

# PURKEYS

**DIRECT-02 V1.10  
OWNER'S MANUAL  
MAXON # 295220-500**

PURKEYS  
**DIRECT**   
LIFTGATE CHARGING SYSTEM

# DIRECT-02 V1.10 OWNER'S MANUAL

## DIRECT™ WITH DUAL/SINGLE POLE COMBINATION OPTION



### OWNER'S MANUAL CONTENTS

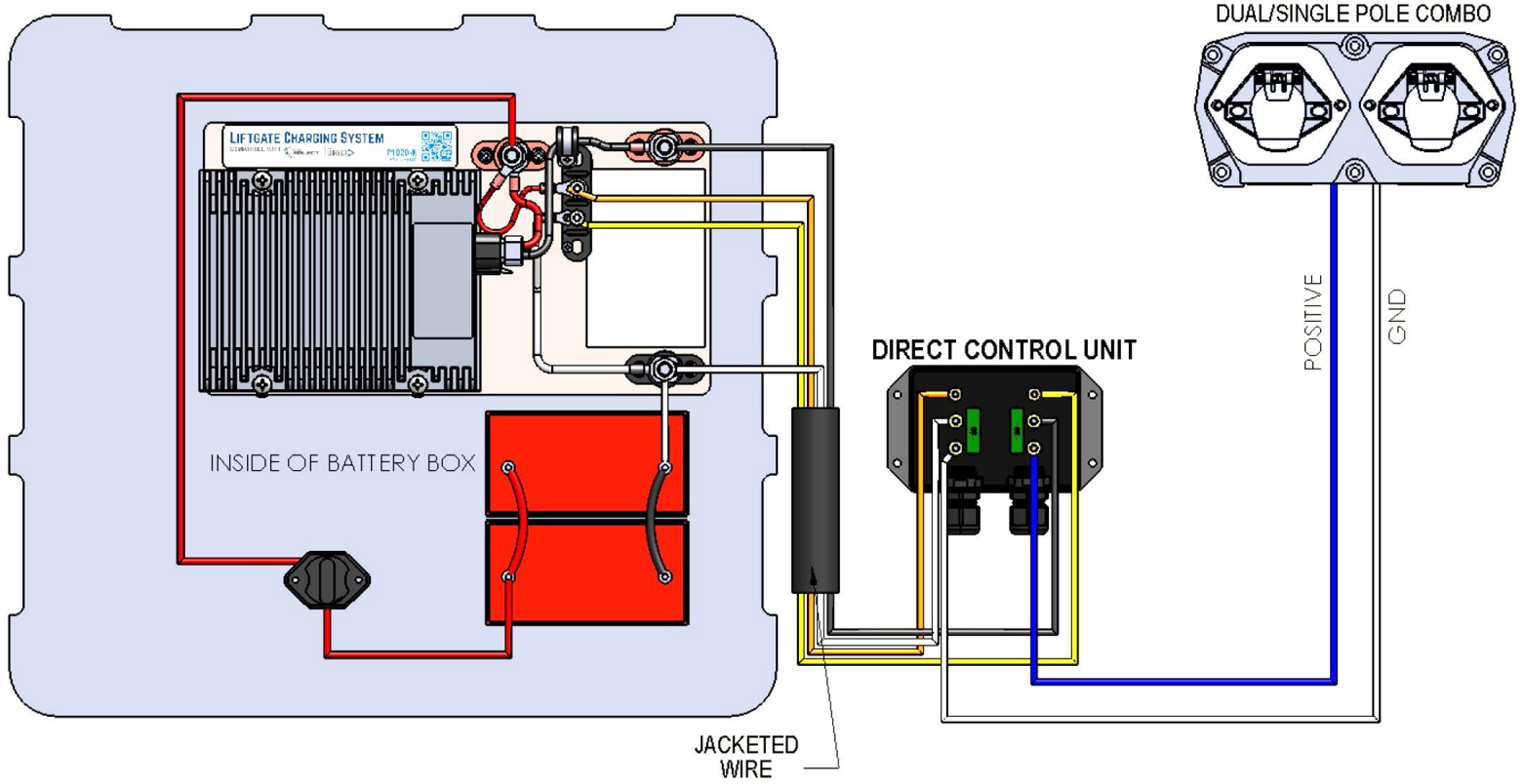
General Information .....	2
Direct-02 Diagram .....	3
Direct™ Controller Mounting Instructions .....	4
Direct™ Main Harness Installation .....	5
Parts List .....	9

## 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-02 DIAGRAM

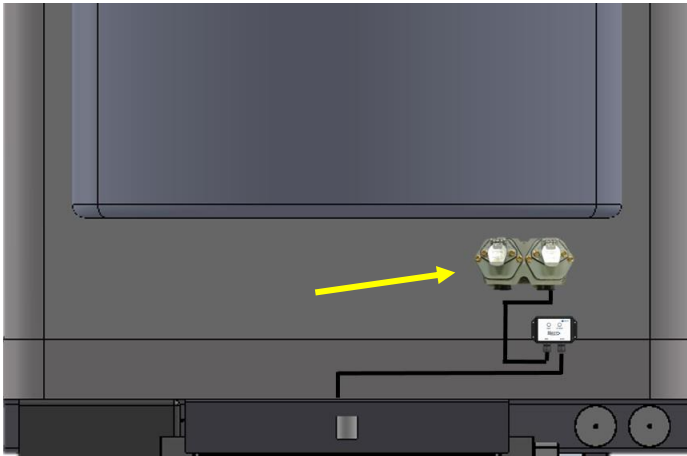


## DIRECT™ CONTROLLER MOUNTING



### STEP 1

Mount the Direct™ controller at the front of the trailer via the mounting holes on the plate that the controller is mounted too.

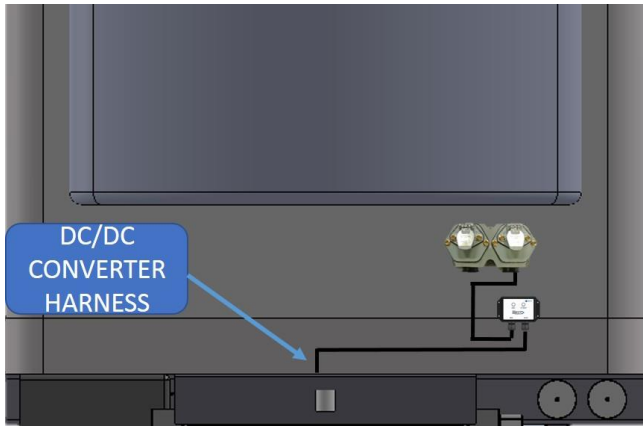


### STEP 2

Mount the Dual/Single Pole Nose box to the front of the trailer close to the Direct™ controller. The connections to the Direct™ controller have already been made.

**Note:** *The Dual/Single Pole nose box must be mounted with the wires facing down to help prevent water intrusion.*

## DIRECT™ MAIN HARNESS INSTALLATION



### STEP 3

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 4

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.

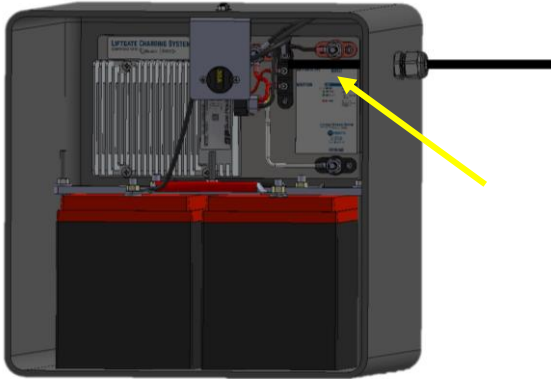
**IMPORTANT:** Place the cable clamps along the 4 conductor jacketed main harness every 6 inches to ensure proper support for the cable. Also avoid sharp edges and possible chaffing points.



### STEP 5

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.

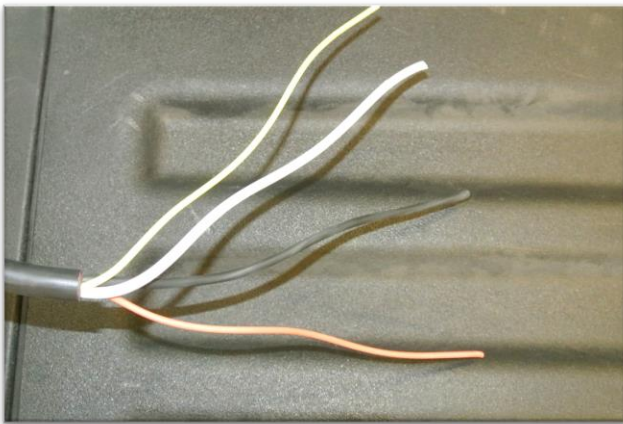
**STEP 6**

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.

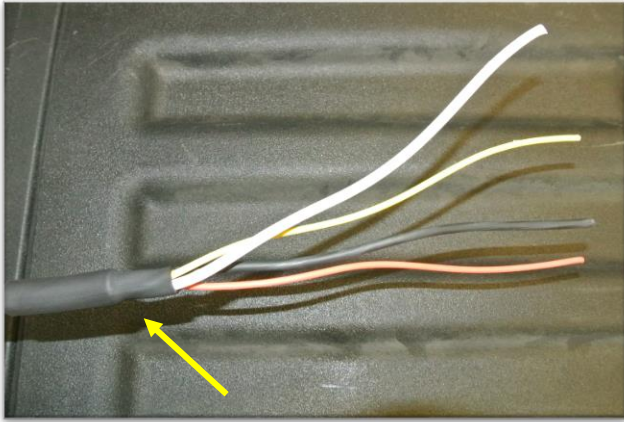
**Note:** *If your battery box includes a slide out tray, include enough slack to allow the tray to fully extend without tugging on the wire connections.*

**STEP 7**

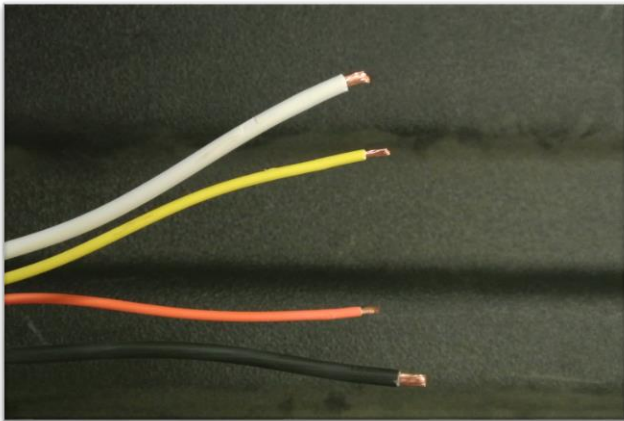
Pull the jacketed 4 conductor back main harness out of the box (easier to work on) and cut off the excess at the mark.

**STEP 8**

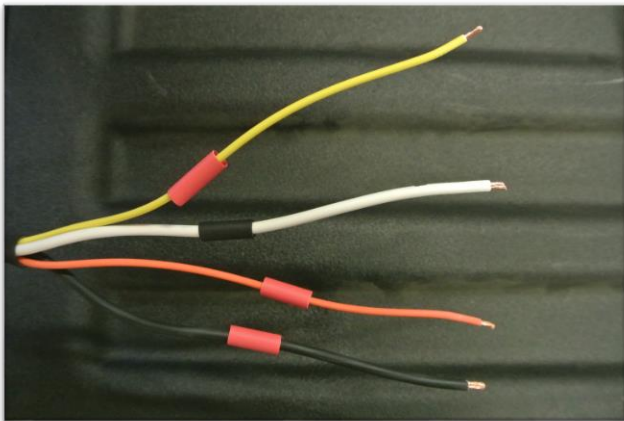
Cut about 8 inches off the jacketed portion off of the 4 wires.

**STEP 9**

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

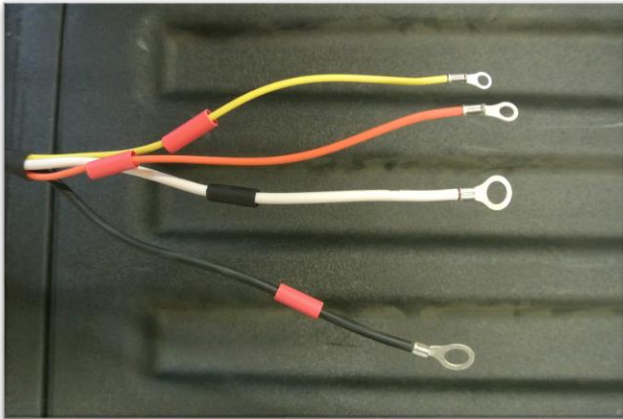
**STEP 10**

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

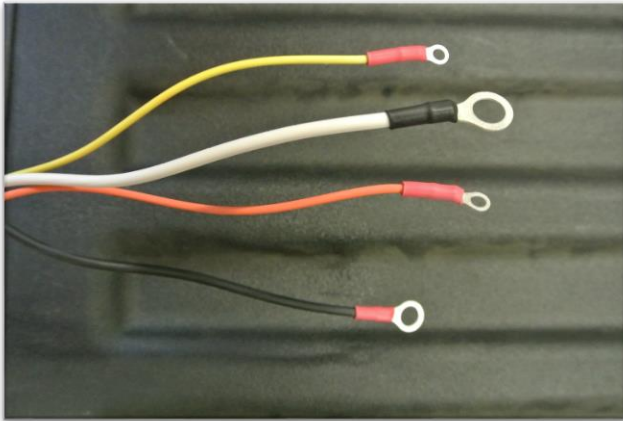
**STEP 11**

Slide the supplied red  $\frac{1}{4}$  inch heat shrink over the orange, yellow and black wires. Slide the supplied black  $\frac{1}{4}$  inch heat shrink over the white wire.

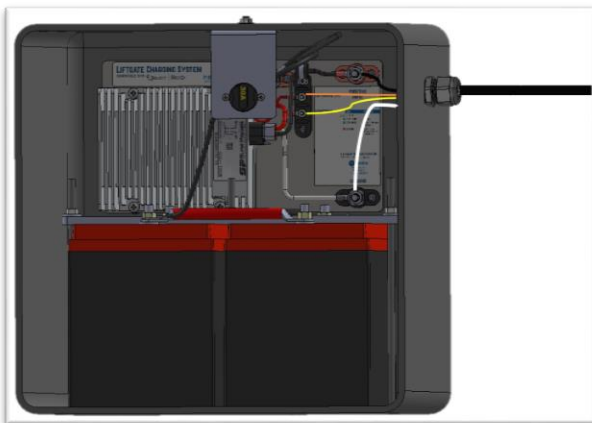


**STEP 12**

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 13**

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

**STEP 14**

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

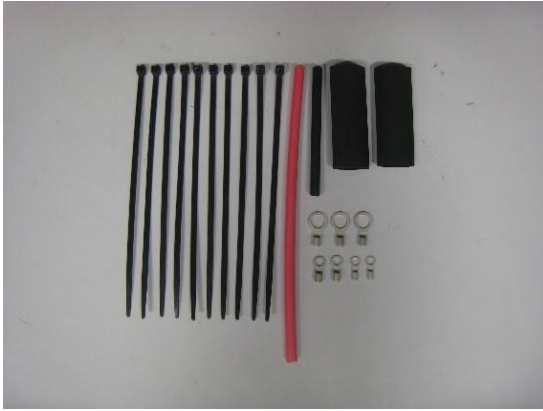


PART# H-00286  
MAXON# 907247-01  
50FT MAIN HARNESS

PART# H-00315  
MAXON# 907270-01  
70FT MAIN HARNESS



PART# NB00036  
MAXON# 907268-01  
DUAL/SINGLE POLE NOSE BOX

**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-02  
MAXON# 295220-01  
DIRECT™ WITH DUAL COMBO CONNECTION

PART# DIRECT-02-70  
MAXON# 295220-01-100  
DIRECT™ WITH DUAL COMBO CONNECTION 70' HARNESS

**PARTS LIST**

PART# INST032  
MAXON# 295220-500  
DIRECT-02 OWNERS MANUAL



PART# INST030  
MAXON# 295211-501  
DIRECT TROUBLESHOOTING