



# INDIAN MOTORCYCLES

CLASSIC - VINTAGE - DARKHORSE  
CHIEFTAN & ROADMASTER MODELS  
2014 - CURRENT

ELECTRIC REVERSE  
**SOFT START**

## Installation Instructions

Revised 2/2/2022

California Sidecar Parts & Technical Support  
434.263.6500

## Warnings and considerations:

1. **Disclaimer** - These instructions assume a level of understanding of motorcycle repair and maintenance beyond that of a “beginner” and/or “novice” and California Sidecar cannot be liable for an installer’s failure to understand or follow these instructions as written. Likewise, California Sidecar cannot be responsible if any of the steps are omitted or shortcuts are taken, or parts other than those supplied by California Sidecar, are used in installing this trike kit.
2. “**WARNINGS**” are all printed in bold type and capitalized. They mean to use extreme care in a given step so as not to damage the part, motorcycle, and/or yourself.
3. **Always** wear safety glasses when using hand and/or power tools.
4. When working in and around the fuel system, **always** work in a well-ventilated area, free from sparks and open flames.
5. All directional references to the “right side” and the “left side” are as if you are seated on the motorcycle.
6. All directional references to “forward” mean to the front of the motorcycle while “back” means the rear of the motorcycle unless otherwise stated.
7. Please consult the appropriate Service Manual for your motorcycle if further detail is necessary.

# INSTALL ENTIRE REVERSE MECHANISM AND WIRING BEFORE TRIKE BODY IS INSTALLED.

## Pre Assembly:

1. Install all trike chassis and brake parts, complete adjustment and tension procedure for 28mm and 50mm drive belts and tighten all belt clamping bolts.
2. Adjust angle of reverse assembly to the farthest rearward position that maintains clearance to the brake line by loosening the 5 bolts shown in fig 1. (blue arrow). Retighten bolts when position is correct.

## Set Tension of the Reverse belt:

1. Sonic Tension Meter specs:  
MASS 004.7  
WIDTH 021.0  
SPAN 0176  
Reverse Belt Tension:  
SINGLE SPAN TENSION: 49-55 lbs.
2. Tension the reverse belt. Loosen the 3 bolts shown below (Red 1 - 3 see fig 1).
3. Adjust tension with bolt (fig 1. red arrow) then retighten the 3 fasteners
4. Check belt tension.
5. Follow this procedure until the proper tension is achieved.

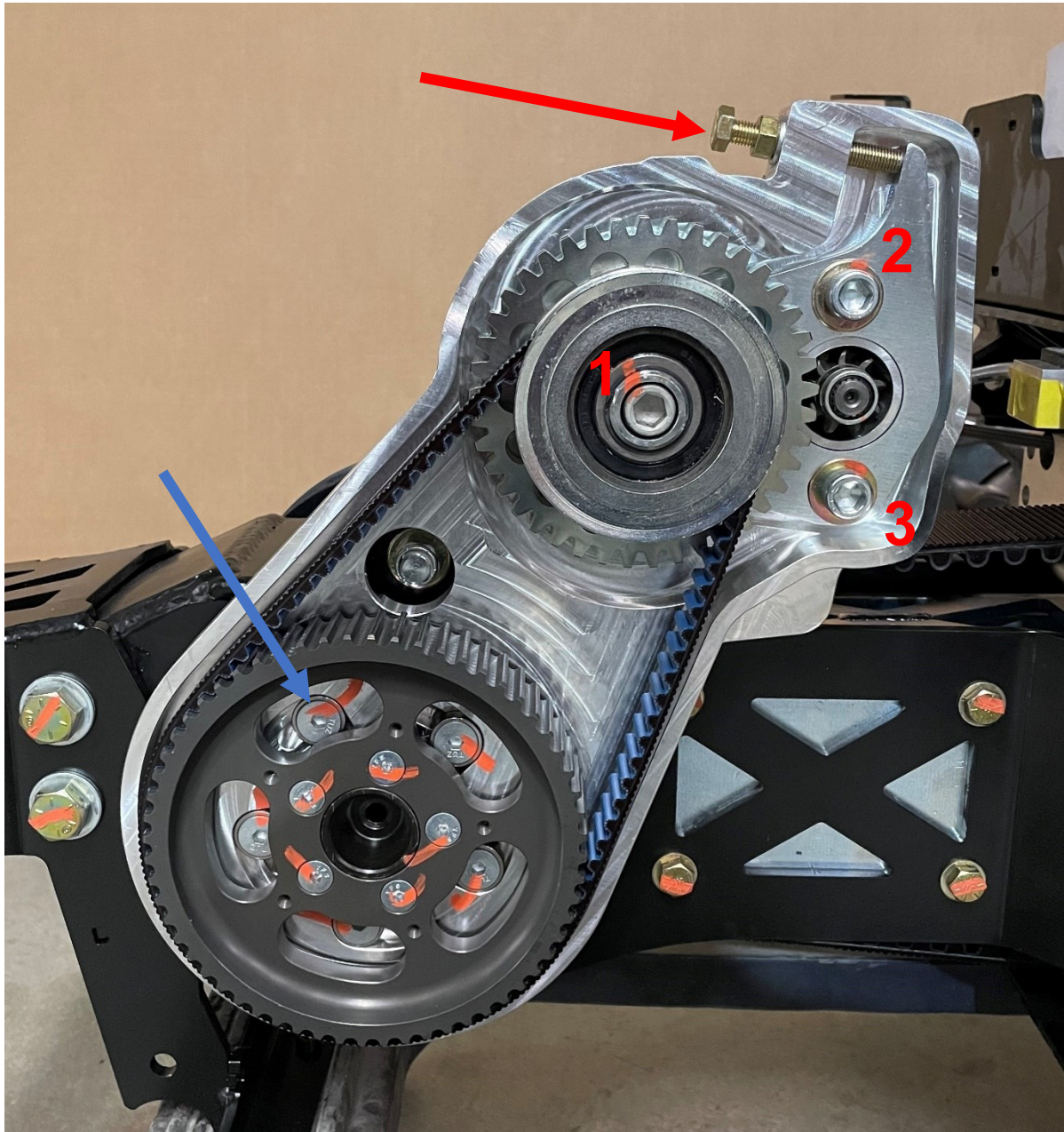


Fig #1  
Image shown without frame mounts for clarity.

## Wiring:

1. Confirm negative battery cable is disconnected.
2. Secure the neutral detector module (included) to the left side of mount plate.
3. Plug CSC reverse wire harness main connector into reverse module pigtail.
4. Plug neutral module pigtail into CSC reverse harness.
5. Route the **blue** wire (CSC harness) to the reverse motor solenoid and plug onto solenoid tab.
6. Route the long wire portion of the reverse harness forward under the seat along the side of the frame.
7. Remove (unplug) the fender plug adaptor harness from your trike body.
8. Plug it into the fender plug on the motorcycle.
9. Connect the **Red** wire (CSC harness) to the **Red** wire in the fender plug adaptor (brake light) with attached butt connector, don't forget to heat shrink.
10. Remove 2 fasteners from the OEM fuse box and pull out so that you can get to the wiring on the back side.
11. Locate the **Purple/Yellow** wire (Fuel pump, OEM harness).
12. Connect the **Green** wire (CSC harness) to the **Purple/Yellow** wire using a sealed butt connector or solder joint. Reinstall fuse box.
13. At the VCM center connector, cut the horn wire at pin #4 leaving 2-3 in of pigtail out of the connector.

**2014 – 2016 Horn wire – Clear or Shielded**

**2017 – UP Horn wire – White**

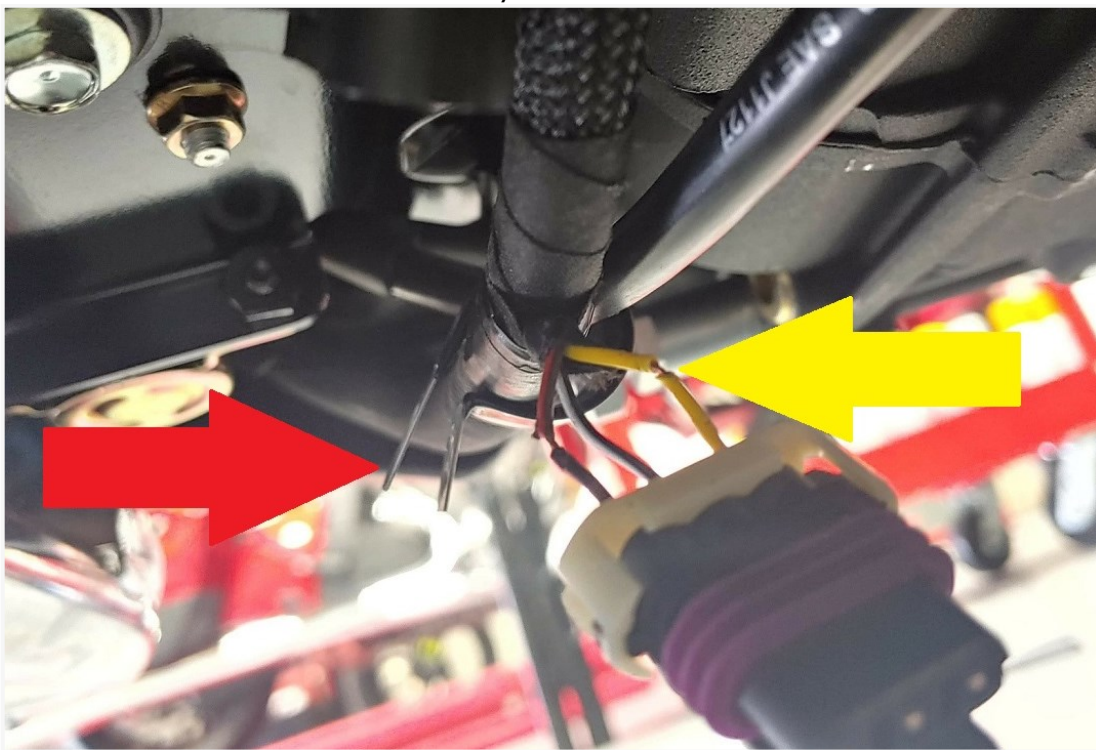
14. Connect the Black wire (CSC harness) to the portion of the horn wire that goes to the horn using a sealed butt connector or solder joint.
15. Connect the **Yellow** wire (CSC harness) to the portion of the horn wire attached to the VCM connector using a sealed butt connector or solder joint.

**2014 - 2019 Models do steps 16 - 17 then skip to step 23:**

16. At the VCM left hand Black connector, locate the **Yellow/Black** wire (neutral switch) at pin #17.
17. Connect the **Yellow/Black** wire (CSC harness) to the **Yellow/Black** VCM wire using a sealed butt connector or solder joint.

**2020 - UP Models:**

18. The **Yellow/Black** wire (OEM neutral switch) is located under the bike at the connection to the gear position sensor.
19. Route the CSC harness **Yellow/Black** wire to this location.



20. Unbolt the P-clamp **RED** arrow.
21. Unplug the sensor and locate the **Yellow/Black** wire, (**Yellow** arrow) and connect to the CSC **Yellow/Black** wire using a sealed butt connector or solder joint.
22. Reinstall connector and P-clamp.

### All Models:

23. Install terminal boot onto CSC Red positive cable.
24. Connect the CSC Red positive cable to the stud on the reverse control module marked "B" and install boot over stud.
25. Connect the other end of the CSC Red positive cable to the motorcycle positive terminal stud on the rear of the battery box.
26. Install the Black ground cable to the gearbox boss on the reverse housing using included ¼-20 flange head bolt and star washer (star washer goes between housing and cable). Route the other end of the ground cable to the motorcycle ground cable on the frame.
27. Ensure that all wires and miscellaneous components are routed neatly and secured to the frame with cable ties.
28. Temporarily connect power and ground to the neutral module using the included test plug. Connect the Red wire to battery "+" and the White wire to battery "-" and plug into the Reverse Harness. This will allow you to operate the reverse mechanism with the body off the trike. **NOTE:** The reverse will not work if the test plug is not installed while the trike body is off the trike.

### All Models continue:

29. Decide where to put the CSC reverse activate button. For 2014 - 2016 models with fairings, the button can be installed above the fog light button.  
All years and models can use the supplied handlebar mounting bracket if preferred.  
All 2017 and up models must use the supplied handlebar bracket as there is no place to put the button on the fairing

### Install Reverse Button in Fairing 2014 - 2016:

30. Route the remaining end of the CSC harness with the 3 pin connector forward under the gas tank to the front end.
31. Remove outer cover from fairing.
32. The best place to locate the button is above and to the left of the fog light button. Once the location has been determined, drill a 15/32 hole and install the button.

33. Continue to route the CSC harness up into the fairing making sure the wire cannot be pinched or stretched when the handlebars are turned.
34. Connect button to harness and replace faring cover.

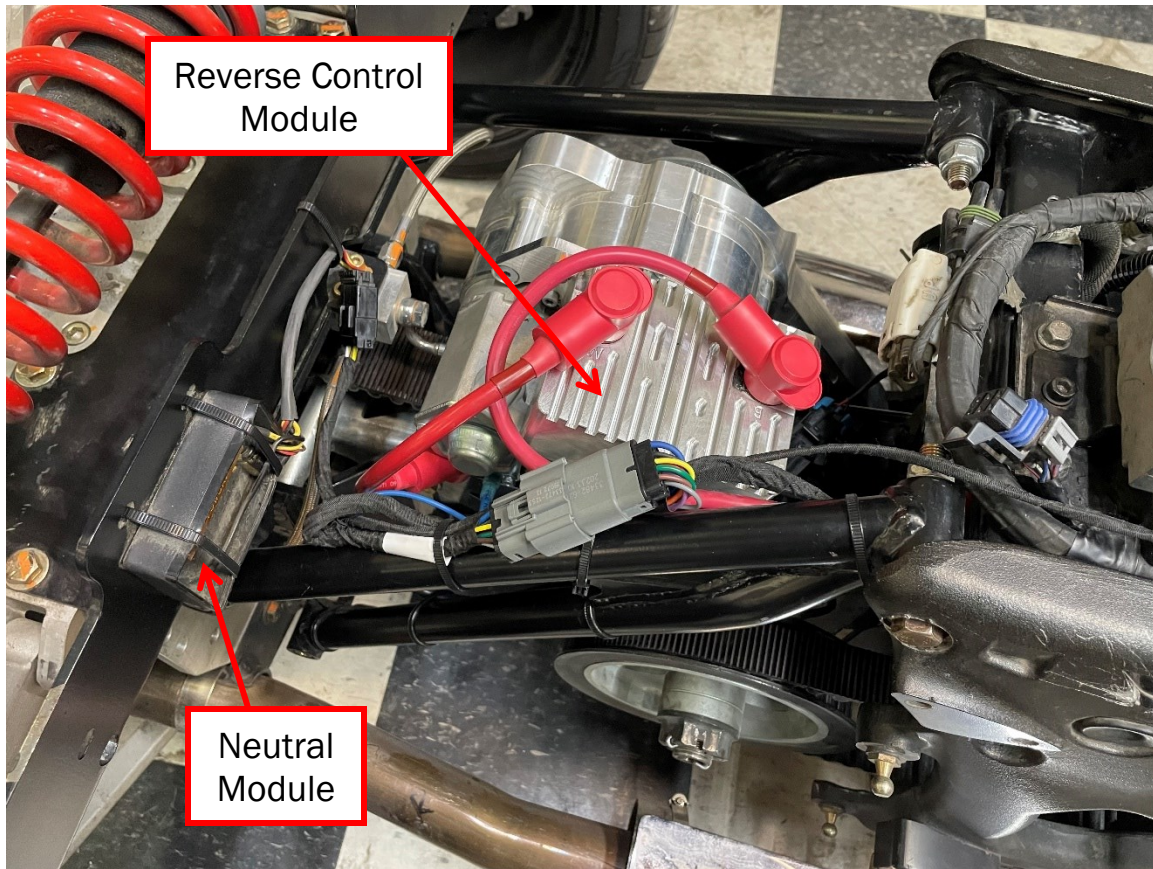
**Install Reverse Button on Handlebars, All models:**

35. Route the remaining end of the harness with the 3 pin connector forward under the gas tank to the front end. Continue routing up towards the left handlebar control. Make sure the wire cannot be pinched or stretched when the handlebars are turned.
36. Insert the reverse button thru the bracket, install nut and tighten.
37. Install button bracket on left lower clutch clamp screw. See picture.
38. Connect the harness to the reverse button and secure wires with cable ties so that the wire has clearance and cannot be pinched when handlebars are turned.
39. Reconnect battery negative cable.
40. Test reverse. See below for how to operate the reverse.
41. **NOTE:** Once the trike body is installed remove the Test Plug from the trike and connect the Reverse Harness plug to the mating plug from the trike body. Keep test plug for future installations.





## FINISHED INSTALLATION (TYPICAL)



## **OPERATING THE ELECTRIC REVERSE:**

1. With the trike in neutral, start the engine. Reverse Mode will not engage if the trike is not in neutral, or the engine is not running.
2. Engage Reverse Mode by depressing the reverse button and the blue LED will light. This indicates that Reverse Mode is engaged.
3. Press the motorcycle horn button and the trike will then back up as long as the horn button is pressed.
4. If the brakes are applied the reverse will pause until the brakes are released.
5. To exit Reverse Mode either put the trike in gear or press the reverse button and the LED will turn off.

**From all of us at California Sidecar.**

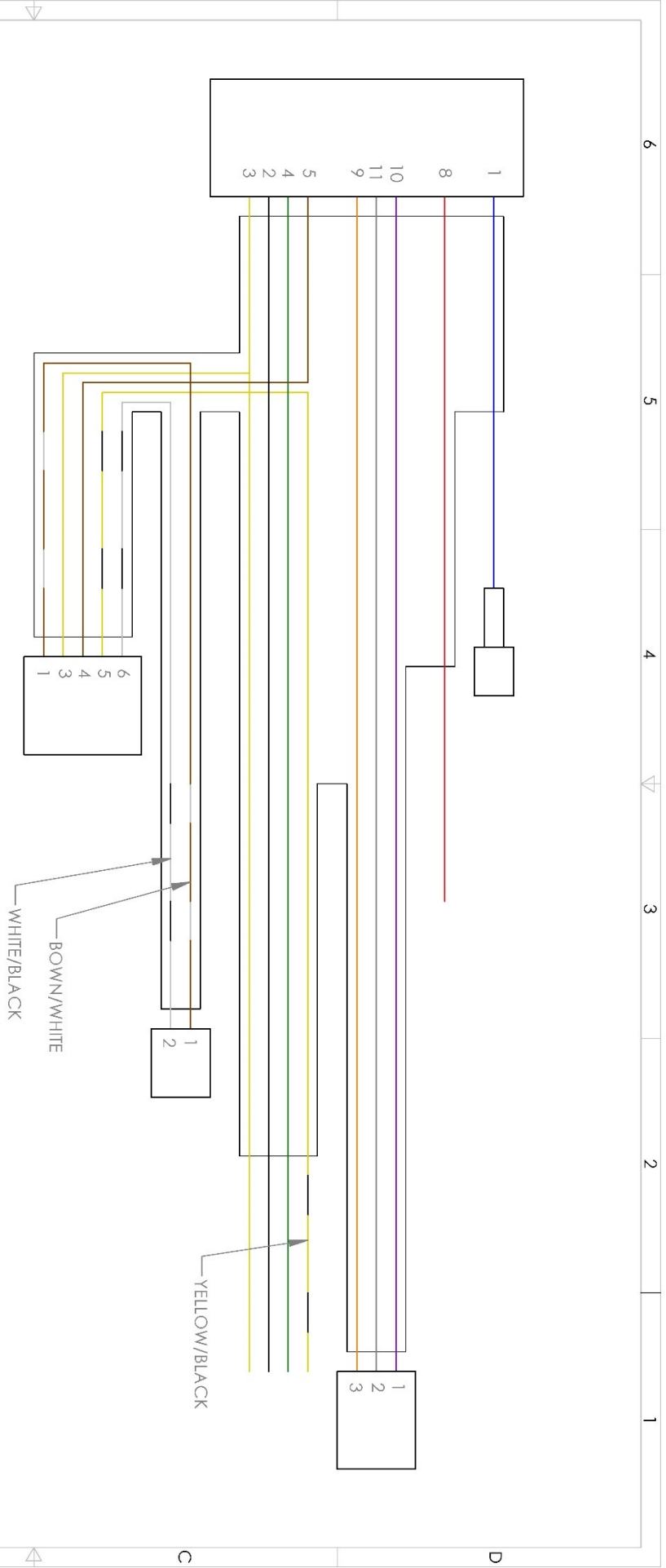
**Enjoy the ride!**

California Sidecar Parts & Technical Support

434.263.6500

# CSC REVERSE CONTROLLER LOGIC

Pin NO.	Wire Color	Function	
1	blue	Output: to starter solenoid	Outputs 12V to reverse motor solenoid when all conditions are met. Solenoid engages pinion gear and makes electrical connection to motor.
2	black	Output: to horn	Outputs 12V to horn when reverse is not activated. This makes the horn work normally when the reverse is not being used.
3	yellow	Input: from horn button	Input 12V to control module to start reverse motor. Inputs 12V only when the horn button is pressed and reverse mode is engaged.
4	green	Input: engine run	Input 12V to control module, only when engine is running. Typical connection is to fuel pump power. Engine must be running to keep battery from being drawn down too far to start trike.
5	brown	Input: from neutral module	Input 0V to control module when in neutral and 2-12V when in gear. This makes sure the motorcycle is not in gear while also in reverse. The reverse would be damaged if the motorcycle was trying to move forward and backward at the same time.
8	red	Input: from brake switch	Input 12V to control module when brake is depressed. This pauses the reverse until the brake is released. It avoids running the reverse while the brakes are applied potentially damaging the reverse.
9	orange	Pushbutton: power to LED	When reverse is activated, 3-4V is supplied to button to light the LED.
10	purple	Pushbutton: reverse enable	When purple is momentarily connected to grey reverse mode is enabled. If connected a second time, reverse mode is disabled.
11	grey	Pushbutton: ground	Ground for the LED, and for the pushbutton.



WIRE COLORS:  
 WHITE/BLACK: GROUND  
 BROWN/WHITE: 12V  
 BLUE: 12V TO MOTOR SOLENOID  
 GREEN: ENGINE RUN INPUT  
 YELLOW: INPUT FROM HORN BUTTON  
 BLACK: HORN OUTPUT TO OEM HORN  
 RED: BRAKE INPUT  
 YELLOW/BLACK: GEAR INDICATOR INPUT  
 BROWN: NEUTRAL INPUT FROM NEUTRAL INDICATOR  
 PURPLE: REVERSE ENABLE BUTTON  
 GREY: REVERSE ENABLE BUTTON AND LED GROUND  
 ORANGE: POWER TO REVERSE ENABLE BUTTON LED

UNLESS OTHERWISE SPECIFIED:  
 ALL DIMENSIONS ARE IN INCHES. DO NOT SCALE DRAWING.  
 ALL THREAD FITS TO BE 2A (EXTERNAL) OR 2B (INTERNAL)

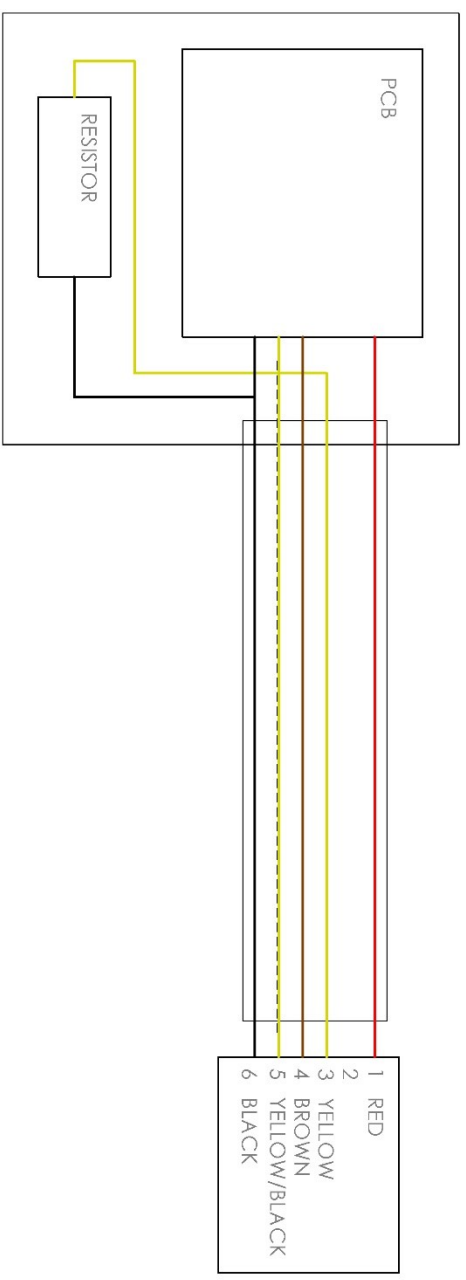
TOLERANCES:  
 DECIMAL: X.XXX ± 0.010  
 FRACTIONAL: 1/8

APPROVALS	DATE	TOLERANCES:
DRAWN BY TODD WIGHTMAN	30-JULY-2021	DECIMAL: X.XXX ± 0.010 FRACTIONAL: 1/8
CHECK		
APPROVED		

**California Side Car Inc.**  
 100 MOTORCYCLE RUN, ARRINGTON, VA 22922

TITLE  
**WIRE HARNESS, SSR, ARROW**

SIZE <b>A</b>	PART NUMBER <b>REV-65058</b>	REV <b>B</b>
SCALE 1:1	VENDOR DRW NUMBER N/A	SHEET 2 OF 2



WIRE COLORS:  
 RED: TO MOTORCYCLE SWITCHED POWER  
 YELLOW: INPUT FROM HORN  
 BROWN: TO NEUTRAL SWITCH INPUT ON REVERSE CONTROLLER  
 YELLOW/BLACK: TO MOTORCYCLE GEAR INDICATOR  
 BLACK: CHASSIS GROUND

UNLESS OTHERWISE SPECIFIED:  
 ALL DIMENSIONS ARE IN INCHES. DO NOT SCALE DRAWING.  
 ALL THREAD FITS TO BE 2A (EXTERNAL) OR 2B (INTERNAL)

APPROVALS

DRAWN BY  
 TODD WIGHTMAN

DATE

29-MAY-2015

TOLERANCES:

DECIMAL: X.XXX ± 0.010

FRACTIONAL: 1/8

CHECK  
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TITLE

NEUTRAL INDICATOR MODULE, ARROW

**California Side Car inc.**  
 100 MOTORCYCLE RUN, ARRINGTON, VA 22922

SIZE

A

PART NUMBER

REV-44882

REV

E

SCALE

1:1

VENDOR DRW NUMBER

N/A

SHEET

3 OF 3