

SHUR-CO®



ProTrap™

OWNER'S MANUAL

SMARTwire™ Hopper Door Opener



Download the ShurLink™ App

The ShurLink logo features the word "SHURLINK" in a bold, blue, sans-serif font, with "WIRELESS TECHNOLOGY" in a smaller font below it, all enclosed in a yellow and white circular graphic.	<p>Shurlink Shur-Co, LLC ★★★★★ 5.0 Free</p>	A square QR code used for downloading the ShurLink app on iOS devices.	A square QR code used for downloading the ShurLink app on Android devices.
		<p>iOS</p>	<p>Android</p>



PHONE: 1.800.474.8756 | FAX: 1.605.665.0501

2309 SHURLOCK STREET
YANKTON, SD 57078-0713

SHOP ONLINE: www.SHOPSHURCO.COM

! SAFETY INSTRUCTIONS

At Shur-Co®, your safety is our top priority. Please read and thoroughly understand all instructions before operating all equipment. Failure to READ AND FOLLOW INSTRUCTIONS may result in system failure, property damage, or personal injury. Pay close attention to warnings, cautions, and operating instructions. The hazard symbol **!** alerts users of potentially hazardous conditions, and is followed by Caution, Warning, or Danger messages to indicate risk:

- **Danger** : (Red) Indicates an imminently hazardous situation that, if not avoided, WILL result in death or serious injury.
- **Warning** : (Orange) Indicates a potentially hazardous situation that, if not avoided, COULD result in death or serious injury.
- **Caution** : (Yellow) Indicates a potentially hazardous situation that, if not avoided, MAY result in minor or moderate injury or damage to the system.
- **Notice** : (Blue) Indicates operational notes or other essential information without addressing safety.

Regularly inspect equipment to ensure proper performance. Always repair or replace worn or damaged parts immediately to maintain safety. Safety decals are placed at critical locations on the equipment. Keep these decals clean and legible at all times. Replace any decal that is worn, damaged, painted over or otherwise unreadable. Replacement decals can be obtained by your local Shur-Co® dealer.

- Always wear safety glasses during installation and operation.
- Stay clear of moving parts.
- No other use of Shur-Co® equipment is authorized, except as designed.

SHUR-CO® TERMS OF SERVICE

ORDER
TERMS AND CONDITIONS



WARRANTY



PATENTS



SERVICE AND DISTRIBUTION CENTERS

www.shurco.com/about-us/corporate-locations/

LOCATIONS



MESSAGE TO OWNERS

Thank you for choosing Shur-Co® for your tarping system needs. We appreciate your confidence in our products. Please note that while this manual provides comprehensive installation and operation instructions, your trailer may require minor adjustments to these guidelines.

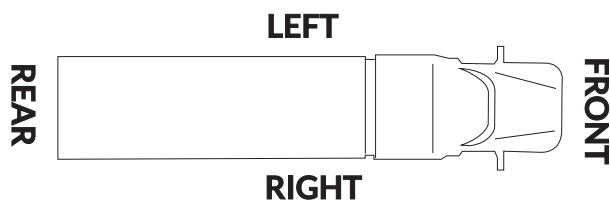
Visit Shurco.com to access the most current version of these instructions and other important product information.

QUESTIONS?
CALL OUR HELP LINE:
1-866-748-7435
MONDAY-FRIDAY
8 AM-5 PM CENTRAL TIME

MAINTENANCE

- Spray all bearings with penetrating oil as needed.
- Grease spring bearings as needed.
- Brush springs with a steel brush weekly to remove dirt, and spray with penetrating oil.
- Tighten loose bolts.
- Make sure arms are not hitting sides of box. Replace damaged/bent arms.
- Replace worn or broken springs.
- Replace/repair worn or damaged tarps.

VEHICLE ORIENTATION



REQUIRED TOOLS

1. Carpenter's Square
2. Plumb Line
3. Drill
4. 3/16" Drill Bit
6. 13/32" 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
13. 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" Socket
20. Ratchet
21. Wire Cutters
22. 1" Combination Wrench
23. Flat Head Screwdriver
24. Pencil or Marker
25. Wire Terminal Crimper

*PLEASE READ THE COMPLETE MANUAL BEFORE
PROCEEDING WITH INSTALLATION OR USE OF THE TARPING SYSTEM.*

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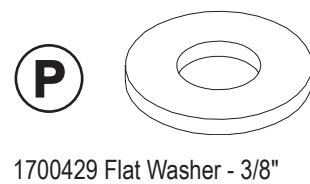
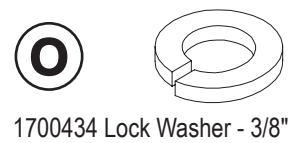
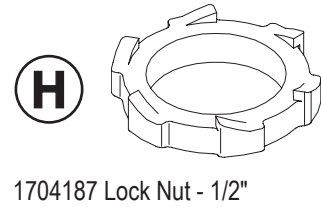
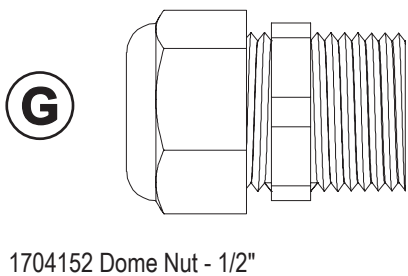
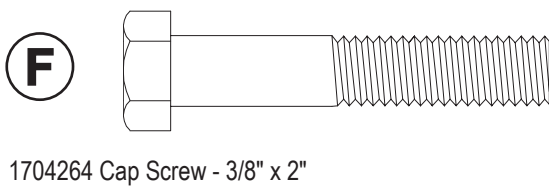
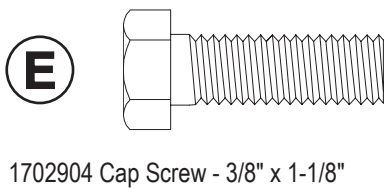
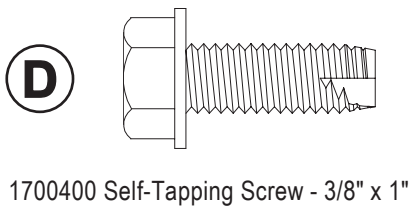
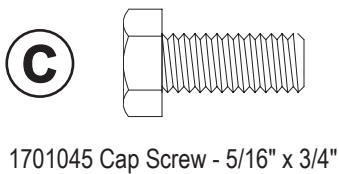
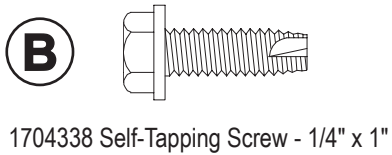
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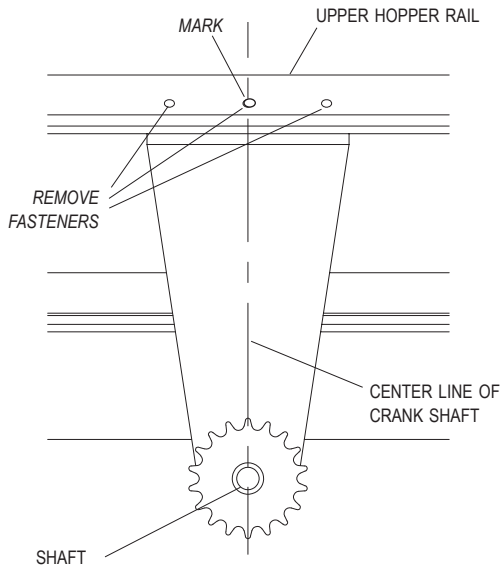
Inspect all parts in ProTrap® kit upon arrival.



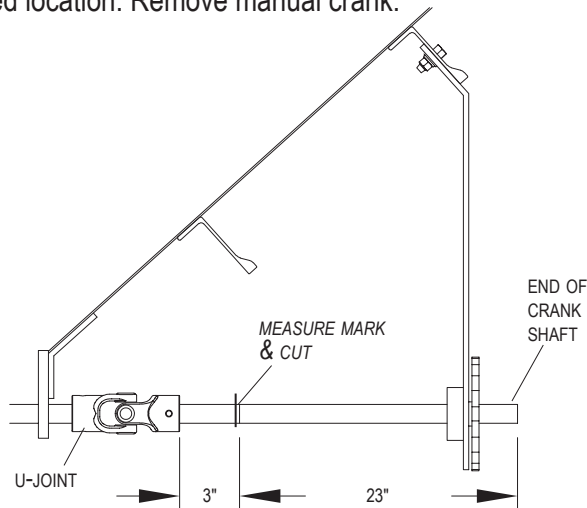
NOTE: ProTrap® system is designed only for use with rack-and-pinion hopper doors.

ProTrap® system is designed for use with 1" diameter crank shaft.

STEP 1: To determine ProTrap® hinge bracket location, transfer center line of crank shaft to upper hopper rail. If hole is not already drilled at center line, mark new hole location on upper hopper rail.

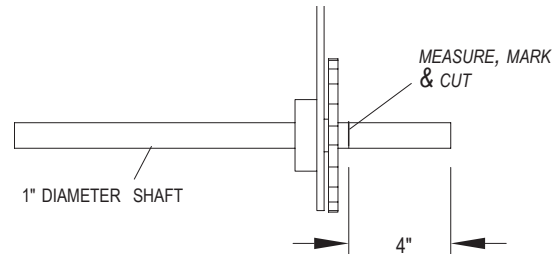


STEP 2: Measure and mark 23 inches from end of shaft. Adjust measurement, if needed, so remaining shaft extends at least 3 inches past U-joint. Cut through shaft at marked location. Remove manual crank.

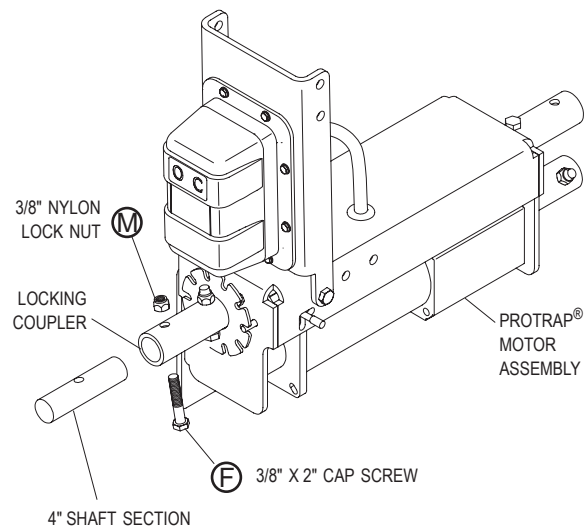


STEP 3: Remove fasteners holding manual crank bracket to hopper rail.

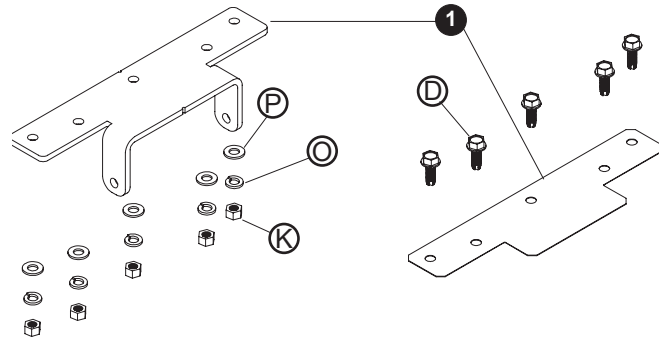
STEP 4: Measure and mark 4 inches from end of shaft. Cut through shaft at marked location.



STEP 5: Insert 4 inches section of shaft into locking coupler until shaft contacts existing shaft inside coupler. Drill 13/32 inch hole through shaft. Secure with cap screw (F) and nylon lock nut (M).



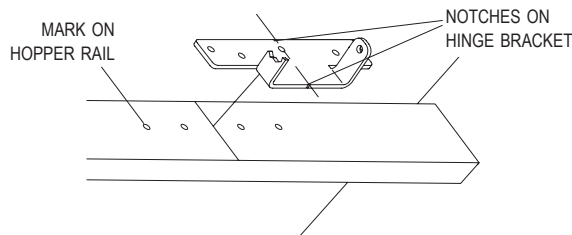
Item	Part #	Description
1.	1118439	Replacement Hinge Bracket
D.	1700400	Self-Tapping Screw - 3/8" x 1"
K.	1700407	Hex Nut - 3/8"
O.	1700434	Lock Washer - 3/8"
P.	1700429	Flat Washer - 3/8"



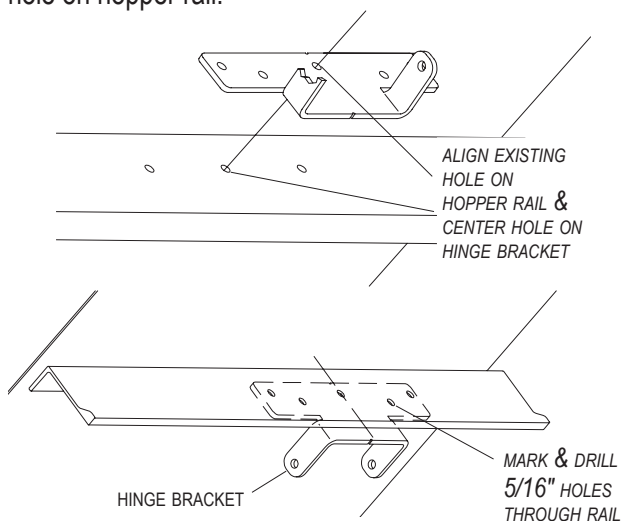
STEP 1: Locate ProTrap® hinge bracket on hopper rail. For most applications, hinge bracket will be installed on upper rail although some applications will require mounting to lower rail. Hinge bracket may be located on top or bottom of rail, depending on application.

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).

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

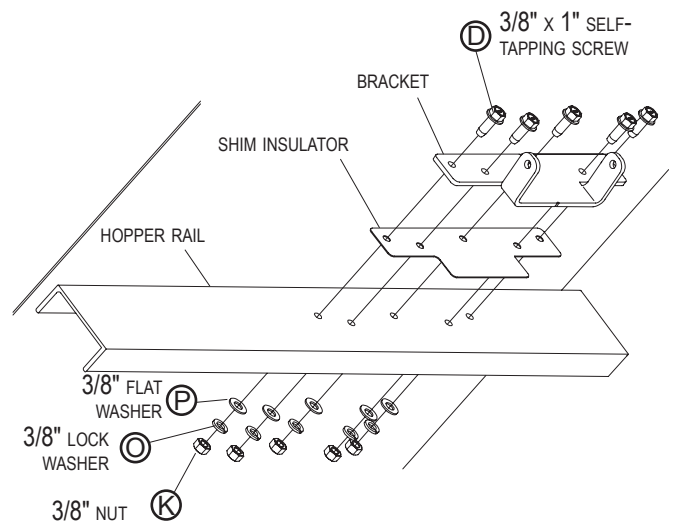


If an existing hole on hopper rail aligns with center of crank shaft: Align center hole in hinge bracket with this hole on hopper rail.



STEP 2: Square up bracket and clamp in place. Using hinge bracket as guide, mark and drill 5/16 inch holes through hopper rail (five places).

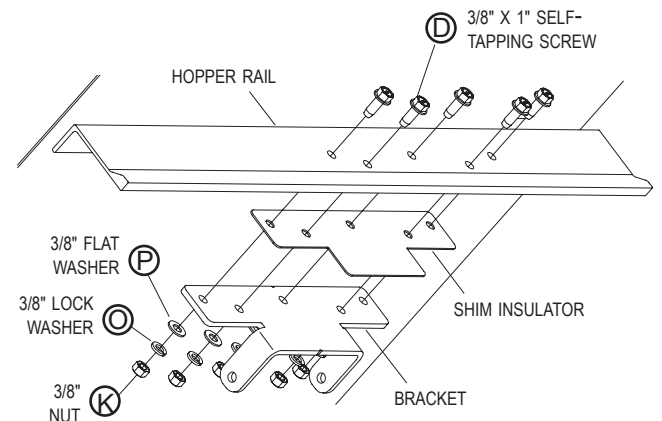
STEP 3: Place shim insulator between rail and bracket. Fasten hinge bracket to hopper rail with screws (D), flat washers (P), lock washers (O) and nuts (K).

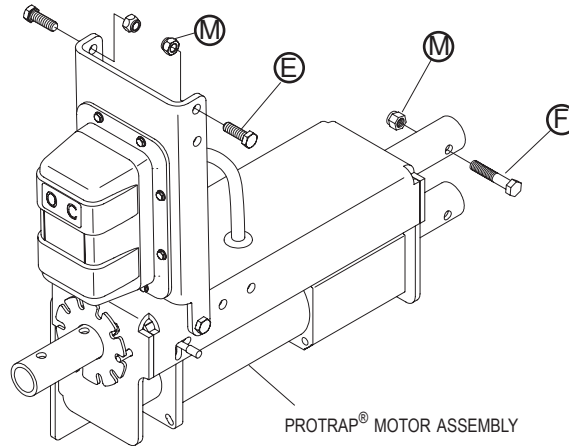


BRACKET ON BOTTOM SIDE OF RAIL

Install bracket on top or bottom side of hopper rail. Locate on same side of rail as manual crank bracket. Fasten in five places.

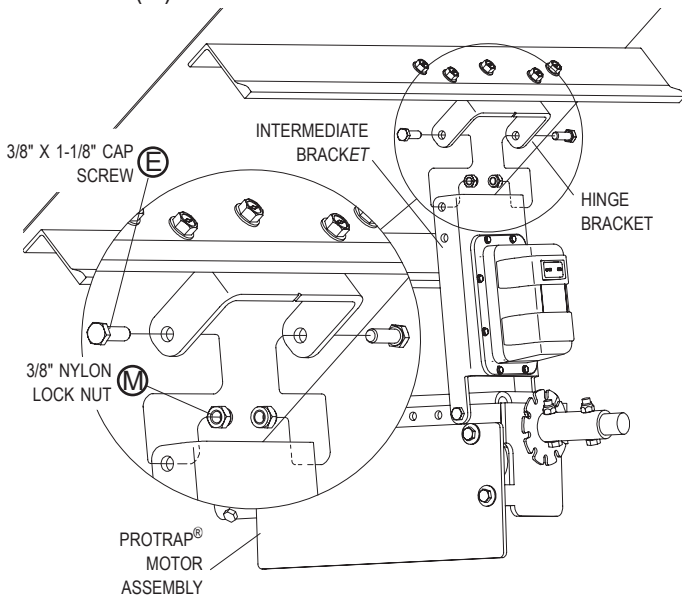
BRACKET ON TOP SIDE OF RAIL



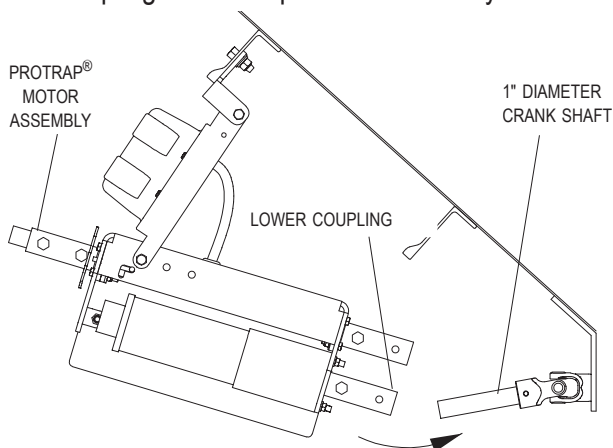


Item	Part #	Description
E.	1702904	Cap Screw - 3/8" x 1-1/8"
M.	1701580	Nylon Lock Nut - 3/8"
F.	1704264	Cap Screw - 3/8" x 2"

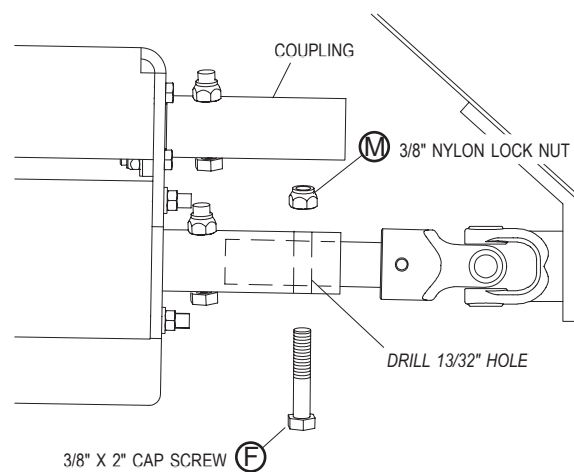
STEP 1: Fasten ProTrap® motor assembly intermediate bracket to hinge bracket with cap screws (E) and nylon lock nuts (M).



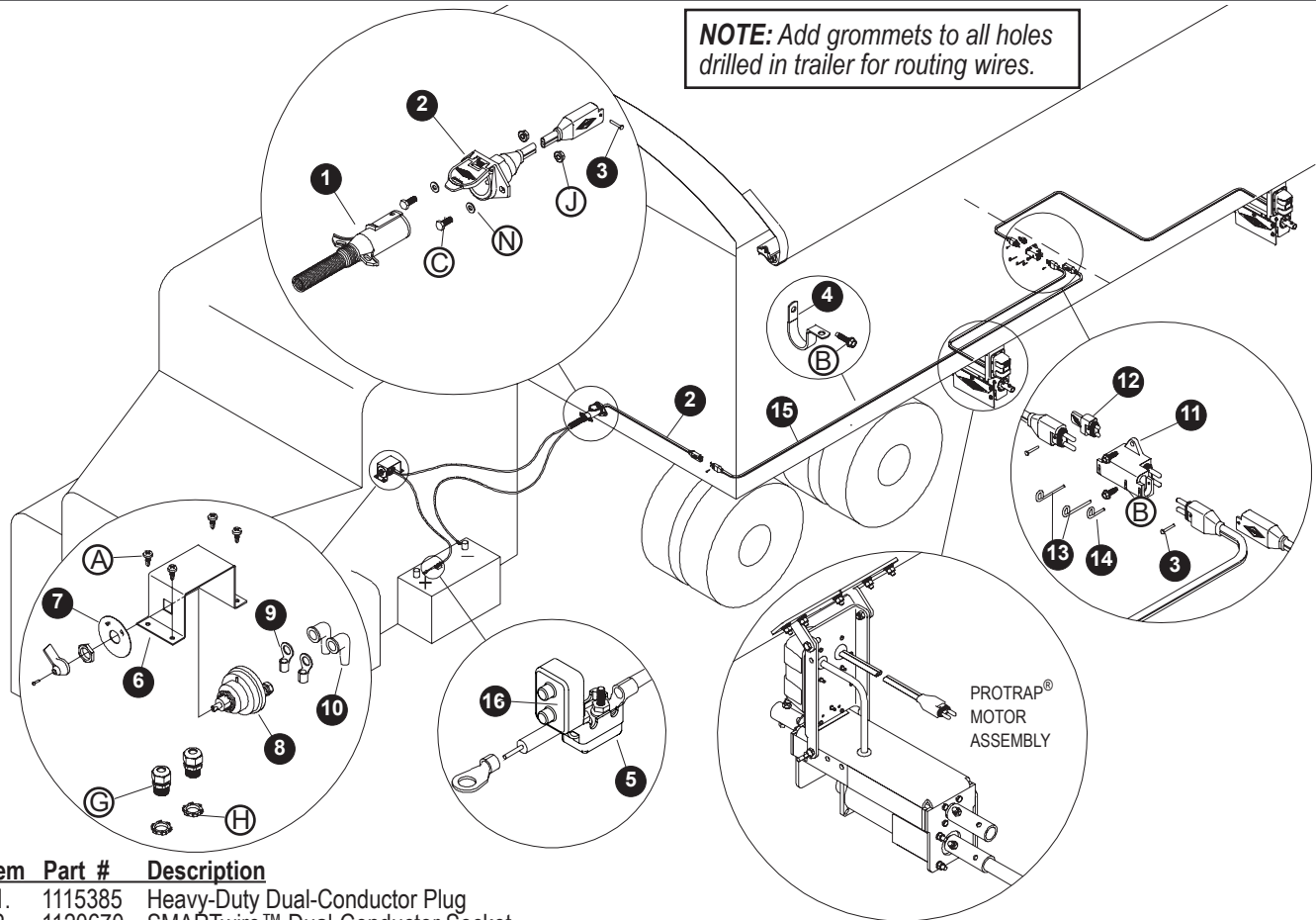
STEP 2: Insert end of 1 inch diameter crank shaft into lower coupling on ProTrap® motor assembly.



STEP 3: Using hole through lower coupling as guide, mark and drill 13/32 inch hole through crank shaft. Fasten coupling to shaft with cap screw (F) and nylon lock nut (M).

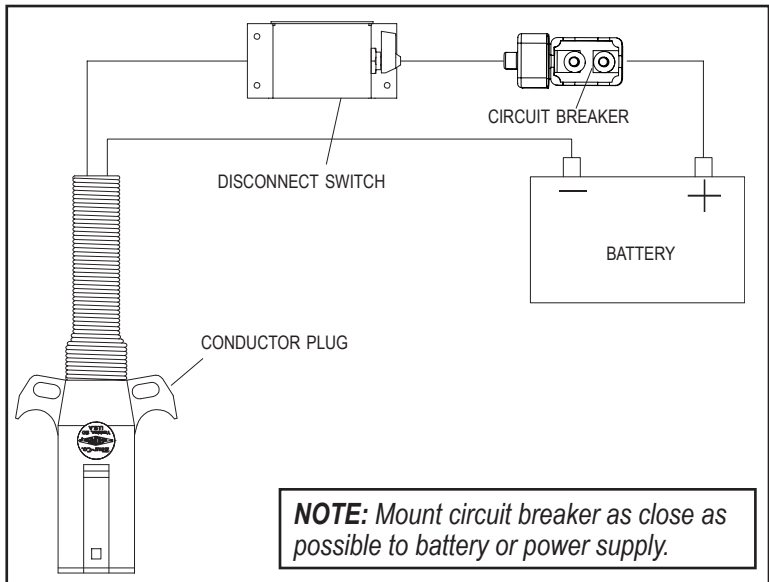


NOTE: Use anti-seize (P/N 1704381) to prevent crank shaft from seizing into lower coupling.

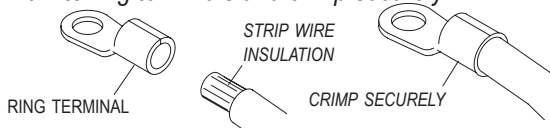


Item	Part #	Description
1.	1115385	Heavy-Duty Dual-Conductor Plug
2.	1120670	SMARTwire™ Dual-Conductor Socket
3.	1704751	Harness Lock Pin - 1/4" x 7/8"
4.	1702108	Wire Clip - 3/4"
5.	1704354	40-Amp Modified-Reset Circuit Breaker
6.	1118323	Disconnect Switch Mounting Bracket
7.	1704284	Face Plate
8.	1704283	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.	1704411	SMARTwire™ - 6 Ga. x 25' - Plug/Socket
16.	1704411	Circuit Breaker Boot - Red
17.	1704378	Dielectric Grease (not pictured)
18.	1703231	Cable Tie - 8" (not pictured)
A.	1700398	Self-Drilling Screw - 1/4" x 3/4"
B.	1704338	Self-Tapping Screw - 1/4" x 1"
C.	1701045	Cap Screw - 5/16" x 3/4"
G.	1704152	Dome Nut - 1/2"
H.	1704187	Lock Nut - 1/2"
J.	1704946	Flanged Top Lock Nut - 5/16"
N.	1700427	Flat Washer - 1/4"

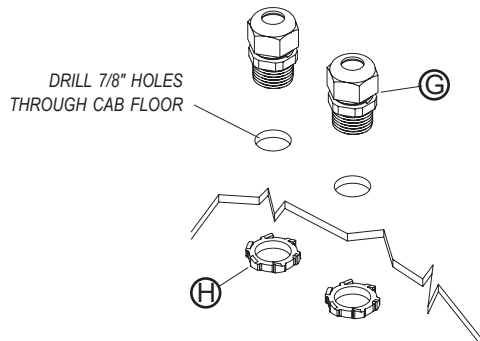
⚠ NOTICE
 Do not power any Shur-Co® wireless system with battery charger alone, as this will likely cause system abnormalities and/or system malfunction. Instead, use 12-volt truck/automobile battery to provide power to trailer.



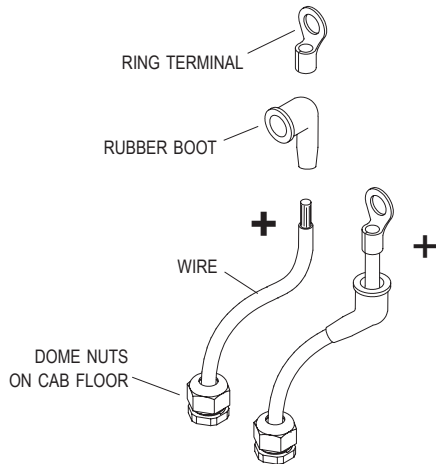
NOTE: Cut wires to length and strip only enough wire insulation to install ring terminals. Insert bare wire into ring terminals and crimp securely.



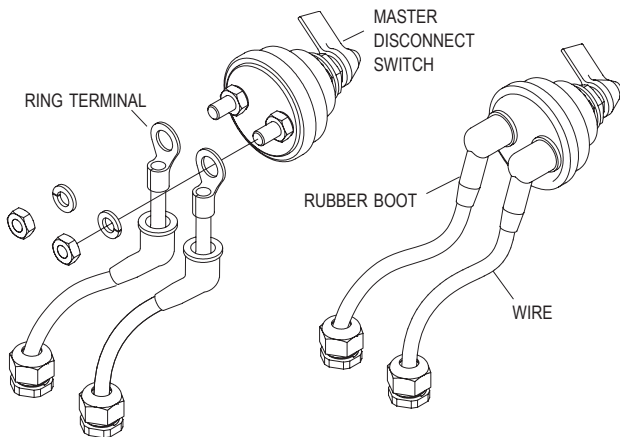
STEP 1: Drill two 7/8 inch holes in cab floor to route wire into cab. Install dome nut strain reliefs into holes.



STEP 2: Run positive 6-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.

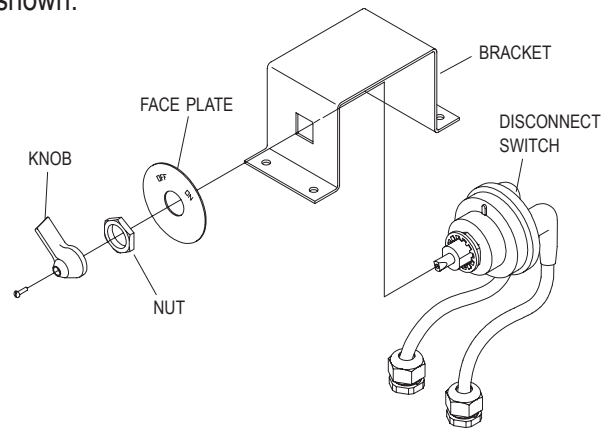


STEP 3: Connect wires to disconnect switch. Coat with dielectric grease and install rubber boots over ring terminals.

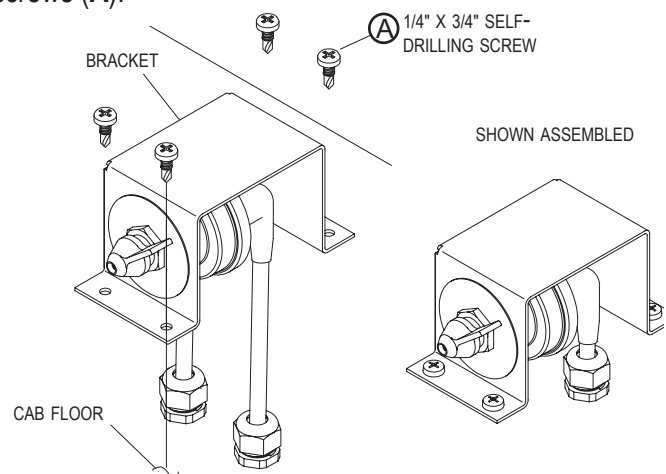


NOTE: Use dielectric grease (Item 17) to prevent corrosion on terminals.

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

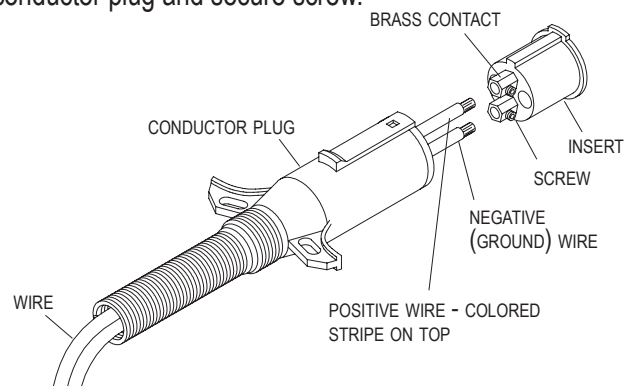


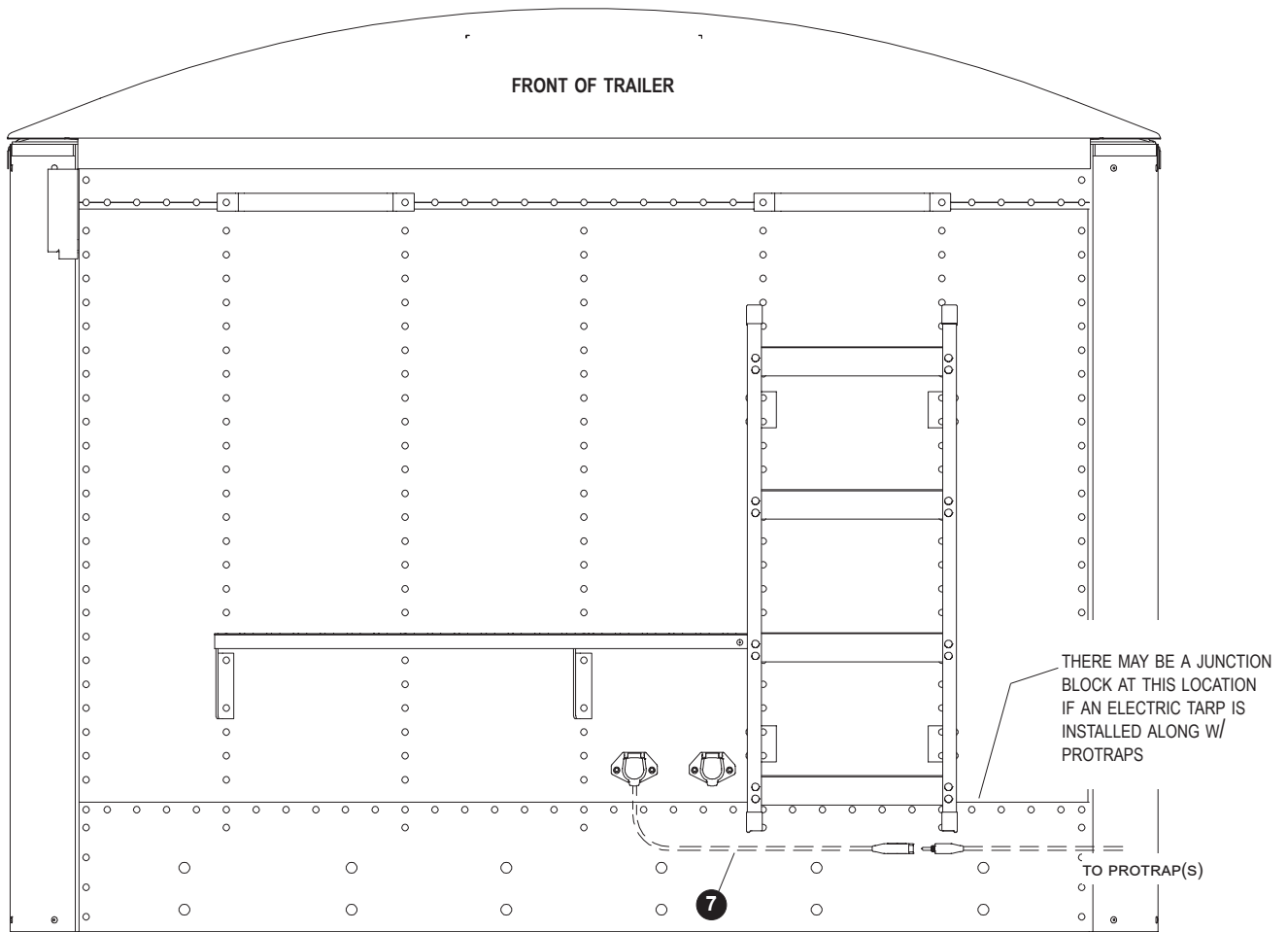
STEP 5: Fasten bracket to cab floor with self-drilling screws (A).



NOTE: ProTrap® rocker switch will remain active until master disconnect switch is turned off.

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

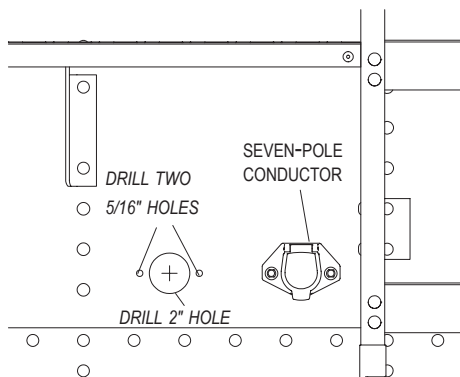




NOTE: Wire lengths are predetermined. Before installing SMARTwire™ components, review and confirm wire routing so wires reach components with ample room for connection.

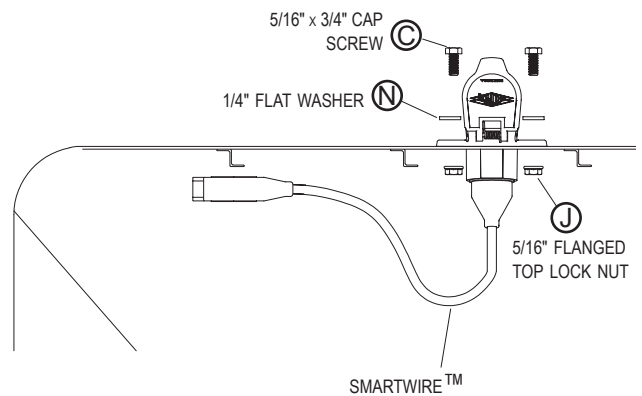
DUAL-CONDUCTOR SOCKET INSTALLATION

STEP 1: Locate dual-pole conductor socket near seven-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 (J).



OPERATION

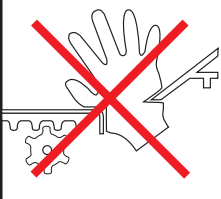
⚠ CAUTION
Check all hardware for complete assembly before operating. Inspect system at this time and adjust as required.

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. ShurLink™ systems will automatically turn off at OPEN or CLOSE side travel limit after being set. Refer to operating instructions included with ShurLink™ remote.

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

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 your remote.

⚠ 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.

⚠ CAUTION

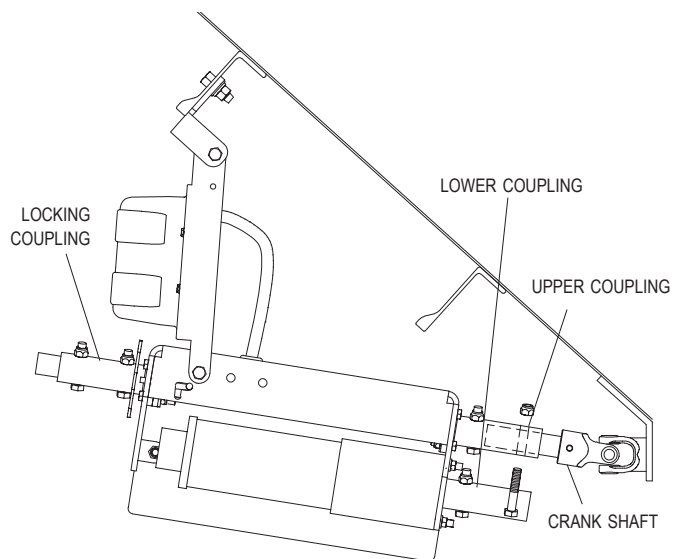


- JAMMED OR OVERLOADED DOOR CAN CAUSE MOTOR DAMAGE.
- RELEASE SWITCH IMMEDIATELY IF DOOR STALLS OR REACHES END OF INTENDED TRAVEL.
- FAILURE TO COMPLY CAN CAUSE MOTOR AND EQUIPMENT DAMAGE.

P/N 1704341

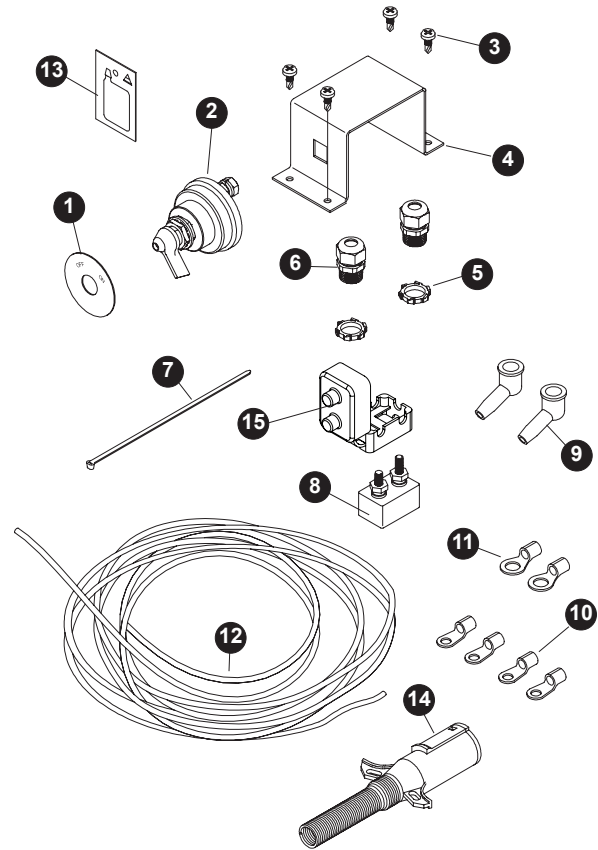
CONVERT TO MANUAL CRANK

To change from electric to manual operation, unfasten and remove crank shaft from lower coupling. Use same fasteners to fasten shaft to upper coupling. Install crank shaft onto locking coupling.



MASTER DISCONNECT SWITCH/CAB WIRING

Item	Part #	Description
	1118417	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	Lock Nut - 1/2"
6.	1704152	Dome Nut - 1/2"
7.	1703231	Cable Tie - 8"
8.	1704354	40-Amp Modified-Reset Circuit Breaker
9.	1704330	Rubber Insulating Boot
10.	1703244	Ring Terminal - 6-Ga. x 3/8" Stud
11.	1703245	Ring Terminal - 6-Ga. x #10 Stud
12.	1703822	Dual Conductor Wire - 6-Ga. 259 Strand (per foot)
13.	1704378	Dielectric Connector Protector
14.	1115385	Heavy-Duty Dual-Conductor Plug
15.	1704411	Circuit Breaker Boot - Red



PROTRAP® TRAILER MOUNTS

Item Part # Description

For Dakota Trailer

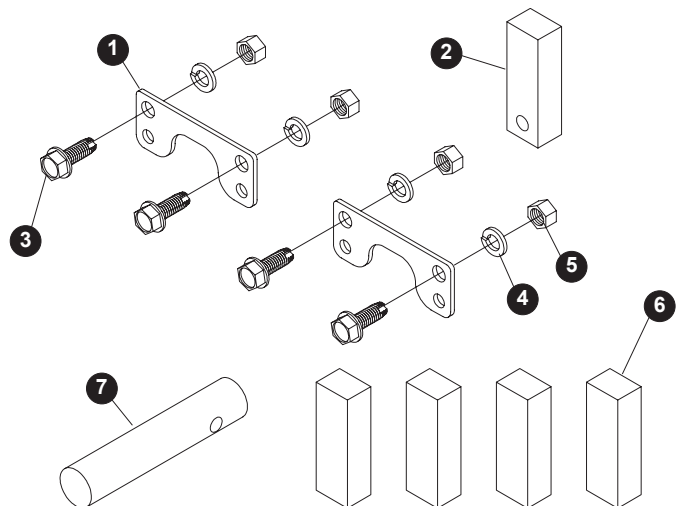
- 1118337 Hopper Parts Kit
- 1. 1118305 Bearing Retainer - Dakota
- 2. 1118306 Door Stop - Dakota
- 3. 1700400 Self-Tapping Screw - 3/8" x 1"
- 4. 1700434 Lock Washer - 3/8"
- 5. 1700407 Hex Nut - 3/8"

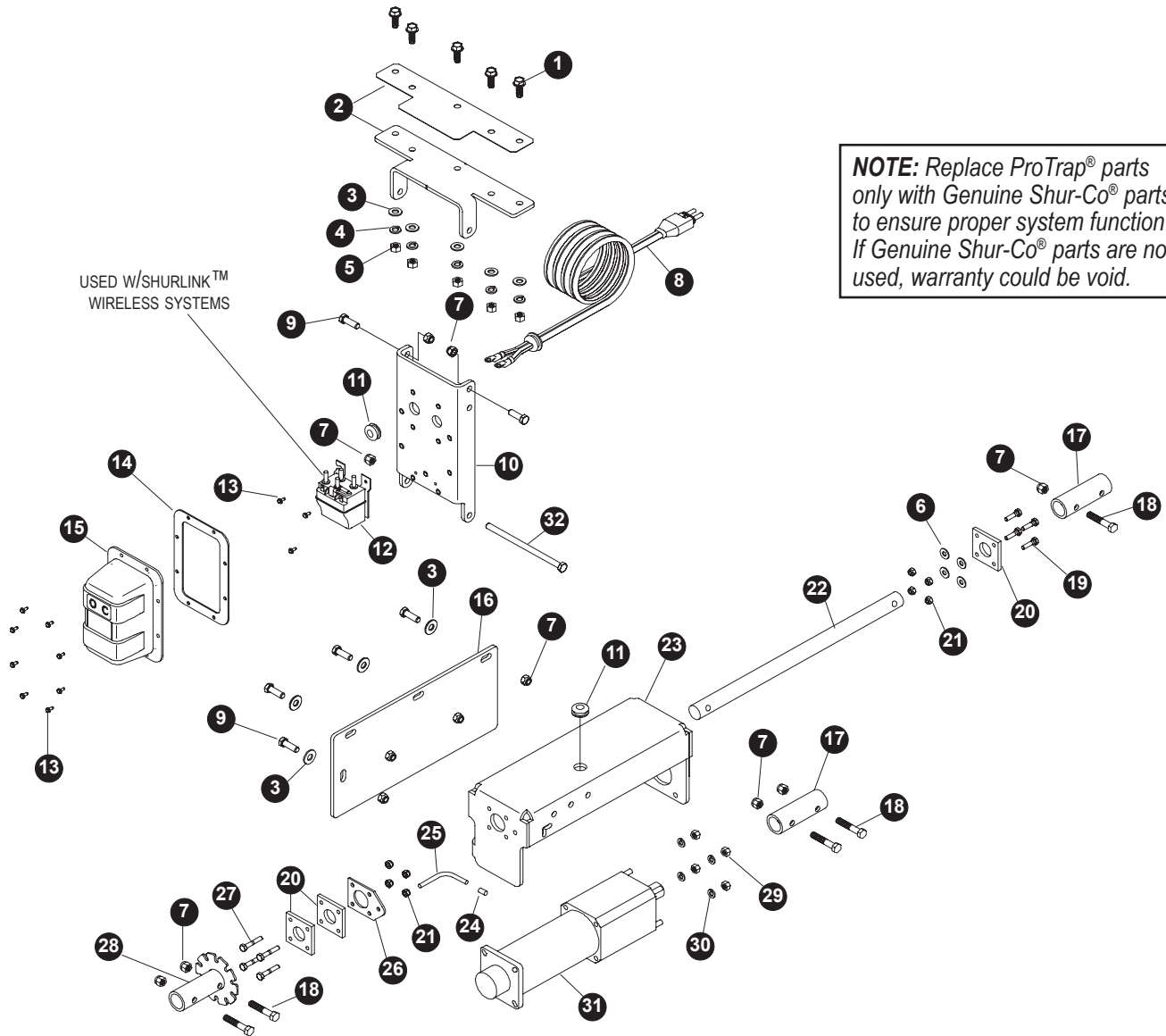
For Trailers w/Auxiliary Stops

- 6. 1118338 Hopper Parts

For Cornhusker Trailer

- 7. 1118339 Hopper Parts

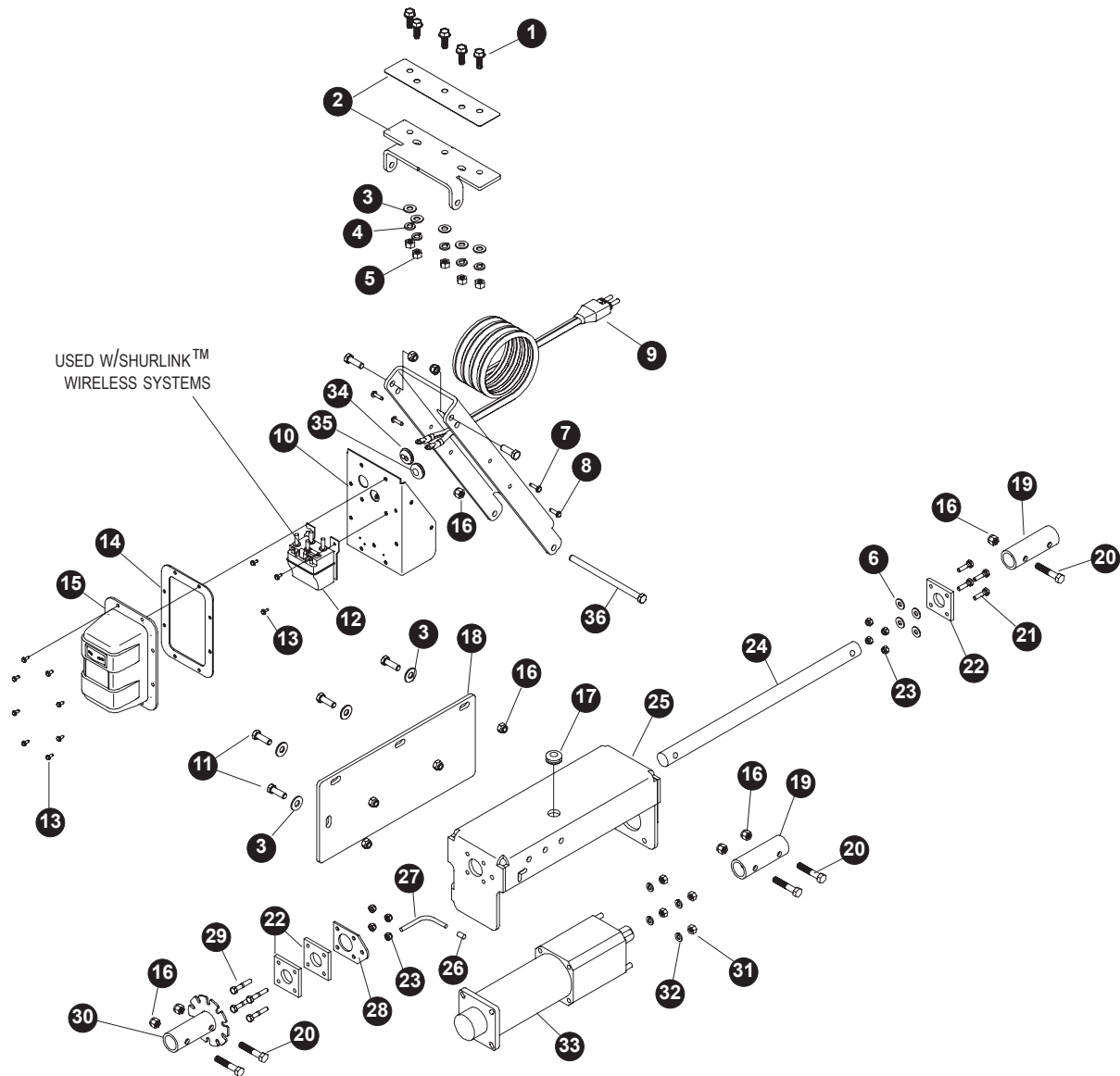




WIRELESS ASSEMBLIES

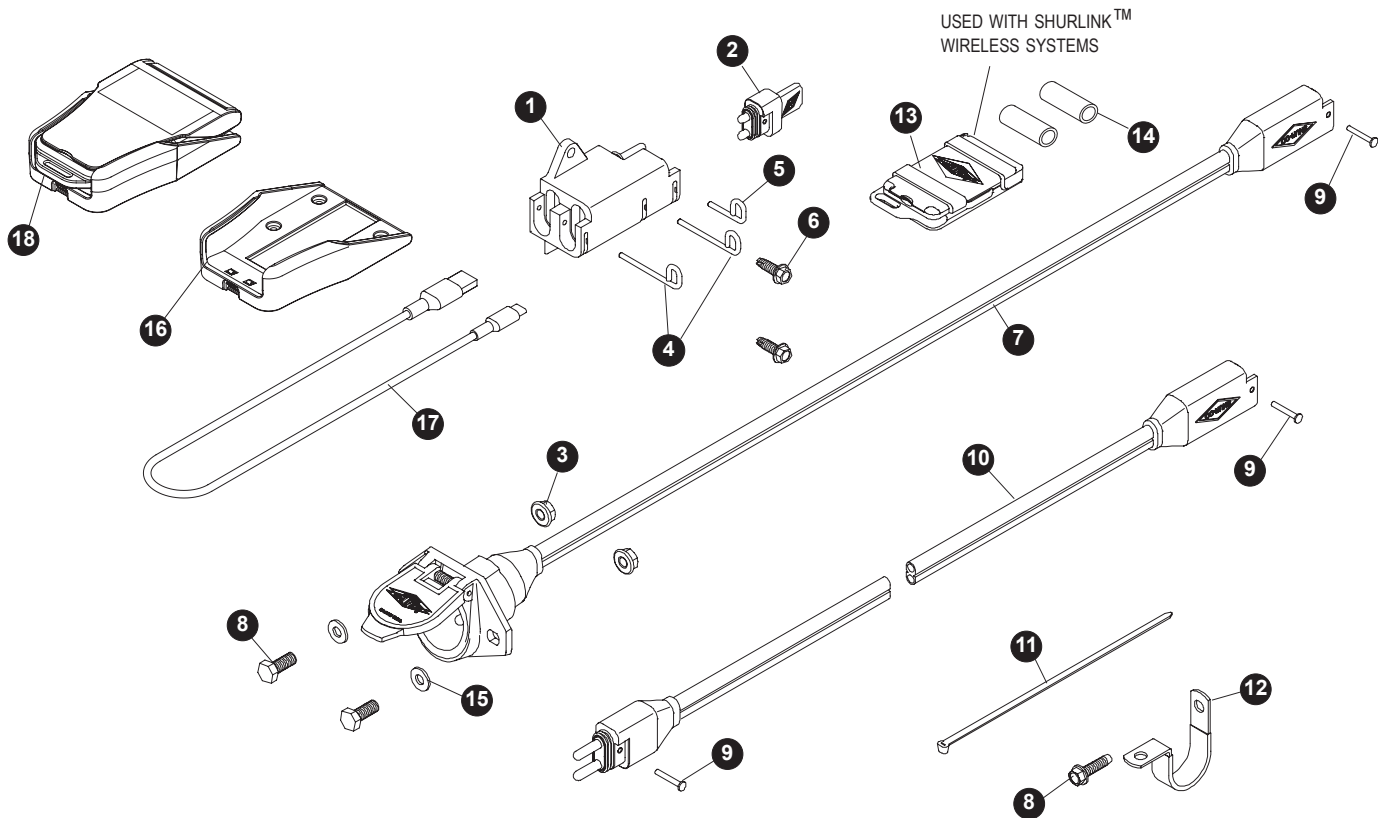
Item	Part #	Description
1.	1700400	Self-Tapping Screw - 3/8" x 1"
2.	1118439	Replacement Hinge Bracket
3.	1700429	Flat Washer - 3/8"
4.	1700434	Lock Washer - 3/8"
5.	1700407	Hex Nut - 3/8"
6.	1700427	Flat Washer - 1/4"
7.	1701580	Nylon Lock Nut - 3/8"
8.		SMARTwire™ - 6 Ga. - Plug - Ring Terminal
9.	1702904	Cap Screw - 3/8" x 1-1/8"
10.	1120623	Intermediate Bracket
11.	1704270	Rubber Grommet - 1/2" x 11/16"
12.	1705408	Motor-Reversion Solenoid - 3 Pt. Mt. Black Wire
13.	1704367	Hex Flange Cap Screw - #10 x 3/4"
14.	1704309	Gasket - Solenoid Cover
15.	1131631	Solenoid Cover Assembly - ShurLink
16.	1118436	Mud Flap (Includes Flap, 3, 7 & 9)

Item	Part #	Description
17.	1118038	Coupling - 1-3/8" x 4"
18.	1704264	Cap Screw - 3/8" x 2"
19.	1700381	Cap Screw - 1/4" x 1"
20.	1118034	Flange Bearing
21.	1701543	Nylon Lock Nut - 1/4"
22.	1118033	Manual Shaft
23.	1118026	Motor Bracket
24.	1704276	Protective Cap - 1/4" x 1/2"
25.	1118036	Locking Pin
26.	1118035	Lock Retainer
27.	1700377	Cap Screw - 1/4" x 1-1/2"
28.	1118031	Locking Coupling
29.	1704389	Hex Nut - 5/16"
30.	1700433	Lock Washer - 5/16"
31.	1119072	ProTrap® 150 Motor
	1118400	ProTrap® 250 Motor
	1125713	ProTrap® 350 Motor
32.	1701378	Cap Screw - 3/8" x 6-1/2"



RAIL MOUNT ASSEMBLIES

Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
1.	1700400	Self-Tapping Screw - 3/8" x 1"	15.	1131631	Solenoid Cover Assembly - ShurLink™	26.	1704276	Protective Cap - 1/4" x 1/2"
2.	1119074	Replacement Hinge Bracket	16.	1701580	Nylon Lock Nut - 3/8"	27.	1118036	Locking Pin
3.	1700429	Flat Washer - 3/8"	17.	1704270	Rubber Grommet - 1/2" x 11/16"	28.	1118035	Lock Retainer
4.	1700434	Lock Washer - 3/8"	18.	1118436	Mud Flap (Includes Flap, 3, 11 & 16)	29.	1700377	Cap Screw - 1/4" x 1-1/2"
5.	1700407	Hex Nut - 3/8"	19.	1118038	Coupling - 1-3/8" x 4"	30.	1118031	Locking Coupling
6.	1700427	Flat Washer - 1/4"	20.	1704264	Cap Screw - 3/8" x 2"	31.	1704389	Hex Nut - 5/16"
7.	1118527	Intermediate Bracket - Rail Mt.	21.	1700381	Cap Screw - 1/4" x 1"	32.	1700433	Lock Washer - 5/16"
8.	1704367	Cap Screw - #10 x 3/4"	22.	1118034	Flange Bearing	33.	1119072	ProTrap® 150 Motor
9.		SMARTwire™ - 6 Ga. - Plug - Ring Terminal	23.	1701543	Nylon Lock Nut - 1/4"		1118400	ProTrap® 250 Motor
10.	1120701	Modular Control Bracket	24.	1118033	Manual Shaft		1127513	ProTrap® 350 Motor
11.	1702904	Cap Screw - 3/8" x 1-1/8"	25.	1118026	Motor Bracket	34.	1704818	Rubber Grommet - 1/2" x 1-1/16"
12.	1705408	Motor-Reversion Solenoid - 3 Pt. Mt. Black Wire				35.	1704721	Rubber Grommet w/Slot
13.	1704308	Hex Flange Cap Screw - #10 x 1/2"				36.	1703178	Cap Screw - 3/8" x 6-1/2"
14.	1704309	Gasket - Solenoid Cover						



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.		SMARTwire™ - 6-Ga. x 25' - Plug/Socket
11.	1703231	Cable Tie - 8"
12.	1702108	Wire Clip - 3/4"
13.	1131576	5-Channel ShurLink EZR™ Remote
14.	1705163	ShurLink EZR™ Remote Replacement Battery
15.	1700427	Flat Washer - 1/4"
16.	1131764	ShurLink PRO Charging Cradle
17.	1706836	ShurLink PRO Charging Cable
18.	1131575	ShurLink PRO Remote w/Cradle & Charging Cable

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