



USB Wheelbox - Catalog and Instructions

Features

Designed to mimic the look and feel of the original 911 Cup wheel plate.

Direct USB HID Compatibility (no drivers required).

Real Structural 3K Twill Carbon Fiber just like the real plate.
(Produced in the US)

Includes custom (for this wheel) PS1000 Switches and Paddles to mimic the 911 Cup.

Plate includes Shift Units, 7 Buttons, 3 encoders (+/-) and one shift button which doubles the functionality of all buttons and encoders except the paddles.

Buttons Surround and Encoder Knobs are made of black anodized aluminum.

Closest wheel options for replication of the 911 cup style - Sabelt 911 Cup or Sparco L360

Options

PSUSB_e - Dash Mount USB extension cable.



Porsche 911 Cup Replica

(PSPGT3)

The PSPGT3 wheel was designed to mimic the look and feel of the real Porsche 911 Cup wheel plate from the location of the buttons down to the style of lettering and wording used on the button labels. During the design process we did take some liberties to enhance use in a simulation environment such as the replacement of certain buttons with encoders to allow for additional functionality. This wheel box is compatible with many wheels on the market but works best with the actual Sabelt Porsche 911 Cup wheel or the Sparco L360.



PSPGT3 Instructions...



Connecting the PSPGT3:

The PSPGT3 is a full Windows HID device. Just plug the USB cable into your computer and Windows will locate and install the appropriate Game Ready HID Driver. Due to the length of the coiled cable you will probably want to use a USB extension cable (PSUSB_e) for USB connection that is mounted near your Wheelbase to allow the attached USB Cable full coil articulation during rotation.

Using the Shift Button:

The Green button on the PSPGT3 labeled "Shift" is a single function button that controls whether the button or encoder used along with this button (hold "shift" and press another button or turn an encoder) uses its Primary or Secondary function. This button is the ONLY non-assignable button on the PSPGT3 as it only controls the button function state. All other buttons and encoders offer Primary and Secondary states that show up in Windows as individual assignable button presses. (14 buttons, 6 encoders (+/-), and primary only transmission control).

Installing a Wheel and Paddle Adjustment:

The PSPGT3 wheel plate is compatible with many wheels that have horizontal offset non-down swept wheel support spokes. The closest wheels visually to the actual Porsche 911 Cup wheel are the actual Sabelt 911 Cup Wheel and the Sparco L360 "the Ring" wheels. Both of these wheels approx 325mm in diameter with a flat bottom and are visually quite close to each other. The PSPGT3 plate can accept both 70 and 72PCD wheels. (6x) M5x50 Flat Head Screws provided for mounting. The PS1000 units are fully width adjustable by 60mm total. Major adjustment can be made by moving the base of the Paddle switches to the alternative mounting positions using the (4) T8 Torx screws. The paddles have infinitely adjustable slots to allow for precise settings. For further adjustment information please reference the Transmission Control Catalog.

PSPGT3 Instructions

continued...

Recommended Button Assignments for iRacing (911CUP and RSR):

Shift Units:

(-)	Upshift
(-)	Downshift
(+) & (-)	Exit Car



Modified Sparco L360

Buttons and Encoders:

Green Button	Shift Function	non-assignable
	Primary Function	Secondary Function
Blue Button	Flash	Wiper
Red Button	Pit Limiter	
Yellow Button	Cycle Splits	Telemetry Toggle
Black Button	Push To Talk	Channel (+)
Red Encoder	Traction Control	Fuel Map
Red Enc. Button		

	Primary Function	Secondary Function
Yellow Encoder	Brake Bias	ABS
Yellow Enc Button		
Orange Encoder	Black Box Increment	Black Box Page
Orange Enc Button	Black Box Select	Black Box Next

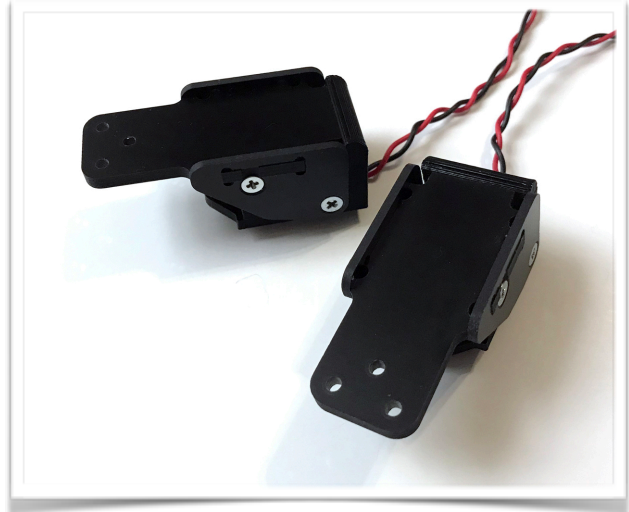
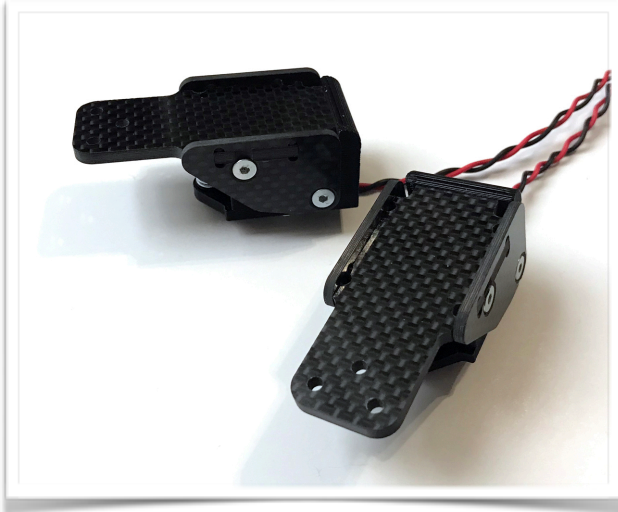
Wheel Compatibility:

Compatible Wheels	Semi Compatible	Non Compatible
Momo Prototipo	Momo MOD30	MPI GT13C
OMP Superleggera	Momo Monte Carlo	Sabelt 733
Sabelt 911 Porsche Cup		Sparco R353
Sparco L360		Sparco P310

(other wheels may be compatible (or not) please contact us and we will help determine if your wheel is compatible)



Instructions...



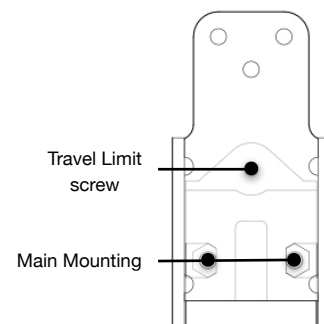
PS1000 (PS1000, PS1000lc)

Connecting the PS1000 Shift Units:

The PS1000 Shift units have two wires that need to be connected to your controller system allowing for a closed loop connection. You can use an existing button controller system (*adding to replacing an existing button or shift button*) or if you choose to develop one yourself. The electronics in the PS1000 are of a momentary normally open single pole design. Generally for most connections there is no polarity to the switch contacts though the wires included include both a red and black line. (*included wires are approx. 200mm in length*)

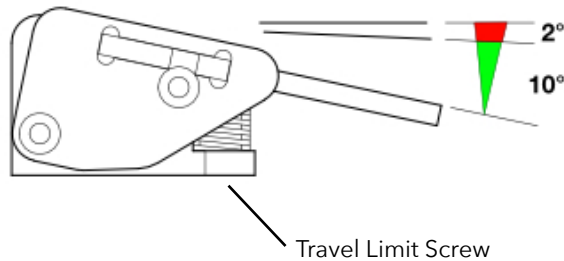
Mounting the PS1000 Shift Units:

Mounting of the PS1000 shift units is accomplished through the use of three screws in a triangulated pattern to help eliminate any wobble that may occur. The screw at the tip of the triangle that passes through the spring is also used for the travel limit of the paddle and does not need to be fully tightened to be effective. The remaining two screws are the main mounting screws and should be secured fully. The screws provided are of optimal lengths for attachment to a 3mm thick mounting plate. If a thicker mounting plate is used, longer M3.0 screws may be needed to secure the shift units and to reduce the paddle throw if desired. Replacement screw length should be extended by the approx. additional thickness of the mounting plate over 3mm. If you have issues finding appropriate screws for this purpose please contact us. (*templates and dimensions are on the technical specification pages*)



PS1000 (PS1000, PS1000lc)

continued...



Travel Limit Length	Mounting plate thickness (mm)	Travel Limit Screw Length	MAX Degrees of travel* (approx)
18mm	x	18 + (x) =	2
17mm	x	17 + (x) =	4.5
16mm	x	16 + (x) =	7
15mm	x	15 + (x) =	9
14mm	x	14 + (x) =	11
13mm	x	13 + (x) =	FULL

(* when screw is fully seated to mounting plate *(not required)*)

Adjusting the PS1000 Shift Units:

The paddle lever throw for the PS1000 Shift units can be fully adjusted to preference by using the Travel Limit Screw. The PS1000 has a very fast actuation point that generally occurs within the first 2 degrees* of travel, setting the Travel Limit screw to a setting that does not allow this initial travel will stop the switch from activating. Any degree setting past that point is fully up to user preference up to a total of 12 degrees of travel. If you like a sharper feel to the actuation shorter travel is recommended. Longer travel will give a softer feel to the paddle as you will allow the paddle to move further before the paddle is stopped. The maximum travel limit screw length is 18mm + the thickness of the mounting plate for a fully seated screw (i.e. 18mm + 3mm material = 21mm travel limit screw used for 2 degrees of travel). The standard screw provided with the PS1000 Shift units is a 3x20mm flathead. This screw when fully seated in a 3mm mounting plate provides about 4.5 degrees of travel. It is NOT necessary to fully seat the Travel limit screw so finite adjustments can be made to the travel by just backing the screw out. If you need more travel and are unable to back the screw out you can get a shorter 3mm screw so that it can be fully seated but allow for more travel. The shortest recommended travel limit screw would be one that will hold the Spring Bushing in place when fully seated though a 13mm screw will allow full paddle travel.

(* 2 degrees is an approximate, some units may require a slightly shorter or longer throw for actuation, This will only be noticeable if you are trying to achieve the shortest actuation throw possible.

Notes:

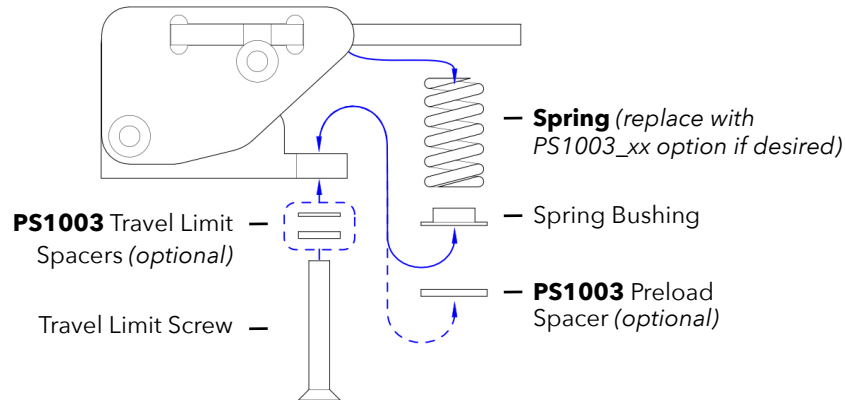
Grinding tactile feel issue - Due to the travel limit screw being placed in the middle of the actuation spring, under certain circumstances the spring may rub the travel adjustment screw creating a grinding feel in the paddle during travel. This issue is easily corrected by turning the spring so it sits more perpendicular with the internal screw.

Installing PS1000 Tactile Options:

PS1003 - Preload and Limiter Kit - The PS1003 Preload and Limiter Kit provides additional adjustment to the PS1000 feel in that you can adjust the amount of force that is required to initially move the shift lever based on the spring installed in the PS1000. This is done by adding spacers underneath the spring positioning bushing, Each large aluminum spacer included in the kit is 1mm thick and you can add up to 4 of them before possibly running into issues with over compression of the spring. At the point of over compression it is best to move to a harder spring. Also included in the kit are additional 3mm limiting screws in different lengths and spacers to allow seating of the screw should you need a longer throw on the paddle but cannot adjust the included Travel Limit screw any further due to your particular mounting.

PS1000 (PS1000, PS1000lc)

Tactile Options continued...



PS1003_s, _m, _h, and _eh - Spring Kits - The various P1003 spring kits allow you to adjust the overall feel of the paddles from soft to very hard. This adjustment is all about personal preference as everyone likes a different feel from their controls. We have selected the medium weight springs (*PS1003_m*) as the standard spring for the PS1000 since it provides a good weight to the shift action to give a solid positive feel without being super heavy. This spring is considerably heavier than that of most consumer level shift units that come standard with the wheels.

The Springs in the units can be changed by fully backing out the travel limit screw. This will allow the spring unit and positioning bushing to be removed from the shift unit by sliding the spring out from between the lever and inner structure. Be careful not to lose the positioning bushing as it is small and required to keep the spring from moving. Once the stock spring is removed you can replace the spring with one of the optional sets, the positioning bushing is placed on the bottom of the spring. Reinstall the travel limit screw to secure the spring in the correct location and reset your paddle travel.

Installing PS1000 Adaptive Options:

PS1004 - Spacer Kit - The PS1004 spacer plate is placed between the base of the PS1000 shift unit and the mounting plate used. This spacer moves the shift unit 3mm further from the wheel for each one used. The PS1000 comes with long enough 3mm Mounting screws to be able to stack (two) of these plates along with a 3mm mounting plate thickness. When using these spacer plates the travel limit screw will need to be changed to retain the same degree limit previously set. To calculate the difference add 3mm in overall length of your current Travel Limit Screw for each spacer used. If you have issues locating appropriate 3mm screws for this purpose please contact us.

PS1004_a - 10mm Mount Adaptor Kit - This Adaptor plate allows the PS1000 shift units to be mounted to 10mm inline mounting plates. These Adaptors move the PS1000 units 3mm further back from the mounting plate in order for the

Notes:

Using 10mm inline paddles - The PS1004_a adaptor set can be used to mount Paddle Shift Units from other manufacturers that use a 10mm inline mounting provision to products designed with the Penguin r/c triangulated mount. (*i.e. Wheel Boxes and Wheel Plates*) To use, install the provided nuts into the triangulated mounting in the PS1004_a and attach the 10mm mount paddle to the plate, finish by installing on your Penguin r/c product.

mounting conversion to occur. To use place the included nuts into the counterbored inline positions and mount the plate to the PS1000 as normal, then use the included screws to mount the unit to the Inline 10mm mounting.

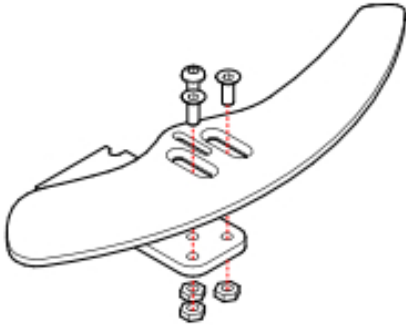


Figure 1: Paddle Mounting

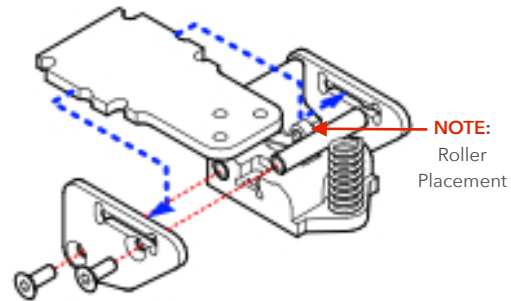


Figure 2: Lever Replacement & Lever Paddle Mounting

Notes:

Paddle Spacing - It is possible to space the paddle further away from the lever if wanted by using longer screws and spacers between the paddle and lever of the PS1000. Depending on the desired effect this could be a better Paddle spacing option than using the PS1004 spacer plates.

Notes:

CAUTION switch position information - When installing the Lever or "L" style paddle please be sure that the switch roller is located on the Top/Back of the front cross member and will come in direct contact with the lever plate. If it ends up under the cross member you may experience binding that can cause damage to the switch.



About, Contact, and Customs Information...

Contact Information

Address:

Penguin r/c
1230-P North Jefferson Street
Anaheim CA 92807

Website:

Main - www.penguinrc.com
Simulation Site - [click here...](#)

email:

simulation@penguinrc.com

Phone:

714.630.9015

Fax:

714.630.6250

Catalog Notes

Pricing - There are no prices in this catalog. Current pricing can be found on our website along with further information.

Ordering - Throughout this catalog there are "Visit our website..." links that will open up the ordering page for the items in this catalog.

Questions - Feel free to email us at any time.

PS1002_xx

Installation...

Mounting the PS1002 paddles (*figure 1*):

Most of the PS1002 Paddles are mounted with a fully adjustable triangulated mounting system. You can mount the paddles to the front or the back of the PS1000 levers depending on the distance needed for the paddles. We recommend mounting to the Back or Top of the lever so that the edge of the lever does not come in contact with your fingers during actuation. To mount the paddles place all three screws into the paddle with the two countersunk screws in the countersunk slot and the Button head screw in the center location. Loosely tighten the paddle to the lever with the included nuts, the paddle should slide with a little friction. Once you find the position you feel is optimal for the paddle tighten the center button head screw to lock in the location, then tighten each of the flat head screws to further secure the paddle in place. Once secure the paddle should not move or rotate on the mounting. It is recommended to tighten the center button head screw first as tightening the flat head screws prior to the button head can cause tracking which will alter the positioning of the paddle.

Mounting the PS1002_L paddles (*figure 2*):

The "L" Paddles provide a full lever replacement for the PS1000 Paddle shift units. These paddles give the most secure mounting but do not allow any width adjustment. To mount the "L" paddles you must disassemble a portion of the PS1000 switch unit. First remove the spring by removing the Travel Limit Screw. Disassemble the lever by removing the two retaining screws holding on one of the side plates. Once the side plate is loose you should be able to pull the side plate off and remove the standard lever. Replace the lever with the "L" paddle by slotting the paddle into the side plates and reinstalling the removed side plate. Complete the lever replacement by reinstalling the spring.

About us...

Penguin r/c was opened in April of 1997 with the intent of creating the best products that could be made for reasonable prices. Originally we started business focusing on aftermarket parts and chassis upgrades for high performance remote control vehicles, pinpointing the areas where existing cars could be made to perform beyond their original design. Penguin r/c made a name for itself by achieving this goal through products where the additional performance gained far outweighed the cost of the parts. Having racked up a couple of championships and a good name in the market place we slowly transitioned into becoming a more involved OEM supplier for other manufactures in the r/c industry and other industries. We still sell and support our r/c products to this day and will continue to do so with every product we produce. In 2010 we started manufacturing parts for a high-end simulation company and found a renewed love for racing in the form of iRacing and Simulation equipment. In 2018 we decided that we could bring our expertise in manufacturing and design to the Simulation products market and started researching and designing what you see today. We hope to bring the same values and customer support to the simulation marketplace as we have for years as an OEM manufacturer and part supplier to the r/c industry.

Custom Designs...

Penguin r/c is capable of Custom Manufacturing and Design of prototype and production parts for individuals and companies. Most of our manufacturing is done in-house which allows us significant control over the quality and assembly of parts we manufacture and allows us to make prototypes that have the quality and durability of production pieces. If you have anything that you would like to produce please feel free to contact us about the possible product.

Our Warranty...

Penguin r/c offers a Limited Lifetime Warranty on all products we produce. This warranty includes full service (shipping included) for the first 90 days of original ownership. After that shipping to us is not included. Due to the openness of this warranty we may ask if you are capable of completing simple repairs yourself as we have found in many cases this can be beneficial to the user and us as it speeds any downtime associated with repair. Directed repairs such as this will not affect the overall warranty should something go wrong. This warranty covers all manufacturing defects or issues that are not related to normal wear and tear, abuse, or non Penguin r/c directed modifications or repair.