

KNIGHT PNEUMATIC BALANCER TROUBLESHOOTING CHART

Balancer Troubleshooting

Balancer operation may be affected by various factors. If your balancer is not performing as well as expected, follow the flow chart below to diagnose the problem. If unable to resolve the issue, contact the Knight Service Department at 248-377-4950 ext. 162 or via e-mail at service@knight-ind.com.

Problem	Check
Does not travel upward (load attached)	A B C D E F G
Does not travel upward (no load attached)	A B C D E F
Does not travel downward (load attached)	A B C D E H I K
Does not travel downward (no load attached)	A B C D E H I J K
Does not travel smoothly upward or at correct speed	A B E G
Does not travel smoothly downward or at correct speed	A B E G
Drifts up or down after periods of non use	J

A. Is main air supply valve open and all regulators in-line before the manifold is regulated to at least 60 psi (4.1 bar)?

Yes: Refer to next item on troubleshooting chart.

No: Connect the main air. Refer to “Connecting Main Air” procedure (page 2-14), in the Balancer Operator’s Manual.

B. Is sufficient air flow available to the balancer manifold?

Yes: Refer to next item on troubleshooting chart.

No: Refer to “Connecting Main Air” (page 2-14), in the Balancer Operator’s Manual for air line requirements and installation.

C. Is the port on back of the manifold lined up correctly with the port on the valve cap? Are both ports unobstructed?

Yes: Refer to next item on troubleshooting chart.

No: Follow appropriate procedure from “Control Module Installation” (page 2-7), in the Balancer Operator’s Manual.

D. For single, dual, or high relieving single balance controls (part numbers BCS2018, BCS2090, BCS2322, BCS2215, and BCS2323), are the regulator knob(s) set properly per “Operation Adjustments” (page 4-1), in the Balancer Operators Manual?

Yes: Refer to next item on troubleshooting chart.

No: Bench set control module; follow appropriate instructions from “Control Module Installation” (page 2-7), in the Balancer Operator’s Manual. After control module is bench set, follow “Connecting Main Air” procedure (page 2-14), in the Balancer Operator’s Manual. Then follow appropriate adjustment procedures from “Operation Adjustments” (page 4-1), in the Balancer Operator’s Manual.

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E. For Up/Down pendant controls (part numbers BCS3017, BCS3320, BCS3330, BCS2326, BCS2231, BCS2327, BCS2091, BCS2321), are the flow controls on the manifold set correctly per "Operation Instructions" (page 4-1), in the Balancer Operator's Manual? Are hoses connected to the correct ports per "Control Module Installation" instructions (page 2-7), in the Balancer Operator's Manual?

Yes: Refer to next item on troubleshooting chart.

No: Up/Down pendant direct air flows into the balancer through the control module. Pressing the "UP" lever allows air into the balancer. Pressing the "DOWN" button releases air through the pendant handle. Ensure air lines are installed correctly; refer to "Control Module Installation" (page 2-7), in the Balancer Operator's Manual. Set flow controls per "Operation Adjustments" (page 4-1), in the Balancer Operator's Manual.

F. Is the end of travel indicator at or near the mouth of the cable/chain guide on the balancer?

Yes: The cable or chain is completely retracted and will not travel upward any further.

No: The retract control may be engaged. Follow "Resetting the Internal Retract Control" (page 4-4), in the Balancer Operator's Manual.

G. Is the balancer sized correctly for the load? (see "Air Balancer Sizing" (page 3-2), in the Balancer Operator's Manual).

**For all models and specifications, refer to the website: <http://www.knight-ind.com/balancers.htm>

Yes: Refer to next item on troubleshooting chart.

No: If the load (fixture and part) exceeds rated capacity of the balancer (see "Air Balancer Sizing" (page 3-2), in the Balancer Operator's Manual), a higher rated capacity balancer is required. Contact your Knight Representative for assistance.

**For all models and specifications, refer to the website: <http://www.knight-ind.com/balancers.htm>

H. Is the cable or chain completely extended out of the can? To verify, measure the distance from the end of travel indicator to the cable/chain guide on the can. The distance should equal the stroke of the balancer.

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Yes: The cable or chain is completely extended and will not travel downward any further.

No: The cable or chain may be bound inside the can between the liner and the spool due to improper operation or installation. Contact a Knight Representative for a replacement assembly.

I. Has the end of travel indicator been moved?

Yes: Balancer may be fully extended; see "End of Travel Indicator Placement" (page 2-13), in the Balancer Operator's Manual.

No: The cable or chain may be bound inside the can between the liner and the spool. Contact a Knight Representative for a replacement assembly.

J. Is the drift screw properly set? Refer to "Drift Adjustment" (page 4-3), in the Balancer Operator's Manual.

Yes: Press the DOWN button and pull down on the cable. When the cable or chain is completely retracted, air should stop flowing out of the handle. If air still flows, replace the manifold.

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No: If the drift screw is backed off and the balancer does not travel downward, the drift screw regulator may need replacement. Contact a Knight Representative for assistance.

K. Is the spool locked up?

Yes: The internal retract control may be engaged. Follow "Resetting the Internal Retract Control" (page 4-4), in the Balancer Operator's Manual.

No: Down stroke is accomplished by relieving pressure from the can. In order to lower an empty hook, or a lighter load, the operator may have to pull down on the cable or chain. If the balancer pressure is relieved and the spool still moves, replace the balancer. Contact a Knight Representative for assistance.