

TARP SYSTEMS & ACCESSORIES

READ BEFORE INSTALLING P/N 1123574 Rev. D



SMARTwire™ Hopper Door Opener OWNER'S MANUAL

Download ShurLink™App



2309 SHUR-LOK STREET • YANKTON, SD 57078-0713 PHONE: 1-800-SHUR-LOK (1-800-474-8756) • FAX: 1-605-665-0501

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Contact Information P/N 1123574 Rev. D

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ORDER TERMS AND CONDITIONS



WARRANTY



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SHUR-CO® UK LIMITED

Unit 41, Rochester Airport Estate Laker Road Rochester, Kent ME1 3QX

MESSAGE TO OWNERS

Thank you for buying this tarping system from Shur-Co[®]. We appreciate your confidence in our products. Please read and thoroughly understand this manual before installing and/or operating this system.

Pay particular attention to important safety and operating instructions, as well as warnings and cautions. The hazard symbol is used to alert users to potentially hazardous conditions and is followed by caution, warning or danger messages.

Failure to READ AND FOLLOW INSTRUCTIONS could result in failure of your tarping system and/or personal injury. Your trailer requirements may, however, call for minor variations to these instructions.

Please inspect your tarping system periodically. Repair or replace worn or damaged parts to your system.

QUESTIONS? CALL OUR HELP LINE:

1-866-748-7435

MON-FRI 8 AM - 5 PM CENTRAL TIME

SAFETY

We at Shur-Co® are concerned with your safety and the safety of all those operating this system. Therefore, we have provided safety decals at various locations on your tarping system. Keep decals as clean as possible at all times. Replace any decal that has become worn or damaged, painted over or otherwise difficult to read. Replacement decals are available through Shur-Co® dealers.

SAFETY INSTRUCTIONS

- 1. Always wear safety glasses during installation.
- 2. Keep body and clothing clear of moving parts.
- 3. No other use of this system is authorized, except as designed.

RUST PREVENTION

To prevent rust, paint all exposed metal, such as weld seams and/or metal exposed by grinding or cutting, with corrosion-resistant paint.

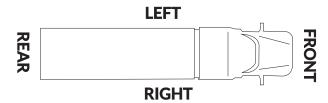
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TOOLS REQUIRED

- 1. Carpenter's Square
- 2. Plumb Line
- 3. Drill
- 4. 3/16" Drill Bit
- 6. 3/8" Drill Bit
- 7. 5/16" Drill Bit
- 8. 7/8" Drill Bit
- 9. #3 Phillips Insert Bit
- 10. 5/16" Combination Wrench
- 11. 3/8" Combination Wrench
- 12. 10 mm Combination Wrench
- Tape Measure
- 14. Hack Saw (metal cutter)
- 15. 1/2" Combination Wrench
- 16. 9/16" Combination Wrench
- 17. 15/16" Combination Wrench
- 18. Air or Electric Impact Wrench (9/16" socket)
- 19. 7/16". 1/2" & 9/16" Sockets
- 20. Ratchet
- 21. Wire Cutters
- 22. 1" Combination Wrench
- 23. Flat Head Screwdriver
- 24. Pencil or Marker
- 25. Wire Terminal Crimper
- 26. 5/16" Allen Wrench (provided)

VEHICLE ORIENTATION





WARNING



- MOVING PARTS HAVE PINCH POINTS AND ENTANGLEMENT AREAS.
- STAY CLEAR OF DOOR AND MECHANISMS WHEN OPERATING.
- FAILURE TO COMPLY CAN CAUSE INJURY OR DEATH.

A

CAUTION



- JAMMED OR OVERLOADED DOOR CAN CAUSE MOTOR DAMAGE.
- RELEASE SWITCH IMMEDIATELY IF DOOR STALLS OR REACHES END OF INTENDED TRAVEL.
- FAILURE TO COMPLY CAN CAUSE MOTOR AND EQUIPMENT DAMAGE.

P/N 1704341

Inspect all parts in yourAutoTrap™ kit upon arrival.





1700398 Self-Drilling Screw - 1/4" x 3/4"





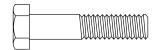
1704338 Self-Tapping Screw - 1/4" x 1"





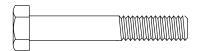
1701045 Cap Screw - 5/16" x 3/4"





1703487 Cap Screw - 5/16" x 1-1/2"





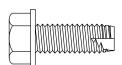
1705083 Cap Screw - 5/16" x 2"





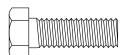
1705476 Socket Hd. Cap Screw - 3/8" x 1/2"





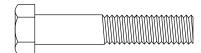
1700400 Self-Tapping Screw - 3/8" x 1"





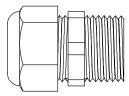
1702904 Cap Screw - 3/8" x 1-1/8"





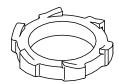
1704264 Cap Screw - 3/8" x 2"





1704152 Dome Nut - 1/2"





1704187 Lock Nut - 1/2"





1700419 Nylon Lock Nut - 5/16"





1704946 Flanged Top Lock Nut - 5/16"





1700407 Hex Nut - 3/8"





1701580 Nylon Lock Nut - 3/8"





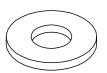
1700427 Flat Washer - 1/4"





1700434 Lock Washer - 3/8"



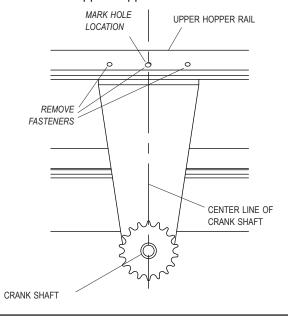


1700429 Flat Washer - 3/8"

NOTE: AutoTrapTM system designed for use with rack and pinion hopper doors only.

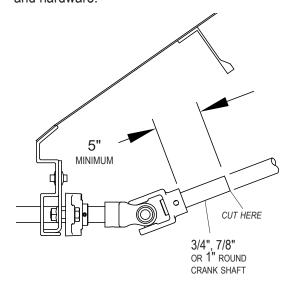
AutoTrap™ system designed for use with 1 inch, 7 inch or 3/4 inch diameter crank shafts.

STEP 1: To determine AutoTrap[™] hinge bracket location, transfer center line of crank shaft to upper hopper rail. If there is not already a hole drilled at center line, mark new hole location on upper hopper rail.



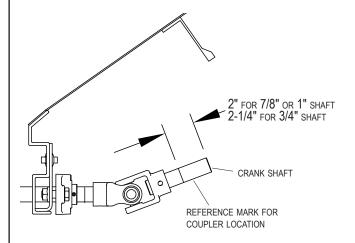
NOTE: Existing crank shaft must be cut in order to connect to new drive shaft on hopper opener.

STEP 2: Measure and mark crank shaft minimum of 5 inches past the U-joint. Cut through shaft at marked location. Remove and discard existing manual crank bracket and hardware.

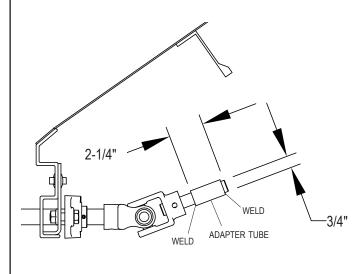


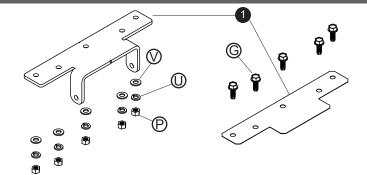
STEP 3: Measure diameter of crank shaft. AutoTrap™ hopper opener will connect to 3/4 inch, 7/8 inch and 1 inch round crank shafts using standard adapter included in kit. For other size crank shafts or square/hex-shaped shafts, modify crank shaft or use special adapter as needed.

STEP 4: Determine location to install crank coupler. For 7/8 inch and 1 inch round shafts, measure and mark 2 inches from end of crank shaft. For 3/4 inch round shafts, measure and mark 2-1/4 inches from end of shaft.



STEP 5: 3/4 inch shafts only. Slide 1 inch adapter tube (3/4 inch inside diameter) over end of 3/4 inch shaft, aligning with mark made in STEP 4. Weld adapter tube to crank shaft. Grind smooth any welds that will interfere with sliding coupler onto shaft. Paint welds and adapter tube to prevent corrosion.





 Item
 Part #
 Description

 1.
 1118439
 Replacement Hinge Bracket

 G.
 1700400
 Self-Tapping Screw - 3/8" x 1"

 P.
 1700407
 Hex Nut - 3/8"

 U.
 1700434
 Lock Washer - 3/8"

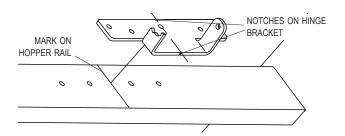
 V.
 1700429
 Flat Washer - 3/8"

STEP 1: Determine AutoTrap™ hinge bracket location on hopper rail. Mount hinge bracket on upper rail for most applications; mount bracket on lower rail when required. Hinge bracket may be mounted on top or bottom of rail, depending on application.

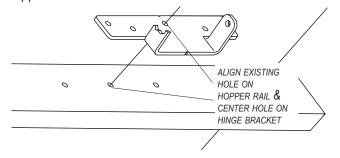
NOTE: Verify center mark made previously on hopper rail is also centered and square with hopper door cross shaft. If not, adjust accordingly.

If no existing holes on hopper rail align with center of crank shaft: Align notches on hinge bracket with mark on hopper rail (marked in STEP 2 of previous section).

NOTE: Notches on bracket must align with center line of crank shaft/cross shaft.

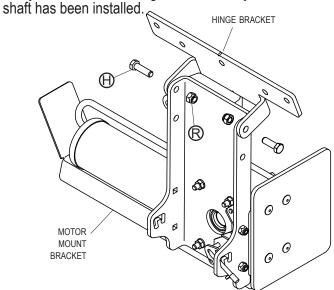


If existing hole on hopper rail aligns with center of crank shaft: Align center hole in hinge bracket with this hole on hopper rail.

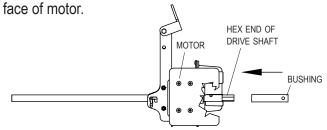


NOTE: Do not fasten hinge brackets to rail at this time.

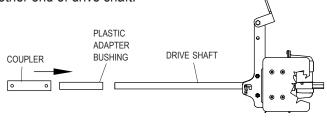
STEP 2: Assemble hinge bracket to motor mount bracket so hinge bracket will mount to hopper rail as determined in STEP 1. Fasten with screws (H) and lock nuts (R), leaving fasteners loose enough so bracket can still rotate freely. Fasteners will be tightened securely after drive



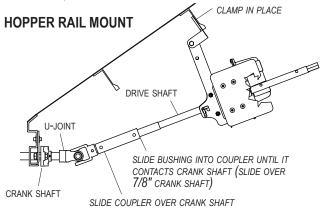
STEP 3: Slide motor adapter bushing and drive shaft into motor so hex end of shaft extends a few inches from face of motor.

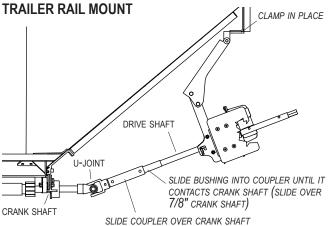


STEP 4: Slide coupler and plastic adapter bushing onto other end of drive shaft.

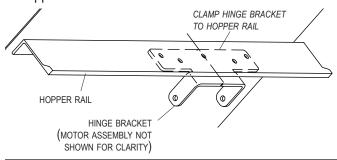


STEP 5: With help of another person, align drive shaft with crank shaft. Slide coupler over crank shaft and against U-joint (for 7/8 inch diameter crank shaft, slide plastic adapter bushing over crank shaft). Slide bushing inside coupler until it contacts crank shaft.





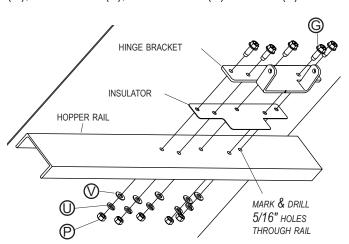
STEP 6: Lift hinge bracket/motor assembly to predetermined location on hopper rail. Keep drive shaft as far into coupler as it will go and allow motor assembly to slide on drive shaft as it moves into position. Clamp hinge bracket to hopper rail.



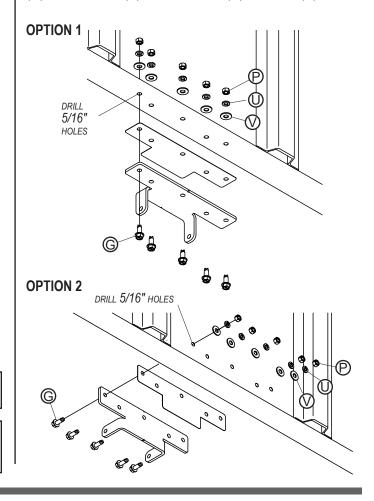
NOTE: Hole in drive shaft will extend past motor. This will be adjusted later.

NOTE: It may be necessary to adjust hinge bracket slightly toward either side of center mark so hinge bracket will line up and sit flat on hopper rail.

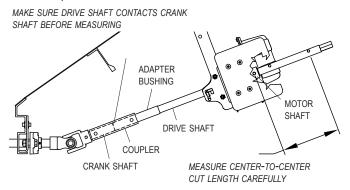
STEP 7A: Hopper rail mount. Using hinge bracket as guide, mark and drill 5/16 inch holes. Slide insulator between rail and hinge bracket and fasten to rail with screws (**G**), flat washers (**V**), lock washers (**U**) and nuts (**P**).



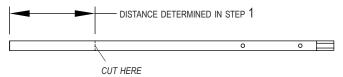
STEP 7B: Trailer rail mount. Using hinge bracket as guide, mark and drill 5/16 inch holes. Slide insulator between rail and hinge bracket and fasten to rail with screws (**G**), flat washers (**V**), lock washers (**U**) and nuts (**P**).



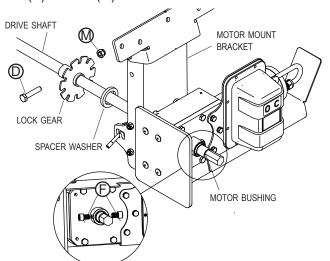
STEP 1: Cut drive shaft to fit. Insert drive shaft into coupler as far as possible, so end of shaft contacts crank shaft. Carefully measure center-to-center distance between hole in motor shaft and hole in drive shaft. This distance determines how much needs to be removed from coupler end of shaft.



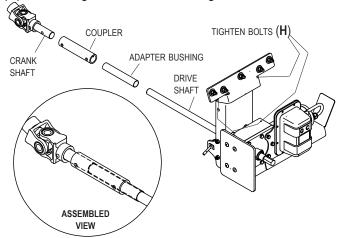
STEP 2: Remove drive shaft from motor. Measure and mark shaft at determined distance from coupler end of shaft and cut shaft squarely at this location.



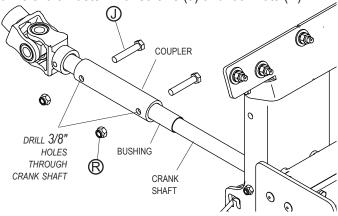
STEP 3: Make sure motor bushing is in motor and hole in bushing aligns with hole in motor. Place spacer washer over short end of manual lock gear hub and hold manual lock gear hub and washer against back of motor mount bracket with hub aligned with motor shaft. Slide drive shaft through front side of motor and bushing, then through spacer washer and lock gear. Fasten drive shaft to motor with screws (F). Lubricate screws with anti-seize (provided) before installing. Fasten lock gear to drive shaft with screw (D) and nut (M).



STEP 4: Slide coupler and adapter bushing onto drive shaft. Align drive shaft with crank shaft and slide coupler over crank shaft. Slide adapter bushing into coupler until bushing contacts crank shaft (for 7/8 inch crank shaft, until bushing is completely inside coupler). Tighten bolts (**H**) connecting motor bracket to hinge bracket.



STEP 5: Align lower end of coupler with mark on crank shaft (see page 2, STEP 4) about 2 inches from end of shaft (if both shafts are 7/8 inches in diameter, bushing should be over both shafts and completely inside coupler). Use holes in coupler as guide and carefully align and drill 3/8 inch holes through crank shaft, bushing and drive shaft. Fasten with screws (**J**) and lock nuts (**R**).

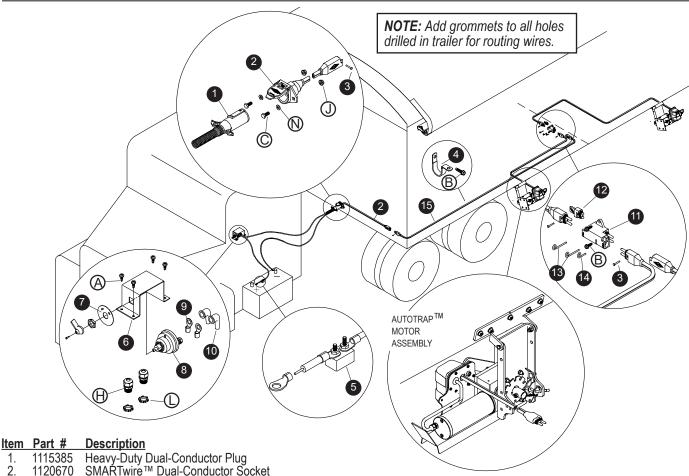


TIP: To help align drill bit, drill halfway through shaft on each side of coupler. Temporarily place 3/8 inch inch bolt in halfway drilled hole to keep coupler from rotating while drilling opposite side.

STEP 6: Tighten coupler fasteners and verify all fasteners used in installation have been tightened.

A CAUTION

Make sure manual lock pin is disengaged before operating system or it may be damaged. See page 9 for details.



1.	1115385	Heavy-Duty Dual-Conductor Plug
2.	1120670	SMAŘTwire™ Dual-Conductor Socket
3.	1704751	Harness Lock Pin - 1/4" x 7/8"
4.	1702108	Wire Clip - 3/4"
5.	1704354	40-Amp Modified-Reset Circuit Breaker
6.	1118323	Disconnect Switch Mounting Bracket
7.	1704284	Face Plate
8.	1704283	Battery Disconnect Rotary Switch
9.	1703244	Ring Terminal - 6 Ga. x 3/8" Stud
10.	1704330	Rubber Insulating Boot
11.	1704695	Harness Junction Block - Black Rubber
12.	1704717	Wire Harness Rubber Plug - Black
13.	1704696	Harness Lock Pin - Long
14.	1704711	Harness Lock Pin - Short
15.		SMARTwire™ - 6 Ga. x 25' - Plug/Socket
	1703231	Cable Tie - 8" (not shown)
Α.	1700398	Self-Drilling Screw - 1/4" x 3/4"
В.	1704338	Self-Tapping Screw - 1/4" x 1"
C.	1701045	Cap Screw - 5/16" x 3/4"
Н.	1704152	Dome Nut - 1/2"
- 1	1704187	Lock Nut - 1/2"

NOTE: Cut wires to length and strip only enough wire insulation to install ring terminals. Insert bare wire into ring terminals and crimp securely.

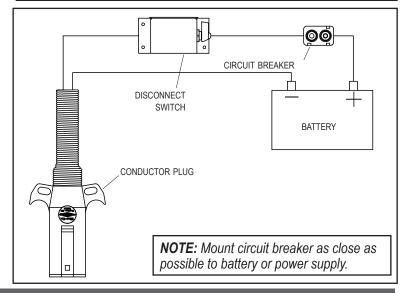
1704946 Flanged Top Lock Nut - 5/16"

1700427 Flat Washer - 1/4"

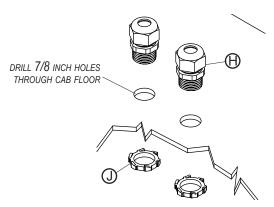


A NOTICE

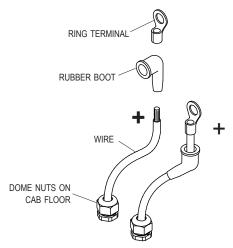
Do not power any Shur-Co® wireless system with battery charger alone, as this will likely cause system abnormalities and/or system malfunction. Instead, use a 12-volt truck/automobile battery to provide power to trailer.



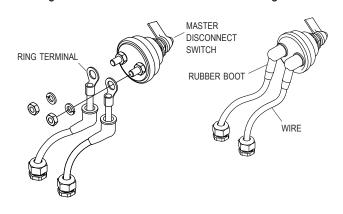
STEP 1: Drill two 7/8 inch holes in cab floor to route wire into cab. Install dome nut strain reliefs into holes.



STEP 2: Run positive 4-ga. wire from battery through dome nuts on cab floor. Run wire ends through rubber boots and crimp 3/8 inch ring terminals to ends of wire.

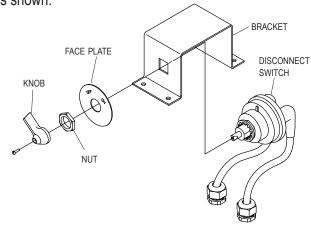


STEP 3: Connect wires to disconnect switch. Coat with dielectric grease and install rubber boots over ring terminals.

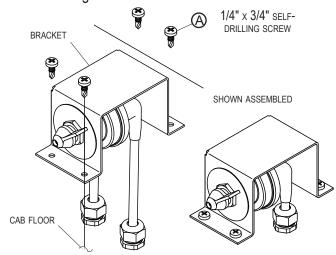


NOTE: Use dielectric grease (P/N 1704378) to prevent corrosion on terminals.

STEP 4: Remove knob and nut from disconnect switch and assemble face plate and disconnect switch to bracket as shown.

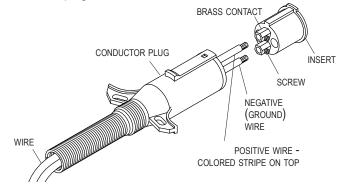


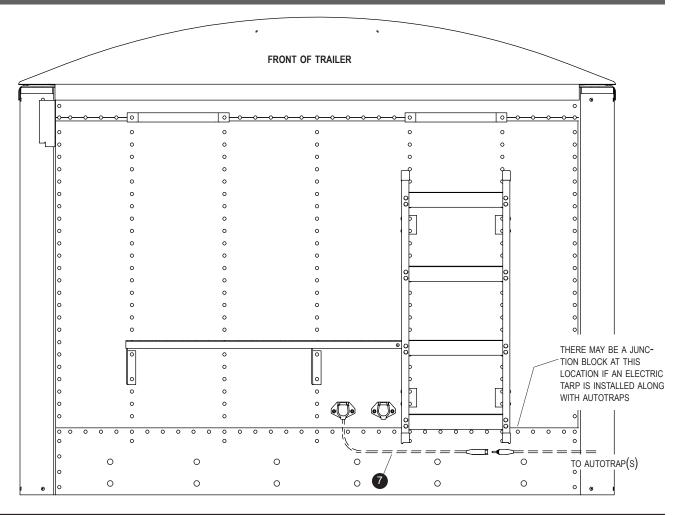
STEP 5: Fasten bracket to cab floor with 1/4 inch x 3/4 inch self-drilling screws.



NOTE: AutoTrap[™] rocker switch will remain active until master disconnect switch is turned off.

STEP 6: Unfasten and remove insert from conductor plug. Feed 4-ga. wire through plug and into brass contacts on insert. Tighten screws to secure wires. Replace insert into conductor plug and secure screw.

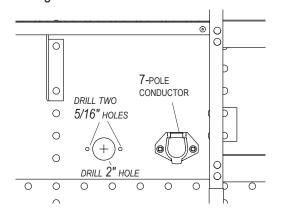




NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so that wires will reach components with ample room for connection.

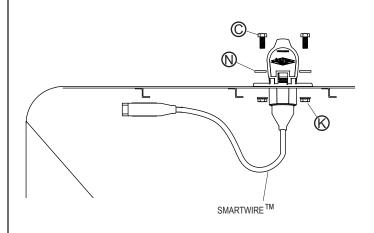
DUAL-POLE CONDUCTOR SOCKET INSTALLATION

STEP 1: Locate dual-pole conductor socket near 7-pole conductor socket as shown. Determine location and drill 2 inch hole through trailer skin.



STEP 2: Align socket over 2 inch hole. Using holes in flanges on socket as guide, mark and drill two 5/16 inch holes.

STEP 3: Fasten conductor socket to trailer with cap screws (**C**), flat washers (**N**) and nuts (**K**).



Operation P/N 1123574 Rev. D



CAUTION

Check all hardware for complete assembly before operating. Inspect system at this time and adjust as required.

Operation:

Close Trap: Push switch to *CLOSE* and hold. Observe trap and release switch when trap is fully closed.

Open trap: Push switch to *OPEN* and hold. Observe trap and release switch when trap is fully open.

Remote operation: Refer to operating instructions included with remote.

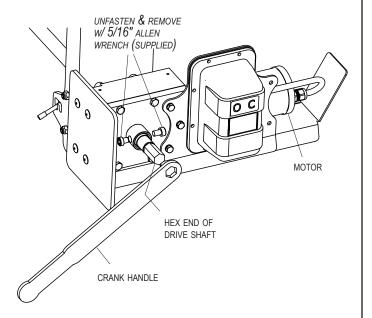
NOTE: Release switch at end of cycle or modified-reset circuit breaker will trip. After breaker resets, switch will activate motor again. To reduce unnecessary strain on components, release switch at end of each cycle. SMART2™ systems will automatically turn off at OPEN or CLOSE side travel limit after having been set. Refer to operating instructions included with SMART2™ remote.

NOTE: Receiver may be pressure washed, but keep nozzle at least 3' from system while spraying.

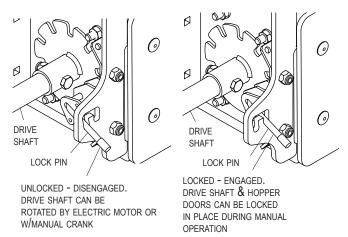
CONVERSION TO MANUAL CRANK

STEP 1: To change from electric to manual operation, unfasten and remove fasteners connecting motor to drive shaft. Slide back-up crank handle onto hex end of drive shaft. Remove crank handle when not in use.

NOTE: Any 3/4 inch wrench or ratchet/socket may be used in place of crank handle.



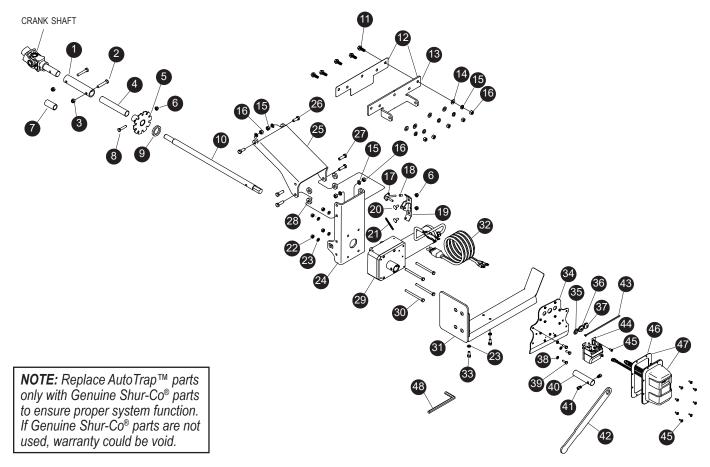
STEP 2: Manual lock pin must be disengaged during electric operation. To lock drive shaft during manual operation, lift handle on lock pin and slide pin into notch in lock gear as shown at right.



A

CAUTION

Do not operate electric system while lock pin is engaged and drive shaft is locked or manual lock mechanism could be damaged.



AUTOTRAP™ WIRELESS ASSEMBLY

AUI	AUTOTRAP : WIKETE22 V22EMRT				
	Part#	<u>Description</u>	Item Part #	Description	
1.	1123567		25. 1123895	Rail Mount Bracket - Auto Trap™	
2.	1704264	Cap Screw - 3/8" x 2"	26. 1701061	Cap Screw - 3/8" x 1"	
3.	1701580	Nylon Lock Nut - 3/8"	27. 1702891	Cap Screw - 3/8" x 1-1/4"	
4.	1705226	Adapter Bushing990" OD x .895" ID x 6"	28. 1120291	Spacer Washer - 1/4" x 1"	
5.	1123565	Manual Lock Gear	29. 1124438	Electric Motor	
6.	1700419	Nylon Lock Nut - 5/16"	30. 1705230	Cap Screw - 5/16" x 4"	
7.	1123569	Shaft Adapter - 3/4" to 1"	31. 1124858	AutoTrap™ Debris Deflector	
8.	1703487	Cap Screw - 5/16" x 1-1/2"	32. 1704716	SMARTwire™ - 6 Ga. M x 1/4" Ring - 10'	
9.	1118318	Spacer Washer - 1/4" x 1.81"	33. 1701045	Cap Screw - 5/16" x 3/4"	
10.	1124697	Drive Shaft - 7/8" OD - 3/4" Hex End - 27"	34. 1124846	Solenoid Bracket	
11.	1700400	Self-Tapping Screw - 3/8" x 1"	35. 1705258	Button Plug - Flush - 11/16"	
12.	1118439	Replacement Hinge Bracket	36. 1704721	Rubber Grommet - Wire Slot	
13.	1118277	Shim Insulator		Push-In Rubber Grommet	
14.	1700429	Flat Washer - 3/8"		Lock Washer - 1/4"	
15.	1700434	Lock Washer - 3/8"		Cap Screw - 1/4" x 3/4"	
	1700407		40. 1705480	Motor Bushing990" x 4-3/16"	
17.	1123557	Lock Pin	41. 1705476	Socket Hd. Cap Screw - 3/8" x 1/2"	
18.	1704276	Protective Cap	42. 1123568	Crank Handle	
	1123554	Lock Pin Bracket	43. 1703231	Cable Tie - 8"	
20.	1705231	Carriage Bolt - 5/16" x 3/4" - Grade 5	44. 1705408	Motor-Reversing Solenoid - 3 Pt. Mt. Black Wire	
21.	1704904		45. 1704308	Flanged Cap Screw - #10 x 1/2"	
	1700411	Hex Nut - 5/16"	46. 1704309	Gasket - Solenoid Cover	
		Lock Washer - 5/16"	47. 1131635	Solenoid Cover Assembly w/Gasket - ShurLink™	
	1123553				
			48. 1705479	Allen Wrench - 5/16"	

AUTOTRAP™ TRAILER MOUNTS

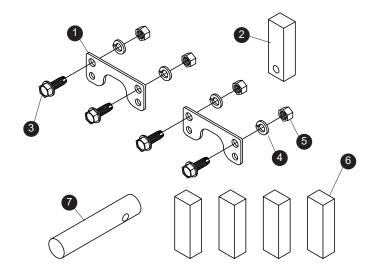
Item Part # D For Dakota Trailer Description

1118337 Hopper Parts Kit
1118305 Bearing Retainer - Dakota
1118306 Door Stop - Dakota
1700400 Self-Tapping Screw - 3/8" x 1"
1700407 Hex Nut - 3/8"

For Trailer w/Auxiliary Stops 6. 1118338 Hopper Parts

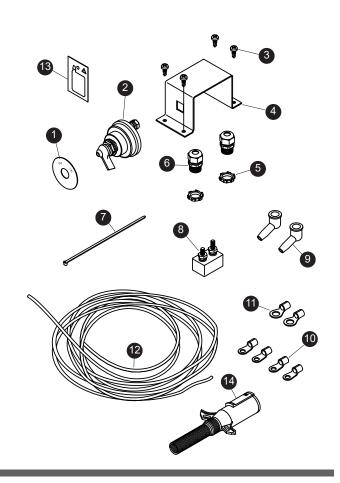
For Cornhusker Trailer

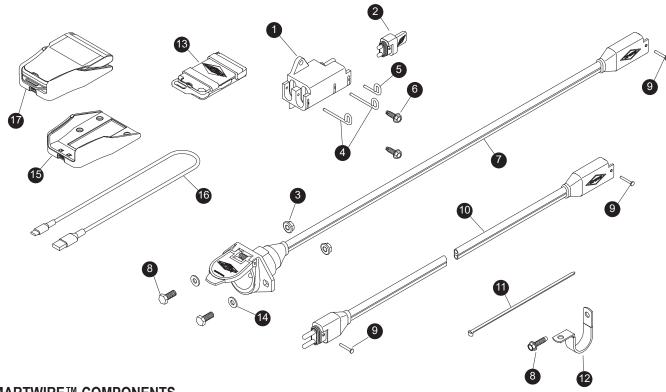
7. 1118339 Hopper Parts



MASTER DISCONNECT SWITCH/CAB WIRING

Item	Part #	Description
	1122725	Cab Wiring Kit - Master Disconnect
1.	1704284	Face Plate
2.	1704283	Battery Disconnect Rotary Switch
3.	1700398	Self-Drilling Screw - 1/4" x 3/4"
4.	1118323	Disconnect Switch Mounting Bracket
5.	1704187	
	1704152	Dome Nut - 1/2"
7.	1703231	Cable Tie - 8"
8.	1704354	40-Amp Modified-Reset Circuit Breaker
9.	1704330	Rubber Insulating Boot
10.	1705105	Ring Terminal - 4 Ga. x 3/8" Stud
11.	1705106	Ring Terminal - 4 Ga. x #10 Stud
12.	1705107	Dual-Conductor Wire - 4 Ga. 133 Strand (per foot)
13.	1704378	Dielectric Connector Protector
14.	1115385	Heavy-Duty Dual-Conductor Plug





SMARTWIRE™ COMPONENTS

Item	Part #	Description
1.	1704695	Harness Junction Block
2.	1704717	Wire Harness Rubber Plug
3.	1704946	Flanged Top Lock Nut - 5/16"
4.	1704696	Harness Lock Pin - Long
5.	1704711	Harness Lock Pin - Short
6.	1704338	Self-Tapping Screw - 1/4" x 1"
7.	1120670	SMARTwire™ Dual-Conductor Socket
8.	1701045	Cap Screw - 5/16" x 3/4"
9.	1704751	Harness Lock Pin - 1/4" x 7/8"
10.	1704888	SMARTwire™ - 4 Ga. x 25' - Plug/Socket
11.		Cable Tie - 8"
12.	1702108	Wire Clip - 3/4"
13.	1131576	5-Channel ShurLink EZR™ Remote
14.	1700427	Flat Washer - 1/4"
15.	1131764	ShurLink PRO™ Charging Cradle
16.	1706836	ShurLink PRO™ Charging Cable
	1131575	ShurLink PRO™ Remote w/Cradle &
		Charging Cable

