

MULTIFEED WAGON

Troubleshooting



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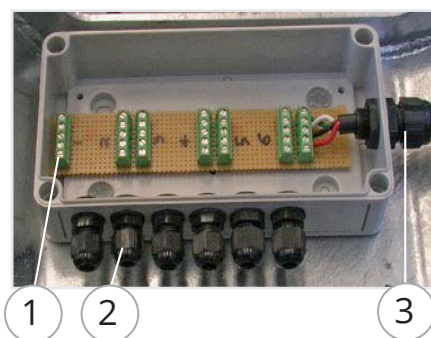
WAGON TROUBLESHOOTING

Load Cell System

PROBLEM 1:	No Display on Iconix FX15 Monitor
SOLUTION:	<ol style="list-style-type: none">1. Plug the FX15 Monitor into an alternative power source to eliminate potential battery issues.2. If an external power cable is used, please try another power cable.3. If there is still no reading please try another display to determine if the fault is within the Iconix display unit or the load cells. If an alternative display works the original unit is likely to be faulty and will need to be returned to the manufacturer for diagnosis and repair.
PROBLEM 2:	Display Monitor Reads Blank " - - - - "
SOLUTION:	<p>This may mean that the display is over or under range and is reading a faulty signal.</p> <ol style="list-style-type: none">1. Check load bar signal cable plug and power cable plug for moisture.2. Check load bar signal cable (black) for damage.3. Unplug each load cell cable one at a time by unscrewing the Green Screw Terminal Block found in image below. If display starts reading weight again with one load cell cable disconnected, check this cable for damage. If no damage is found to the cable, the load cell connected to that cable would need to be replaced.4. The resistance of the load cell can also be tested to determine a faulty load cell. Using a high quality multimeter set to resistance (Ω ohms) test the resistance between the green and white wires (typically $352 \Omega \pm 1\%$). Also test the resistance between the red and black wires (typically $380 \Omega \pm 1\%$). All load cells should be close in readings. If one is significantly different it will need to be replaced.
PROBLEM 3:	Unstable weight reading does not settle.
SOLUTION:	<p>This usually means there is moisture present in the monitor system.</p> <ol style="list-style-type: none">1. Check load bar signal cable plug (black) in bottom of display for moisture. If moisture is found, dry out. Put FX15 Iconix Monitor in hot water cupboard overnight.2. Check junction box for moisture. Check glands are tight on load cell cables.3. If reading still unstable unplug load cell cables one at a time by unscrewing the wires from the green terminal block to see if one is faulty.4. If it is determined one is causing the reading to be unstable, check cable for damage. If no damage is found, load cell needs to be replaced. Check load cell resistance as indicated in problem 2, solution step 4.5. If unable to find individual load cell cable causing instability, unscrew all load cell cables from junction board.6. If weight still unstable replace load bar signal cable (black) from junction box to display.

Junction Box for PT5100 System

Ref	Description
1	Green Screw Terminal Block (1 for every 6 load bar)
2	M12 Gland for Load cell Cables (6 in total for PT5100 System)
3	M16 Gland for Load bar Signal Cable



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General

Problems	Questions	Solutions
The wagon is connected to the tractor but nothing is moving when the system is engaged.	1. Are both the hoses to and from the tractor rigid?	<ul style="list-style-type: none"> The Return Quick Release Coupling (QRC) may be faulty. Replace and retry.
	2. Are there any mechanical jams?	<ul style="list-style-type: none"> Check each drive system for mechanical faults.
The conveyor works but the elevator and the floor do not move.	1. Is there enough oil flow?	<ul style="list-style-type: none"> Check oil flow Increase tractor RPM
	2. Does the tractor hydraulics have a RAM & Motor Setting?	<ul style="list-style-type: none"> Make sure hydraulics is set to motor setting.

Conveyor Drive System

Problems	Questions	Solutions
The conveyor stops working.	1. Are you able to manually pull the bars around conveyor? Note: May need to disconnect motor drive.	<ul style="list-style-type: none"> The chains may be too tight. Bearing in shaft may be seized. May be physical damage to frame of conveyor and the bars may be pinching underneath. May be material wrapped around idler shaft jamming against end of conveyor bed.
	2. Is the motor drive coupling damaged?	<ul style="list-style-type: none"> Remove motor box and check the coupling and rubber element for damage. Replace if damaged.
	3. Is the Fixed Setting Flow Control (Fig 5: #1) in the Hydraulic Cartridge Valve blocked?	<ul style="list-style-type: none"> Remove the Fixed Setting Flow Control (Fig 5: #1) from the Hydraulic Cartridge Valve to check for foreign materials. Remove debris if found.
The conveyor bars are move slowly.	1. Has the FRDA LAN (Fig 5: #1) setting been altered?	<ul style="list-style-type: none"> Check setting of Fixed Setting Flow Control (Fig 5: #1). Undo the lock nut. Wind clockwise to increase speed. Wind anti-clockwise to decrease speed.

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Elevator Drive System

Problems	Questions	Solutions
The elevator chain keeps jumping off sprockets.	1. Are the sprockets in good condition?	<ul style="list-style-type: none"> Check that the gap between the sprocket plates is parallel and that the tips of the sprocket are present and flared out. Check that the cleaner between sprocket plates is still present.
	2. Is there a twist in the chain?	<ul style="list-style-type: none"> Check the chain around the joiner for twist.
The teaser bar system will not move or it moves slowly.	1. Is there enough oil flow to run the elevator?	<ul style="list-style-type: none"> Check oil flow using flow metre. Turn flow rate up on tractor hydraulics Try increase tractor RPM Check control stick setting. If open too far (> 1 turn from stop) then the floor will steal oil from the elevator circuit. Turn clockwise fully to undo the control stick pointer and stop floor completely. Turn anti-clockwise until the floor starts moving. Lock floor speed pointer in the stop position.
	2. Is there a block in the Unload Sensing Valve (DPBB cartridge, #4)?	<ul style="list-style-type: none"> Check the Unload Sensing Valve (Fig 5: #4) in the Valve block for any foreign material. Remove if found. Make sure the piston inside the stem of the cartridge moves freely and is not jammed.
	3. Is the Dampening Orifice (#7) in the Hydraulic Cartridge Valve blocked?	<ul style="list-style-type: none"> Remove the Unloading Sensing Valve (Fig 5: #4). Use a 5/32 allen key to remove the grub screw (Fig 5: #7) at the end of the chamber. Check the 0.7mm hole is clear.
	4. Is there anything jammed in and around the sprockets?	<ul style="list-style-type: none"> Remove any debris.
	5. Is the tension of the chains correct?	<ul style="list-style-type: none"> Looking through the conveyor opening, the elevator bars must touch and put pressure on the centre spring loaded guides. If the spring is not pumping when operating then it needs to be tightened. Do not over tighten, as the spring loaded tension guides must retain their full range of movement.
	6. Are the drive shaft bearings in good condition?	<ul style="list-style-type: none"> Replace the bearings if they are in poor condition.
	7. Are the molly bush bearings in the idler shaft in good condition?	<ul style="list-style-type: none"> Replace the bearings if they are in poor condition. Clear out any string/vegetation wrapped around the shaft and bearings.
	8. Is there a twist in the chain?	<ul style="list-style-type: none"> Check the chain around the joiner for twist.

Floor Drive System

Problems	Questions	Solutions
Floor chain keeps jumping off sprockets.	1. Are the sprockets in good condition?	<ul style="list-style-type: none"> Check that the gap between the sprocket plates is parallel and that the tips of the sprocket are kinked out. Check that the cleaner between sprocket plates is still present.
	2. Is there a twist in the floor chains?	<ul style="list-style-type: none"> Check that the cleaner between plates are still present.
	3. Are the floor bars bent?	<ul style="list-style-type: none"> Replace the floor bars if they are badly bent and damaged. It is important not to operate the wagon when floor bars are bent.
	4. Is the chain tension correct?	<ul style="list-style-type: none"> The chain must touch all of the six underbody guide pads with a sag between pads of approximately 50 mm. Quick check that the horizontal link of chain is level with bottom of RHS.

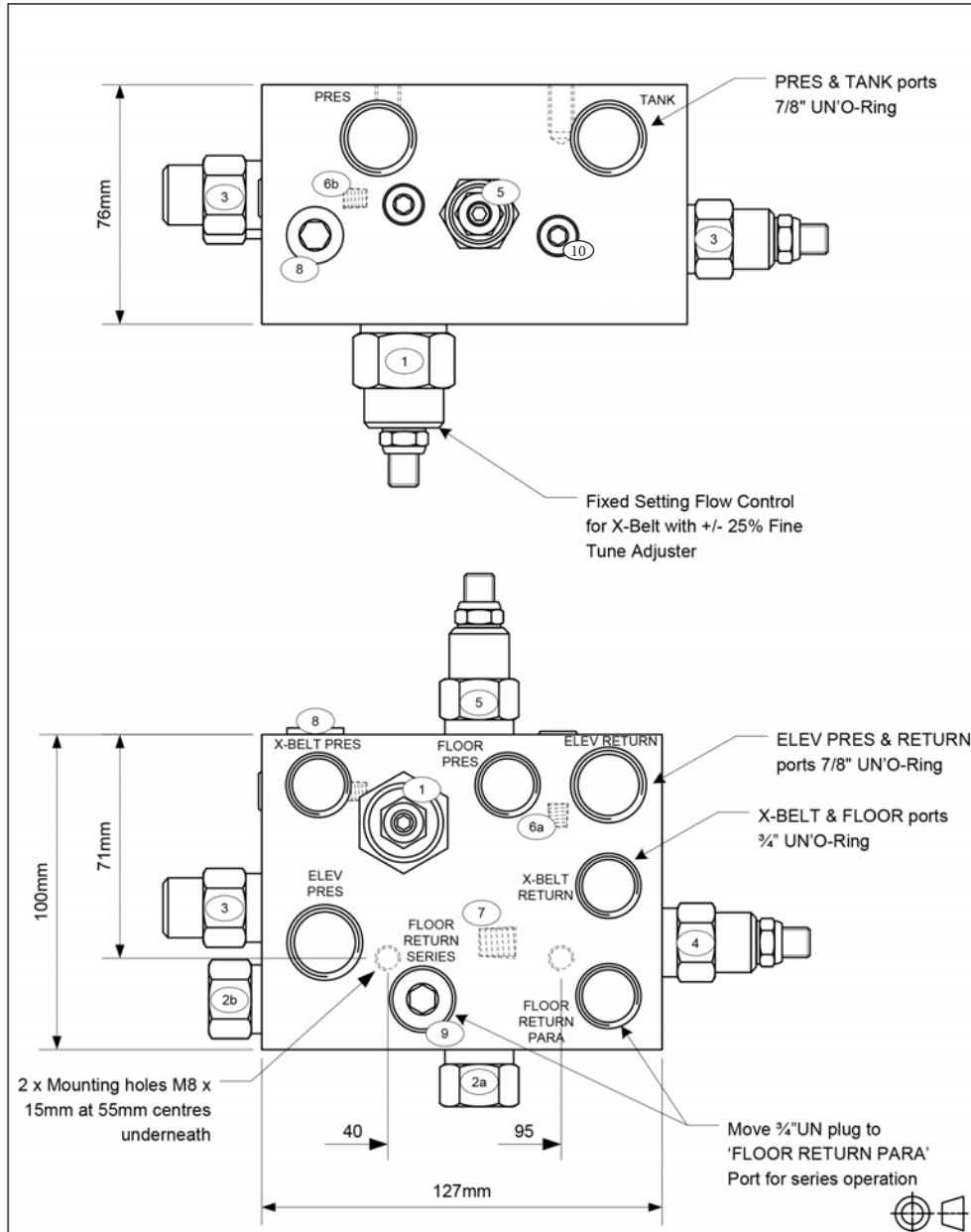
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Floor Drive System Continued

Problems	Questions	Solutions
The floor will not move or it moves slowly	1. Is there enough oil flow from the tractor?	<ul style="list-style-type: none"> • Check the oil flow by using a flow meter. There must be 50-60 litres. • Increase tractor RPM.
	2. Are the front drive shaft bushes greased sufficiently?	<ul style="list-style-type: none"> • Grease floor shaft bushes frequently.
	3. Are the floor sprockets in good condition?	<ul style="list-style-type: none"> • Check that the gap between the sprocket plates is parallel and that the tips of the sprocket are kinked out. Check that the cleaner between sprocket plates is still present.
	4. Is the control stick connected securely to the stainless block in the Needle Valve (Fig 5: #5)?	<ul style="list-style-type: none"> • Check that the hose clamps are securely connected to the control stick to Needle Valve (Fig 5: #5) and then turn together.
	5. Is the Sensing Orifice (Fig 5: #6a) in the Hydraulic Cartridge Valve blocked?	<ul style="list-style-type: none"> • Remove the zero leak plug (Fig 5: #10) on the top surface of the valve block and use 5/32 allen key to remove the grub screw at the end of the chamber. Check the 0.7mm hole is clear.
The floor moves forward but will not stop moving causing the elevator to jam.	1. Have the control stick settings been altered?	<ul style="list-style-type: none"> • Undo grub screw (Fig 5: #7) on pointer and turn clockwise fully to stop the floor. Then turn the control stick anti-clockwise until floor starts to move. At the point it starts to move, lock the pointer in the stop position.
	2. Is the Unloading Sensing Valve (Fig 5: #4) working properly?	<ul style="list-style-type: none"> • If this cartiridge does not open when the elevator loads up the floor pressure may increase to the point where the floor bars can be bent rearwards leading to failure of the chain and bar welds. Excessive pressure may also be applied to side elevator panels. Generally the machine bind up and jams. • Remove the Unload Sensing Valve (Fig 5: #4) from the Hydraulic Valve Block and check for foreign material. Make sure piston inside the stem of the cartridge moves freely and is not jammed. • To confirm sensor is working properly, when feeding out you should see the floor pause/stop as the elevator loads up. It should then start moving again as it unloads. Turning the stem anti-clockwise will increase the lendgth of the floor pause/stop. Do not adjust the sensor more than 1/8 turn at a time. • Note: Turning the stem clockwise more than 1/4 turn from factory setting may lead to serious damage to the machine. • If in doubt order a newly calibrated cartridge from the manufacturer.
The floor stops and will not go in reverse however the elevator and cross conveyor still works.	1. Is the Flow Compensator (LHDA XEN, #3) in the Hydraulic Cartridge Valve jammed open?	<ul style="list-style-type: none"> • Check for foreign material in the Flow Compensator (Fig 5: #3). • Make sure the piston up stem is moving freely.

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Figure 5: Hydraulic Cartridge Valve



Reference	Part No.	Description
1	FRDA LAN	Fixed Setting Flow Control
2	CXDA ZAN	Check Valve
3	LHDA XEN	Flow Compensator
4	DPBB LCN	Unload Sensing Valve
5	NFCD LFN	Needle Valve
6a	1/16"NPT x 0.7mm	Sensing Orifice
6b	1/16"NPT x 0.7mm	Bleed Orifice
7	1/8"BSPT x0.7mm	Dampening Orifice
8	CXBG XAN	Check Valve
9	22S-S08	3/4" UN Plug
10	-	Zero Leak Plug



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