Thank you for purchasing the

SwapHelper.com Column Helper

Please solder all wire connections and cover in the included shrink wrap for best performance. Wire nuts, butt connectors and other similar connection methods can lead to intermittent signal issues. These methods are only suitable in temporary testing situations.

Warnings:

1. *Disconnect your battery before starting Column Helper installation!*
2. *If you do not have experience soldering wires, please hire someone who does. The quality of your column swap experience will be dictated by the quality of the install.*
3. *It is highly recommended you complete your wiring with the harness outside of the truck and with the harness in good lighting.*
4. *Do NOT start your column swap under a tight timeline, e.g., starting Sunday afternoon and you need your truck for work Monday morning. You need to plan to take your time, including double checking your work and diagnosing any issues after install.*
5. *Do NOT plug the USB into a computer that is also connected to a 120v inverter in the vehicle! Doing so could cause damage to the Column Helper!*

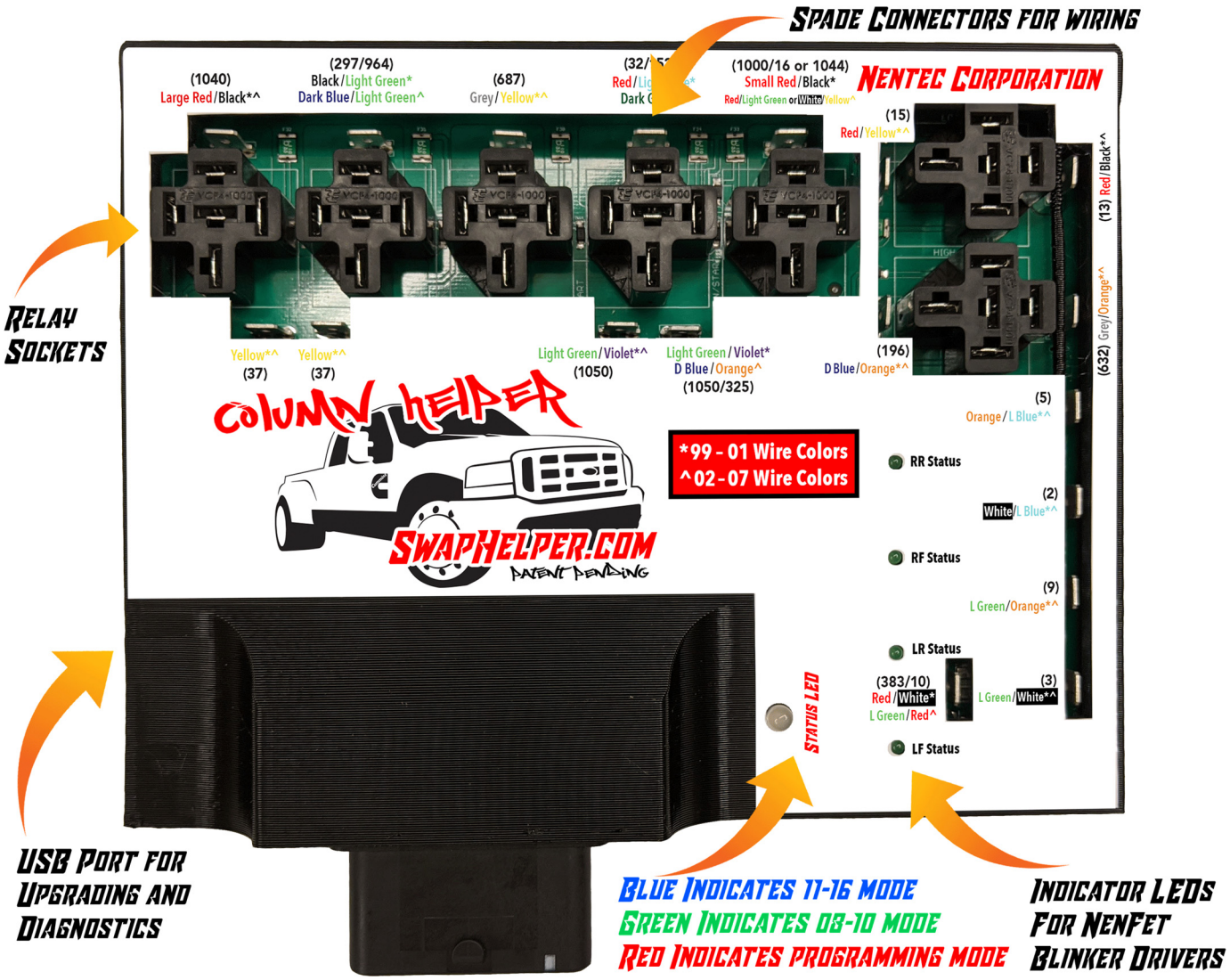
Opening the box:

The following items are included with your Column Helper:

- 1 x Column Helper
- 1 x Column Helper Harness
- 1 x Column Helper Instructions
- 8 x Relays
- 64 x Marine Grade Shrink-wrap (Smaller)
- 12 x Marine Grade Shrink-wrap (Larger)
- 12 x Large AWG Spade Connectors
- 12 x Small AWG Spade Connectors
- 4 x Mounting Clips
- 1 x USB Cable
- 1 x Clock Spring Labels
- 1 x Column Wire Labels
- 1 x Multifunction Switch Labels
- 1 x Truck Wiring Labels

Getting to know your Column Helper:

Your Column Helper is a sophisticated device that allows you to install a 2008 to 2016 column into a 1999 to 2007 Ford Super Duty or Excursion. Here is the general layout:



*In April, 2021, the Circuit 687 position was swapped with the circuit 1000/16/1044 position to fix an issue with '02-'07. This has no impact on '99 to '01.

Before getting started:

It is HIGHLY recommended you watch our Tips and Tricks video for the Column Helper on our website before starting your install, which is available at

http://www.SwapHelper.com/columnhelper

Or

Mounting:

The Column Helper mounts on the driver's (left) side of the dash frame. It mounts directly to the dash frame using two of the four included push pins on the bottom left side of the dash frame.

The mounting orientation can also be seen in the Tips and Tricks video on our website.

The Column Helper occupies the space where the upfitter switch relays and/or inverter bracket mounts. If you plan to run either of these in your swap, they will need to be relocated elsewhere under the dash.

Relays:

The Column Helper was designed to passively use high quality replaceable relays for high power circuits, including the ignition and headlights. The relays should be inserted until they are flush in their respective sockets. To remove the relays, slowly work them back and forth without putting excessive force on the Column Helper itself. One spare relay has been included with the Column Helper in case of a field failure.

Solid State Blinkers:

The Column Helper contains advanced NenFet solid state driver technology, which was developed by Nentec Corporation. This technology allows for silent blinker function while constantly monitoring the blinker circuits. The circuits are monitored for over current, over voltage, under voltage and certain startup conditions to protect the solid-state circuitry from damage. Each blinker circuit can supply up to 33 amps during startup (lights turning on) and can maintain a continuous load of 7.5 amps. Do not attach inductive loads (relays, motors, etc.) to the blinker circuits, as this will cause damage to the circuitry.

The blinker circuits are capable of driving LED blinkers without "fast" blinking, but you will not be made aware of a bulb that has gone out. Periodic inspection of blinkers is recommended.

Please note the blinkers will now be silent – if a '99 to '07 instrument cluster is used, there will be no audible sound when the blinkers are on.

Each blinker circuit has a corresponding indicator LED to indicate it's status (see above, "*Getting to know your Column Helper*"). During normal functionality, the indicator LED will turn on solid during operation, and turn off within one second of the circuit/blinker being turned off. If there is an error condition, the indicator LED will blink out the error code for a minimum of nine seconds if the circuit is shut off, and indefinitely if the circuit is on and the error persists. The errors are as follows:

One blink - Over current condition present: the circuit has sourced in excess of 33 amps at startup, or 7.5 amps continuously. To remedy this condition, test the circuit for a hard short or excessive load, such as additional blinker bulbs or lights.

Two blinks - Under voltage condition present: the supply voltage has dropped below 3.5v on startup, or 7.5v during operation. To remedy this condition, check supply wiring for excessive resistance, increase the size of the supply wiring, or reduce the load on the circuit.

Three blinks - Over voltage condition present: the supply voltage has risen above 22v during operation. To remedy this condition, check alternator for proper operation, and remove any large, inductive loads for vehicle electrical system that may be causing transient voltage spikes.

'11-'16 multifunction retrofit:

If you are running an '11 to '16 column in your dash swap, it is required to retrofit the column to an '08 to '10 clock spring and multifunction switch. You will need a '08 to '10 clock spring, clock spring housing, multifunction switch, steering wheel harness and column harness. Please visit our website for a video on how to complete the retrofit.

Using '11 to '16 steering wheel buttons on an '08 to '10 steering wheel:

You can use the newer style '11 to '16 buttons in the '08 to '10 wheel, which will allow you to use the newer cruise buttons and directional pad for the newer '11 to '16 cluster. To do so, you will need the '11 to '16 steering wheel buttons and the steering wheel harness. The '08 to '10 steering wheel harness connector, located behind the airbag, will need to be de-pinned, along with the connector on the '11

to ’16 steering wheel harness. The pins are the same even though the connector is different. You will insert the ’11 to ’16 steering wheel harness pins into the ’08 to ’10 steering wheel connector as follows. Look for the pin position numbers on the back of the ’08 to ‘10 connector, they are near the corners:

08-10 Pin	08-10 Description	11-16 Pin	11-16 Description	11-16 Wire color
1	Horn	4	Horn	L Blue/Black
2	Climate Buttons	1	Message Buttons	Green/Tan
4	Illumination Ground	10	Illumination Ground	Green/Tan
5	Climate Ground	2	Message Ground	White/Violet
7	Illumination	9	Illumination	Brown
8	Cruise Control	15	Cruise Buttons	Yellow/Green
9	Cruise Ground	7	Cruise Ground	Tan
10	Audio Buttons	14	Audio Buttons	Blue/Black
11	Audio Ground	6	Audio Ground	Red/Black

Air Bag swap:

For liability reasons, Nentec Corp (SwapHelper.com) cannot provide guidance on swapping/wiring to the newer air bag.

Wiring considerations:

There are two grounds from the Column Helper, L4 and M4, both black. These two should be combined and attached to a low impedance grounding point, such as the dash frame. If the dash frame was painted, be sure to use sandpaper to remove the paint to ensure good contact. This should also be done on the mounting bolt points for the dash frame to the cab.

Similarly, there are two grounds for the multifunction switch, pin 8 and pin 15, labeled *Multifunction Return*. For ‘99 to ‘01, these two grounds can be combined and connected to the Column Helper G3 (Black), *Multifunction Return.* For ‘02 to ‘07 trucks, pin 8 connects to Column Helper G3 (Black), *Multifunction Return,* but pin 15 connects to the truck wiring, circuit 57 (Black), *Multi-Function Return.*

Any unused wires should be capped off in this manner with the included shrink wrap:

Soldering your connections:

Good solder joints are imperative. While this is a quick tutorial on soldering using the included shrink wraps, if you are not comfortable soldering or suffer from color blindness, we highly recommend you hire someone to solder your harness.

As stated above, it is recommended you work on the dash wiring harness outside of the truck in good lighting.

For solder, we recommend you use lead-based solder, which is typically 63/37 or 60/40 Lead/Tin solder. Lead free solder is more difficult to work with.

Strip the wire back and put the provided shrink wrap over one end:

Wrap the two stripped sections:

Solder the two sections together, making sure the solder is sucked into the wire strands. This step is imperative – a cold or poor solder joint will impact column operation.

Lastly, slide the shrink wrap over the solder joint and heat until you see the adhesive:

The solder joint is complete!

Spade Connector Soldering:

Start by putting the appropriately sized included shrink wrap over the wire:

Solder the appropriately sized included spade connector to the wire, making sure the solder wicks into the connector and through the wire:

Then, uniformly apply heat to the shrink wrap until the adhesive protrudes. Please note the positioning of the shrink wrap over the solder joint on the spade connector:

The spade soldering is complete!

Pre-drive inspection:

After installation and before reconnecting the battery, set the emergency brake, confirm the vehicle is in Park for an automatic or neutral for a manual and remove the key from the ignition. After the battery is reconnected, turn the ignition to accessory, and then to run (not start) to confirm your accessories and the ignition function properly. Inspect the Column Helper main Status LED for correct color (Green for 08-10 cruise control button mode, and Blue for 11-16 cruise control button mode).

After installation, turn on the hazard lights, walk around the vehicle and confirm all four blinkers are flashing and flashing at the same length and rate. Check the

blinker indicator LEDs (see above, "*Getting to know your Column Helper*") to confirm they are on solid and not blinking. After confirming the hazard operation, turn off the hazards and check left and right blinker operation. After confirming proper blinker operation, turn off the blinkers and depress the brake pedal to confirm the rear blinkers/brake lights are illuminating when the pedal is pressed.

Pre-towing inspection:

Any time a trailer is connected, confirm blinkers and brake lamps function properly. If the blinker circuit indicator LEDs (see above, "*Getting to know your Column Helper*") display an error, check trailer wiring for issues or excessive circuit load.

'11 to '16 Cruise Button operation:

The '11 to '16 cruise buttons eliminated the "On" button and consolidated it into a single "On/Off" button. When you first start your truck, the cruise state will be in the "Off" position. The first time you press the "On/Off" button, the cruise will turn on, allowing you to then set the cruise with the Set+ to Set- buttons. Each subsequent pressing of the "On/Off" button will toggle accordingly until the truck is shut off, which will start the process over.

Wiring legend:

Below is the wiring legend to assist with wiring in your Column Helper. It is designed so you can look at the wiring from any component (multifunction switch, Column Helper, clock spring, etc.) and find a cross reference for each circuit that needs to be wired for that component.

Truck wiring

Name	Circuit	99-01 Color/Pin	02-07 Color/Pin	Notes	Connects to
Hot at all times	37	Yellow (B3 & B1)	Yellow (B3 & B1/7 & 12)		Column Helper spade connectors
Hot at all times	37	Yellow (B3 & B1)	Yellow (B3 & B1/7 & 12)		Column Helper spade connectors
Hot at all times	1050	L Green/Violet (B5 & B4)	L Green/Violet (B4/9)		Column Helper spade connectors
Hot at all times	1050/325	L Green/Violet (B5 & B4)	D Blue/Orange (B5/2)		Column Helper spade connectors
Hot in Run	1040	Large Red/Black (A3)	Large Red/Black (A3/13)		Column Helper spade connectors
Hot in Run/Acc	297/964	Black/L Green (A1)	D Blue/L Green (A1/3)		Column Helper spade connectors
Hot in Run/Start	1000/16 or 1044	Small Red/Black (I1)	Red/L Green or White/Yellow (I1/1)	03-04 6.0 White/Yellow	Column Helper spade connectors
Hot in Run/Start	687	Grey/Yellow (A4)	Grey/Yellow (A4/8)		Column Helper spade connectors
Hot in Start	32/1522	Red/L Blue (STA)	D Green (STA/5)		Column Helper spade connectors
Headlight In	15	Red/Yellow (15)	Red/Yellow (8)		Column Helper spade connectors

Headlight Out	13	Red/Black (13)	Red/Black (9)		Column Helper spade connectors
High Beam In	196	D Blue/Orange (196)	D Blue/Orange (6)		Column Helper spade connectors
High Beam Out	632	Grey/Orange (12)	Grey/Orange (7)		Column Helper spade connectors
Blinker Supply	10	Red/White (3)	L Green/Red (3)	00-01 Ex L Green/Red	Column Helper spade connectors
Left Front Blinker	3	L Green/White (3)	L Green/White (10)		Column Helper spade connectors
Right Front Blinker	2	White/L Blue (2)	White/L Blue (7)		Column Helper spade connectors
Left Rear Blinker	9	L Green/Orange (9)	L Green/Orange (9)		Column Helper spade connectors
Right Rear Blinker	5	Orange/L Blue (5)	Orange/L Blue (8)		Column Helper spade connectors
Brake Lamp	511	L Green (511)	L Green (1)		Column Helper, Brake Lamp, L1 Brown
Shift Interlock Power	295	L Blue/Pink (1)	L Blue/Pink (1)		Unused
Shift Interlock Ground	57	Black (2)	Black (2)		08-16 Column, Shift Interlock Brake, Pin 1 Black/Grey
Shift Interlock Brake	810	Red/L Green (3)	Red/L Green (3)		08-16 Column, Shift Interlock Ground, Pin 3 Blue/Orange
OD or Tow/Haul Return	224	Tan/White (3)	Tan/White (3)		08-16 Column, OD or Tow/Haul Return, Pin 1, Yellow/Grey
OD or Tow/Haul Switch	640	Red/Yellow (2)	White/Violet (2)	02-04 Red/Yellow	08-16 Column, OD or Tow/Haul Switch, Pin 2 Brown/Yellow
OD or Tow/Haul LED	911	White/L Green (1)	White/L Green (1)	99-04 Only	Unused or if running Cluster Helper, Orange B3, TOW/HAUL IN
Cruise Control	151	L Blue/Black (1)	L Blue/Black (7)		Column Helper, 99-04 and 05 Excursion: Cruise Control (99-04), B3, Green Column Helper, 05-07 Truck: Cruise Control (05-07), C3, Orange
Cruise Return	359/133	Grey/Red (4)	Black (2)	e99 D Green/Orange, 02-03 7.3 Grey/Red	Column Helper, Cruise Return, D3, Grey
Horn	1	Dark Blue (2)	Dark Blue (3)		Clock spring, Horn, Pin 8, Yellow/Red
Key In Ignition	158	Black/Pink (6)	Black/Pink (1)		08-16 Ignition Switch, Key In Ignition, Pin 3, Blue/Grey
Wiper Mode Select	684	Pink/Yellow (589)	N/A		Column Helper, 99-00: Wiper Mode Select (99-00), G4, White Column Helper, 2001: Wiper Mode Select (2001), H4, Green
Wiper Interval Select	680	L Blue/Orange (590)	N/A		Column Helper, 99-00: Wiper Interval Select (99-00), E4, Grey Column Helper, 2001: Wiper Interval Select (2001), F4, Light Blue
Wiper Return	682	D Blue (993)	N/A		Column Helper, 99-01: Wiper Return, K4, Tan
Rear Ex Wiper Select	485	Pink/Black (380)	N/A		Column Helper, 00-01: Rear Ex Wiper Select, J4, Orange
Front Wiper Interval A	63	N/A	Red (1)		Multifunction switch, Front Wiper Int A, Pin 12, Green/Violet
Front Wiper Interval B	58	N/A	White (3)		Multifunction switch, Front Wiper Int B , Pin 11, Violet/White
Front Wiper Interval C	56	N/A	D Blue/Orange (2)		Multifunction switch, Front Wiper Int C, Pin 16, Blue/Orange
Front Wiper Interval High	61	N/A	Yellow/Red (4)		Multifunction switch, Front Wiper High, Pin 9, Violet/Orange
Front Wiper Washer	3	N/A	Orange (5)		Multifunction switch, Front Wiper Washer, Pin 10, Grey/Brown
Rear Ex Wiper Interval D	993	N/A	Brown/White (11)		02-05 Excursion: Multifunction switch, Front Wiper Int D, Pin 14, Grey/Yellow
Rear Ex Wiper Interval E	1300	N/A	Violet (12)		02-05 Excursion: Multifunction switch, Front Wiper Int E, Pin 13, Yellow/Violet
Multi-Function Return	57	N/A	Black (6)		Multifunction switch, Multifunction Return, Pin 15, Black/Grey
Driver Air Bag Supply	614	Grey/Orange (3)	Grey/Orange (3)		
Driver Air Bag Return	615	Grey/White (1)	Grey/White (1)		
HVAC Control	1070	N/A	Brown/Blue (8)		Column Helper, HVAC Control, D4, Brown

HVAC Return	848/359/133/57	N/A	D Green/Orange or Grey/Red or Black (5)	02-03: Gas D GR/OR, Diesel: GR/RD 04-07: BLK	Column Helper, HVAC Return, C4, Pink
Illumination Supply	19	L Blue/Red (3)	L Blue/Red (6)		Clock spring, Illumination, Pin 16, Violet/Grey
Illumination Return	57	Black (5)	Black (5)		Clock spring, Illumination Ground, Pin 5, Black/Violet

Automatic Transmission Column Wiring (Not used in manual trucks)

Inputs	Circuit	Pin	08-16 Color	Connects to
Shift Interlock Ground	GD226	1	Black/Grey	Truck wiring, 99-07, Shift Interlock Ground, Circuit 57, Black
Shift Interlock Brake	CET53	3	Blue/Orange	Truck wiring, 99-07, Shift Interlock Brake, Circuit 810, Red/L Green,
OD or Tow/Haul Return	CBP35	1	Yellow/Grey	Truck wiring, 99-07, OD or Tow/Haul Return, Circuit 224, Tan/White
OD or Tow/Haul Switch	CAT15	2	Brown/Yellow	Truck wiring, 99-07, OD or Tow/Haul Switch, Circuit 640, 99-04 and 05 Ex: Red/Yellow 05-07 Truck: White/Violet

Ignition Switch wiring

Inputs	Circuit	Pin	08-10 Color	11-16 Color	Connects to
Ignition Start/Run	CDC34	08-10: 1 11-16: 1	White/Orange	White/Orange	Column Helper, Ignition Start/Run, A2, Red
Key In Ignition	CDC30	08-10: 3 11-16: 5	Blue/Grey	Blue/Grey	Truck, Key In Ignition, Circuit 158, Black/Pink
Ignition Accessory	CDC33	08-10: 5 11-16: 6	Violet/Green	Violet/Green	Column Helper, Ignition Accessory, A4, Violet
Ignition Run	CDC32	08-10: 7	Brown/Yellow	N/A	08-10 Only, Unused, cap off with shrink wrap
Ignition Ground	SBP27/SBP28	08-10: 8 11-16: 4	Blue/Red	Green/Red	Column Helper, Ignition Ground, B4, Black
Ignition Ground	SBP27/CDC62	08-10: 9	Blue/Red or White/Violet	N/A	08-10 Only, Connect together with the other Blue/Red to Column Helper, Ignition Ground, B4, Black
Ignition Start	CDC35	08-10: 10 11-16: 7	Blue/White	Blue/White	Column Helper, Ignition Start, A3, White

Clock Spring wiring

Inputs	Circuit	Pin	Color	Connects to
Air Bag Supply	CR101	2	Violet/Brown	
HVAC Input Return	RH111	4	Grey/Blue	If using 08-10 Climate Control steering wheel buttons: Column Helper, HVAC Input Return, K3, Black If using 11-16 Steering wheel buttons with message center control: Cluster Helper, INFO CENTER GROUND, G4, Black
Illumination Ground	GD116	5	Black/Violet	Truck wiring, Illumination Ground, Circuit 57, Black
HVAC Input	VH444	7	White/Violet	If using 08-10 Climate Control steering wheel buttons: Column Helper, HVAC Input, J1, Blue If using 11-16 Steering wheel buttons with message center control: Cluster Helper, INFO CENTER IN, K4, Brown
Horn	SRH01	8	Yellow/Red	Truck wiring, Horn, Circuit 1, Dark Blue
Air Bag Ground	RR101	10	Yellow/Green	
Audio Control Ret	RME24	12	Blue/White	Connect to your aftermarket interface module or new stereo
Audio Control	VME14	13	Grey/Yellow	Connect to your aftermarket interface module or new stereo
Cruise Input Return	RES08	14	Green/Brown	Column Helper, Cruise Input Return, H3, Black
Cruise Control Input	VES10	15	White	Column Helper, Cruise Control Input, H2, Green
Illumination	VLN04	16	Violet/Grey	Truck wiring, Illumination Supply, Circuit 19, L Blue/Red

Multifunction switch wiring

Inputs	Circuit	Pin	Color	Connects to
Hazard Button	CLS32	1	Brown/Yellow	Column Helper, Hazard Button, A1, White
Left Turn Signal Input	CLS39	2	Violet/White	Column Helper, Left Turn Signal Input, B2, Yellow
Right Turn Signal Input	CLS41	3	Grey/Yellow	Column Helper, Right Turn Signal Input, C1, Orange

Flash to Pass	CLF27	4	Green/Brown	Column Helper, Flash to Pass, B1, Green
High Beam Input	CLF17	6	White/Orange	Column Helper, High Beam Input, C2, Blue
Multifunction Return	GD115	8	Black/Grey	Column Helper, Multifunction Return, G3, Black
Front Wiper High	CRW08	9	Violet/Orange	99-01: Column Helper, Front Wiper High, D1, Grey 02-07: Truck wiring, Front Wiper Interval High, Circuit 61, Yellow/Red
Front Wiper Washer	CRW07	10	Grey/Brown	99-01: Column Helper, Front Wiper Washer, G1, Violet 02-07: Truck wiring, Front Wiper Washer, Circuit 3, Orange
Front Wiper Int B	CRW18	11	Violet/White	99-01: Column Helper, Front Wiper Int B, E1, Red 02-07: Truck wiring, Front Wiper Interval B, Circuit 58, White
Front Wiper Int A	CRW17	12	Green/Violet	99-01: Column Helper, Front Wiper Int A, D2, Brown 02-07: Truck wiring, Front Wiper Interval A, Circuit 63, Red
Rear Wiper Int E	CRW21	13	Yellow/Violet	99-01: Column Helper, Rear Ex Wiper Interval E, F2, Pink 02-07: Truck wiring, Rear Ex Wiper Interval E, Circuit 1300, Violet
Rear Wiper Int D	CRW20	14	Grey/Yellow	99-01: Column Helper, Rear Ex Wiper Interval D, F1, Tan 02-07: Truck wiring, Rear Ex Wiper Interval D, Circuit 993, Brown/White
Multifunction Return	GD115	15	Black/Grey	99-01: Column Helper, Multifunction Return, G3, Black (combine with Multifunction Pin 8) 02-07: Truck wiring, Multi-Function Return, Circuit 57, Black
Front Wiper Int C	CRW19	16	Blue/Orange	99-01: Column Helper, Front Wiper Int C, E2, Light Blue 02-07: Truck wiring, Front Wiper Interval C, Circuit 56, D Blue/Orange,

Column Helper Wiring

Name	Position	Color	Year	Connects to
Hazard Button	A1	White	All	Multifunction Switch, Hazard Button, Pin 1, Brown/Yellow
Ignition Start/Run	A2	Red	All	08-16 Ignition Switch, Ignition Start/Run, Pin 1, White/Orange
Ignition Start	A3	White	All	08-16 Ignition Switch, Ignition Start, Pin 10, Blue/White
Ignition Accessory	A4	Violet	All	08-16 Ignition Switch, Ignition Accessory, Pin 5, Violet/Green
Flash to Pass	B1	Green	All	Multifunction Switch, Flash to Pass, Pin 4, Green/Brown
Left Turn Signal Input	B2	Yellow	All	Multifunction Switch, Left Turn Signal Input, Pin 2, Violet/White
Cruise Control (99-04)	B3	Green	99-04, 05 Ex	Truck wiring, Cruise Control, Circuit 151, L Blue/Black
Ignition Ground	B4	Black	All	08-16 Ignition Switch, Ignition Ground, 08-10 is Blue/Red x2 or Blue/Red and White/Violet (Combine together), 11-16 is Green/Red
Right Turn Signal Input	C1	Orange	All	Multifunction Switch, Right Turn Signal Input, Pin 3, Grey/Yellow
High Beam Input	C2	Blue	All	Multifunction Switch, High Beam Input, Pin 6, White/Orange
Cruise Control (05-07)	C3	Orange	05-07	Truck wiring, Cruise Control, Circuit 151, L Blue/Black
HVAC Return	C4	Pink	02-07	Truck wiring, HVAC Return, 02-03: Gas D Green/Orange, Diesel: Grey/Red, 04-07: Black
Front Wiper High	D1	Grey	99-01	Multifunction Switch, Front Wiper High, Pin 9, Violet/Orange
Front Wiper Int A	D2	Brown	99-01	Multifunction Switch, Front Wiper Int A, Pin 12, Green/Violet
Cruise Return	D3	Grey	All	Truck wiring, Cruise Return, E99:D Green/Orange, late 99-02 and 03 7.3 Grey/Red, else 03-07: Black
HVAC Control	D4	Brown	02-07	Truck wiring, HVAC Control, Circuit 1070, Brown/Blue
Front Wiper Int B	E1	Red	99-01	Multifunction Switch, Front Wiper Int B, Pin 11, Violet/White
Front Wiper Int C	E2	Light Blue	99-01	Multifunction Switch, Front Wiper Int C, Pin 16, Blue/Orange
Wiper Interval Select (99-00)	E4	Grey	99-00	Truck wiring, Wiper Interval Select, Circuit 680, L Blue/Orange
Rear Ex Wiper Interval D	F1	Tan	00-01	Multifunction Switch, Front Wiper Int D, Pin 14, Grey/Yellow
Rear Ex Wiper Interval E	F2	Pink	00-01	Multifunction Switch, Front Wiper Int E, Pin 13, Yellow/Violet
Wiper Interval Select (2001)	F4	Light Blue	2001	Truck wiring, Wiper Interval Select, Circuit 680, L Blue/Orange
Front Wiper Washer	G1	Violet	99-01	Multifunction Switch, Front Wiper Washer, Pin 10, Grey/Brown
11-16 Cruise Select	G2	Yellow		Connect to Ground for 11-16 if using 11-16 Cruise control steering wheel buttons
Multifunction Return	G3	Black	All	Multifunction Switch, 99-01: Multifunction Return, Pins 8 and 15 (combine), Black/Grey 02-07: Multifunction Return, Pins 8, Black/Grey
Wiper Mode Select (99-00)	G4	White	99-00	Truck wiring, Wiper Mode Select, Circuit 684, Pink/Yellow

Cruise Control Input	H2	Green	All	Clock spring, Cruise Control Input, Pin 15, White
Cruise Input Return	H3	Black	All	Clock spring, Cruise Input Return, Pin 14, Green/Brown
Wiper Mode Select (2001)	H4	Green	2001	Truck wiring, Wiper Mode Select, Circuit 684, Pink/Yellow
HVAC Input	J1	Blue	02-07	Clock spring, HVAC Input, Pin 7, White/Violet
Rear Ex Wiper Select	J4	Orange	00-01	Truck wiring, Rear Ex Wiper Select, Circuit 485, Pink/Black
HVAC Input Return	K3	Black	02-07	Clock spring, HVAC Input Return, Pin 4, Grey/Blue
Wiper Return	K4	Tan	99-01	Truck wiring, Wiper Return, Circuit 682, D Blue
Brake Lamp	L1	Brown	All	Truck wiring, Brake Lamp, Circuit 511, L Green
Ground	L4	Black	All	Truck, wire to dash frame
Ground	M4	Black	All	Truck, wire to dash frame

Diagnostic Software:

We have written a Windows application that allows you to connect to your Column Helper and allow you to view diagnostic data and upgrade your Column Helper. This software is available for download from our website, www.SwapHelper.com.

USB Cable:

Since the USB cable is used to connect to the software in the above section, we recommend installing the cable in the truck permanently and routing it so you can gain access to it at a later time. It is important you cap off the end of the cable to avoid it contacting another circuit and damaging the Column Helper.

Errata:

Due to the complexity of a product of this nature, your Column Helper ***may*** include an Errata log, which is an explanation of errors found postproduction (such as typos) and how to correct them or avoid an issue. If included, it will be a loose sheet in the box with your order.

Troubleshooting:

As mentioned above, it is recommended you visit our website and watch videos regarding the Column Helper installation and use. The information can be found at:

http://www.SwapHelper.com/columnhelper

Still can't figure out your issue? Shoot us an e-mail for additional support:

Contact@SwapHelper.com

Technical specs:

Operating temperature range	**: -40*C to 85*C (-40*F to 185*F)**
Quiescent Current Consumption	**: 200 uA (.0002 amps) Maximum**
Operating voltage range	**: 6v to 18v, DC only**
Reverse Polarity Protection	**: Yes**
Load dump protection	**: Yes**
Water Resistance	**: IP21**
Replacement Relay Part Numbers	**: 896H-1CH-C-12VDC or 896H-1CH-C-R1-U03-12VDC**

Return Policy:

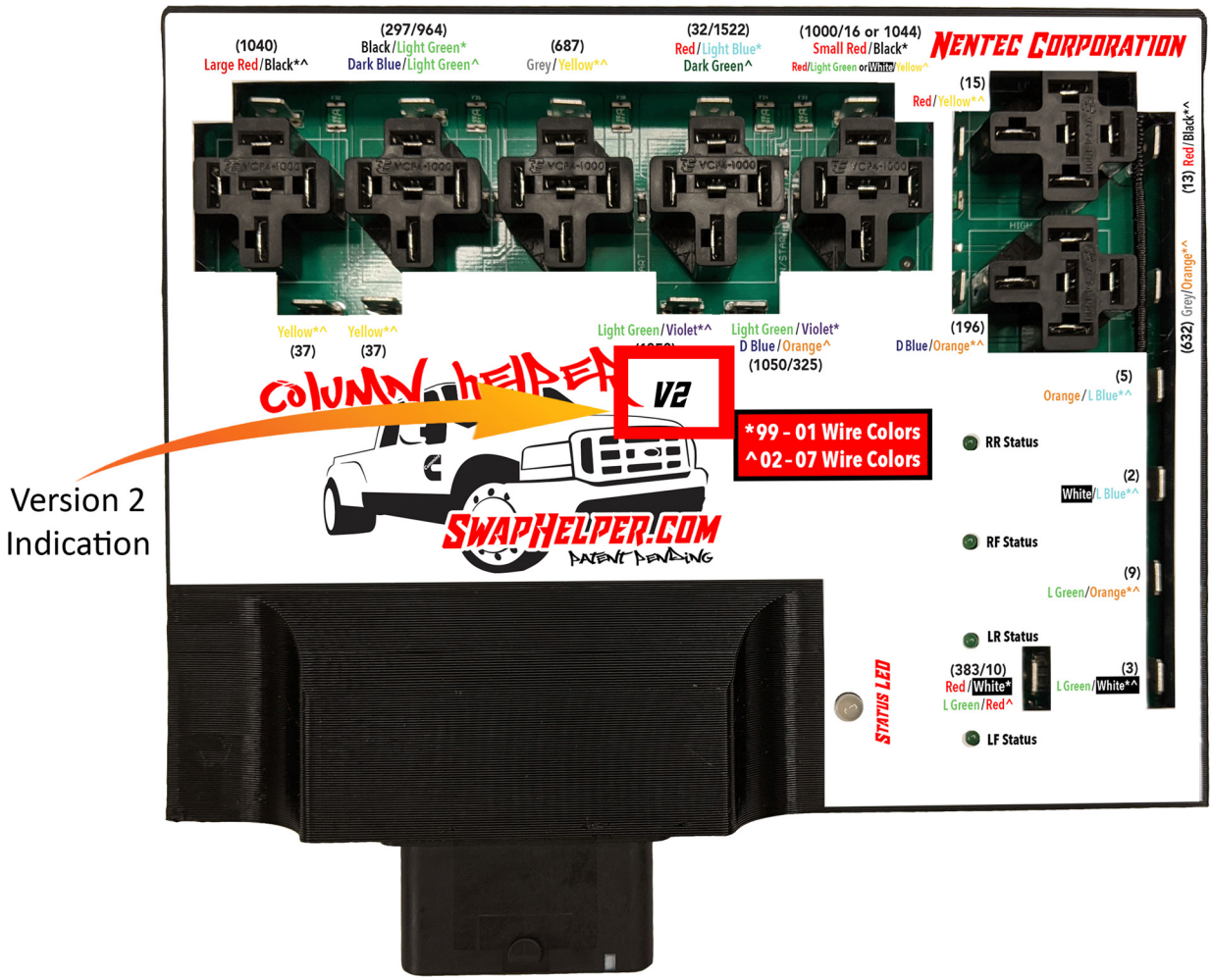
Unopened, unused product(s) may be returned within 30 days of purchase date by original purchaser for a refund, minus original shipping charges and a 25% restocking fee. Customer is responsible for return shipping. Used products(s) are not eligible for return but may be repaired or replaced under Warranty policy. Return requests must be made by submitting a request to Contact@SwapHelper.com.

Warranty:

Nentec Corporation (SwapHelper.com) warranties this product to be free of defects in material and workmanship for one (1) year from date of purchase. This warranty is limited to the correction of any such defect, or the replacement of any such defective item, provided that: (a) item(s) was/were purchased from SwapHelper.com or an authorized Nentec Corporation distributor; (b) we are properly notified and consent to the return of the item(s) in question; (c) the item(s) is/are returned with proof of purchase date; and (d) it is found upon inspection by us that the item(s) is/are defective as noted above; (e) the return request is made by original purchaser. This warranty does not cover labor costs, consequential damages, nor does it apply to any item(s) that have been improperly installed, overloaded, altered, or otherwise abused by the customer, its agent(s) or employee(s). Other than the described obligation, we assume no further liability with respect to the sale or use of our products. We make no warranty, expressed or implied, and disclaim any warranty of merchantability or fitness for a particular purpose. Warranty requests must be made by requesting a Return Merchandise Authorization from Contact@SwapHelper.com.

SwapHelper.com Column Helper

Addendum for V2



If your Column Helper has the above Version 2 indicator ("V2"), then your Column Helper has been updated with a more powerful ARM processor and redesigned blinker control circuits.

As a result of the updated blinker circuits, the behavior is different than listed in the instructions under the ***Solid State Blinkers*** section. Specifically, the indicator LEDs no longer blink out error modes or stay on during operation, instead they track their respective blinker circuit, for instance, if the blinker is on, the indicator LED is on, if the blinker is off, so is the indicator LED. If none of the indicators are turning on when expected (like when the hazards or brake lights are on), then there is most likely no power to the Blinker Supply (circuit 383/10).