REMOTE CONTROL 12VDC
GROUND DUAL WHEEL DRIVE for
8”, 10”, 12” & 13” SWING AWAY HOPPER
including “Optional LiteAll Kit”

OWNER’S & OPERATOR’S MANUAL

Effective January 1, 2016

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IMPORTANT!
For Conversion from SMART1 to SMART1+
See Component Compatibility Chart in this Manual

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POLICIES AND PROCEDURES

Prices: Prices in effect at time of shipment will apply. Prices are subject to change without notice. All prices are F.O.B. Clay Center, Kansas. Orders shipped from locations other than Clay Center, Kansas will be subject to additional charges, such as back freight and/or additional freight.

Service Charge: A service charge will be assessed for all past due balances as permitted by state law not to exceed 1-1/2% per month.

Minimum Order: Processing and handling costs necessitate a minimum charge of $15.00 net on all orders.

Back Orders: Back orders will be shipped as they become available. Contact Hutchinson/Mayrath Customer Service for alternative shipping options or if cancellation is desired.

Damaged Goods: It is the consignee’s responsibility to check all shipments thoroughly upon receipt of goods. If any damage is discovered, it must be noted on the freight bill of lading before signing. The consignee must make necessary claims against the respective freight line. All damage claims must be submitted within 30 days of delivery receipt.

Shortages: All shortages must be noted at time of delivery. Shortages must be noted on the freight bill of lading before signing. Hutchinson/Mayrath must be advised of all concealed shortages upon discovery. Once notified of concealed shortages Hutchinson/Mayrath will advise corrective action to be taken.

Return of Goods: All returns must be approved by Hutchinson/Mayrath prior to shipment. All return requests will be issued a return authorization number. NO RETURNS WILL BE ACCEPTED WITHOUT A RETURN AUTHORIZATION NUMBER AND PRIOR AUTHORIZATION FROM THE FACTORY. All returns must be shipped prepaid. A 15% restocking charge will be applied to all returned merchandise. Custom Products may not be returned for credit. Only current products in new and salable condition may be returned. No safety devices may be returned for credit.

Modifications: It is the policy of Hutchinson/Mayrath to improve its product whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring the obligation to make such changes, improvements and modifications on any equipment sold previously.

Limited Warranty: (a) For a period of (1) year after receipt of goods by the original consumer buyer, Hutchinson/Mayrath will supply free of charge replacement parts for parts that prove defective in workmanship or material. Defective parts must be returned freight prepaid to a specified Hutchinson/Mayrath location. Only Hutchinson/Mayrath original repair parts may be used for warranty repairs.

(b) This limited warranty does not extend to parts designed to wear in normal operation and be replaced periodically; or to damage caused by negligence, accident, abuse or improper installation or operation.

(c) GOODS NOT MANUFACTURED BY HUTCHINSON/MAYRATH CARRY ONLY THE MANUFACTURER’S WARRANTY.

(d) THIS UNDERTAKING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

FAILURE TO FOLLOW THE INSTRUCTIONS CONTAINED IN THE OWNER’S & OPERATOR’S MANUALS AND THE ITEMS LISTED BELOW WILL RESULT IN THE voidING OF THIS LIMITED WARRANTY.

(1) Improper assembly, including failure to properly install all safety equipment.
(2) Improper installation.
(3) Unauthorized alternations of goods.
(4) Goods operated when obviously in need of repair.
(5) Use of unauthorized repair parts.
(6) Irresponsible operation.
(7) Used to handle materials other than free flowing, nonabrasive and dry materials, as intended.
(8) Damaged through abusive use or accident.

Limitation of Liability: BUYER AGREES THAT IN NO EVENT SHALL HUTCHINSON/MAYRATH HAVE LIABILITY FOR DIRECT DAMAGES THE EXCESS OF THE CONTRACT PRICE OF THE GOODS IN RESPECT OF WHICH CLAIM IS MADE. BUYER FURTHER AGREES THAT IN NO EVENT SHALL HUTCHINSON/MAYRATH ON ANY CLAIM OF ANY KIND HAVE LIABILITY FOR LOSS OF USE, LOSS OF PROFITS, OR FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.
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GENERAL SAFETY STATEMENT

This manual was written with the safety of the operator and others who work with the equipment as our prime concern. The instructions presented will help the reader learn SAFE day to day work practices. We want you as our partner in safety.

It is your responsibility as an owner, operator or supervisor to know what specific safety requirements and precautions exist and to make these known to all other personnel working with the equipment or in the area, so that they too may safely perform their duties and avoid any potentially hazardous situations.

We suggest the implementation of a Safety Program for all personnel that includes, but is not limited to, the proper use of PPE (personal protective equipment), Fall Protection Systems and Lock Out-Tag Out procedures.

Please remember safety equipment provides important protection for persons around a grain handling system that is in operation. Be sure ALL safety shields and protection devices are installed and properly maintained. If any shields or guards are damaged or missing, contact your dealer to obtain the correct items.

Avoid any alterations of the equipment. Such alterations may create a dangerous situation where serious injury or death may occur.

SAFETY ALERT SYMBOL

The safety symbol shown is used throughout this manual to alert you to information about unsafe actions or situations, and will be followed by the word DANGER, WARNING, or CAUTION.

DANGER - Indicates immediate hazards that may result in severe injury or death. WARNING - Indicates unsafe actions or situations that may cause severe injury, death and/or major equipment or property damage. CAUTION - Indicates unsafe actions or situations that may cause injury, and/or minor property damage.

Watch this symbol - it points out important safety precautions. It means - ATTENTION! Become alert! Your safety and the safety of others is involved!

Read the message that follows the symbol when a warning is given, be alert to the possibility of personal injury or death.

Follow Safety Instructions

Carefully read all safety messages in this manual and safety signs on your machine. Check to ensure all Safety Decals are present and in good condition.

If a decal cannot easily be read for any reason, or has been painted over, replace the decal immediately. Safety decals are offered free of charge, and can be ordered through your Hutchinson/Mayrath dealer or directly from the factory.

Learn how to operate the machine and how to use controls properly.

Keep your machinery in proper working condition. Understand service procedures before doing work. Never lubricate, service or adjust machine while it is in operation.

Keep work area clean, dry and free from all debris and tools which may cause accidental tripping or falling.

Prepare for Emergencies

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

Keep a first-aid kit and fire extinguisher handy.

Be prepared if a fire starts
**Wear Proper PPE (Personal Protective Equipment)**

Some materials can create flying debris when they are filed, cut or drilled. Safety glasses should be worn at all times to protect your eyes from such debris.

Hearing protection should be worn when operating power tools or other power equipment that could be harmful to your hearing.

Gloves should be worn to protect your hands from sharp metal and plastic edges, as well as providing protection from the handling of heavy objects.

Wear steel toe boots to protect your feet from falling debris.

Wear a hard hat to help protect your head from falling objects as well as from accidental bumping.

Use caution when working at elevations greater than four (4) feet (1.22 m) above the ground.

Use the appropriate fall protection equipment as set forth by OSHA guidelines and regulations.

A respirator may be needed to prevent breathing potentially toxic fumes and dust, especially when working within a grain bin or storage structure.

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**Operate Electric Motor(s) Properly**

Do not operate electric motor equipped units until motor(s) are properly grounded.

Know how to “Shutdown and Lockout” the power source. Shutdown and lockout power source before performing any service, maintenance or adjustments to the unit.

Disconnect power on electrical driven units before resetting motor overloads.

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**Stay Clear of Moving Parts**

Keep all shields, covers and safety devices in place at all times.

Entanglement in moving chains, rotating impeller arms and sprockets will cause serious injury or death.

Wear close fitted clothing. Keep hands, feet and clothing away from moving parts.

Shutdown and lockout power source before making adjustments, cleaning or maintaining the equipment.
**SAFETY**

**GRAIN BIN SAFETY**

Be aware of the dangers inherent in grain bins. Consult the grain bin manufacturer’s manual for information on the proper loading and unloading of the bins, structural stress analysis, adequate venting and important safety information.

[Diagram of grain bin safety signs]

**WARNING!** Do Not enter the bin if the grain has “Bridged” or has not flowed normally out of the bin, See Example’s 1 & 2. The grain may suddenly break loose and bury resulting in suffocation.

Do Not enter the bin unless all power driven equipment has been shut down and locked out.

Never enter the bin unless monitored by another person.

**SAFETY DECALS**

Check to ensure all Safety Decals are present and in good condition. If a decal cannot easily be read for any reason, or has been painted over, replace the decal immediately. Safety decals are offered free of charge, and can be ordered through your Hutchinson/Mayrath dealer or directly from the factory.

Refer to the Parts List Section (Page P-4) for decal Part No’s. and location of decals on components.

Numerous safety decals are also applied to the Swing-Away Auger. Heed the warnings on these decals when operating the auger and its attached equipment.
OPERATOR QUALIFICATIONS

WARNING! Anyone who will operate or work around this machine shall first read this manual! This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

Operation of this equipment shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a conveyor must use good common sense. In order to be qualified, he must also know and meet all other requirements, such as:

1. Some regulations specify that no one under the age of 16 may operate power machinery. This includes this conveyor. It is your responsibility to know what these regulations are in your area or situation.

2. Current OSHA regulations state in part: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in safe operation and servicing of all equipment with which the employee is, or will be involved.” *

3. Unqualified persons are to stay out of the work area. See Page 7.

4. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine.

5. Persons operating, servicing or repairing equipment that requires above ground work shall be properly secured with the use of “fall protection” equipment as set forth by OSHA guidelines and regulations.

SIGN OFF SHEET

As a requirement of OSHA, it is necessary for the employer to train the employee in the safe operation and safety procedures with this conveyor. We include this sign off sheet for your convenience and personal record keeping.

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*Federal Occupational Safety & Health Standards for Agriculture Subpart D, Section 1928.57 (a) (6).
**PRE-OPERATING PROCEDURES**

Our augers are well made and we are proud of our line of equipment. We would like you, as our customer, to do your part in using caution and good judgement when using our equipment, as well as any other machinery.

It is important to be familiar with the following routine operating procedures before attempting start-up.

During the operation of your auger, one person shall be in a position to monitor the operation at all times.

During initial start-up and operation, the operator shall be aware of any unusual vibrations or noises that would indicate a need for service or repair.

Keep all safety shields and devices in place.

Keep hands, feet, and clothing away from moving parts.

The operator should have a full view of the auger work area and check that all personnel are clear from designated work areas before adding power.

**MAINTENANCE**

Due to the small number of moving parts, very little maintenance is required on the ground wheel drive unit. However, the following items should be monitored:

1. **Electrical Components.** Check electrical cords for damage such as exposed wiring, cuts. Ensure connectors are secure and that they make a good solid connection. Make sure covers and shields are in place to protect components from the elements.

2. **Tire Pressure.** Check tire pressure periodically. Maintain tire pressure at 24 to 28 psi (165-193 kPa).

3. **Drive Chain.** The drive chain should periodically be sprayed with a chain lubricant. Remove the chain guard from the dual wheel assembly to gain access to the drive chain. Spray a liberal amount of lubricant on the entire length of chain.

4. **Jack Assembly.** The jack assembly is equipped with a grease fitting on the upper portion of the jack. Use a lithium based grease periodically to keep the jack in good working condition.

**Before adding power:**

1. Check that all fasteners and hardware are tight.

2. Check the electrical connections making sure they are properly connected and secured.

3. Make sure the electric cords are clamped or wire tied to the auger and are held off the ground and kept away from moving parts.

4. Verify there are **12 to 14 volts** to power the remote and receiver system.

5. Make sure all connections from the tractor battery are connected and secured.
DESIGNATED WORK AREA

A designated work area should always be established for auger operation. The following diagram will show the manufacturers designated work areas. These areas shall be marked off with colored nylon or plastic rope hung as portable barriers to define the designated work areas.

Under no circumstances should persons not involved in the operation be allowed to enter into the work area.

It shall be the duty of all operators to see that children and/or other persons stay out of the work areas! Entering the work area by anyone not involved in the actual operation, or trespass into a hazardous area by anyone, shall result in an immediate shut down by the operator.

It shall be the responsibility of all operators to see that the work area has secure footing, is clean and free of all debris, and tools which might cause accidental tripping and/or falling.

Designated Work Area When Loading Grain Bin

Be cautious of slippery surfaces. Make sure area is clear of tools, debris, or other items that may trip you or create a hazardous situation.

It is good practice to tie the discharge end of the auger to the bin or structure to avoid possible wind damage.

Portable barrier to mark designated boundary.
OPERATING PROCEDURES

The Ground Dual Wheel Drive Assembly is designed to be attached to the Swing-Away Hopper allowing the hopper, at the bin site, to be swung into position to receive grain, or to be positioned to ready the hopper for transport.

The 12VDC Dual Wheel Drive System is operated through remote control and can be coupled with the optional LiteALL kit.

For best results, the swing-away hopper and ground wheel drive should be operated on a level, well drained and relatively solid surface, with the area cleared of tall ground cover.

The following procedures are used after the ground wheel drive unit has already been assembled and installed onto the hopper.

1. Turn the jack handle to lower the jack and drive wheels. As the jack is being lowered the swing-away hopper will begin to rise. Continue lowering the jack until the front swing-away hopper wheels are raised slightly above the ground (this will provide the traction needed for the drive wheels).

2. Make certain the area in the path of the swing-away hopper is clear. Make certain that the operating position along side the hopper remains clear. The operator should never stand between the hopper and any non-moveable objects.

3. Using the remote control unit, press the Open/On button to move hopper away from auger, press the Close/Off button to move hopper towards auger.

   NOTE: The remote control unit must be programmed to activate the motor drive receiver. Refer to Page 20 for instructions on how to program the remote for the SMART 1 system and Page 21 for programming the SMART 1+ system.

4. Check drive wheel operation. If the ground drive wheels need more traction, lower the jack to allow more weight to be transferred to the drive wheels.

5. When moving the swing-away hopper back along side the main auger, stop hopper travel before it contacts the main auger.

6. When transporting the auger, be sure to use the saddle pin or safety chain to lock the swing-away hopper to the lift arm. The ground wheel drive unit adds extra weight to the hopper in the transport position, so use extra caution when transporting your auger. Always transport the main auger in the full down position.

WARNING! Make certain the path of the swing-away hopper is clear. The operator should never stand between the swing-away hopper and any non-moveable objects.

Before operation, make sure all fasteners and hardware are tight. Check electrical connections for tightness and make sure all cords are secured properly to avoid being damaged.

1. Turn the jack handle to lower the jack and drive wheels. As the jack is being lowered the swing-away hopper will begin to rise. Continue lowering the jack until the front swing-away hopper wheels are raised slightly above the ground (this will provide the traction needed for the drive wheels).

2. Make certain the area in the path of the swing-away hopper is clear. Make certain that the operating position along side the hopper remains clear. The operator should never stand between the hopper and any non-moveable objects.
Some items in this kit are heavy. To avoid personal injury, use assistance when lifting and assembling these parts.

Use the proper personal safety gear such as eye, ear and hand protection when working with power tools and metal materials.

Before beginning assembly, it is suggested to read through these instructions and lay out all items from the kit to ensure all parts are accounted for. This not only helps you become familiar with the parts and assembly procedures, but also makes you aware of what tools, equipment or materials that may be needed to complete installation.

**IMPORTANT!** This kit is shipped with a heavy duty winch mount plate. Replace the winch mount plate that comes standard with the auger with the winch mount plate in this kit.

1. Attach auger to tractor, lower main auger to its full down position and park auger on level ground.
2. Lower swing-away hopper to the ground and swing it out onto a level surface.
3. Shut down and lockout tractor power.
4. With the swing-away hopper fully down, loosen the hopper winch cable so there is slack in the cable. Remove the winch from the winch mount plate and remove mount plate. Retain the hardware.

Using the hardware previously removed, install the winch mount plate provided with this kit, and reinstall the winch.

**JACK MOUNT BAND**

1. Locate the jack mount half-band from the kit. Using the chart in Fig. 1, measure from the swing-away hopper flange connection towards the discharge end of hopper tube and mark the appropriate location.

2. Position the half-bands so the jack mount hole is at that mark. Using four (4) 3/8” x 1 1/2” bolts, lock washers and non-lock nuts, loosely attach the half-bands at this location (See Fig. 1).
DRIVE FRAME ASSEMBLY

1. Attach the front and rear channels together as shown in Fig. 2. The front channel mounting holes are slotted to allow movement to tighten the chain when it is installed, you only need to snug up the hardware at this time. Secure using two 1/2" x 1" carriage bolts, lock washers and non-lock nuts, the bolts need to be installed from the inside, out.

2. Attach a bearing with flanges to the bearing mount plate on front of the channel (See Fig. 2). Secure the flanged bearing using three (3) 5/16" x 3/4" carriage bolts, lock washers and non-lock nuts (the bolt heads will be on the inside of the channel, do not tighten at this time).

3. Insert the drive shaft w/coupler through the motor mount plate and into the channel. Install a sprocket onto the shaft (the hub on the sprocket will face towards the bearing). Continue pushing the shaft through the bearing previously installed. Slide the lock collar onto the shaft as well.

4. The drive shaft has a hole near the coupler end, align this hole with the hole in the hub in the sprocket and install a 5/16" x 1-3/4" roll pin.

5. Slide the motor shaft into the coupler on the end of the drive shaft. Secure using one (1) 3/8" x 2" bolt and side depress locknut. Attach the electric motor to the mount plate using four (4) 5/16" lock washers and 5/16" non-lock nuts.

6. Tighten the hardware on the flanged bearing and secure the lock collar.

7. Attach the wheel hub to the end of the drive shaft and secure using one (1) 3/8" x 2" bolt and nylon lock nut.

The slotted holes in the front channel will allow movement for tightening the chain after it has been installed.
7. Assemble the opposite end of the drive frame by attaching two flanged bearings to the front and rear side of the channel as shown in Fig. 3. Secure each flanged bearing using three (3) 5/16” x 3/4” carriage bolts, lock washers and non-lock nuts. Do not tighten completely at this time.

8. Insert the drive shaft through one of the bearings (the hole closest to the end on the shaft will be toward the wheel hub side). As the shaft passes through the first bearing and into the channel, install four (4) spacer washers and the sprocket (the spacers will be positioned at the rear of the drive shaft) (See Fig. 3). Continue inserting the shaft through the second bearing on the front side of the channel.

9. Align the smaller hole on the drive shaft with the hole on the sprocket hub secure the sprocket using one (1) 5/16” x 1 3/4” roll pin (See Fig. 3). Tighten the hardware securing the flanged bearings.

10. Install and secure the lock collars.

11. Position a wheel hub onto the end of the drive shaft. Align the holes in the hub with the mounting holes in the shaft and secure using one 3/8” x 2” bolt and nylon lock nut.

12. Install the chain around the sprockets and secure with the chain link. Tighten the chain by sliding the front channel until chain is tight, then tighten the two carriage bolts holding the front and rear channels together.

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**DRIVE FRAME ASSEMBLY (con’t.)**

Install chain around sprockets and secure with chain link. Slide the front and rear channels to tighten chain, tighten the two carriage bolts on the back channel to secure channels together (also refer to Fig. 2).
13. Locate the chain guard, tinnerman nut and chain guard spacer from the kit. Slide the tinnerman nut onto the end of the chain guard as shown in Fig. 4. Insert a 3/8" x 3" bolt through the hole in the rear channel and slide the chain guard spacer and one 3/8" flat washer onto the bolt. Position the chain guard with the slotted hole over the bolt and secure using one 3/8" flat washer, lock washer and non-lock nut, do not tighten at this time.

14. Position the jack on the back side of the rear channel and using the jack clamp plate, attach the jack to the channels using four 3/8" x 3" bolts, lock washers and non-lock nuts (See Fig. 4). The hardware only needs to be snug, the jack will be repositioned when attaching the assembly to the incline tube. Align the small hole in the clamp plate over the tinnerman nut on the chain guard and secure using one 1/4" wing bolt (the wing bolt can be tightened, but do not tighten the bolt securing the chain guard at the slotted hole, the guard will move with the jack when it is positioned).

15. Attach a brace strap to the inside of the mounting tab on the rear channel (the mounting tab is on the same end of the channel as the jack). Use one (1) 1/2" x 1 1/4" bolt and lock nut (do not tighten the hardware completely, the straps need to be able to pivot as the drive wheels are raised and lowered).

On the motor end of the channel, attach a brace strap to the motor mount plate as shown in Fig. 4. Secure using one (1) 1/2" x 1 1/4" bolt and lock nut (do not tighten the hardware completely, the straps need to be able to pivot as the drive wheels are raised and lowered).

16. Attach the wheels to the wheel hubs using four (4) 1/2" x 1 1/4" bolts and nylon lock nuts per wheel. The drive frame assembly is now ready to be mounted to the incline tube.

![Diagram of drive frame assembly](Fig. 4)
17. Position the drive wheel assembly beneath the incline tube as shown in Fig. 5. Align the jack mounting plate with the clamp band and secure using one 1/2” x 1” bolt and lock nut. (The jack mount plate has mounting holes at different heights, all units except 8” use the second hole from the bottom, 8” units use the bottom hole). Don’t tighten the clamp band at this time, you may need some movement when attaching the brace straps to the coupler box.

18. Open the access door on top of the coupler box located on the front section of the hopper. The coupler box is attached to the hopper with two bolts (one on each side of box). These bolts will be removed and replaced with a longer bolt. Remove one of the existing bolts and its hardware (to help keep the mounting holes aligned, remove and replace the bolt on one side first, then replace the other).

Replace the existing bolt with a 1/2” x 2” bolt and flat washer (the bolt and washer will be on the inside of the coupler box). 12” single flight augers will use a 5/8” x 2 1/2” bolt.

19. From the outside of the coupler box, install a flat washer and non-lock nut onto the bolt, threading the nut on until finger tight, you will want the bolt to be able to pivot, but not be too loose where it wobbles in the hole (for 12” single flights, add three washers then the nut). Attach the brace strap onto the bolt and add another non-lock nut. Tighten the nuts against the strap (make sure the bolt in the hopper side is able to pivot freely). Attach the brace strap on the opposite side of the coupler box in the same manner.

After the brace straps have been secured it may be necessary to reposition the jack clamp band so it forms around the incline tube properly. Once properly positioned, tighten the clamp band.
12VDC ELECTRICAL COMPONENT INSTALLATION

Receiver & Remote Control Installation

The receiver mount plate will be installed on the opposite side from which the swing-away hopper is installed.

Since the junction block needs to be attached to the bottom side of the mount plate, it will be necessary for the mount plate to be installed correctly.

Depending on which side of the auger the swing-away hopper is located, will determine how the mount plate will be installed. Fig. 6 below shows the correct orientation of the mount plate.

1. Install the large grommet into the larger hole in the receiver mounting plate (See Fig. 6).

2. Carefully remove the cover from the receiver box, there are wires attached to the cover that are also attached to the receiver, so use caution whenever removing the receiver cover.

3. Position the receiver on the front side of the mount plate and insert the pigtail from the receiver through the grommet. Locate the long power cord with eyelet terminals attached on both ends of the cord. From the back side of the mount plate, insert one end of the cord through the grommet and also through the grommet on the back side of the receiver. After the cords have been passed through the grommets, secure the receiver to the mount plate using four (4) 5/16” x 3/4” bolts, lock washers and non-lock nuts.
4. Connect the eyelet terminals to the posts on the receiver as shown in Fig. 9. The red/striped wire will attach to the (IN) post and the black wire will attach to the (OUT) post. Temporarily reinstall the cover and secure it with two screws (the cover will need to be removed again when programming the remote control unit).

5. Locate the junction block and electrical grease packet from the parts box. Apply a light coat of the grease to the two prongs on the junction block. Install the junction block onto the bottom of the mount plate as shown in Fig. 10 (position junction block with the two prongs facing towards the receiver box). Secure using two (2) 1/4” x 3/4” bolts, flat washers, lock washers and non-lock nuts.

6. Apply a light coat of the electrical grease to the prongs on the receiver pigtail. Connect the pigtail to the bottom slot of the junction block as shown in Fig. 11.

7. Install a plug into the top slot of the junction block (the plug is used to protect the slot from dirt, water and other contaminants). Insert one of the long pins through the hole on top of the junction block to secure connector and plug into place (See Fig. 11).
**Install Power Cord for Tractor Connection**

The power cord used to make the tractor connection may already be pre-assembled from the factory. If it has been pre-assembled, the power cord can installed using Steps 1 and 2 shown below.

If the power cord has NOT been pre-assembled, refer to the Assemble Tractor Power Cord instructions below Fig. 12.

1. Connect the plug end of the tractor power cord to the two prongs on the lower portion of the junction block (prongs are opposite the pigtail connection from the receiver).
2. Insert a long pin through the top of the junction block to secure tractor plug in place (See Fig. 12).

**Assemble Tractor Power Cord**

*(if not pre-assembled from factory)*

3. Remove the screw from the side of the metal connector and separate the connector from the plug (See Fig. 13).
4. Loosen the setscrew at the bottom portion of the connector. Insert the wires through the connector.
5. Strip approximately 1/2” of insulation from the ends of the power cord.

Attach the wires to the plug as shown in Fig. 13 (the red/striped wire should be at the top of the plug where the flat tab is located). It may be necessary to loosen the two screws on the plug terminals in order for the wire ends be properly inserted into the terminals. Tighten the screws to secure the wire ends in place.

6. Slide the connector and plug back together and secure with the screw previously from the side of the metal connector.
7. Tighten the setscrew at the bottom of the connector to secure the power cord to the connector.

8. After the tractor power cord has been assembled, refer to Steps 1 & 2 and Fig 12 in the previous column to ensure proper connection to the junction block located on the receiver mount plate.
Install Receiver Mount Plate to Swing-Away Tube

1. Determine the mounting location of the receiver as stated on Page 14. The flange mount bracket will fasten to the flange bolts where the main auger housing attaches to the inlet hopper (See Fig. 14). Position the flange mount bracket in desired location and note which flange bolts will be used to mount the bracket.

2. Loosen the flange bolts just enough to slide the bracket behind the nuts and secure into place. 
   **NOTE:** If there is enough bolt threads extending past the ends of the nuts, you may be able to attach the bracket using additional nuts instead of having to loosen the existing ones.

3. Thread a 3/8” non-lock nut onto the 3/8” x 4” bolt. (thread the nut all the way onto the bolt, it will be adjusted after the receiver mount plate has been installed). 
   From the back side of the receiver mount plate, insert the bolt into the mount hole in the plate as shown in Fig. 15. Thread another 3/8” non-lock nut onto the bolt.

4. Secure the receiver mount plate to the flange mount bracket using two (2) 5/16” x 3/4” bolts, lock washers and non-lock nuts. 
   Adjust the 4” bolt until it contacts the auger tube. 
   Tighten the two nuts to secure bolt into place.

5. Route the long power cord to the motor. Connect the red/stripe wire to the Pos. (+) post and the black wire to the Neg. (-) post.

6. Install the motor guard over the motor and secure using one (1) 1/2” x 1” bolt and side depress locknut (See Fig. 16).

7. Use the provided clamp bands and hose clamps to secure the power cord in appropriate locations along the incline tube to keep it from being damaged during transport and during auger operation (refer to Page P-2 in the parts section). Secure the hose clamps and clamp bands using 5/16” x 1 1/2” bolts, lock washers and non-lock nuts. Use provided cable ties for any other additional locations in which the cord may need to be secured.
**Install Power Cord Support Bracket**

1. Route the tractor power cord to the hitch end of the auger. Remove the existing bolt from the PTO support hook bracket.
   
   Attach the cord support bracket inlet hopper arm as shown in Fig. 17. Secure bracket using the hardware previously removed.

2. Insert the power cord into the cord clamp. Fasten the clamp to the top of the bracket and secure using one (1) 1/4” x 3/4” bolt and nylon locknut.

**Tractor Power Source Connections (pre-assembled)**

The power cord and tractor plug used on the tractor may already be pre-assembled from the factory. If it has been pre-assembled, the power cord can be installed using the following steps.

If the power cord has NOT been pre-assembled, refer to “Assemble Tractor Power Source Connection” instructions on Page 19.

1. Route the tractor power source cord from the back of the tractor to the battery compartment.
   
   The tractor plug is fastened to a universal mount plate that allows you to mount the plug onto any tractor (the hardware used to mount the universal bracket is not furnished).

   Determine a mounting location for the tractor plug and secure it to the back of the tractor (See Fig. 19 for location reference).

2. Connect wires to battery. Attach the red/striped 12" jumper wire to the positive (+) battery terminal.
   
   Attach the black wire to the negative (-) battery terminal (See Fig. 20).

   Use the wire ties and clamps to secure all wiring to prevent it from being damaged.

The receiver installation is now complete. Connect the tractor power cord from the receiver to the plug on the back of the tractor.

See Page 20 for SMART 1 & Page 21 for SMART 1+ remote control programming.
Assemble Tractor Power Source Connection

1. Attach the tractor plug mount bracket to the tractor plug and secure using two (2) 5/16" x 1" bolts, flat washers, lock washers and non-lock nuts (See Fig. 18 on Page 18 for reference).

   Locate the power cord that does not have any terminals attached to either end. Slide the rubber boot onto one end of the power cord. Loosen the screws that will secure the wires to the tractor plug to ensure the wire ends will fit into the openings.

2. Split the end of the cord to separate the black and red/striped wires so there is enough length of each wire to attach the wires to the tractor plug. Strip approx. 1/2" (13 mm) of insulation from the ends of the cord and attach the wires to the plug as shown (red/striped wire should be at the top of the plug where the flat tab is located (See illustration below). Slide the rubber boot onto the tractor plug and secure lower portion of the boot with a wire-tie.

3. At the opposite end of the cord, split the cord to separate the black and red/striped wires. Cut off a 12" piece of the red/striped wire. Use the eyelet terminals as a guide to determine how much insulation to strip from the wire ends. Crimp a small eyelet terminal on one end and a large eyelet onto the opposite end. Strip the insulation from the remaining red/striped wire on the long power cord and crimp on a small eyelet terminal. Crimp a large eyelet terminal onto the end of the black wire.

4. Attach the circuit breaker to the red/striped wires as shown below. Connect the 12" pigtail’s small eyelet to the “Batt” post on the circuit breaker (copper colored post) and the other end of the circuit breaker (AUX) to the small eyelet on the long power cord.

5. Attach the universal support bracket to the bottom of the tractor plug mount bracket using two (2) 3/8" x 1" bolts and nylon locknuts (See Fig. 18 on Page 18).

6. Refer to Steps 1 & 2 of the “Tractor Power Source Connections (pre-assembled)” instructions on Page 18 for installing the power cord assembly to the tractor.
Program Remote Control Unit

Program Remote Control Unit

1. Remove the cover from the receiver, being careful not to damage the wires attached to the cover (See Fig. 23).
2. Make sure the receiver has power.
3. On the remote, depress the select button until the “Front Hopper” light is illuminated (See Fig. 22).
4. On the receiver solenoid, hold the white button on the bottom side of solenoid down for 5 seconds (you may have to use a pen or small screwdriver as the button may be difficult to press). After 5 seconds you will hear a beep.
5. On the remote, press the “Open/On” button 5 times slowly. Each time you press the button the solenoid will beep.
   After the 5th button press, the solenoid will beep twice. The remote should now be programmed to the actuator (electric motor).
6. Replace the cover onto the receiver.
7. To operate the dual wheel hopper:
   Open remote control cover, verify the Front Hopper light on the remote control is illuminated.
   Press and hold the “Open/On” button to swing hopper away from the main auger. Release the button to stop hopper movement.
   Press and hold the “Close/Off” button to move the hopper back towards the main auger. Release the button to stop hopper movement.

Refer to the manufacturers instructions that are shipped with the remote for more information on operation and trouble shooting procedures.

The remote control transmitter will power up when the lid is opened. The transmitter will power down when the lid is closed, or when the lid is left open three (3) minutes after the last button is pushed. The select button will cycle between the channels allowing you to choose the appropriate channel to program.
Program Remote Control Unit
f/ SMART1+ Receiver & Remote

Note: Only the SMART1+ remotes will function with SMART1+ receivers. The original SMARTtransmitter can not be used with the SMART1+ remote.

This system can only be operated in the Momentary Mode for Front Hopper operation. This means that the Open/On and Close/Off Buttons have to be held down to operate the system.

Refer to the manufacturers instructions that are shipped with the remote for more information on operation and trouble shooting procedures.

The remote control transmitter will power up when the lid is opened. The transmitter will power down when the lid is closed, or when the lid is left open three (3) minutes after the last button is pushed.

The select button will cycle between the channels allowing you to choose the appropriate channel to program.

1. Remove the cover from the receiver, being careful not to damage the wires attached to the cover (See Fig. 23A).
2. Make sure the receiver has power.
3. On the remote, depress the select button until the “Front Hopper” light is illuminated (See Fig. 22A).
4. On the receiver solenoid, press and hold the “blue” programming button down for 5 seconds. The red light will start flashing to indicate it is in programming mode. After five seconds release button, red light will now turn off (See Fig. 23A).
5. On the remote, press the “Open/On” button 5 times slowly. Each time you press the button the red light on the receiver will flash. After the 5th button press, the red light will flash twice, then begin flickering, indicating it has been successfully programmed.
6. Verify remote and receiver are operating correctly, then replace the cover onto the receiver.
7. To operate the dual wheel hopper:
   - Open remote control cover, verify the Front Hopper light on the remote control is illuminated.
   - Press and hold the “Open/On” button to swing hopper away from the main auger. Release the button to stop hopper movement.
   - Press and hold the “Close/Off” button to move the hopper back towards the main auger. Release the button to stop hopper movement.
**OPTIONAL LITEALL KIT**

An optional LED light kit is available for use with the remote control application. The light module is installed onto the 12VDC receiver mount plate.

The light system can be operated using the same remote control unit used for the 12VDC receiver on the Dual Wheel Drive System.

The following instructions are used for both the SMART1 & SMART1+ remote control units.

If the 12VDC receiver and mount plate have already been installed onto the swing-away auger, begin with the following instructions in Step 1 below.

If the receiver has not yet been installed, begin with Step 2 on the following page.

1. Remove and retain the two 5/16” x 1” bolts securing the 12VDC receiver mount plate to the flange mount bracket attached to the inlet hopper flange.

   It may be necessary to detach any wire ties or clamps that were used to secure the receiver power cords from being damaged in order to allow enough room to install the light module onto the receiver mount plate.

   The mount plate should be supported in some manner so the weight of the receiver and plate do not create tension on the receiver power cords.

2. Insert the wires from the back side of the LiteALL module through the opening on the mount plate. Slide the grommet over the wires and secure grommet into the opening (See Fig. 24).

3. Insert the four (4) #12 x 1 1/4” self-tapping bolts through the mounting tabs on the LiteALL module and install the small black plastic washers on the back side of the tabs (See Fig. 25). Secure module to the mount plate.

4. Remove the long pin securing the plug and receiver cord to the junction block and remove the plug (See Fig. 26). Connect the pigtail from the LiteALL kit into the slot from which the plug was removed and reinsert the pin.

   Remove the pin on the opposite side of the junction block and insert the plug into the top slot. Reinsert the pin.

---

Fig. 24

Insert Wires from Light Module Thru Opening, Slide Grommet onto Wires and Secure Grommet into Opening

Fig. 25

Plastic Washers

LitEALL Module

#12 x 1 1/4” Self-Tapping Screws

Fig. 26

Connect Pigtail to Cord from LiteALL Module

Install Plug to Junction Block

Remove Plug, Connect Pigtail to Junction Block
5. Assemble the light mount bracket to the bottom of the LED light (See Fig. 27). Insert the large bolt through the u-shaped bracket and attach bracket to the light using one (1) 5/16” x 3” bolt, lock washer and non-lock nut.

6. Remove the existing bolt from the top of the swing-away hopper spout and install light in that location (See Fig. 28). Loosen the bolt securing the light to the mount bracket and pivot light to desired position. Retighten the bolt to secure the light into place.

7. Route the light's power cord down to the back of the LiteALL module. Connect the power cord to the “Light 1” wire leading from the module.

8. Attach the receiver mount plate to the flange mount bracket from which it was removed. Secure using the hardware previously retained.

9. Secure all wiring using the provided wire ties and clamps to ensure wires and power cords cannot become damaged.
Program Remote Control Unit
f/ LiteALL System

The light system will be operated using the same remote control unit used for the 12VDC receiver on the Dual Wheel Drive System.

The following instructions are used for both the SMART1 & SMART1+ remote control units.

The remote control transmitter will power up when the lid is opened. The transmitter will power down when the lid is closed, or when the lid is left open three (3) minutes after the last button is pushed. The select button will cycle between the channels allowing you to choose the appropriate channel to program.

1. Make sure the LiteALL module is connected to a power source.

2. On the remote, depress the select button until the “Lights” channel light is illuminated (See Fig. 29).

3. On the LiteALL module, hold the “Light 1” button down for 5 seconds...the “Power” LED light will go off and the “Light 1” indicator will turn on.

4. On the remote control unit, press the “Open/On” button 5 times slowly. Each time the button is pressed, the “Light 1” indicator light on the module should blink.

After the 5th button press, the “Light 1” indicator light on the module will blink twice. Then the “Power” LED light on the module will turn back on. The LiteALL system is now programmed.

5. To operate the LiteALL system:

Press the select button on the remote control unit until the “Lights” channel light is illuminated.

Press the “Open/On” button to turn light on. Press “Close/Off button to turn light off.
Battery Connections
Shown as reference for proper battery connections

12 Volt System (One 12 Volt Battery)

Correct Incorrect Incorrect Incorrect

12 Volt System (Two 6 Volt Batteries)

Correct Incorrect Incorrect Incorrect

12 Volt System (Two 12 Volt Batteries)

Correct Correct Correct

24 Volt System (Two 12 Volt Batteries)

Correct Incorrect Incorrect Incorrect
IN
OUT
- 
+ 
POWER
LIGHT
1 
LIGHT
2
Red Stripe Wire
Pos. (+)
Black Wire
Neg. (-)
To Power Source
(Tractor Wiring Kit or Battery Kit)
Plug
Junction Block
LED Light
LiteAll Module
RF Solenoid (Receiver)
Red Stripe Wire
Pos. (+)
Black Wire
Neg. (-)
Red Stripe Wire
(IN)
Black Wire
(OUT)
PigTail from LiteAll Wiring Kit
Wiring Diagram for Swing Auger and LiteAll
Red Stripe Wire
Battery Pos. (+)
Black Wire
Battery Neg. (-)
12" Jumper Wire
Circuit Breaker
Tractor Wiring Kit
Replacement Part No. 1041512
Tractor Wiring Diagram
Plug (if LiteAll Kit not used)
Wire Assembly, Tractor to Auger
Replacement Part No. 1045673
Existing Wire
Connected to Receiver
Existing Wire
Connected to Receiver
Wire Assembly, Receiver to Motor
(red stripe & black wire w/ eyelets)
Red Stripe Wire
Neg. (-)
Black Wire
Red Stripe Wire
Pos. (+)
Motor
Wire Assembly, Receiver to Motor
( existing pigtail from receiver)
**JACK MOUNT BAND**

*f/ 8”, 10” 12” & 13” DUAL WHEEL

**HOPPER DRIVE (12VDC)**

---

On 8” Models only

Replace the winch mount plate that came with the auger, with the heavy duty winch mount plate provided in this kit.

---

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<td>Winch Mount Plate (8” models only)</td>
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**DRIVE MOTOR FRAME, WHEEL HUBS**

*f/ 8", 10" 12" & 13" DUAL WHEEL*

**HOPPER DRIVE (12VDC)**

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The 2 bolts and 2 flat washers will be installed from the inside of the coupler box.

**CHAIN, CHAIN GUARD, JACK, WHEEL & TIRES**

**f/ 8”, 10” 12” & 13” DUAL WHEEL**

**HOPPER DRIVE (12VDC)**

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### ELECTRICAL COMPONENTS, MOUNTING BRACKETS

*8", 10" 12" & 13" DUAL WHEEL HOPPER DRIVE (12VDC)*

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