Design Fab Works

4WD Controller BW-79 & FO-79 (S/N 1518+)

Installation Guide & User Manual

⚠ **Important:** Please read this entire installation guide thoroughly before starting the installation process. Failure to follow these instructions and safety precautions could result in damage to your vehicle, void your warranty, and cause personal injury. If you are unsure about any part of the installation, seek professional assistance.

⚠ Important Notice:

Receipt and Acknowledgment of Installation and Use Agreement Required on page 2 of this Installation Guide & User Manual

Before proceeding with the installation or use of this product, you must have received, read, and agreed to the "4WD Controller Installation and Use Agreement." Installation or use of this product signifies your acknowledgment and acceptance of all terms and conditions outlined in the agreement.

STOP—MUST READ BEFORE INSTALLATION OR USE

Installer, Distributor, and Dealer Responsibility: Installers, distributors, and dealers must ensure that the end user receives a copy of this agreement and understands its terms before completing the sale or installation. It is their responsibility to convey the important safety information and usage guidelines contained herein to the end user.

4WD Controller Installation and Use Agreement

By installing or using this 4WD controller, you acknowledge and agree to the following terms and conditions:

1. **Professional Installation**: While the 4WD controller is designed for user installation, you agree that professional installation is highly recommended to ensure optimal performance and safety. If you choose to install the product yourself, you do so at your own risk and assume responsibility for any issues that arise from improper installation or use. Improper installation by a non-professional may lead to system malfunction, personal injury, or death.
2. **Vehicle and Electrical System Modifications**: By installing or using this 4WD controller, you agree that you are modifying your vehicle's drivetrain and electrical systems. You acknowledge that such modifications may have unforeseen consequences. It is your responsibility to ensure all connections are properly secured and that the product is compatible with your vehicle's systems. You are responsible for ensuring these modifications are performed correctly and that your vehicle is thoroughly tested to confirm proper functionality and safety after installation or use.
3. **Warranty Impact**: You understand and agree that installing or using this 4WD controller may void your vehicle's manufacturer warranty or other product warranties. It is your responsibility to check with your vehicle or other product manufacturer before proceeding with the installation or use of this product. Any warranty provided by Design Fab Works, LLC, if applicable, is limited to the terms outlined in the product's warranty documentation, and unauthorized installation or repairs will void any such warranty.
4. **Compliance with Laws and Regulations**: You agree to ensure that the installation and use of this product comply with all applicable local, state, and federal laws, regulations, and safety standards. You, the end user, are solely responsible for understanding and confirming legal compliance before and after installation or use of this product, including compliance with road safety regulations.
5. **Liability Waiver**: You agree that Design Fab Works, LLC is not responsible or liable for any damage, malfunction, personal injury, or death resulting from the installation, use, or malfunction of this product. All risks associated with the installation or use of the 4WD controller, including any malfunction of the product causing personal injury or death, are assumed by you, the user. This product is intended for off-road use only, and its use on public roads may increase risk.
6. **Limitation of Liability**: Design Fab Works, LLC will not be liable for any indirect, incidental, or consequential damages that result from the installation, use, or malfunction of this product, including but not limited to personal injury or death, damage to your vehicle, or property damage, even if Design Fab Works, LLC has been advised of the possibility of such damages.
7. **Off-Road Use Only**: You acknowledge that this product is designed for off-road use only. Off-road driving poses inherent risks, including increased chances of vehicle rollovers or other accidents. You agree to operate the vehicle carefully and within its limitations. Additional maintenance and inspections may be necessary due to the harsh conditions of off-road use. Use of this product on public roads is prohibited and increases the risk of vehicle malfunction or accidents.
8. **Maintenance and Inspection**: You agree to regularly inspect the 4WD controller installation to ensure all connections and components remain secure and functional. Any required maintenance or repairs should be performed by a qualified professional. Continued use of a malfunctioning system may result in further damage, personal injury, or death.
9. **Technical Support and Assistance**: If you encounter issues with installation, use, or system performance, you agree to contact Design Fab Works' technical support team for assistance before attempting any repairs or modifications. Unauthorized repairs include, but are not limited to, modifications to the control module, unauthorized software updates, or the use of non-compatible components. Any unauthorized repairs or modifications void any remaining product warranties or support agreements

1-Year Limited Warranty

Design Fab Works, LLC provides a limited warranty to the original purchaser of the 4WD controller. This warranty ensures that the product is free from defects in material and workmanship under normal use and service for a period of one (1) year from the date of purchase.

This 4WD controller, provided by Design Fab Works, LLC, is designed for off-road use only and must be installed and operated under the guidelines outlined below.

Warranty Coverage:

1. **Covered Components**: This warranty covers all parts of the 4WD controller against defects in material or workmanship during the warranty period.
2. **Exclusions**: The warranty does not cover:
   - Labor costs or repairs to any other components of the vehicle or related systems.
   - Damage caused by improper installation, misuse, or unauthorized modifications.
   - Damage resulting from accidents, neglect, abuse, or operating the controller outside the recommended use.
   - Normal wear and tear.
   - Any product that has been modified, repaired, or tampered with by an unauthorized individual or service center.
   - Use of the product for purposes other than off-road driving.
3. **Proof of Purchase**: To claim warranty service, proof of the original purchase (e.g., receipt or invoice) must be provided.
4. **Repair or Replacement**: During the warranty period, Design Fab Works, LLC, at its discretion, will either repair or replace any defective parts or components with new or reconditioned parts of equal or greater quality. All repairs must be performed by Design Fab Works, LLC or an authorized service center. Labor costs associated with installation, removal, or any related repairs to the vehicle or other components are not covered under this warranty.
5. **Shipping Costs**: The customer is responsible for any shipping and handling charges associated with returning the product to Design Fab Works, LLC. If the product is found to be defective and covered under warranty, Design Fab Works, LLC will cover the return shipping costs for the repaired or replacement unit.

Warranty Claim Process:

1. Contact Design Fab Works, LLC at info@DesignFab.Works to obtain a Return Merchandise Authorization (RMA) number.
2. Safely package the product and include the RMA number, proof of purchase, and a detailed description of the issue.
3. Ship the product to the address provided by Design Fab Works, LLC.

Limitation of Liability:

- This warranty is non-transferable and applies only to the original purchaser.
- Design Fab Works, LLC's liability under this warranty is limited to the repair or replacement of defective parts, as outlined above.
- Design Fab Works, LLC is not responsible for any incidental, indirect, or consequential damages that result from the installation, use, or malfunction of this product, including, but not limited to, damage to other components of the vehicle, personal injury, death, or property damage, even if Design Fab Works, LLC has been advised of the possibility of such damages.
- If the product fails and causes damage to other parts of the vehicle or related systems, Design Fab Works, LLC is not liable for the cost of repairs or any resulting damages**.**

Disclaimer:

This limited warranty is provided in place of all other warranties, express or implied, including but not limited to implied warranties of merchantability or fitness for a particular purpose. Some states or jurisdictions do not allow limitations on implied warranties, so these limitations may not apply to you.

Off-Road Use Only:

This product is designed for off-road use only. Using this product on public roads may void this warranty.

Verify Compatibility

This controller is designed specifically for custom off-road vehicles and powertrain swaps. It is not a replacement for a factory OEM module. Its primary function is to manage modern 4WD transfer cases in vehicles with custom engine and transmission setups.

Transfer Case Compatibility

Model (BW-79)

- Borg Warner: Most 2011 and newer models F150 and Super Duty *(Transfer cases with a "4A" (4-Auto) setting are not currently supported.)*

Model (FO-79)

- Ford Ranger: 2019 and newer models w/5 pin plug
- Ford Bronco: 2021 and newer models w/5 pin plug

Powertrain Compatibility

Standalone (Non-CAN Bus): If not using a CAN Bus connection, this controller will function with any engine or transmission combination.

CAN Bus Connection (Recommended): Designed for most 2011+ Ford powertrain swaps using an automatic transmission. This method works seamlessly with standalone Engine Control Modules (ECMs), like Ford Control Packs.

The CAN Bus Connection should work with most factory ECMs. First, perform the compatibility tests described on pages 13-14 of the manual. If the controller doesn't function correctly after those tests, please contact us. We will give you the correct configuration steps for your vehicle.

Configuration & Setup

We've made the setup as simple as possible to get your project running.

There are no changes required if you decide to use the CAN Bus or not. The controller will automatically detect if you have the CAN Bus connected. We Highly recommend you use the CAN Bus when possible for seamless shifts and only shifts when it's safe to do so.

When connected to the CAN Bus simply move the Mode Selector to the desired mode and the shift will be performed automatically when it's safe to do so.

A button press and hold is required to shift when not using the CAN bus.

⚠ ***Locking hubs must be locked in before attempting any shifts while moving.***

Parts included with your kit

- Installation guide & user manual
- BW-79 or FO-79 controller
- Wire harness
- 2x ring terminals
- Posi-Tap connector
- Fuse terminal (optional for shortening wire)
- Bezel plate (optional to install or use as template)
- Configuration/ NON-Can bus switch (optional to install)
- 4WD & 4LO Indicator Lights
- SW-79 switch with decal

See Page 18 for optional parts

Planning Your Installation

Before starting the installation, follow these steps to plan and layout the placement of the controller, switches, and lights. Proper planning ensures that all components are accessible and that the wiring harness reaches each respective location.

1. Selecting Locations for Components

Controller Location:

- **Recommended Spot:** Mid-dash to right upper kick panel, which typically allows you to run the harness along with the transmission harness.
- **Considerations:**
  - Must be away from other electronics to avoid interference.
  - Should have enough space for secure mounting and wiring.
  - Keep away from high heat sources.
  - Highly recommend the controller is mounted inside the vehicle. If you wish to mount it outside the cab, remove the controller cover and use RTV or another high-quality sealant to seal the cover.
  - Verify that the harness can reach from this location to the transfer case and other connections.

Switch Location:

- **For SW-79 Switch:**
  - Ensure space for a 23/64" hole and the locking tab slot with about ¾” behind the dash.
- **For OEM Switch:**
  - Ensure room for a 2" hole and additional filing to fit the switch shape using the provided template with about 2 ¾” behind the dash.

Indicator Lights Location:

- **Recommended Spot:** Clearly visible to the driver, yet unobtrusive. Will require about 1” behind the dash.
- **If using a 2015+ style switch:** Lights fit well in the switch panel on the left edge.

2. Ensuring Harness Length and Routing

Plan for Firewall Access:

- Identify a suitable point for routing wires through the firewall using included rubber grommet.

Test Fit Harness:

- Lay out the wiring harness along the intended routing path to ensure it comfortably reaches all connection points.
- Check for any tight bends or areas where the harness may be too short.

Adjust Harness Routing:

- If the harness is too short in any area, reconsider the placement of the components.
- Avoid running wires across sharp edges or moving parts.
- We highly recommend not modifying the length of the harness going to the transfer case motor. If the harness is absolutely too short, please contact us.

Basic Install vs. Custom Install

- **Basic Install:** Our kit is user-friendly and requires only basic tools with just a few wire connections and the rest is plug and play. We recommend using our bezel, switch and indicators for simplicity.
- **Custom Install:** For a clean professional install, consider using an OEM switch. Indicators may be wired to existing or other aftermarket clusters. The factory style will be worth the effort in the end.
- ⚠ **Important** (please read and understand all wiring before attempting a custom install)

3. Preparing for Installation

Tools Needed:

- Basic hand tools
- Test light or multimeter
- Drill motor
- Wire strippers and crimpers
- Open barrel terminal crimpers (if adjusting red power wire at fuse)
- Optional for custom install or mounting outside of included bezel
    - 23/64" twist drill (DFW Switch SW-79)
    - 2” Hole saw (OEM Switch)
    - 15/32” twist drill (DFW Indicators and Button)
    - Die grinder or file

Safety Considerations:

- Disconnect the vehicle’s battery before starting the installation to avoid electrical shorts or shocks.
- Use appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Keep a fire extinguisher nearby in case of emergencies.
- Always work in a well-ventilated area.
- Avoid wearing loose clothing or jewelry that could get caught in moving parts.
- Follow all vehicle manufacturer safety guidelines and procedures.
- **Important:** This installation should only be performed by individuals with a good understanding of vehicle electrical systems and mechanical skills. If unsure, seek professional assistance.

Installation Steps

1. Positioning the Controller

- **Select a Secure Spot:** Mount the 4WD controller in the previously planned location (mounting bolt spacing is 4”).

2. Locating and Connecting CAN Bus Wires(optional)

Note: If not using CAN Bus heat shrink wire ends to prevent shorting

- **Locate CAN Bus Wires:** Locate the CAN bus wires in your vehicle harness. If they are in the engine compartment, route them with other wires in step 3. It is recommended to solder and heat shrink these wires. Alternatively, you may purchase a Deutsch DT Series 2 Pin Connector Kit from many online retailers.
  - Blue Wire: Connect to HS CAN Bus High (typically white with blue stripe).
  - White Wire: Connect to HS CAN Bus Low (typically white).

3. Routing Wires Through Firewall

- **Route Wires:** Feed the Red and Black wires, the transfer case motor plug, and the CAN bus wires (if they are in the engine compartment) through the firewall. Use provided rubber grommet to protect the wires.

4. Battery Connections

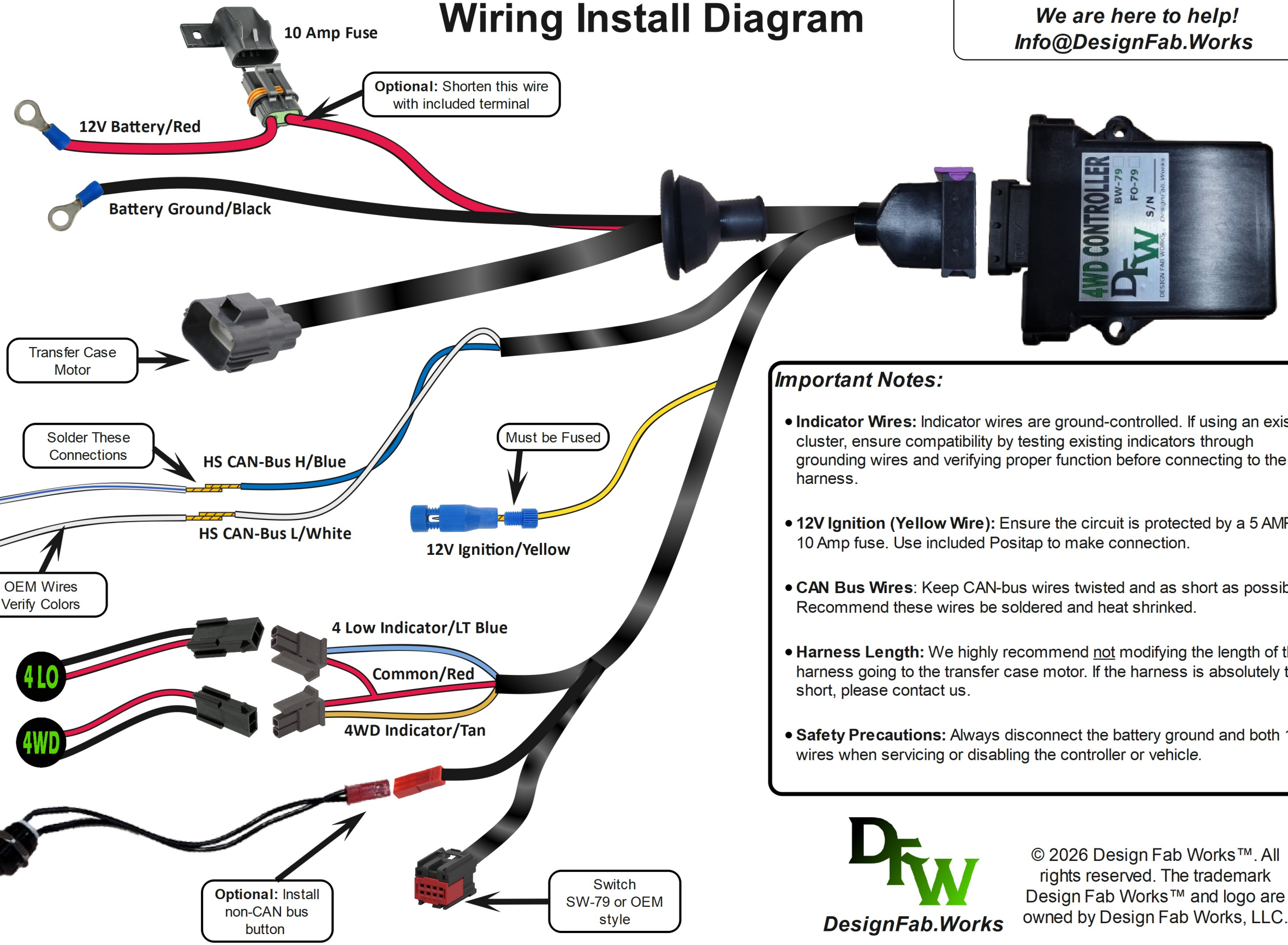
- **Ground Connection:** Attach the Black Wire to the battery ground using the crimp ring terminal provided.
- **12V Battery Connection:** Connect the Red Wire to the battery’s positive terminal. Note: The fuse holder is pre-wired, but a new terminal is included if you wish to shorten the wire. (Important: Pass the wire through the holder before crimping the new terminal.)

5. Ignition Switch Connection

- **Connect Yellow Wire:** Run the Yellow Wire to the ignition switch, connected to a circuit with power only when the key is "on". Ensure the circuit is protected by a 5 AMP to a maximum 10 AMP fuse. Add an inline fuse holder if needed.

Design Fab Works
4WD Controller BW-79/FO-79
Wiring Install Diagram

If you have any questions or issues with the installation, please feel free to email us. We are here to help! Info@DesignFab.Works



Important Notes:

- **Indicator Wires:** Indicator wires are ground-controlled. If using an existing cluster, ensure compatibility by testing existing indicators through grounding wires and verifying proper function before connecting to the harness.
- **12V Ignition (Yellow Wire):** Ensure the circuit is protected by a 5 AMP to 10 Amp fuse. Use included Positap to make connection.
- **CAN Bus Wires**: Keep CAN-bus wires twisted and as short as possible. Recommend these wires be soldered and heat shrinked.
- **Harness Length:** We highly recommend <u>not</u> modifying the length of the harness going to the transfer case motor. If the harness is absolutely too short, please contact us.
- **Safety Precautions:** Always disconnect the battery ground and both 12V wires when servicing or disabling the controller or vehicle.

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1/11/2026-4

6. Installing the Mode Selector Switch & Bezel

Drill Mounting Hole:

- Simply drill/cut out a flat place in the dash for the included bezel to mount attaching with 4 screws. You may also just use this as a template.
- If you want to mount the mode selector switch, button, and indicators directly to the dash follow the following steps
    - For SW-79 Switch: Drill a hole using a 23/64" drill bit. Use the switch decal to mark and cut a slot for the locking tab to prevent the switch from rotating.
    -
    - **Drill Holes:** Drill two (three if mounting button) 15/32” holes in desired locations.
    - **Connect Button:** Plug into the small 2 pin red connector. *The button is only required if you are not connected to the CAN bus or for calibrating the FO-79.*
    - **Connect Indicator Lights:**
        - Small Red Wire: Common 12v positive. (Important: If using your own indicators or cluster, the Red Wire is not needed. Cut and install heat shrink over the end to prevent shorting.)
        - Tan Wire: Connect to the black wire of the 4WD Light.
        - Light Blue Wire: Connect to the black wire of the 4LO Light.

    ★ For OEM Switch: Drill a hole using a 2" hole saw. File the hole to size and shape using the provided retaining ring* as a template. Insert and secure the switch into the drilled hole (followed by the retaining ring OEM switch). Plug the switch into the provided harness.
    ★ If using a 2015 OEM switch optionally use provided retaining ring* as a template to drill holes in the switch panel. **Note**: Use extreme care drilling holes, a step-bit is recommend

** Retaining rings included with OEM switch kit*

⚠ **Important:** *Indicator wires are ground-controlled. If using an existing cluster, ensure compatibility by testing existing indicators through grounding wires and verifying proper function before connecting to the harness.*

8. Connecting the Transfer Case Motor

- ***BW-79:** Connect the Gray Plug to the transfer case motor. If you have a black plug, you will need to purchase and install a new motor with a gray plug

matching the one in the kit. (Note: Ensure the single clutch control wire is installed and fully seated if the motor was removed or replaced.

- ***FO-79:** Connect the Plug to the transfer case motor.

9. Finalizing Installation

- **Secure All Wires:** Use cable ties or other means to secure and protect all wires. Ensure shielding is installed where necessary to protect against heat and abrasion.

10. Test the System

Verify Connections:
Double-check all electrical and mechanical connections to ensure they are secure and properly installed.

Turn On the Ignition:
Turn on the ignition switch. The 4WD and 4LO lights should briefly illuminate, confirming that power is connected.

Controller Calibration (Model FO-79 Only)

1. Start with the mode selector in the 4WD position.
2. Turn on the controller. After a few seconds, both indicator lights will begin to flash rapidly.
3. Press the button 3 times. The lights will switch to a slower flashing pattern to indicate the unit is in calibration mode.
4. Cycle Through Modes:
   - Move the mode selector to 2WD and wait for the shift to complete.
   - Next, move the mode selector to 4 Low and wait for the shift to complete.
5. Check Status Lights: After the shift to 4 Low is complete, observe the indicator lights to confirm the result.

✅ **SUCCESS: Both lights flash together (simultaneously).** The calibration is complete. Power cycle the vehicle to save the new settings.
❌ FAILURE: The lights flash alternately (back and forth).
Move the mode selector back to 4WD. Press the button 3 times to try the calibration again, starting from step 4.

⚠**Important Note** *This calibration procedure must be performed again any time the transfer case or the shift motor is replaced. For more information, please see page 15 of your manual.*

CAN Bus Check *Ignore following steps if CAN Bus is not being used.*

- Ensure the transfer case is in 2WD.
- **Unplug the mode switch to initiate diagnostic mode**. Ignition must be on before unplugging

Check Indicator Lights:

- After unplugging the mode switch, the 4WD light should begin flashing code 4. If any other codes appear, refer to troubleshooting instructions.
- With the transmission in Park, the 4LO light should remain off.

Perform the Transmission and Speed Test:

Transmission Check:

- While the 4LO light is off, shift the transmission into Neutral. The 4LO light should turn on.
- Shift into all other gears (e.g., Park, Drive, Reverse), and the 4LO light should turn off.
- Confirm that the 4LO light turns on when the transmission is in Neutral and off when shifted into any other gear.

⚠ **Warning:** *Shifting into 4LO should only occur when the transmission is in Neutral to prevent serious damage to the transmission and transfer case*.

Speed Test:

- Slowly accelerate the vehicle up to 15 mph (24 km/h).
- Observe the 4LO light:
- The light should blink more rapidly as the speed increases and turn steady at approximately 10 mph (16 km/h).
- Verify that the 4LO light's blinking rate changes as the vehicle speed increases, becoming steady at 8-12 mph (13- 19 km/h).

If in either test the 4LO light does not behave as expected, please contact us for assistance.

⚠ **Important Note:** *Accurate speed signal detection and proper transmission behavior are crucial for smooth and safe gear shifts. Improper testing or ignoring these steps can result in serious damage to your vehicle's transmission system. Always follow the instructions meticulously and reach out for support if you encounter any issues.*

Reconfirm Connections:

Once the speed and transmission tests are completed successfully, plug the mode switch back in and verify all connections to ensure nothing has been disturbed during testing.

Functional Testing:

Test the 4WD system to ensure proper functionality during actual operation.

Troubleshooting

When your 4WD system powers on but fails to shift, it may indicate a fault within the system. One or more of the following fault codes will blink on the 4WD indicator light. The light will blink the number of times corresponding to the fault number.

1. **Observe the Indicator Light**: Note the number of blinks and the corresponding fault code.
2. **Refer to the Fault Code Descriptions**: Match the blink pattern to the fault code to identify the issue

Fault Code	Description	Possible Cause	To Clear Code
2	Last shift failed - Shifted to last position	Transfer-case bound up	Next successful shift
3	Last shift failed - Unable to return to last position	Transfer-case bound up	Next successful shift
4	Switch circuit open - Switch not detected	Loose or broken wire/bad switch	When fault is no longer active
5	Switch circuit short	Short to ground/bad switch	When fault is no longer active
6	Open motor/clutch circuit - No current draw motor/clutch	Broken wire/bad motor/clutch	Power cycle
7	Over shift - Shift motor past desired position	Intermittent encoder	Next successful shift
8	Not in gear - Shift motor not completely in gear	Transfer-case bound up Intermittent encoder	Next successful shift
9	Encoder error - Shift motor in unknown position	Encoder wiring or failed encoder	Next successful shift
10	CAN bus invalid gear ID	CAN bus ID not set	When fault is no longer active
11	CAN bus invalid speed ID	CAN bus ID not set	When fault is no longer active
12	CAN bus no communication	CAN bus wiring or non-compatible	Power cycle

Example: If the 4WD indicator light blinks four times, pauses, and then repeats, it indicates *Fault Code 4*.

- **Indicator lights not working:** Verify you have battery positive, ignition positive, and ground to the controller. If you have verified this, remove the 2 screws and remove the cover on the controller. Check the internal 3 amp fuse, check for shorts, and replace the fuse if blown.

Contact Support

If you are unable to resolve the issue using the above steps, please contact our support team for further assistance.

Setting and Configuration

To Enter Configuration Mode:

1. Place Mode Knob in 4WD.
2. Press and hold the **button** *while* turning the ignition on.
3. Continue holding the button. The indicators will begin to flash.
4. After approximately 10 seconds, the indicators will stop flashing and become solid.
5. Release the button. You are now in configuration mode.
6. While the mode knob is still in 4WD **press push button for 3 times, both indicator lights will begin to flash slowly.**
7. **You are now in motor calibration mode**
8. **Follow the steps on page 12 to calibrate.**

Warning: Do not change any settings in 2WD or 4LO mode unless specifically instructed to do so.

Use of System

General Safety:

- **Driver Control:** Never shift unless you are in the driver's seat with full control of the vehicle.
- **Passenger Restrictions:** Do not allow passengers to shift.

⚠ ***Locking hubs must be locked in before attempting any shifts while moving.***

If you have the CAN Bus connected the button is not required to shift.

Using the Button for Shifting

1. Select the desired mode.
2. Immediately after selecting the mode, press and hold the button until the shift begins, then release the button.
3. If the transfer case fails to shift, return to the previous mode and wait **2 seconds** before attempting the shift again.

Shifting to/from 4 Low

- **Vehicle Stop:** Ensure the vehicle is at a complete stop.
- **Engine Idle:** The engine must be at idle.
- **Transmission in Neutral:** The transmission must be in neutral.
- **Avoid Damage and Injury:** Never attempt to shift to 4 Low while the vehicle is in motion. Doing so can cause serious damage to the vehicle and may result in injury.
- **No Load:** Ensure there is no load on the drivetrain. Allow the vehicle to slowing roll in neutral to unload the drivetrain

Pending Shift Status:

- **Shifting from 4WD to 4 Low:** The 4LO indicator will blink rapidly.
- **Shifting from 2WD to 4 Low:** Both the 4LO and 4WD indicators will blink rapidly.
- **Shifting from 4 Low to 4WD:** Both the 4LO and 4WD indicators will blink rapidly.

Shifting to/from 2 High and 4 High

- **Speed Limit:** The vehicle must be traveling under 50 mph.
- **Engine RPM:** Ensure the engine RPM is under 1000.
- **Straight Path:** The vehicle should be traveling straight.
- **No Load:** Ensure there is no load on the drivetrain.

Pending Shift Status:

- **Shifting from 4WD to 2 High:** The 4WD indicator will blink rapidly.
- **Shifting from 2WD to 4 High:** The 4WD indicator will blink rapidly.

Following these guidelines will help ensure the safe and effective use of your 4WD system.

Disclaimers

- **Manufacturer or Other Warranty:** Installing this 4WD controller may void your vehicle’s or other product's warranty. Check with your vehicle or other product manufacturer before installation.
- **Liability:** The manufacturer is not liable for any damage or injury caused by improper installation or use of this product. Installation and use are at the owner's risk.
- **Professional Installation Recommended:** For best results and to ensure safety, professional installation is recommended.
- **Electrical System Impact:** Modifying your vehicle’s electrical system can have unforeseen impacts. Ensure all connections are secure and components are compatible with your vehicle’s existing systems.
- **Compliance with Local Laws:** Ensure the installation and use of this product comply with all local, state, and federal laws and regulations.
- **Maintenance and Inspections:** Regularly inspect the installation to ensure all connections remain secure and components are in good working condition. Any modifications or repairs should be performed by a qualified professional.
- **Off-Road Use:** Off-road driving can be dangerous and may significantly change the handling characteristics of your vehicle. The risk of rollovers and other accidents increases in off-road conditions. Additional maintenance and inspections may be required due to the harsh environment. Always drive carefully and be aware of the vehicle's limitations.
- **Vehicle Modifications:** This product modifies your vehicle's drivetrain and electrical systems. Ensure all modifications are performed correctly and that the vehicle is tested thoroughly to confirm proper functionality and safety.
- **Technical Support:** Contact technical support for assistance with installation or troubleshooting. Do not attempt repairs if you are not qualified to do so.

Serial Number_____

Purchase From_____

Purchase Date_____

Install Date_____

Installer_____

Optional/Replacement parts

Description	Part #	Notes
Switch OEM	SW-11	w/ spacer-template (round switch)
Switch OEM 15+	SW-15	w/ spacer-template (rectangle bezel)
Hub solenoid wire	HU-79	wire harness only

Contact us for any replacement parts

If you have any questions or issues with the installation or use of the system, please feel free to email us at Info@DesignFab.Works or scan the QR code. We are here to help!

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