



OSBORNE®

Weight Watcher™ Growth Management System

BY-PASS GATE Installation Instructions

FS-SS00550 [Galv.]/FS-SS00560 [304 SS]

U.S. Patent No. 8,511,257

The Osborne ACCU-ARM® By-Pass gate provides an emergency exit from the water pen in an Osborne Weight Watcher™ System.

The By-Pass Gate return spring automatically releases the By-Pass Gate Lock and the gates open to enable the pigs to exit from the Water Pen without passing through the Osborne Survey Scale™ if air pressure is lost. Air pressure is lost owing to air supply failure, electrical power outage, or air pressure release owing to activation of the Idle Alert function caused by below-normal scale use rates.

Installation

The ACCU-ARM® By-Pass Gate is shipped with the gate lock fastened with plastic ties to the two swing gates in the lock-down position. **Do not remove these plastic ties until the installation of the By-Pass Gate is complete.**

Install the By-Pass Gate in-line with pen dividers by anchoring the base of the By-Pass Gate to the pen floor using appropriate anchoring bolts. Firmly secure the vertical sides of the By-Pass Gate to the pen dividers, walls, or stationary posts using the mounting holes provided.

Caution: Disconnect all electrical and pneumatic services to the Survey Scale™ prior to connecting the By-Pass Gate.

The By-Pass Gate is connected to the fourth air valve from the left (see Figure 1).

If the Survey Scale has only four valves, contact Osborne Customer Service to purchase an additional valve.

Remove the front plug, then insert the supplied tubing into the fitting.

Restore the electrical and pneumatic services to the Survey Scale.

Scale Setup for By-Pass Gate Operation

Set the Survey Scales settings as described in the following 'OUT' Option and 'bPg' Option for proper By-Pass Gate operation.

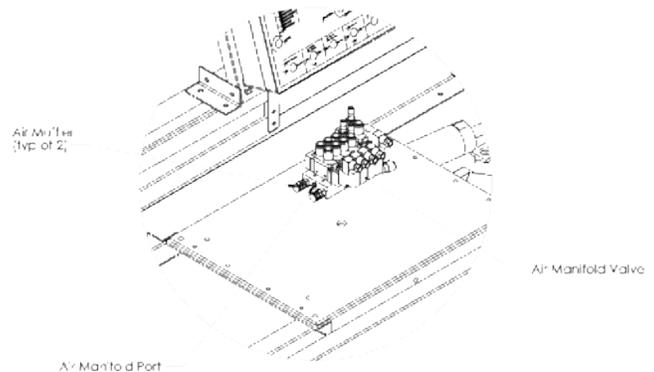


Figure 1. Survey Scale Air Manifold

'OUT' Option

The port two output must be set to operate as an alarm output to properly activate the By-Pass Gate if necessary.

Note: If the By-Pass gate is installed using the By-Pass Gate air valve, then other options such as a Spray Marker may not be used.

To set the 'OUT' option, use the Advance Menu Button.

1. Press the Advance Menu button until 'StP' is displayed in the Advance Menu Window.
2. Hold the button until the display flashes once, then release.
3. The display will show 'Ad'.
4. Press the button multiple times until 'OUT' is displayed.
5. Hold the button until the display flashes once, then release.
6. If the display does not show 'AL', press the button until the display shows 'AL'.
7. Hold the button until the display flashes once, then release.
8. The display will now show 'OUT'.
9. To exit, hold the button until the display goes blank, then release.

'bPg' Option

To insure the By-Pass gate is released when the Idle Alert is active, the 'bPg' option must be set to off. This will cause the air pressure to be released when the time between scale visits is more than the current allowable idle time.

To set the 'bPg' option, use the advance menu button.

1. Press the Advance Menu button until 'idL' is displayed in the Advance Menu Window.
2. Hold the button until the display flashes once, then release.
3. The display will show 'Aut'.
4. Press the button twice until 'bPg' is displayed.
5. Hold the button until the display flashes once, then release.
6. If the display shows 'on', press the button until the display shows 'oFF'.
7. Hold the button until the display flashes once, then release.
8. The display will now show 'bPg'.
9. To exit, hold the button until the display goes blank, then release.

Remove cable ties used for transport. The lock should remain down. Test the By-Pass gate by removing power to the Survey Scale. The gate lock (Figure 2, #4) will gradually begin to rise as air pressure is bled from the Air Cylinder (#8). If the gate lock fails to lift within 2 minutes, verify alignments and absence of binding, which may prevent the lock from lifting.

Air pressure (at least 30 psi measured by the Survey Scale regulator) causes the By-Pass Gate cylinder to extend into the lock-down position. If the gate lock (Figure 2, #4) is not extended to the downward lock position, twist the knob on the air valve located at the top of the air cylinder in the counter-clockwise direction slowly. A slight delay may occur before the air cylinder is fully extended. If the air cylinder does not extend to the lock-down position after this momentary delay, check the air pressure on the Survey Scale air regulator gauge and increase to 30 psi. Adjust air pressure as needed for proper operation.

If the Gate Lock (#4) remains in the upward position after completing the foregoing steps, remove air pressure and disconnect electrical power to the Survey Scale. Inspect the By-Pass Gate for shipping damage that may cause the air cylinder to bind or to function improperly. Make any needed adjustments and retry the foregoing procedure. If the problem persists, contact Osborne Customer Service for assistance.

Resetting the By-Pass Gate

If the plastic gate ties are absent when the By-Pass Gate is delivered or the By-Pass Gate is released during use, then it must be reset to the lock-down position before installation or continued use. Always reset the Gate Lock using the following procedures.

Caution: Always use the following procedure to reset the gates to the lock-down position. Failure to follow this procedure can cause serious injury to fingers or hands.

With the Gate Lock in its upper-most position, grasp the two gates and hold them in the closed position with one hand located at the middle to lower gate section well away from the top of the gates. With the other hand, align the gate lock parallel to the top of the gates so that it will engage the top of the gates when the gate lock is engaged and moved down by the air cylinder. Keep fingers well away from the space between the gate lock and gate tops.

Warning: A pinch point occurs if your fingers, hands, or any object is placed on the top edge of the gates between the gate lock and the top edge of the gates when the gate lock is engaged. Keep hands and other objects away from this area. Severe injury to fingers and hands can result from failure to operate this gate safely during this resetting procedure.

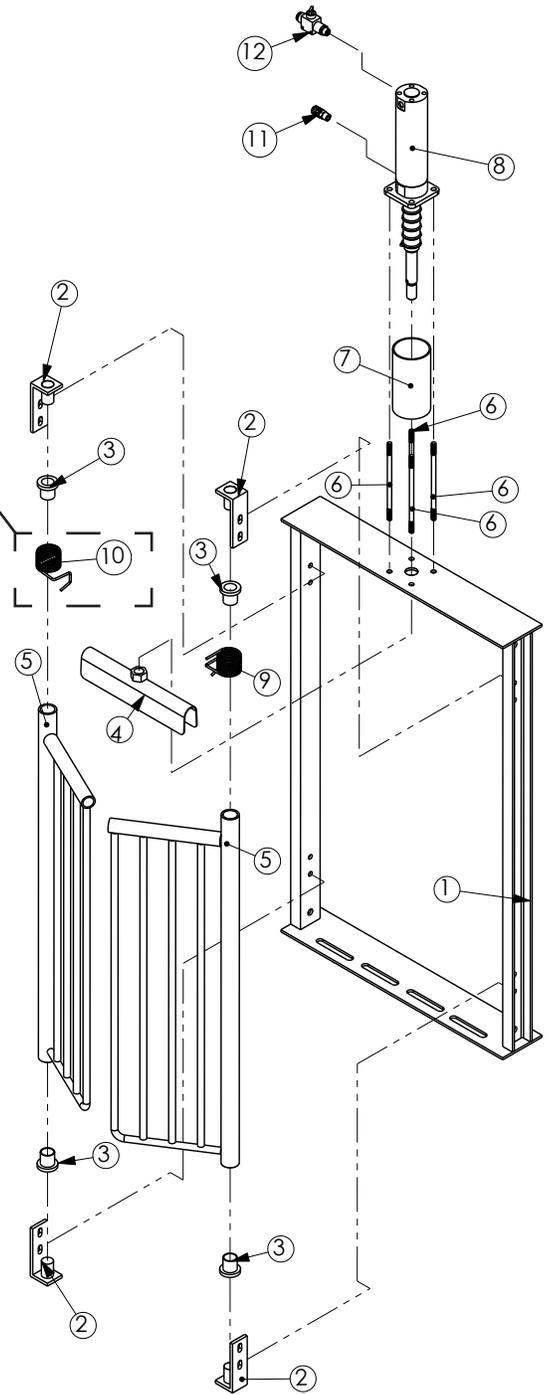
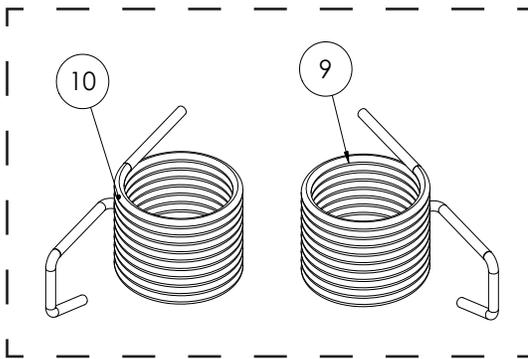
Slowly restore the air pressure to the Gate Lock and Air Cylinder (Fig. 2, #8) by turning the knob of the air cylinder Vented Ball Valve (#11) with a counter-clockwise rotation. Observe the movement of the gate lock and ensure that it is properly locking over the top edge of the gates. If the gate lock is not positioned properly, turn the air cylinder knob clockwise to remove the air pressure and return the gate lock to its upward position. Realign the gate lock and repeat this procedure until the gate lock completely engages and locks the two gates. The By-Pass Gate is now operational.

Routine Maintenance

Monthly testing of the operation of the By-Pass Gate is recommended. Turning the knob on the air valve (#11) located on the end of the air cylinder clockwise from the operational position removes air pressure to the cylinder and the gates should open.

A brief delay in gate opening occurs as air bleeds from the air cylinder. But if the gates do not open within about two (2) minutes after turning the air valve knob to release air pressure to the air cylinder, then inspect the gate lock. If it has not moved upward to clear the top of the gates, but remains in the lower locked position, then the gate is not functioning properly and requires service.

Figure 2. By-Pass Gate



BY-PASS GATE - FS-SS00550 - GALVANIZED			
Item #	Part #	Description	Qty
1	KS-SS0551	By-Pass Gate Frame, Galvanized	1
2	KG-G22900	Gate Hinge	4
3	RFM-7422	Bushing, 1 1/2 x 1 1/4" x 29/32 Bore	4
4	KS-SS0553	By-Pass Gate Lock, Galvanized	1
5	KS-SS0552	By-Pass Gate, Galvanized	2
6	KS-SS0555	By-Pass Gate Tie Rod, Galvanized	4
7	KS-SS0556	By-Pass Gate Cylinder Spacer, Galvanized	1
8	RFF-4049	By-Pass Gate Cylinder 50 x 75mm Stroke	1
9	RFM-4515	By-Pass Gate Spring, Right Hand	1
10	RFM-4516	By-Pass Gate Spring, Left Hand	1
11	RFF-4024	1/4 PT Air Muffler	1
12	KS-SS0557	By-Pass Gate Orifice Valve Assembly	1

BY-PASS GATE - FS-SS00560 - 304 STAINLESS STEEL			
Item #	Part #	Description	Qty
1	KS-SS0561	By-Pass Gate Frame, Stainless Steel	1
2	KS-SS0180	Gate Hinge, Stainless Steel	4
3	RFM-7422	Bushing, 1 1/2 x 1 1/4" x 29/32 Bore	4
4	KS-SS0563	By-Pass Gate Lock, Stainless Steel	1
5	KS-SS0562	By-Pass Gate, Stainless Steel	2
6	KS-SS0565	By-Pass Gate Tie Rod, Stainless Steel	4
7	KS-SS0566	By-Pass Gate Cylinder Spacer, SS	1
8	RFF-4049	By-Pass Gate Cylinder 50 x 75mm Stroke	1
9	RFM-4515	By-Pass Gate Spring, Right Hand	1
10	RFM-4516	By-Pass Gate Spring, Left Hand	1
11	RFF-4024	1/4 PT Air Muffler	1
12	KS-SS0557	By-Pass Gate Orifice Valve Assembly	1

Caution: Before attempting service or close inspection of the By-Pass Gate, disconnect all electrical and pneumatic services to the Survey Scale and release air pressure from the By-Pass Gate. Failure to follow this procedure can cause serious injury to fingers and hands.

Improper operation of the By-Pass Gate lock may occur owing to damage to the air cylinder or excessive fouling of the gate lock. The thrust rod of the air cylinder is protected against fouling by a rubber boot enclosed inside of the cylinder spacer (Fig 2, #7). Clean or replace the cylinder rod if it is fouled by debris or damaged by corrosion.

Inspect the gate lock and the top rod of gates for any fouling or binding. The gate lock must rise freely off the gate top rod without obstruction or friction. Any fouling between the gate lock and the gates must be removed. If a problem persists, contact the Osborne Customer Service for assistance.

After the test and correction of any problems that are discovered, reset the gates using the Gate Resetting procedure and return the By-Pass Gate to operation.

Gate Spring Replacement

The By-Pass Gates are spring loaded to encourage pig flow when the system is activated. Replacement of these springs may be necessary from time-to-time owing to damage by the pigs. To replace damaged gate springs, first remove all air pressure from the By-Pass Gate cylinder. Turning the knob of the air cylinder valve with a clockwise rotation releases the air pressure and allows the gate lock to release the gates. A right-handed (Fig 2, #9) and a left-handed (#10) helical spring are used on the By-Pass Gate. Remove the two nuts on the top gate hinge for the spring to be replaced. The gate hinge may be slightly preloaded. Counter this tension by holding the gate hinge and gate while removing the hinge from the frame. Carefully observe the orientation of the spring and hinge to one another. Remove the hinge from the gate pivot. Remove the gate bushing from inside the gate pivot. Install the replacement spring onto the gate. Reassemble the gate and hinge on the frame.

Manually move each gate to ensure it swings freely. Adjust the hinges and hinge bolts as needed to remove any gate binding. Then follow the Gate Resetting Procedure and restore operation of the By-Pass Gate.



www.osbornelivestockequipment.com

Customer Service:

1-800-255-0316 (US & Canada)

1-785-346-2192 (other countries)

E-mail: sales@osborne-ind.com

Web: www.osbornelivestockequipment.com