

Farm King

ASSEMBLY INSTRUCTION MANUAL

10" & 13" Backsaver Augers

Electric Mover Kit

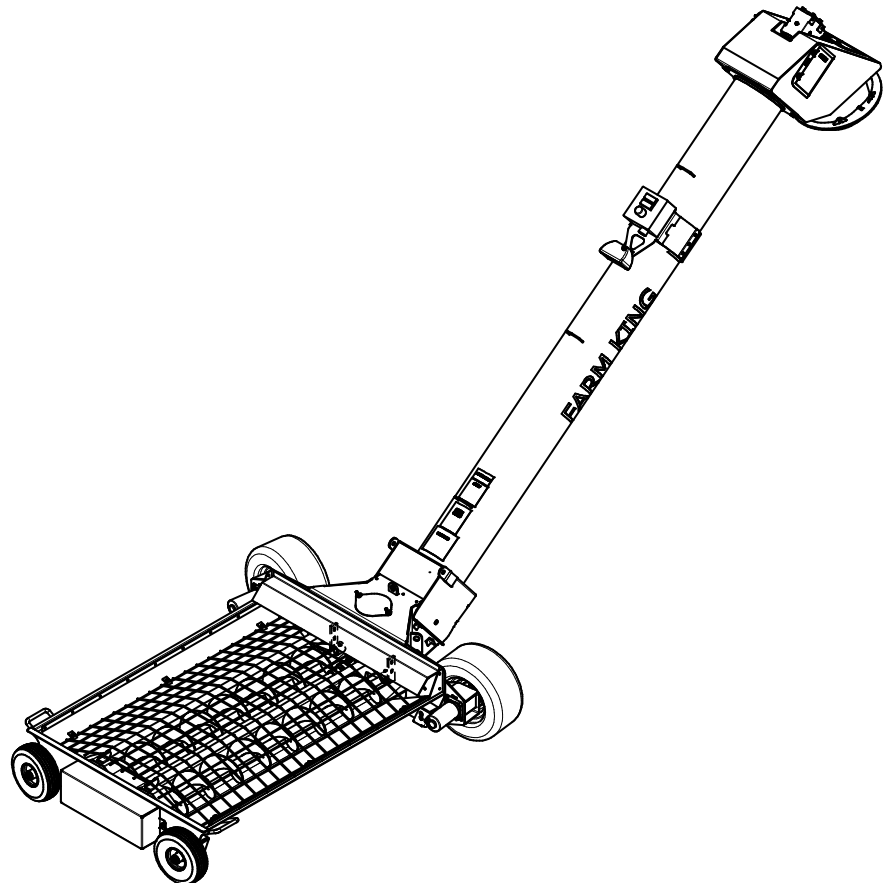


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Introduction

The new line of electric power movers from Farm King allows remote positioning of the swing auger hopper. The system is 100% electric and with no hydraulic flow required the hoppers can be positioned for use without the need to start and idle the tractor first. The remote boasts a range of 300+ feet, and can operate in extreme weather, heat and cold. The mover's drive motors mount to the hopper body itself, putting the weight of the self-leveling hopper on the tires for excellent traction. Each drive motor is independently driven so both tires will always have equal power applied. The supplied halogen work light powers on automatically with any hopper movement. The hopper operating and home positions can be preset by the user; the hopper will move to the location and then stop automatically.

Keep this manual handy for frequent reference. All new operators or owners must review this manual before using the equipment and at least annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of this manual. Visit our website at www.farm-king.com for a complete list of dealers in your area.

Safety

Safety Instructions

Remember, YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that everyone operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

The alert symbol is used throughout this manual. It indicates attention is required and identifies hazards. Follow the recommended precautions.



The safety alert symbol means...
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



CAUTION

The caution symbol indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



WARNING

The Warning Symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



DANGER

The Danger Symbol indicates an imminently hazardous situation that, if not avoided will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

General Safety Instructions

- Have a first-aid kit available for use and know how to use it.
- Have a fire extinguisher available, stored in a highly visible location, and know how to use it.
- Wear appropriate protective gear. This list may include but is not limited to:
 - hard hat
 - protective shoes with slip resistant soles
 - protective glasses or goggles
 - heavy gloves
 - wet weather gear
 - hearing protection
 - respirator or filter mask
- Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing, or unplugging the equipment.
- Do not attempt any unauthorized modifications to your Farm King product as this could affect function or safety, and could affect the life of the equipment.
- Inspect and clean the working area before operating.
- Keep hands, feet, clothing, and hair away from moving parts.
- Ensure bystanders are clear of the area before operating.

Start-up Safety

- Do not let inexperienced operators or children run this equipment.
- Place all tractor and machine controls in neutral before starting.
- Do not operate inside a building unless there is adequate ventilation.
- Ensure all shields are in place and in good condition before operating.
- Stay clear of PTO shaft and machine when engaging PTO.
- The auger must be on a level surface and wheels free to move when raising or lowering. Everyone should be kept clear during these operations.

Operation Safety

- Do not permit riders.
- Do not wear loose fitting clothing during operation.
- Empty the auger before moving to prevent upending.
- Do not allow anyone other than the operator close to the auger when in operation.
- Never stand under the auger while raising or lowering.
- Never raise the intake end of the auger above waist high, as the balance shifts forward, and the auger will tip over.
- Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.

Transport Safety

- Review Transport Safety instructions in tractor manual before moving.
- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Do not tow equipment that does not have brakes at speeds over 20 mph (32 km/h).
- Do not tow equipment that does not have brakes that, when fully loaded, has a mass (weight) over 3,300 lb (1,497 kg) and more than 1.5 times the mass (weight) of the towing unit.
- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.
- Never have the equipment in operation during transport.
- Take extreme caution in maneuvering on or around tight corners so as not to catch the end of the auger on trees, buildings, power lines, etc.
- When moving the auger on the road, always use a red flag, or if absolutely necessary to move at night, accessory lights for adequate warning to operators of other vehicles.
- Always travel at a safe speed.
- Inflate transport tires to recommended pressure.

Service and Maintenance Safety

- Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Depress emergency stop button on control box
- Support the equipment with blocks or safety stands before working beneath it.
- Follow good shop practices including:
 - keep service area clean and dry
 - be sure electrical outlets and tools are properly grounded
 - use adequate light for the job.
- Use only tools, jacks, and hoists of sufficient capacity for the job.
- Replace and secure all shields removed during servicing before operating.
- Use heavy leather gloves to handle sharp objects.
- Check hydraulics regularly for leaks. Use cardboard to look for leaks and use hand and eye protection.
- Relieve pressure on hydraulic system before repairing or adjusting.
- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion, which may result in serious injury or death.

Storage Safety

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Support the frame on stands and blocks to provide a secure base.
- When storing an auger, park it on level ground so that the bottom end will never be over its center of gravity.
- Block the wheels of the auger so that it will not move and tear the jack from its mount.

Safety Signs

- Keep all safety signs clean and legible and replace any that are damaged or missing.
- When original parts are replaced, any safety signs affixed to those parts should be replaced as well. Replacement safety signs are available from your local dealer.

Installation

- To install safety signs, ensure area is clean and dry. Decide on the exact position before you remove the backing paper. Remove the smallest portion of the split backing paper and align over the specified area. Carefully press in place.
- Slowly peel back the remaining paper and smooth the remaining portion in place. Small air pockets can be pierced with a pin and smoothed out.
- Replace safety signs immediately should they become damaged, torn or illegible. Obtain replacements from your authorized dealer using the part numbers shown.

Assembly

10" & 13" Electric Motor Mounts

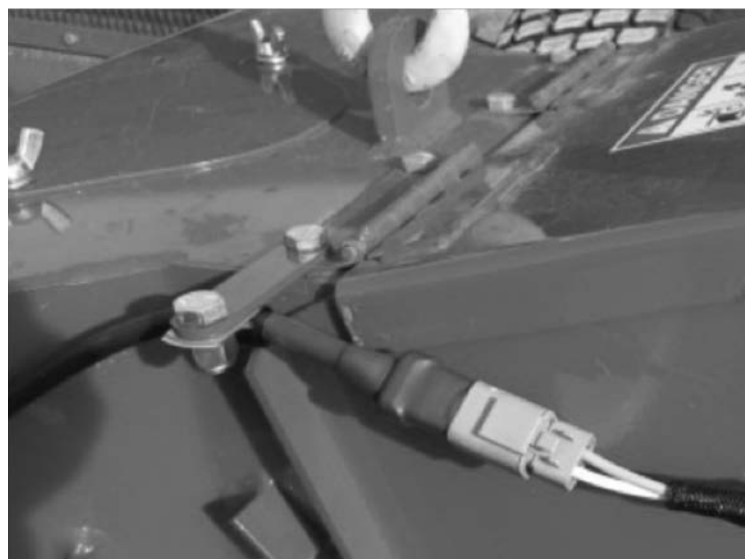
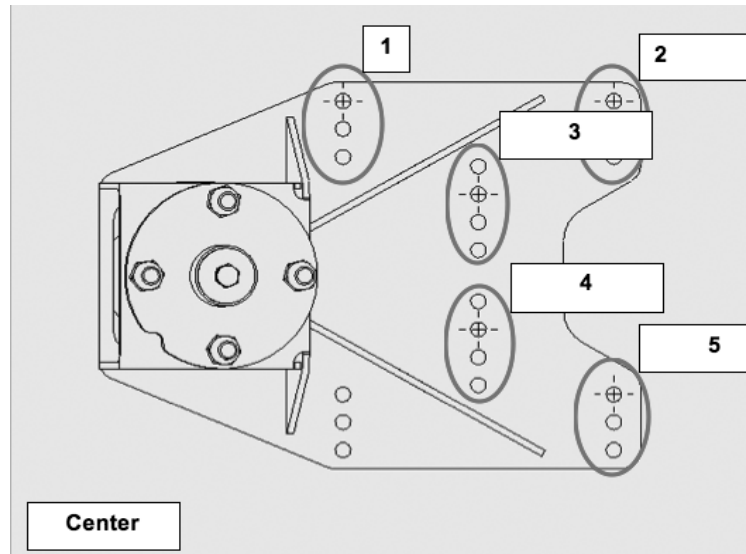
The electric motor mounts for the 10" & 13" hopper are universal. To install each motor, place the flat back of the mount against the front face of the hopper. The mount has three hole combinations to choose the height of the hopper. Place a 3/8" x 1" (10 x 25 mm) bolt through holes 1 and 3. Place the 3/8" (10 mm) lock nut on the backside of these bolts and tighten. Place a 3/8" x 1" (10 x 25 mm) bolt through holes 4 and 5. Place a 3/8" (10 mm) lock nut on the backside of these bolts and tighten.

***Note: Depending on the age of hopper, it may be necessary to drill out holes 4 and 5 to match the orientation of holes 1 and 2.**

Bring the cord from the back of the motor around the corner of the hopper. Place a P-clamp around the cord. Place a 3/8" x 1" (10 x 25 mm) bolt through the P-clamp and hole 2. Tighten the nut onto this bolt as well.

Install one of the tires onto the hub, with the valve stem facing away from the hopper. Ensure that the cord from the motor will not make contact with the tire. Loosen the P-clamp and pull the cord through as needed. Retighten the clamp.

Remove the bolt on the end of the hopper door hinge and install the clamp bracket with one end free hanging at the side of the transition. Reinstall the nut and bolt. Install a P-clamp onto the motor harness and bolt the clamp to the bottom of the bracket with a 3/8" x 3/4" (10 x 19 mm) hex bolt and a 3/8" (10 mm) lock nut.



The image on the right shows how the setup should look when complete. Repeat this process for the other side.



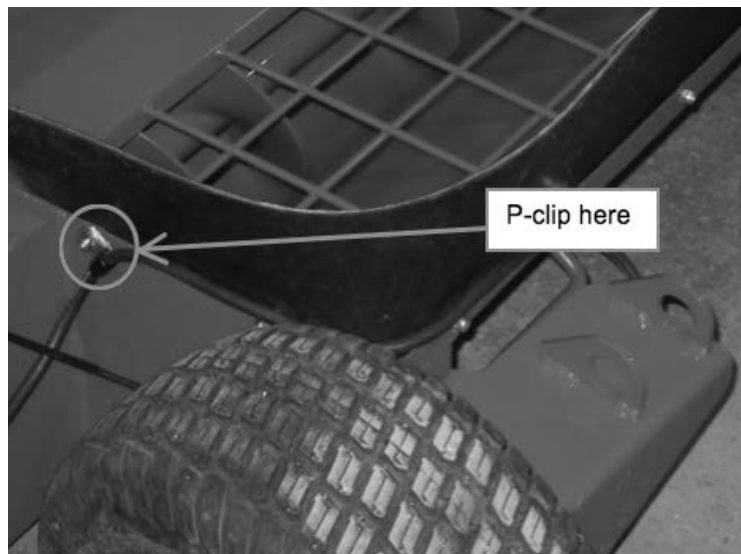
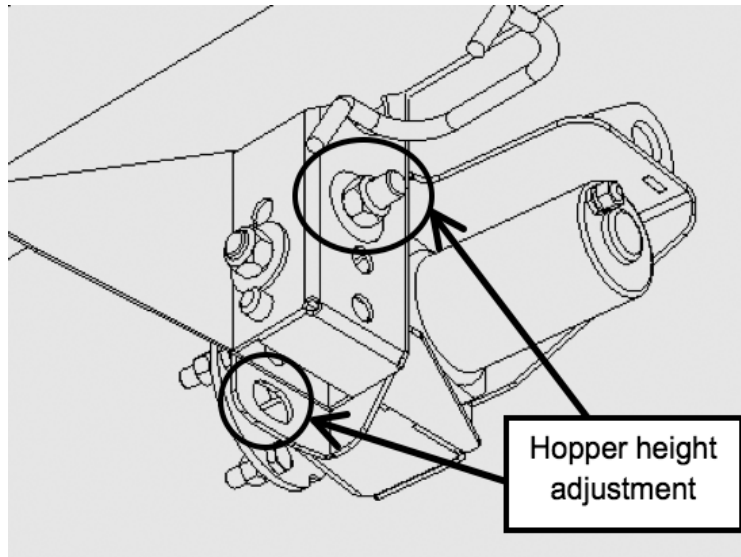
10" Feterl Original™ Electric Motor Mounts

The electric motor mounts for the 10" TM hopper are not universal and will only fit on one side of the hopper. The hookups for the lift cable and safety chain will be on the top of the mounts when installed properly.

Mount the motors onto the hopper by sliding the solid pin and bolt into the holes on the corner of the hopper so that the motor is to the side of the hopper. Then insert a 3/4" x 4-1/2" (19 x 114 mm) bolt through the hole on the front of the mount that lines up with the remaining hole on the hopper. This should be the top hole for the higher height setting or the bottom hole for the lower height setting. Place a 3/4" (19 mm) washer and lock nut onto the bolt pointing towards the center of the hopper. Tighten this bolt, pulling the mount flush against the outer edge of the hopper. Place a 3/4" (19 mm) washer and lock nut on the bolt coming from the front of the mount and tighten.

Remove the 1/4" (6 mm) lock nut second from the corner on the front face plate that holds the rubber skirt. Place a P-clamp on the electric motor cable. Place the P-clamp on the exposed bolt, followed by a 1/4" (6 mm) flat washer as shown in the image below. Secure the P-clamp using the 1/4" (6 mm) lock nut.

Repeat this process on the other side.



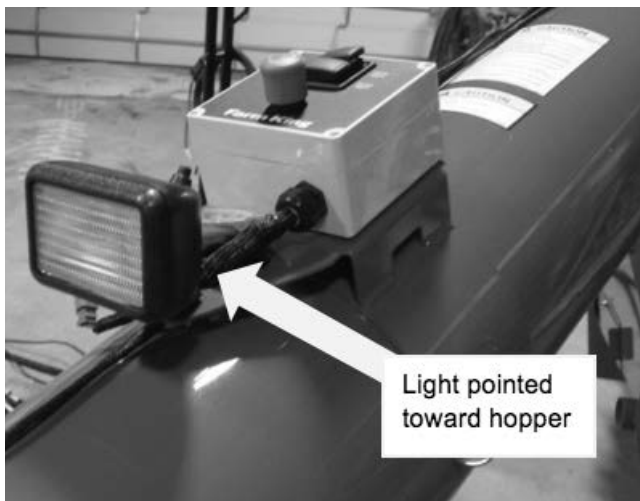
10" Feterl Original Electric Swing Drive

Mount the proximity sensor onto the drive section. The proximity sensor mount replaces the large galvanized washer that holds the swivel plate. The proximity sensor should be mounted on the stud that is towards the main auger tube with the swing spout passing over from above, as shown in the image below. ***Note: If moving the hopper from one side of the auger to the other, the proximity sensor needs to be unplugged and moved to opposite side.**



The rail for the proximity indicators can then be installed. The rail halves are not identical and need to be placed on the proper side. The halves are mounted onto the triangular tabs on the swivel plate above the drive section. Line the rail halves up on the tabs, keeping the bent tabs on the rail inside the tabs on the swivel plate. Place a 5/16" x 3/4" (8 x 19 mm) carriage bolt through each tab, with threads directed outward. Use a 5/16" (8 mm) lock nut on each bolt. If the rail is installed correctly, the two halves should come together on the main auger discharge side of the drive section with the top faces being level with each other, as in the image above. Using 5/16" x 3/4" (8 x 19 mm) carriage bolts, 5/16" (8mm) flat washers and 5/16" (8 mm) wing nuts, install a proximity indicator onto each rail by placing them on the bottom side of the rails with the tab pointing outward ***Note: Remember to readjust the proximity indicators when moving the hopper from one side of the auger to the other.**

Mount the control box by placing it on top of the swing hopper discharge tube between the two upper metal loops. The work light needs to be facing the hopper. Secure the bottom half clamp onto the control box mount using the 3/8" x 1-1/4" (10 x 32 mm) bolts and 3/8" (10 mm) lock nuts. Do not fully tighten the bolts as the mount will need to be adjusted to remove slack from the electric motor harness



Feed the motor cables through the two lower loops towards the hopper. The cord should split above the throat to the hopper. Route each end of the cable to the side of the throat and connect it to the plug on the motor cable. The position of the control box can then be adjusted to help take any extra slack out of the cable

Feed the power and proximity sensor cables through the top loop and over the top of the discharge head. Place a P-clamp on both cables where the cables pass by the gear box. Secure the P-clamps to the gearbox by screwing a 3/8" x 3/4" (10 x 19 mm) bolt with 3/8" (10 mm) lock washer into one of the threaded holes on the side of the gearbox, as shown in the image below. Remove the slack from the proximity sensor cable between the control box and the P-clamp and connect the proximity sensor cable to the proximity sensor.



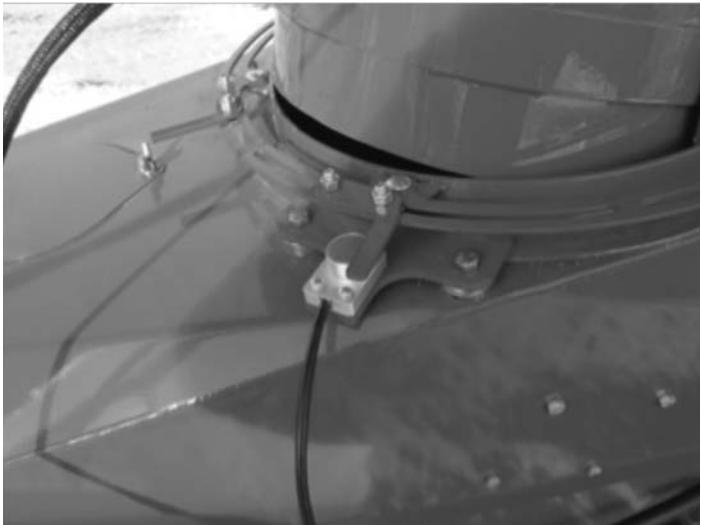
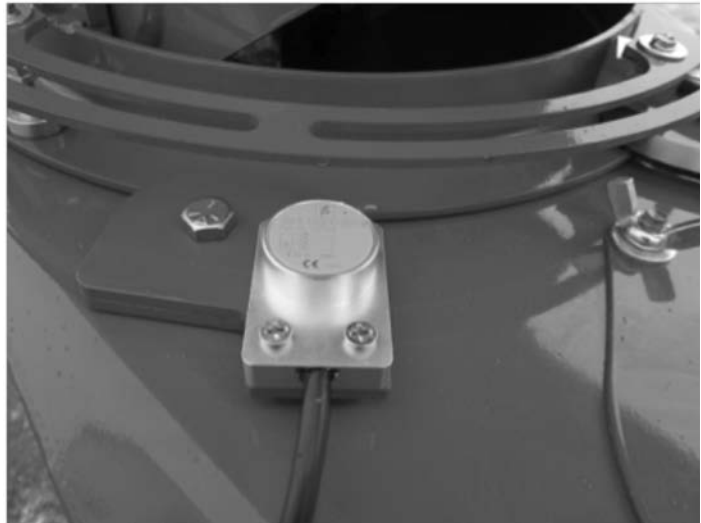
Connect the power harness directly to the tractor battery, with the red wire connected to the positive battery post and the black wire to the negative battery post. Route the wire on the tractor to keep away from hazards.

10" & 13" Morden Electric Swing Drive

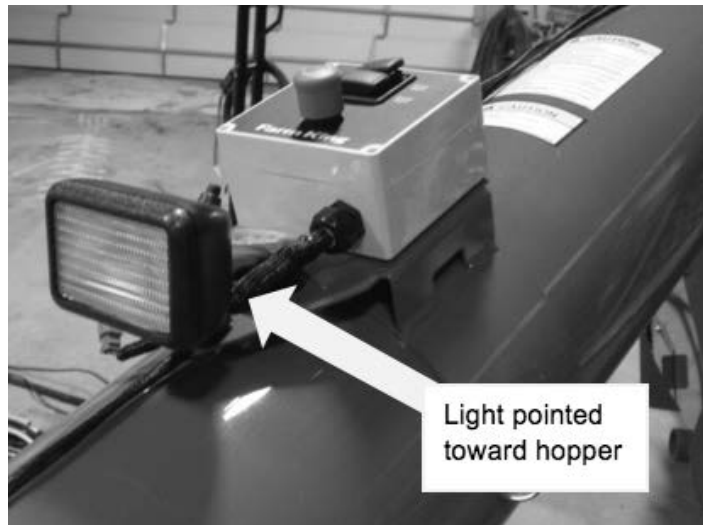
Mount the proximity sensor onto the drive section. The proximity sensor mount for the 10" auger is used in place of one of the red washers around the swivel plate. The sensor mount for the 13" auger replaces one of the 6" x 2" (152 x 51 mm) plates that hold the swivel plate. The placement is dependent upon which side of the auger the hopper is located on. The proximity sensor should be mounted on the bolt that is towards the main auger discharge and on the hopper side, as shown in the image below.

***Note: If moving the hopper from one side of the auger to the other, the proximity sensor needs to be moved to opposite side. Remember to readjust the proximity indicators.**

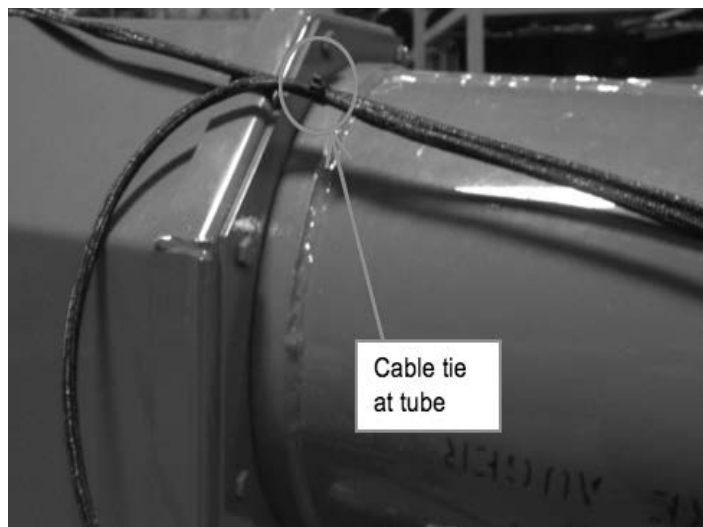
The rails are identical and can be placed on either side. Position the rails on top of the tabs, with the square ends of the rails towards each other. Place a 5/16" (8 mm) carriage bolt downward through each hole, and secure each bolt using a 5/16" (8 mm) lock nut. If the rail is installed correctly, the top side of the rail halves should be level with each other. Using 5/16" x 3/4" (8 x 19 mm) carriage bolts, 5/16" (8 mm) flat washers, and 5/16" (8 mm) wing nuts, install a proximity indicator onto each rail by placing them on the bottom side of the rails with the tab pointing outward. ***Note: Remember to readjust the proximity indicators when moving the hopper from one side of the auger to the other.**



Install the control box mount by placing it on top of the swing hopper tube. The work light needs to be facing the hopper. Secure the bottom half clamp onto the upper half clamp using the 3/8" x 1-1/4" (10 x 32 mm) bolts and 3/8" (10 mm) lock nuts. Do not fully tighten the half clamp onto the tube as the mount will need to be adjusted to remove the slack from the electric motor harness.

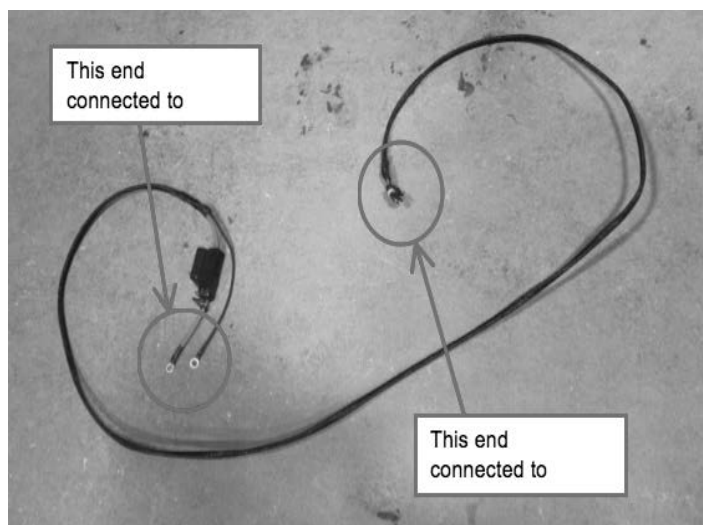


Route the motor cords down towards the hopper. The split in the cord should occur just above the throat of the hopper. Route each end of the cable to the side of the throat and connect it to the plug on each motor cable. The control box can now be moved to take the slack out of the motor harness.



Route the proximity sensor cord and power cord over the intake head. Feed the cords through the handle on top of the intake head. Connect the proximity sensor cords. Pull the slack out of the power and proximity sensor chords and cable tie the harnesses together where the hopper tube is connected to the drop spout as shown in the image below.

Connect the power harness directly to the tractor battery, with the red wire connected to the positive battery post and the black wire to the negative battery post. Route the wire on the tractor to keep away from hazards.



Remote & Transmitter

Recharging

Plug the charging connector into the port at the top of the transmitter (remote control). Observe orientation and do not use force. A solid red LED indicates battery is charging. Once the internal battery is fully charged, the red LED will turn off and the green LED will turn on. A fully discharged unit will take up to 3 hours to recharge.

Indicator lights

The transmitter has two LED indicators: the red BATTERY/DIAGNOSTIC indicator and the green TRANSMIT indicator. The green TRANSMIT indicator flashes rapidly whenever there is communication between the transmitter and the receiver. The red BATTERY/DIAGNOSTIC indicator starts blinking once every second when the battery voltage is low and requires charging. Refer to the ERROR CODE CHART for the definitions of the codes.

Transmitter Error Code Chart

Error Code	Probable Cause
1	Low Battery

Note: The red LED will stay on while charging and when the charge is completed the green LED will stay on.

Note: It will take longer to charge if the transmitter is on during operation.

Teach ID Code

To synchronize a new transmitter and receiver together, use the following procedure:

1. Make sure both the transmitter and the receiver are off.
2. To get the transmitter into TEACH ID mode, press and hold the POWER button until both lights start to blink. Release the POWER button.
3. Apply power to the receiver.
4. Wait for 1 second or until the green and red LEDs on the transmitter stop blinking and the green LED starts blinking rapidly on the transmitter.
5. TEACH mode is complete.

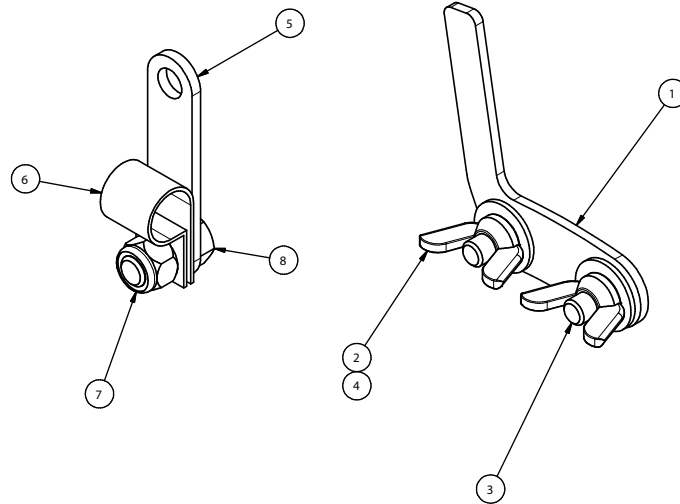
Cloning Transmitters

To clone a new transmitter to work with an existing receiver and transmitter, use the following procedure:

1. On transmitter A (the master):
 - a. Press the POWER button for more than 10 seconds.
 - b. At this point, both LEDs will blink. Release the POWER button.
2. On transmitter B (the clone):
 - a. Press the POWER button, LEFT button, and RIGHT button simultaneously.
 - b. At this point, both LEDs will blink. Release all buttons.
3. Wait for 1 second or until the green and red LEDs stop blinking on both units.
4. Turn both transmitters off.
5. Synchronize one of the transmitters to the receiver using the TEACH ID CODE instructions. Synchronization must be done anytime a clone is made.

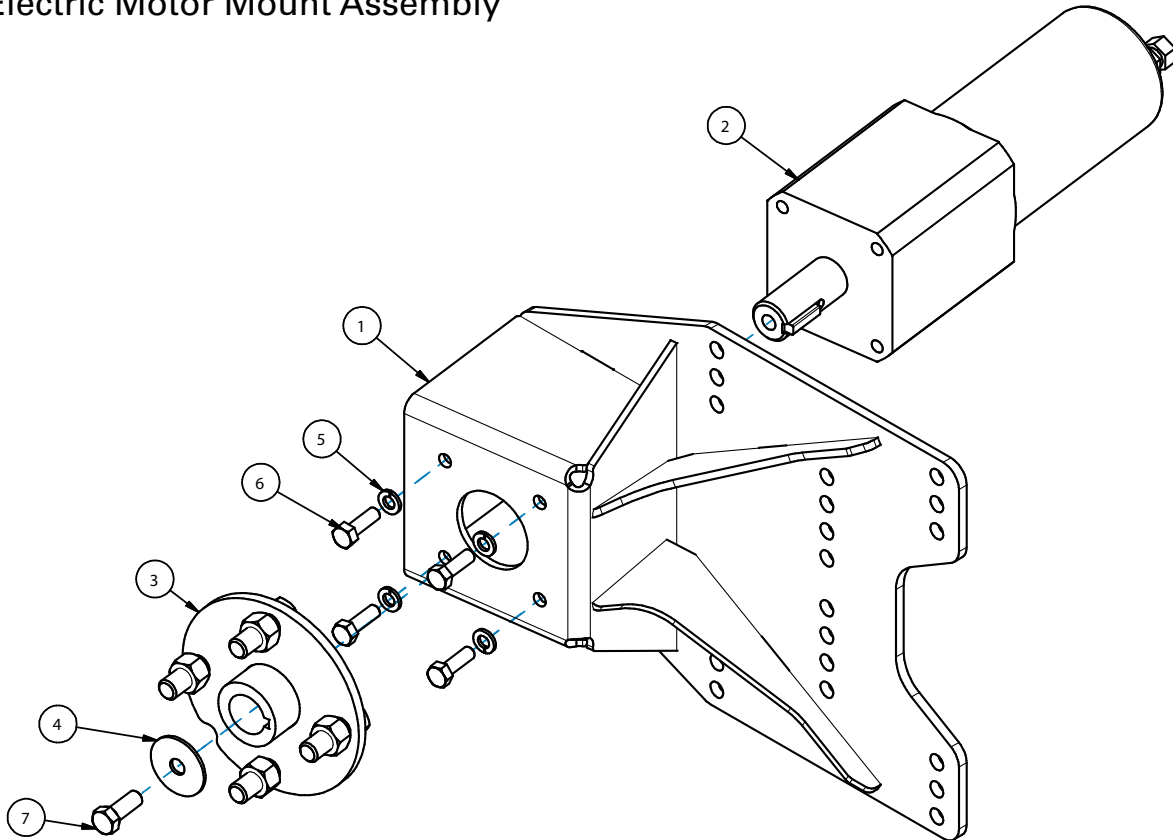
Warning: Cloning multiple transmitters can pose a safety risk. Hopper may move without notice if another transmitter is unintentionally activated. To reduce risk turn transmitter off when not in use.

Indicator and Clip Bracket



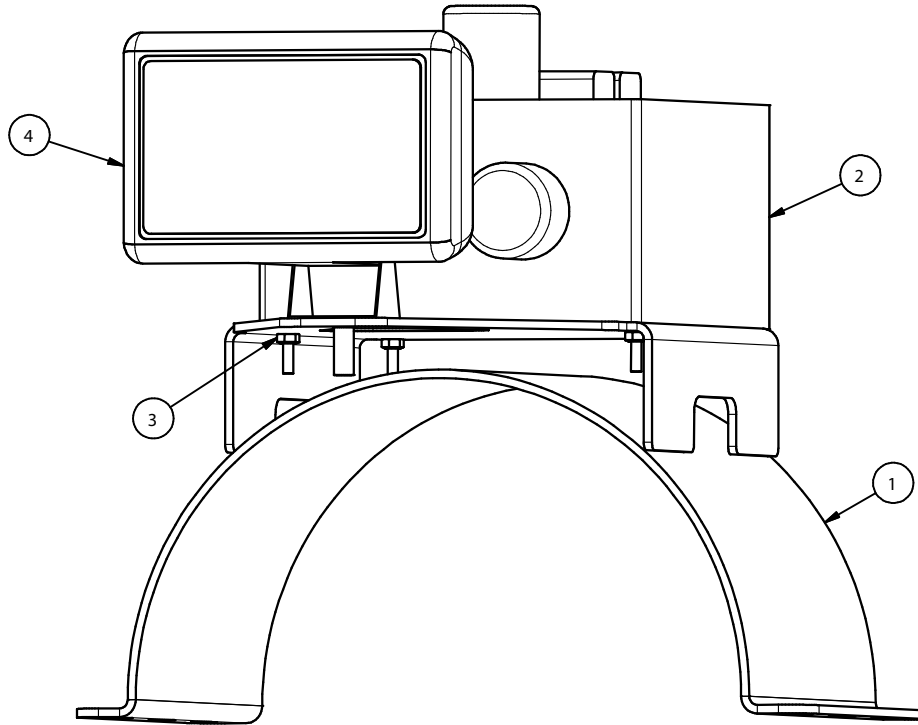
Part #	Item #	Description	Qty
1	SZ000968	Proximity Indicator	1
2	SZ125040	Nut Wing, 5/16-18 Unc	2
3	SZ126006	Bolt Carriage 5/16-18 Unc 3/4	2
4	SZ127001	5/16" Flat Washer	2
5	SZ001130	P-Clamp Bracket	1
6	SZ000566	5/16" P-Clamp	1
7	SZ125030	Nut Lock 3/8" - 16 Unc Nylock	1
8	SZ126063	Blt Hhcs 3/8" - 16 Unc x 3/4" G5	1

Electric Motor Mount Assembly



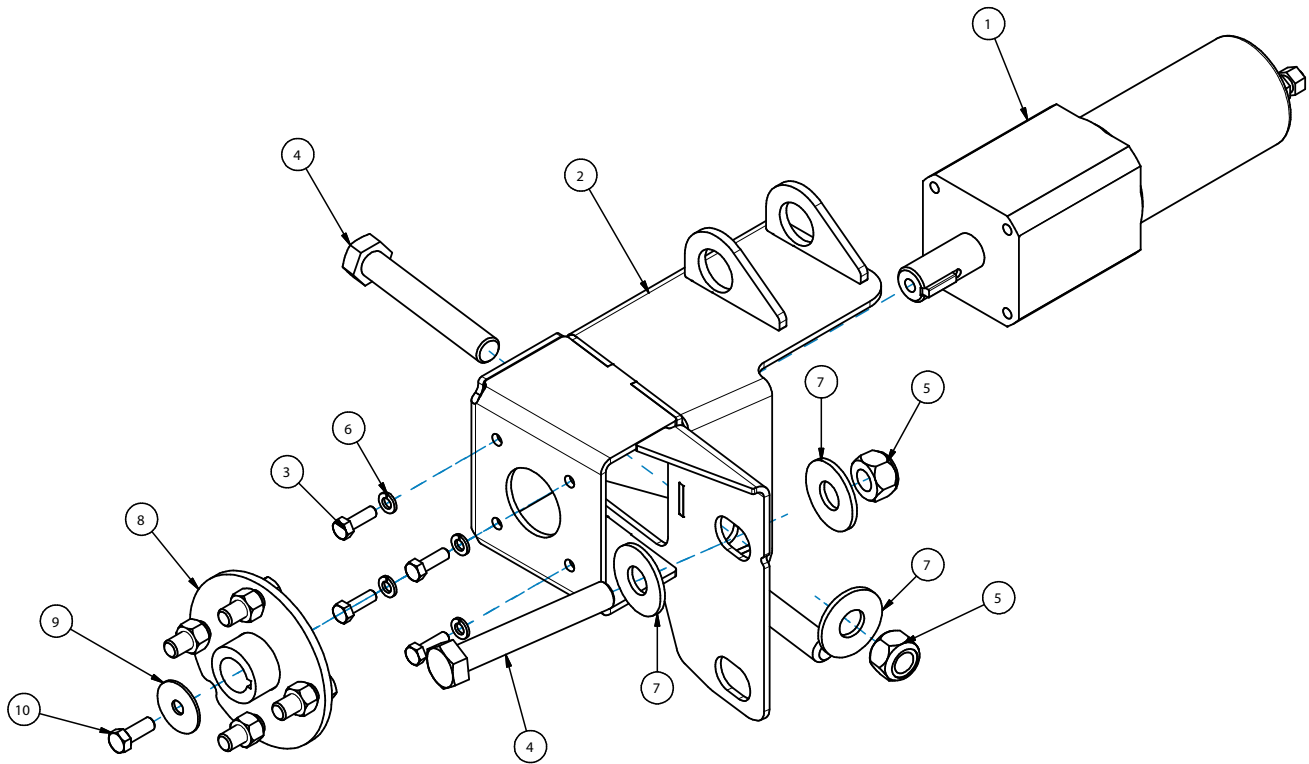
Part #	Item #	Description	Qty
1	SZ000898	10/13" Elect Mtr Mnt Wldmt	1
2	SZ000892	Motor For Elec Hppr Mvr	1
3	SZ000895	Elect Hppr Mvr Wheel Hub	1
4	SZ000906	.406" Id x 1.50" Od 14 Ga Wshr	1
5	SZ127010	Wshr Lck, 5/16"	4
6	SZ126047	Blt Hhcs, 5/16" - 18Unc, 1" G5	4
7	SZ126065	Blt Hhcs 3/8" - 16 Unc 1" G5	1

10" Control Box Mount Assembly



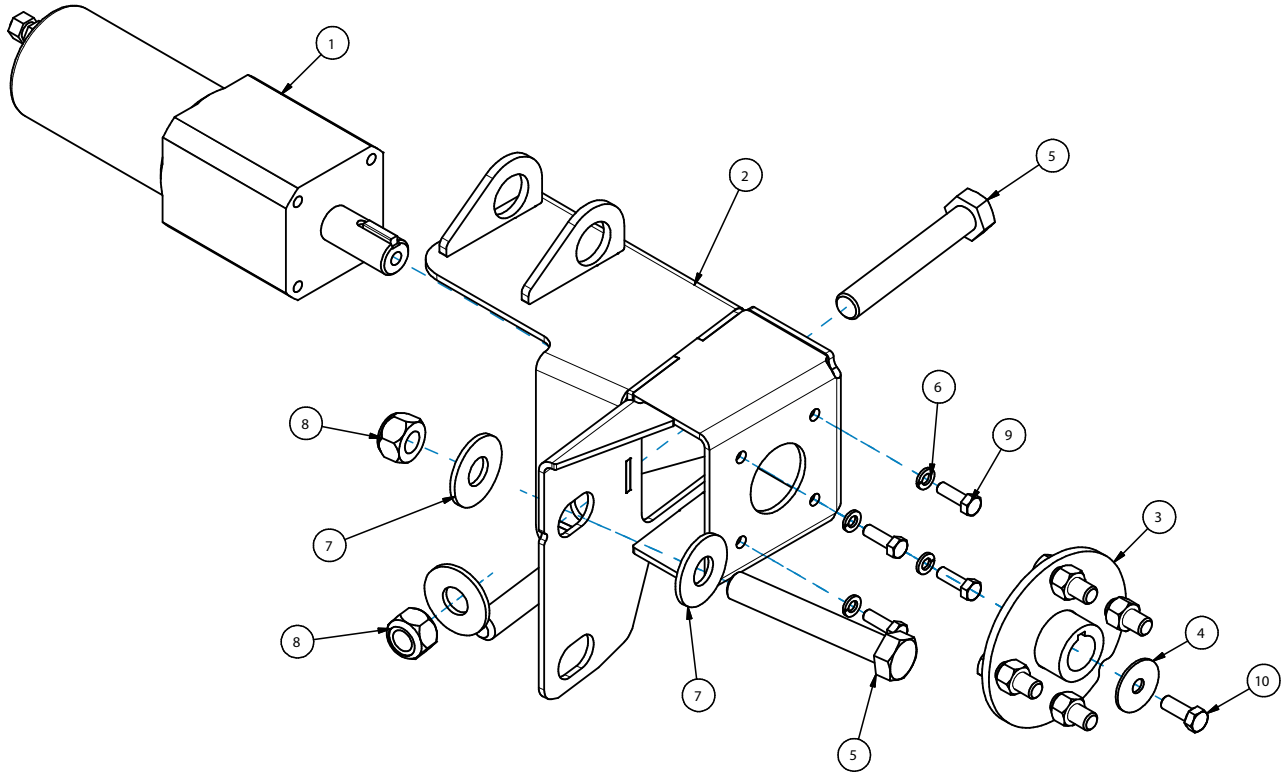
Part #	Item #	Description	Qty
1	SZ000989	10" Elec Ctrl Box Wldmt	1
	SZ001136	13" Elect Ctrl Box Wldmt	1
2	SZ000995	Elect Ctrl Box No Winch	1
3	812537	Nut Lock (Nylon) 0.136 Nc Grb Pl	4
4	86038018	Worklight - Push Button Switch	1

10" Feterl Electric Motor Mount LH Assembly



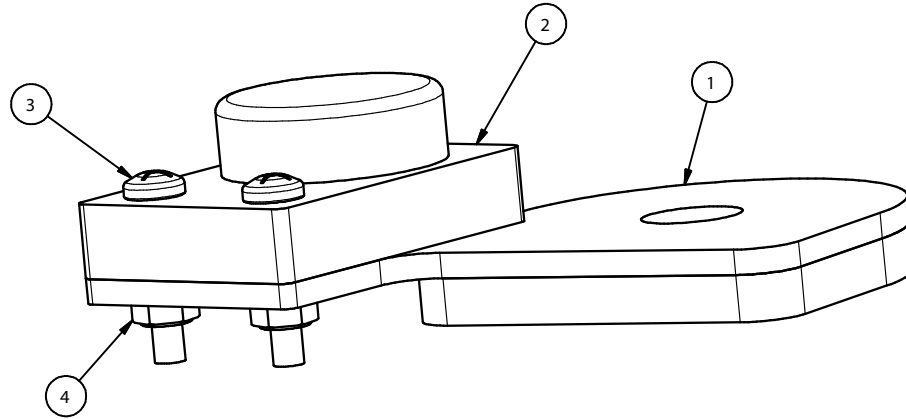
Part #	Item #	Description	Qty
1	SZ000892	Motor For Elec Hppr Mvr	1
2	SZ000886	10/12" Elec Mtr Mnt-Lh	1
3	SZ126047	Blt Hhcs, 5/16" - 18Unc, 1" G5	4
4	SZ126112	Blt Hhcs 3/4" - 10Unc 5 G5	2
5	SZ125038	Nut, Lock 3/4" - 10Unc Nylock	2
6	SZ127010	Wshr Lck, 5/16"	4
7	SZ127005	Wshr, Flt, 3/4"	3
8	SZ000895	Elect Hppr Mvr Wheel Hub	1
9	SZ000906	.406" Id x 1.50" Od 14 Ga Wshr	1
10	SZ126065	Blt Hhcs 3/8" - 16 Unc 1" G5	1

10" Feterl Electric Motor Mount RH Assembly



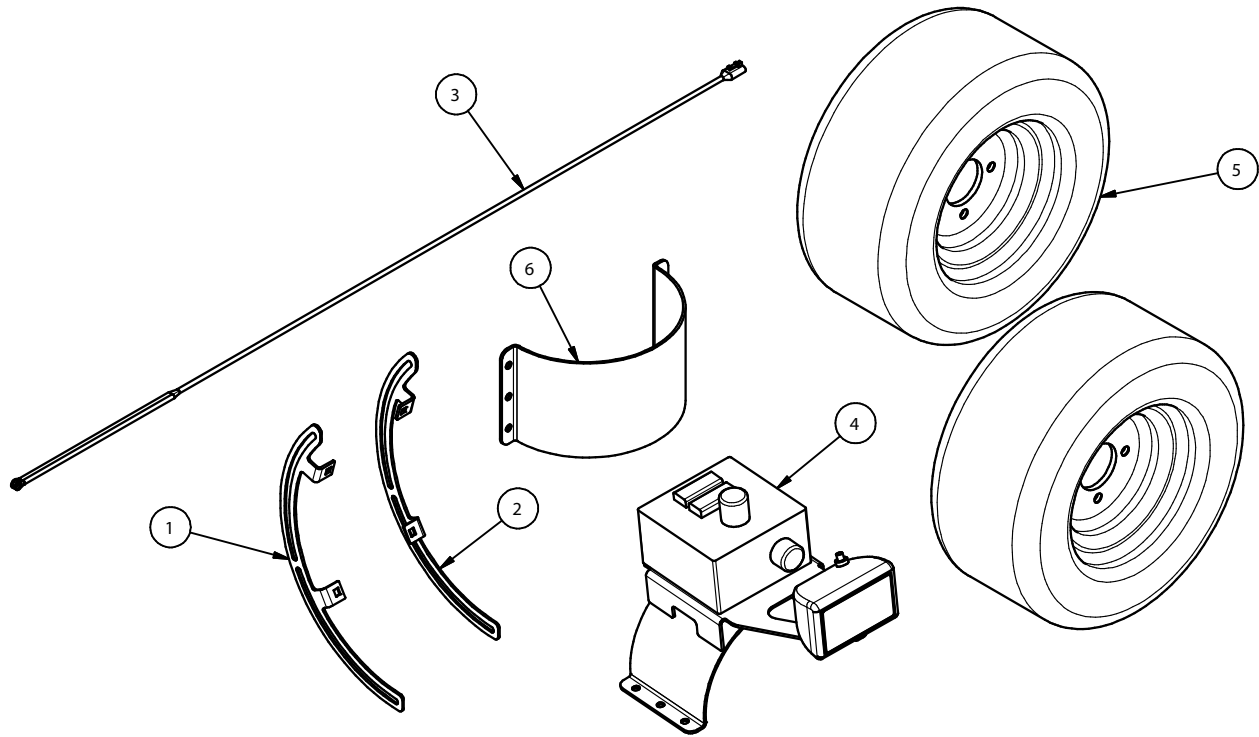
Part #	Item #	Description	Qty
1	SZ000892	Motor For Elec Hppr Mvr	1
2	SZ000888	10/12" Elec Mtr Mnt - Rh	1
3	SZ000895	Elect Hppr Mvr Wheel Hub	1
4	SZ000906	.406" Id x 1.50" Od 14 Ga Wshr	1
5	SZ126112	Blt Hhcs 3/4" - 10Unc 5 G5	2
6	SZ127010	Wshr Lck, 5/16"	4
7	SZ127005	Wshr, Flt, 3/4"	3
8	SZ125038	Nut, Lock 3/4" - 10Unc Nylock	2
9	SZ126047	Blt Hhcs, 5/16" - 18Unc, 1" G5	4
10	SZ126065	Blt Hhcs 3/8" - 16 Unc 1" G5	1

Feterl Slm Prox Sensor Mount Assembly



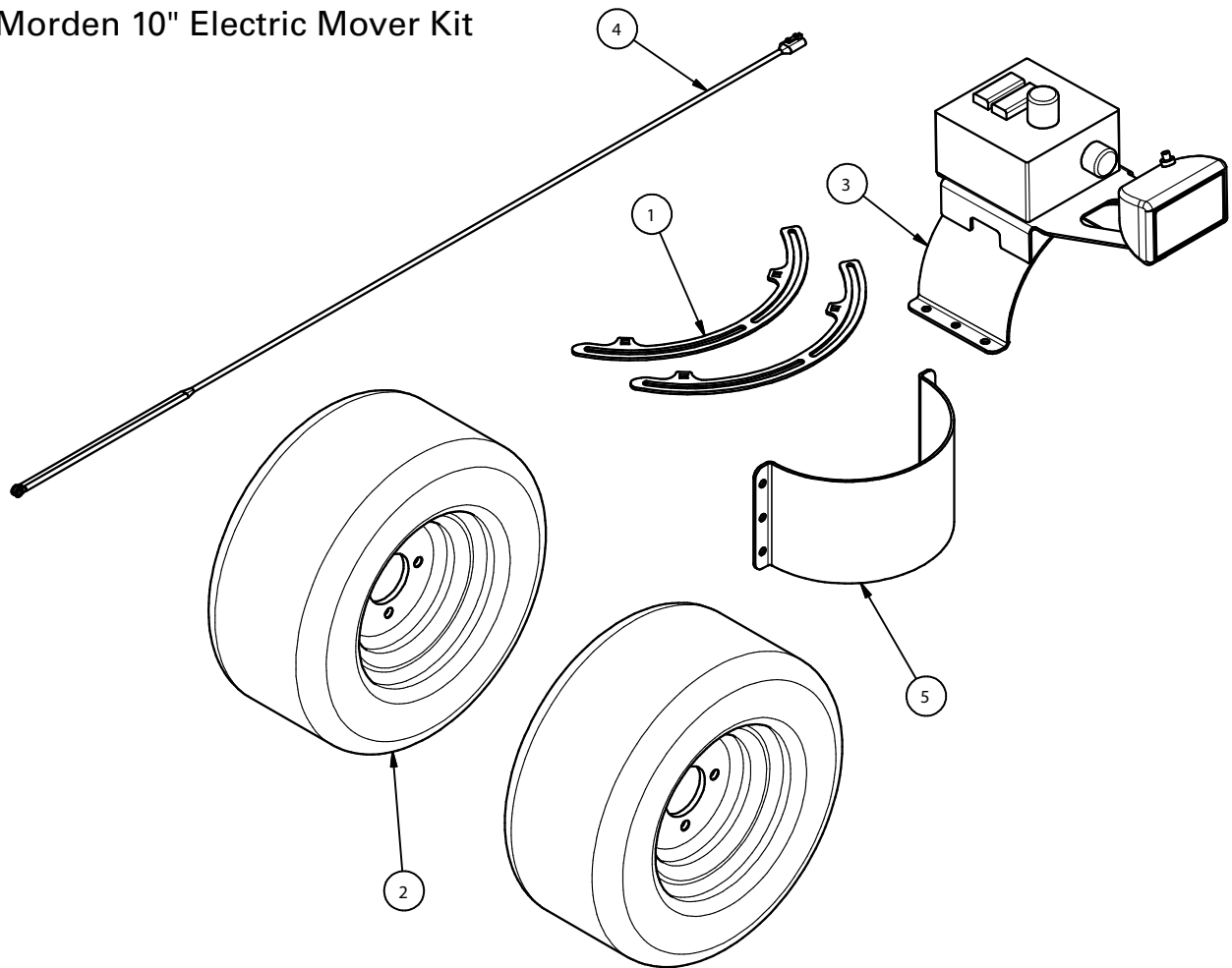
Part #	Item #	Description	Qty
1	SZ000961	Feterl Org Prox Mnt	1
2	SZ001000	Prox Switch w/ Connector	1
3	SZ001021	Screw Mach #8-32 x 0.875 Panhd	2
4	812537	Nut Lock (Nylon) 0.136 Nc Grb Pl	2

Feterl Electric Mover Kit Salem TM



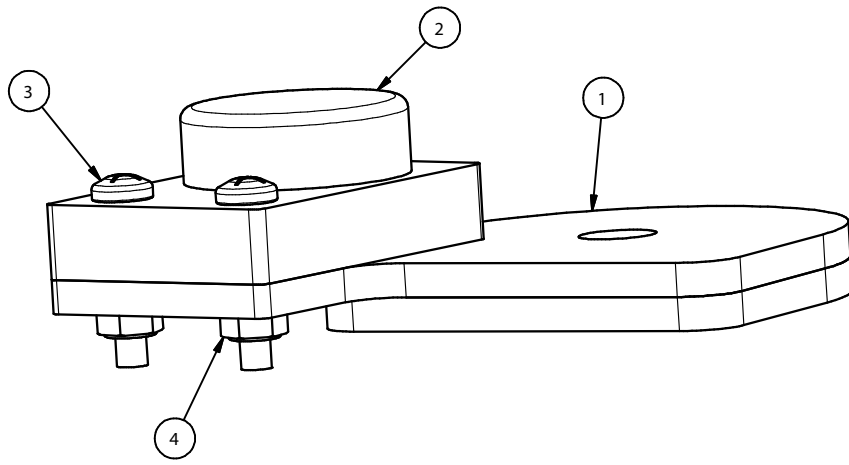
Part #	Item #	Description	Qty
1	SZ000964	10/12" Proximity Rail Lh	1
2	SZ000965	10/12" Proximity Rail Rh	1
3	SZ000996	Elect Power Harness	1
4	SZ001040	10" Ctrl Box Mount Assembly	1
5	SZ101503-6	Tire & Wheel Assy w/ Valve Stem	2
6	SZ992031210000	Half Clamp, 3-Bolt, 17-1/2" x 6"	1

Morden 10" Electric Mover Kit

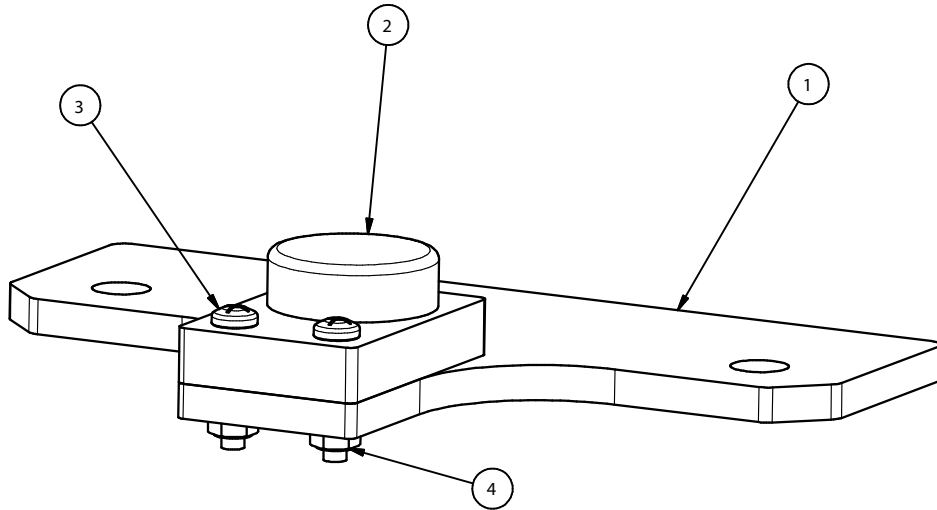


Part #	Item #	Description	Qty
1	SZ000955	10" Mrd Proximity Rail	2
2	SZ101503-6	Tire & Wheel Assy w/ Valve Stem	2
3	SZ001040	10" Ctrl Box Mount Assembly	1
4	SZ000996	Elect Power Harness	1
5	SZ2031210	Half Clamp 10" 3-Bolt	1

Morden 10" Prox Sensor Mount Assembly

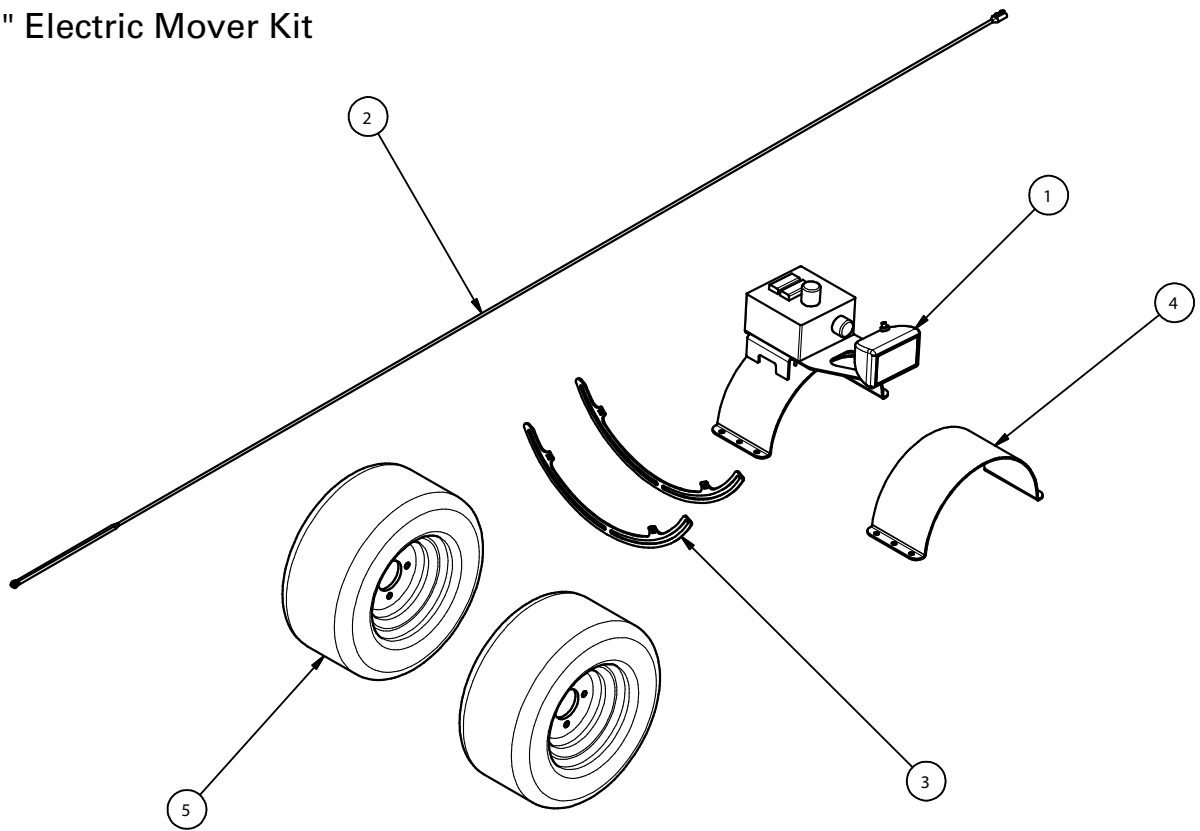


Part #	Item #	Description	Qty
1	SZ000952	10" Mrd Prox Mnt	1
2	SZ001000	Prox Switch w/ Connector	1
3	SZ001021	Screw Mach #8-32 x 0.875 Panhd	2
4	812537	Nut Lock (Nylon) 0.136 Nc Grb Pl	2

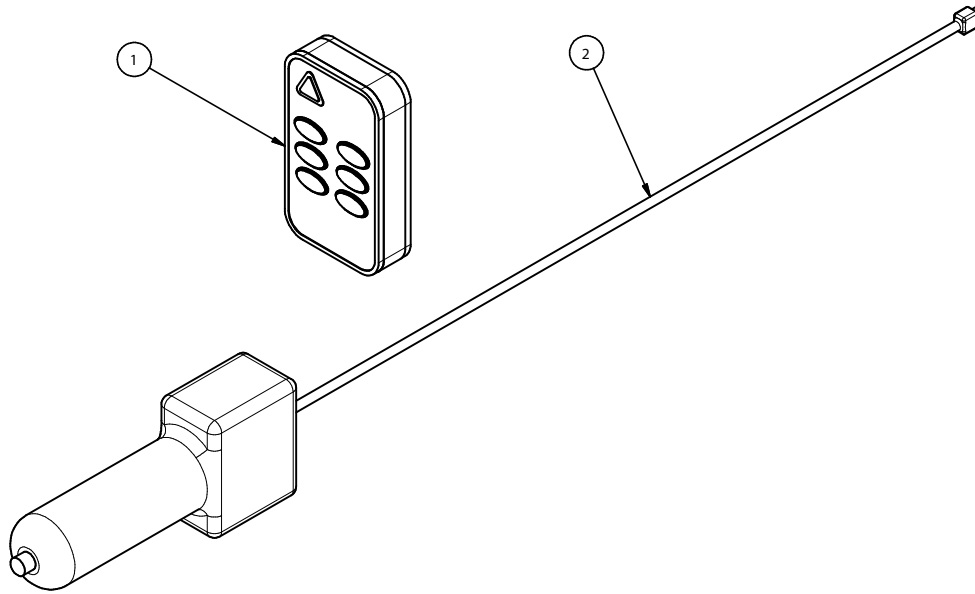
13"/16" Prox Sensor Mount Assembly

Part #	Item #	Description	Qty
1	SZ000959	13/16" Proximity Mnt	1
2	SZ001000	Prox Switch w/ Connector	1
3	SZ001021	Screw Mach #8-32 x 0.875 Panhd	2
4	812537	Nut Lock (Nylon) 0.136 Nc Grb (PI)	2

13" Electric Mover Kit



Part #	Item #	Description	Qty
1	SZ000968	Proximity Indicator	1
2	SZ125040	Nut Wing, 5/16-18 Unc	2
3	SZ126006	Bolt Carriage 5/16-18 Unc 3/4	2
4	SZ127001	5/16" Flat Washer	2
5	SZ001130	P-Clamp Bracket	1
6	SZ000566	5/16" P-Clamp	1
7	SZ125030	Nut Lock 3/8" - 16 Unc Nylock	1
8	SZ126063	Blt Hhcs 3/8" - 16 Unc x 3/4" G5	1

13" Electric Swing Remote & Charger

Part #	Item #	Description	Qty
1	SZ001001	Remote Control, 5-Button	1
2	SZ000921	12V Remote Charger	1

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