

Arrow

By **CSC**
TRIKES

ELECTRIC REVERSE

INDIAN MOTORCYCLES

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

Revised 11 - 2020

Installation Instructions

**California Sidecar Parts & Technical Support
434.263.8866**

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 REVERSE UNIT AND ALL ITS PARTS BEFORE THE TRIKE BODY IS INSTALLED.

Assembly:

1. **Install all trike chassis and brake parts**, tension 28 MM and 50 MM 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. To tension reverse belt you must loosen the 3 fasteners **(Red 1 – 3 see fig 1)**.
3. Using a 3/8 drive breaker bar insert it in the square drive hole **(fig 1. red arrow)** and pull belt tight, then retighten the 3 fasteners
4. Follow this procedure until the proper tension is achieved

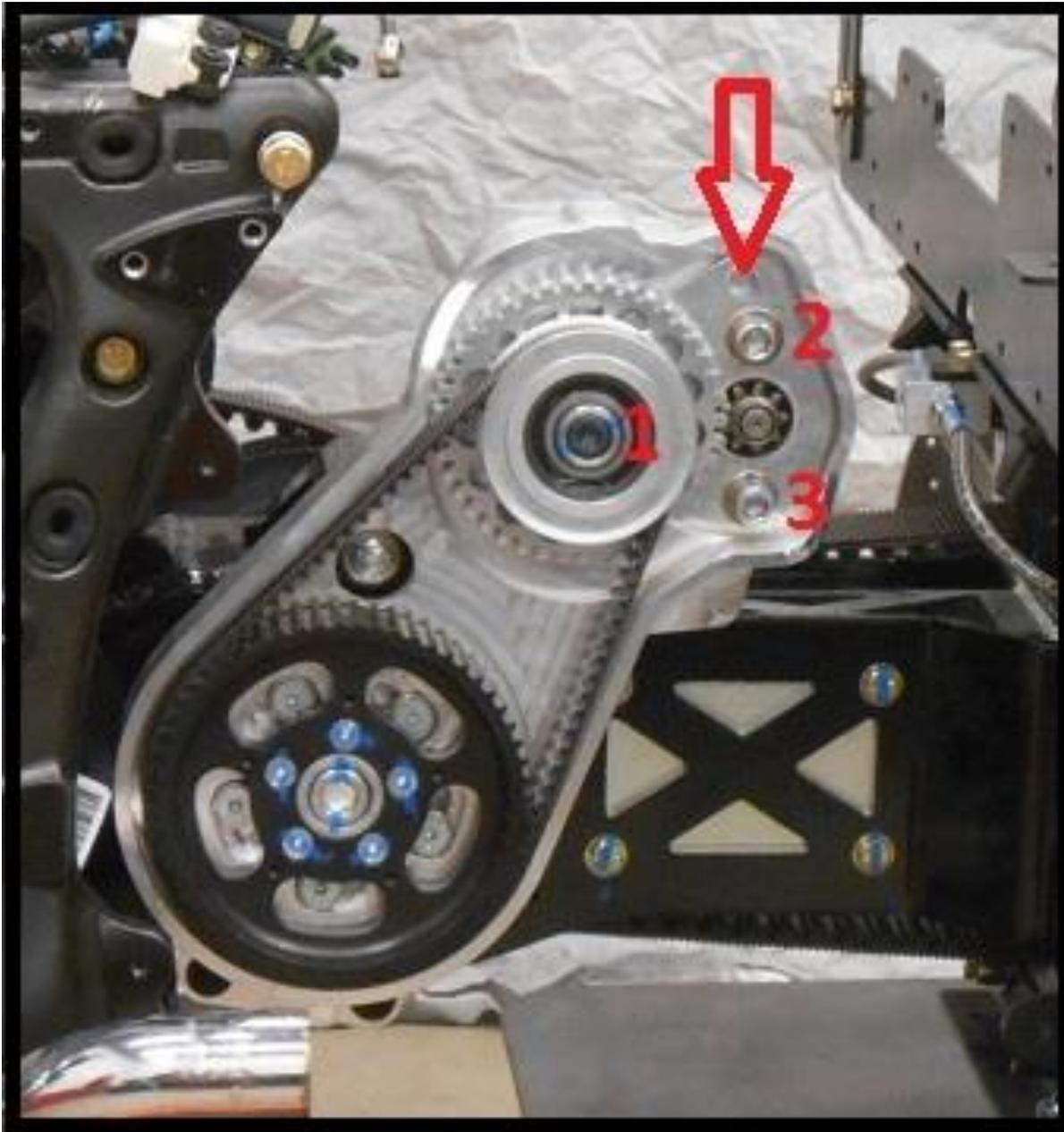
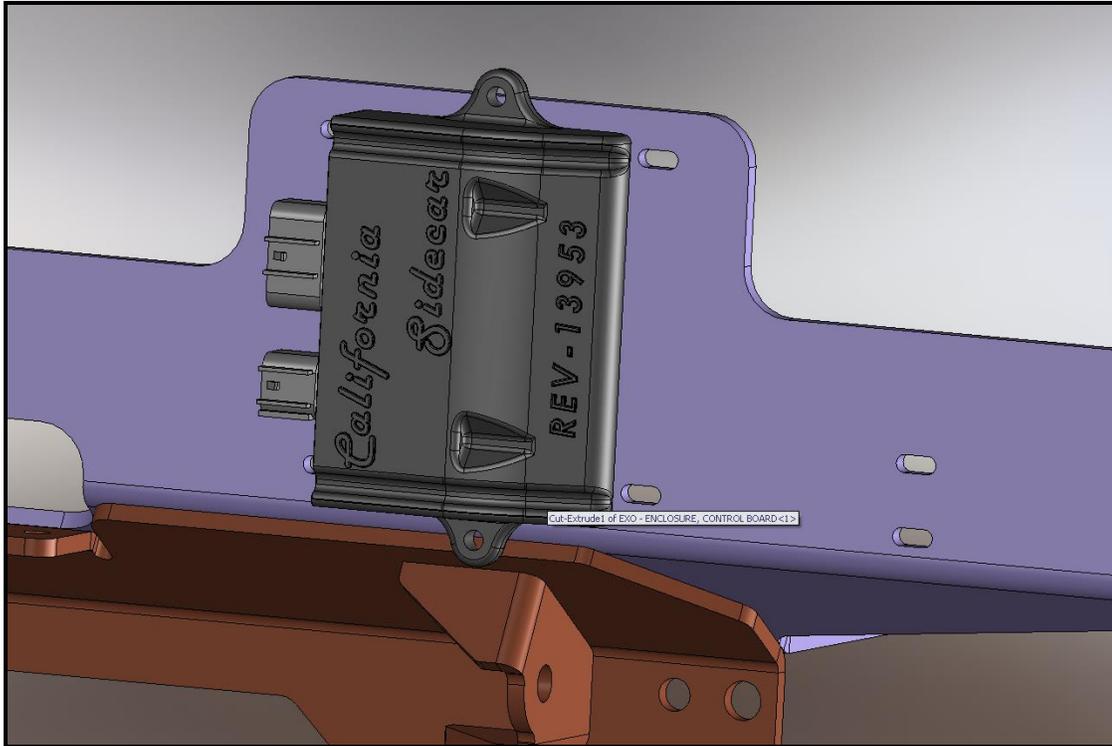


Fig #1
Image shown without frame mounts for clarity.

Wiring:

1. Secure Reverse Module to Rear Mount Plate with cable ties.



2. Secure the Neutral Switch Module to the opposite side of Reverse Module on mount plate.
3. Disconnect the negative battery terminal.
4. Plug Reverse Harness connectors into the Reverse Module.
5. Plug Neutral Module into Reverse Harness.
6. Route the **Blue** wire to the Reverse Motor.
7. Route the long wire portion of the Reverse Harness forward under the seat.
8. Route the **Red/Yellow** wire (from the Reverse Harness) to the fender plug.
9. Connect the **Red/Yellow** wire to the **Pink/Blue** wire in the motorcycle fender plug (Brake Light).
10. Remove 2 fasteners from the OEM Fuse Box.

11. Locate the **Purple/Yellow** wire (Fuel pump).*
12. Connect the **Green** wire to the **Purple/Yellow** wire. Reinstall Fuse Box.
13. At the VCM center connector, cut the horn wire at pin #4 leaving approximately 2 in of pigtail out of the connector.

2014 – 2016 Horn wire – Clear or Shielded

2017 – UP Horn wire – White

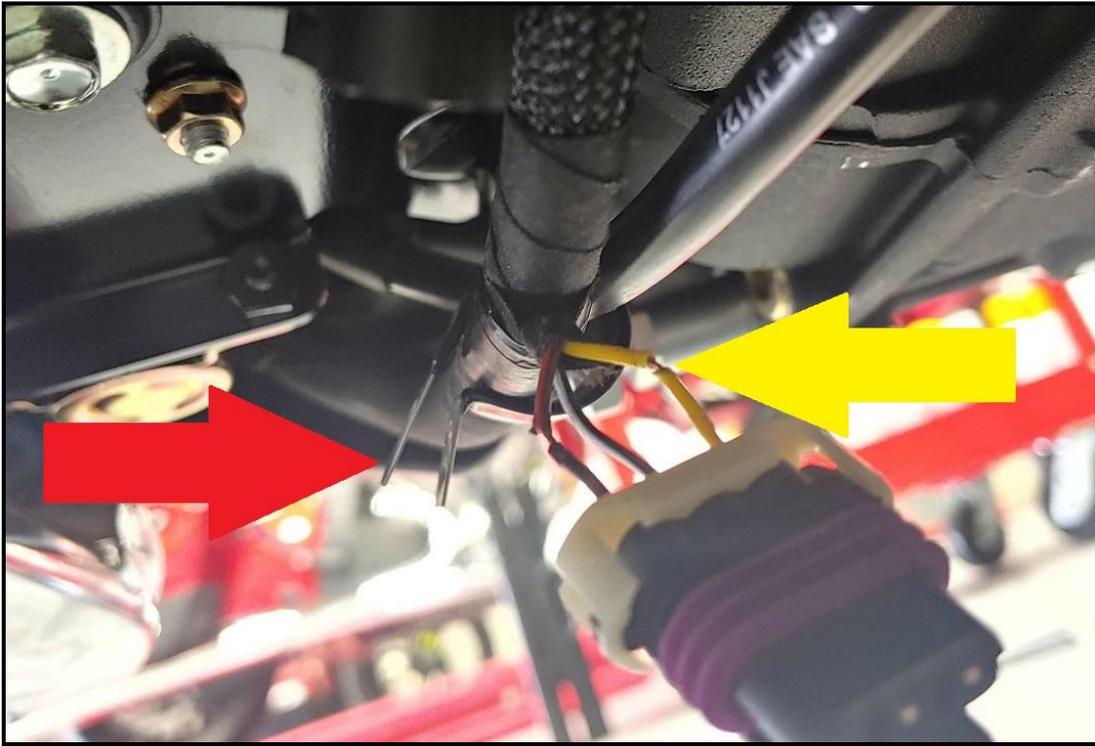
14. Connect the **Black** wire to the portion of the Horn wire that goes to the horn.
15. Connect the **Yellow** wire to the portion of the Horn wire coming from the VCM connector.

2020 Models skip to step 18:

16. At the VCM left hand **Black** connector, locate the **Yellow/Black** wire (neutral switch) at pin #17.
17. Splice the **Yellow/Black** wire from the CSC harness into the **Yellow/Black** VCM wire.

2014-2019 Models skip to step 23:

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

22. Reinstall connector and P-clamp.

All Models continue below:

23. Route the remaining end of the harness with the 3 pin connector up under the gas tank to the front end.

24. For fairing models install the Reverse Button just above the Fog Light button.

25. For non-fairing models install the Reverse Button just below the Fog Light button.

26. Once a position is located drill a 15/32 hole.

2017-UP: Install the Reverse Button on the Handlebars with supplied bracket.

27. Insert the Reverse Button thru the cover or bracket, install nut and tighten.

28. Connect the harness to the Reverse Button and secure wires with cable ties so that the wire has clearance when handlebars are turned.
29. Install terminal boot onto **Red** positive cable.
30. Connect the **Red** positive cable to the stud on the Reverse motor solenoid.
31. Install the Black ground cable to the gearbox mounting bolt on the Reverse motor assembly. Route the other end of the negative cable to the Motorcycle Negative cable on the frame.
32. Connect the blue wire to the male spade on the Reverse motor.
33. Connect the other end of the **Red** positive cable to the motorcycle positive terminal stud on the rear of the battery box.
34. Ensure that all wires and miscellaneous components are secured to the frame with cable ties.
35. Temporarily connect power and ground to the reverse 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.
36. **NOTE:** Once the 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.
37. Reconnect battery negative cable.

Operating the Electric Reverse:

- 1. With the trike in neutral, start the engine. Reverse will not engage if Trike is not in neutral. Reverse will not operate if trike is not running.**
- 2. Depress the Reverse Button to engage reverse and the blue LED will light up.**
- 3. Press the Horn button and the trike will then back up.**
- 4. If the brakes are applied the reverse will pause until the brakes are released.**
- 5. To disengage reverse either press the button and the LED will turn off, or put the Trike in gear.**

**From all of us at California Sidecar.
Enjoy the ride!**

CSC REVERSE CONTROLLER LOGIC

Pin NO. Color Function

Small

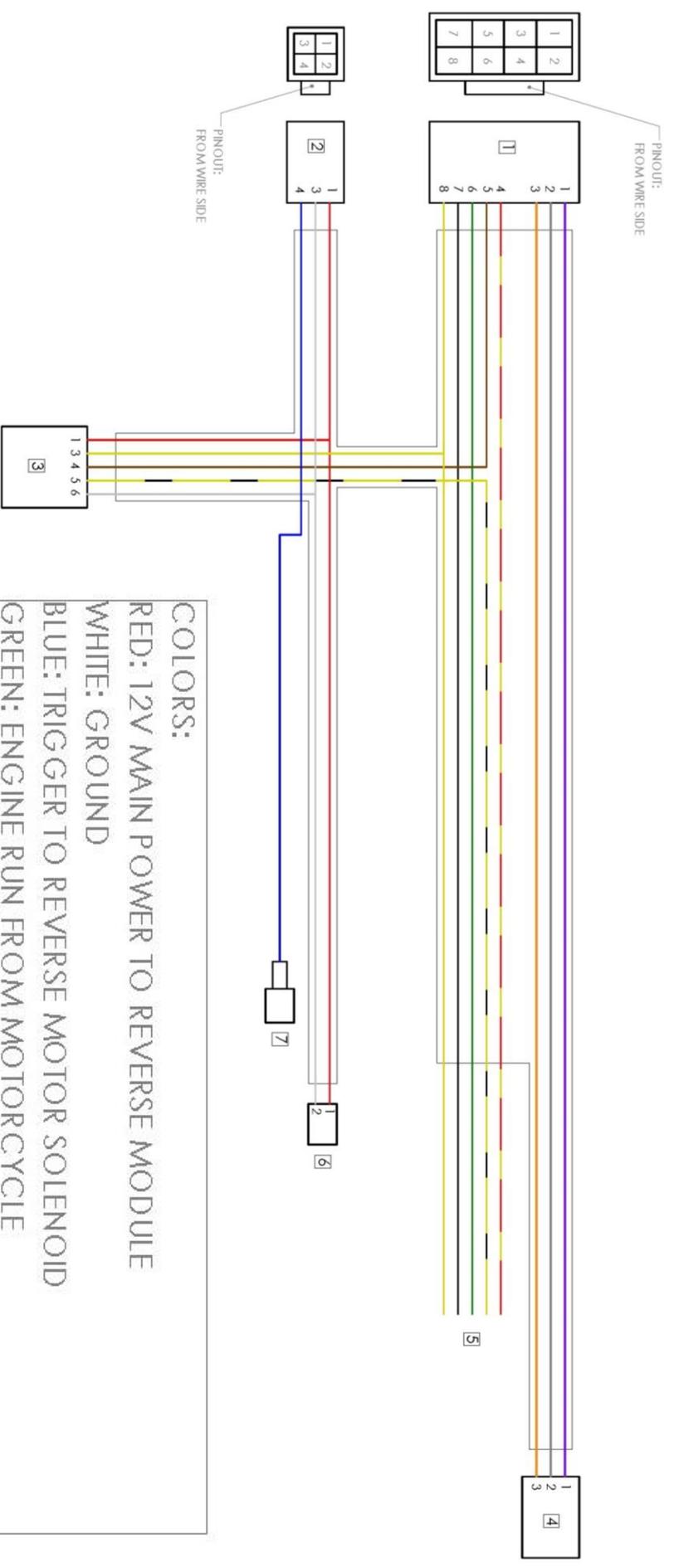
Connector

1	blue	Output to starter solenoid	Sends 12V to reverse motor when all conditions are met.
2	white	Ground	Main ground for control box
3	none		
4	red	Keyed 12V	Main power input to run control box. Draws ? amps

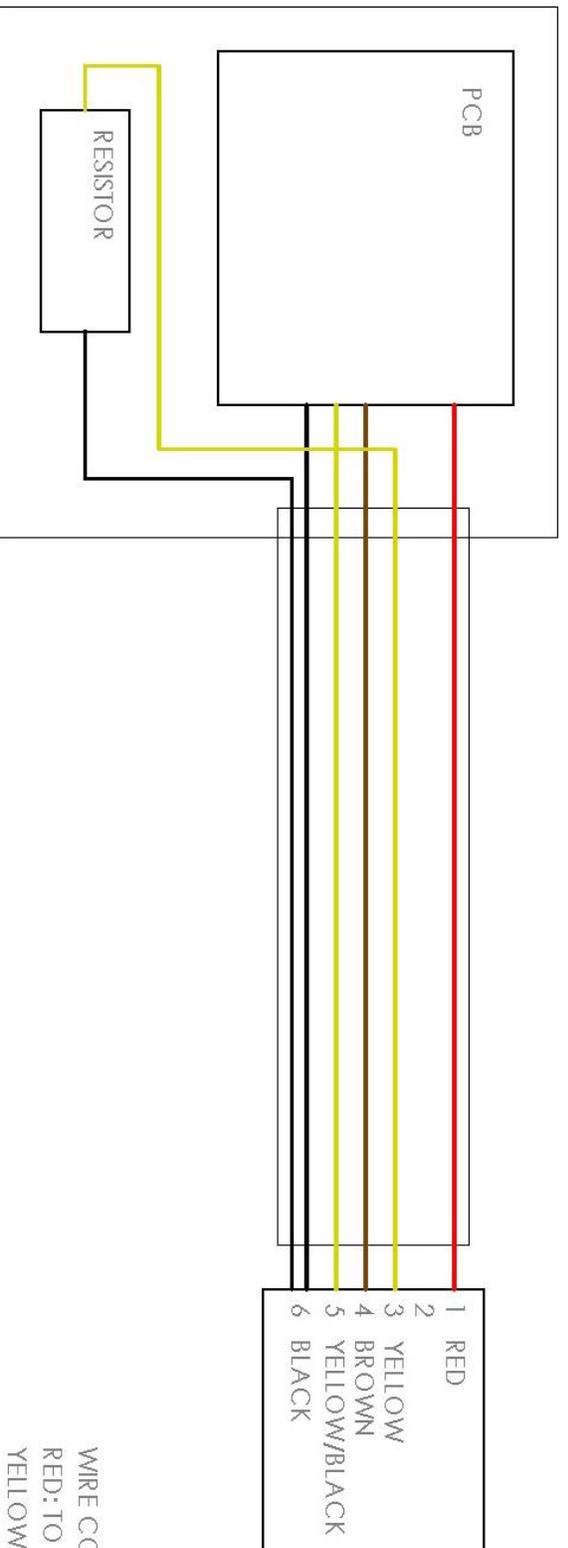
Large

Connector

1	yellow	Input: From horn button	Looks for 12V to start reverse motor. This is the button that is pushed when the rider wants to start moving in reverse.
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	green	Input: Engine run	Input 12V to box only when engine is running. Typical connection is to fuel pump power. Should we look at tack output or oil pressure light?
4	brown	Input: From neutral switch.	Looks for 0V when in neutral and 2-12V when in gear. This makes sure the motorcycle is not in gear while also in reverse. The reverse could be damaged if the motorcycle was trying to move forward while reverse was engaged.
5	red/yellow	Input: From brake switch	Looks for 12v when brake is depressed. This pauses the reverse until the brake is released. It avoids running the reverse while the brake pedal is depressed potentially damaging the reverse.
6	orange	pushbutton power to LED	When Reverse is activated 3-4 volts is supplied to light the LED
7	grey	pushbutton ground	Ground for the LED, and for the button
8	purple	pushbutton reverse enable	if you jump purple to grey just for a second, this will activate the Reverse



- COLORS:**
- RED: 12V MAIN POWER TO REVERSE MODULE
 - WHITE: GROUND
 - BLUE: TRIGGER TO REVERSE MOTOR SOLENOID
 - GREEN: ENGINE RUN FROM MOTORCYCLE
 - YELLOW: HORN INPUT FROM MOTORCYCLE
 - BLACK: HORN OUTPUT TO MOTORCYCLE HORN
 - RED/YELLOW: BRAKE INPUT FROM MOTORCYCLE
 - YELLOW/BLACK: GEAR INDICATOR INPUT FROM MOTORCYCLE
 - BROWN: NEUTRAL INPUT FROM NEUTRAL INDICATOR
 - PURPLE: SWITCH REVERSE ENABLE
 - GREY: SWITCH REVERSE ENABLE
 - ORANGE: SWITCH POWER TO LED



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