

AMT 12 lift motor system calibration procedure

Applies to

AMT 12

Issue/Symptoms

Incorrect calibration of the lift motor can cause the gas spring to bottom or top out (hit hard stops) before reaching the commanded incline level. This can cause the lift motor to stay in an operating state (as it is unable to reach the commanded level) or cause the lift platform to be jammed. The lift fuse and/or battery may also be damaged.

Resolution

Calibrate the lift motor using the following procedure whenever the AMT 12 exhibits the above issues/symptoms, the lift motor system is out-of-calibration, or anytime the lift motor or gas spring are removed and/or replaced.

Tools required

- #2 Philips screwdriver
- Measuring tape
- Painter's tape
- Ratcheting strap

Procedure

Lift calibration check

- 1 Access the Hardware Validation diagnostics, select CROSSRAMP, and set the cross ramp to level 5.
- 2 Verify that the gas spring outer housing to shaft rod end clearance is between $\frac{1}{4}$ to $\frac{3}{4}$ inches (6mm to 19mm). See *Level 5 Clearance Verification* image below.
- 3 Verify the current lift motor A/D values.
 - a. At level 5: **212 - 216** (3392-3456 for LPCA PN 305476-103 – on units built after 3 June 2019)
 - b. At level 1: **38 - 42** (608-672 for LPCA PN 305476-103 – on units built after 3 June 2019)
- 4 If the measurement or the A/D values are out of range, perform the *Lift calibration procedure* below.



Note: If the A/D values are slightly out of range but the gas spring clearance is between $\frac{1}{4}$ to $\frac{3}{4}$ inches (6mm to 19mm), there is no need to adjust.

Lift calibration procedure

- 1 This procedure assumes the covers are removed, the lift motor is attached to the unit, plugged into the LPCA, with the lift tube is **disconnected** and the gas shock installed. See the [AMT Manual](#) for other procedures.
 - a. To disconnect the lift tube, remove the clevis and hitch pin at the bottom of the lift motor. If the hitch pin is difficult to remove, slightly lift the lower ramp assembly to remove pressure off the lift pin.
- 2 Access the Hardware Validation diagnostics, select CROSSRAMP, and set the cross ramp to level 1.



Note: The CROSSRAMP level must be set to level 1 (full extension of the gas spring shaft) or the calibration will be invalid. To ensure this, **hold the toggle switch until the lift no longer moves.**

- 3 Unplug the data cable.



Caution: Failure to unplug the data cable may result in the lift motor resetting to the home position (level 2), which will cause the calibration to be off.

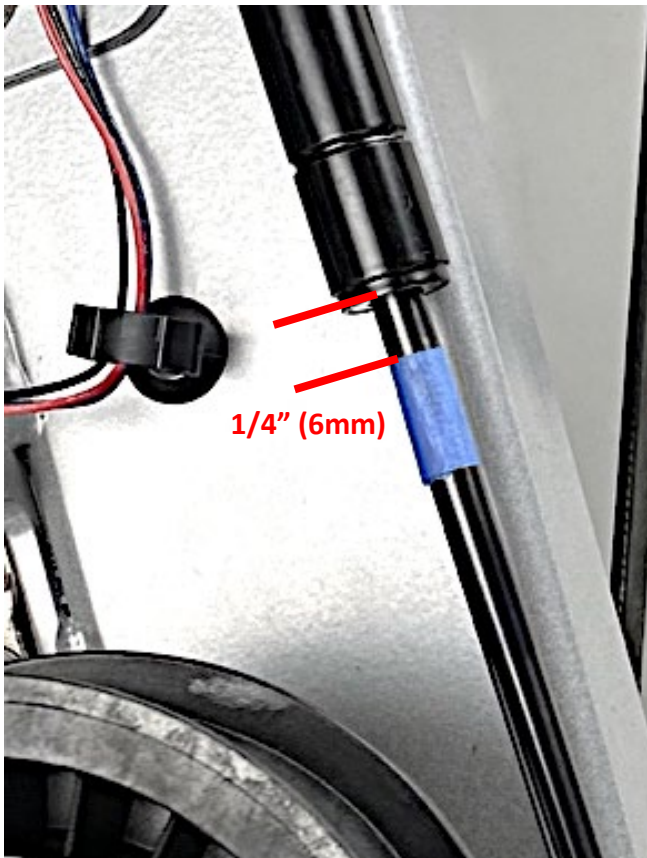
- 4 Remove the left and right flat belts off the lower pulleys and gently set the stair arms down.

- 5 Measure ¼ inch (6mm) along the gas spring shaft from the bottom of the gas spring outer housing. Mark the location with painter’s tape. See *Level 1 Calibration Reference* image below.

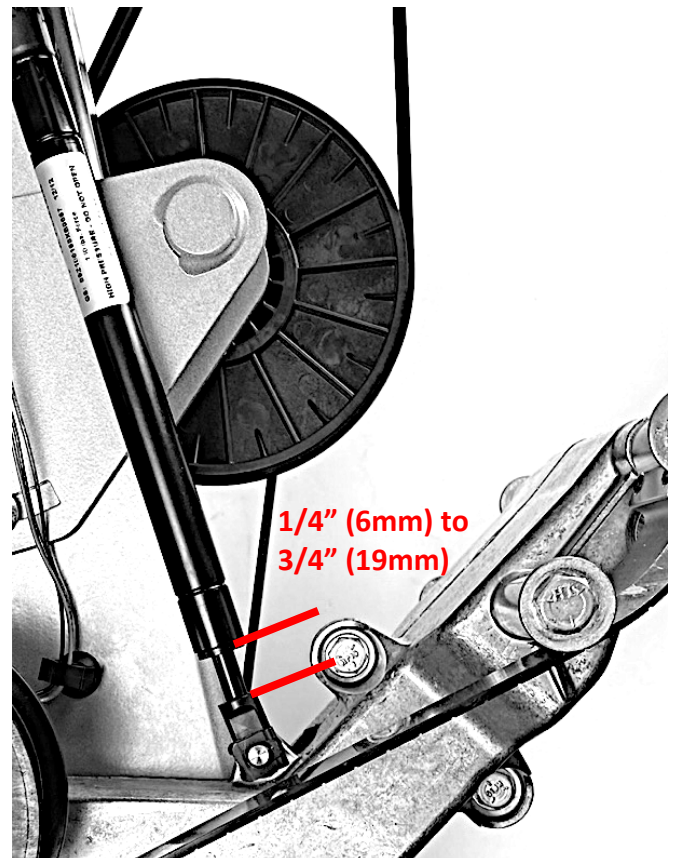


Caution: Do not scratch, write on the gas spring shaft, or use tape that leaves a sticky residue to prevent damaging the housing inner shaft seal.

- 6 Manually raise the lift platform (compressing the gas spring) to the ¼ inch (6mm) reference mark and secure the lift platform in position with a ratcheting strap.
- 7 Rotate and adjust the lift actuator tube so that the lift actuator tube and lift platform bracket mounting holes align. Insert the clevis pin and secure with the hitch pin.
- 8 Remove the painter’s tape from the gas spring shaft.
- 9 Reinstall the left/right flat belts.
- 10 Access the Hardware Validation diagnostics, select CROSSRAMP, and set the cross ramp to level 5.
 - a Verify that the gas spring outer housing to shaft rod end clearance is between ¼ to ¾ inches (6mm to 19mm). See *Level 5 Clearance Verification* image below.
 - i If less than ¼ inch, remove the lift motor clevis pin and rotate the lift motor actuator tube ½ turn **counterclockwise**. Reinstall the motor clevis pin and verify the clearance is correct.
 - ii If greater than ¾ inch, remove the lift motor clevis pin, rotate the lift motor actuator tube ½ turn **clockwise**. Reinstall the motor clevis pin and verify the clearance is correct.
- 11 Perform **Lift Calibration Check** above.
- 12 Verify AMT operation and return to service.



Level 1 Calibration Reference



Level 5 Clearance Verification