



Always one step ahead

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# Drivein™ 3.5" LCD TOUCH TOTALLY INTEGRATED SYSTEM SECONDARIES MRB-612L MODULE

LAST UPDATED: 14-Dec-17

This vehicle is equipped with  
**Drivein-Touch™**  
Alternative driving System

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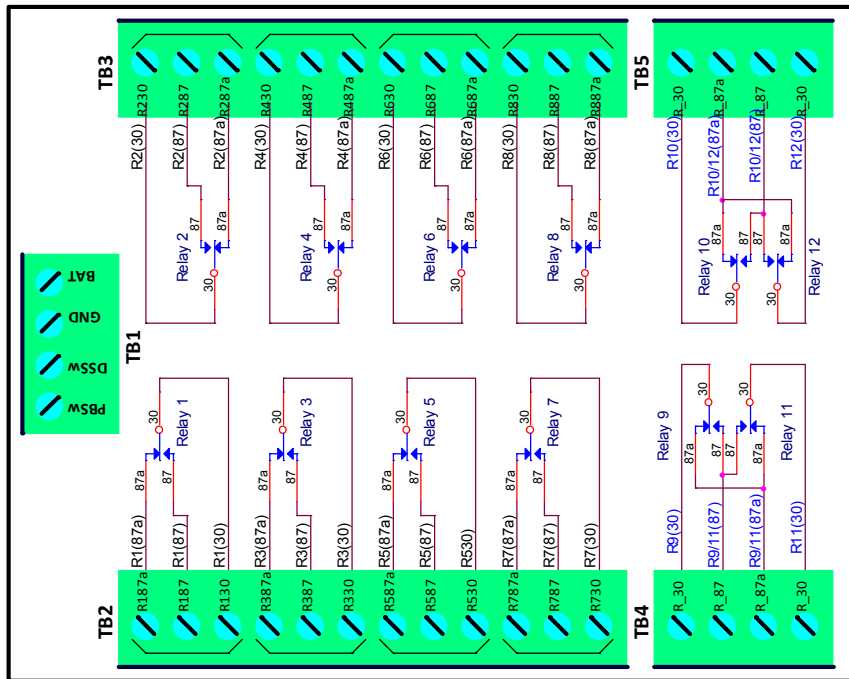
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## DRIVEIN SYSTEM COMONENTS

## INTERNAL RELAYS PINOUT

The MRB-612L module has 12 powerful internal relays, five pluggable connectors, two types as seen the picture below. Eight relays with standard pinouts and four relays configured to function as single relays or H-Bridge for Bi-Directional motor control. It is important to note the relays pinout on each connector, they are opposite. Every connector marked as TB#, Terminal Block number, TB1 is the main power and control, depending on the application, the BAT input can be connected to Ignition.



TB4: Terminal Block #4

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 Monday, October 09, 2017

MRB-612L Internal relays configuration

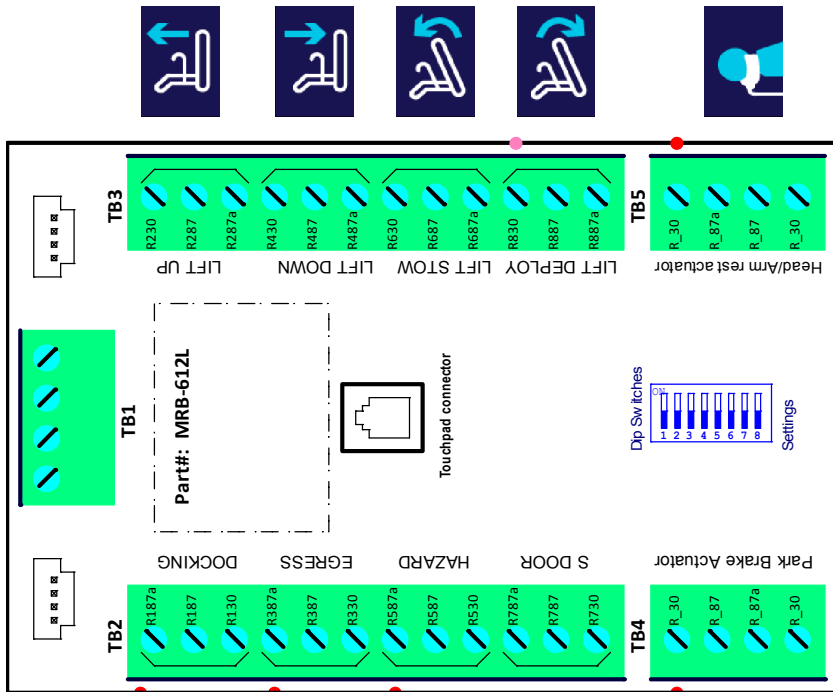
Size	CAEGE Code	DWG NO	Rev
A4	A4	059-957-746	MRB-612L
Scale	Sheet	1	of 3

# FUNCTION CONFIGURATION

This module is configured to do the following function, read this manual for more information about using and wiring each function.

EGRESS relay

Docking station relay



- PBsw: Park Brake Position Switch
- D5sw: Docking Station Switch
- Programmable: For more information, please read manual.
- No programmable feature.

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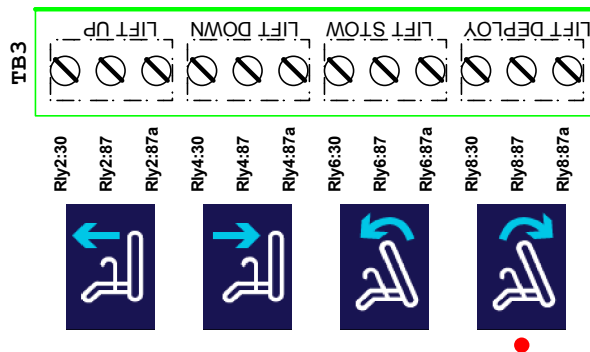
Universal Multi-Function module, 12 high current relays

Size	CAGE Code	DWG NO	Rev
A4	059-957-746		A
Scale	Part#: MRB-612L		Sheet 1 of 3
	SW: MRB-612L.HEX		

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# LIFT BUTTONS

Print this page and draw your specific lift wiring and keep it for servicing.



- The wheelchair lift relays are functional at all time. Only the Deploy button/relay is canceled while the gear is not in Park or Neutral position.

<b>R.A.SH Tronics Ltd</b> (T) +972-48517656 (F) +972-48523339 rashtronix@gmail.com Sunday, April 02, 2017		MRB-612L Wheelchair Lift wiring		
		Size A4	DWG NO 059-957-746	Part#: MRB-612L
Scale	Sheet 1	of 3		

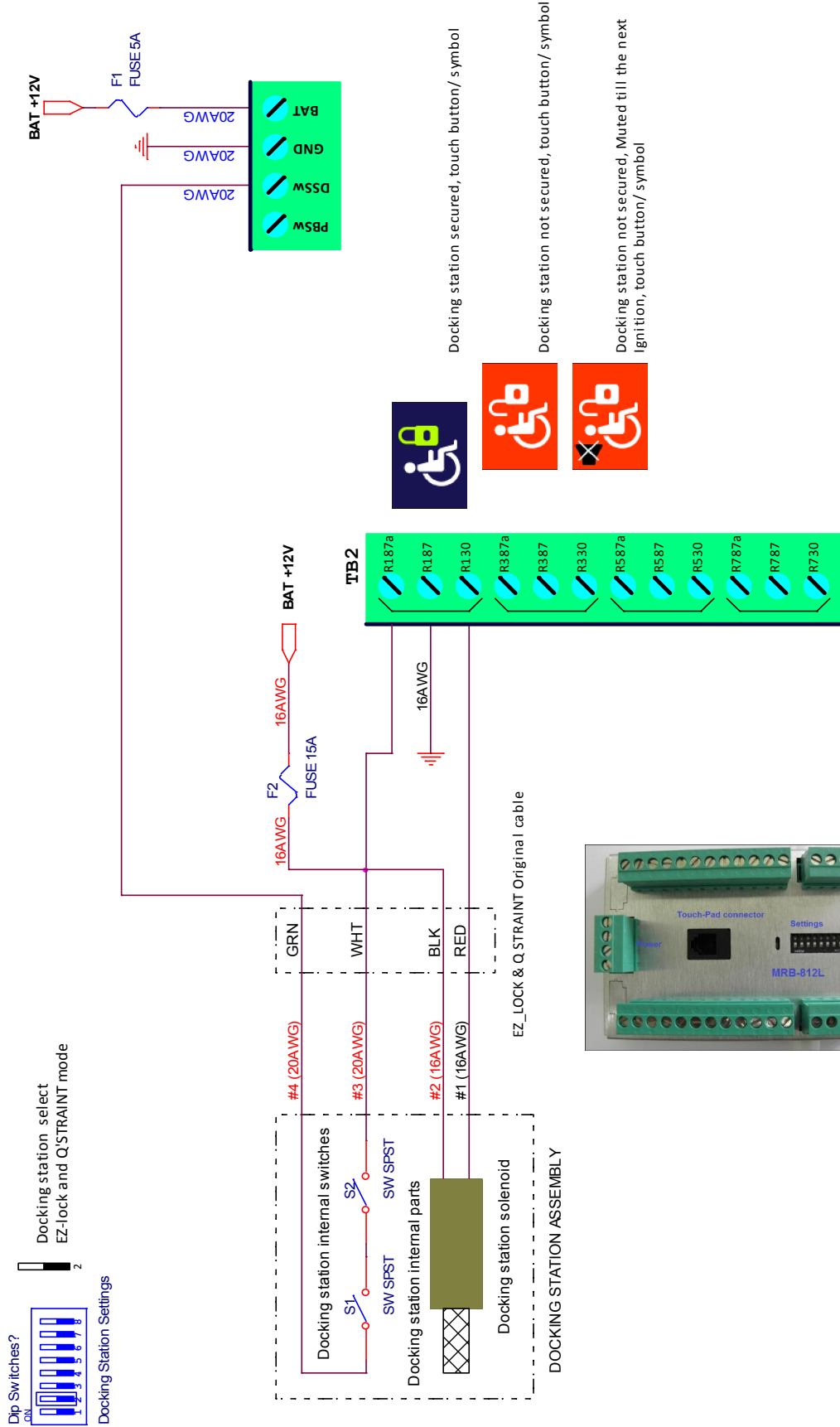
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## DOCKING STATION

Two docking station types supported, the EZ\_LOCK and PERMOLOCK, the manufacturer default is set to EZ\_Lock and Q'STRAIT.

The system controlled by docking station touch button on the In/Out screen. A small red symbol is displayed while the docking station is not locked and an alternating warning tone constantly heard. The docking station safety maintained by the current gear status, it is possible to unlock the docking jaws only when the current gear is in Neutral position or Park position, if the gear is not in one of these positions, it is not possible to release the EZ\_Lock system, shift into Park or Neutral position.

# EZ-LOCK DOCKING STATION WIRING



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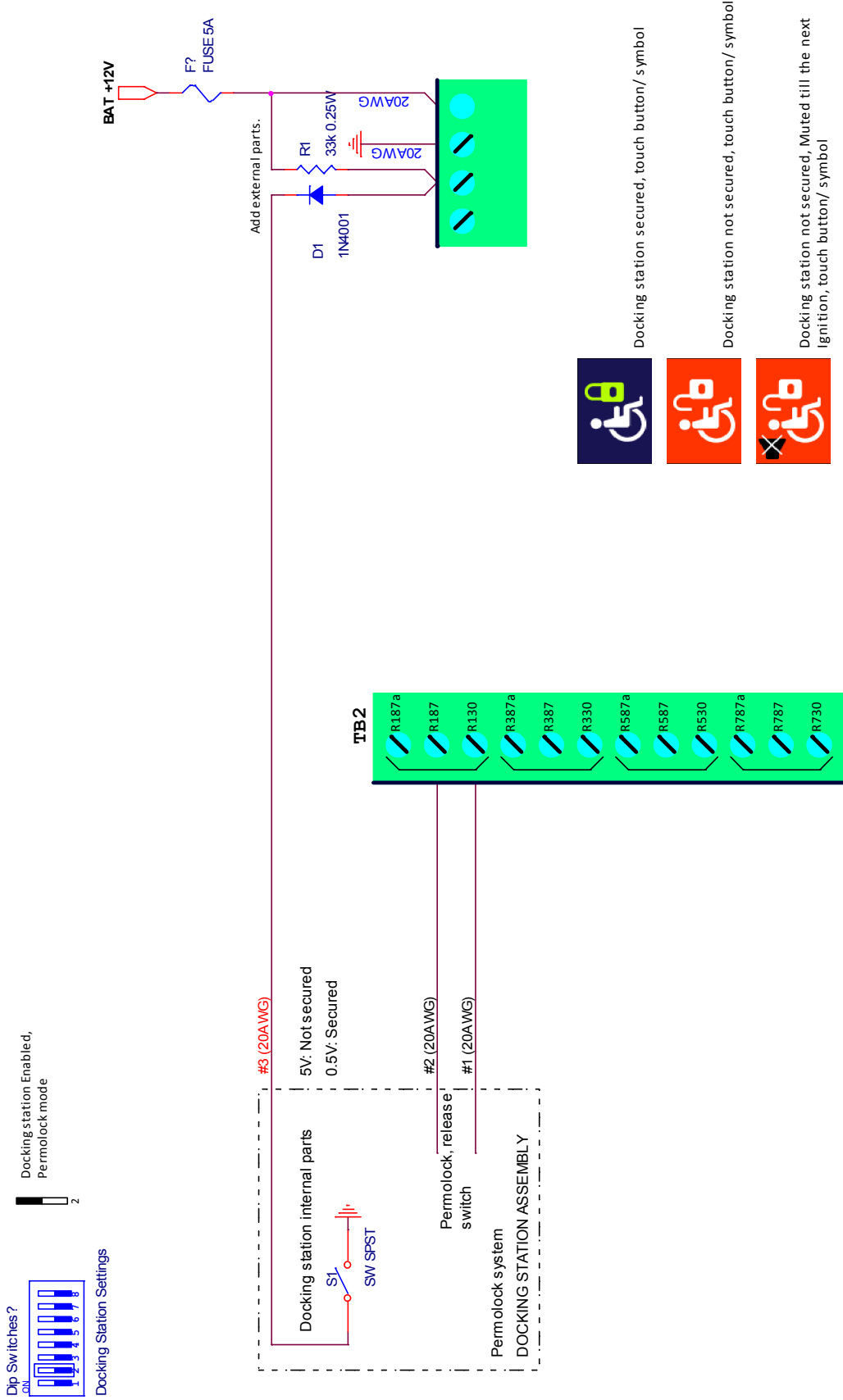
MRB-612L Docking Station Wiring

Size	CAGE Code	DWG NO	Rev
A4	059-957-746	Part#: MRB-612L	A
Scale	Sheet	1	of 3

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# PERMOLOCK DOCKING STATION WIRING



Dip Switches?

Docking station Enabled, Permlock mode

Docking Station Settings

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MRB-612L Docking Station Wiring (Permolock)

Size	CAGE Code	DWG NO	Rev
A4	059-957-746		A
Scale		Sheet	of
		1	3

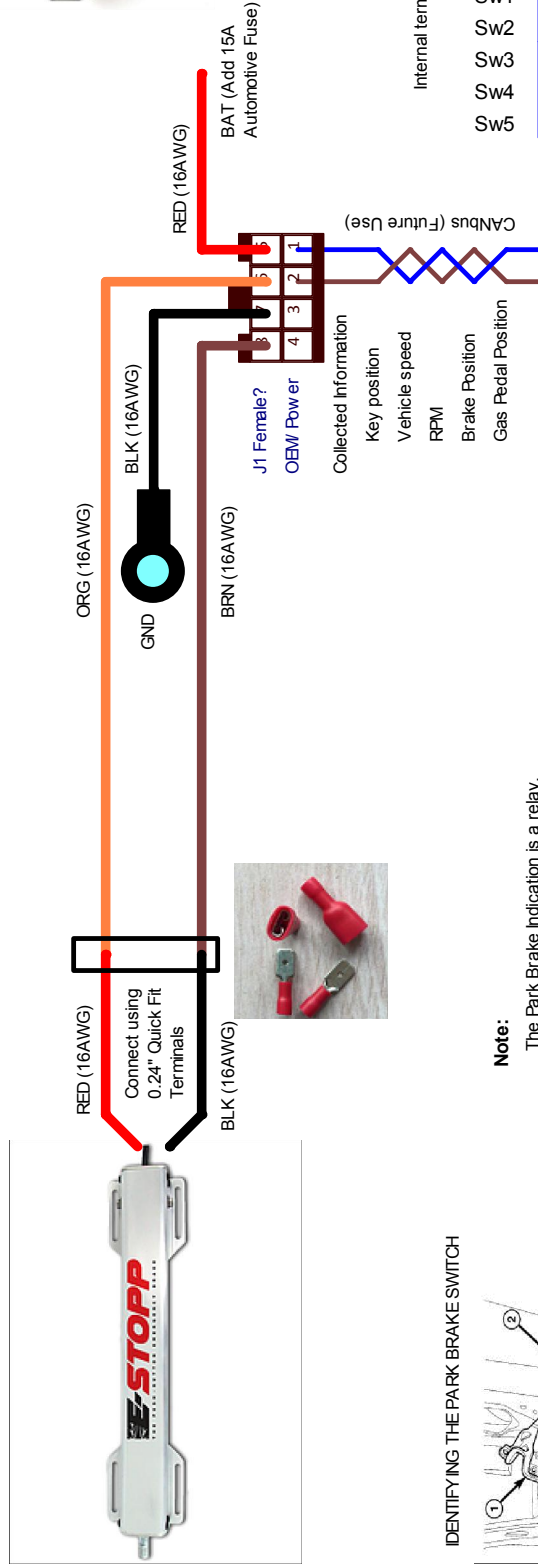
Part#: MRB-612L

## PARK BRAKE ACTUATOR INSTALLATION

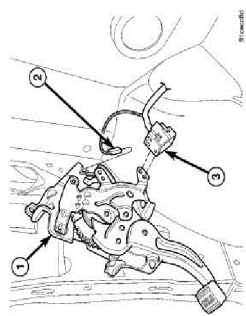
The MRB-612L supports two park brake systems, the first is the E-STOPP system, the second is using a universal bi-directional actuator, read more below. The manufacturer default is set to the E-STOPP, using two relays set to momentary, so it is possible to use in Long and short modes.

The Park brake condition is displayed on the screen and on the vehicle dash (depends on the installer wiring the OEM park switch).

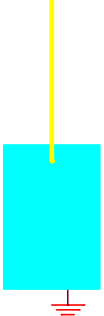
# E-STOPP POWER PARK BRAKE



### IDENTIFYING THE PARK BRAKE SWITCH

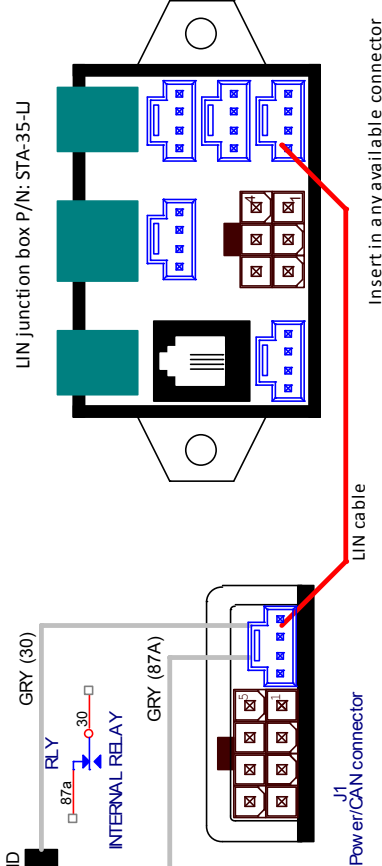


### (BASE OF PARKING BRAKE PEDAL ASSEMBLY) PARKING BRAKE SWITCH

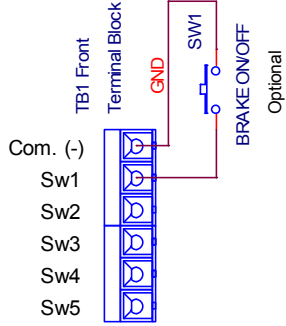


### Note:

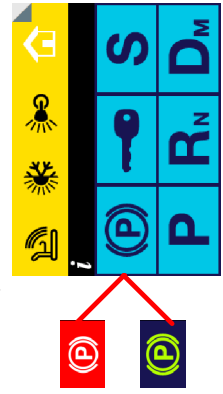
The Park Brake Indication is a relay. The relay can pass Positive or Negative up to 5A.



### Internal terminal blocks



### Park brake symbols on touch screen



### Key Features:

- Press and Hold to apply/ Release the brake. Minimum wiring.
- While the vehicle in move, the park brake switch is immediately apply and release.
- No ignition switch dependent.

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Tuesday, November 21, 2017

### Universal Powered Park Brake System (E-STOPP Actuator)

Size	CAGE Code	DWG NO	Rev
A4	059-957-746	FB-1LC	A
Scale	Sheet 2 of 3		
SW: FB-1LC.hex			

The park brake software decisions are made according to the OEM park brake position switch, located on the Park brake assembly. It is used by the vehicle electronic control units, to indicate the park brake status whether applied or released. The park brake position switch is independent, so it is not ignition dependent.

The best way of installing the actuator to get it to work properly, first locate the OEM park brake position and then locate the signal wire and wire it to TB1, PBSw pin. Depending on your mechanical solution, you should power the actuator and detect the Brake Apply direction (not the brake release) as per function list.

**Using the Park brake system**, the park brake touch symbol, reflects the park brake current position, this information is collected from the vehicle CAN-Bus network. The Park brake software behaves according to the OEM park switch status on the park brake assembly. For example, if the OEM Park switch senses 0V, the park brake is fully released, when the touch button is pressed, the system will apply brake. The same applies to the opposite side, when releasing the park brake.

**To release the park brake: Press & Hold the park brake touch symbol**, the actuator powered in the releasing direction. The system waits for the OEM park switch position to be pressed (0V), the actuator stopped immediately.

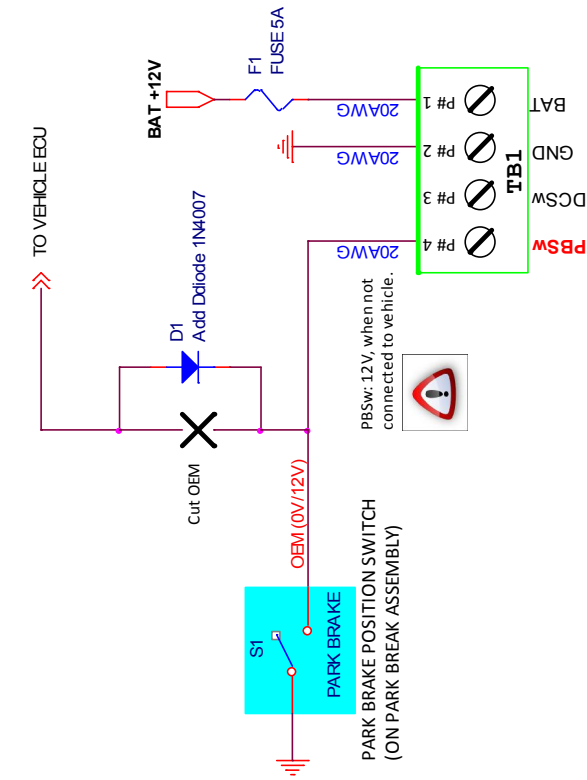
**To apply the park brake: Press & Hold the park brake touch symbol**, actuator powered in the applying direction. The system triggers a out timer, its value set by the Dip switches inside the control box. When the timer expires, the actuator stopped. It is the installer responsibility to set the time. It is recommended to measure the time set the dip switches with addition 2 seconds. When the actuator powered in both directions, a safety timer runs to stop the actuator in case of OEM switch errors (switch broken, wire damaged, actuator damaged...). There is no warning signal for any errors in the system. It is the installer responsibility to implement mechanical override or releasing systems.

Function list		
Dir. B	Dir. A	Function
0V	0V	Stopped
0V	12V	Applying
12V	0V	Releasing

the  
time

and

# BI-DIRECTIONAL PARK BRAKE ACTUATOR



These symbols are collected from the vehicle CAN-Bus. It represents the actual Park brake position.

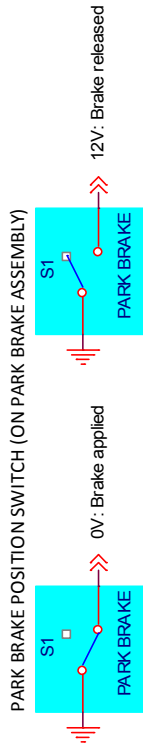
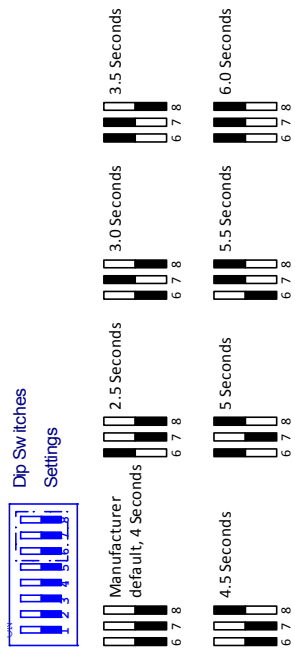


**Park brake applied symbol.**

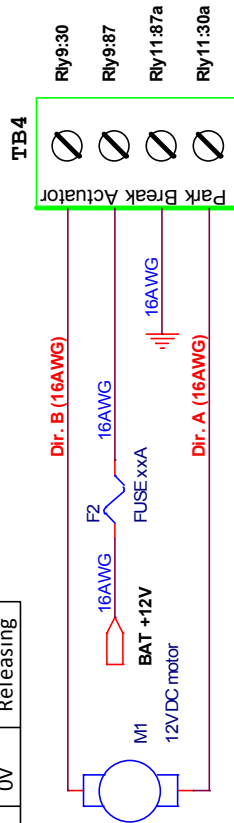
**Park brake release touch button**

**Park brake released symbol.**

**Park brake apply touch button**



Function list	
Dir. B	Function
0V	Stopped
12V	Applying
0V	Releasing



**PBSw: Park Brake Switch.**

PARK BRAKE APPLY DEFAULT TIME: 3.5 seconds.

PARK BRAKE IN OPERATION SAFETY TIMER: 8 seconds.

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Thursday, August 03, 2017

MRB-612L Park Brake Wiring


Size	CAGE Code	DWG NO	Rev
A4	059-957-746		A
Scale		Sheet	1 of 3



Part#: MRB-612L

## AUXILIARY BATTERY instructions

The Auxiliary battery system, designed to allow the driver to exit his vehicle during emergency situations, like engine problems, main battery charging problems. When the main battery is flat, it is not possible to activate the vehicle electrical systems, so the driver must immediately exit his vehicle. **The system does not allow cranking.** The LCD totally integrated is constantly powered by the two batteries (Main & Secondary), installation instructions must be carefully followed.

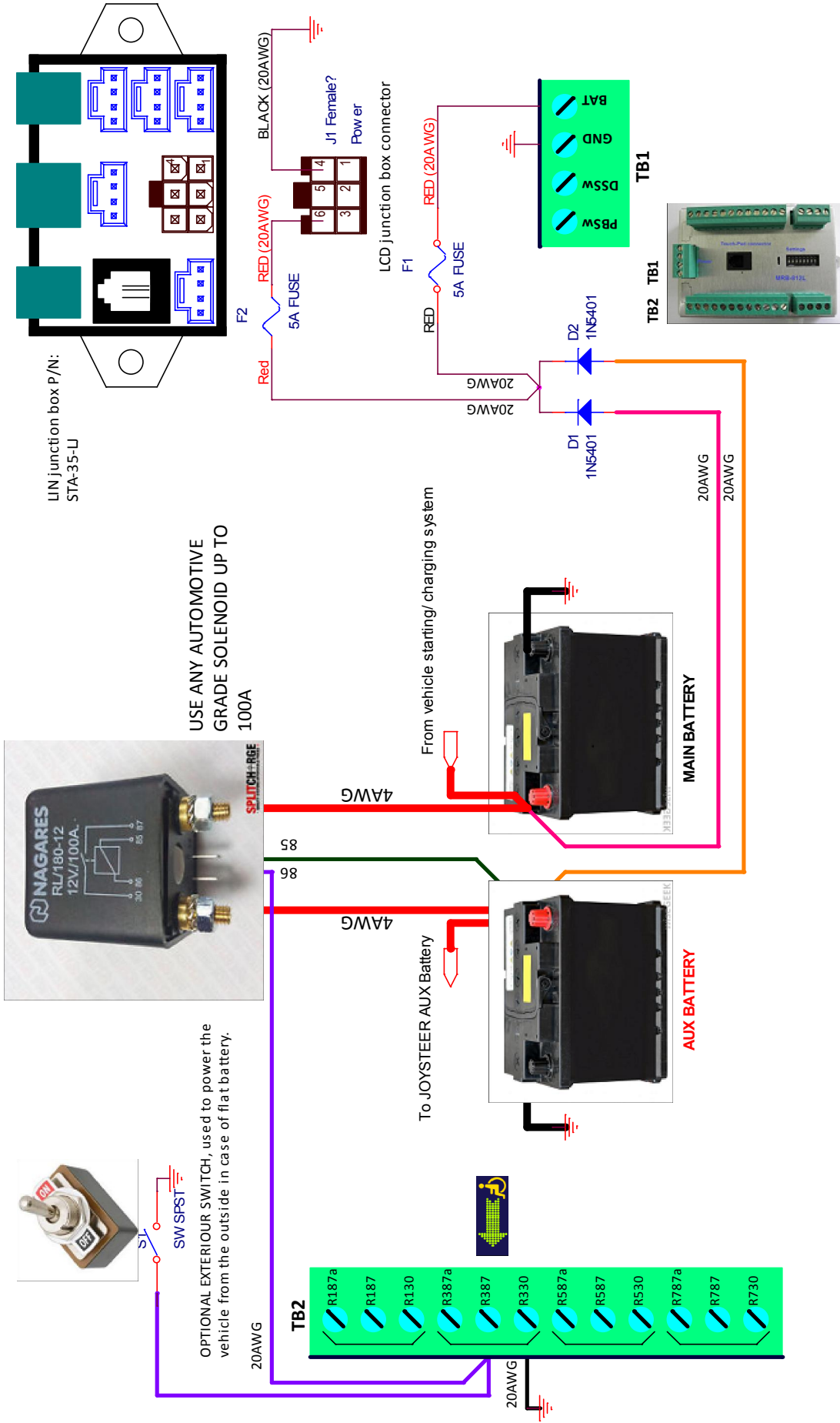
The system care of charging the secondary battery, it collects the charging voltage from the vehicle CAN-Bus network. The charging relay triggered as soon as the charging voltage reaches 13.2V, cancelled as soon as the engine stopped. Activating the ignition from the touch screen, automatically cancels the secondary battery relay.

The user has one touch button  to activate the secondary battery while in emergency situation. This touch button automatically disappears as soon as the engine started and charging voltage detected, it is because there is no reason to activate the secondary battery, all done automatically. When the engine stops for any reason (while driving, no fuel, engine problems...) this touch button immediately pop out to allow the driver immediate use of the system. When the system is functional (driver pressed the button and the relay is engaged), a 10 minutes' timer is triggered. When the time expires, the relay automatically turned off, in order to stop draining the secondary battery.

Auxiliary battery touch button screen Engine stopped.	Auxiliary battery touch button screen Engine running.
	

It is not possible to engage the secondary battery from the outside of the vehicle, when the main battery is flat (anyway it is not possible to use the vehicle normally).

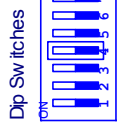
# EGRESS WIRING



USE ANY AUTOMOTIVE GRADE SOLENOID UP TO 100A

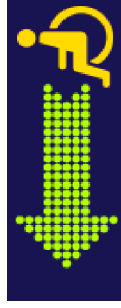
OPTIONAL EXTERIOR SWITCH, used to power the vehicle from the outside in case of flat battery.

4 Gauge AWG Battery Cable has an amperage capacity of 100 amps at a cable length of 9.4 feet. Don't even think to over lengthen the cable. It is recommended to shorten the battery cables as much as possible.

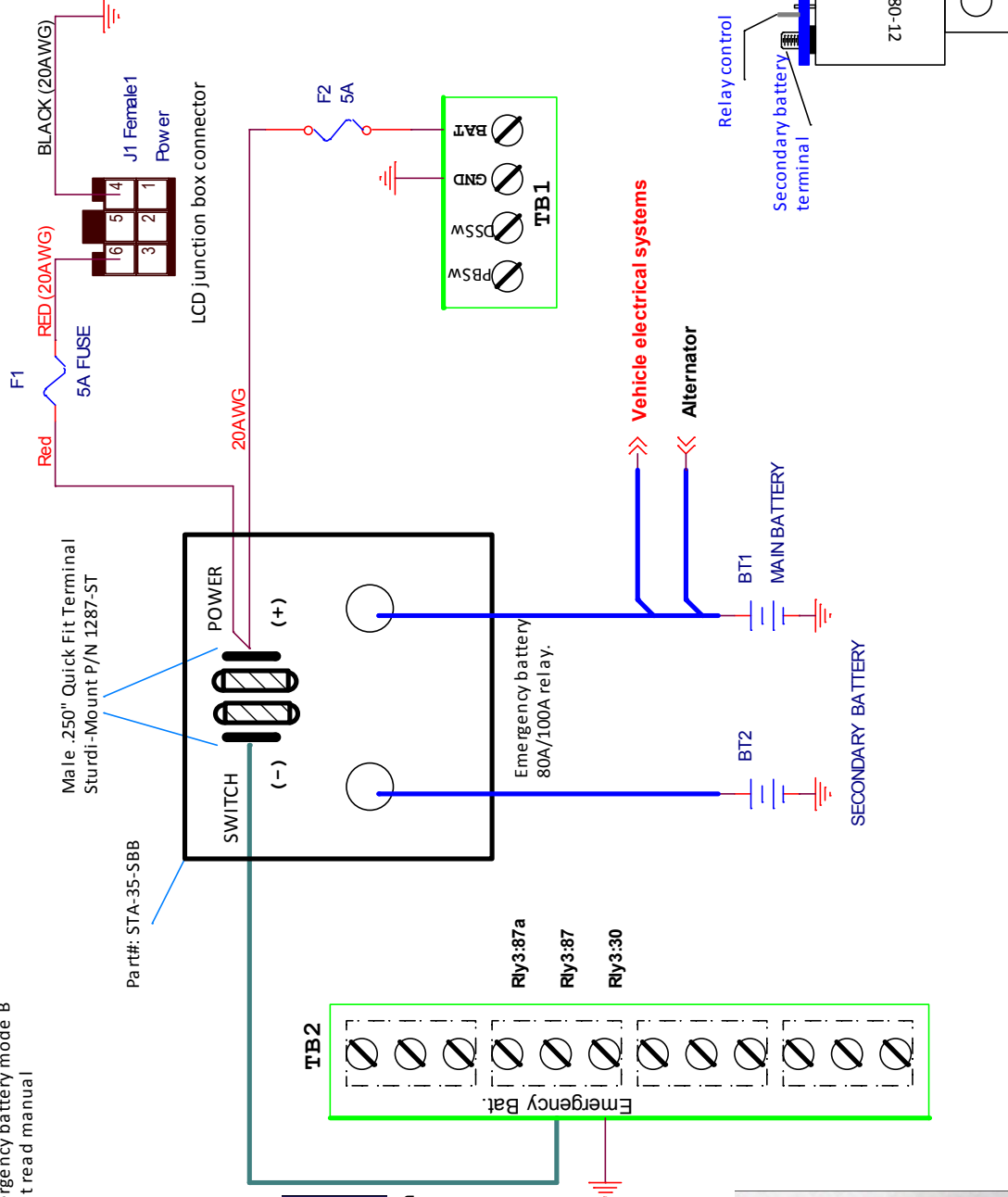


Dip Switches  
Emergency battery mode B  
Must read manual!

Emergency battery mode



Emergency battery engage touch button



Relay mounting and assembly, front view

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 Wednesday, April 12, 2017

MRB-612L Battery Back up wiring

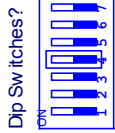
Size	CAGE Code	DWG NO	Rev
A4	059-957-746		A
Scale	Sheet 1 of 3		Part#: MRB-612L



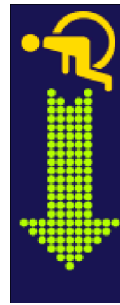
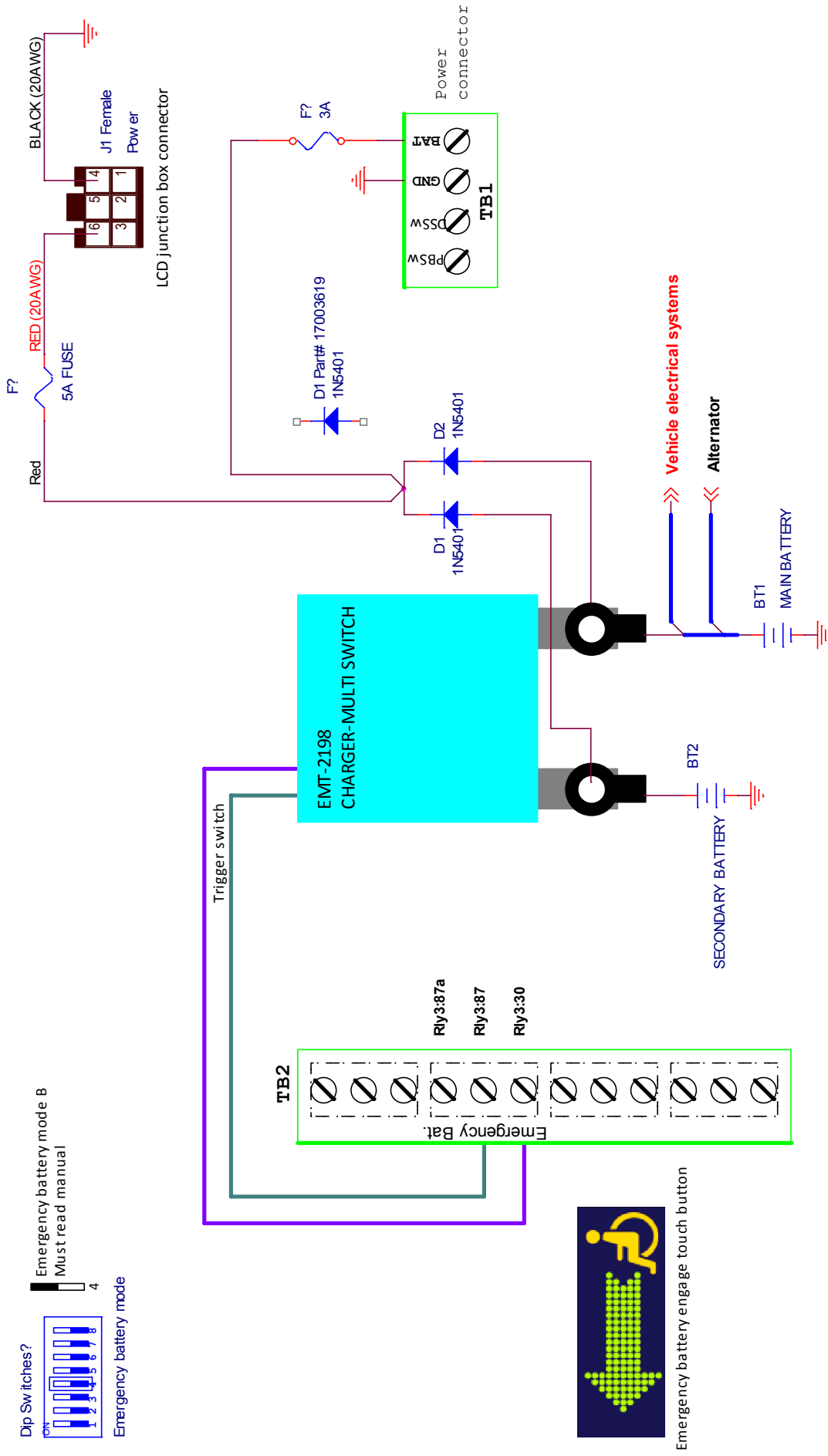
Relay not supplied with the kit.

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Emergency battery mode



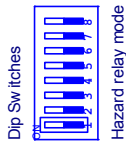
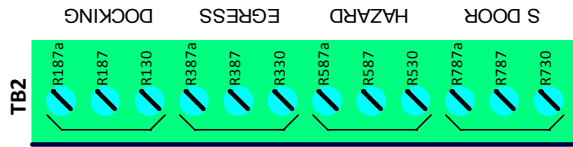
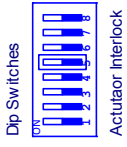
Emergency battery engage touch button

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 Saturday, April 15, 2017

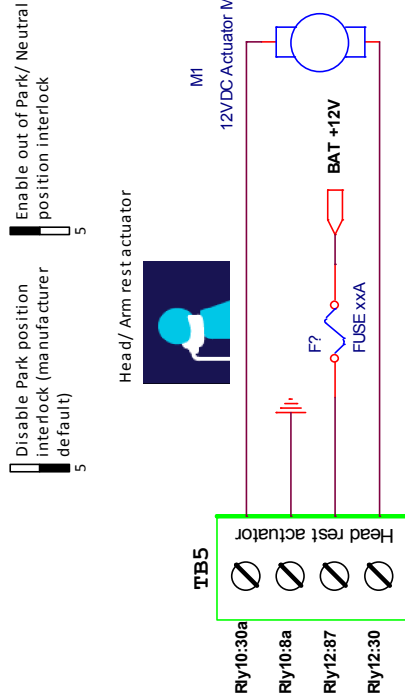
MRB-612L Battery Back up wiring		Rev
Size A4	CAGE Code 059-957-746	Part#: MRB-612L
Scale	Sheet 1	of 3

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# HAZARD, SLIDING DOOR & MORE



Hazard relay: momentary  
 Hazard relay: self latching



Disable Park position interlock (manufacturer default)  
 Enable out of Park/ Neutral position interlock

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 Friday, September 22, 2017

MRB-612L Hear rest/ Arm rest/ Dome light/ Slide door

Size	CAGE Code	DWG NO	Rev
A4	059-957-746		A
Scale	Sheet		of
	1		3

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