# Introduction to Falcon F5+ DataLog

The DataLog™ system on or F5+ locator records depth, pitch, and pressure data. Use DigiTrak LWD™ (Log-While-Drilling) for your device (i0S or Android) and Windows® software on your computer to import this data to display, annotate, and create drill logs and graphs.

## Before Recording Drill Data

1. Ensure the Falcon F5+ and F5 locator and transmitter are paired and calibrated and the locator is displaying data.
2. Ensure the time and date are set.
3. In the DataLog menu , if the DataLog icon is **red**  (disabled), select it so it turns **green**  (enabled).

## Create New Job

1. At the Locate mode screen, hold the trigger and when the Depth screen appears, toggle right to open the Recording menu.
2. Write down the job number for future reference; every new drill job has a unique number.
3. Select **Create a new job**. A Falcon locator can store up to 50 DataLog jobs.



1. Create a new job
2. Job number

4. Use the onscreen keypad to enter the length of the drill pipe, then select **Enter**  .
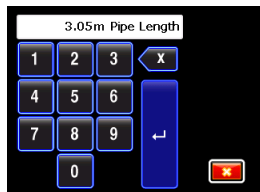


> To change units for pipe or rod length, select **Depth Units** on the **Settings** menu.
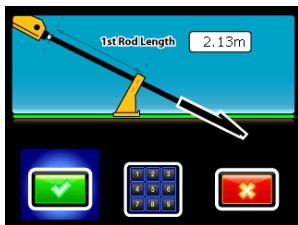
# Record First Rod Length

1. Position drill head for first data point with slots in housing halfway in the ground as shown below.
2. Measure from top of rod to vice; this is the first rod length.



1. Drill
2. Top of rod
3. First rod length
4. Vice
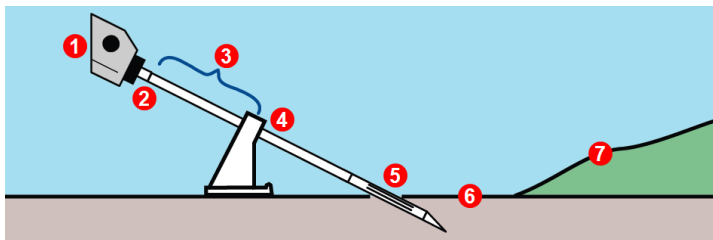
5. Slots in the housing halfway in ground
6. zero elevation reference line
7. Surface of ground

3. The first rod length input screen appears after you input the pipe length, showing a default value of 70% of the pipe length. Input the first rod length value using the keypad or select the check mark to accept the default value.



# Record Data Points

1. After you set the first rod length, the Recording Options menu opens with only **Record Pitch** enabled.

2. Click the trigger to record this first data point (Rod #0) and entry angle pitch.
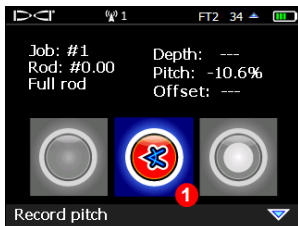


1. Record pitch

For information on using flags, pins, deviation, and offset, see the LWD manual in the DCI DigiGuide™ App.

3. Advance drill head to the end of the first rod, position the locator at the FLP or at the LL over the transmitter, then hold the trigger and toggle right to open the Recording Options menu again.



1. "Toggle down for more options"

4. Toggle down if needed to select one of the following recording options:

**Depth and Pitch** – Use when depth and pitch are available at LL or FLP.

**Pitch** – Use when reliable depth information is not available; for instance, due to interference.

**Blank Rod** – Use to keep profile length accurate when a data point reading has been missed, when no data is present, or when the locator is out of range due to road or waterway.

**Partial Rod** – Use ¼, ½, or ¾ rod to log unique recordings such as last rod measurement, top of hill, bottom of ditch, roadside edge, surveyor station point, and so on. This is useful when logging rods with larger pitch or depth changes, and also creates a more detailed profile graph.

5. Click the trigger to record the second data point (rod #1) at the end of the first rod.

6. At the end of each subsequent rod, open the Recording Options menu and select the appropriate recording option.

Remember: when recording depth, the data point may be recorded at the Locate Line (LL) or Front Locate Point (FLP), but *not* the Rear Locate Point (RLP). Data will adjust automatically depending on where it is recorded. See the next section for help on finding locate points. Fluid pressure data will record automatically when you use a fluid pressure transmitter.

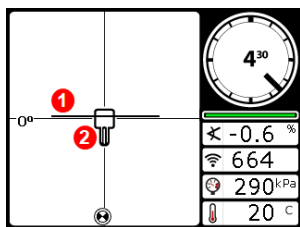# Find Locate Line (LL) and Front Locate Point (FLP)

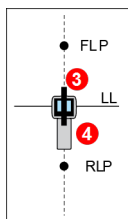The locator must be positioned at the FLP or at the LL over the transmitter when recording depth.
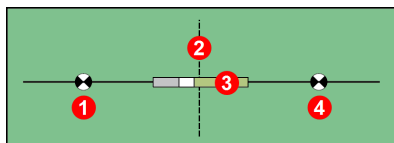


1. RLP (Rear Locate Point)
2. LL (Locate Line)
3. Transmitter (underground)
4. FLP (Front Locate Point)

**Geometry of Locate Points and Transmitter**

With increased transmitter pitch, the FLP and RLP will not be equidistant from the LL.
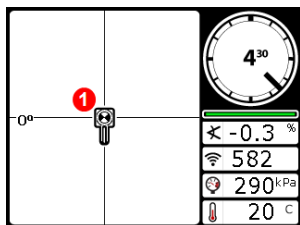


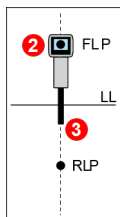**Locate Mode Screen, Line-in-the-Box at LL**



**Actual Position of Locator and Transmitter**

1. LL (transmitter)
2. Box (locator)
3. Transmitter (underground)
4. locator



**Locate Mode Screen, Ball-in-the-Box at FLP**



**Actual Position of Locator and Transmitter**

1. Ball-in-the-Box at FLP
2. Locator
3. Transmitter (underground)

## Measure and Document Last Rod

At the end of the bore, subtract the length of any remaining rod on the rack from the full rod length to determine the last rod measurement. Either enter the last rod data as a partial rod at the locator or write it down and enter it in the Log-While-Drilling program after data upload.

Alternatively, if the last rod exits at ground level (instead of exiting below ground, such as in a pit), a common practice is to record the last rod as a partial with pitch only.
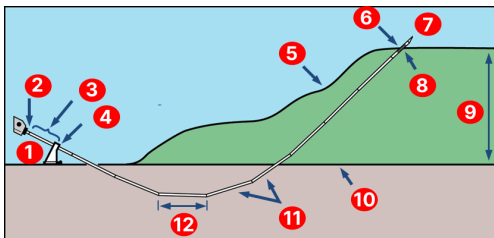


| | | |
|---|---|---|
| 1. Drill | 5. Surface of Ground | 9. Elevation changes from exit to entry; positive survey |
| 2. Top of Rod | 6. Exit | 10. Point Zero elevation reference |
| 3. 2.25 m remaining | 7. Drill Head | 11. Drill Rods |
| 4. Vice | 8. Slots in Housing | 12. Pipe Length 3 m |

Last rod would be 0.75 m, or about ¼ rod (3 – 2.25 m of rod remaining on rack).

## Add a Survey Point

The LWD program uses pitch data to calculate the positive or negative elevation change between the exit and entry point.



Optionally, enter a survey point to correct for any accumulated pitch variance that may affect the profile graph. From the Main menu, select **DataLog** > **Add survey point**. The survey point can also be entered in the Log-While-Drilling program after data upload.
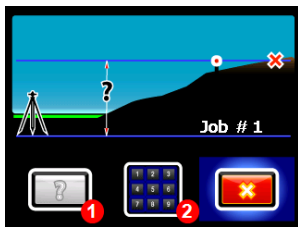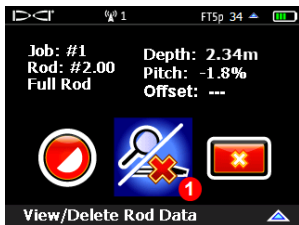
1. Set survey point back to unknown (LWD software will calculate)
2. Input survey point value using keypad

# View/Delete Rod Data (Pulling Back Rods)

View drill data at any time during or after the bore.

If you pull back rods, you must also delete the corresponding data points. Only one data point can be deleted at a time. Be careful to only delete data points for rods that have been pulled back.

1. Open the recording options menu, toggle down and select **View/Delete Rod Data**.



1. View/Delete Rod Data

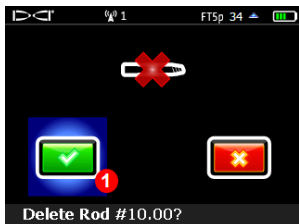2. You can only delete the last rod (highlighted). Click to select.



1. Data for most recent rod

To exit without deleting a rod, simply toggle left or right to return to the Locate Mode screen.
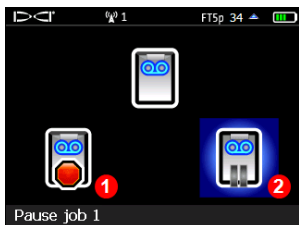
3. Select the green check mark to delete the rod data.



1. Delete selected rod data

## Close or Pause DataLog Recording

To close your DataLog job after recording the last data point, toggle down at the Locate Mode screen and select **Close job**.



1. Close job
2. Pause job

To keep the job open for additional recording, select **Pause job**. When you record another data point at the Locate Mode screen, data will resume recording on this job.

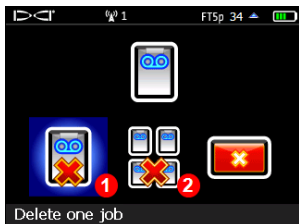All DataLog jobs close automatically when the locator powers off.

## Delete DataLog Jobs

**Note**: Confirm job data to be saved has been uploaded to a computer before deleting it from the locator.

From the Main menu, select **DataLog** > **Delete DataLog Job**.

You can delete one job at a time or all jobs at once, which also resets the job counter to zero.



1. Delete one job
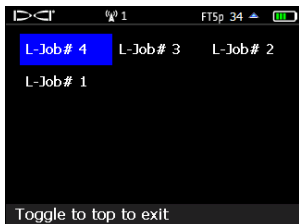2. Delete all jobs

# Append to an Existing Job

1. Select **Append** to add data to an existing DataLog job. This is common when continuing a bore after the locator was powered off.



1. Append to an existing job

2. The locator displays a list of stored jobs. Select the appropriate job to begin appending data. This screen is similar to the one used to delete a single job.

**Watch our DigiTrak training videos at www.YouTube.com/DCIKent**

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