FieldShield Assist Module
Installation Manual

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Product Packaging

(Actual packaging may vary.)

Remove packing materials to find the Assist Module wrapped in a protective bubble wrap sleeve,
with the optional Elevating Tripod and the 1/4" - 20 Thread Metal Mounting Adapter each packaged separately.

Parts List

Part	Image
Assist Module	
Elevating Tripod (optional item)	
1/4" - 20 Thread Metal Mounting Adapter (optional item)	

Recommended Tools

Tool	Image
Cordeless Drill	
1/4" Drive Socket	
#3 Phillips Screwdriver	

Recommended Installation Distances

Every situation is different, but as a general rule, it is typically easier to install fiber using a push and pull combination, rather than pushing or pulling by itself. By using a combination push/pull method, installers have access to the fiber from both ends of the microduct when troubleshooting.

FieldShield Pushable Fiber
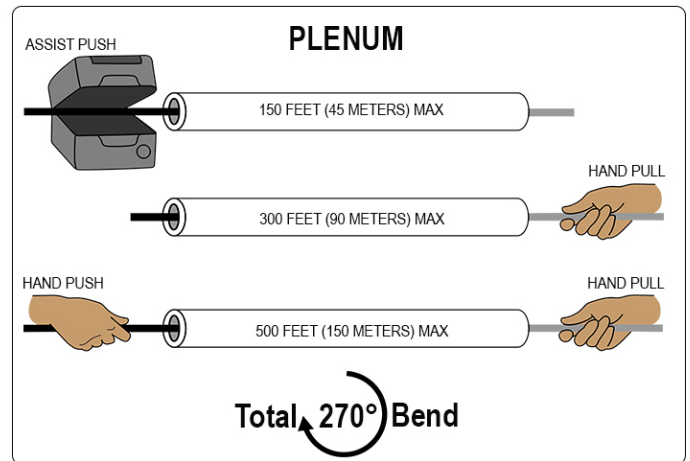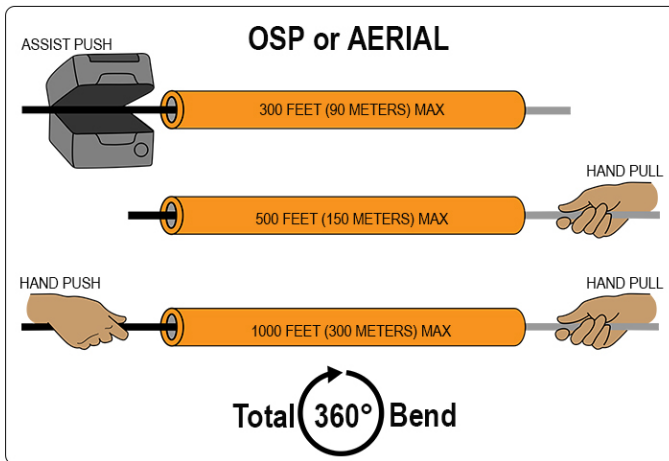
FieldShield FLEXdrop
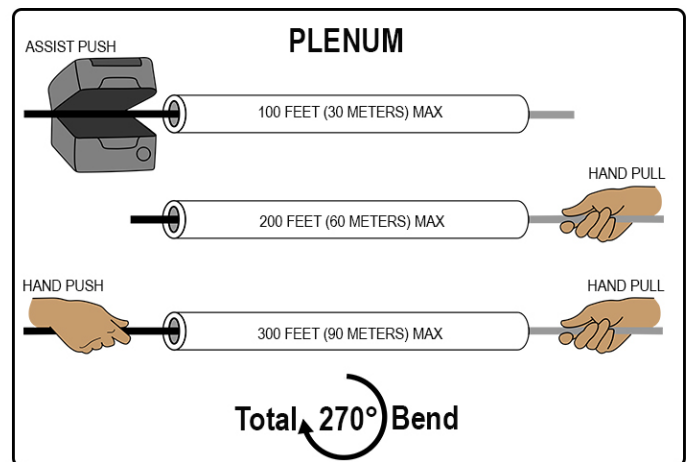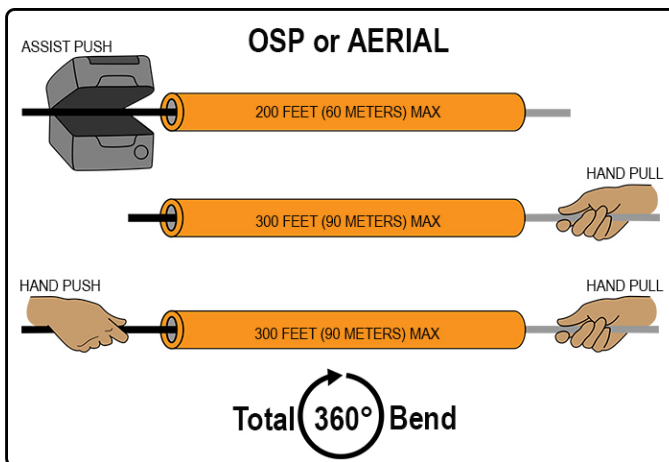
***NOTE**: If a fiber gets stuck or snags during installation, the fiber can be pulled back a couple inches from the end being fed into the duct and re-pulled past the bind point. Sometimes the connector needs to be rocked past a snag point by carefully alternating pushing and pulling from both ends.*

Microduct Installation Best Practices

Maintain Minimum Bend Radius of Microducts

FieldShield microducts can be bent down to as little as a 6 inch bend radius before straining the side wall integrity of the duct. Do not bend microducts tighter than this when cornering as it may cause the conduit to kink. If space permits, it is always best to use two sweeping 45° turns rather than one 90° turn.

De-Burr Between All Coupled Microduct Joints

Prior to coupling two microducts, make sure to prepare the face of each microduct by de-burring the inside bore to a cone shape.

Properly de-burring the bore of the microduct reduces the chance of the fiber or pull string getting stuck or snagging when passing through the microduct coupler.

Consult Local Regulations for Installation Depths and Restoration Procedures

The depth microducts can be buried will vary depending upon local conditions and regulations. Under all conditions, the microduct should be buried at a depth that will provide adequate protection during the frost cycle.

Rocks and debris should never be left in the bottom of a trench. If soil is predominently coarse with many rocks present, the bottom of the trench should be bedded prior to microduct placement. Backfilling with a finer grade of material such as sand will fill the voids between the duct and sidewwall and provide additional strength.

Pull Additional Microduct to Access Pull String

When installing microduct into a terminal or splice enclosure make sure to pull an extra 5 to 10 feet of microduct through the installation port to expose and access the integrated pull string. If fiber is not being installed at the same time, make sure to tape the pull string to the outside of the duct, prior to capping the duct.

Validate Microduct and Fiber Installation Prior to Restoration

When application permits, it is always best to install the fiber and ensure that it is working prior to restoring the installation path. This provides the most flexiblity when troubleshooting is required and eliminates restoration rework if obstacles arise. If fiber is not being installed at the same time as the microduct, but instead is being installated by a separate crew or when the customer turns-on service, the microduct path should be validated or proofed to ensure that the path is capable to install fiber at a later date.

Assist Module Setup

Attaching to Tripod

Step 1: **Unpack Elavating Tripod**
Remove tripod from packaging and set aside the ¼"-20 thread mounting adapter packaged along with the tripod **(Figure 1)**.

Figure 1

Step 2: **Remove Tripod Housing**
Remove the the 5/8"-11 thread tripod housing from the tripod **(Figure 2)**.
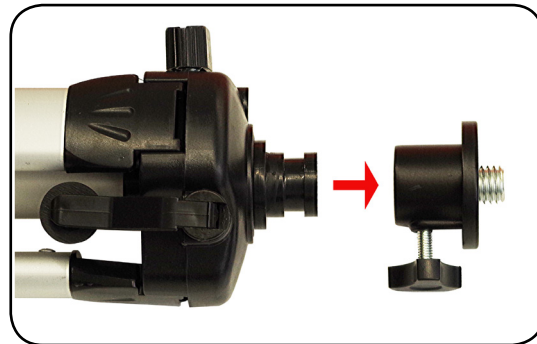
Figure 2

Step 3: **Attach Mounting Adapter**
To avoid accidently stripping the thread, first attach the ¼"-20 thread metal mounting adapter to the FieldShield Assist Module **(Figure 3)**.

Figure 3

Step 4: **Attach Tripod Housing**
Screw 5/8"-11 thread tripod housing onto the metal thread adapter **(Figure 4)**.

Figure 4

Step 4: **Attach Tripod Housing to Tripod**
Slide the threaded tripod adapter over the tripod. Then, tighten the wing nut to clamp the Assist Module in place on the tripod.

**Watch the Installation Video
for the FieldShield Assist Module**
https://youtu.be/WjdPfFMqEqk

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Using the Assist Module

Step 1: **Open the Assist Module**
Lift up on the hinged top of the FieldShield Assist Module **(Figure 1)**.
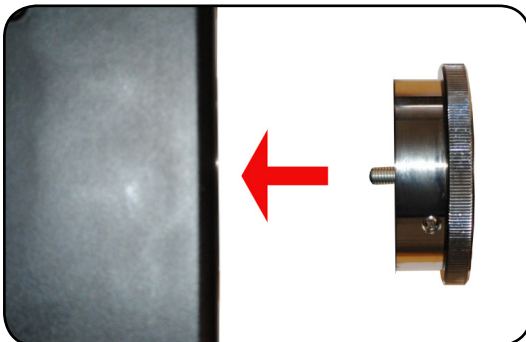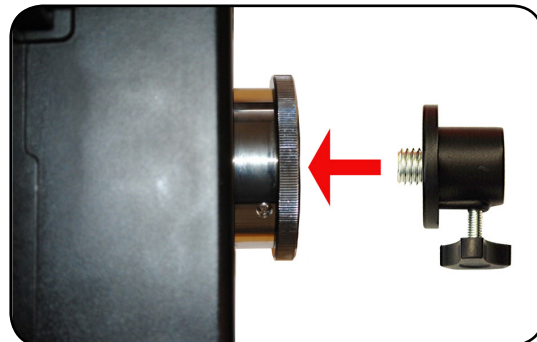

Figure 1

Step 2: **Loosen Retention Clamp**
Loosen the two #3 Philips head screws from the green retention clamp **(Figure 2)**.
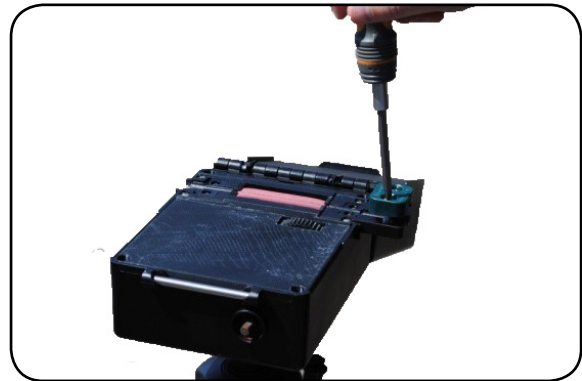
Figure 2

NOTE: *The screws do not need to be entirely removed from the top of the retention clamp to insert the microduct.*

Step 3: **Insert Microduct**
Insert the microduct into the retention clamp. Make sure to stop before the fiber guide groove. Tighten the two #3 screws on the retention clamp to hold the microduct in place during fiber installation. **(Figure 3)**

Figure 3

NOTE: *When using Direct Buried Toneable or Aerial Figure-8, strip back the tone wire or strength member at least 6 inches prior to inserting the duct into the retention clamp.*

Step 4: **Insert Fiber**
Insert 2 to 3 inches of the pushable fiber assembly into the microduct and align the fiber in the groove of the fiber guide. **(Figure 4)**

Figure 4

Step 5: **Close the Assist Module**
Close the case and clamp the clam shell lock closed on the front of the assist module, making sure that the fiber stay in the fiber guide grooves**(Figure 5)**.
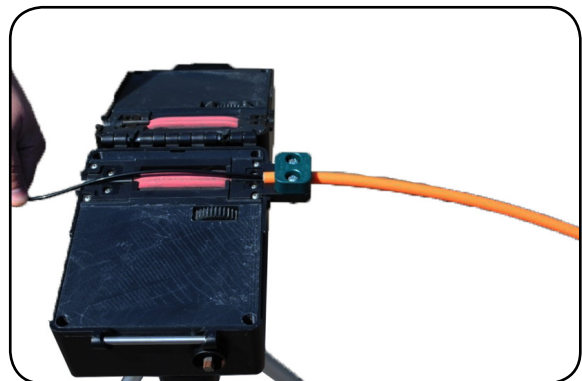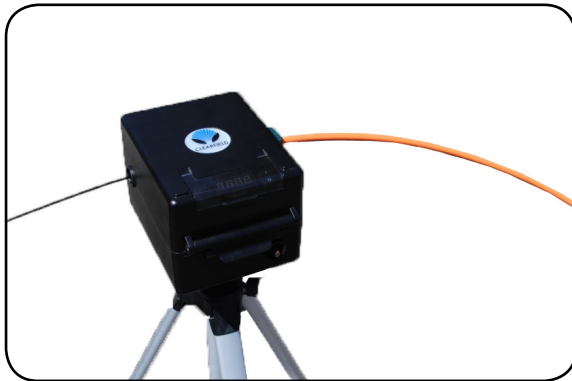

Figure 5

Step 7: **Feed Fiber into Microduct**
Use a ¼" drive socket to power the assist module and feed the fiber into the microduct **(Figure 7)**. Make sure to maintain a consistent speed when powering the cordless drill.

Figure 7

NOTE: *To maximize installation distances, feed the fiber off the spool at the same rate as the fiber being installed through the FieldShield Assist Module. Failure to keep fiber installation rates consistent and constant may increase the amount of friction on the fiber during installation.*

Step 6: **Enable Distance Counter**
Open the glare resistant display cover and press the power button on the right to enable the installation distance counter **(Figure 6)**.
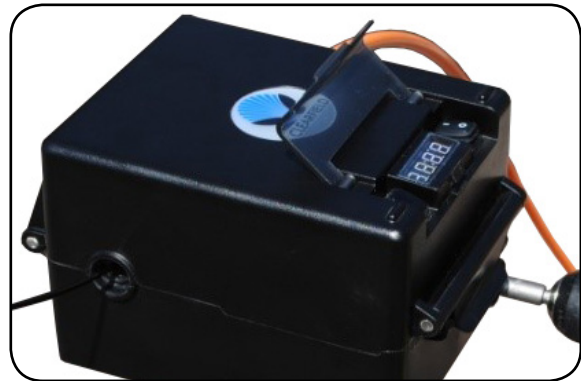

Figure 6

NOTE: *The default unit of measurement for the assist module distance counter is standard (feet), but can be switched between standard and metric units.*

> ⚠️ **IMPORTANT**
>
> When using the Assist Module, pay close attention to the clutch. If the clutch begins to slip, reduce drill speed to minimize heat build up. **Failure to reduce drill speed may cause the Assist Module to fail.**

Step 8: **Reset Distance Counter**
Once the fiber has been installed, reset the counter switch on the FieldShield Assist Module by turning the power button off, then powering back on to continue with the next cable install.

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Display Settings

The FieldShield Assist Module is equipped with a glare resistant distance counter to instantly provide the installer with accurate installation distances. By default, all FieldShield Assist Modules are set with the unit of measurement as Feet or Standard.

Setting Distance Counter

Step 1: Lift the glare resistant screen cover. Press the power button on the right side on the display to turn the assist module on **(Figure 1)**. Then press the settings button on the left to enter the menu.

> *NOTE: The screen will display the current unit of measurement as Ft (Feet) for Standard and SI (System International) for Metric.*
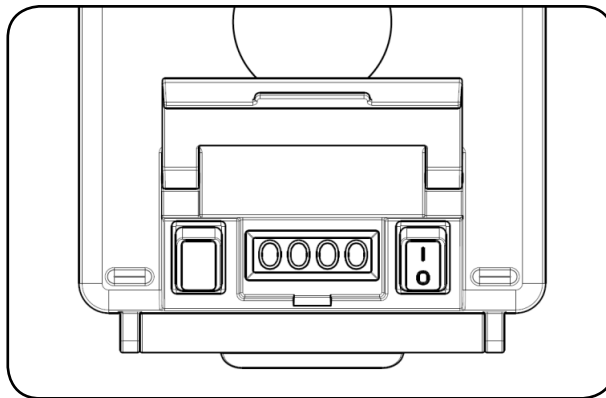

Figure 1

Step 2: Slide the top drive belt on the inside of the assist module left **(Figure 2)** or right **(Figure 3)** to switch between units.

Figure 2

Figure 3

Step 3: Once the screen displays the correct unit of measurement, press the settings button four times until the screen displays the number 5 **(Figure 4)**. At that time, slide the top drive belt to the right until the screen displays "5. Add" **(Figure 5)**.

> *NOTE: "Add" indicates that, upon pressing the settings button, changes will be saved to the memory. Turning the unit off at this point before saving will discard all changes.*

Figure 4

Figure 5

Step 4: Press the settings button once to save the current settings. After the settings have been saved, the display will switch back to displaying the counter.

Setting Inactivity Alarm

After 60 minutes of inactivity, the Assist Module provides an audible beep to remind the operator to turn off the device. The amount of time before the inactivity alarm is activated can be adjusted from off to a maximum of 255 minutes.

Step 1: Press the settings button twice to enter the second menu option. **(Figure 1)**.

Figure 1

Step 2: Adjust the inactivity alarm by sliding the top drive belt on the inside of the assist module left to decrease **(Figure 2)** or right to increase **(Figure 3)** the amount of time.

Figure 2

Figure 3

Step 3: Once the timer has been set, save the current settings by pressing the settings button three times until the screen displays the number 5 **(Figure 4)**.

At that time, slide the top drive belt to the right until the screen displays "5. Add" **(Figure 5)** then press the settings button.

Figure

Figure 5

NOTE: *Power off the Assist Module when not in use to prevent battery drain.*

FieldShield Assist Module
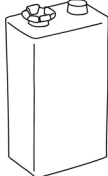*Installation Manual* ————————————————————————

Assist Module Maintenance

Battery Replacement

Over time, the drive belts wear out and need to be replaced on the FieldShield Assist Module. Clearfield provides replacement belts and the process to install them is the same for both the top and bottom halves of the Assist Module.

Recommended Tools

Tool	Image
5/64" Hex Key Wrench	
9 Volt Battery	

Installation Procedure

Step 1: **Remove Inside Cover**
On the clamshell half with the LED display, use a 5/64 hex key wrench to remove (4) screws, located on each corner of the inside cover **(Figure 1)**.
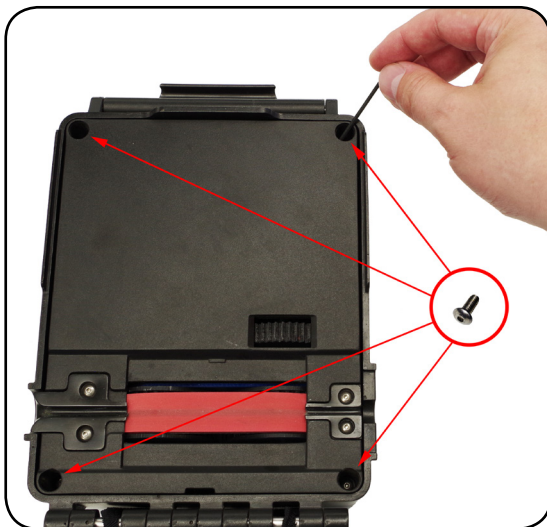
Step 2: **Replace Battery**
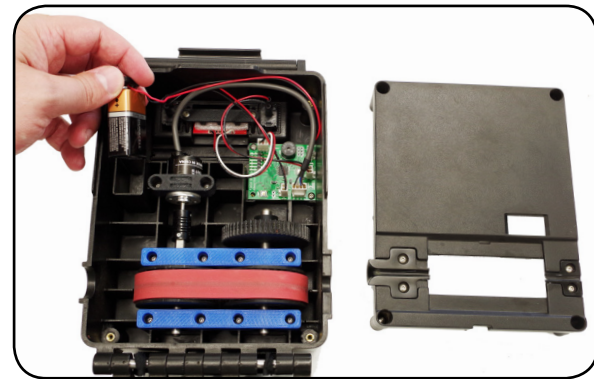Remove inside cover. Disconnect depleted battery and connect new battery **(Figure 2)**.
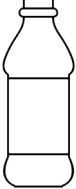
Figure 2

Step 3: **Replace Inside Cover**
Use hex key wrench to replace the (4) inside cover screws.

Figure 1

Drive Belt Cleaning

Recommended Tools

Tool	Image
Isopropyl Alcohol	
Shop Towel	

Installation Procedure

Step 1: Use a shop towel and isopropyl alcohol to wipe down the Assist Module belt **(Figure 1)**.

Note: Hold the belt drive gear to prevent the belt from spinning while cleaning.
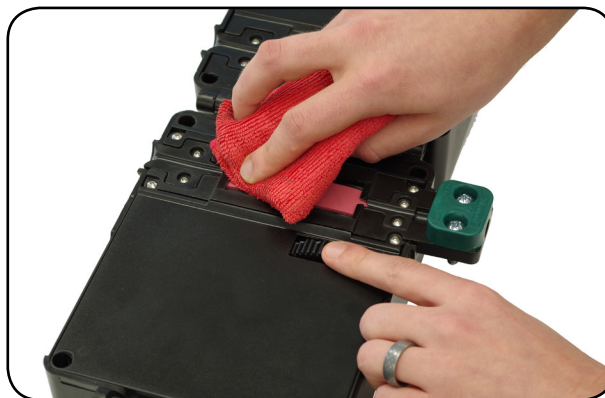
Figure 1

Step 2: Once the visible part of the belt is clean, turn the belt drive gear to expose the other areas of the belt that has not been cleaned yet **(Figure 2)**.
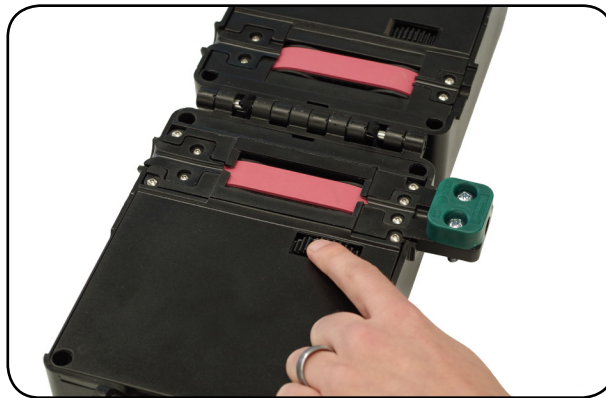
Figure 2

Step 3: Repeat Steps 1 and 2 on the other belt until both belts are clean **(Figure 3)**.

Note: *Isopropyl alcohol evaporates quickly. You should not need to wait more than five minutes after cleaning before using the assist module to install fiber.*

Figure 3

CLEARFIELD

Drive Belt Replacement

Over time, the drive belts wear out and need to be replaced on the FieldShield Assist Module. Clearfield provides replacement belts and the process to install them is the same for both the top and bottom halves of the Assist Module.
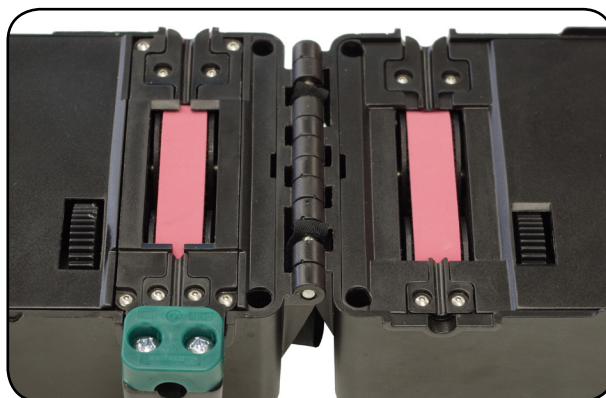
Recommended Tools

Tool	Image
5/64" Hex Key Wrench	

Installation Procedure

Step 1: Using a 5/64 hex key wrench, unscrew the (12) screws to remove the Assist Module fiber guides, belt drive cover, and inside cover **(Figure 1)**.

Note: The smaller of the two fiber guides should be installed on the same side as the drive gear (the right side when facing the module from the front).

Step 2: Remove the two screws holding down each wheel clamp, using a 5/64 hex wrench **(Figure 2)**.
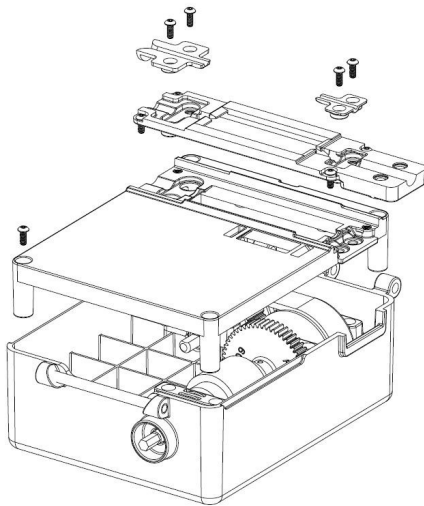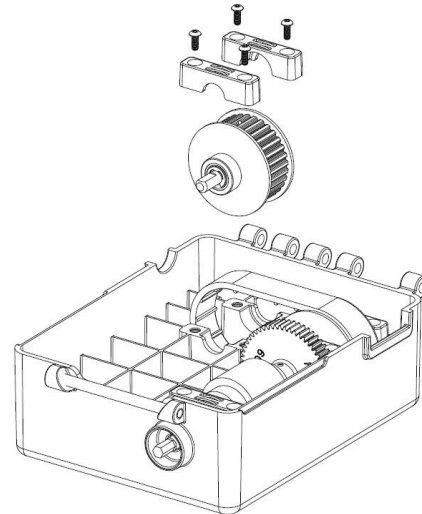
Figure 1

Figure 2

Step 3: Once all eight screws have retention screws have been detached, remove the belt by sliding it over the two wheels.

Step 4: Slide the belt over the two wheels and seat the wheels in the retention clamps.

Step 5: Reassemble the FieldShield Assist Module in the reverse order.

Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein.

Product Warranty

Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year or in accordance with the Product Warranty Classification section of this document. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

a) Customer must contact Clearfield and obtain a Return Materials Authorization.
b) Following authorization, the Customer ships the product per Clearfield's freight instructions to Clearfield's manufacturing facility.
c) Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid.

Note: If the Product is not found to be defective at Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

Limitations of Warranty

CORRECTION OF DEFECTS BY REPAIR OR REPLACEMENT, AT THE OPTION OF CLEARFIELD INC, SHALL CONSTITUTE THE EXCLUSIVE SOLE REMEDY FOR A BREACH OF THIS LIMITED WARRANTY. CLEARFIELD SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PRODUCT OR WITH AGREEMENT TO SELL PRODUCT TO BUYER, INCLUDING, BUT NOT LIMITED TO DAMAGES FOR LOST PROFITS, LOSS OF USE, OR FOR ANY DAMAGES OR SUMS PAID BY BUYER TO THIRD PARTIES. THE FOREGOING LIMITATION OF LIABILITY SHALL APPLY WHETHER THE CLAIM IS BASED UPON PRINCIPLES OF CONTRACT, WARRANTY, NEGLIGENCE OR OTHER TORT, BREACH OF STATUTORY DUTY, PRINCIPLES OF INDEMNITY OR CONTRIBUTION, THE FAILURE OF ANY LIMITED OR EXCLUSIVE REMEDY TO ACHIEVE ITS ESSENTIAL PURPOSE, OR OTHERWISE.

CLEARFIELD WILL NOT BE RESPONSIBLE FOR ANY LABOR OR MATERIALS COSTS ASSOCIATED WITH INSTALLATION OR INCORPORATION OF CLEARFIELD PRODUCTS AT CUSTOMER SITES, INCLUDING ANY COSTS OF ALTERATION, REPLACEMENT OF DEFECTIVE PRODUCT, OR ANY FIELD REPAIRS.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1) Customer's modification of Product, excepting installation activities described in Clearfield documentation.
2) Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged.
3) Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation.
4) Customer's improper or negligent use or application of Product.
5) Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield.
6) Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product.

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However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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