

PURKEYS

**DIRECT-04 V1.10
OWNER'S MANUAL
MAXON # 295972-500**

PURKEYS
DIRECT 
LIFTGATE CHARGING SYSTEM

DIRECT-04 V1.10 OWNER'S MANUAL

DIRECT™ FOR STRAIGHT TRUCK OR REEFER APPLICATION



OWNER'S MANUAL CONTENTS

General Information	2
Direct-04 Diagram for Straight Truck	3
Direct-04 Diagram for Reefer	4
Direct™ Controller Mounting	5
Straight Truck Input Harness Installation*	6
Reefer Input Harness Installation*	8
Direct™ Main Harness	9
Parts List	14

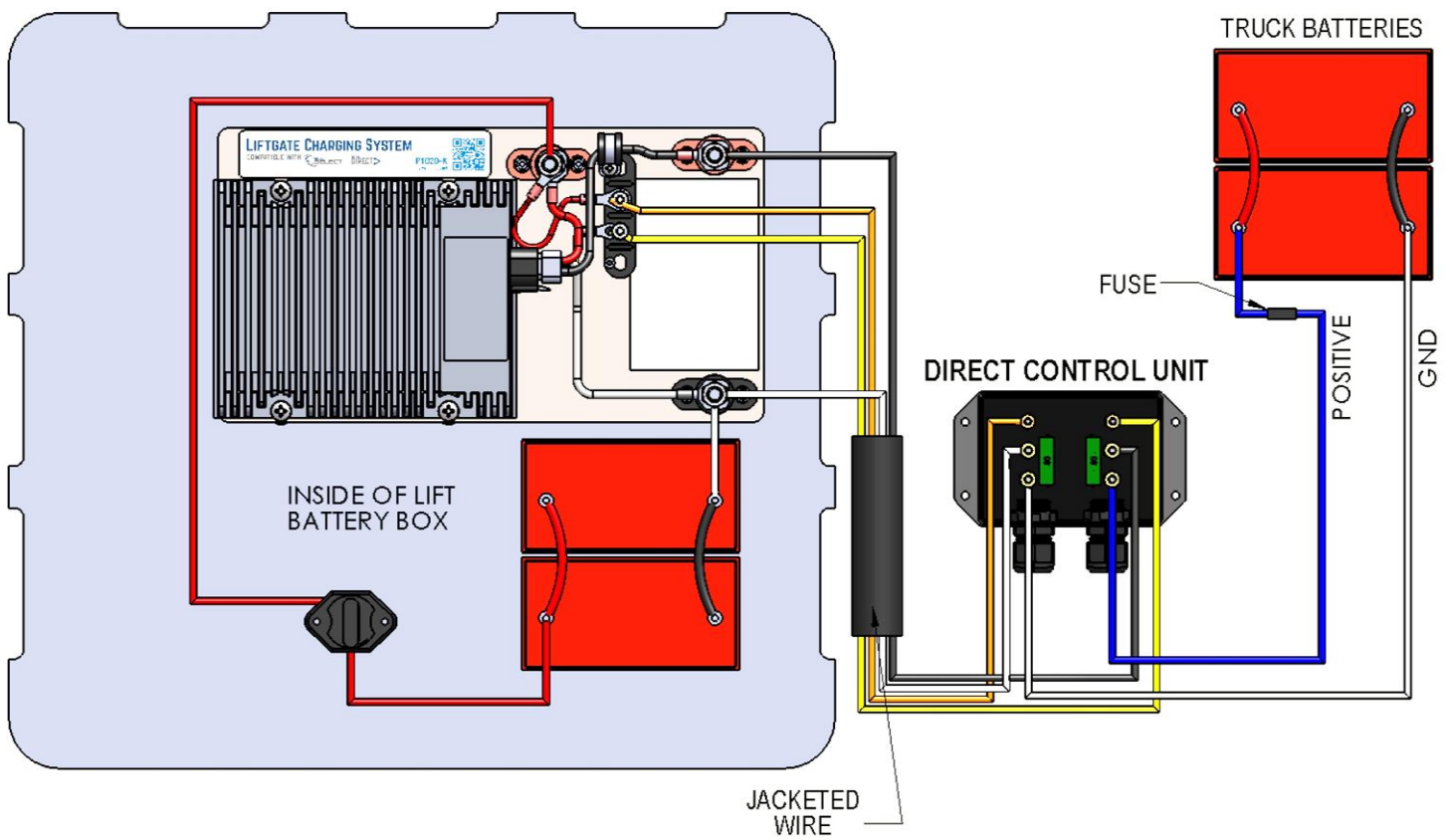
***NOTE:** *If this kit is being installed in a Straight Truck application then refer to page 6 or if this kit is being installed in a Reefer application then refer to page 8 for the input harness installation.*

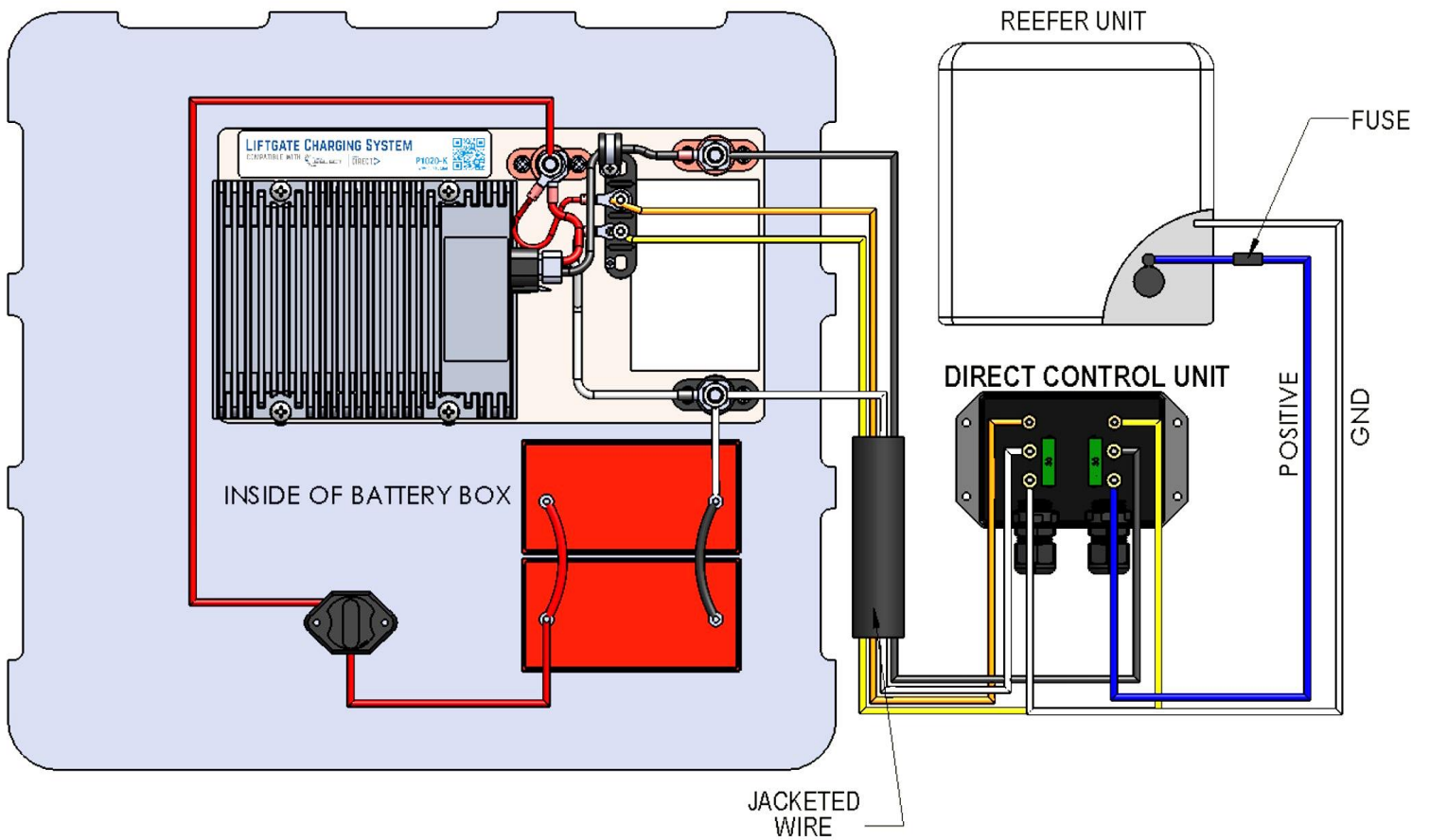
GENERAL INFORMATION

The Purkeys Direct™ system improves the charging of liftgate batteries by utilizing a DC-DC Converter to boost the voltage to optimally charge the batteries. The boost in voltage is needed to overcome the voltage drops in the long cables from the vehicle's primary electrical system. Also, in cold temperatures batteries require a higher voltage to get fully charged. The DC-DC Converter in the Direct™ system compensates for temperature as well as for voltage drops and gets the best voltage to the remotely located liftgate batteries. The result is well charged liftgate batteries that will last longer and that will have ample power for liftgate operation.

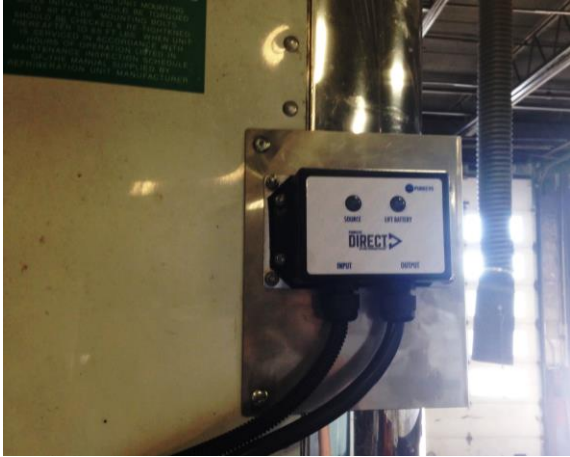
The Direct™ system is automatic and has easy to interpret LED indicators to assure drivers and technicians of proper system function. The Direct™ Controller increases the time that the DC/DC Converter can charge the liftgate batteries by monitoring the source power and "Extending" the liftgate battery charge time to take full advantage of the available power without compromising the source batteries' ability to crank the engine. Simply put, the Direct™ system provides opportunity charging for the liftgate batteries that is essential in low mileage, high frequency liftgate operation applications. The LED indicators clearly show the status of the source as well as the status of the liftgate batteries. A quick glance at the Direct™ Controller assures the driver that the liftgate batteries are ready to go, or alerts the driver that the batteries need maintenance.

DIRECT-04 DIAGRAM FOR STRAIGHT TRUCK



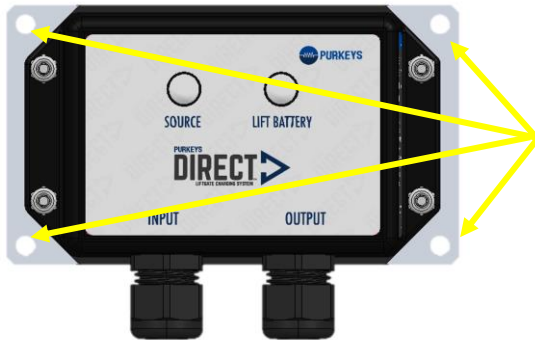
DIRECT-04 DIAGRAM FOR REEFER


DIRECT™ CONTROLLER MOUNTING



STEP 1

Mount the Direct™ controller at the front of the trailer via the mounting holes on the L bracket.

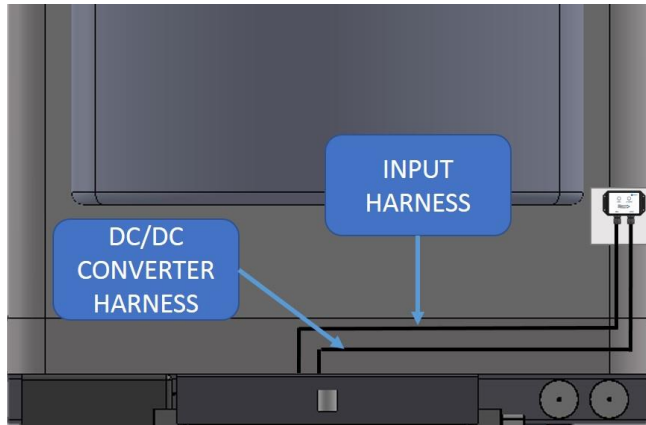


NOTE: If the L bracket is not used then the Direct™ controller should be mounted to the front of the trailer via the mounting holes on the plate.

STRAIGHT TRUCK INPUT HARNESS INSTALLATION

STEP 1

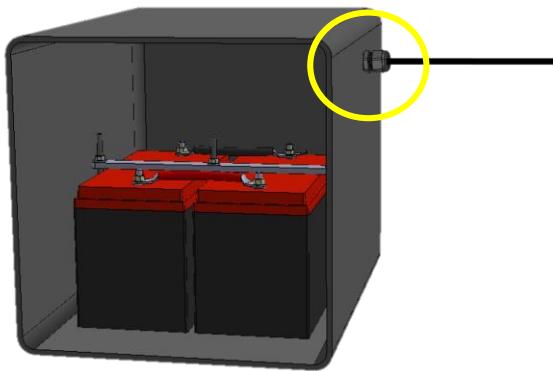
Route the jacketed 2 conductor input harness toward the vehicles battery box.



IMPORTANT: Place the cable clamps along the input harness every 6 inches to ensure proper support for the cable. Also avoid sharp edges and possible chaffing points.

STEP 2

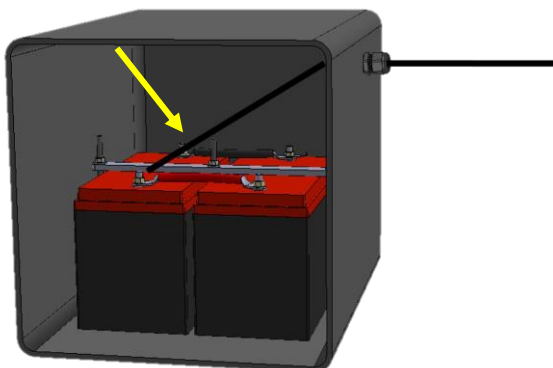
Once you are near the area where the vehicle battery box is located, begin routing the jacketed 2 conductor input harness into the battery box through a dome nut or rubber grommet.

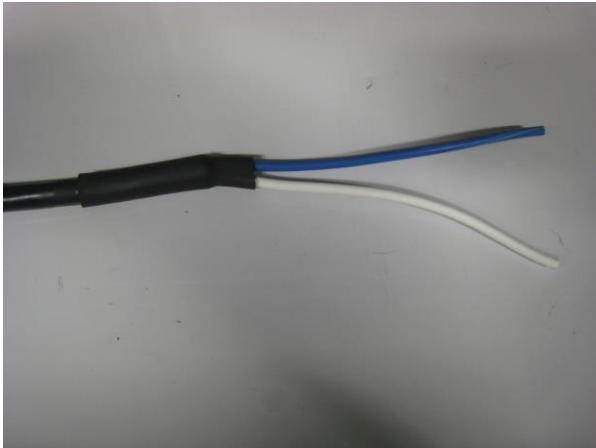


IMPORTANT: Ensure that the jacketed 2 conductor main harness enters the liftgate battery box through a dome nut or rubber grommet to prevent chaffing of harness which could result in possible electrical short in the system.

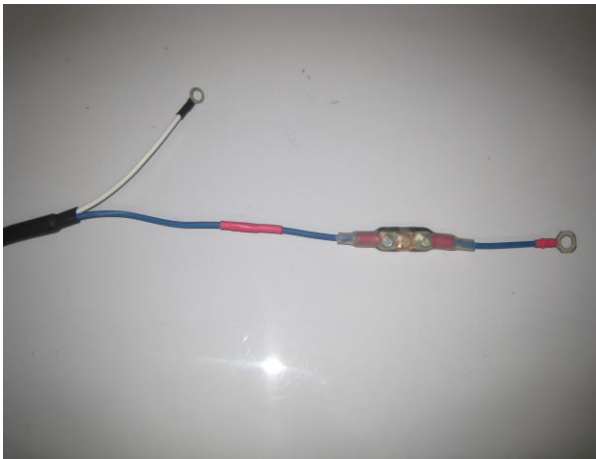
STEP 3

Position the jacketed 2 conductor input harness so that it will reach the positive and negative battery studs. Mark the jacketed 2 conductor main harness so that it can be taken back out of the battery box to be trimmed, the inline fuse assembly and 3/8" eyelet added.

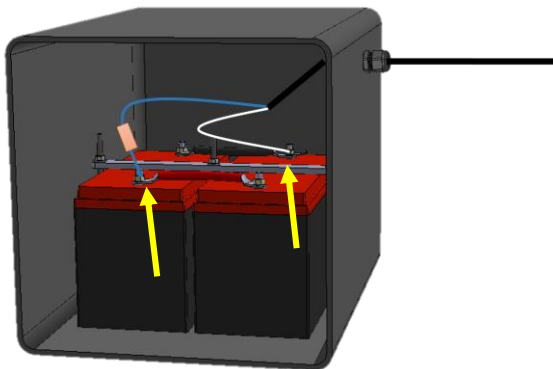


**STEP 4**

Cut about 6 inches off the jacketed portion off of the white and blue wires. Apply the supplied $\frac{3}{4}$ inch black heat shrink where the jacket was stripped off.

**STEP 5**

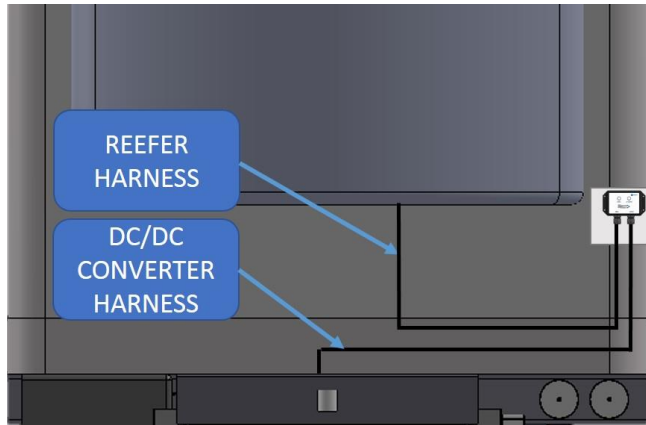
Slide the supplied red $\frac{1}{4}$ inch heat shrink over the blue wire. Slide the supplied black $\frac{1}{4}$ inch heat shrink over the white wire. Crimp $\frac{3}{8}$ ring terminal onto the white wire and the fuse assembly onto the blue wire. Position the heat shrink over the crimps and apply heat.

**STEP 6**

Connect the fused blue wire to the battery positive post and the white wire to the battery negative post. Tighten connections.

NOTE: *It may be necessary to re-route the jacketed 2 conductor back into the battery box before making any terminations to the 2 wires to prevent the cable from not fitting through the dome nut or rubber grommet.*

REEFER INPUT HARNESS INSTALLATION



STEP 1

Route the jacketed 2 conductor up towards the reefer compartment.

IMPORTANT: Place the cable clamps along the reefer harness every 6 inches to ensure proper support for the cable. Also avoid sharp edges and possible chaffing points.



STEP 2

Connect the reefer harness white ground wire to the reefer's engine block ground and tighten.

Note: When adding a ground to the engine block, the terminals need to be mounted 30 degrees from each other and the biggest terminal closest to the engine block to ensure a good ground terminal connection.



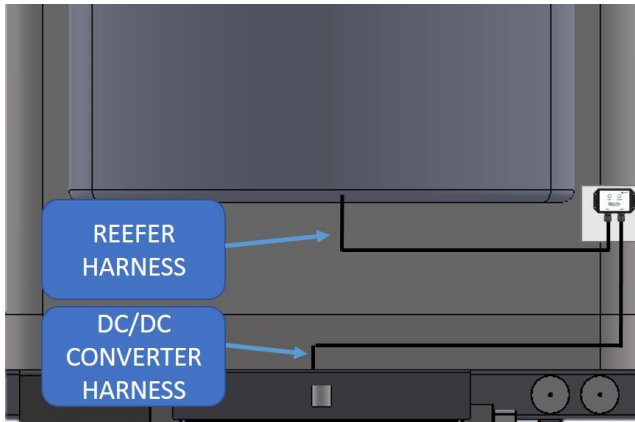
STEP 3

Connect the reefer harness pink positive wire with the 30 amp inline fuse to the reefer starter positive post.

Note: Make sure no wire is hanging and all clamps and cable ties are no longer than 6 inches apart from each other.

Reefer Harness Installation Complete

DIRECT™ MAIN HARNESS INSTALLATION



STEP 1

Route the Direct™ jacketed 4 conductor main harness for the DC/DC converter behind the front plate then behind the header plate through the air/electrical tube to the center channel.



STEP 2

Route the Direct™ jacketed 4 conductor main harness in the center channel toward the back of the trailer. Secure with wire ties or cable clamps as you go.

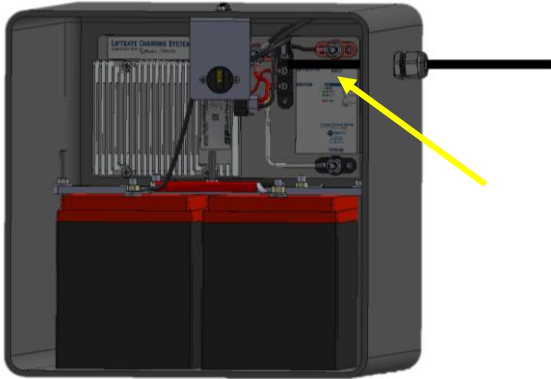
IMPORTANT: Place the cable clamps along the 4 conductor jacketed main harness every 6 inches to ensure proper support for the cable. Also avoid sharp edges and possible chaffing points.



STEP 3

Once you are near the area where the liftgate battery box is located, begin routing the Direct™ jacketed 4 conductor main harness into the liftgate battery box through a dome nut or rubber grommet.

IMPORTANT: Ensure that the jacketed 4 conductor main harness enters the liftgate battery box through a dome nut or rubber grommet to prevent chaffing of harness which could result in possible electrical short in the system.

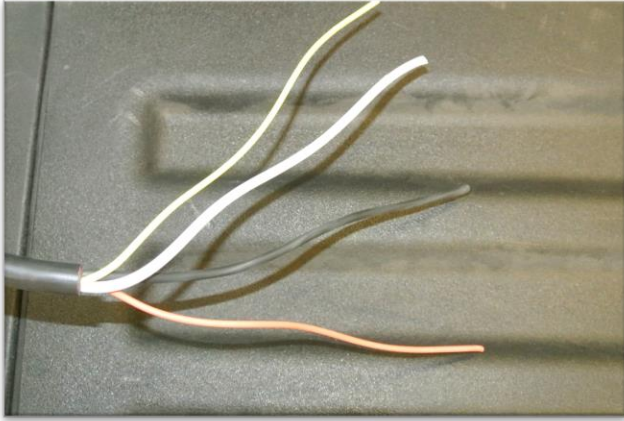
**STEP 4**

Position the Direct™ jacketed 4 conductor main harness so that it will reach the 2 stud strip and all the slack has been taken up. Mark the jacketed 4 conductor main harness so that it can be taken back out of the battery box to be terminated.

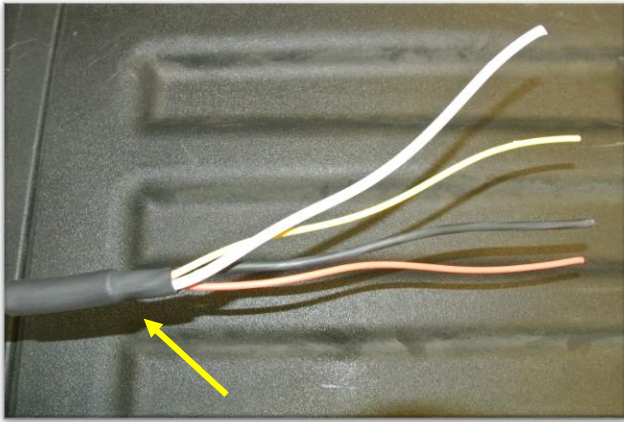
Note: If your battery box includes a slide out tray, include enough slack to allow the tray to fully extend without tugging on the wire connections.

**STEP 5**

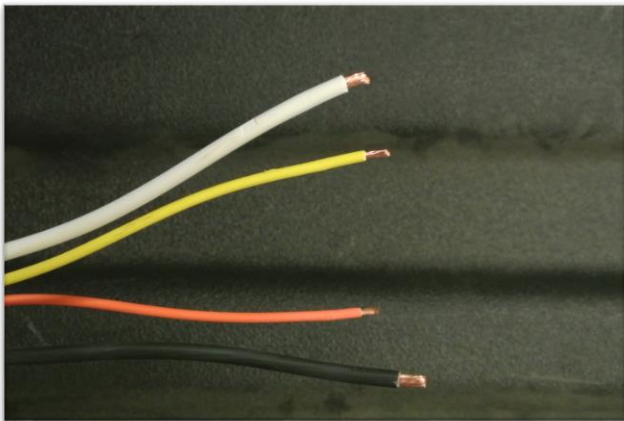
Pull the jacketed 4 conductor back main harness out of the box (easier to work on) and cut off the excess at the mark.

**STEP 6**

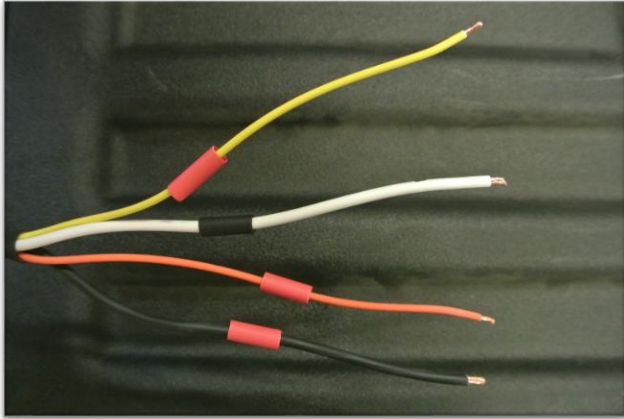
Cut about 8 inches of the jacketed portion off of the 4 wires.

**STEP 7**

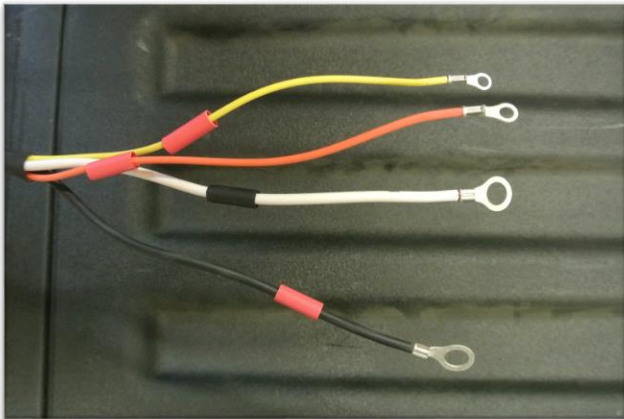
Apply the supplied $\frac{3}{4}$ inch black heat shrink where the jacket was stripped off.

**STEP 8**

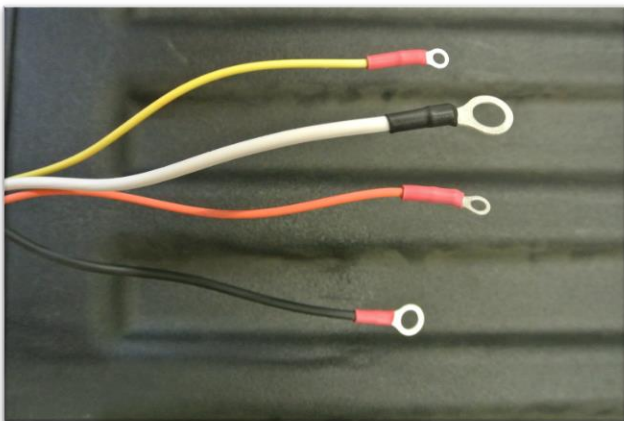
Strip $\frac{3}{8}$ of an inch of insulation off all 4 wires.

**STEP 9**

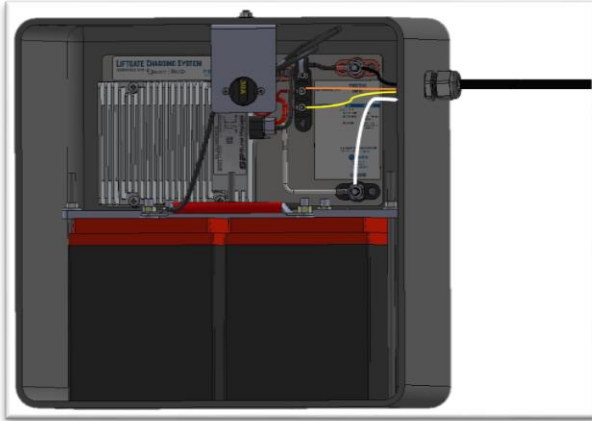
Slide the supplied red ¼ inch heat shrink over the orange, yellow and black wires. Slide the supplied black ¼ inch heat shrink over the white wire.

**STEP 10**

Crimp 3/8 ring terminals onto the white and black 10 gauge wires. Crimp #10 ring terminals onto 14 gauge orange and yellow wires.

**STEP 11**

Position the heat shrink over the crimps and apply heat to the 4 terminals.

**STEP 12**

Re-route the jacketed 4 conductor main harness back into the battery box.

- Connect the 10 gauge black wire to the red Positive Input Stud.
- Connect the 10 gauge white wire to the black Ground Stud.
- Connect the 14 gauge orange wire to the Liftgate (+) Stud.
- Connect the 14 gauge yellow wire to the Ignition Stud.

Direct™ Main Harness Installation Complete

PARTS LIST



PART# MOD00077
MAXON# 907265-01
DIRECT™ CONTROLLER REPLACEMENT

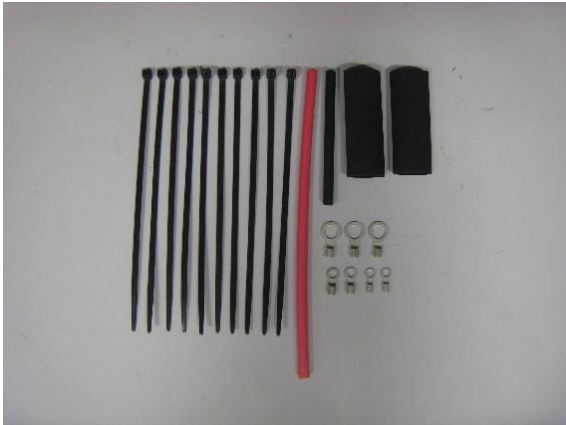


PART# H-00286
MAXON# 907247-01
50FT MAIN HARNESS



PART# H-00345
MAXON# 907258-01
20FT SEL/DIR INPUT HARNESS

PARTS LIST



PART# BK-1049 (Revision B)
MAXON# 907251-01
TERMINAL BAG KIT



PART# BK-1054 (Revision B)
MAXON# 907267-01
HARDWARE BAG KIT



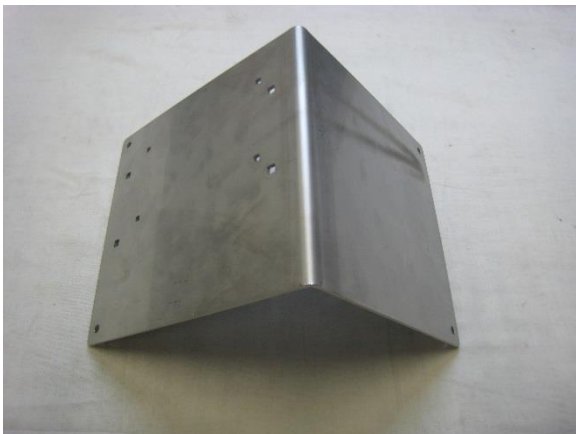
PART# DIRECT-04
MAXON# 295972-01
DIR REEFER OR STRAIGHT TRUCK

PARTS LIST

PART# FH00043
MAXON# 907259-01
MIDI FUSE HOLDER



PART# F00062
MAXON# 907264-01
30AMP MIDI FUSE



PART# PL00079
MAXON# 907263-01
DIRECT MOUNTING PLATE

PARTS LIST

PART# INST041
MAXON# 295972-500
DIRECT-04 OWNERS MANUAL



PART# INST030
MAXON# 295211-501
DIRECT TROUBLESHOOTING