OPERATING INSTRUCTIONS

Transporting the EZ LIFTER

1. Make sure all cylinders are fully retracted.
2. Disconnect all power cords and communication cables.
3. Stow remote control stations and encoder wheel inside gantry leg compartment.
4. Attach chains from the tie down ears to the trailer (see figure 6.1).

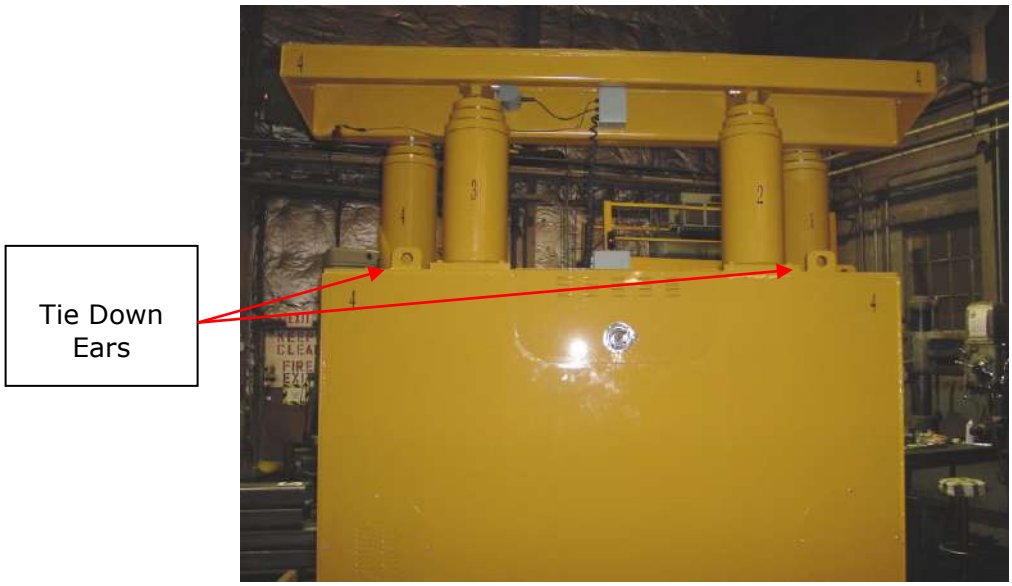

Figure 6.1 – Tie Down Ears

Set Up

1. Position the legs parallel to each other. Always place the legs so that the power and control cord receptacles are on the outside edge. When positioning 4 legs, always face the front end of all legs in the same direction. Facing the front ends in the opposite direction will prevent the gantries from traveling in the same direction (See figure 6-2).

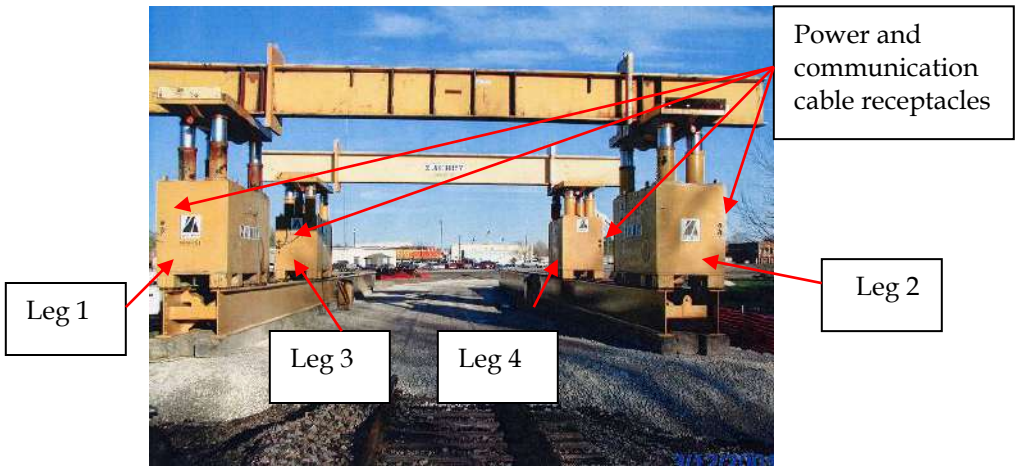

Figure 6.2 – set up

2. Each leg is physically and electronically numbered 1 through 4. See figure 6-3. Legs 1 & 2 and legs 3 & 4 must be set up as a pair across from each other. When operating four legs, legs numbered 1 through 4 must be used. To change leg numbers see "To Change Leg Numbers".

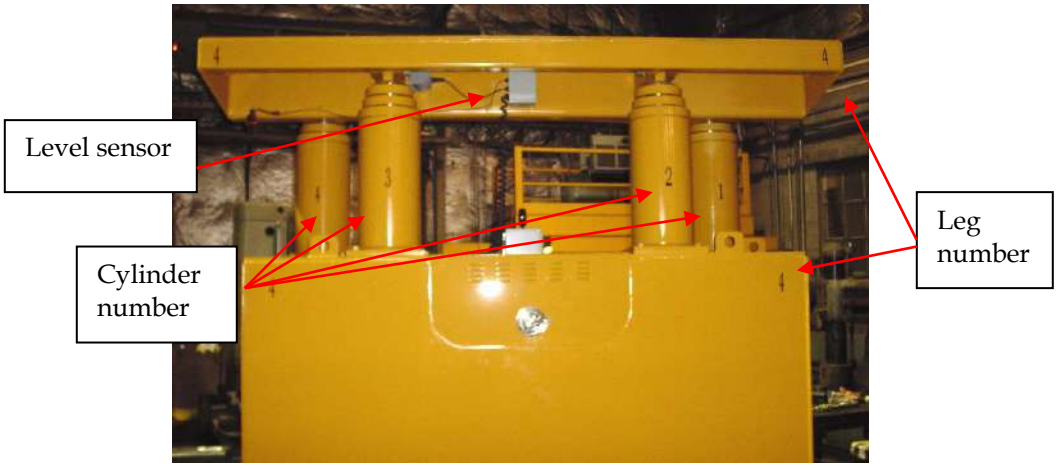

Figure 6.3 – Leg and Cylinder Numbers

NOTICE: If duplicate numbers are used or pairs are not properly set up the gantry will not operate.

3. Attach the propel encoder wheels to the connecting rod pad eye on the front end of the gantry. The wheel is stored inside the gantry body. Attach the communication cable.

Figure 6.4 – Storage of Encoder Wheel

Figure 6.5 –Encoder Wheel Installed.

4. Connect the Electrical Power Cables.
WARNING: Make sure power is "OFF" before connecting or disconnecting.

5. Connect Master Control Station to the IN (top) receptacle of any leg. Connect the communication cable to the OUT (bottom) receptacle of the same leg. Connect the other end of the cable to the IN receptacle of the next leg. If operation 4 legs continue to connect all the legs in a similar fashion.

Figure 6.6 – Communication Cable Receptacle.

6. Switch key on the Master Control Station to Local. The Riggers logo then the Main Operating Page will be displayed (See figure 6.7)

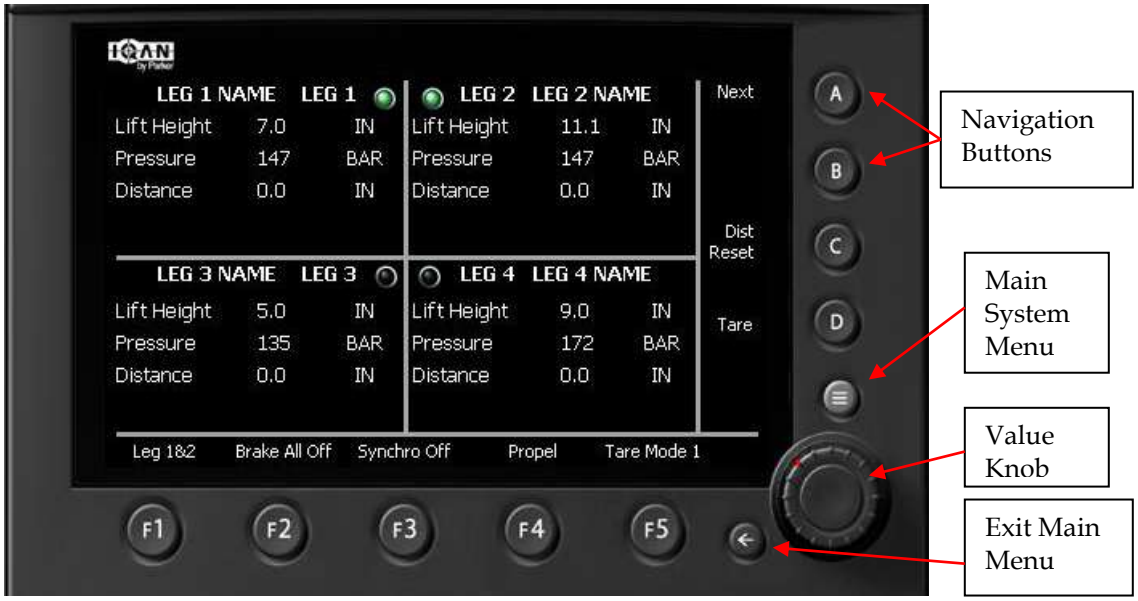

Figure 6.7 –Main Operating Page

7. Press the A or B button to navigate through the displays.

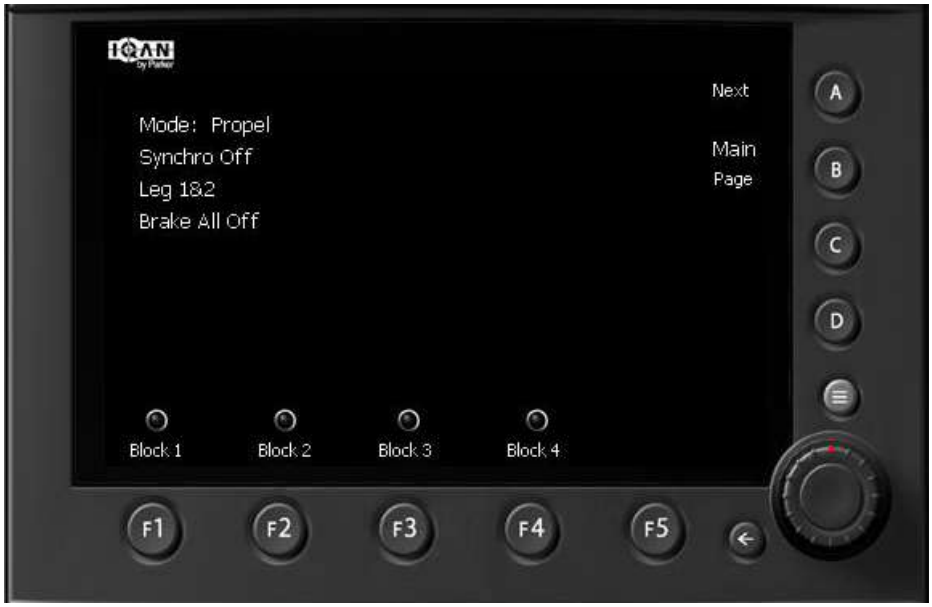

Figure 6.8 –Cylinder Block Page

8. On the Cylinder Block Screen (figure 6.8) one or more cylinders in a leg can be blocked (shutoff). See To Correct Miss Staging section of manual for more details

Figure 6.9 – Units of Measure Page

9. Set the units of measure that will be displayed. Press the function (F) buttons to select and change the unit of measure. Display of weight not available on Model 604.2.

Figure 6.10 – Maximum Height and Name set up page

10. The Height Set Up Page permits the user to establish the maximum height that each leg will be permitted to extend. This is helpful if operating in a building with restricted overhead clearances.

    - To set the track height (floor to top of runway track), press the F1 button. Use the Value Knob to set values then press the center of the Knob to select.

- To set the lift beam height (top of header plate to top of beam or lift link), press the F2 button.
- To set the maximum height (floor to lowest overhead obstruction), press the F3 button.

Notice: A value must be entered in Beam Height and Track height to enable this feature.

- Each gantry leg will stop when it reaches the preset maximum height.
- Press Button C to disable this feature.
- There is one setup screen for each leg. To access the next leg press the A (next) button.

11. User defined Leg names can be assigned to the leg and shown on the Main Page

- Press F4 button (Adjust Name). The Leg name screen will be displayed. See figure 6.11 below.

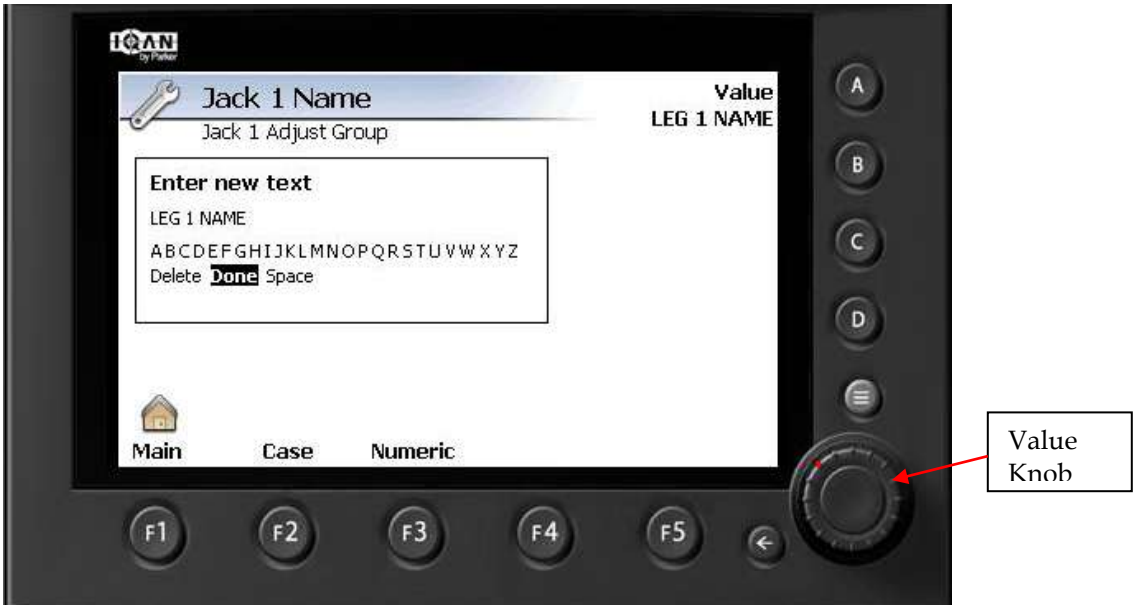

Figure 6.11 – Leg Name Screen

- Press F2 or F3 to select Numeric or Alphabetic characters. Use Value Knob to highlight the character, press the Value Knob to select. Continue until the leg name is completed. Select DONE and press the Value Knob to activate the Name.

Before Starting the Motor

Conduct a thorough inspection before starting the Motor.

- Look for items such as loose bolts and debris

- Check the condition of the cylinders to ensure there is not excessive dirt build-up that might damage the cylinders
- Make sure the Control Cords, Communication Cords and Power Cords are not damaged.
- Inspect the hydraulic system for leaks or damaged lines.
- Make sure that the Cords are not in the path of the EZ LIFTER if you will be Propelling the load.
- Check the oil level in the hydraulic tank.

NOTICE: Have repairs made as needed and have all debris removed.

To Operate the Gantry from the Master Control Station.

To Start the Motor

1. Switch key on the Master Control Station to Local.
2. Pull up the Emergency stop button. The motors will start one at a time in a predetermined sequence. If one of the motors fails to start a message will be displayed on the LCD Screen. See the Troubleshooting section of this manual to resolve the problem.
3. The Main Display Page will be displayed on the LCD Screen.

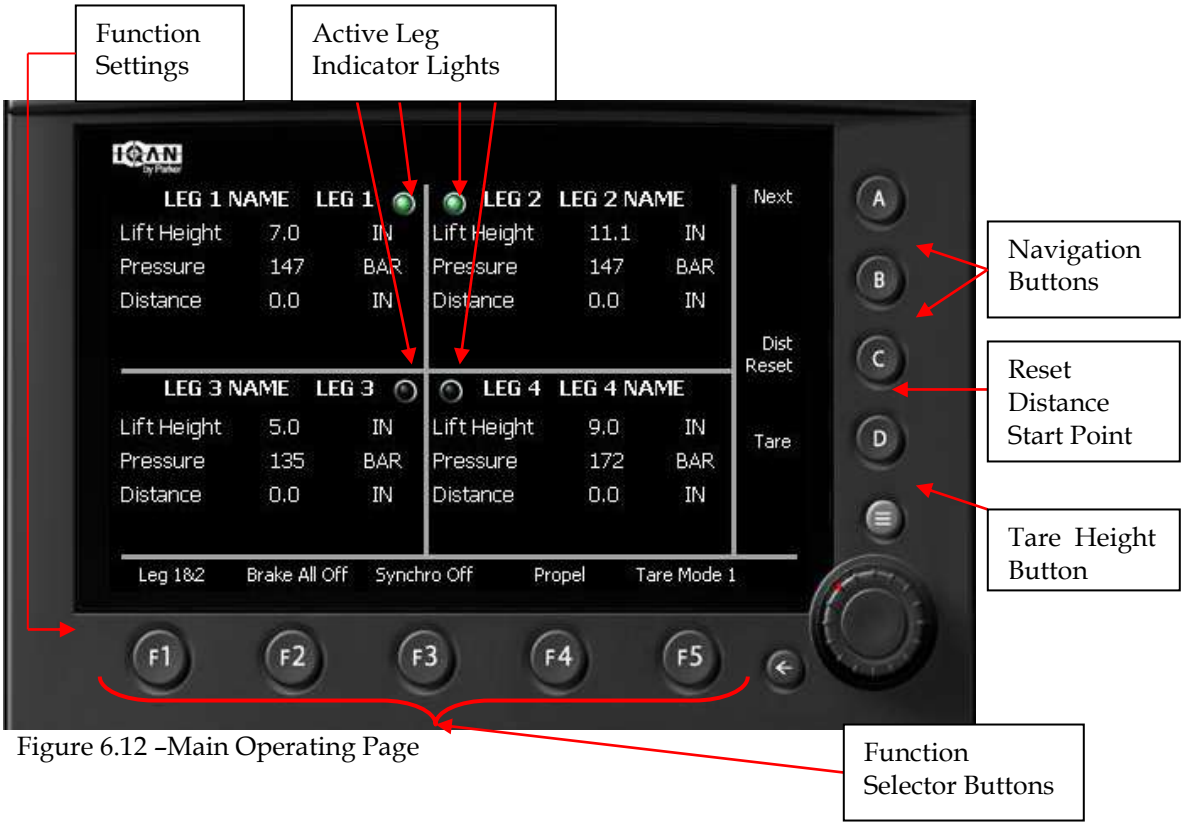

Figure 6.12 –Main Operating Page

Active Leg Indicator Lights

Indicates which leg has power and is activated to operate.

Tare Button

Sets height values for legs selected to zero.

Distance Reset Button

Sets Distance travel to Zero for all legs selected. Can only be activated with Synchro Off.

Navigation Buttons

Button to move to next display screen

Function Settings

The function settings display the current active operating function.

Function Selector Buttons

The function selector buttons change the active operating function.

To Lift a Load

1. Select the LIFT function (F4). This button must be held down for 1-2 seconds to activate the function. If it does not change the setting press if a second time.
2. Select the number of legs that will be operated (F1). This tells the joysticks which leg(s) they are controlling:
   a. LEGS 1 & 2 – Joysticks will operate legs 1 & 2
   b. LEGS 3 & 4 – Joysticks will operate legs 3 & 4.

   4 LEGS – Right Joystick will operate all 4 legs in Synchro.
3. Set the Brake control (F2). Brakes should be in free wheel on the initial lift until the full weight of the load is held by the gantry. This permits the gantry to center itself over the load. Once centered the brakes should be turned on. Free wheel may also be used when laying down or standing up a press.
   a. BRAKE 1 & 2 OFF– Legs 1 & 2 in free wheel. Legs 3 & 4 brakes ON.
   b. BRAKE 3 & 4 OFF – Legs 3 & 4 in free wheel. Legs 1 & 2 brakes ON.
   c. BRAKE ALL OFF – All legs in free wheel.
   d. BRAKE ALL ON – Brakes ON all legs except when in PROPEL.
4. Move the Joystick(s) slowly in the "UP" direction.
   WITH SYNCHRO OFF:
   LEFT JOYSTICK – Will operate Leg 1 and/or Leg 3 depending on the leg combinations selected (F1)
   RIGHT JOYSTICK – Will operate Leg 2 and/or 4 depending on the leg combinations selected (F1)

WITH SYNCHRO ON:
RIGHT JOYSTICK –Will operate all legs designated in the function setting (F1).

NOTICE: The Joystick(s) will automatically return to the neutral position when released.

5. Make sure the legs are level.

   WARNING: RED "Out of Level" Indicator Lights will illuminate on the Leg if the EZ LIFTER is out of level from side to side 1/2° or more. A warning message will also be displayed on the control consoles.

6. To operate in "Synchro", select SYNCHRO ON (F3). The system will automatically keep all the legs at the same differential height from the point that Synchro is engaged.

   NOTICE: If the lift beam (s) are not level the control system will not permit operation in Synchro.

7. Monitor all values and warnings displayed. If not operating in Synchro, re-check to assure the EZ LIFTER is level in all directions after the full weight of the load has been placed on the EZ LIFTER.

Operating the Tare Mode Button

The actual values displayed are controlled by the TARE MODE selection (F4):

1. MODE 1 displays:

   Height from the gantries retracted position to extended position.

2. MODE 2 displays:

   Total height from ground level to top of lift beam. If track and beam height are not entered this will show total height of the EZ LIFTER leg.

3. MODE 3 displays:

   Height from Tare zero point to current height.

Operation of the Tare Button

The TARE button (D) can only be used in TARE MODE 3. Pressing the TARE button will re-set height readout to zero

Press and hold the Distance Reset to re-set distance traveled readout to zero.

When engaging the TARE button watch the display to make sure that the intended value is set to zero.

To Hold a Load

The load will remain suspended when the Joystick is released, and automatically returns to the neutral position. Cylinder retraction is controlled by valves at the base of the Lift Cylinders, and by the Manual Control Valves. In the unlikely event of a hydraulic circuit failure or rupture, the Safety Check Valves will hold the cylinders in position.

To Lower a Load

1. See steps 1 through 5 in **To Lift a Load** above for settings.
2. Move the Joystick(s) slowly in the "DOWN" direction. If the EZ LIFTER is set to SYNCHRO On, only the right Joystick is needed.

NOTICE: The Joystick(s) will automatically return to the neutral position when released.

WARNING: Fast down must never be engaged when the EZ Lifter is lowering a weight.

3. Monitor all values and warnings displayed.
4. If not operating in Synchro Mode, re-check to assure the EZ LIFTER is level in all directions.
5. Use Fast Down to lower the gantry without a load. To engage Fast Down, hold the Fast Down button down while moving the joystick in the "DOWN" position.

To Propel a Load

1. Select the PROPEL function (F4). The button must be held down for 1.2 seconds to activate the function. It may be necessary to press the button a second time.
2. Select the number of legs that will be operated (F1). This tells the joysticks which legs they are controlling:
   a. LEGS 1 & 2 – Joysticks will operate legs 1 & 2
   b. LEGS 3 & 4 – Joysticks will operate legs 3 & 4.
   c. 4LEGS – joystick will operate both legs on the same side as joystick.
   d. 4 LEGS – Right Joystick will operate all 4 legs in Synchro Mode.
3. To operate in "Synchro" mode, select SYNCHRO ON (F3). The system will keep all the legs selected traveling the same distance from a starting point. The distance traveled from the starting point will be displayed. If the direction of travel is reversed and passes back over the stating point the system will readout will change to a negative or positive number.
4. Move Joysticks **SLOWLY** in forward or reverse direction. If the EZ LIFTER is set for "Synchro On", only the right Joystick is needed

To Correct Cylinder Miss-staging

Navigate to Cylinder Block Page (see 6.13).

Figure 6.13 –Cylinder Block Page

1. Select Leg 1&2 or Leg 3&4 (F1). Select Synchro Off (F3).
2. Block all cylinders except the one that **is not** properly staged by **pressing and holding** the applicable Cylinder Block Buttons. Pull the joystick to the "LIFT" position while holding down the blocked cylinder buttons until that cylinder stages properly.

NOTICE: Check that the other cylinder on that end remains properly staged.

To Operate the Radio Remote Control Station.

Turn the key switch on the Master Control Station to Radio. The Master Control Station must remain connected.

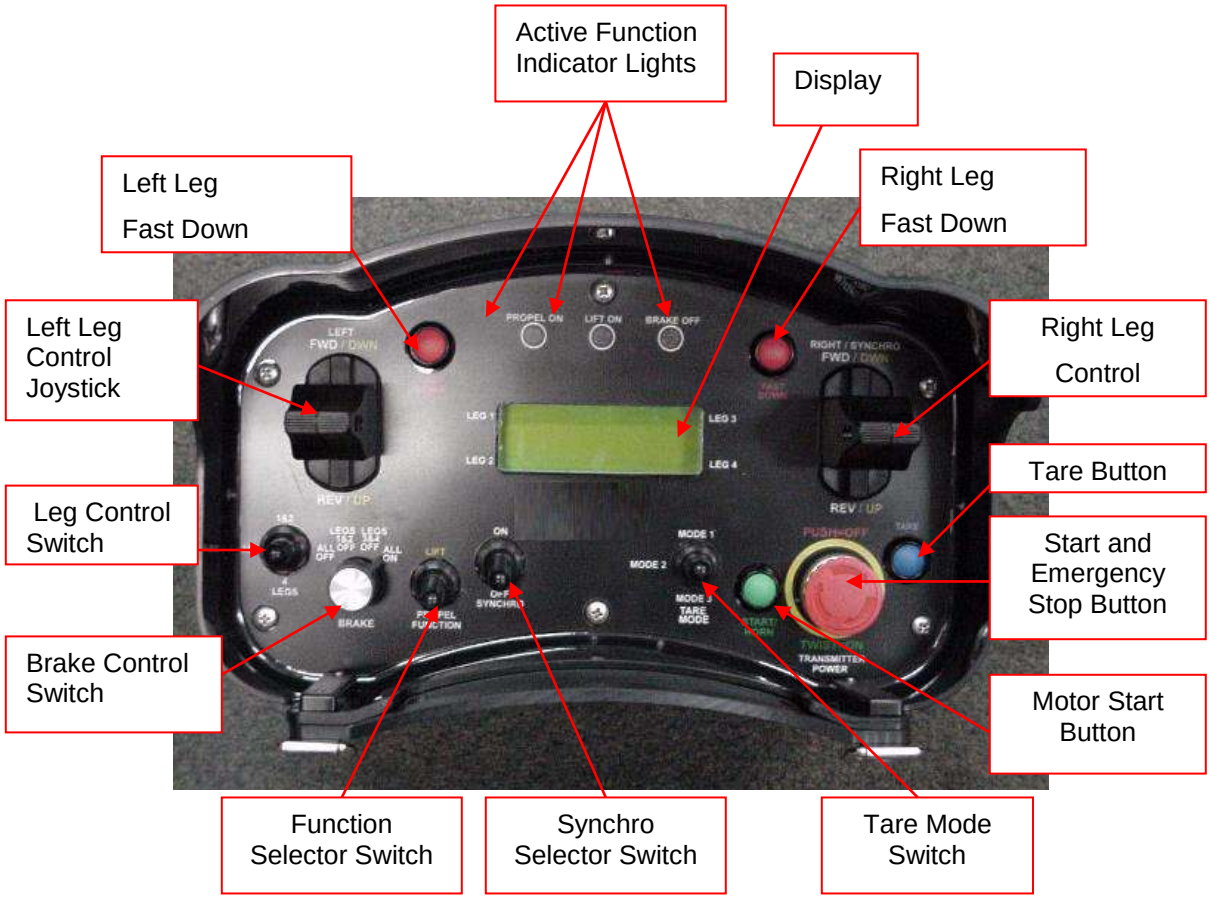

Figure 6.14 – Radio Remote Control

How to Read LCD Display

The display has 4 quadrants which display values for each leg:

LEG 1	**Height or Distance Traveled**	**Height or Distance Traveled**	**LEG 2**
LEG 3	**Height or Distance Traveled**	**Height or Distance Traveled**	**LEG 4**

Height is displayed when in LIFT Function or distance traveled when in PROPEL Function.

The actual values displayed are controlled by the TARE MODE selection:

To Start the Radio

1. To start the Radio twist and pull the Emergency stop button. Allow the radio to initialize (5 seconds) before proceeding.

Notice: The Master Control Station must be switched to RADIO.

2. Press the Green Start button to start the motors in sequence.

To Lift a Load

2. Set the Function Selector Switch to "LIFT".
3. Set the Leg Control Switch to the number of legs that will be operated. This tells the joysticks which legs they are controlling:
   a. LEGS 1 & 2 – Joysticks will operate legs 1 & 2
   b. LEGS 3 & 4 – Joysticks will operate legs 3 & 4.
   c. 4 LEGS – Joysticks will operate both legs on the same side as the Joystick.
   d. 4 LEGS – Right Joystick will operate all 4 legs in Synchro Mode.
4. Set the Brake Control Switch :
   a. FREEWHEEL Legs 1 & 2 – Legs 1 & 2 will free wheel. Legs 3 & 4 brakes on.
   b. FREEWHEEL Legs 3 & 4 – Legs 3 & 4 will free wheel. Legs 1 & 2 brakes on.
   c. FREEWHEEL ALL – All legs will free wheel.
   d. DRIVE ALL – All legs will propel in this mode
5. If "Synchro" will be used, set the Synchro Selector Switch to "ON". When in Synchro mode the system will automatically keep all the legs at the same differential height from the point that Synchro is engaged.

   NOTICE: If the lift beam (s) are not level the control system will not permit operation in Synchro mode. A warning will be displayed.

6. Move the Joystick(s) slowly in the "UP" direction.
   WITH SYNCHRO OFF:
   Left Joystick – Will operate Leg 1 and/or Leg 3 depending on the leg combinations selected (F1)
   Right Joystick – Will operate Leg 2 and/or 4 depending on the leg combinations selected (F1)
   WITH SYNCHRO ON:
   Right Joystick – - Will operate all legs designated in the function setting (F1).
7. Monitor all values and warnings displayed.

8. If not operating in Synchro Mode, re-check to assure the EZ LIFTER is level in all directions after the full weight of the load is placed on the EZ LIFTER.

   NOTICE: If you release a Joystick(s), it will automatically return to the neutral position.

Operation of the Tare Mode Button

The actual values displayed are controlled by the TARE MODE selection (F4):

1. MODE 1 displays:

   Height from the gantries retracted position to extended position.

2. MODE 2 displays:

   Total height from ground level to top of lift beam if beam and track height have been set.

3. MODE 3 displays:

   Height from Tare zero point to current height.

Operation of the Tare Button

The TARE button can only be used in TARE MODE 3. Pressing the TARE button while in the LIFT function will re-set height readout to zero. Pressing the TARE button while in the PROPEL function will re-set distance traveled readout to zero. When engaging the TARE button watch the display to make sure that the intended value is set to zero.

To Hold a Load

The load will remain suspended when the Joystick is released, and automatically returns to the neutral position. Cylinder retraction is controlled by valves at the base of the Lift Cylinders, and by the Manual Control Valves. In the unlikely event of a hydraulic circuit failure or rupture, the Safety Check Valves will hold the cylinders in position.

To Lower a Load

1. Set the Function Selector Switch to “LIFT”.
2. If “Synchro” will be used, set “Synchro Selector Switch” to “ON”.
3. Move the Joystick(s) slowly in the “DOWN” direction. If the EZ LIFTER is set for “Synchro”, only the right Joystick is needed.
4. Monitor all values and warnings displayed.
5. If not operating in Synchro Mode, re-check to assure the EZ LIFTER is level in all directions.

***WARNING: F*ast down must never be engaged when the EZ Lifter is lowering a weight.**

To Propel a Load

1. Set the Function Selector Switch to "PROPEL"
2. Set the Leg Control Switch to the number of legs that will be operated. This tells the joysticks which legs they are controlling:
   a. LEGS 1 & 2 – Joysticks will operate legs 1 & 2
   b. LEGS 3 & 4 – Joysticks will operate legs 3 & 4.
   c. 4 LEGS – Joysticks will operate both legs on the same side as the Joystick.
   d. 4 LEGS – Right Joystick will operate all 4 legs in Synchro Mode.
3. If "Synchro" will be used, set the Synchro Selector Switch to "ON". The system will keep all the legs selected traveling the same distance from a starting point. The distance traveled from the starting point will be displayed.
4. Move Joysticks **SLOWLY** in forward or reverse direction. If the EZ LIFTER is set for "Synchro On", only the right Joystick is needed

NOTICE: Engaging the "Emergency Stop Button" will disable all of the functions listed above.

To Change Radio Frequency

Each radio is matched to a specific set of legs by different radio frequencies. To use a radio remote on a different set of legs requires that the frequency in the transmitter (radio remote unit) match the frequency in the receiver (Enrange box inside the Control Box, Figure 8.3). Change dip switches 4, 5, 6, 7 & 8 in bank 2 of the transmitter to match the settings in bank 2 of the receiver. See Figure 6.15.

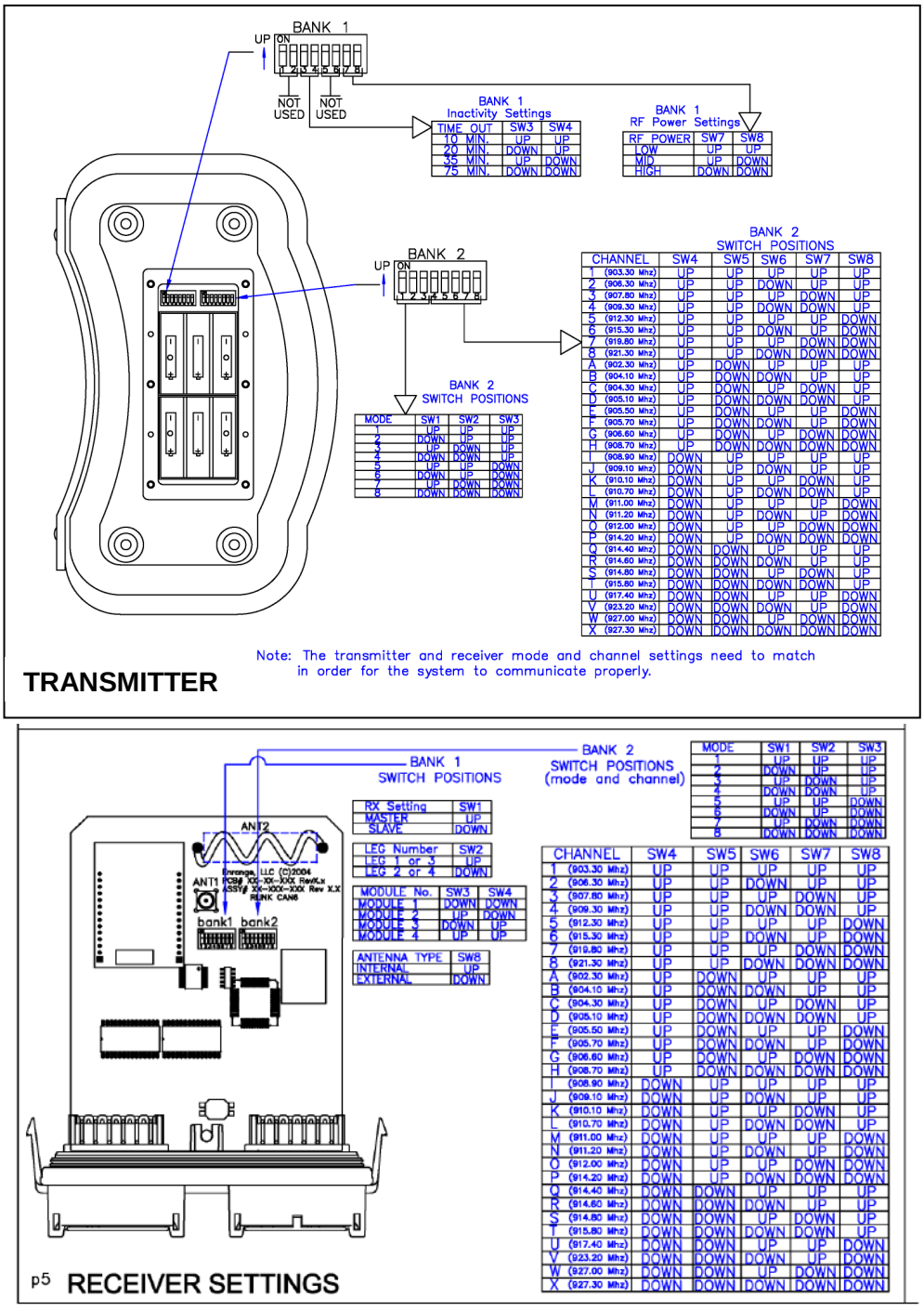

Figure 6.15 Radio Transmitter and Receiver

To Change Leg Numbers

Each leg of the gantry is numbered 1, 2, 3, or 4. Two address tags corresponding to the leg number are plugged into the terminal strip in the inside compartment of each gantry leg. See Figure 8.3. Changing the two address tags will change the Electronic leg number. The tags are labeled 1, 2, 3, or 4. Left legs must be assigned uneven numbers and right legs must be assigned even numbers. In other words Leg number 1 can be changed to leg number 3 and vise versa and leg number 2 can be changed to leg number 4 and vise versa.

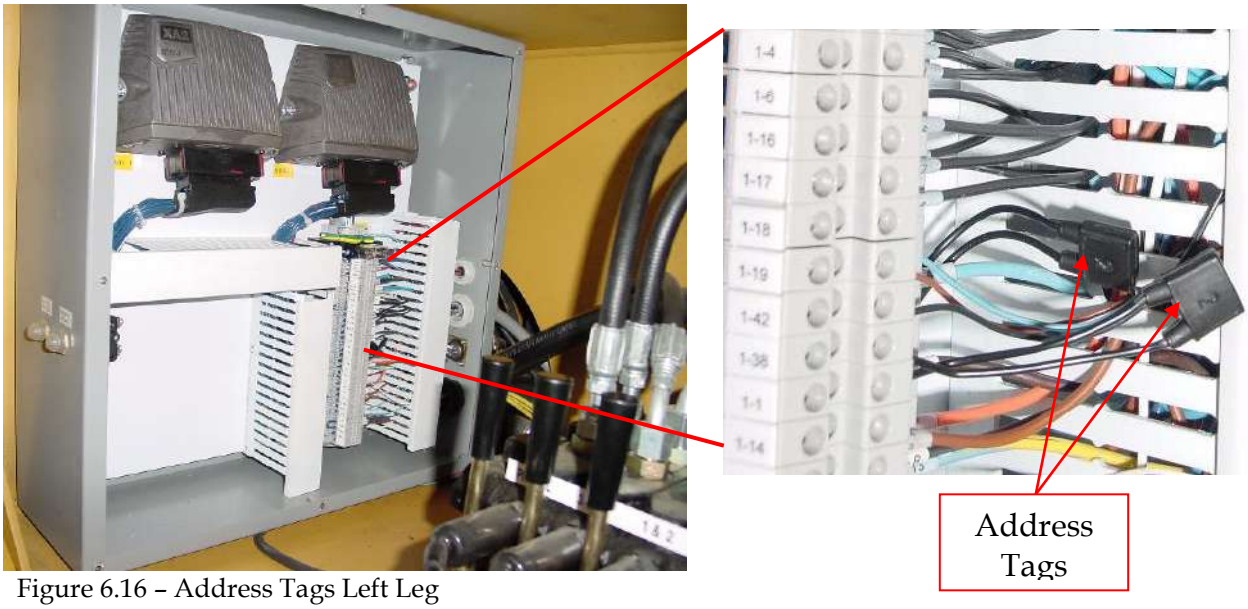

Figure 6.16 – Address Tags Left Leg

To Lower a Load Manually without a Power Source

The load can be lowered using the manual proportional control valves. See figure 8.4 for location of valves. The load hold check valves at the bottom of each cylinder must be manually opened. To open the valves loosen the lock nut and screw down the bolt. See Figure 6.17.

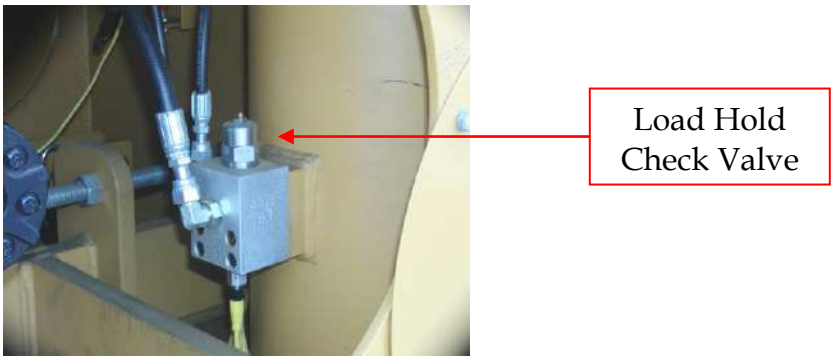

Figure 6.17 – Load Hold Check Valve

WARNING: Use extreme caution when manually lowering a load. All safety devised are bypassed.

Warnings and Error Messages

The system has several messages that will appear on the display. An example of an error message is shown in Figure 6.18. Depressing OK (F2) button will eliminate the message box.

Figure 6.18 Error Messages

Warning messages and alarms are displayed as shown in Figure 6.19 below.

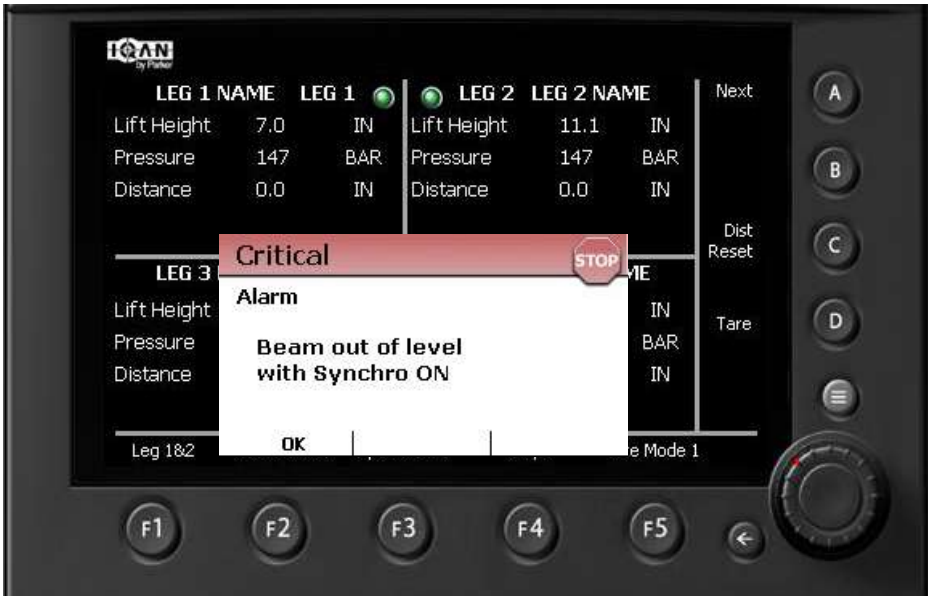

Figure 6.19 Warning Messages