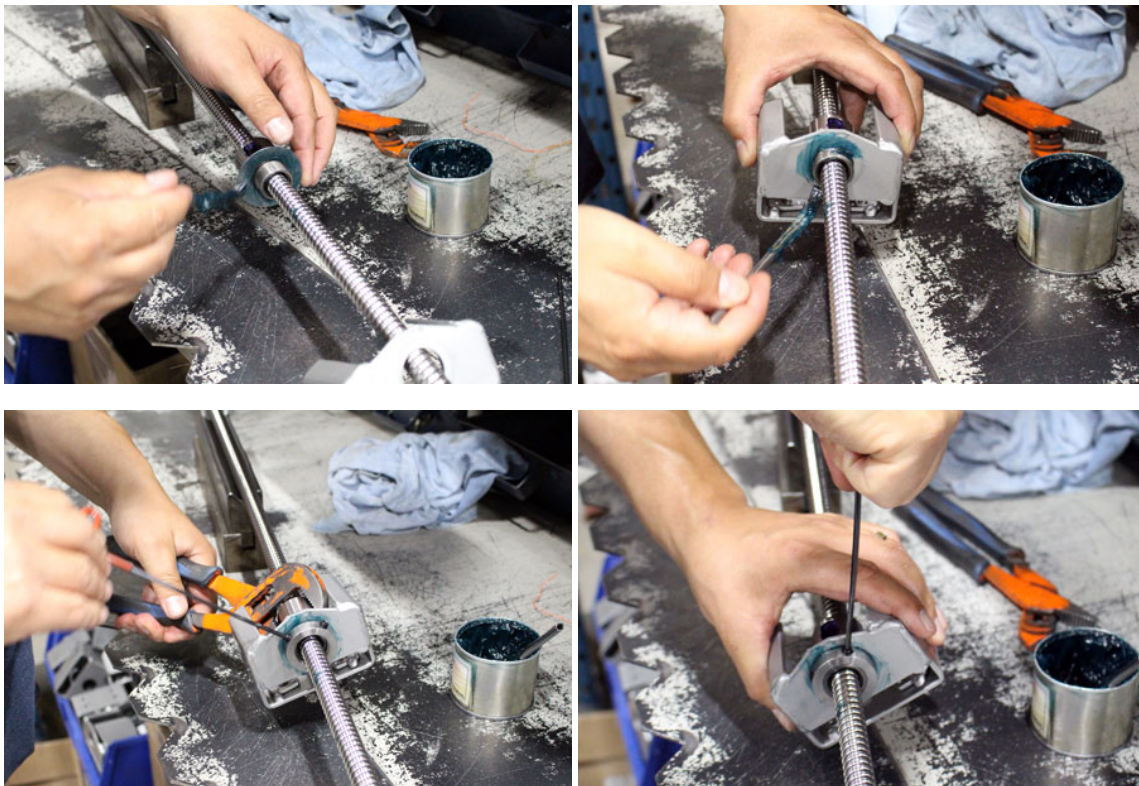


Step I: Assemble Ballnut and Ballnut Locknut

PROCEDURE: Re-install the ballnut, disc spring washer, ballnut bracket and ballnut locknut. Apply grease to the disc spring washer and top side of ballnut bracket around protruding ballnut.

When re-tightening the ballnut locknut, be sure that the 1st set screw lands at the flat spot.

Tighten both set screws.



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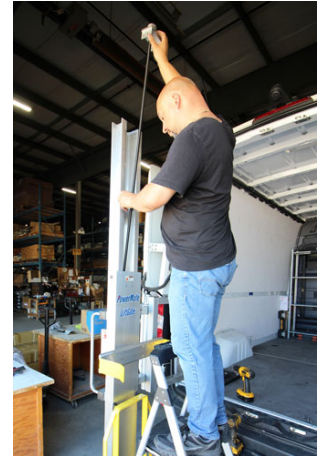
Step J: Install the Screw Assembly

PROCEDURE: Guide the drive screw assembly back into the inner frame, making sure the bearing retainer and ballnut bracket are oriented properly for installation.

Attach the drive screw to the motor.

Insert the shim between the bearing retainer and inner frame, making sure orientation is correct.

Install the four (4) top ¼" countersink screws.



Step K: Attach the Ballnut Bracket

PROCEDURE: Power on the machine and raise or lower the ballnut bracket so that the holes in the outer frame are aligned.

Install the four (4) button head cap screws to attach the outer frame to the ballnut bracket.

Run machine up and down to check that machine operates properly.



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Step L: Install the Screw Guard

PROCEDURE: With the Toeplate on the ground, insert the screw guard into position through the ballnut bracket. Guard will stop about 1" from proper fit.

Gently push the guard inwards and allow it to drop into the screw guard bracket.

Continue to push the guard down until screw holes are aligned at top of Guard.

Install the two (2) Phillips Screws.

