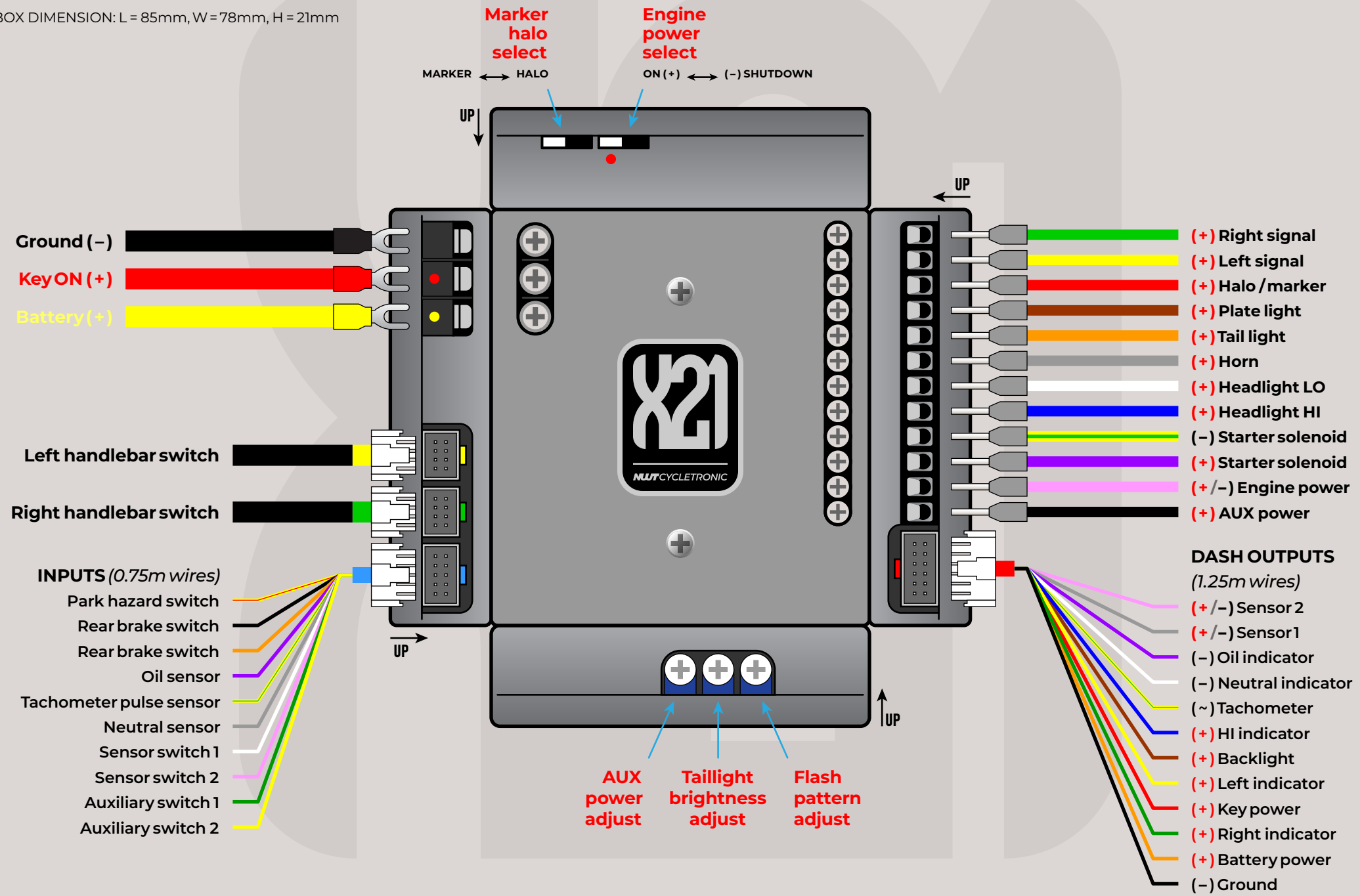


# X21 PLUS

## Control Hub

BOX DIMENSION: L = 85mm, W = 78mm, H = 21mm



## Read installation thoroughly before starting.

- [ ] Section A      Component checklist
- [ ] Section B      Component mounting
- [ ] Section C      Power/charging /starting
- [ ] Section D      Engine power/spark coil
- [ ] Section E1      Lights /horn
- [ ] Section E2      Markers /halo lights /daytime running lights (DRL)
- [ ] Section F      Switches /dash lights
- [ ] Section G      Auxiliary output
- [ ] Section H      System check
- [ ] Section I      Finalizing

### “ Take pictures and document your progress.

It comes in handy if or when you need help.

Share your project with us and inspire others.

Most importantly, **HAVE FUN!**

**It's a hobby, remember?**

We're here for you all the way.

- Battery (**MANDATORY**)
- Rectifier/regulator (**MANDATORY**)
- Starter solenoid/relay *\*electric start bikes only\**
- Spark control module (CDI /TCI /points breaker)
- Spark plug coil(s)
- Key switch
- Gauge(s)
- Dash indicators
- Headlight
- Signal lights
- Horn
- Taillight
- Plate light *\*optional\**
- Brake switch (front /rear)
- Neutral sensor switch
- Additional sensors/switches (oil /clutch)
- 8awg or LARGER wires ( battery/solenoid /starter motor)
- 16awg wires ( key switch )
- 18awg wires ( horn /headlight /etc.)
- 20awg or SMALLER wires ( LED lights )
- Various size RING terminals
- Various connectors or solder with shrink tube
- Zip ties
- Tape /cable wraps /split loom
- Single FUSE HOLDER *\*for non protected starter solenoids /key switches\**



#### Need parts? Parts suggestions?

Have a chat with one of our affiliates:

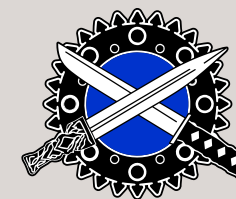


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[sales-europe@nwtcycletronic.com](mailto:sales-europe@nwtcycletronic.com)

#### NEED ASSISTANCE?

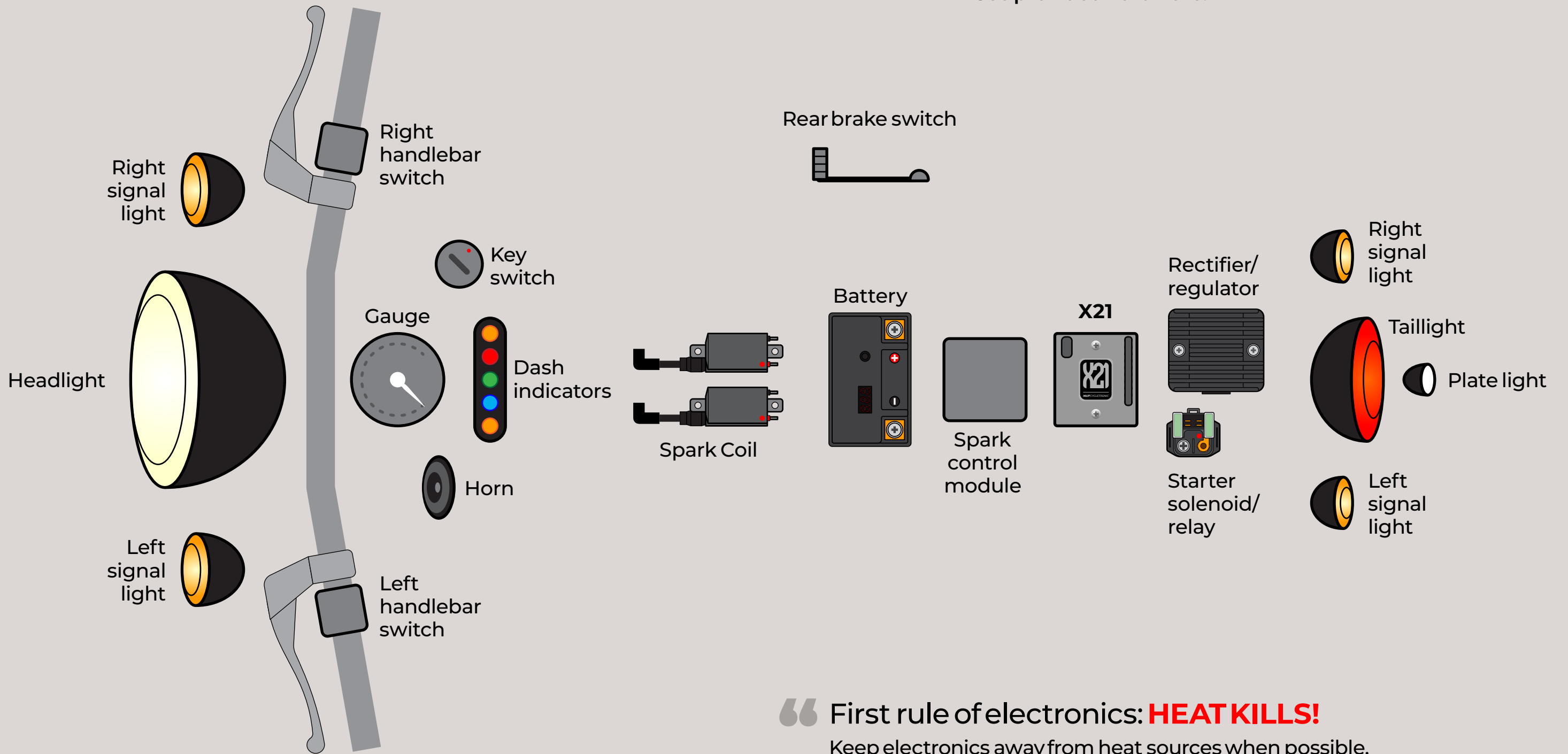
Email make, model, year of bike to  
[techservice@nwtcycletronic.com](mailto:techservice@nwtcycletronic.com)

## COMPONENT CHECKLIST

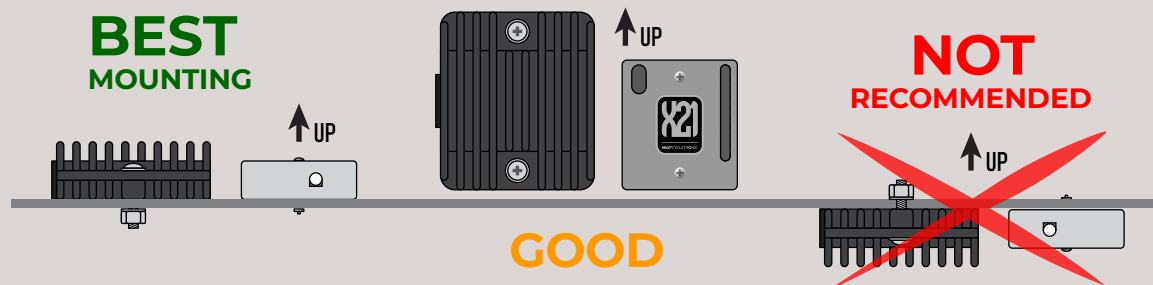
**MOUNT ALL COMPONENTS** onto desired location.

**DO NOT** route wires/cables at this time.

**DO NOT** enlarge or alter the X21 mounting holes.  
Use provided hardware.



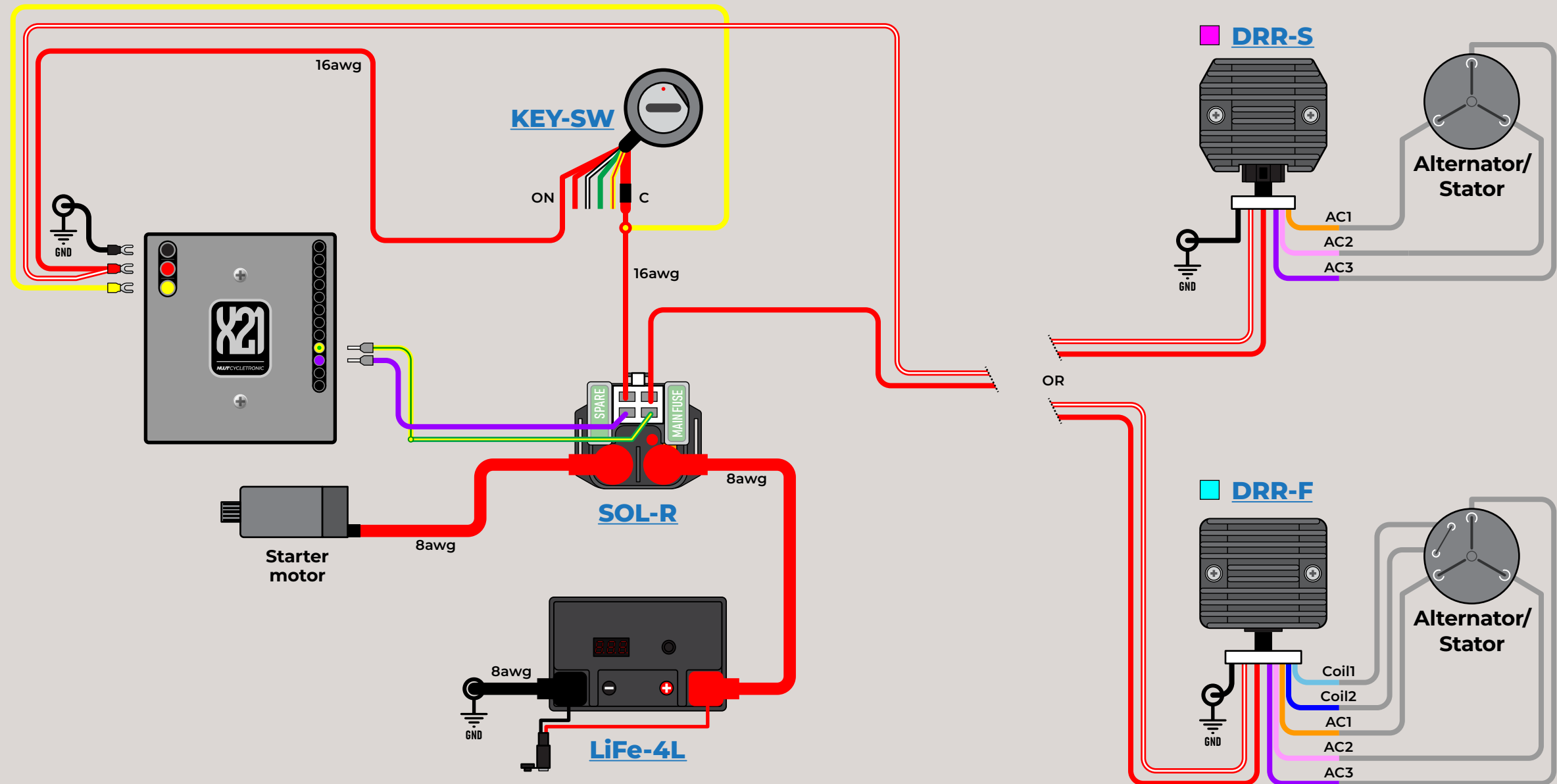
“ First rule of electronics: **HEAT KILLS!**  
Keep electronics away from heat sources when possible.



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**REMOVE FUSE** from fuse holder before starting.  
**DO NOT install fuse** until instructed.

**Use recommended wire gauge size.**  
**DO NOT overtorque/tighten** screw terminals.



**Mywire colors**

Mytype ■ A ■ B \_\_\_\_\_

**Alternator/stator**  
 Coil1 \_\_\_\_\_  
 Coil2 \_\_\_\_\_  
 AC1 \_\_\_\_\_  
 AC2 \_\_\_\_\_  
 AC3 \_\_\_\_\_

“Modernize your charging system with a digital type rectifier/regulator for a safer and more efficient charging source.”

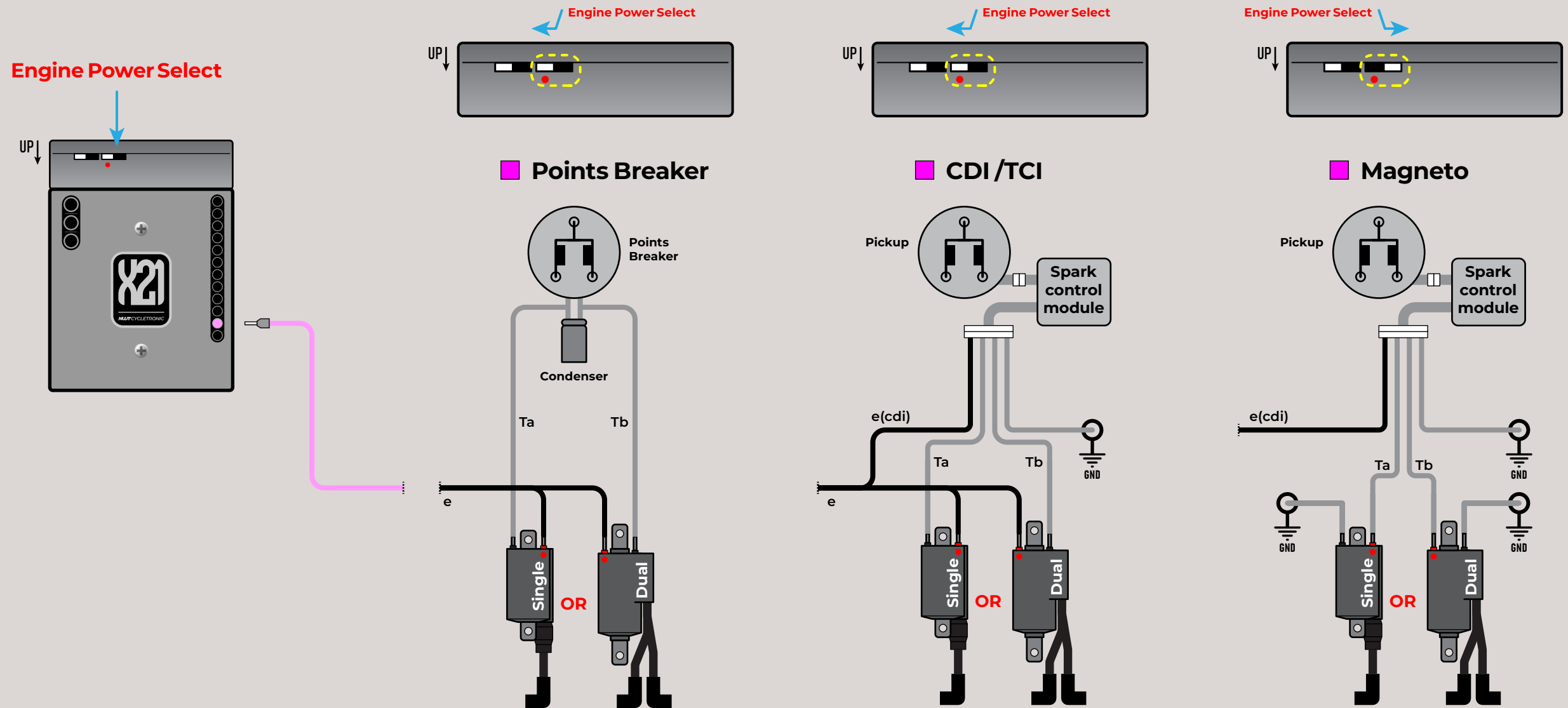
Need assistance with “My wire colors”?  
 Email make, model, year of bike to  
[techservice@nwtcycletronic.com](mailto:techservice@nwtcycletronic.com)

**POWER / CHARGING / STARTING**

**DO NOT** install fuse until instructed.

Pay attention to **“Engine Power Select”** switch position.

**DO NOT** over torque/tighten screw terminals.



**My wire colors**

My type

**Points breaker / Pickup**

Ta \_\_\_\_\_

Tb \_\_\_\_\_

**Original Spark control module**

Ta \_\_\_\_\_

Tb \_\_\_\_\_

e(cdi) \_\_\_\_\_

GND \_\_\_\_\_

**Original coil(s)**

Ta \_\_\_\_\_

Tb \_\_\_\_\_

e \_\_\_\_\_

“ Save some headache.  
Inspect, clean and secure spark plug CAP.  
Spark plug cables hard? Inspect for breaks.  
DO NOT ASSUME, check!

Need assistance with “My wire colors”?  
Email make, model, year of bike to  
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**ENGINE POWER / SPARK COIL**

**DO NOT** install fuse until instructed.

**DO NOT** overtorque/tighten screw terminals.

“ Your X21 does not need additional parts to run LED lights.  
LED lights produce low heat to no heat and are energy efficient.

**Aftermarket parts**

Aftermarket or aftermarket replacement parts refer to vendor for wire colors.

**OR** include wiring diagrams/pictures in your email for assistance.

**My wire colors**

**Front signal lights**

marker \_\_\_\_\_  
turn \_\_\_\_\_  
GND \_\_\_\_\_

**Rear signal lights**

turn \_\_\_\_\_  
GND \_\_\_\_\_

**Taillight**

marker \_\_\_\_\_  
brake \_\_\_\_\_  
GND \_\_\_\_\_

**Plate light**

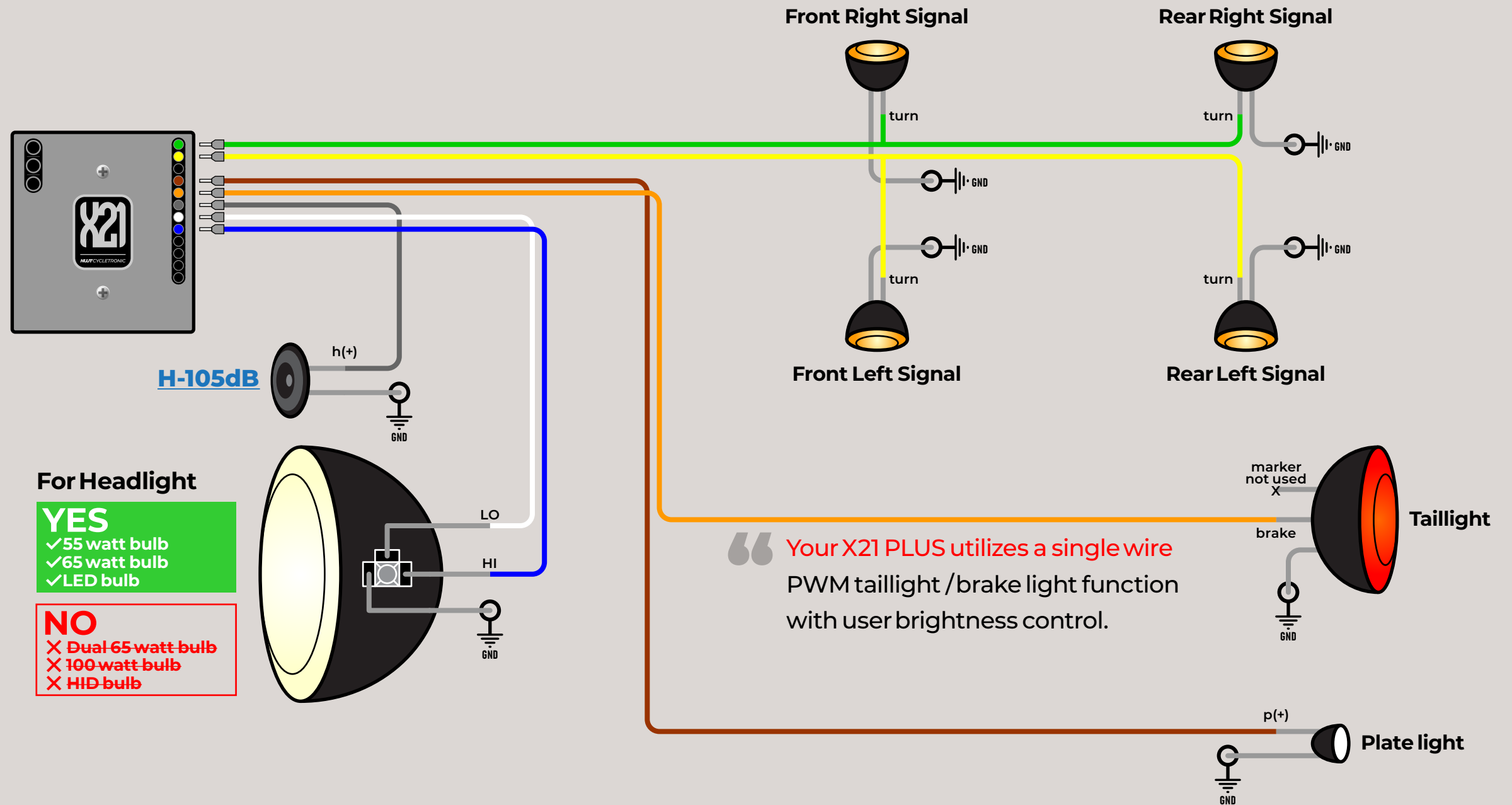
p(+) \_\_\_\_\_  
GND \_\_\_\_\_

**Horn**

h(+) \_\_\_\_\_  
GND \_\_\_\_\_

**Headlight**

DRL \_\_\_\_\_  
GND \_\_\_\_\_  
LO \_\_\_\_\_  
HI \_\_\_\_\_  
GND \_\_\_\_\_



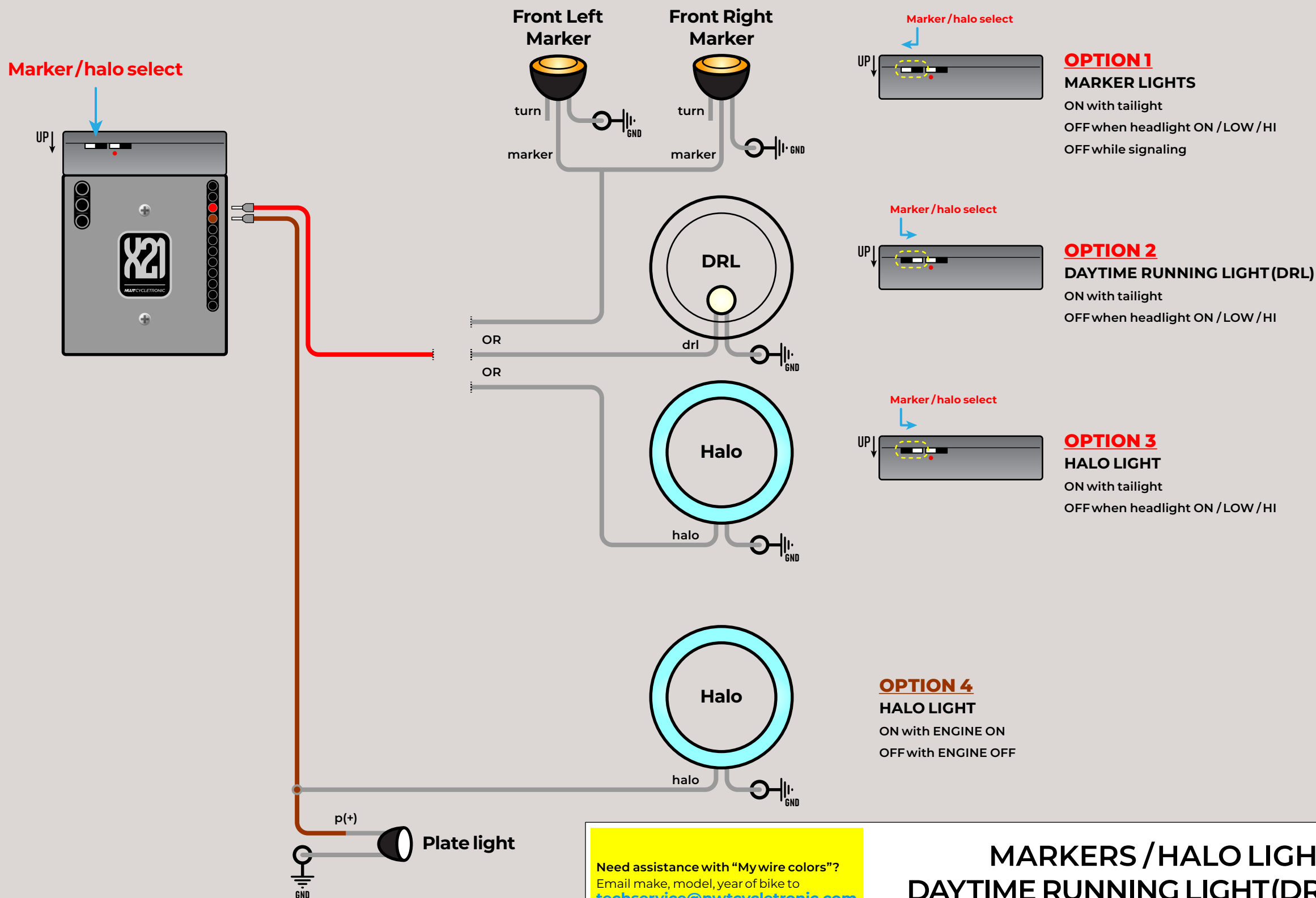
“ Your X21 PLUS utilizes a single wire PWM taillight /brake light function with user brightness control.

Need assistance with “My wire colors”?  
Email make, model, year of bike to  
[techservice@nwtcycletronic.com](mailto:techservice@nwtcycletronic.com)

**DO NOT** install fuse until instructed.

**DO NOT** overtorque/tighten screw terminals.

“ Your X21 does not need additional parts to run LED lights.  
LED lights produce low heat to no heat and are energy efficient.



**Aftermarket parts**  
Aftermarket or aftermarket replacement parts refer to vendor for wire colors.

**OR** include wiring diagrams/pictures in your email for assistance.

**My wire colors**

**Front signal lights**

marker \_\_\_\_\_  
GND \_\_\_\_\_

**Headlight**

drl \_\_\_\_\_  
GND \_\_\_\_\_  
halo \_\_\_\_\_  
GND \_\_\_\_\_

**Plate light**

p(+) \_\_\_\_\_  
GND \_\_\_\_\_

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**MARKERS / HALO LIGHT /  
DAYTIME RUNNING LIGHT (DRL)**



**DO NOT install fuse** until instructed.

**Pay attention to cable slack** for steering head movement.

**Aftermarket parts**

Aftermarket or aftermarket replacement parts refer to vendor for wire colors.

**OR** include wiring diagrams/pictures in your email for assistance.

**My wire colors**

**Gauges**

tachometer \_\_\_\_\_

backlight \_\_\_\_\_

b(-) \_\_\_\_\_

**Left indicator**

L(+) \_\_\_\_\_

L(-) \_\_\_\_\_

**Neutral indicator**

N(+) \_\_\_\_\_

N(-) \_\_\_\_\_

**HI indicator**

H(+) \_\_\_\_\_

H(-) \_\_\_\_\_

**Oil indicator**

O(+) \_\_\_\_\_

O(-) \_\_\_\_\_

**Right indicator**

R(+) \_\_\_\_\_

R(-) \_\_\_\_\_

**Turn indicator**

T(+) \_\_\_\_\_

T(-) \_\_\_\_\_

**Tachometer pulse sensor**

tsense \_\_\_\_\_

**Oil switch**

oil sw \_\_\_\_\_

**Rear brake switch**

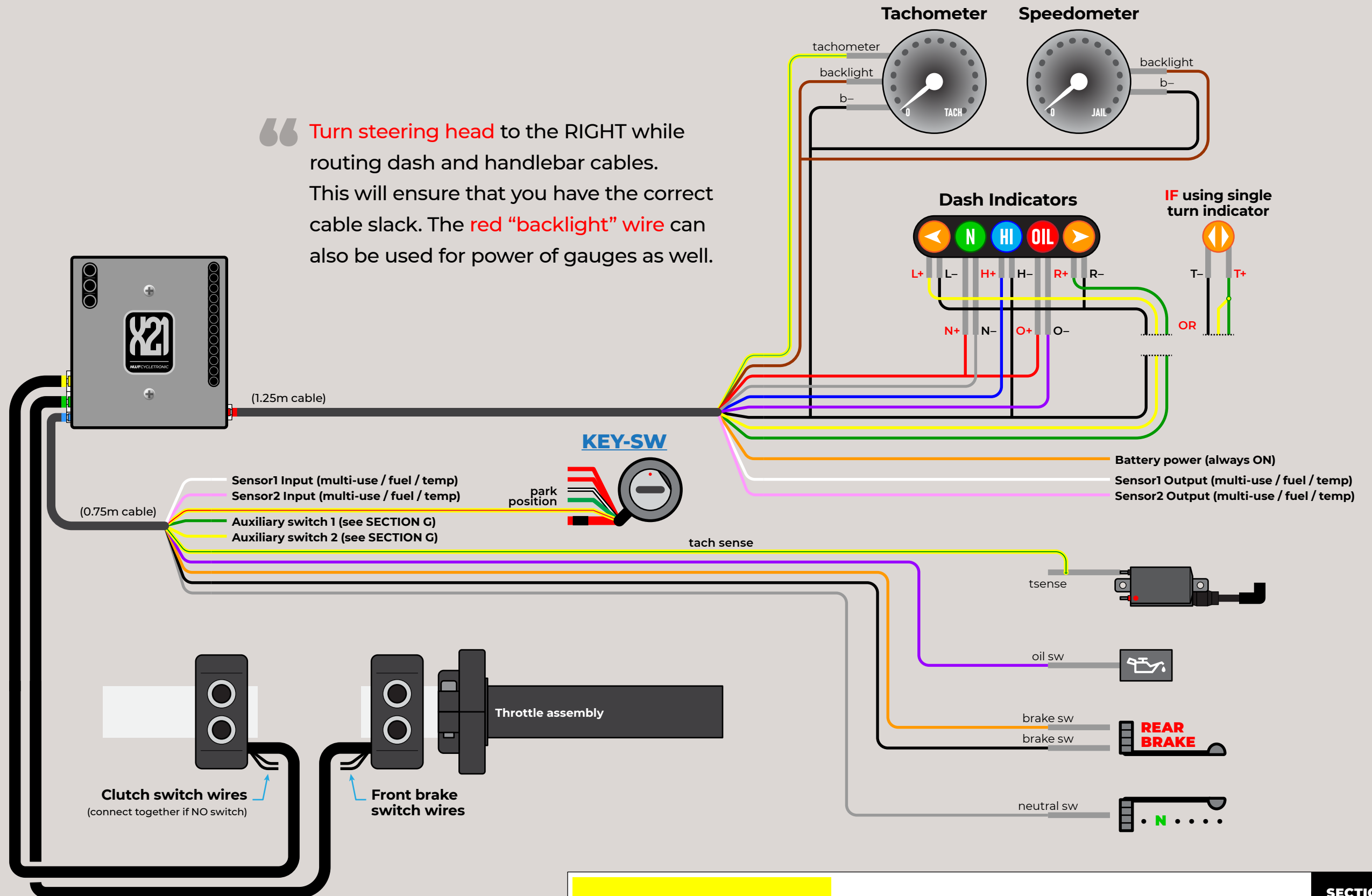
brake sw \_\_\_\_\_

brake sw \_\_\_\_\_

**Neutral switch**

neutral sw \_\_\_\_\_

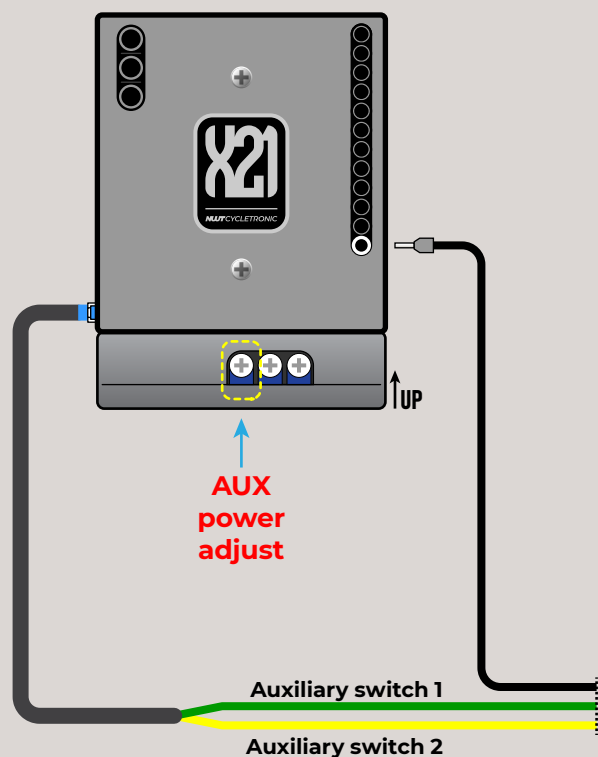
“ Turn steering head to the RIGHT while routing dash and handlebar cables. This will ensure that you have the correct cable slack. The red “backlight” wire can also be used for power of gauges as well.



Need assistance with “My wire colors”?  
Email make, model, year of bike to  
[techservice@nwtcycletronic.com](mailto:techservice@nwtcycletronic.com)

SWITCHES / DASH LIGHTS

**USE ONE OPTION ONLY.**



**AUXILIARY SWITCH 1 FUNCTION**

When GROUNDED, AUX OUTPUT is active  
 When NOT Grounded, AUX OUTPUT is OFF

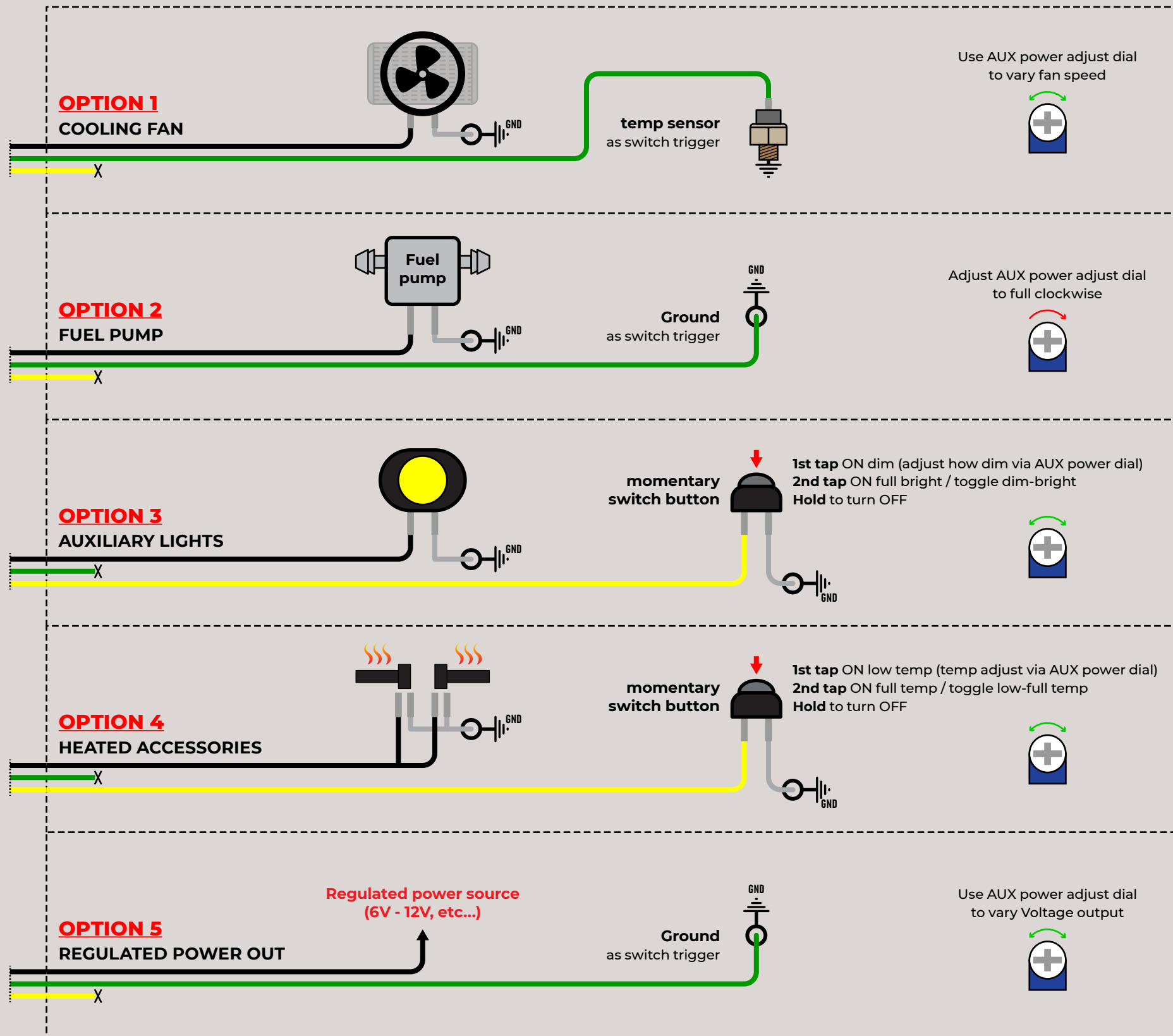
**AUXILIARY SWITCH 2 FUNCTION**

Single TAP of MOMENTARY switch,  
 AUX OUTPUT is set to dial setting.

Single TAP again, AUX OUTPUT is ON Full.

HOLD button for half a second or longer,  
 turns AUX OUTPUT to OFF.

Each single TAP will alternate output from  
 LOW to HIGH or HIGH to LOW.

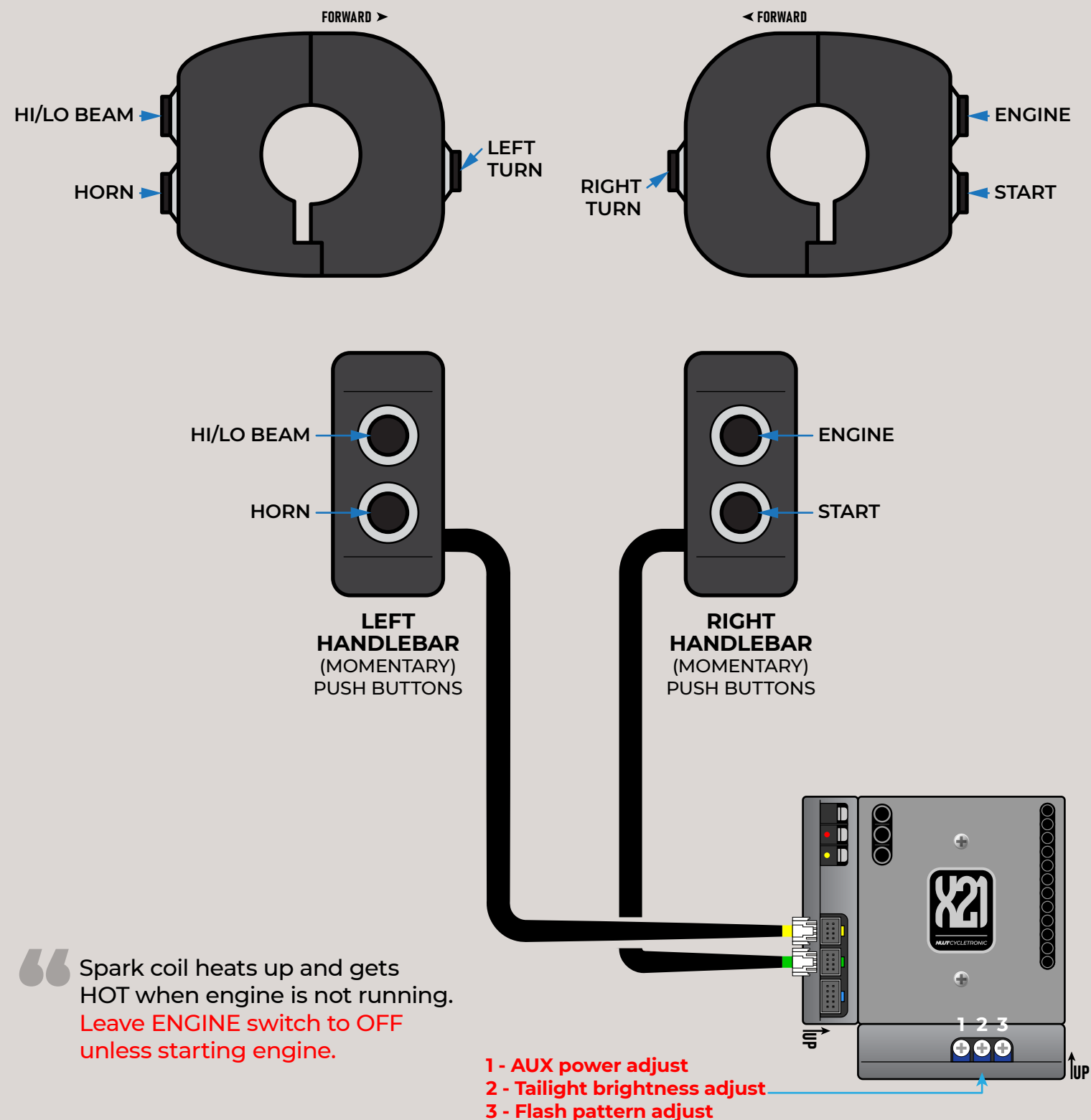


**OPTION X**  
 MANY MORE...

**NEED ASSISTANCE?**  
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1. Do a visual once over on the wiring job.
2. **Have all switches and key in the OFF position & gear in NEUTRAL position.**
3. Install MAIN fuse.
4. Turn **KEY SWITCH** to **ON** position.  
= X21 LED will blink 3 times and then ON solid  
= signal lights will blink 2 times  
This indicates the system is ready.  
= NEUTRAL and OIL indicator lights ON  
= taillight marker ON  
= front marker/DRL/Halo lights ON (if installed)  
= dash backlight ON  
Slowly rotate **TAILLIGHT BRIGHTNESS ADJUST dial** either direction to desire taillight brightness level.
6. Check **FRONT** and **REAR** brake switch.  
= brake light quickly flashes a few times then ON solid  
**\*\* AUTO BRAKE LIGHT HOLD feature \*\***  
While engine is running and on idle and in neutral gear  
= Brake light ON
7. Tap **HI/LO BEAM** button **3 times**  
= front marker/DRL/Halo lights OFF (if installed)  
= LO beam ON  
= headlight LO "soft start" ON  
(light will gradually come to full brightness)  
Tap **HI/LO BEAM** button **3 times**  
= LO beam OFF  
= front marker/DRL/Halo lights ON (if installed)  
Tap **HI/LO BEAM** button **3 times**  
= front marker/DRL/Halo lights OFF (if installed)  
= LO beam ON  
= headlight LO "soft start" ON  
(light will gradually come to full brightness)
8. Tap **HI/LO BEAM** button **2 times**  
= HI beam ON and HI indicator ON, LO beam OFF  
Tap **HI/LO BEAM** button **2 times**  
= HI beam OFF and HI indicator OFF, LO beam ON  
**\*\* AUTOMATED PASSING LIGHT feature \*\***  
Tap **HI/LO BEAM** button **1 time**  
= LO beam OFF, HI beam flashing  
Tap **HI/LO BEAM** button **1 time**  
= Flashing HI beam OFF  
HI beam and PASSIGN LIGHT always available regardless of MASTER LIGHT switch position.

9. Push **HORN** button.  
= horn ON while pushed
10. Tap **LEFT TURN & RIGHT TURN** buttons **1 time**  
= ALL signal lights ON and turn indicators ON  
Slowly rotate **FLASH PATTERN ADJUST dial** in either direction to set desired flash pattern.  
**\*\* TURN INDICATOR LIGHTS are steady flashing and not affected by the different signal light flash pattern\*\***  
Tap **LEFT TURN & RIGHT TURN** buttons **1 time**  
= ALL signal lights OFF and turn indicators OFF  
Check LEFT TURN, check RIGHT TURN  
(1 tap ON, 1 tap OFF )  
= signal lights ON and turn indicator ON to button pushed  
**\*\* MARKER LIGHTS SWITCHBACK feature \*\***  
Marker lights will turn OFF while signal lights are blinking  
**\*\* TURN SIGNAL LIGHTS AUTO TIME OUT feature \*\***  
Signal lights will turn off automatically after 3.5minutes if NOT cancelled manually
11. Tap **ENGINE** button **1 time**  
= engine ON  
**While NEUTRAL indicator ON or CLUTCH pulled**  
(if clutch switch is installed), hold **START** button  
= engine CRANKING and headlight OFF during  
**If engine not ready to run**, install spark plug to Spark Coil, then spark plug body to ground, check for spark.  
**While engine is ON**, tap **ENGINE** button **1 time**  
or hold **ENGINE** button  
= engine OFF  
START button ONLY available if ENGINE switch is ON and gear in NEUTRAL or CLUTCH pulled.
12. **Smart Dash Indicators**  
- TURN INDICATORS flash steady regardless of turn signal flash pattern selection  
- NEUTRAL INDICATOR will flash steady if engine is running and in idle speed and in NEUTRAL  
- OIL INDICATOR will flash rapid if engine is running and oil switch is triggered
13. **Park position HAZARD lights**  
Turn **KEY SWITCH** to **Park** position  
= left & right signal lights ON (hazard)
14. **Turn ALL switches OFF including KEY SWITCH**



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SYSTEM CHECK (**PLUS-P**)

## Finalizing system installation

1. **Remove MAIN Power fuse.**
2. Organize wires and cables.
3. Cut and shorten excess wiring.
4. Bundle, wrap or tape to protect wiring.
5. **Turn steering head to the RIGHT while routing dash and handlebar cables.**

**This will ensure that you have the correct cable slack.**

6. Secure bundle with zip ties.
7. Secure and tighten all nuts, bolts, screws, duct tape, twist wires and whatever the fuck else you used to mount your shit down.
8. Thoroughly inspect all connection points.
9. **REPEAT Section H.**

**NEED ASSISTANCE?**  
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