

Calibrating Force and Distance

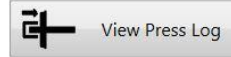
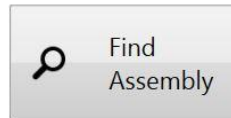


Calibrating Force and Distance

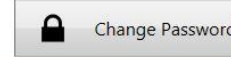
Universal Press Recorder 6.3.0.23

A component of the Wheel Shop Management Suite™

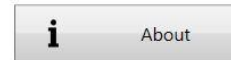
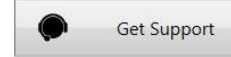
Production



User



Help

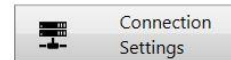
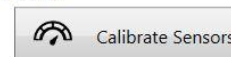


Recent Assemblies

Last Modified	Configuration Typ
10/1/2015 5:58 PM	FAIVELEY 2 Pc.
9/30/2015 4:52 PM	BL-14
9/30/2015 4:49 PM	M-8
9/30/2015 4:24 PM	M-6
9/30/2015 4:21 PM	M-4
9/30/2015 4:20 PM	M-3A
9/30/2015 4:18 PM	M-2
9/30/2015 11:48 AM	BL-14
9/30/2015 11:43 AM	BL-14
9/30/2015 11:40 AM	BL-14

Load

Maintenance



Select to view the sensors you wish to calibrate.

Calibrating Force

Force 0

Current Calibration

Calibrated by: AIC

Calibrated at: 2/16/2016 5:16 PM

Scale 0.02

Offset -165.473

Filter 10

0

0

Calibrate

Show More

Select to calibrate Force

Distance 0

Current Calibration

Calibrated by: AIC

Calibrated at: 2/17/2016 8:48 AM

Scale 0.008

Offset -0.127

Filter 2

0

0

Calibrate

Show More

Return to the Main Screen

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Calibrating Force – Step 1/2

- Step 1 - Close the shut-off valve to isolate the master gauge and pressure transducer.
- Step 2 - Connect the hydraulic hand pump that will be used to pressurize the transducer and Master Gauge for calibration.

A typical hydraulic system should include an isolation or "shut-off" valve, a connection for a hydraulic hand pump or portable hydraulic power unit, the chart recorder's electronic transducer, and your calibrated Master Gauge.

If your system does not include each of these, please contact your supervisor for additional instructions

Refer to the following steps for calibrating:

Step 1

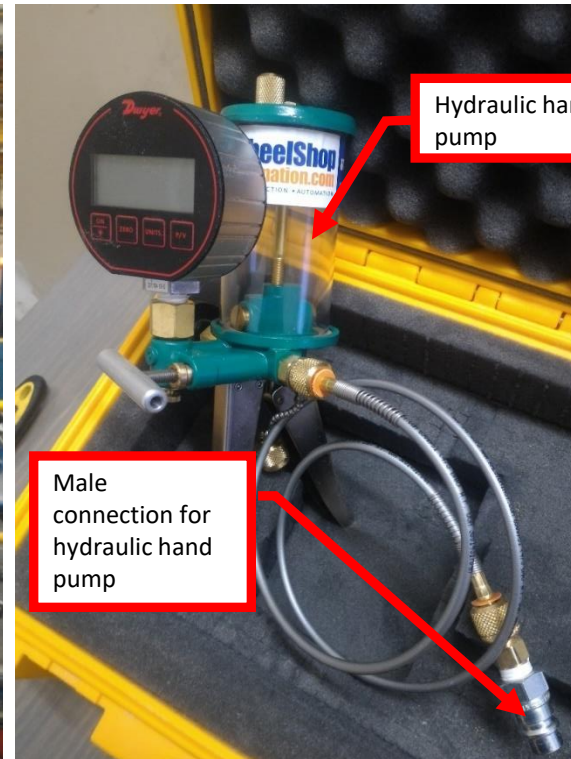
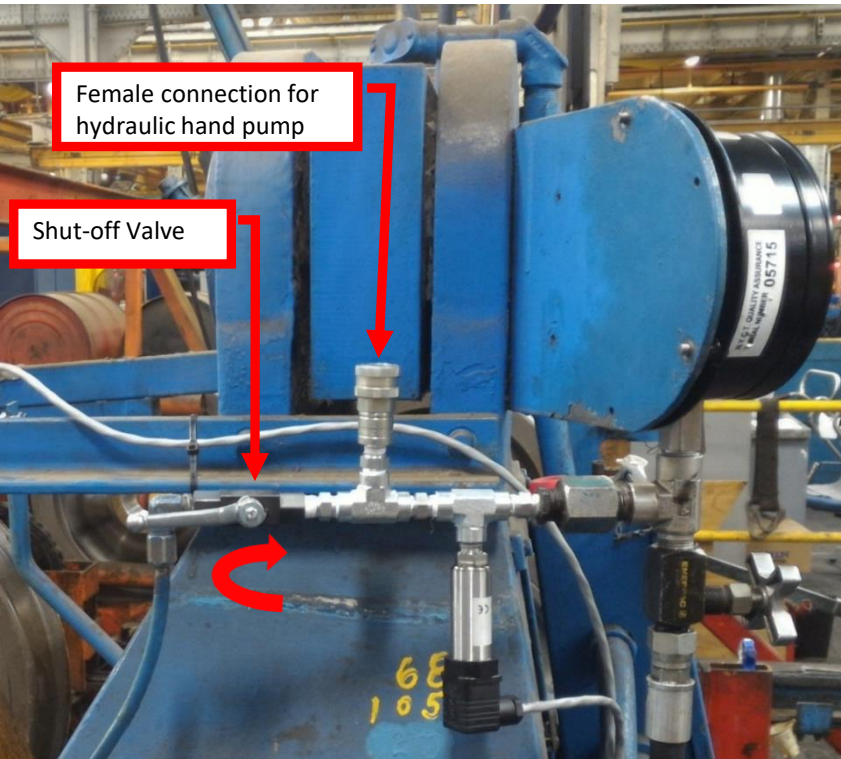
Isolate the master gauge and pressure transducer by closing the shut-off valve.

Step 2

Connect a hand pump or portable hydraulic unit that will be used to pressurize the transducer and Master Gauge for calibration and testing.

Cancel

Select to continue force calibration



Calibrating Force - Step 3

- Using the hand pump, apply hydraulic pressure until the master gauge reaches the first or second divisional mark (typically 10 or 20 Tons).
- Enter the held value that appears on your Master gauge and click "Read"



Step 3
Apply hydraulic pressure until the master gauge reaches the first or second divisional mark (typically 10 or 20 Tons).

Using the "dead zone" area near zero is not recommended because most gauges are not accurate in this range.

Enter the value that appears on your Master Gauge and click "Read"

Master Gauge Low

20

Current transducer value : 7696.0

Click Read to capture the tonnage value that appears on the Master Gauge

Next

Cancel

Calibrating Force - Step 4

- Using the hand pump, increase the hydraulic pressure until the master gauge reaches a divisional mark near the maximum force you typically press.
- Enter the held value that appears on your Master gauge and click "Read"



Step 4
Increase the hydraulic pressure until the master gauge reaches a divisional mark near the maximum force you typically press.

For example, if the average mounting force of your wheels is 150 Tons, you should use 160 or 180 Tons as your second value.

Enter the value that appears on your Master Gauge and click "Read"

Master Gauge High

160

Current transducer value : 13920.0

Click Read to capture the tonnage value that appears on the Master Gauge

Next

Cancel

Calibrating Force - Step 5

- You should not have to adjust the filter. This was set up by AIC on installation.


Step 5
If the transducer value fluctuates rapidly this will cause your calibrated value to also fluctuate which could make your mounting charts look 'noisy'. You can adjust a software filter to try and smooth out the transducer signal.

Adjust the Filter value between 0 and 50 % and then click Update to see the affect.

Filter value: %

Calibrated value: 105.37

Once you have adjusted the signal to reduce the fluctuations in the calibrated value, click Next.



Calibrating Force - Step 6

- Verify the calibration by increasing or decreasing the hydraulic pressure and compare the value shown on the Master Gauge with the calibrated value shown on the screen.



Verify that the Calibrated Value matches the Master Gauge within 2%

Step 6

Verify your calibration by increasing or decreasing the hydraulic pressure and compare the value shown on your master gauge with the value below.

Some hydraulic gauges are mechanically dampened to prevent rapid changes from damaging the gauge. The electronic transducer however, may respond much more quickly. Make sure you maintain a constant pressure for several seconds to allow the Master Gauge time to settle out before comparing it to the recorder's value below.

Transducer value: 13888 Calibrated value: 100

◀ When you are done reviewing your calibration, click Finished to save and exit or Start Over to restart the calibration wizard. ▶

Finish

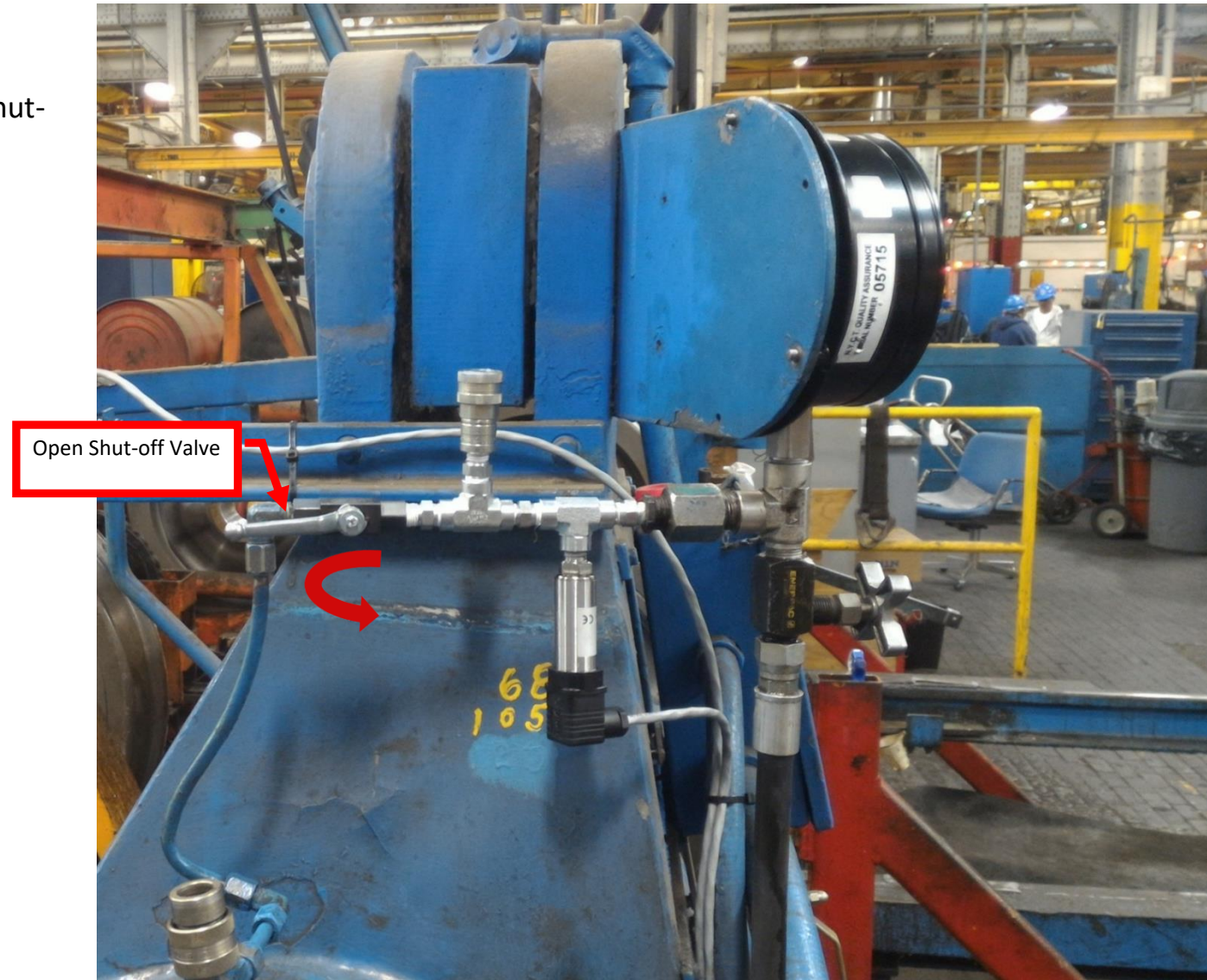
Cancel

Start Over

Finished

Calibrating Force - Step 7

- When finished calibrating the force transducer, open the shut-off valve.



Calibrating Distance

Force 0

Current Calibration
Calibrated by: AIC

0

Calibrated at: 2/16/2016 5:16 PM

Scale 0.02

Offset -165.473

Filter 10

0

Calibrate

· Show More

Distance 0

Current Calibration
Calibrated by: AIC

0

Calibrated at: 2/17/2016 8:48 AM

Scale 0.008

Offset -0.127

Filter 2

0

Calibrate

· Show More

To calibrate Distance, Select "Calibrate" for Distance

Return to the Main Screen

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Calibrating Distance

A typical linear displacement transducer consists of a cable mounted to the end of the hydraulic cylinder and the base mounted to a stationary point on the press. If your system uses a different type of linear displacement transducer you may need to contact your supervisor for additional instructions.

Refer to the following steps for calibrating:



Select to continue distance calibration

Cancel

Calibrating Distance – Step 1

- Fully retract the hydraulic cylinder.
- Measure the length of the cable that extends from the base of the transducer to the end of the cable.
- Enter the length of the cable and click “Read”

Step 1
Fully retract the hydraulic cylinder. Measure the length of the cable that extends from the base of the transducer.

Enter the length of the cable and click "Read"

Length when Retracted

Current transducer value : 143.0

Click "Read" to capture the distance when fully retracted.

Next



Measure cable length from transducer base to the end of cable.

Calibrating Distance – Step 2

- Extend the hydraulic cylinder as far as your press allows.
- Measure the length of the cable that extends from the base of the transducer to the end of the cable.
- Enter the length of the cable and click “Read”

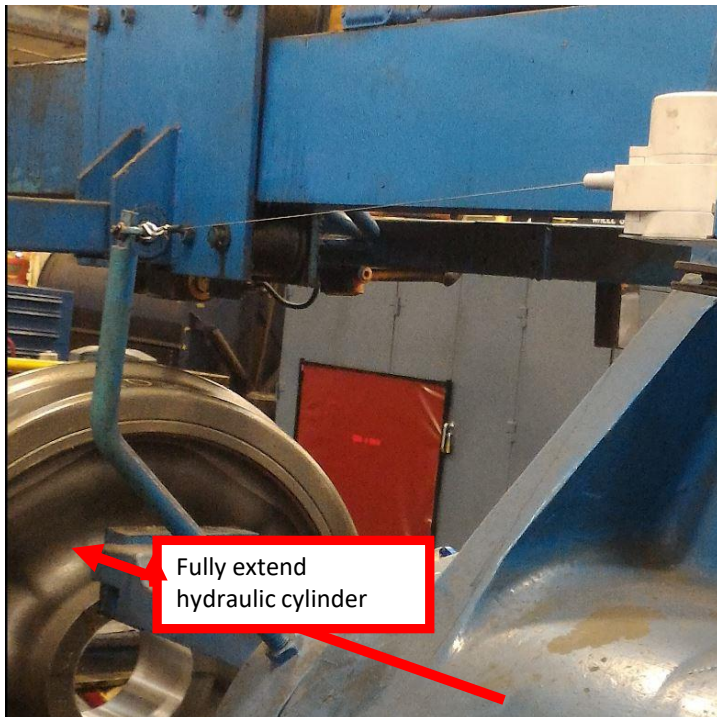
Step 2
Extend the hydraulic cylinder as far as your press allows. Measure the length of the cable that extends from the base of the transducer.

Enter the length of the cable and click "Read"

Length when Extended

Current transducer value : 1606.0

Click "Read" to capture the distance when fully extended



Measure cable length from transducer base to the end of cable.

Calibrating Distance - Step 3

- You should not have to adjust the filter. This was set up by AIC on installation.


Step 3
If the transducer value fluctuates rapidly this will cause your calibrated value to also fluctuate which could make your mounting charts look 'noisy'. You can adjust a software filter to try and smooth out the transducer signal.

Adjust the Filter value between 0 and 50 % and then click Update to see the affect.

Filter value: %

Calibrated value: 6.14

Once you have adjusted the signal to reduce the fluctuations in the calibrated value, click Next.



Calibrating Distance - Step 4

- Verify the calibration by extending or retracting the hydraulic cylinder and compare the length of the cable with the calibrated value on the screen.



Verify the Calibrated Value matches your measurement

Step 4
Verify your calibration by extending or retracting the hydraulic cylinder and compare the measured amount of cable extending from the base of the transducer with the value below.

Transducer value: 695
Calibrated value: 6.14

When you are done reviewing your calibration, click Finished to save and exit or Start Over to restart the calibration wizard.

Cancel Start Over Finished

Finish