



LGM-100 Installation Instructions

This installation guide is intended for someone with experience using power tools. If you do not feel comfortable installing your unit, please hire a professional. Carefully read the **Safety** and **Caution** warnings below before you begin. If you have any questions during your install, please contact us at (908) 989-0802 or support@lgmusa.com.

Safety:

Wear appropriate protective clothing while performing this work. Tear resistant work gloves should be worn when handling the metal as some edges may be very sharp. Wear safety glasses when drilling or using any power tools.

Caution:

The linear actuators provided with your unit are very powerful. Be aware of and stay clear from any pinch points. Ensure nobody is near the loader when connecting the wiring to the battery. Should the actuators start to travel or move unexpectedly, disconnect the wiring from the battery and contact us for assistance. Never attempt to manually hold or prevent the motion of the actuators, this will result in serious injury.

We hope you enjoy your new loader!

The LGM USA Team

www.lgmusa.com

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LGM-100 Parts List

Please verify you have received all components before you begin your installation. If anything is missing, please contact us for replacement parts.

Main Components

The following parts are shipped on a pallet:

		
Left and Right Upright	Lift-Arms	Bucket

Electrical Components

The following parts are delivered in boxes:

	
Linear Actuators (x3)	Wiring Harness

Hardware

Nuts & Bolts: • 5/16": Nuts(2) • 3/8": Nuts(4), Bolts(4) • 1/2": Nuts(2), Bolts(2)	Clevis Pins: • 1/2" x 2 1/64" (4) • 1/2" x 2 49/64" (2) • 1/2" x 3 17/64" (4)	Miscellaneous: • Cotter Pins (10) • GripLock Ties (12) • Zip Ties (20)
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Recommended Tools & Safety Gear

List of Tools

The following tools are necessary to install your LGM-100:

Tool	Use
• Ratchet with the following sockets: ○ 10mm or 7/16 inch ○ 1/2 inch or 13mm ○ 9/16 inch or 14mm ○ 13/16 inch or 19mm • Wrenches: ○ 10mm or 7/16 inch ○ 1/2 inch or 13mm ○ 9/16 inch or 14mm ○ 13/16 inch or 19mm • Electric Drill with the metal drill bits: ○ 5/16 inch ○ 3/8 inch (split tip) ○ 1/2 inch • WD40 or other lubricant/cutting oil • Hammer (optional)	- Wiring Harness relay bolt - 5/16 inch bolts, battery terminal nut - 3/8 inch bolts - 1/2 inch bolts - Wiring Harness relay nut - 5/16 inch nuts - 3/8 inch nuts - 1/2 inch nuts - Enlarge hole in tractor frame - Drill holes through tractor frame - Drill holes in console for switches - Assist drilling through frame - Inserting Clevis Pins

Safety Gear

The following safety gear should be worn during the installation of your LGM-100:

- Safety Glasses
- Work Gloves

Installation Video

For a video guide on how to install your LGM-100,
scan the QR Code or visit:

<https://youtu.be/bQGyBmnKaZ8>



Mounting your LGM-100 to your tractor



Installation Steps

1. Secure your tractor on a flat surface in a safe to work location.
2. Lay out the main components of the LGM-100: Two Uprights (1 left side, and 1 right side), the Lift-Arms, and the Bucket.
3. Turn the steering wheel fully in one direction to gain access to the frame.
4. Locate and then enlarge the small hole already present in the tractor frame with your 5/16th inch drill bit. This is the hole where the pre-installed bolt on the upright fits.
5. Mount the upright by inserting the 5/16 inch bolt through the hole drilled in step 4.
6. Insert a 1/2 inch bolt through the upright and frame.
7. Thread on the nuts for both bolts, but DO NOT fully tighten the nuts.
8. Repeat steps 3 through 7 for the upright on the other side.
9. Attach the Lift Arms to the Uprights using the provided clevis pins. The short arm attaches to the upright. Secure the clevis pins with the cotter pins.
10. Rest the Lift Arms on the ground, and then adjust them to sit centered on the tractor.
11. Tighten the 5/16 and 1/2 inch nuts on each Upright.
12. Drill two 3/8 inch holes through the frame using the Upright as a guide. WD40 or other lubricant can assist this process. Install the 3/8 inch bolts and fully tighten all nuts.
13. Align the bucket with the Lift Arms. Connect using the provided clevis and cotter pins.
14. Install the actuators. Note that the bucket actuator motor has to be mounted away from the bucket with the motor above the shaft. Both Lift Arm actuators must be the same model. Your LGM-100 is now mounted on your frame.

Installing the Wiring Harness

The Wiring Harness includes the following components::

1. Power and Switch Control Assembly.
2. Both (2) Connector Harnesses (with the gray 4-pin connectors)
3. Extension Harness (with 2-pin blue connector)
4. Zip Ties (20)
5. GripLock Ties (12)
6. Switch installation template.

Note: the Switch Control Assembly includes one spare blue 2-pin connector. This connector is not currently used.

Installation Steps

1. Use the template to mark the locations where you want to mount the switches. Drill these holes using a 1/2 inch drill bit.
2. Mount the switches in these holes. Orient the switches so the blue/white connectors are facing towards the front of the tractor.
3. Remove the m6 bolt from the top of the OEM harness connector located next to the battery. Install the longer m6 bolt provided. Mount the relay to the new bolt using the provided hardware. (Reference the 1st photo)
4. Connect the black connector on the end of the short sleeved harness section to the existing "12 volt fast connector". (Reference the second photo)
5. Connect the Connector Harnesses to the Switch Harness using the 4 pin gray connectors.
6. Route the Connector Harnesses along opposite sides of the engine bay.
7. Feed each Connector Harness through the upright, and then connect the 2 pin SAE connectors to the leads from the Lift-Arms actuators.
8. Connect the Extension Harness to the blue connector on one of the Connector Harnesses. Route the Extension Harness down the Lift-Arms, across the crossmember, and connect to the lead from the Bucket actuator.



9. Use the provided orange GripLock Ties to secure the harness to the 2x2 tubing. These special zip ties have a tab that enables you to release them and reposition if needed. The rubber will hold the harness in place without needing to be over-tightened. Use the black Zip Ties to secure the harness in the engine bay.
10. Ensure all wiring has adequate clearance from any moving parts, especially the tires. Verify there is adequate slack to prevent binding during motion of the actuators.

Connecting to the battery

Follow these steps carefully to ensure your safety. Make sure your tractor is off and the key removed.

11. Use a 1/2 inch socket to remove the negative battery terminal.
12. Remove the nut from the positive battery terminal post. Connect the red wire to the post using the ring terminal. Thread the nut back on the post, and secure the positive battery terminal back on the battery.
13. Cut a small slit in the red protective cover to allow the wire to pass through. Then cover the positive battery terminal.
14. Connect the black wire to the negative battery terminal, and reattach the terminal to the battery.

Caution: If any actuator begins to move, immediately disconnect the negative terminal from the battery and contact us for assistance.

Testing your LGM-100

Before testing the motion, double check that there is adequate space around the tractor to safely operate the loader.

15. Insert your tractor key and turn it to the "on" position. If any actuator begins to move, immediately turn the key back off and contact us for assistance.
16. Use the switches to test the motion of the loader. Ensure the arms and bucket travel fully. The wiring should never be under any stress throughout the whole range of motion. If you need to adjust the wire routing, we include plenty of extra zip ties.

Congratulations on finishing installing your new LGM100 attachment! Please visit www.lgmusa.com for additional content and to stay up to date on new products designed to help you get the most out of your tractor.