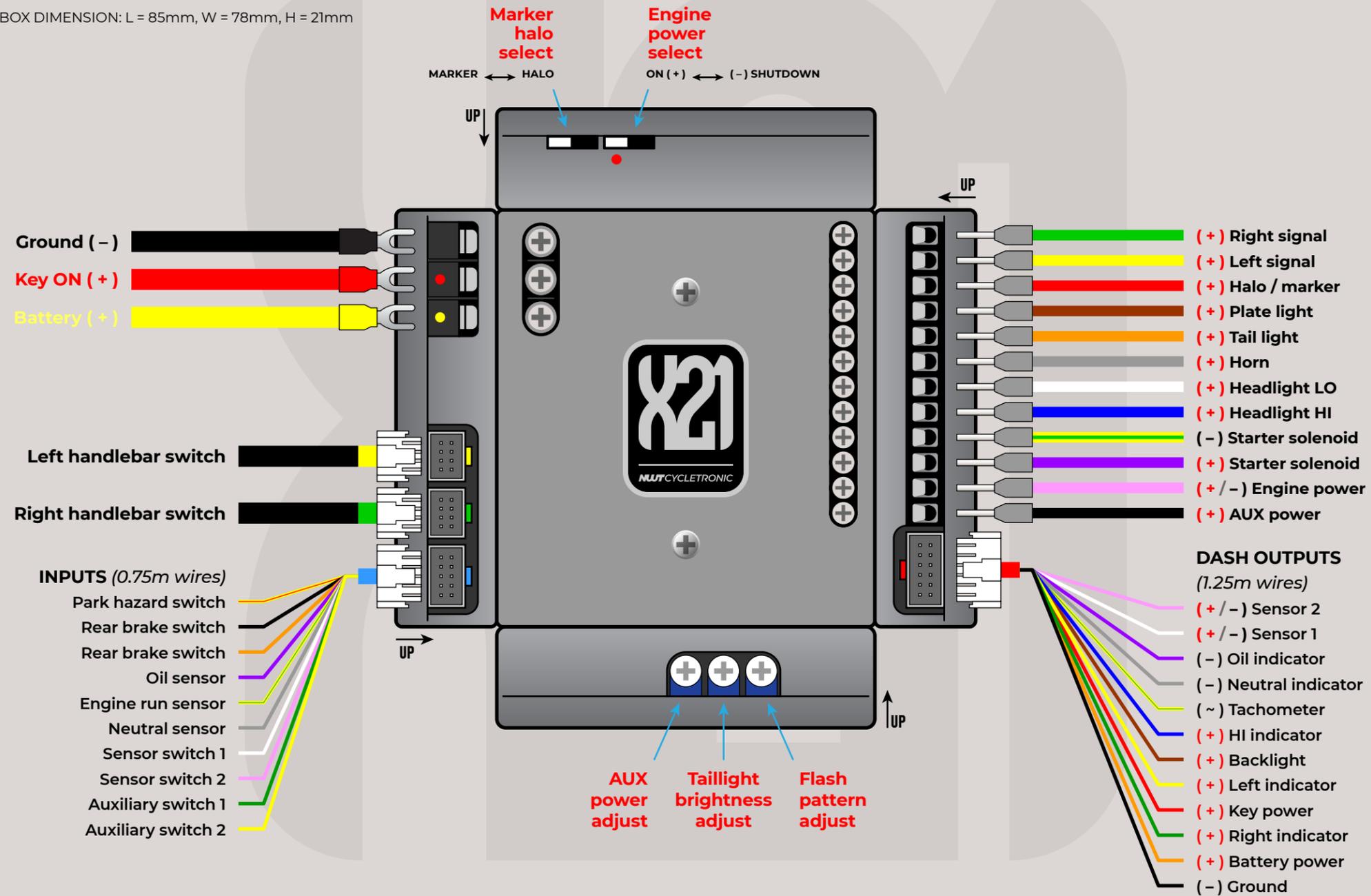


X21 PLUS

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 our techs:

Website: www.nwtcycletronic.com

Instagram: [@nwtcycletronic](https://www.instagram.com/nwtcycletronic)

E-mail: techservice@nwtcycletronic.com

NEED ASSISTANCE?
Email make, model, year of bike to
techservice@nwtcycletronic.com

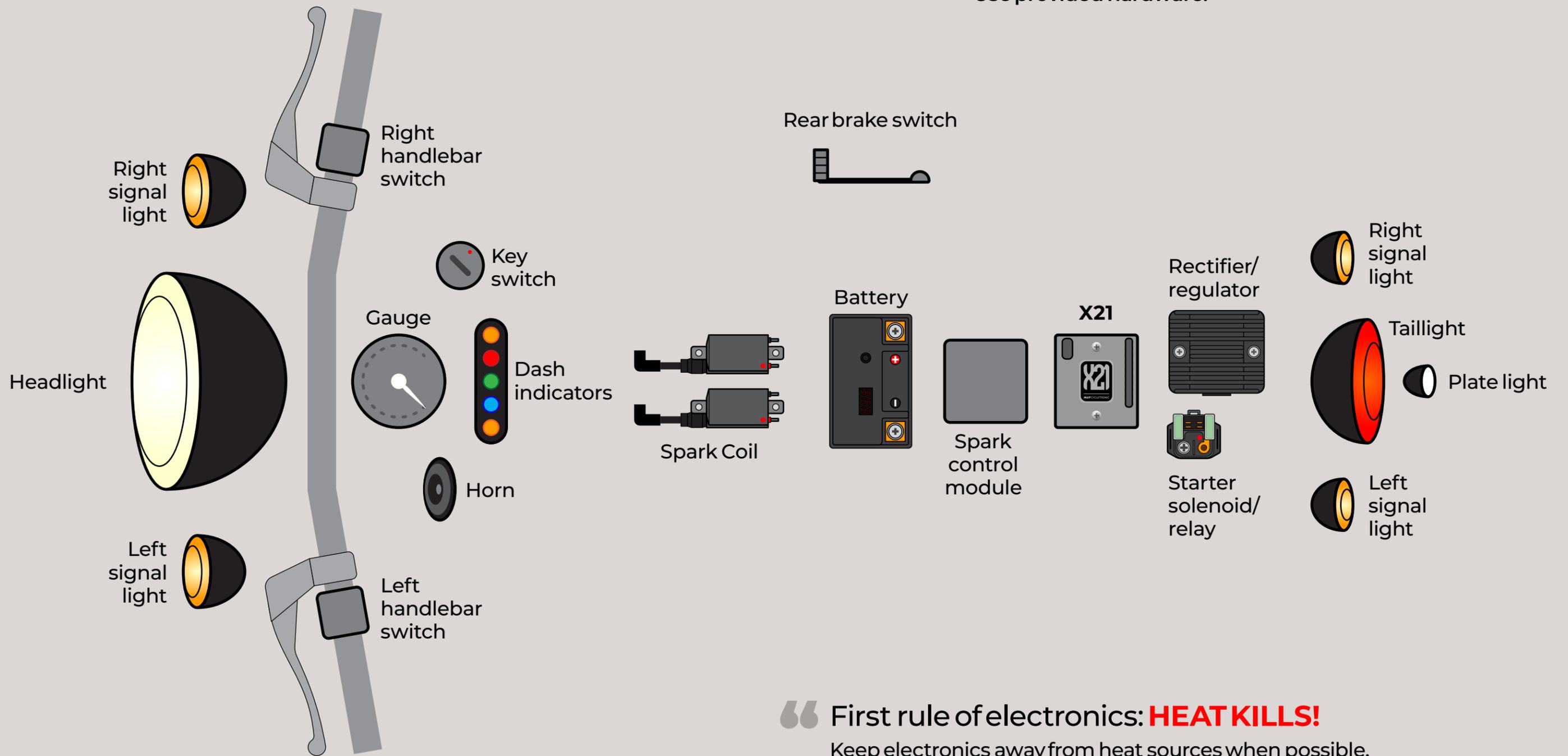
COMPONENT CHECKLIST

SECTION
A

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.



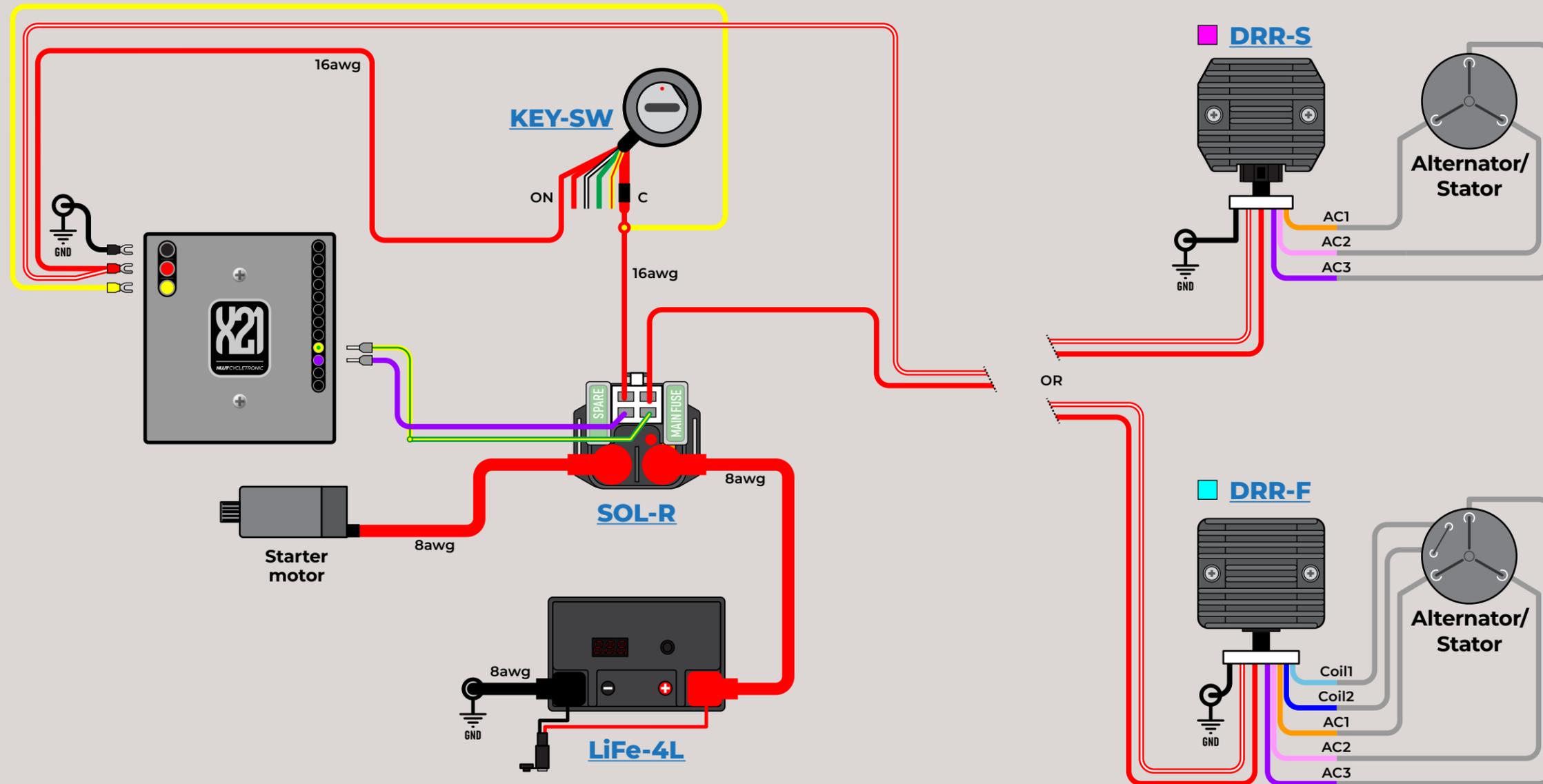
“ First rule of electronics: **HEAT KILLS!**
Keep electronics away from heat sources when possible.



NEED ASSISTANCE?
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techservice@nwtcycletronic.com

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

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



My wire 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.”

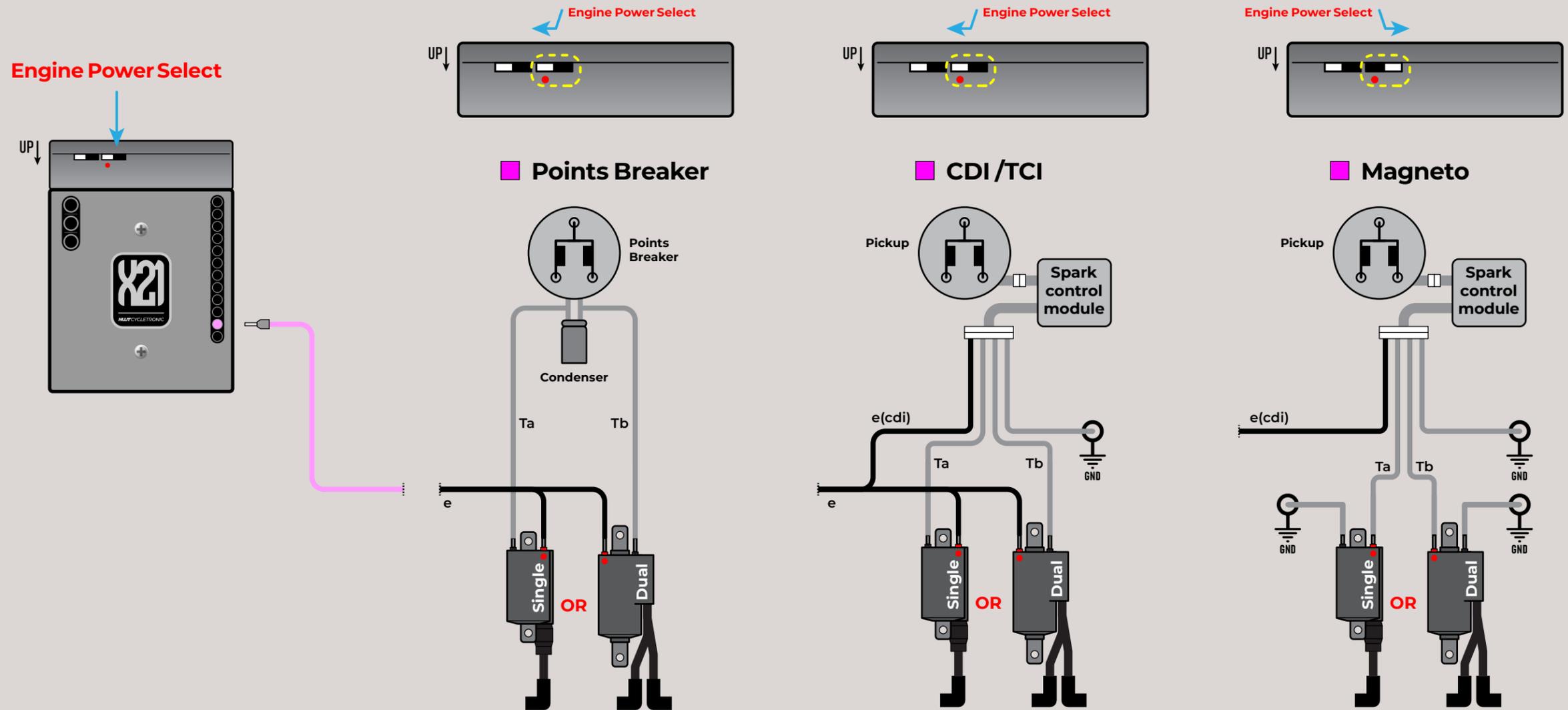
Need assistance with “My wire colors”?
 Email make, model, year of bike to
techservice@nwtcycletronic.com

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
techservice@nwtcycletronic.com

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

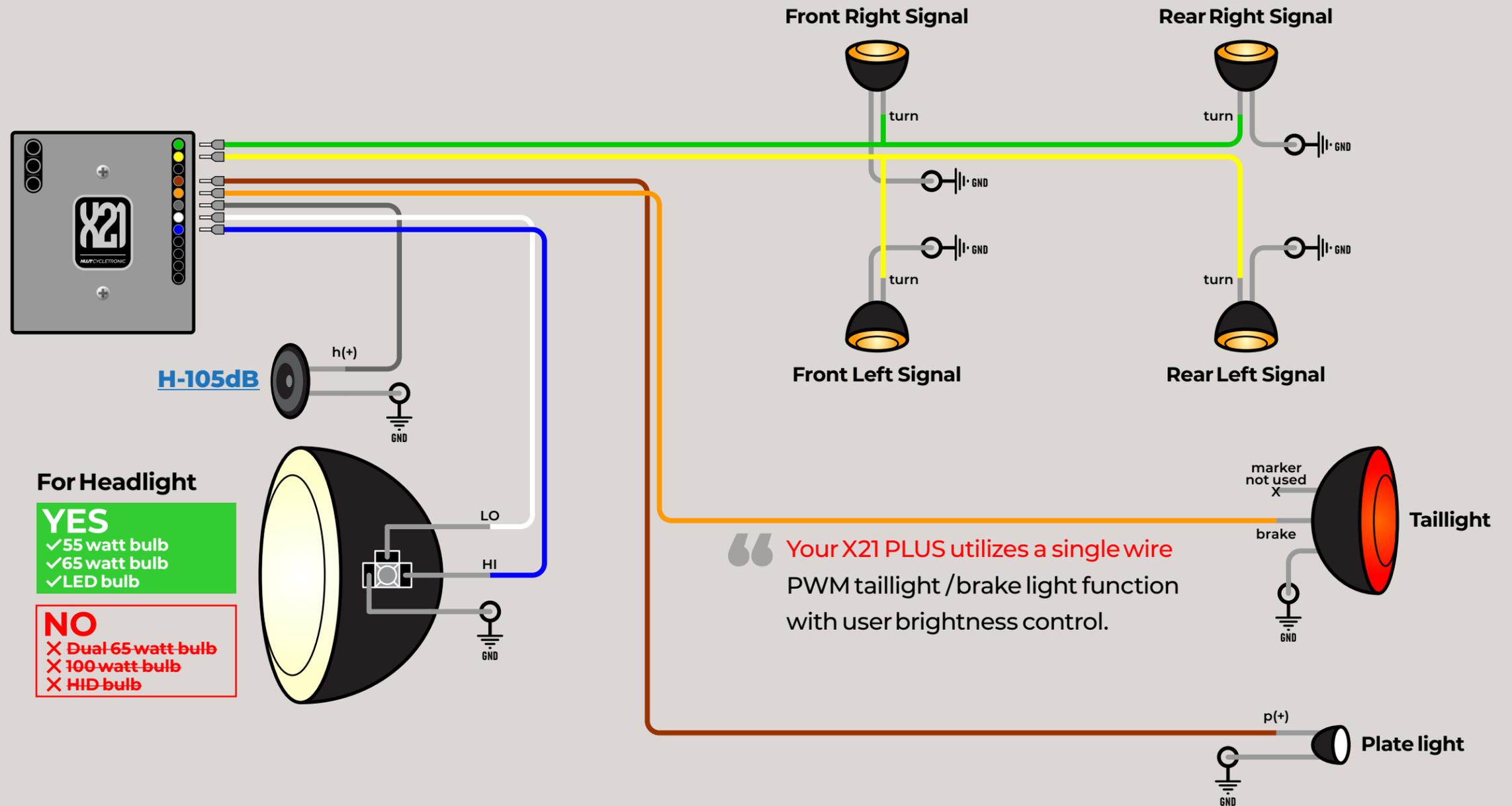
p(+) _____
GND _____

Horn

h(+) _____
GND _____

Headlight

DRL _____
GND _____
LO _____
HI _____
GND _____



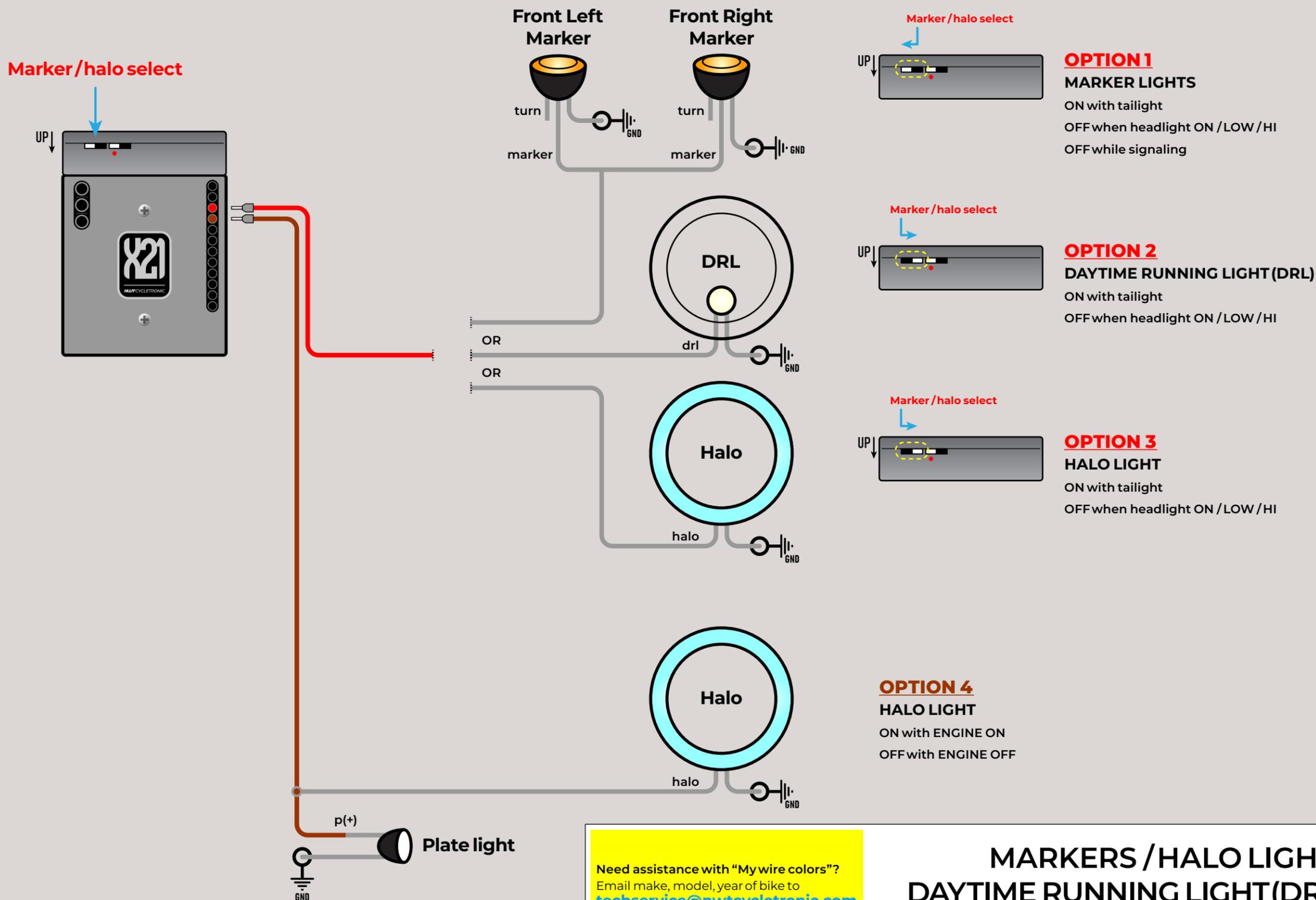
“ Your X21 PLUS utilizes a single wire PWM taillight /brake light function with user brightness control.

Need assistance with “My wire colors”?
Email make, model, year of bike to
techservice@nwtcycletronic.com

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 _____

Need assistance with "My wire colors"?
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techservice@nwtcycletronic.com

**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

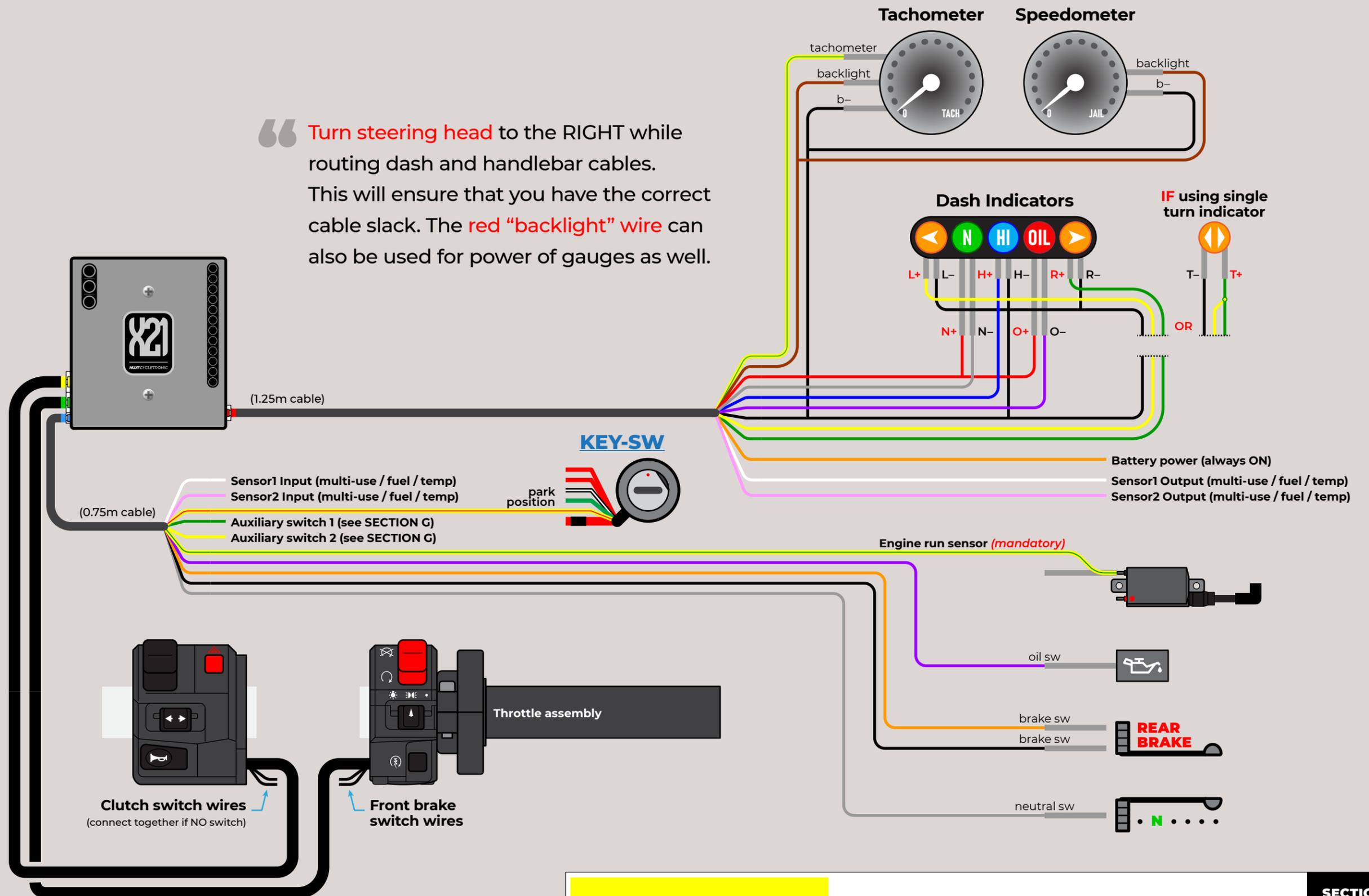
brake sw _____

brake sw _____

Neutral switch

neutral sw _____

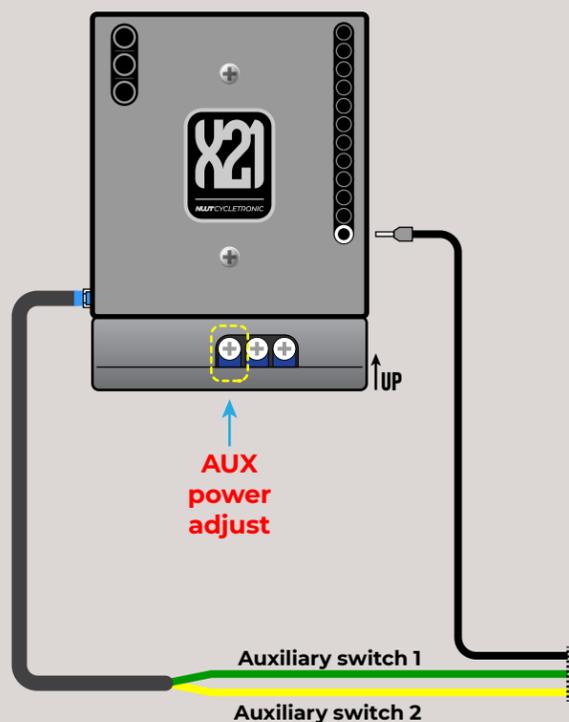
“ Turn steering head to the RIGHT while routing dash and handlebar cables. This will ensure that you have the correct cable slack. The red “backlight” wire can also be used for power of gauges as well.



Need assistance with "My wire colors"?
Email make, model, year of bike to
techservice@nwtcycletronic.com

SWITCHES / DASH LIGHTS

USE ONE OPTION ONLY.



AUXILIARY SWITCH 1 FUNCTION

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

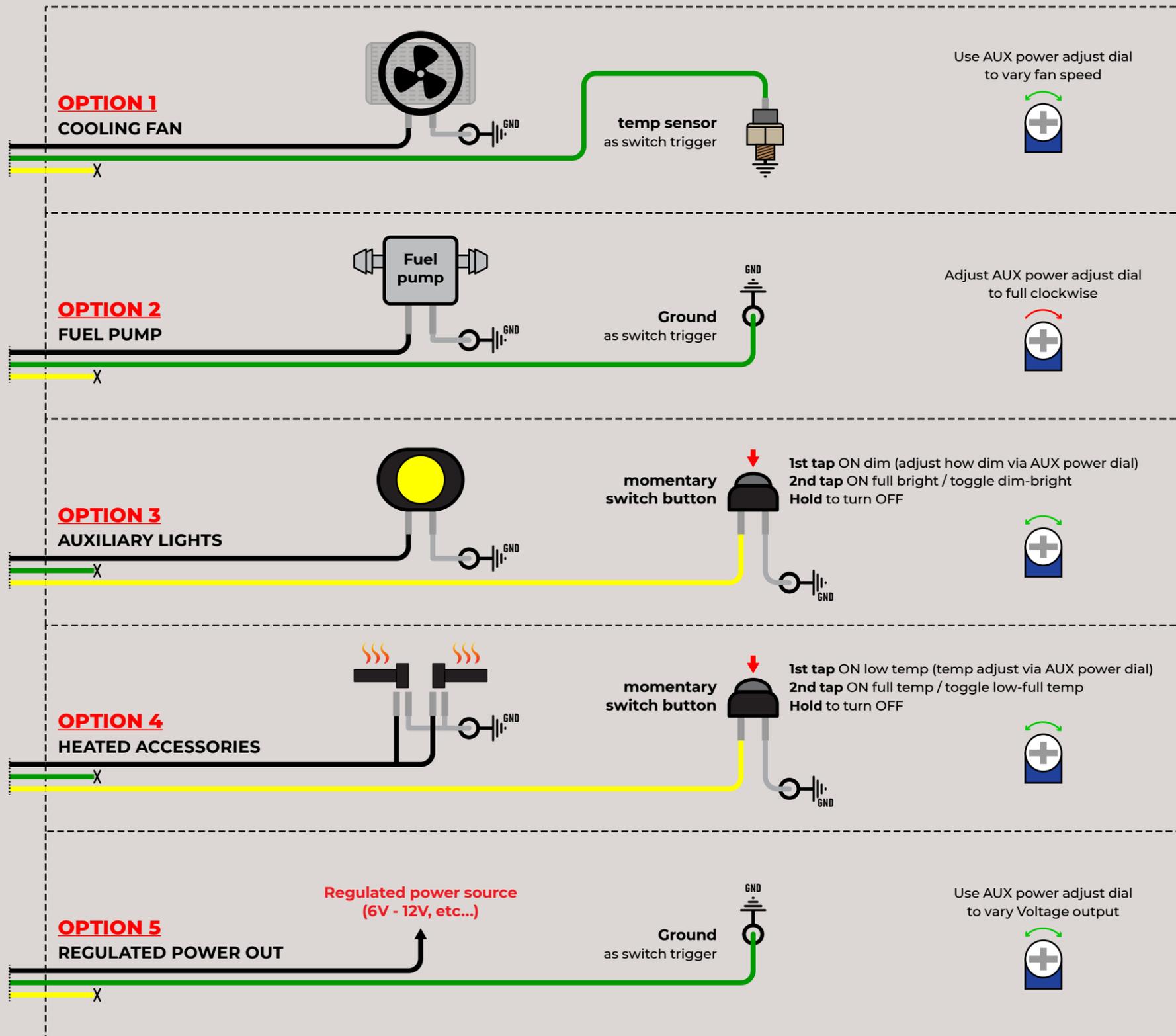
AUXILIARY SWITCH 2 FUNCTION

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.

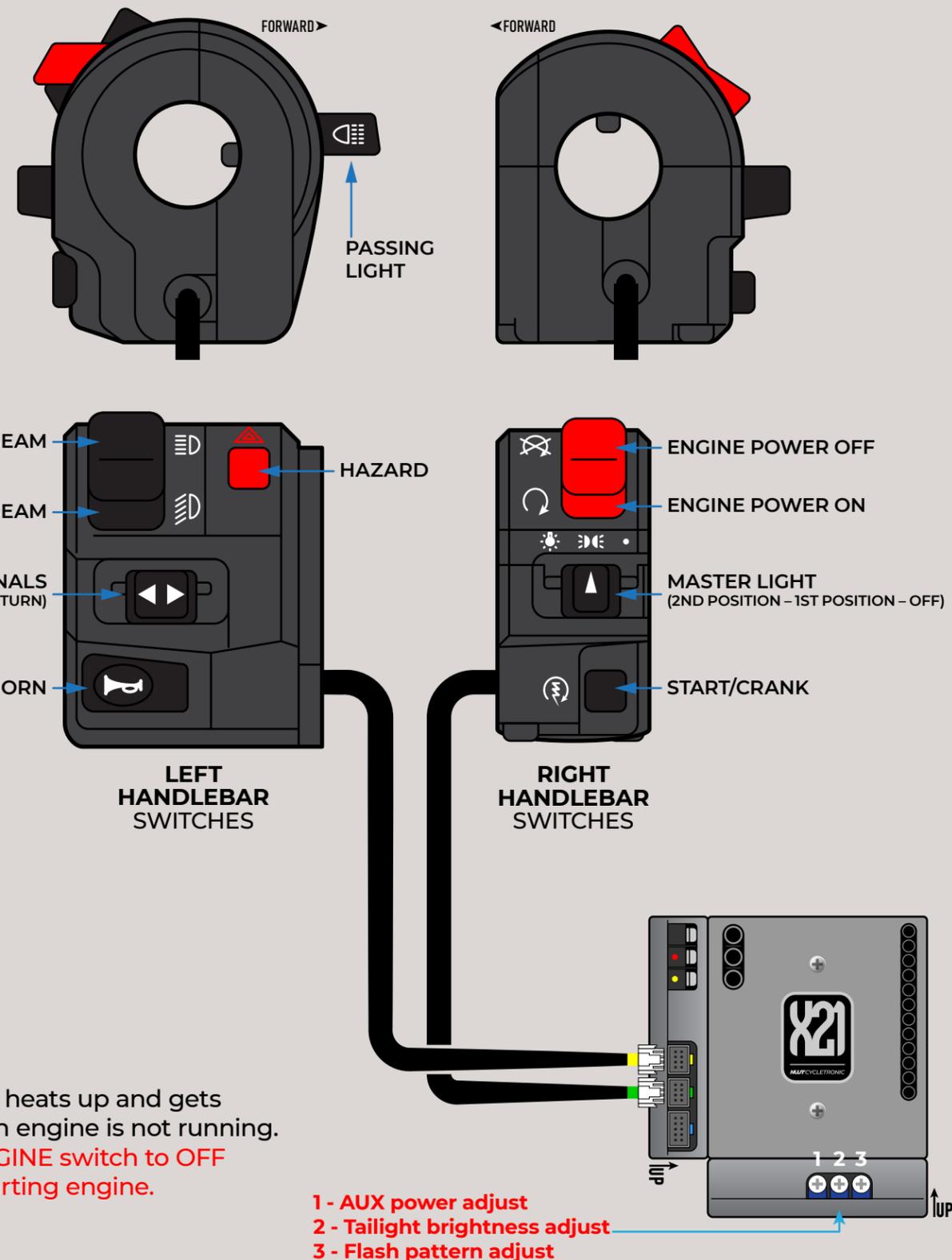


OPTION X
 MANY MORE...

NEED ASSISTANCE?
 Email make, model, year of bike to
techservice@nwtcycletronic.com

- Do a visual once over on the wiring job.
- Have all switches and key in the OFF position & gear in NEUTRAL position.**
- Install MAIN fuse.
- 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
- Turn **MASTER LIGHT** switch to **1st POSITION**.
= taillight marker ON
= front marker/DRL/Halo lights ON (if installed)
= dash light ON
Slowly rotate **TAILLIGHT BRIGHTNESS ADJUST** dial either direction to desired taillight brightness level.
- Check **FRONT** and **REAR** brake switch.
= brake light flashes quick a few time then ON solid
**** AUTO BRAKE LIGHT HOLD feature ****
While engine is running and on idle and in neutral gear
= Brake light ON
- Turn **MASTER LIGHT** switch to **2nd POSITION**.
= front marker/DRL/Halo lights OFF (if installed)
= headlight LO "soft start" ON (light will gradually come to full brightness)
- Turn **HI BEAM** switch to **ON**.
= HI beam ON and HI indicator ON, LO beam OFF
Turn **HI BEAM** switch to **OFF**.
= HI beam OFF and HI indicator OFF, LO beam ON
**** AUTOMATED PASSING LIGHT feature ****
Tap **PASSING LIGHT** switch.
= LO beam OFF, HI beam flashing
Hold **PASSING LIGHT** switch for half a second or longer then, release
= Flashing HI beam OFF
HI beam and PASSING LIGHT always available regardless of MASTER LIGHT switch position.
- Push **HORN** button.
= horn ON while pushed

- Push **HAZARD LIGHT** switch to **ON**.
= 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****
Push **HAZARD LIGHT** switch to **OFF**.
- Check **LEFT** and **RIGHT** turn switch.
= signal lights ON and turn indicator ON to L/R direction
**** 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 3.5 minutes if NOT cancelled manually.
Dash indicator lights will be solid to indicate signal switch is ON after TIME OUT. Indicator lights will turn OFF after signal switch is cancelled.
- Push **ENGINE** switch to **ON**.
= engine ON While NEUTRAL indicator ON or CLUTCH pulled (if clutch switch is installed), hold START button.
= plate light, ON (if installed)
= engine CRANKING and headlight OFF during
= engine ON and headlight ON
(if MASTER LIGHT switch is set to ON)
If engine not ready to run, install spark plug to Spark Coil, then spark plug body to ground, check for spark.
START button **ONLY available** if ENGINE switch is ON and gear in NEUTRAL or CLUTCH pulled.
- 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 rapidly if engine is running and oil switch is triggered
- DASH BACKLIGHT will come ON when taillight is ON
- Park position** HAZARD lights
Turn **KEY SWITCH** to **PARK** position
= left & right signal lights ON (hazard)
- Turn **ALL** switches OFF including **KEY SWITCH**.



“ Spark coil heats up and gets HOT when engine is not running. Leave ENGINE switch to OFF unless starting engine.

1 - AUX power adjust
2 - Taillight brightness adjust
3 - Flash pattern adjust

NEED ASSISTANCE?
Email make, model, year of bike to
techservice@nwtcycletronic.com

SYSTEM CHECK (PLUS-S)

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.**

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