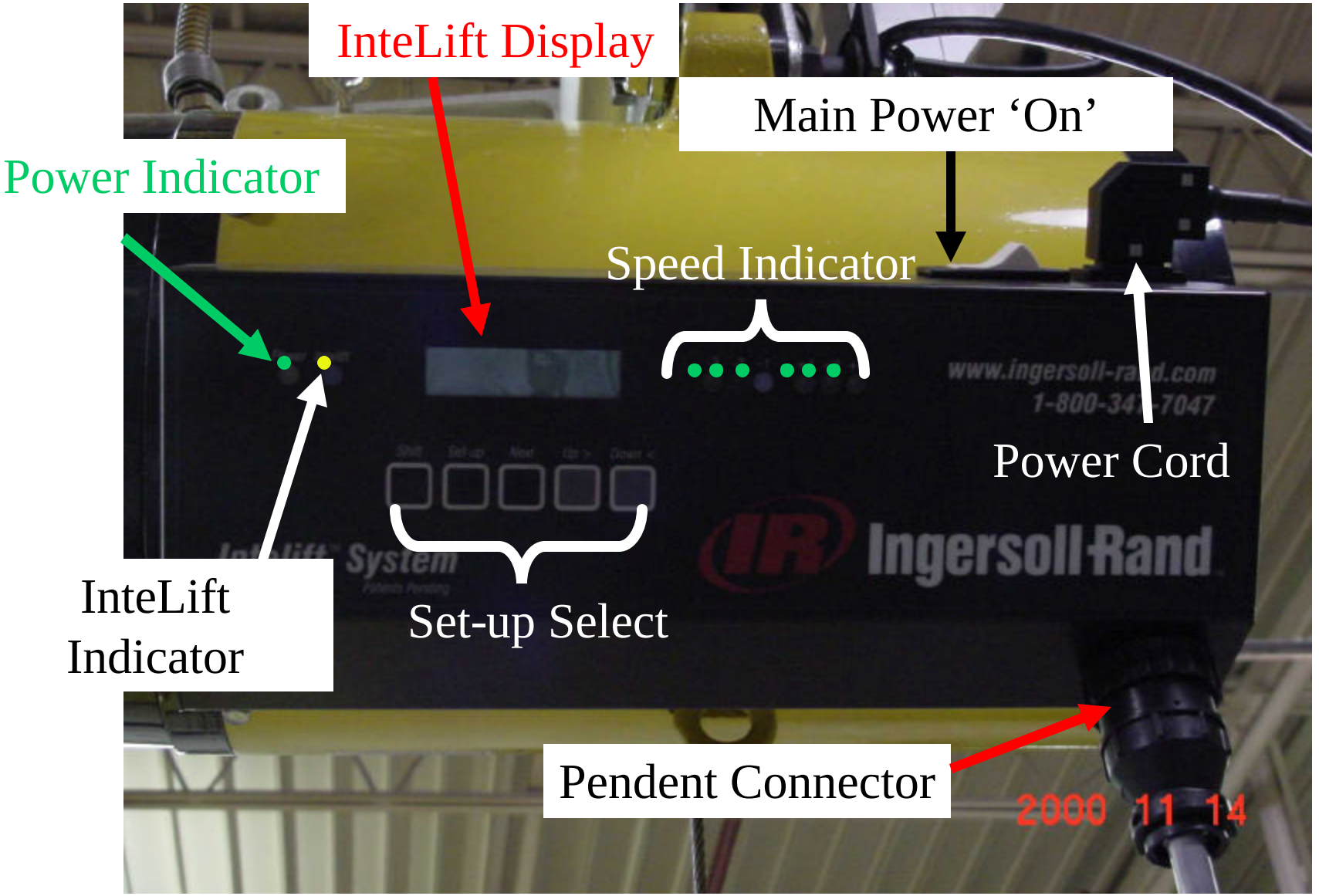
Troubleshooting

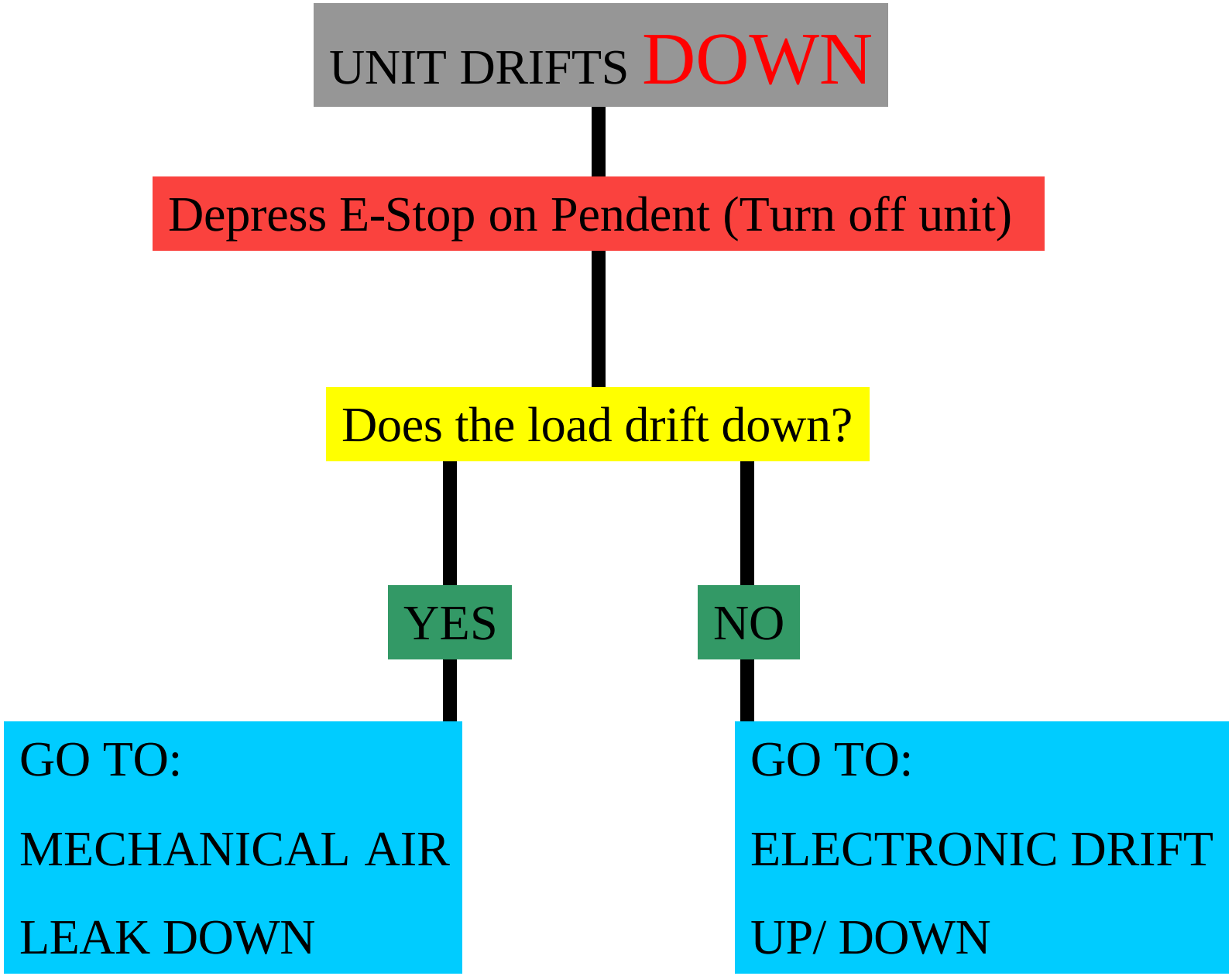
intelift

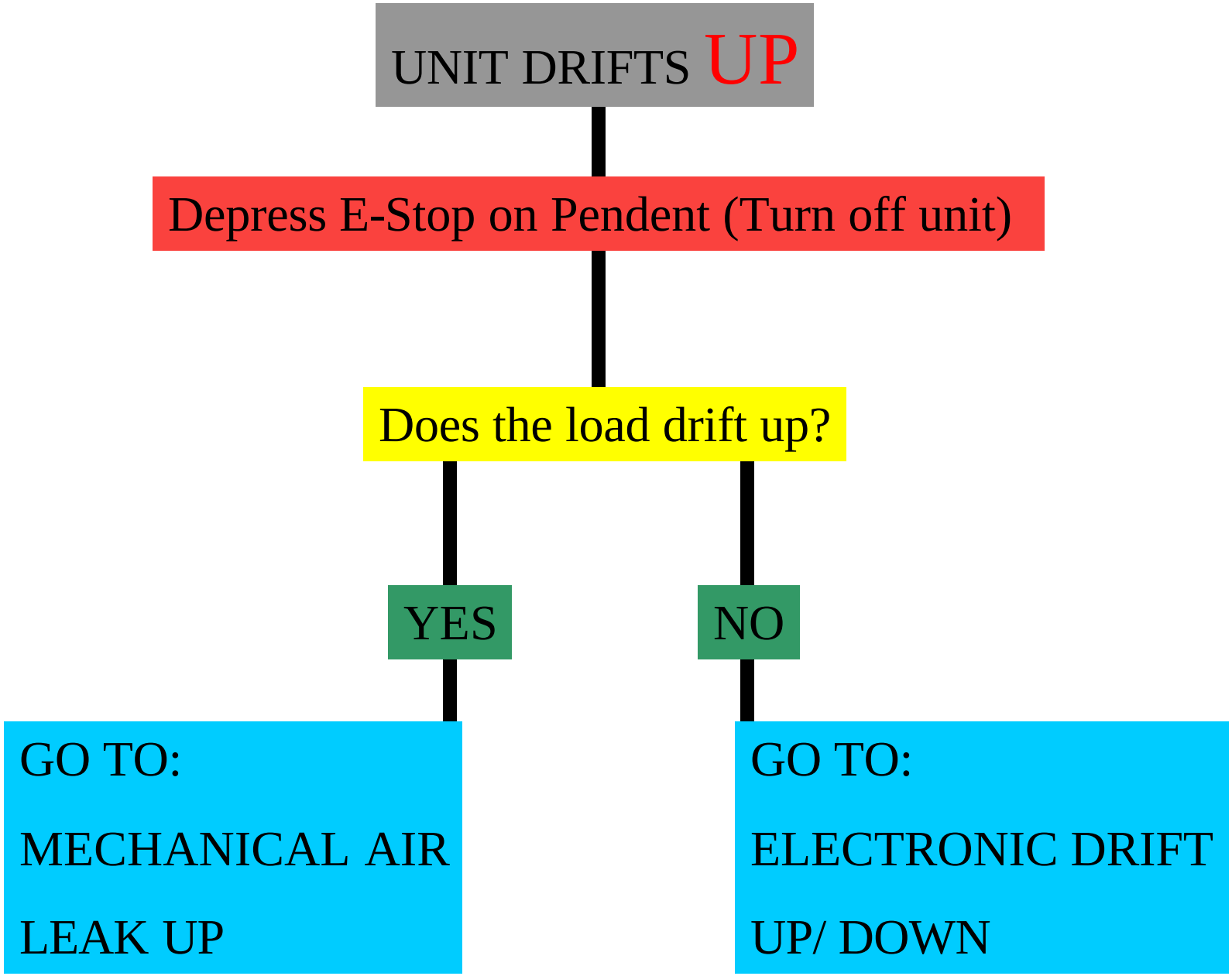
Intelligent Lifting Systems

OVERVIEW

- Identifying Leakage Source (Mech/ Elec)
- Mechanical Air Leak- Down
- Mechanical Air Leak- Up
- Electronic Drift- Up/ Down
- Load Cell Operation
- Understanding Indicator Lights
- Pinout for 12 pin connector


InteLift Display
Main Power ‘On’
Power Indicator
Speed Indicator
Power Cord
InteLift
Indicator
Set-up Select
Pendent Connector
Ingersoll-Rand
2000 11 14


UNIT DRIFTS DOWN
Depress E-Stop on Pendent (Turn off unit)
Does the load drift down?
YES
NO
GO TO:
MECHANICAL AIR
LEAK DOWN
GO TO:
ELECTRONIC DRIFT
UP/ DOWN


UNIT DRIFTS UP
Depress E-Stop on Pendent (Turn off unit)
Does the load drift up?
YES
NO
GO TO:
MECHANICAL AIR
LEAK UP
GO TO:
ELECTRONIC DRIFT
UP/ DOWN

Mechanical Leak Down

•Pressure from the balancer is releasing to atmosphere.

•Listen for air leaks.

•If the environment is noisy, use leak detection solution.

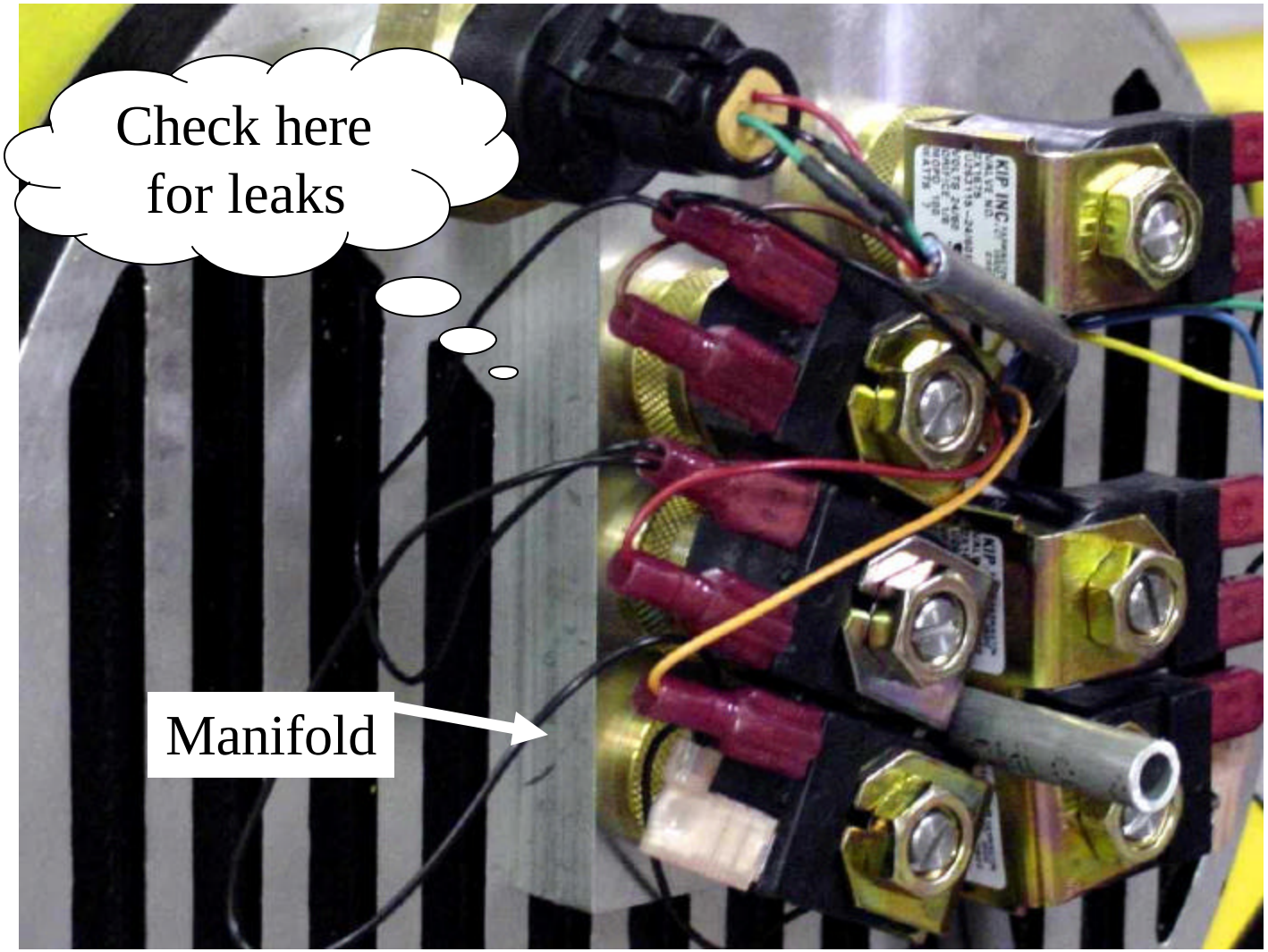
•Apply the leak detection solution to critical areas.

•The solution will bubble if leakage is present.

•Air leaking at manifold O-ring or end cap bolt seal.

!CAUTION Relieve pressure from balancer before removing any solenoid valves!

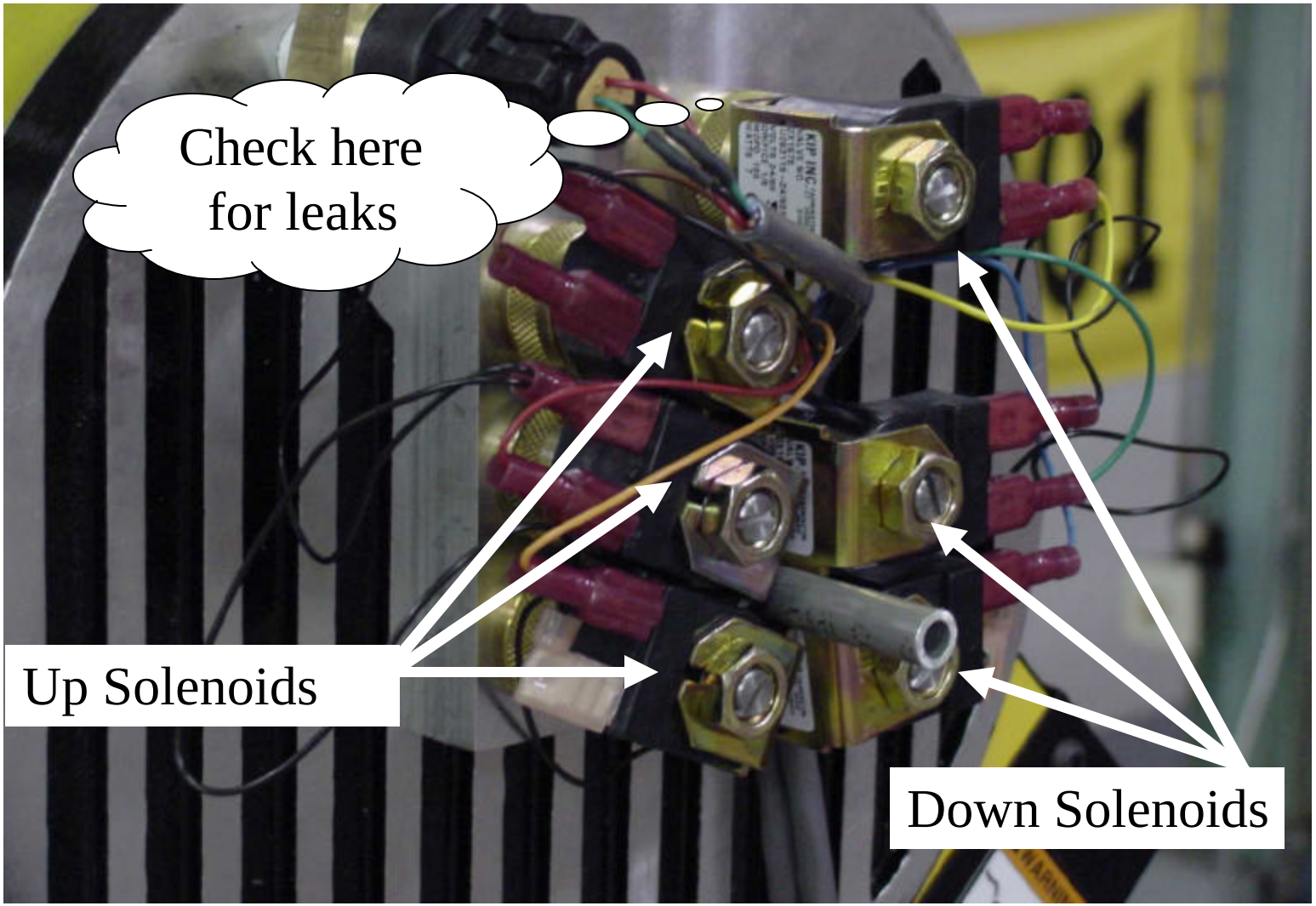
1. Check the manifold at the end cap for leakage.



•**Air leaking through one of the 3 “Down” solenoid valves**

!CAUTION Relieve pressure from balancer before removing any solenoid valves!

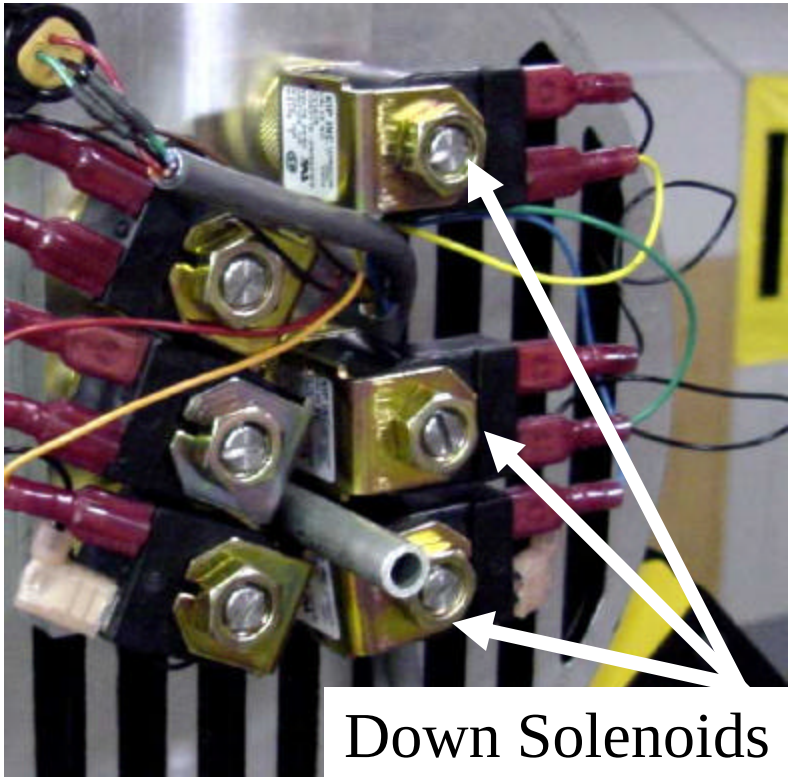
1. Check at the base of each down solenoid for leakage.

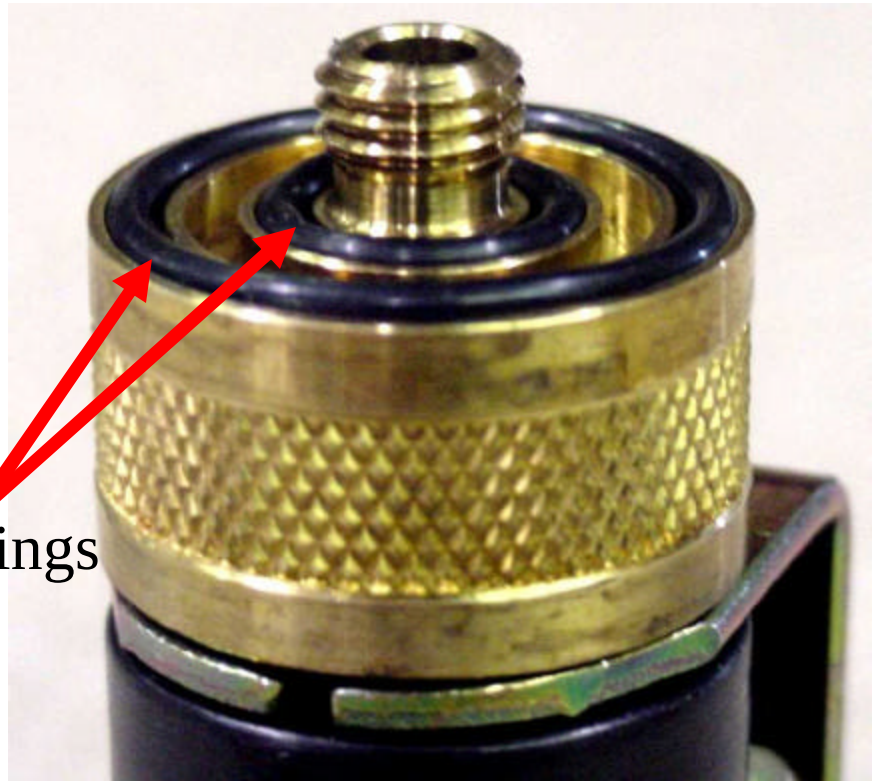


•**Air leaking through one of the 3 “Down” solenoid valves**

!CAUTION Relieve pressure from balancer before removing any solenoid valves!

2. Check O-rings for cuts, nicks or tears.





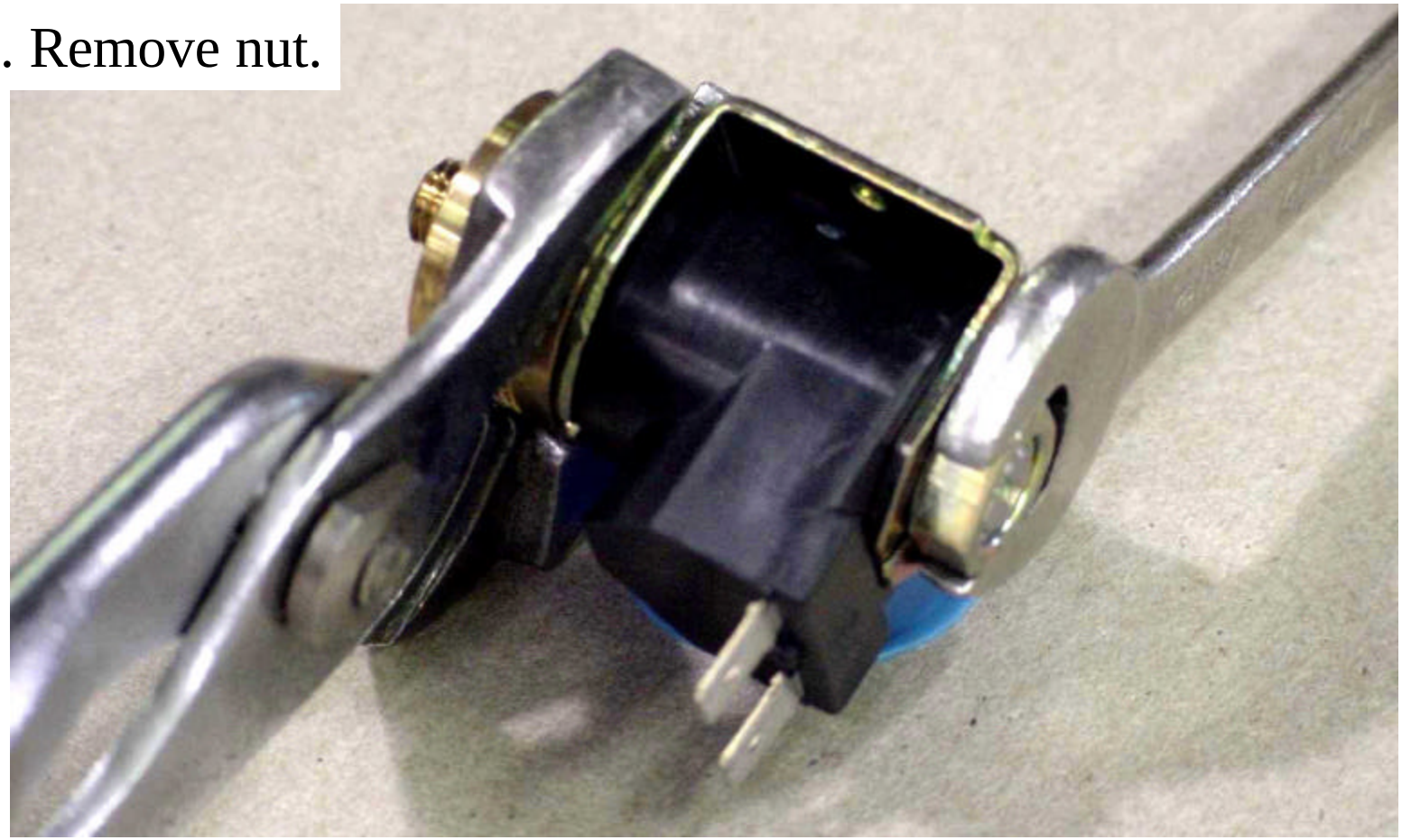
Solenoid Removed

•Air leaking through one of the 3 “Down” solenoid valves (Cont.)

!Use care not to lose any of the parts!

3. Disassemble solenoid, check for foreign particles in the valve.

Step 1. Remove nut.

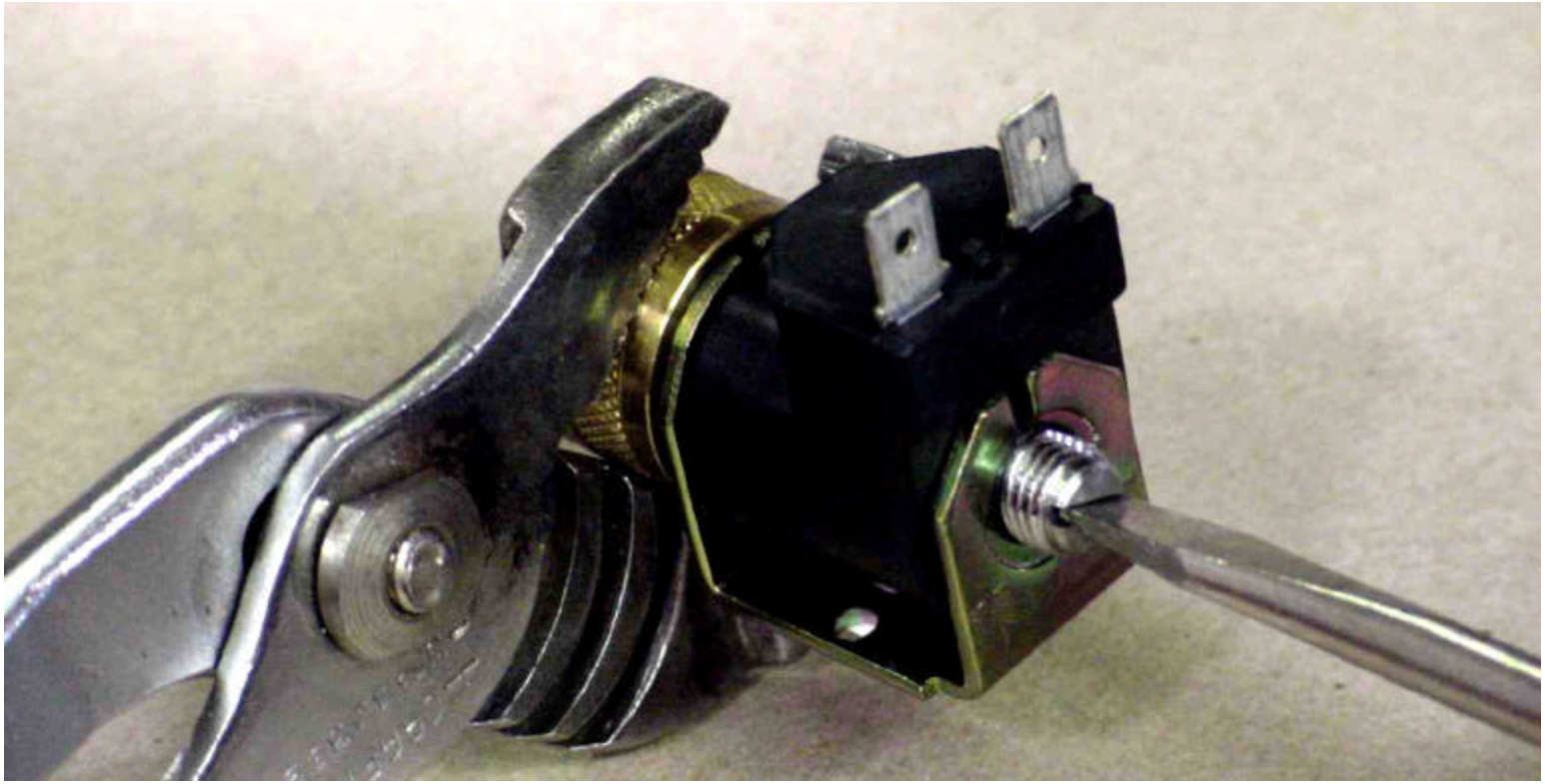


•Air leaking through one of the 3 “Down” solenoid valves (Cont.)

Use care not to lose any of the parts!

3. Disassemble solenoid (Cont.)

Step 2. Remove body from stem.

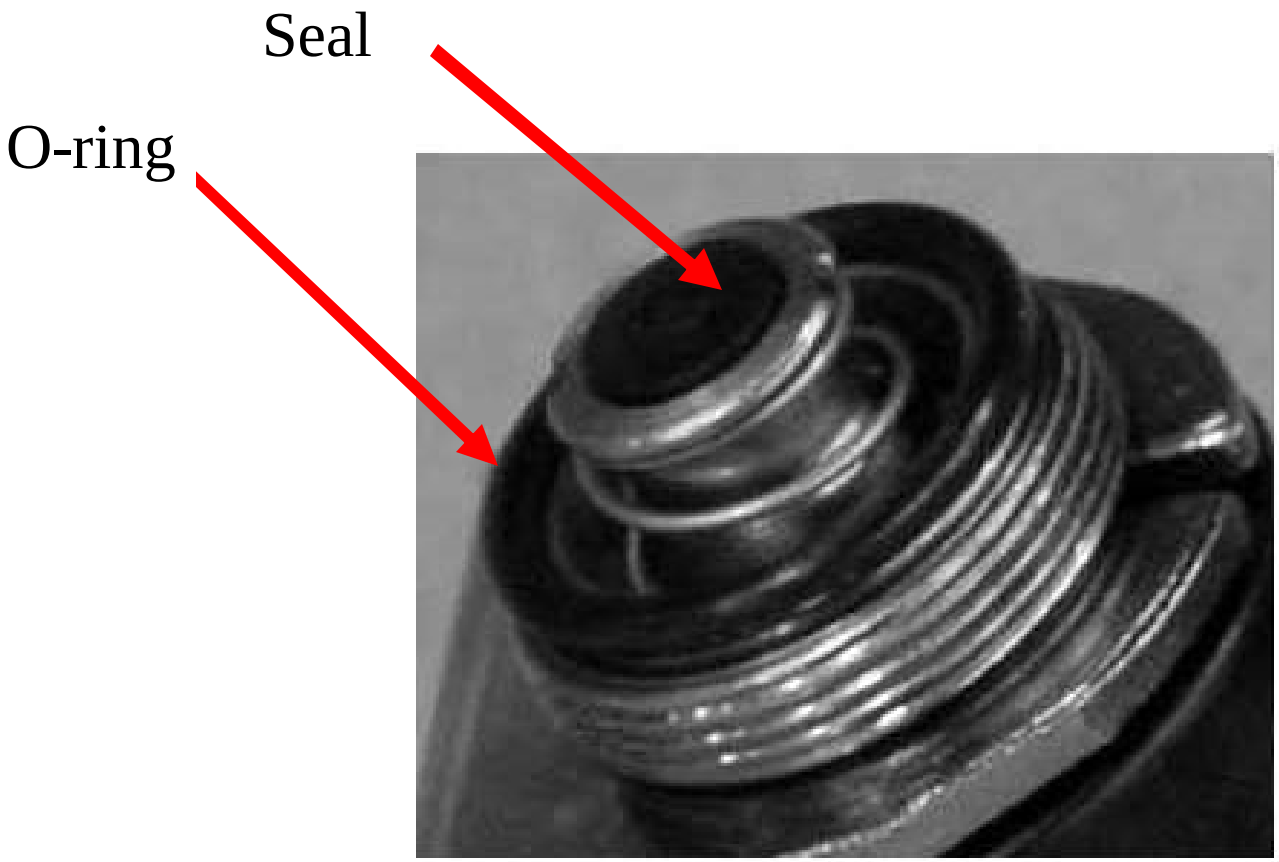


•Air leaking through one of the 3 “Down” solenoid valves (Cont.)

Use care not to lose any of the parts!

3. Disassemble solenoid (Cont.)

Step 3. Check O-rings and seals for cuts, nicks or tears.

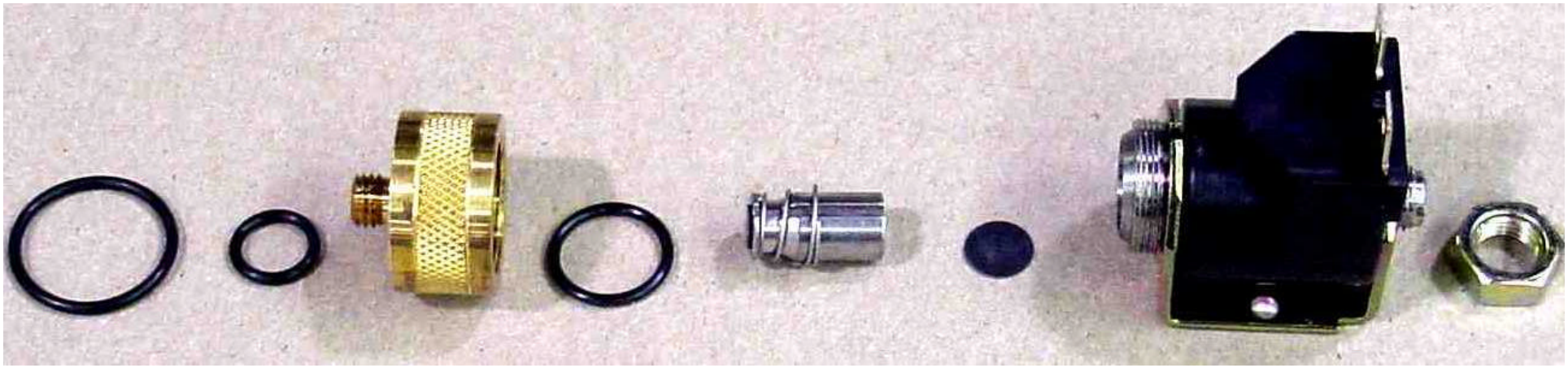


•Air leaking through one of the 3 “Down” solenoid valves (Cont.)

Use care not to lose any of the parts!

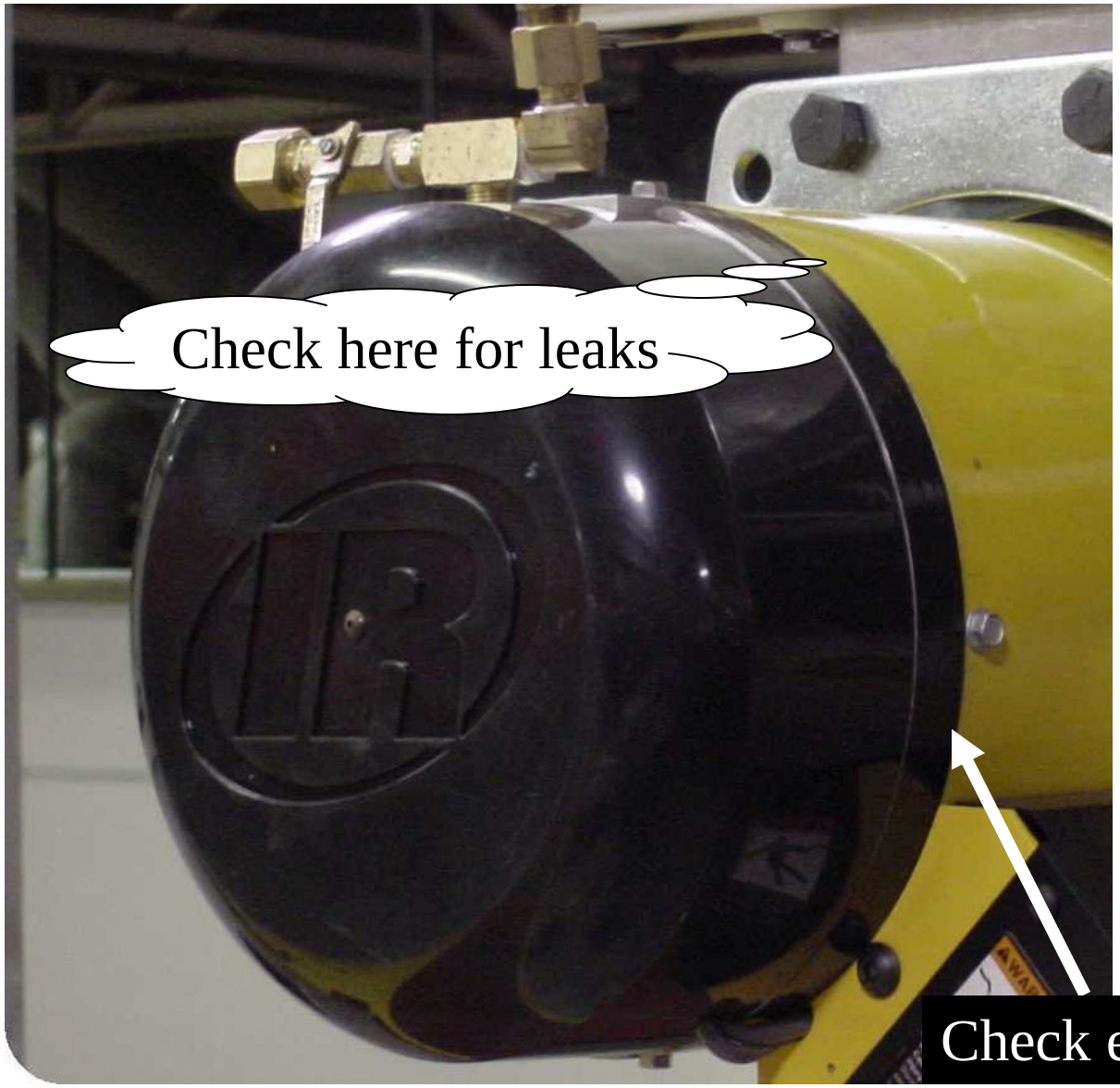
3. Disassemble solenoid (Cont.)

Step 4. Check for broken or damaged parts and debris.



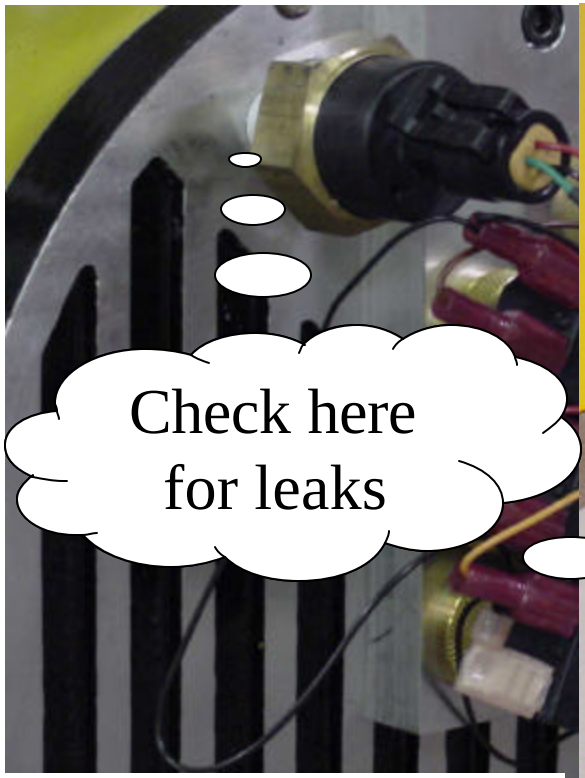
•Air leaking at end cap

1. Pressurize InteLift. Apply solution at black end cap & yellow housing.



•Leaking fitting or airline

1. Apply leak detection solution at fittings, pressure transducer, Z-stop and Interlock.



Pressure Transducer

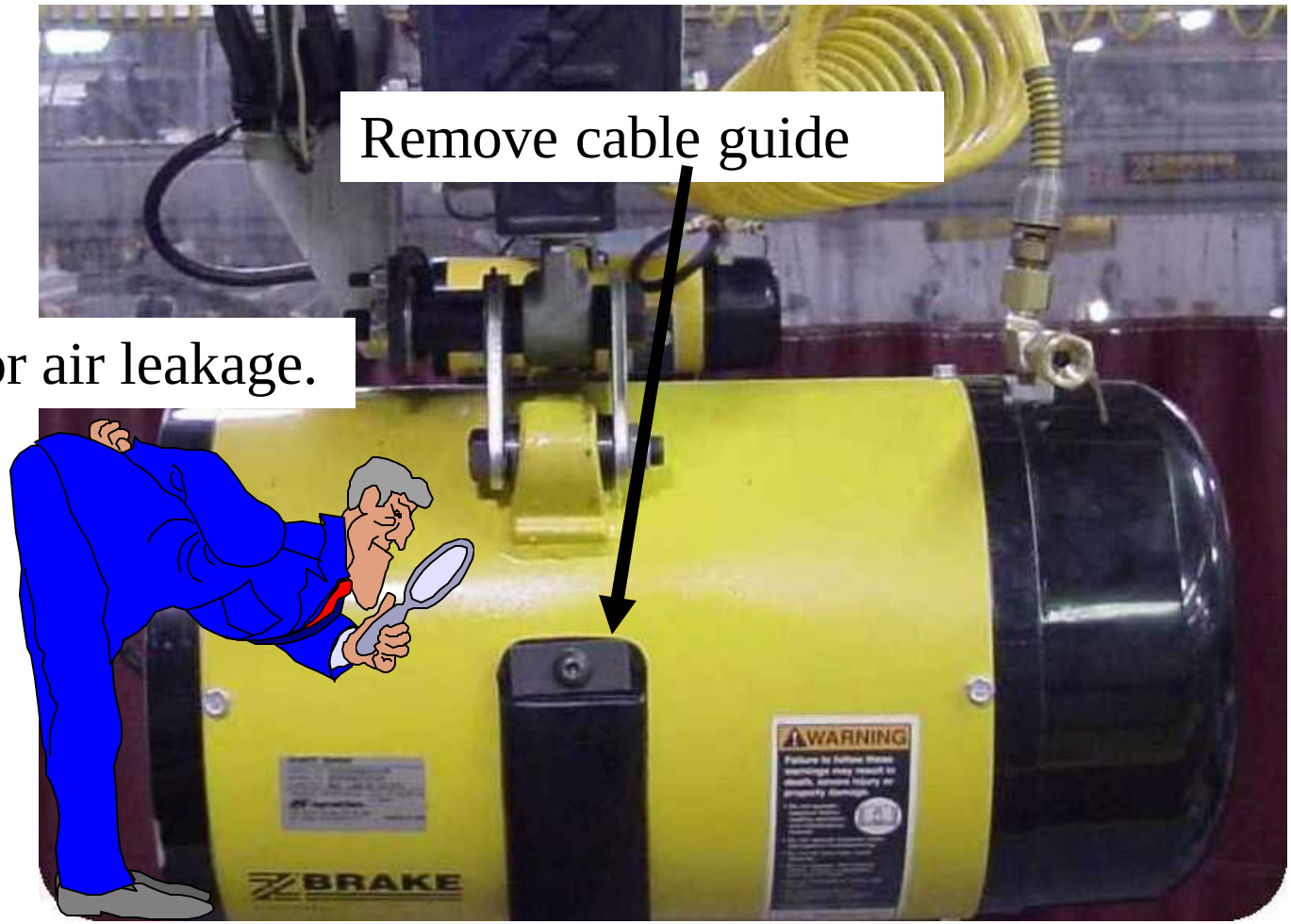
Z-Stop

On end effector

•Air leaking from inside unit.

1. Remove the cable guide, raise the load to the full up position and listen for air leaking from inside the balancer housing.

2. If blowing air can felt or heard this indicates that the piston is leaking. Inspect and clean piston chamber, lubricate or replace piston. Refer to the Balancer Service Manual for maintenance instructions.

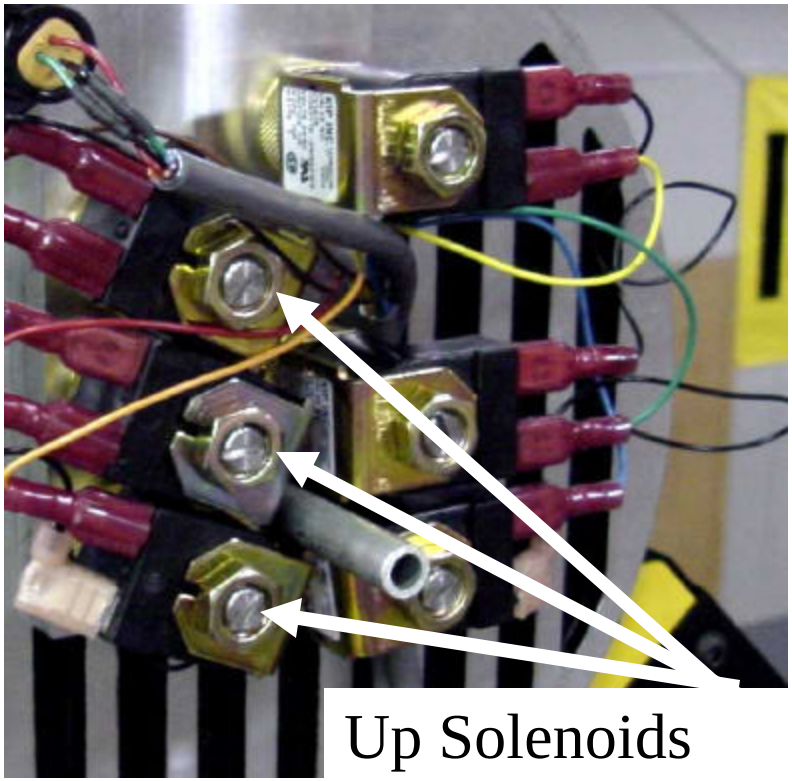


Mechanical Leak Up

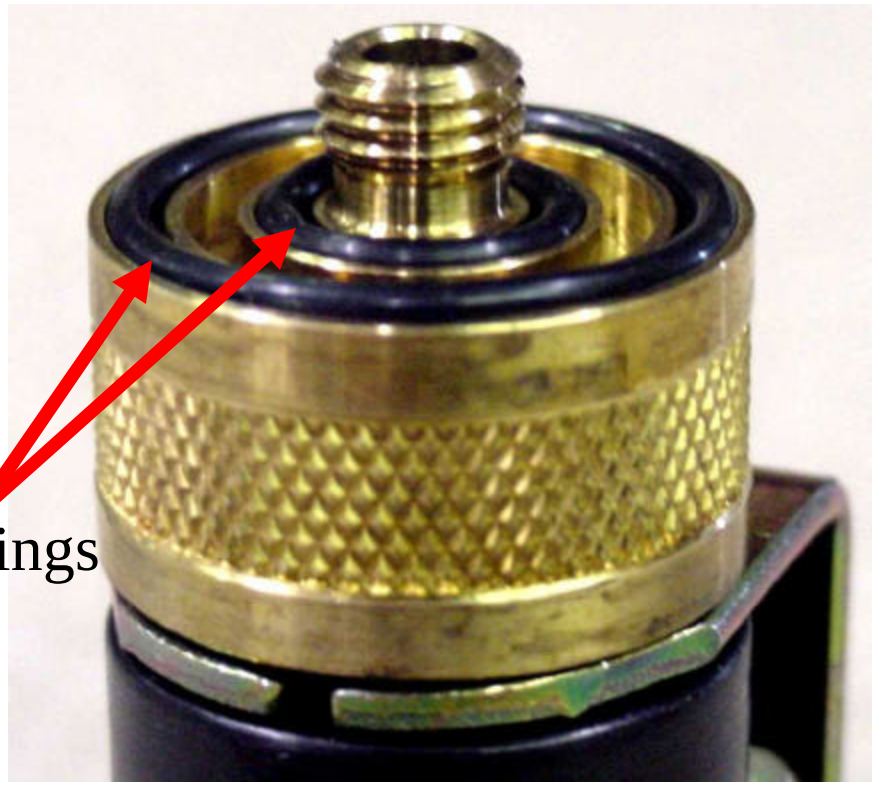
•Air leaking through one of the 3 “Up” solenoid valves

!CAUTION Relieve pressure from balancer before removing any solenoid valves!

2. Check O-rings for cuts, nicks or tears.



Up Solenoids

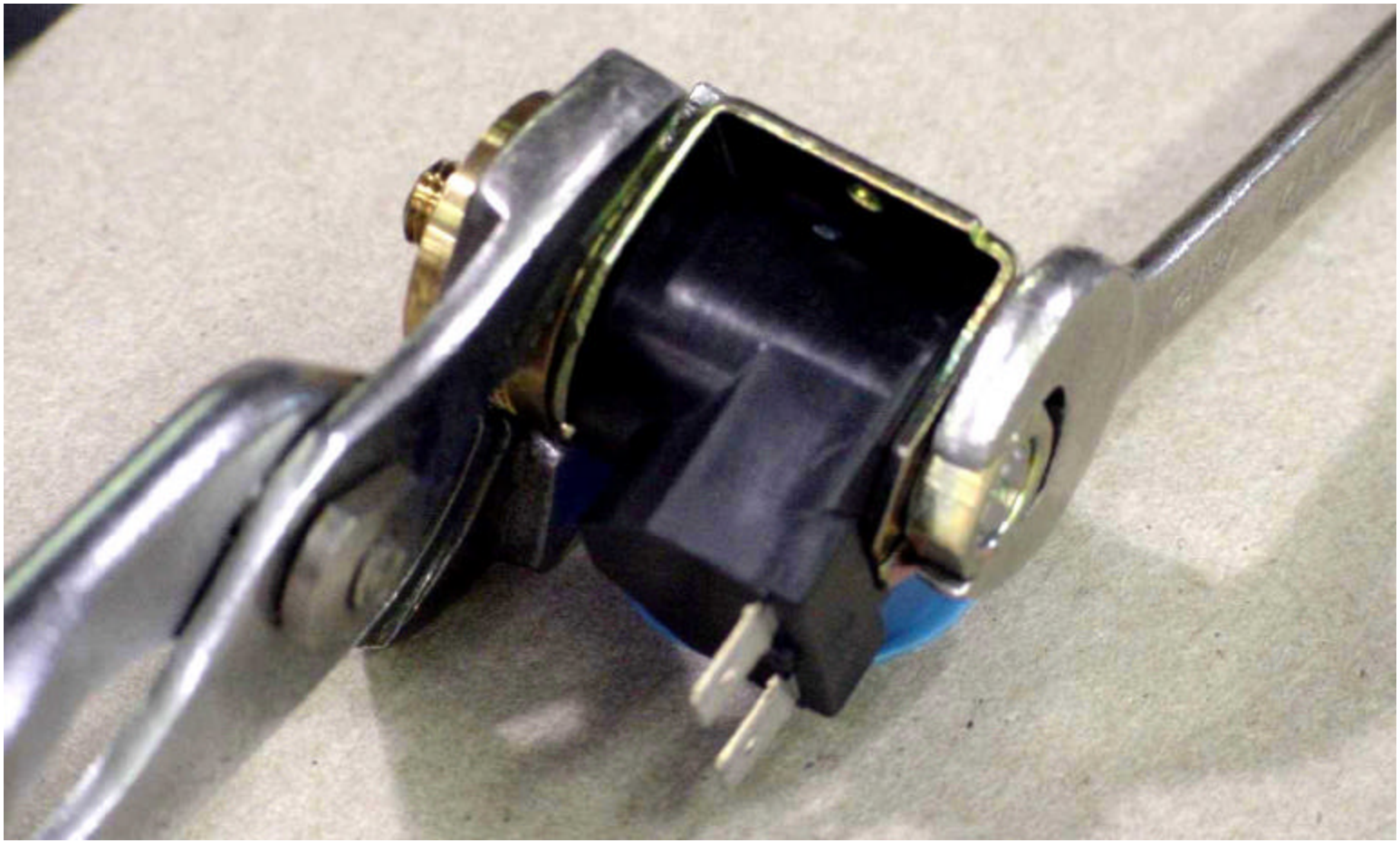


Solenoid Removed

•**Use same process as for Down leak disassembly**

!Use care not to lose any of the parts!

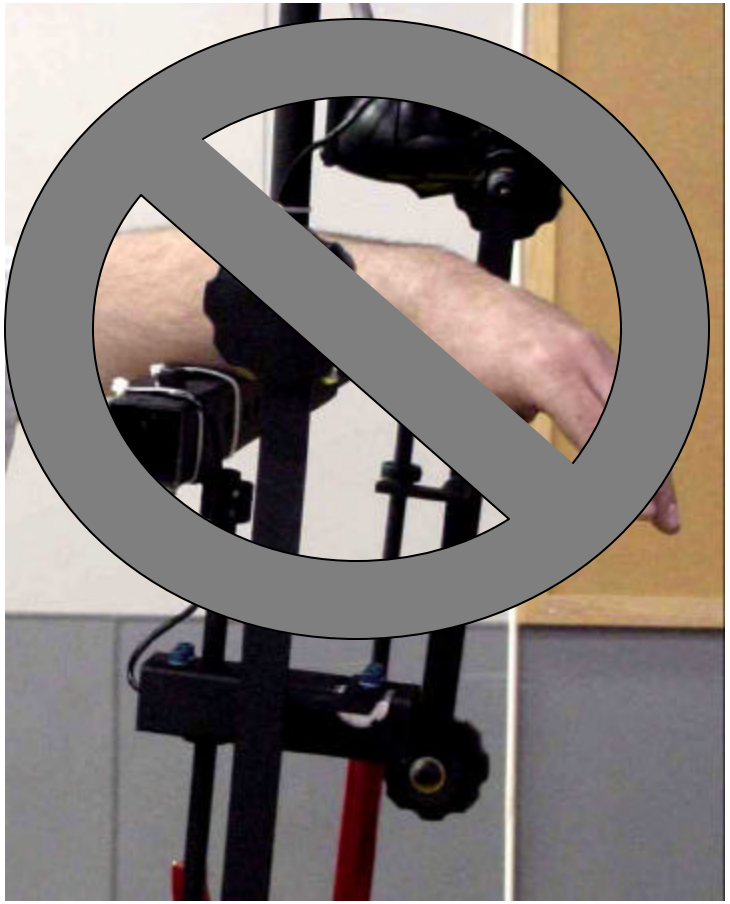
Disassemble solenoid, check for foreign particles in the valve.

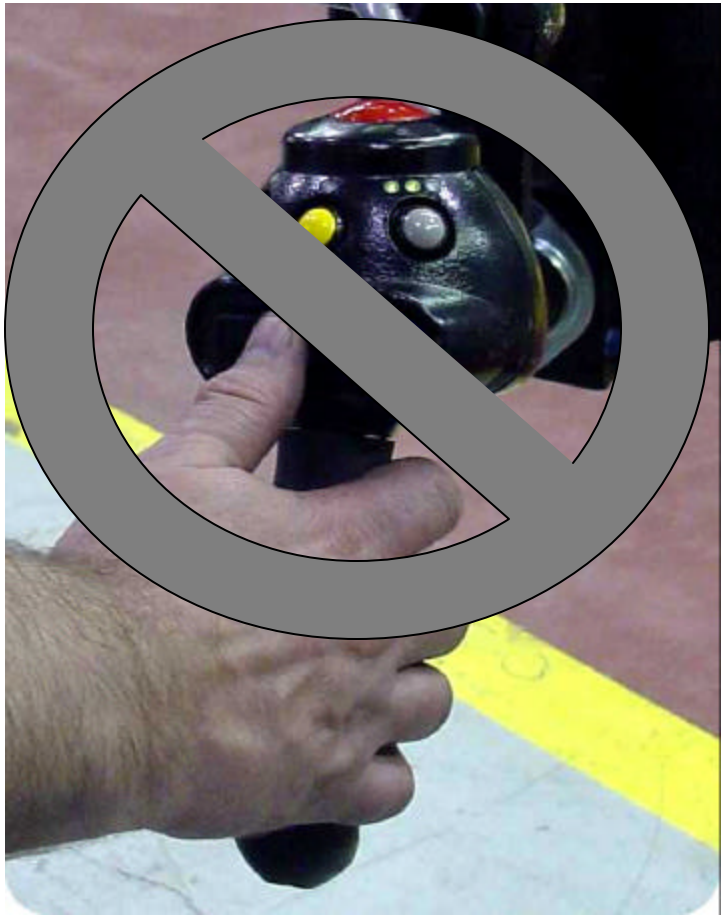


Electronic Drift Up or Down

1. Tare control handle. Refer to InteLift Maintenance Manual.

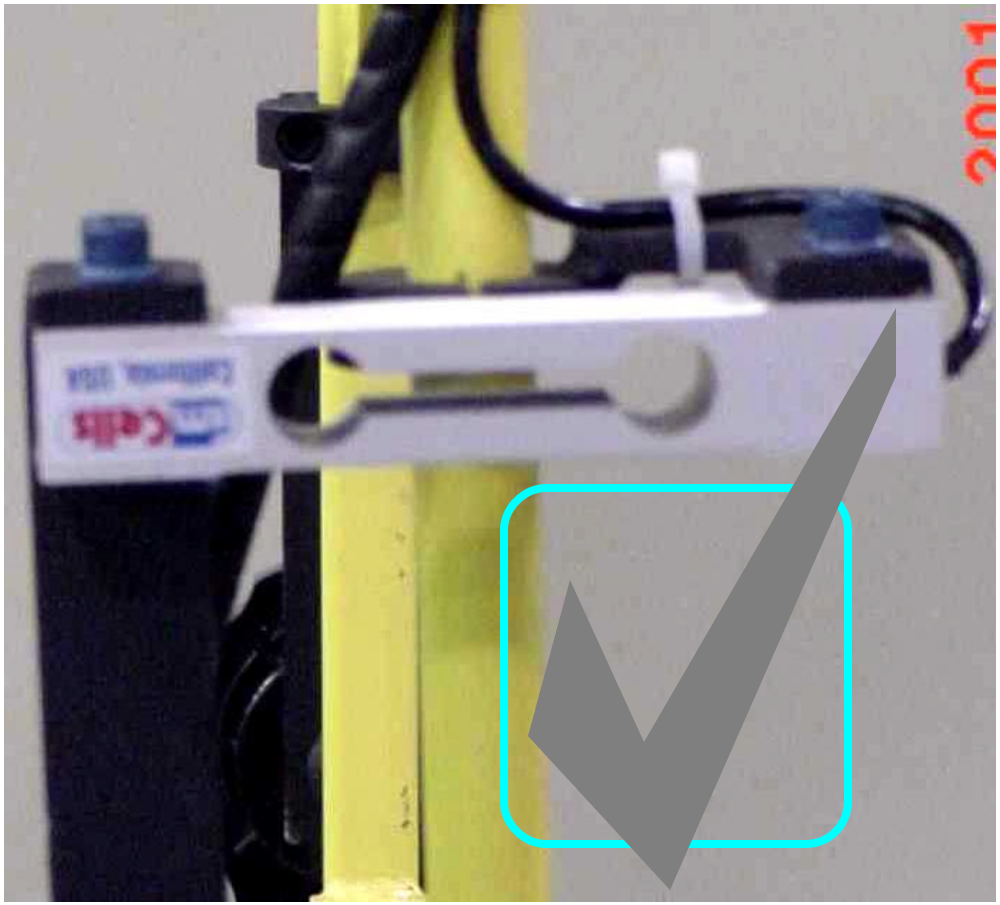
☹ No external forces should be applied to the load cell or rocker switches during the “Tare” function.





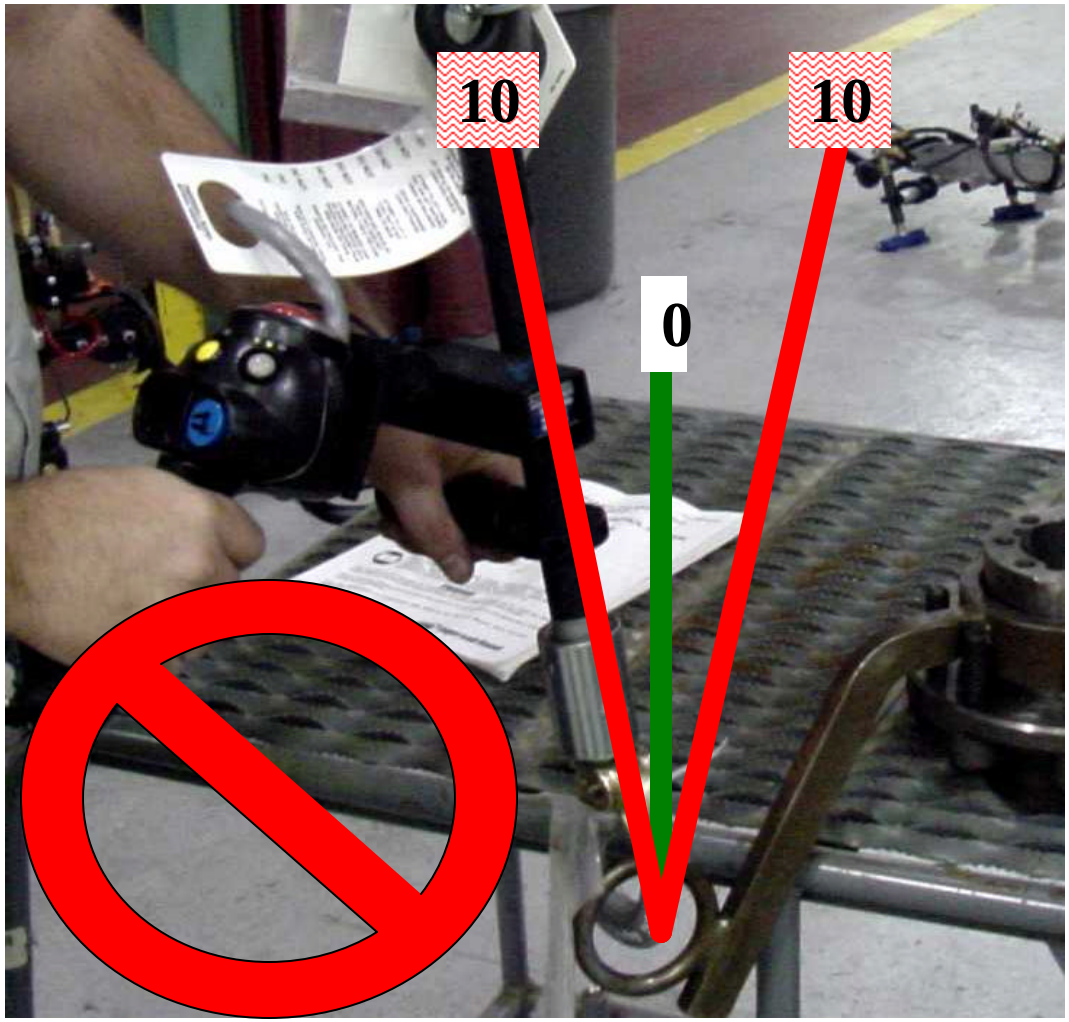
1. Tare control handle (Cont.)

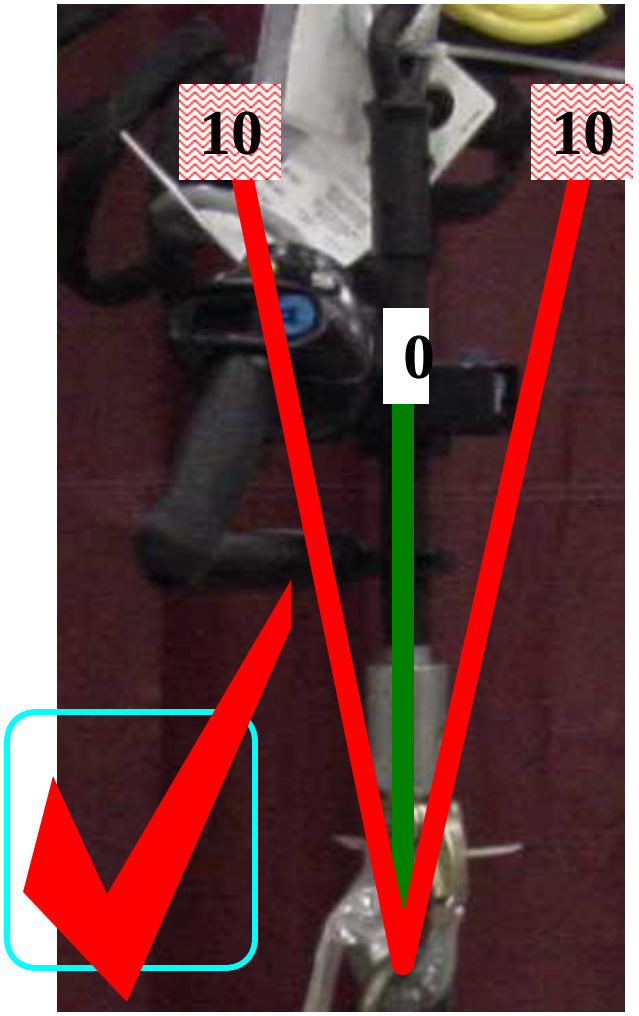
☹ If the pre-coil cable is not properly secured it will exert force on the load cell. Secure the cable so that it does not pull or push the load cell when the load is moved.



1. Tare control handle (Cont.)

☹ **The load cell should not rotate more than 10 degrees from vertical when loading and unloading parts.**





2. Determine if one of the rocker switches is sticking by:

• Press the rocker switch lightly in the opposite direction of the drift. If the drifting stops, replace the control handle and repeat “Tare” function.

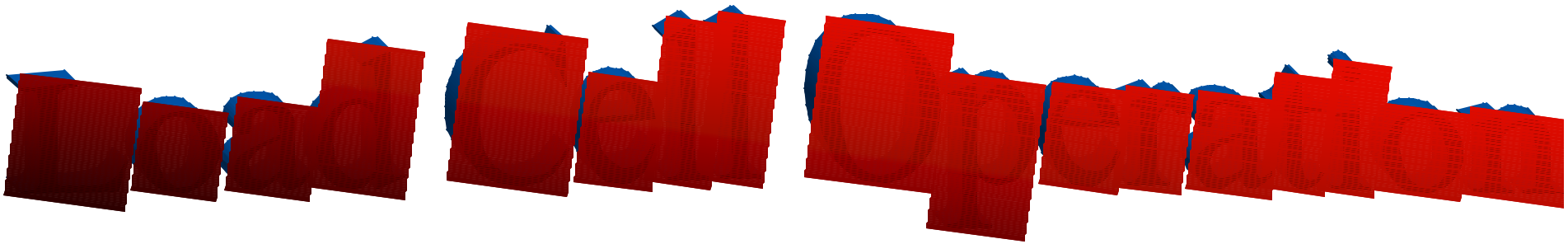
Float Mode Troubleshooting

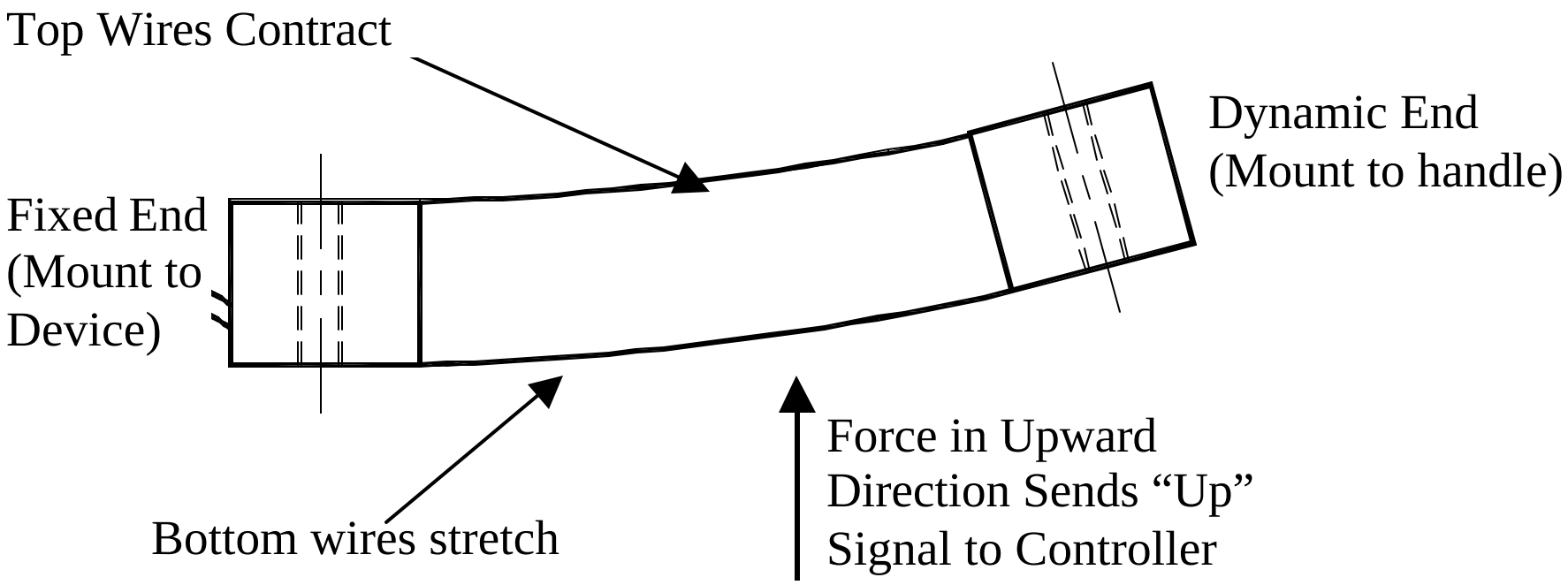
1. 2.5 seconds is required the dwell time between last operator input (Up/ DN switch) and changing back to Float mode.

☹ No external forces should be applied to the load cell or end effector during the “dwell” function.

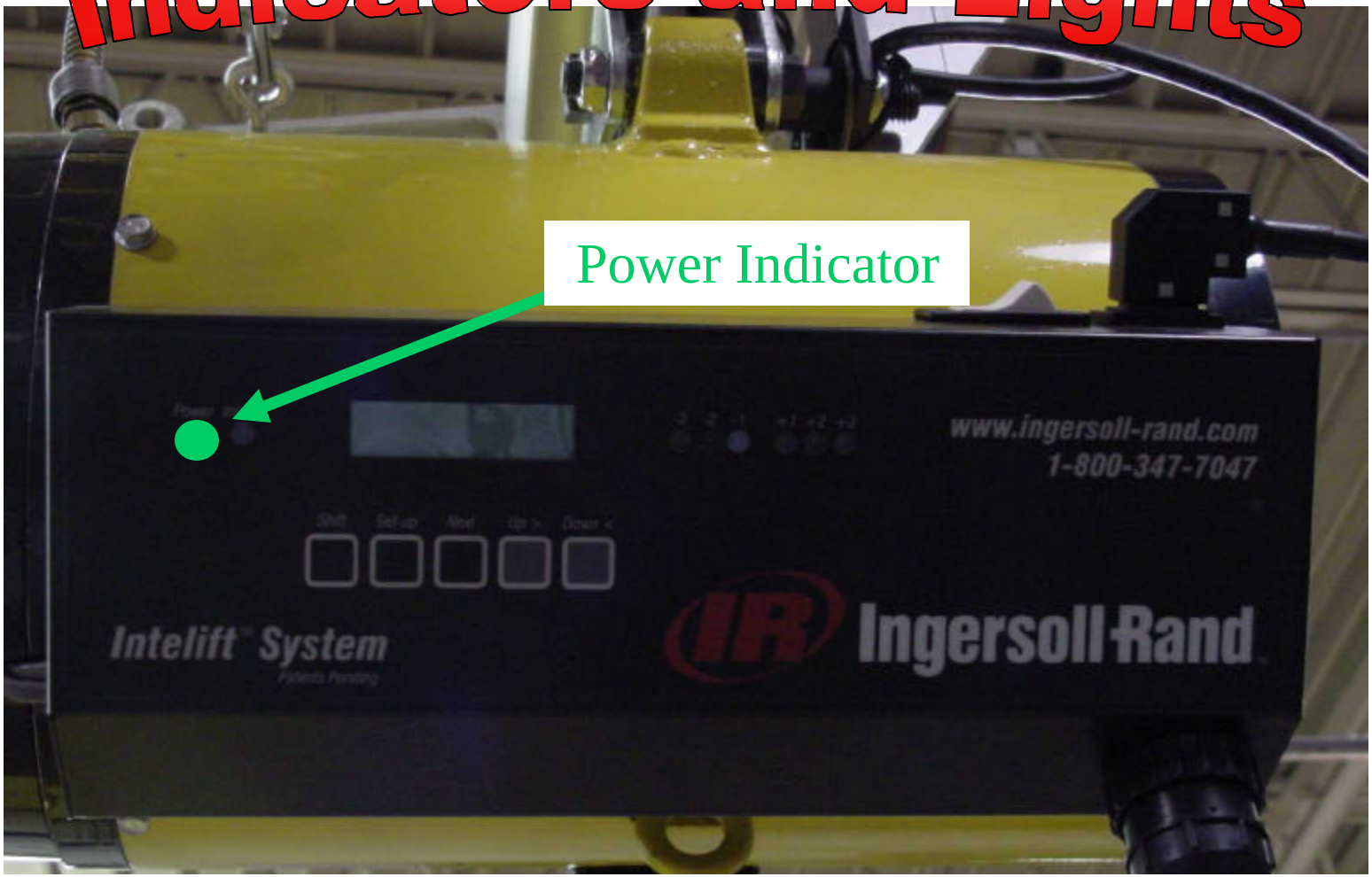
2.The InteLift indicator will not be illuminated or flashing during the dwell time.

☹Wait until the InteLift indicator begins to flash before moving the end effector.



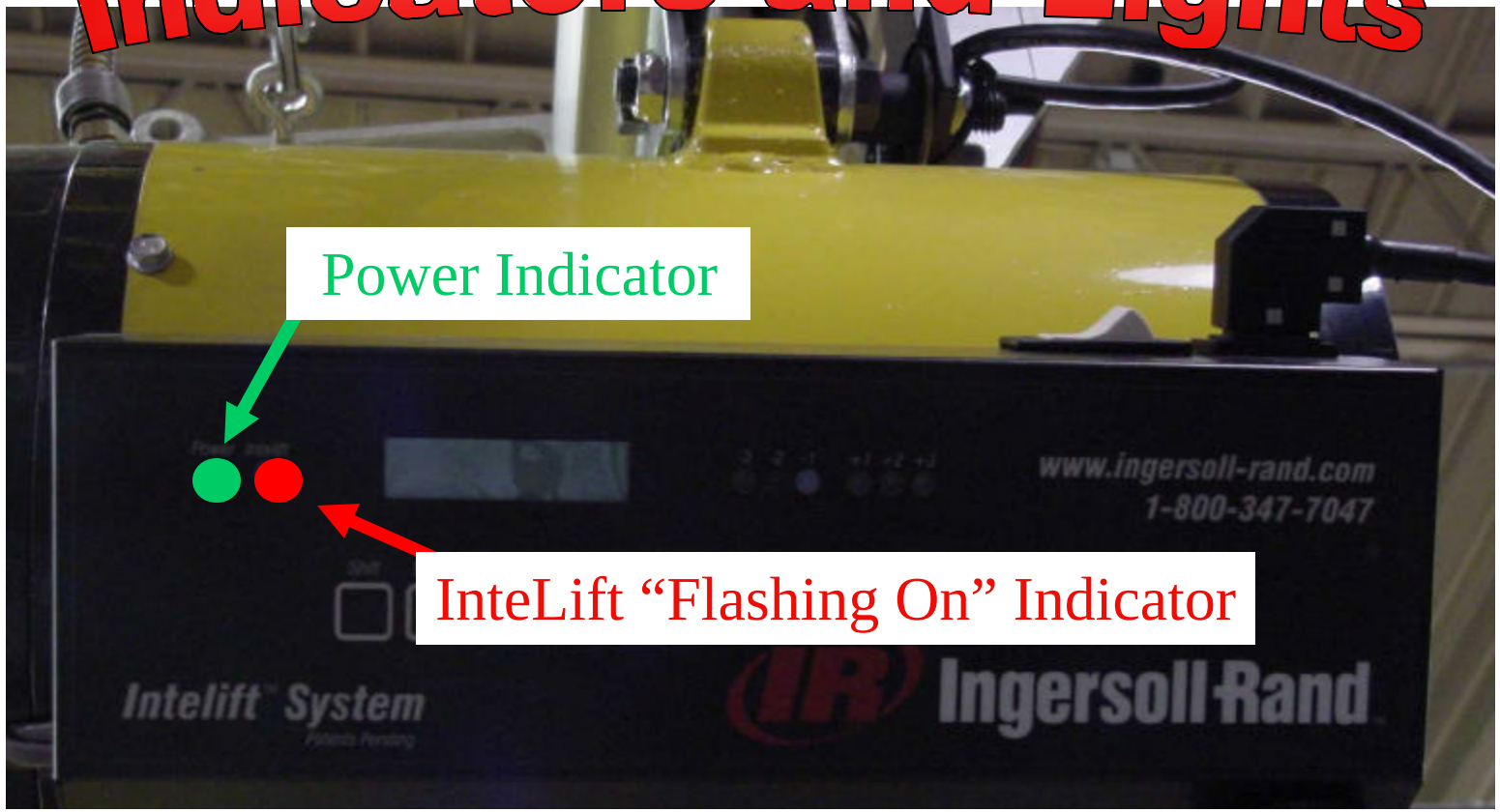

Top Wires Contract
Dynamic End
(Mount to handle)
Fixed End
(Mount to
Device)
Bottom wires stretch
Force in Upward
Direction Sends “Up”
Signal to Controller

Understanding Intelift Indicators and Lights



One steady green light indicates normal operation

Understanding Intelift Indicators and Lights

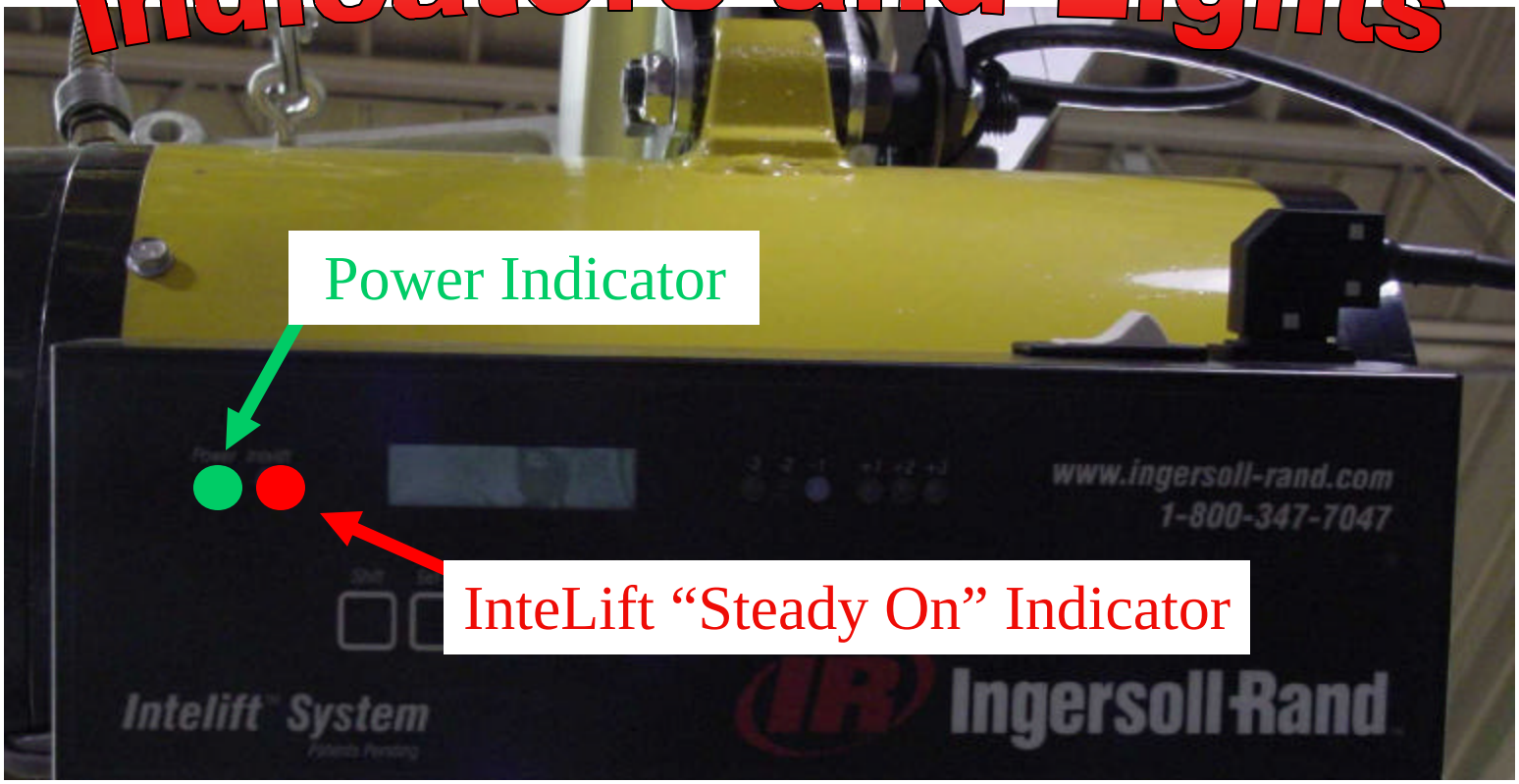


One steady green light indicates normal operation

&

One flashing red light indicates InteLift mode is active

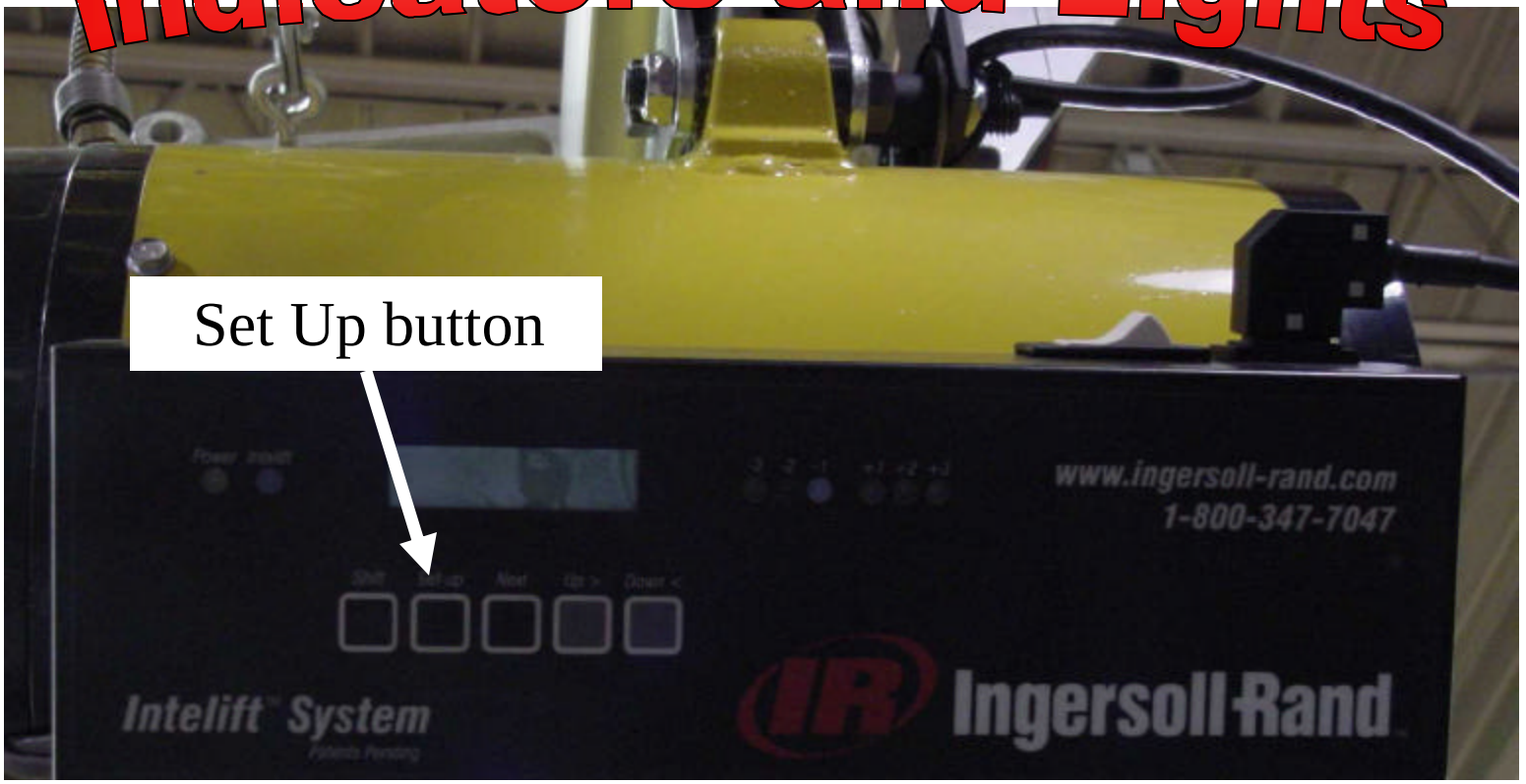
Understanding Intelift Indicators and Lights



Steady red and green lights indicate an error condition

Restart the unit- “Tare” the pendent- ensure no controls are activated

Understanding Intelift Indicators and Lights



No lights illuminated indicates the unit is in “SET-UP” mode or the power is off

Press the “Set up” button

Understanding Intelift Indicators and Lights

No lights illuminated indicates the unit is in “SET-UP” mode or the power is off (Cont.)

Ensure Main Power is “On”- Press pendent “Power On” button

Understanding Intelift Indicators and Lights

InteLift “Steady On” Indicator

Steady red and no green lights indicate an error condition

Contact the factory

InteLift Control Panel

Keypad Buttons

"Shift"- Initiates "QA" Testing

"Setup" - Enters and exits you out of the Setup menu

"Next" - Steps through each of four InteLift functions which may be changed

- Control Mode
- InteLift Mode
- Control Handle Tare
- End Effector Tare

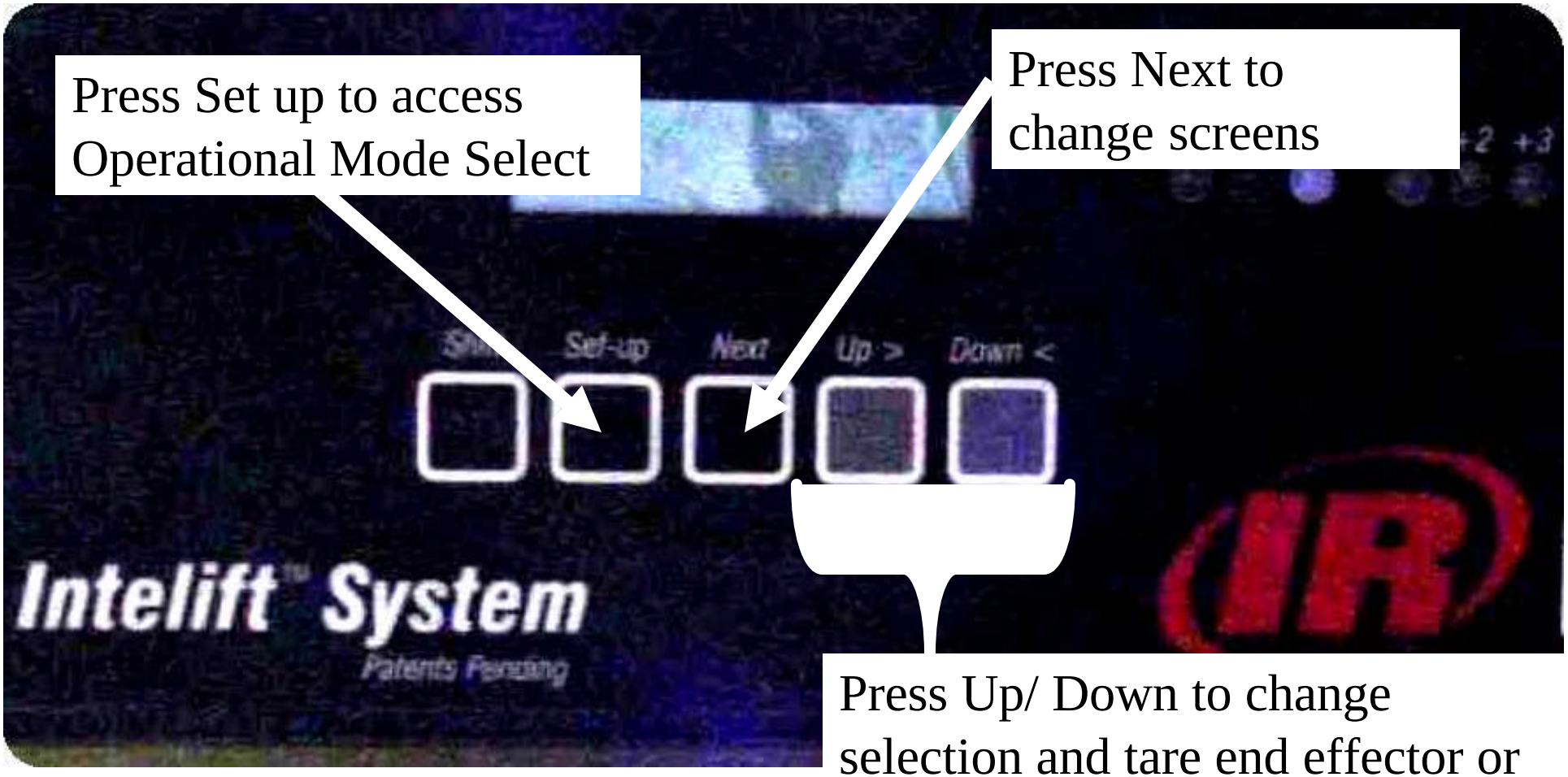
"Up/Down" - Selects value or entry for function

InteLift Set up Procedure

3. Initial Set up (cont.)

3. Select Operational Modes

4. Tare End Effector/ Pendent



InteLift Set up Procedure

Press Set up- Computer will beep/ Power LED will extinguish (Green light)

Depending on software version- Software version will be displayed at start up of InteLift

Version 2.12 or lower- The first screen will show InteLift options-

FLOAT DUMP NONE

Press and release the up/ down key to select an option

The selected option will appear on the bottom of line of the screen

Press next to go to the next screen

If none is currently selected use that setting

InteLift Set up Procedure

Version 2.12 or lower- The third screen will show Tare procedure-

PRESS UP/ DN TO TARE END EFFECTOR

Press and release the up/ down key for the computer to calculate the weight of the load

The screen will flash momentarily while the unit calculates the weight of the load

Press next to go to the next screen

InteLift Set up Procedure

Version 2.12 or lower- The fourth screen will show Tare procedure-

PRESS UP/ DN TO TARE PENDENT

Press and release the up/ down key for the computer to calculate the null (zero) setting for the pendent

The screen will flash momentarily while the unit calculates the weight of the load

Press next to go to the next screen

InteLift Set up Procedure

Version 2.12 or lower- The second screen will show Interlock options-

SMART DROP INTERLOCK NONE

Press and release the up/ down key to select an option

The selected option will appear on the bottom of line of the screen

Press next to go to the next screen

If none is currently selected use that setting

InteLift Set up Procedure

Version 2.12 or lower- The fifth screen will show-

PRESS SET UP TO START MACHINE

Press and release the SET UP button

The screen will flash momentarily while the unit writes the parameters you have just input to the EPROM

The power LED should illuminate (Green light)

The unit should be ready for operation

InteLift Set up Procedure

Press Set up- Computer will beep/ Power LED will extinguish (Green light)

Depending on software version- Software version will be displayed at start up of InteLift

Version 2.15 - The first two screens will show InteLift instructions-

Screen 1- PRESS NEXT TO CHANGE TO NEXT SCREEN

Press next to go to the next screen

Screen 2- PRESS UP/ DN TO CHANGE MENU SELECTION

Press next to go to the next screen

InteLift Set up Procedure

Version 2.15 - The third screen will show InteLift pendent options-

IAW- Rocker switch pendent with coiled cable to pendent

ISW- Rocker switch pendent with straight cable to pendent

ICW- Load cell pendent (no rocker switches) with coiled cable to pendent

Press and release the up/ down key to select pendent type

The selected pendent will appear on the bottom of line of the screen

Press next to go to the next screen

InteLift Set up Procedure

Version 2.15- The fourth screen will show InteLift options-

FLOAT DUMP NONE

Press and release the up/ down key to select an option

The selected option will appear on the bottom of line of the screen

Press next to go to the next screen

If none is currently selected use that setting

InteLift Set up Procedure

Version 2.15- The fifth screen will show Interlock options-

SMART DROP INTERLOCK NONE

Press and release the up/ down key to select an option

The selected option will appear on the bottom of line of the screen

Press next to go to the next screen

If none is currently selected use that setting

InteLift Set up Procedure

Version 2.15- The sixth screen will show Tare procedure-

PRESS UP/ DN TO TARE END EFFECTOR

Press and release the up/ down key for the computer to calculate the weight of the load

The screen will flash momentarily while the unit calculates the weight of the load

Press next to go to the next screen

InteLift Set up Procedure

Version 2.15- The seventh screen will show Tare procedure-

PRESS UP/ DN TO TARE PENDENT

Press and release the up/ down key for the computer to calculate the null (zero) setting for the pendent

The screen will flash momentarily while the unit calculates the weight of the load

Press next to go to the next screen

InteLift Set up Procedure

Version 2.15- The eighth screen will show-

PRESS SET UP TO START MACHINE

Press and release the SET UP button

The screen will flash momentarily while the unit writes the parameters you have just input to the EPROM

The power LED should illuminate (Green light)

The unit should be ready for operation

Pendent Auxiliary Recepticle

Pin “B” 24VAC (low) to clamp solenoid

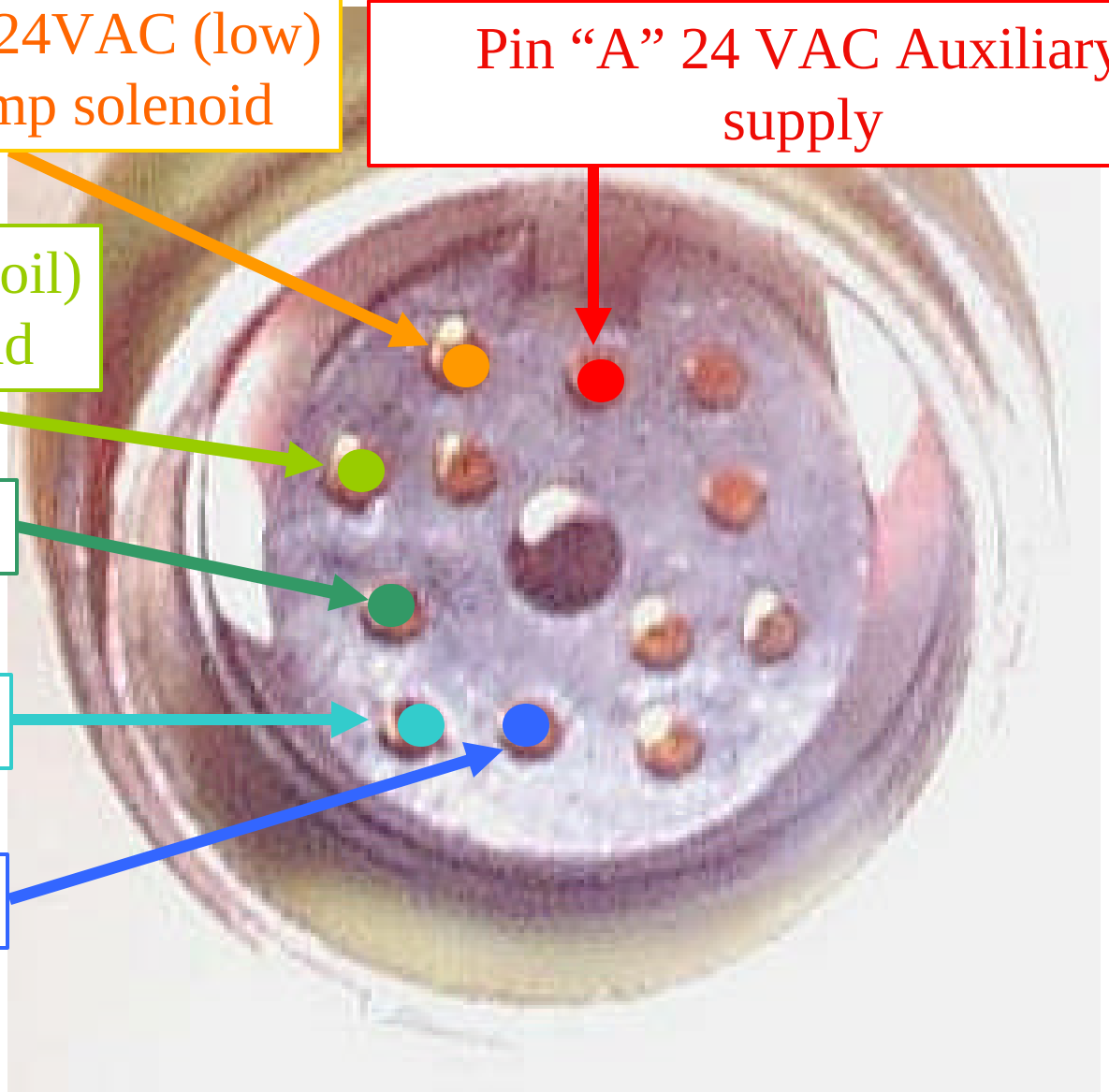
Pin “A” 24 VAC Auxiliary supply

Pin “C” 24VAC (coil) to clamp solenoid

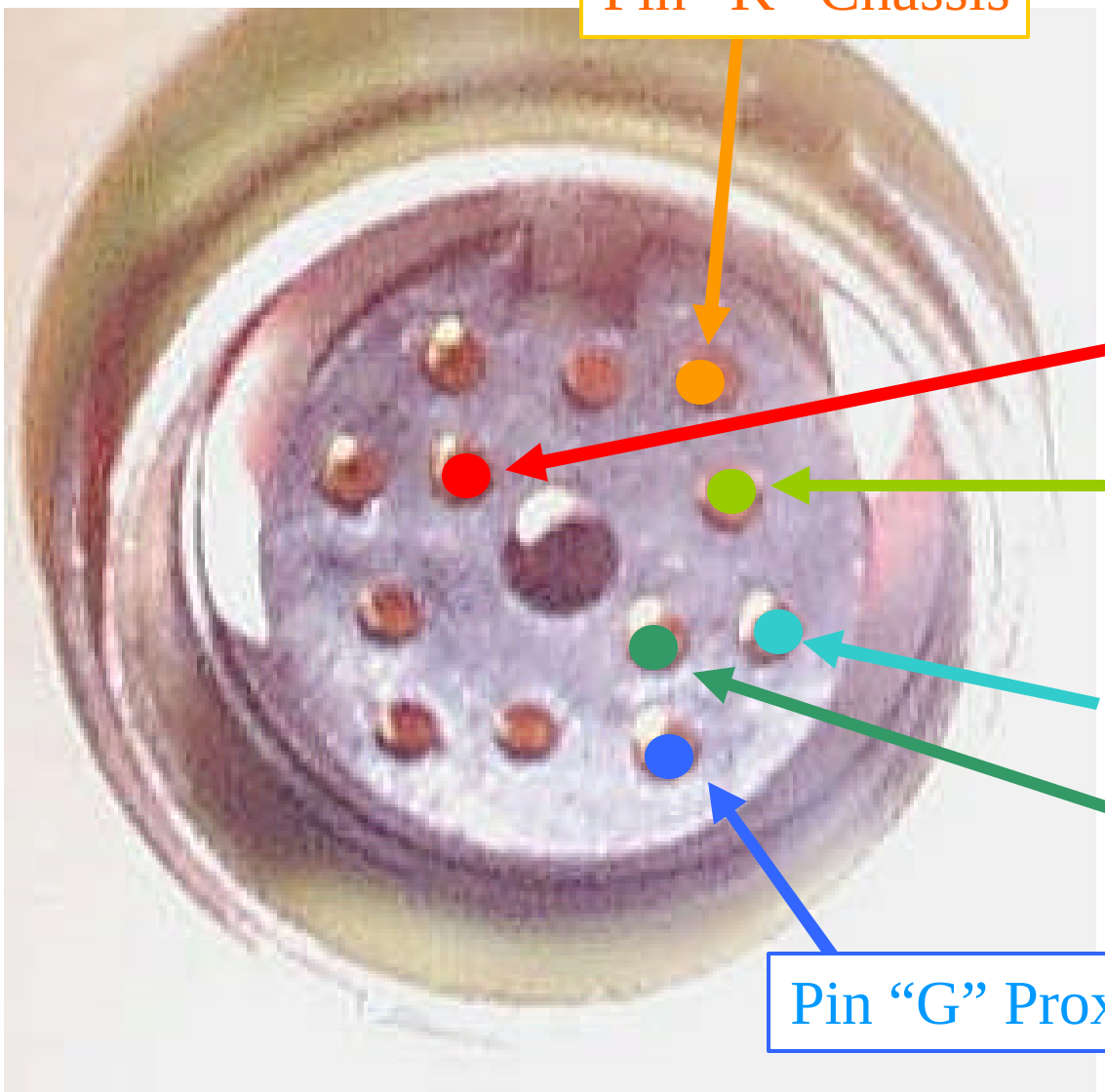
Pin “D” Not Used

Pin “E” Not Used

Pin “F” Not Used



Pendent Auxiliary Recepticle



Pin “K” Chassis

Pin “L” Ground

Pin “J” 12 VDC Proximity switch supply

Pin “H” 12 VDC Up disable signal

Pin “M” Ground

Pin “G” Proximity Signal “Clamp On”