

**Paul Yaffe's  
Bagger  
Nation**



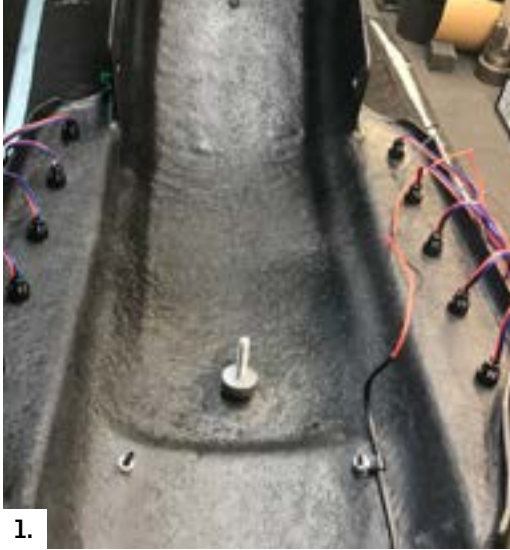
**SWOOP  
REAR FENDER WIRING  
INSTALL  
INSTRUCTIONS**



**PAUL YAFFE ORIGINALS**  
DESIGN & DEVELOPMENT

# SWOOP REAR FENDER WIRING INSTALL INSTRUCTIONS

Thank you for purchasing Paul Yaffe's Bagger Nation products. Please read through these instructions completely before attempting installation.



1.

1. Secure Lightning Bolt lights in SWOOP Fender using (2) round serated nuts provided. Snug first nuts on light body then with a drop of Blue Loctite install the second lock/jam nut. (Fig #1)

2. We like to “align” the bolts when used in a straight line. It makes for a clean custom install look!



2.

You can align them vertically or horizontally per your visual preference. Simply look at the (2) round chips in each Lightning Bolt and turn the unit from the nuts on the backside to align. (Fig #2 | #3)

Once this is done tighten the lock/jam nut fully on the retaining nut.



3.

**TIP:** Oil line pliers work great for this step if you have them. If not, two pairs of needle nose pliers will do. (Fig. #4)



4.

3. With Lightning Bolts installed let's address your license plate. (Fig #5)

First let's bend your license plate a bit (your thigh works well) So it's close to the curve of the license pocket. You may need to trim a little off the edges of your plate to fit depending on what state you live in.

Hold our Stealth III License Frame over plate & make sure you don't trim too much!

You'll also need to trim the bottom left corner for stud & wire hole access and again slot each of the (4) stud holes for plate frame stud clearance. (Fig #6 | #7)



5.

4. Slide license light wires through hole in bottom left corner of license pocket & thread through until license frame sits cleanly over license plate. (Fig #7 | #8)

**NOTE:** LED License strip sits on bottom license frame & points up at license plate.



6.



7.



8.



9.



10.



11.

5. Using hardware kit (Provided Fig #9) install (4) 10/24 mounting studs from inside of fender into license frame. Use a drop of Blue Locktite on each stud. Finger tight only at this time. Install (4) 10/24 keeps nuts on plate frame studs and finger tighten.

**TIP:** Flip fender over and adjust license plate to center behind frame (Fig #10) Lightly snug studs into frame (**WARNING: DO NOT over tighten or you'll push a bubble through to cosmetic side of license frame!**). Tighten keeps nuts x4! (Fig#11)

6. Using (2) P-Clamps provided & remaining (2) keeps nuts loom license light wires as shown in (Fig #12)



12.

7. Now it's time to clean up this spaghetti and create a super clean, professional install (Fig #13)



13.

8. Source a selection of shrink tubing in various sizes 3/16"-1/4"-3/8"-1/2".

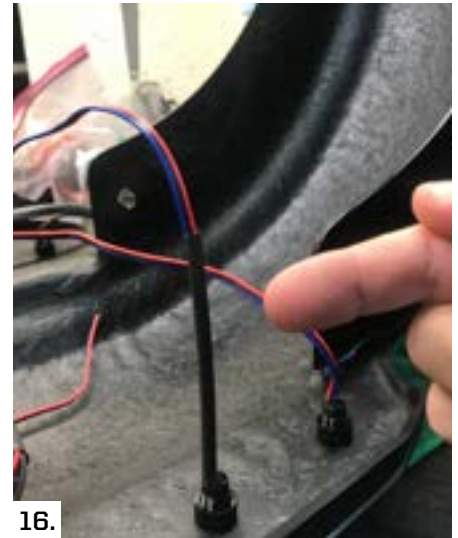
To proceed you'll need some wire strippers, crimpers, dykes heat gun, soldering iron and our "Bagger Light Install Kit" included with each Stealth Fender Kit that includes Lightning Bolts. (Fig #14)



14.



15.



16.

9. Cut (9) pieces of 3/16" shrink about 3" in length each. Slip each piece over one of the lightning bolt wires until it bottoms against the bolt. (Fig #15)

**NOTE:** Leave the bottom most lightning bolt left side of fender (right when upside down) without shrink tubing. We'll tie the license plate wire into that bolt. Later Shrink all (9) pieces on bolt wires at this time. (Fig #16)

10. The basic concept here is to create a clean wire loom using small pieces of shrink tubing to tie each separate bolt wire together while working towards front of fender. (Fig #17)

Let's Continue...



17.

11. Starting from bottom bolt on right side of fender (left side when upside down) take wires from bottom & second bolt moving forward & slip them through an approximate 4" piece of 1/4" shrink tubing. (Fig # 18)

Then continue by slipping bolt #1 & #2 wires together with bolt # 3 wires through another approximately 4" piece of 1/4" shrink tubing (Fig #19)



18.



19.

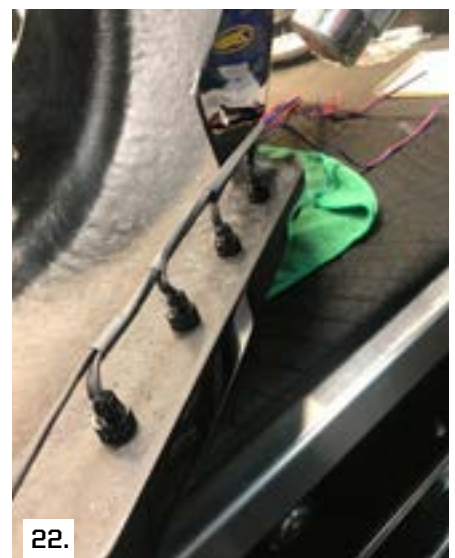
12. I even go to the lengths of "stacking" the 3 piece wire looms together to ease installation of shrink tubing & create a cleaner visual appearance. (Fig #20 | #21)



20.



21.



22.

**TIP:** Using a clip to hold them together helps organize the wires. Continue this process working your way up towards the front of fender increasing your shrink tubing diameter as needed with each bolt loom captured. (Fig #22)

13. Once all bolt looms are captured.  
Slip an additional 6" piece of 1/2" shrink over the (5) loom group & shrink all in a nice orderly fashion.

Now separate all the black, red & blue wires by gently pulling them apart from one another. (Fig #23)

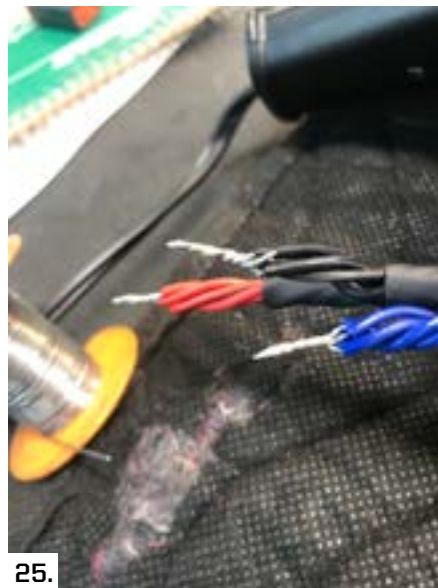


23.

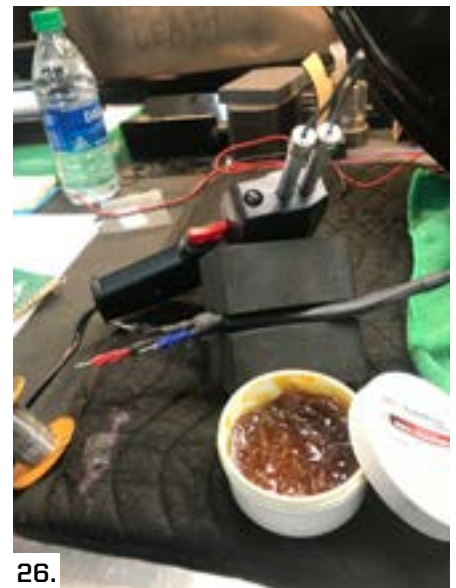
14. Stagger and cut each like group of wires about an inch from each other, strip ends & twist all like colors together (Fig #24) Solder each group together (Fig #25 | #26)



24.



25.



26.

15. Using a piece of left over bolt loom wire, solder one red wire, blue wire & black wire extending from each bundle of same color (Fig #27) Basically reducing 5 wires to 1.

Shrink each solder joint & then all three wires together (Fig #28)



27.



28.

16. Now let's repeat the wire loom process on the other row of lightning bolts but with one twist... we'll add the license plate wires to the bolt you left without shrink in STEP #9



17. On the bottom most bolt separate red, blue & black wires. Cut black & blue wires about 3"-4" from bolt. Strip ends of black & blue wires from bolt and ends you cut off. Twist ends together & solder (Fig # 29)



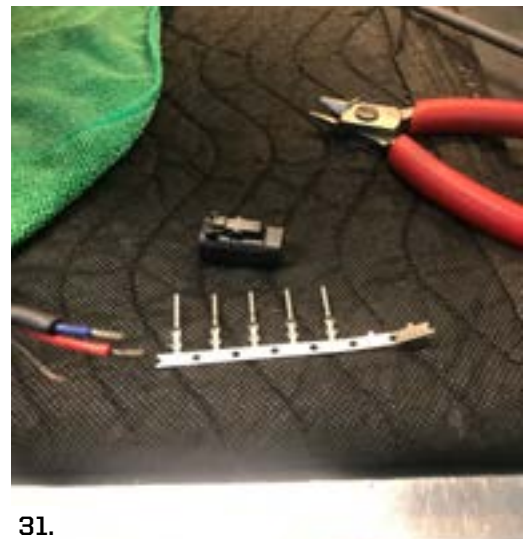
**TIP:** Slip a piece of 1/4" shrink over black & blue wires leaving the soldered ends exposed and the wires covered to the bolt.

Slip another 3"-4" piece of 3/16" shrink over the uncovered black, blue & red that will begin your forward heading loom.

Continue looming bolts forward with shrink as you did on other side of fender. (Fig #30) We'll come back to plug installation next after your looms are completed.

18. Locate the 4 pin male & female molex. Connector blocks in your "Bagger Light Install Kit" and the rack of male & female pins.

**TIP:** 4 pin connector blocks will have spots/ holes for (4) wires. (Fig #31)





19. Cut the ends off the red, blue, black harness you created about 2" from shrink tubing. Strip about a 1/4" of wire & solder/tin. Each of these (3) wires will receive a "female" connector pin crimped to it. (Fig #32)

**ADDITIONAL CRIMPING DIAGRAM  
AT END OF INSTRUCTIONS**



32.

20. Using your crimping tool, gently shape each female pin prong set into a circle. (Fig #33 | #34) Then slip the pin over the wire & flip crimping tool over to create a solid strong crimp attaching pin to wire end. (Fig #35)



33a.



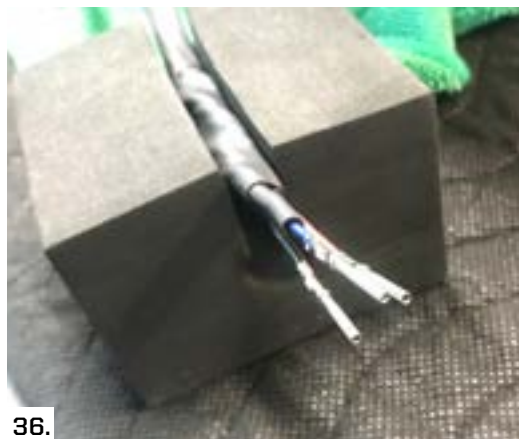
33b.

34.



35.

**TIP:** One prong set at end of pin should grasp wire insulation, the second prong set should grab soldered wire. Repeat this process on remaining (2) wires. (Fig # 36)



36.



37.



38.

21. Remove rubber insulating block from end of (4) pin (male) side of molex connector. A pick will easily accomplish this. (Fig # 37) Push molex pins through holes in rubber block and slide it about 1/2" up the wires. (Fig # 38)

22. Install pins (one in each opening) into molex connector and push them firmly into the connector until they reach the other side.

**NOTE:** An audible "Click" will be heard as each pin seats itself in the connector.  
(Fig # 39)



39.

23. Insert the orange (4 pin) molex pin lock into the end of connector and push until it snaps into place. This shouldn't require a lot of pressure, if it's fighting you check that pins are seated. Slide rubber insulator block into the molex connector & work in with small screw driver until seated. (Fig # 40 | 41 | 42)



40.



41.



42.

**Congratulations! You just learned how to install Molex Connectors! Woo Hoo!**

24. Repeat Steps 19-23 on other side of fender. Now let's finish with license plate.

25. Cut red & black wires from license plate leaving about 10" to work with. Cover both wires with 3/16" shrink tube leaving about 2" exposed. Strip ends 1/4" & solder tips. Using the process you mastered in step 20 crimp two female connectors on black & red wire ends.



43.



44.



45.

Locate (2 pin) molex connector (male), extract rubber block & slide over wires. Insert pins into Molex Connector and push through until they "click". Install orange plastic lock and snap in place. (Fig # 43 | 44 | 45)

26. Repeat the Molex install process on the female 2 pin Molex Connector installing it on the black & blue wires you prepared earlier.

Please note when inserting pins in connector the black wire should connect with black wire and the red license plate wire will connect with blue Lightning Bolt wire. (Fig # 46)



46.



47.

At this point your Swoop Lightning Bolt Rear Fender should be completely assembled electrically and you are ready to start the installation process.

Congratulations, taking your time and paying attention to the previews steps will ensure a professional installation and years of trouble free operation (Fig #47)

27. Now that your Swoop Fender with Lightning Bolts is installed on your bike it's time to use the second half of your bagger light install kit and connect your new Swoop Fender to your bike!  
(Fig #48)

**STOP HERE! PROCEED TO SWOOP FENDER INSTALLATION INSTRUCTIONS**



48.

28. Feed the wire loom with the Molex Connector you installed through the tombstone shaped opening in your fender strut cover and anchor the loom with a couple zip ties to the loops underneath the strut cover. Don't pull the zip ties tight yet. (Fig #49 & #50)



49.



50.

29. The black male Molex connector that's attached to your bagger light install kit wire loom plugs into the black female Molex connector under your seat next to your ECM and grey connector. (Fig #51 & #52)



51.



52.

30. Your bagger light install kit has a right and left side. This can be easily identified because the left side has a blue wire with a violet stripe and the right has a blue wire with a brown stripe.



Locate each, separate & run wires into their respective positions on each side of the bike. Right side runs under battery tray hold downs (Fig #53) and down between frame & strut cover (Fig #54) left side runs between frame & strut cover (Fig #55).

Wires will exit under stut cover. Behind side cover to be lined up with male Molex Connector lead from fender (Fig #56).



31. Choose a side & we'll start there. Determine needed harness length so once you've installed the female connector male & female can be plugged into one another.

**TIP:** Leave extra few inches just in case.

32. Trim a couple inches of the protective cover off of each harness side right & left. Separate wires & locate "Blue" of "Black" and blue with purple stripe on left side or blue with brown stripe on right side. (Fig #57)



Cut off red with yellow stripe and blue with red stripe wires. You won't need them on your 2014 & later touring model. (Fig #58)



58.



59.

33. Strip about a 1/4" off the wire ends & solder/tin the tips. Locate the "male" Molex pins rack & remove (6) pins. Crimp the pins to the wires using the same technique you mastered in Steps 19 through 23. Pull rubber boot from the end off the remaining female Molex Connectors and slide it over the three wires. (Fig #59) **STOP HERE**

**IMPORTANT NOTE:** It's CRITICAL to line up wires at this point with the like wires that lead to lights in fender! Mark the male Molex case with a silver Sharpie: "B" for Blue | "R" for Red | "G" for Black. Mark the female Molex case in the same manner.

It is imperative that when you plug the Molex Connector together, that the blue wire connects. With the blue wire, the black wire connects with the black wire and the red wire connects with the blue wire with a stripe (Purple or Brown). Once you've positioned the wires correctly. Push the pins into the Molex block, secure with lock tab & push the rubber block into other end (Fig #60)



60.



61.

34. Connect the male & female Molex blocks tighten your zip ties, trim off ends. Now it's time to turn the power on and take in the fabulous wiring / install job you've done! (Fig # 61)

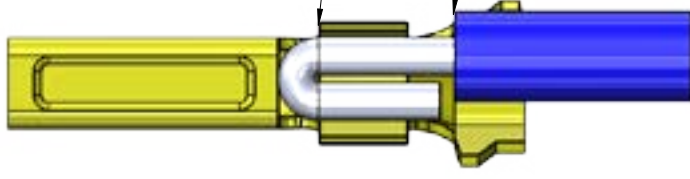
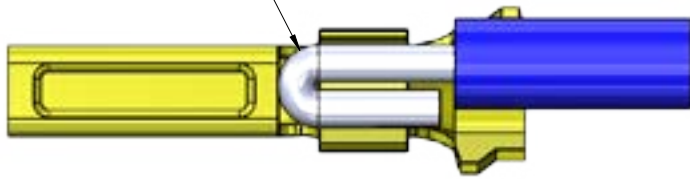
***Congratulations! You're a trained professional.***

4

3

2

1



B

B

A

A

TOLERANCE ON ALL UNDIMENSIONED FEATURES SHALL BE $\pm 0.005$ UNLESS OTHERWISE SPECIFIED. TOLERANCE ON DIMENSIONED FEATURES SHALL BE AS SPECIFIED. UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES FRACTIONAL: $\pm 1/16$ ANGULAR: MACH: $\pm 2'$ BEND: $\pm$ TWO PLACE DECIMAL: $\pm .010$ THREE PLACE DECIMAL: $\pm .005$ MFG APPR. Q.A. INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5 MATERIAL: <b>PROPRIETARY AND CONFIDENTIAL</b> THIS DRAWING IS THE SOLE PROPERTY OF PAUL YAFFE ORIGINALS AND PAUL YAFFE DESIGNS, INC. ANY REPRODUCTION OR TRANSMISSION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF PAUL YAFFE ORIGINALS AND PAUL YAFFE DESIGNS, INC. IS PROHIBITED.	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES FRACTIONAL: $\pm 1/16$ ANGULAR: MACH: $\pm 2'$ BEND: $\pm$ TWO PLACE DECIMAL: $\pm .010$ THREE PLACE DECIMAL: $\pm .005$ MFG APPR. Q.A.	NAME: JECHTMON DATE: 6/9/2020	
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PYO Crimp Style			SHEET 1 OF 1

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3

2

1



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