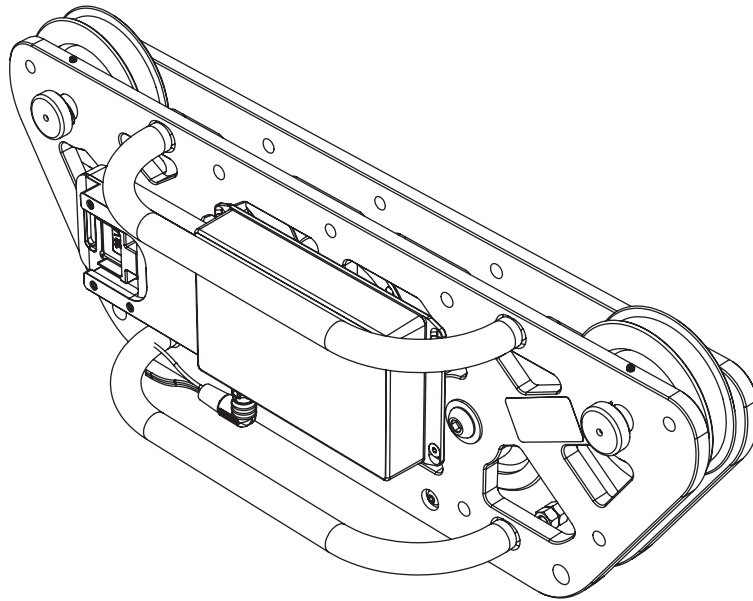


# INSTRUCTION MANUAL



## FG01 G-Series Smart Pull



**Read and understand** all of the instructions and safety information in this manual before operating or servicing this tool.

Register this product at [www2.greenlee.com/smartpullregistration](http://www2.greenlee.com/smartpullregistration)

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## Description

The Greenlee FG01 G-Series Smart Pull is a cable puller accessory intended to monitor the force developed when cable is pulled into conduit. The FG01 includes provisions for mounting of the Ultra Tugger® Cable Puller and the Ultra Tugger® boom. In order to use the FG01 with other cable pullers, it must be installed to withstand the resistance of the rope rolling across the five rollers.

### Contains Transmitter Module FCC ID: T9JRN41-3

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This instruction manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

## Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following Greenlee tool:

FG01 G-Series Smart Pull

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at [www.greenlee.com](http://www.greenlee.com).



**Do not discard this product or throw away!**

For recycling information, go to [www.greenlee.com](http://www.greenlee.com).

All specifications are nominal and may change as design improvements occur. Greenlee Textron Inc. shall not be liable for damages resulting from misapplication or misuse of its products. Ultra Tugger is a registered trademark of Textron Innovations Inc.

# KEEP THIS MANUAL

## IMPORTANT SAFETY INFORMATION



### SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

#### ⚠️ DANGER

Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

#### ⚠️ WARNING

Hazards which, if not avoided, **COULD** result in severe injury or death.

#### ⚠️ CAUTION

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



#### ⚠️ WARNING

Drop hazard:

Wear foot protection when using this tool.

Failure to observe this warning could result in serious injury.



#### ⚠️ WARNING

Electric shock hazard:

- Do not expose tool to rain or use in wet or damp locations.

- Disconnect from power source before servicing or dismantling the tool.

- Unplug the tool when not in use.

Failure to observe this warning could result in severe injury or death.

#### ⚠️ WARNING

Make sure the switch is in the OFF position before connecting this tool to a power source. Accidental startup could result in serious injury.



#### ⚠️ WARNING

- Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

- Read and understand the instruction manual supplied with your cable puller.

Failure to follow instructions and safety information could result in severe injury or death.



#### ⚠️ WARNING

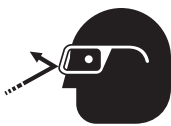
Keep hands away from rope and rollers. Rope can crush a hand.

Failure to observe this warning could result in severe injury or death.

#### ⚠️ CAUTION

Do not pull anything other than the pulling rope through the FG01. Metallic objects such as pulling grips, clevises and wire rope will damage the rollers.

Failure to observe this precaution may result in damage to the tool.



#### ⚠️ WARNING

Wear eye protection when operating this tool.

Failure to wear eye protection could result in serious eye injury.

**Service should be performed by manufacturer-approved service center only.**

*Note: Keep all decals clean and legible, and replace when necessary.*

**Principle of Operation**

The FG01 G-Series Smart Pull calculates pulling force by measuring the tension of the rope. The accuracy of this method is  $\pm 2\%$  speed and distance of the pulling force.

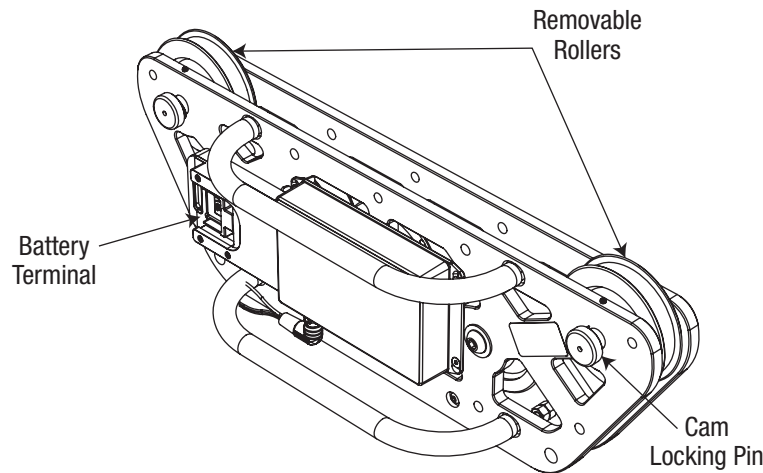
The two outer rollers guide the rope into and out of the device. The profile of the three inner rollers provides 14 degrees of deflection. This controlled deflection in the rope path transfers 1/4 of the pulling tension to the center roller.

The tension on the rope is measured at the center roller. That roller rides on a compression load cell. As it is depressed, there is an electronic signal sent to the display unit, where it is converted to a force to be displayed and recorded in either lbs or kg.

The pulling app connects to the device via Bluetooth. It allows for real-time monitoring of the pull. It can alert users if the pull force is approaching a pre-determined threshold. It also allows for seamless documentation, transferring the data from the unit to the app wirelessly. From there it can be emailed or posted on social media. It displays each saved pull in an easy-to-read and easy-to-understand graph along with the preserved raw data.

The device is battery powered, using Makita 18V batteries.

**Main Components Identification**



**Specifications**

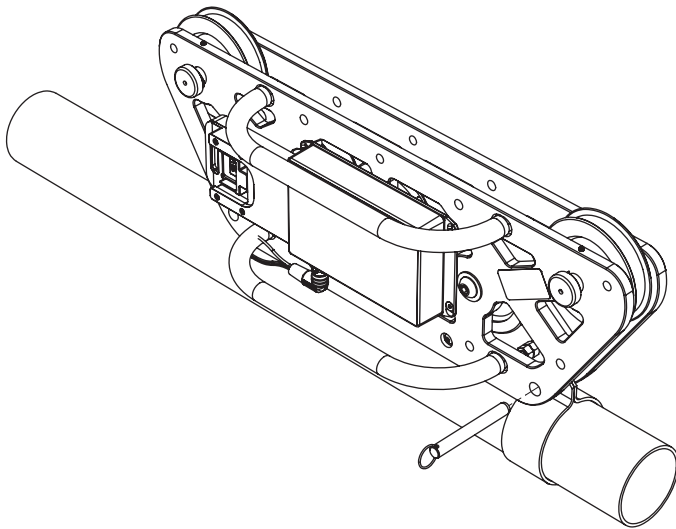
Capacity .....	4536 kg (10,000 lb)
Weight.....	16 kg (35 lb)
Maximum Rope Size .....	22 mm (7/8")

## Setup and Installation

Install the G-Series Smart Pull using one of the two mounting adapters provided.

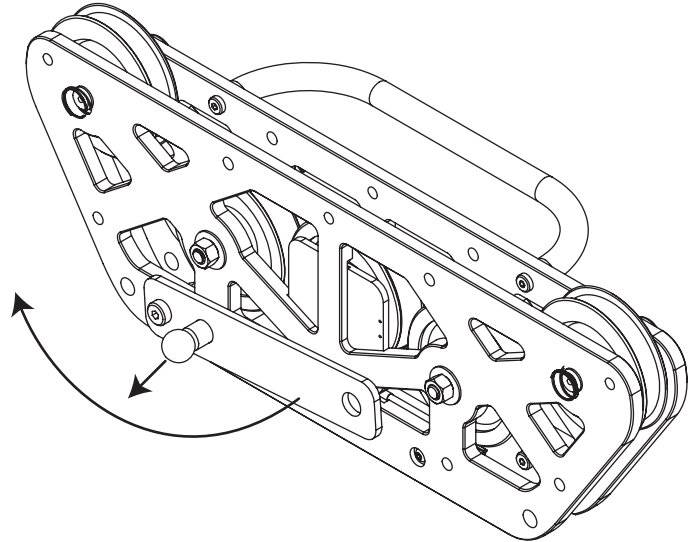
### Mounting to Boom Assembly

1. Refer to the manual supplied with the Ultra Tugger<sup>®</sup> cable puller. After attaching a boom tube to the boom mount, see steps 2–5 to attach the boom/gauge mount. Then finish setting up the cable puller.
2. See the illustration. Slide the boom/gauge mount onto the boom tube. Position it about 4" from the boom mount as shown.
3. Tighten the set screw.
4. Place the G-Series Smart Pull onto the gauge mount so that the tabs of the mount go between the roller side plates as shown.
5. Align the holes and insert the hitch pin.

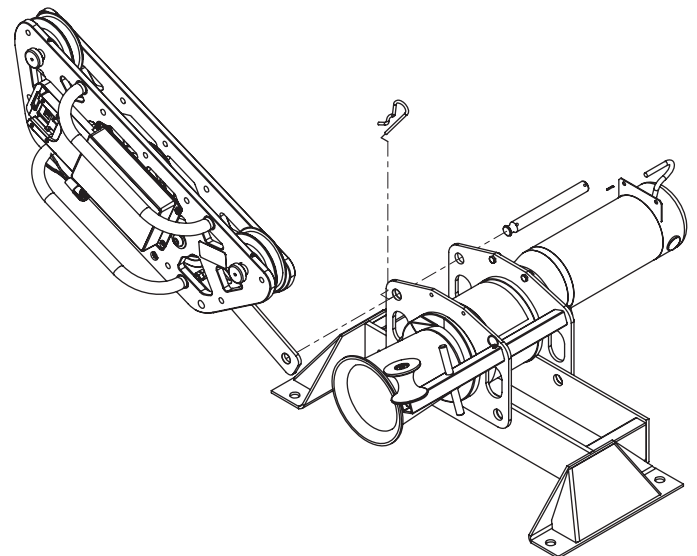


### Mounting to the Ultra Tugger<sup>®</sup> Cable Puller

1. Refer to the manual supplied with the Ultra Tugger<sup>®</sup> cable puller. Set up the cable puller with the chain mount, pipe sheave adapter, or floor mount.
2. See the illustration. Pull plunger pin to rotate hitch 180 degrees to activate locked position.



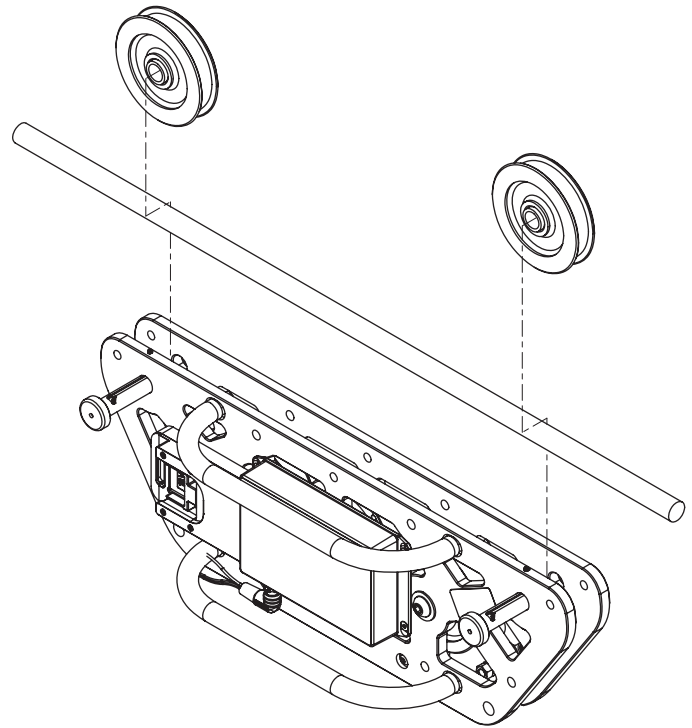
3. Position puller/gauge mount between the side plates of the puller. Align the holes as shown.
4. Insert the hitch pin through the holes.
5. Secure the hitch pin with a hitch pin clip.



## Setup and Installation (cont'd)

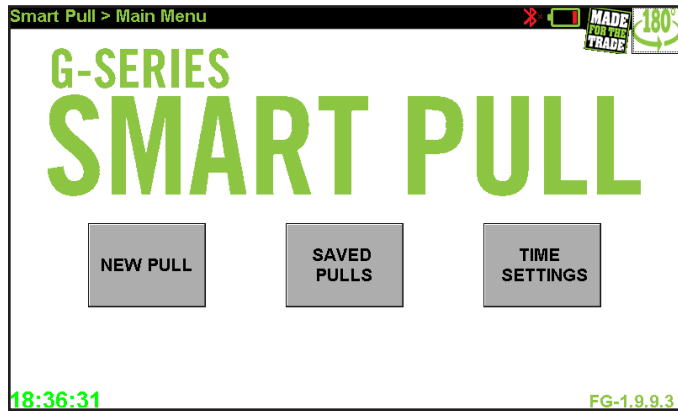
### Installing the Rope

1. Twist pins counterclockwise and pull out.
2. Remove outer rollers.
3. Lay rope over three inner rollers.
4. Replace outer rollers.
5. Push pins straight in; do not rotate.



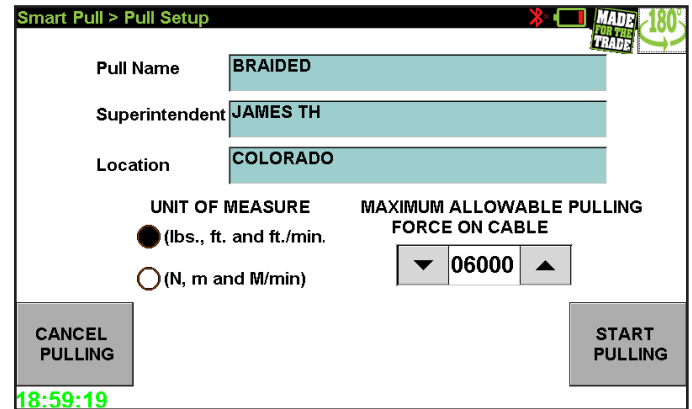
## Operation

### Main Menu



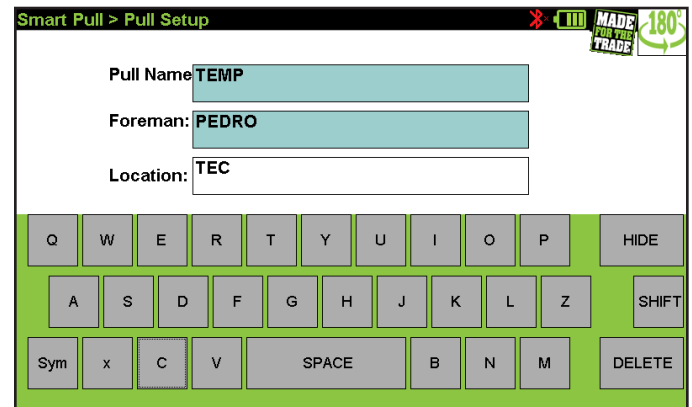
- Press **New Pull** to begin a new pull.
- Press **Saved Pulls** to view a list of all saved pulls on the Smart Pull.
- Press **Settings** to access the device settings menu.
- Press **180** to rotate the screen 180° if the Smart Pull is inverted.

### Pull Setup

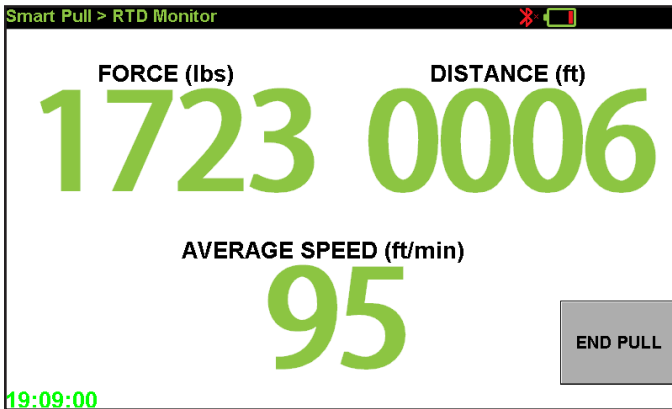


- Press **Cancel Pulling** to exit Pull Setup and return to the Main Menu.
- Press any of the text fields to enter information for **Pull Name, Foreman, and Location**.
- Select the units of measurement.
- Use the arrows to adjust **Maximum Cable Tension**.

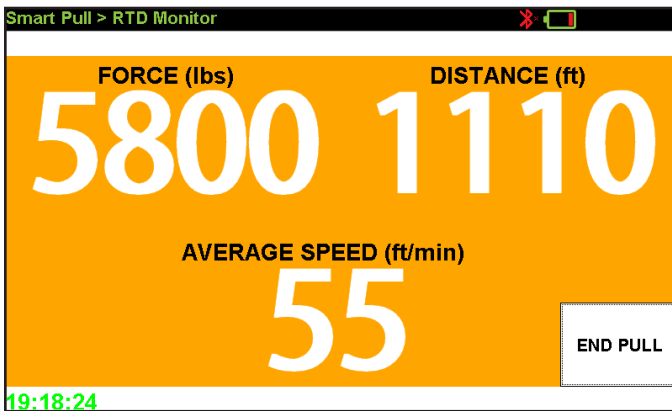
### Pull Setup—Keyboard



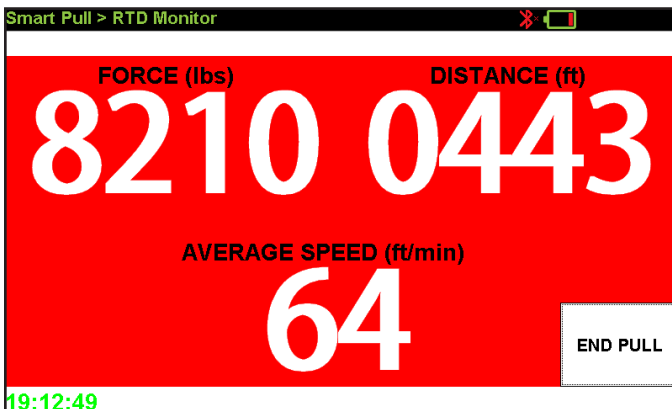
Use the keyboard that appears when a text field is selected to input data.

**Operation (cont't)**
**Pull Monitor**


- Press **End Pull** to end the pull. Data is automatically saved.
- Press **180** at any time to rotate the screen 180°.



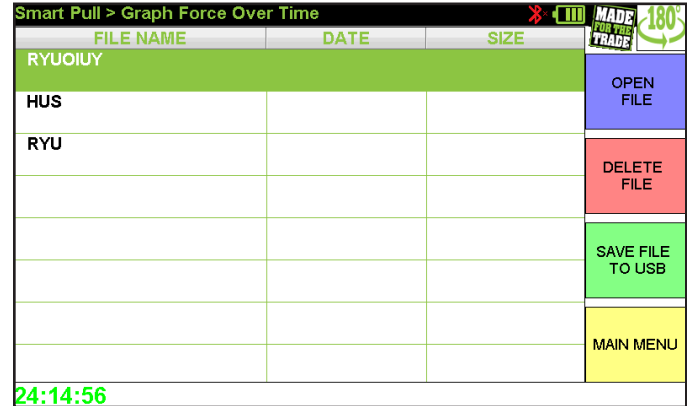
- The background changes to yellow when force is at 80% of input tension limit.



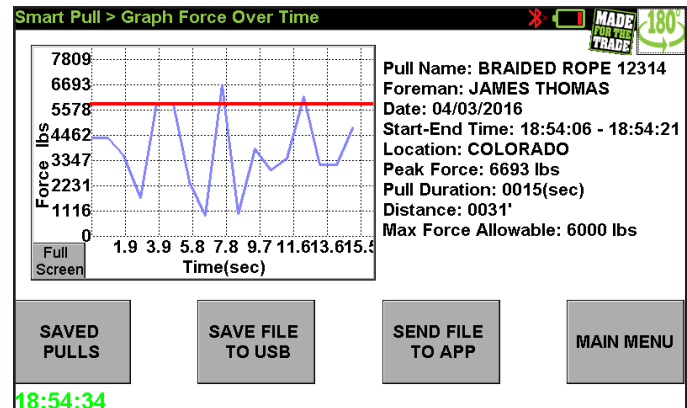
- The background changes to red when force exceeds input tension limit.

**Saved Pulls**

Select any file and choose one of the menu buttons on the right.



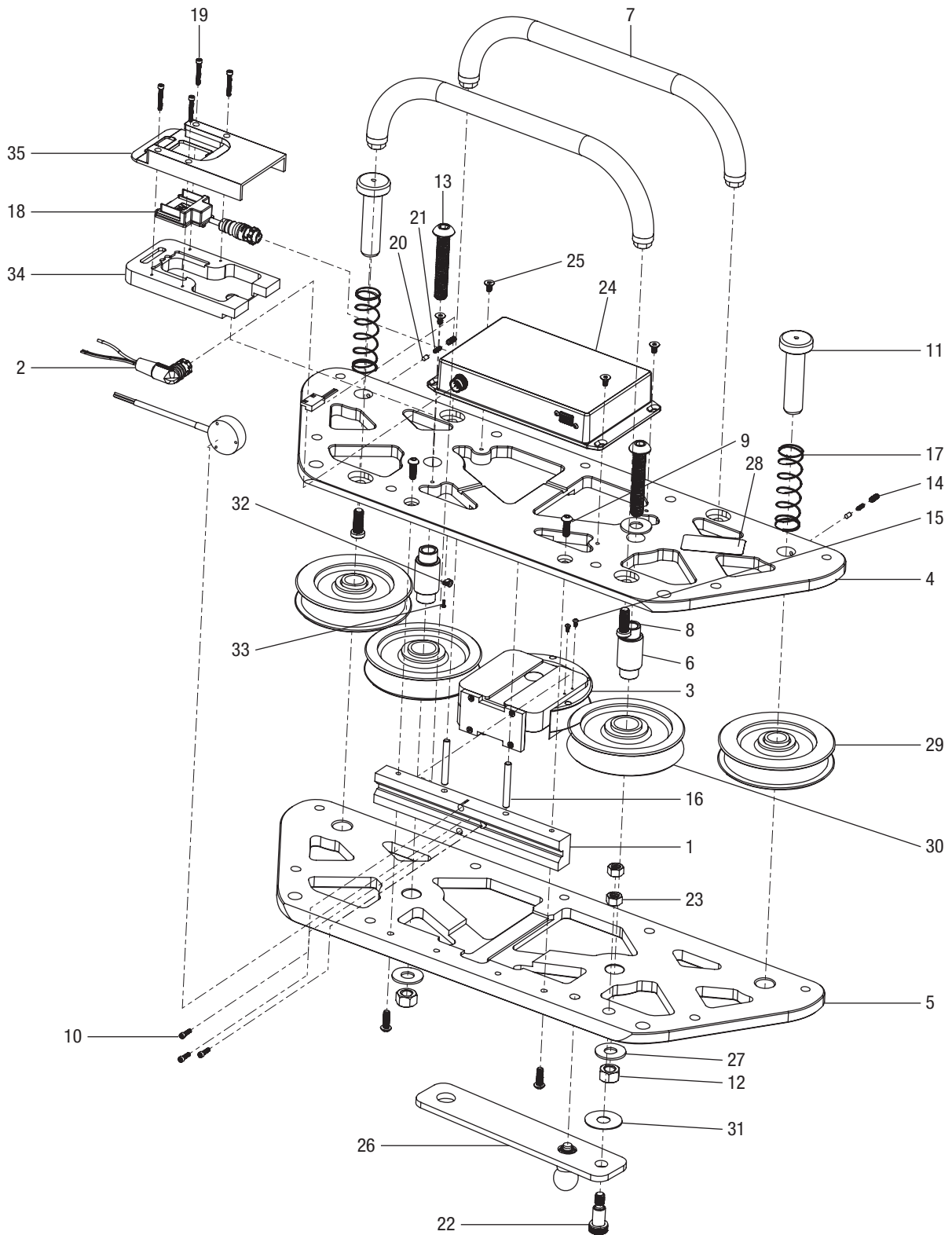
- Press **Open File** to view the file.
- Press **Delete File** to remove the file from memory.
- Press **Save File to USB** to export the file to a USB. The Smart Pull will ask the user to insert a USB if there is not one inserted.
- Press **Main Menu** to return to the Main Menu.

**File View**


- Press **Send File to App** to send the current file to Greenlee PullCalc App when connected via Bluetooth.
- Press **Save File to USB** to send the current file to a USB. Smart Pull will ask the user to insert a USB if there is not one inserted.
- Press **Main Menu** to exit this screen and return to the Main Menu.
- Press **180** at any time to rotate the screen 180°.
- Press **Full Screen** to view the chart on a full screen.



**Illustration**



**Parts List**

Key	Part No.	Description	Qty	Key	Part No.	Description	Qty
1		Plate, captive load .....	1	19		SHCS, 6-32 x 1.0 .....	4
2		Sensors assembly (load and hall) .....	1	20		Pin, dowel (M4 x 8MM) .....	2
3		Compressor, center loader .....	1	21		Spring, compression.....	2
4		Plate, front (machined).....	1	22		Screw, SSS, 1/2 x 3/4, 3/8-16 .....	1
5		Plate, back (machined) .....	1	23		Nut, hex, 3/8-16.....	2
6		Through pin, 1 x 0.75 x 0.5 thru.....	2	24		Enclosure, electronics.....	1
7		Handle weldment.....	2	25		Screw, FHH, 8-32, 3/8 threadlock .....	4
8		SHCS, low profile, 0.375-16 x 1 .....	4	26		Link, assembly total .....	1
9		BHCS, threadlock, 1/4-20 x 3/4 .....	4	27		Washer, flat, 0.531 ID, 1.250 OD.....	3
10		SHCS, threadlock, 6-32 x 0.5.....	3	28		Decal, warning .....	1
11		Cam locking pin, 0.750.....	2	29		Roller assembly, outside.....	2
12		Nut, hex (1/2-13NC).....	2	30		Roller assembly, secondary .....	2
13		BHCS, 0.5 x 13, 3.0 long .....	2	31		Washer, flat, 0.531 ID, 1.500 OD.....	1
14		Set screw, 10-32 x 0.5 .....	2	32		Wire clamp, nylon .....	1
15		Screw, BHCS, 4-40 x 0.25.....	2	33		Screw, wire clamp.....	1
16		Dowel pin, 0.250 x 2 .....	2	34		Battery plate, bottom.....	1
17		Spring, compression.....	2	35		Battery plate, top .....	1
18		Battery terminal assembly .....	1				

**Kits**

Part No.	Description
52077843	Pin and removable roller kit – includes 1 each of items 11, 14, 17, 20, 21, and 29
52078005	Locked roller and axle kit – includes 1 each of items 6, 12, 13, 27, and 30
52078007	Center roller assembly kit – includes items 3 and 15
52078008	Electronics enclosure kit – includes items 24 and 25
52079814	Battery terminal repair kit – includes item 18
52079813	Sensor repair kit – includes item 2

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.