



Manual Version: R2.1

Last Update: 04.03.06



Introduction

Congratulations on your purchase of the ACT LABS RS Shifter 2006. One of the great tactile pleasures of driving a fine sports car is the “snick-snick” of the shifter as you go through the gears. Until now, the PC driving sim enthusiast has been denied this basic pleasure, instead being forced to use unfulfilling buttons to step sequentially through the gears or use an automatic transmission.

The ACT LABS changed all that in 1999 with the RS Shifter which was the first true free-shifting device for the PC. The RS shifter enabled a whole new level of realism in racing simulations. While the original RS Shifter was well appreciated by sim racers, its leaf spring design caused many headaches.

The new RS Shifter 2006 features a number of significant design improvements to ensure many years of reliable performance:

- Contact sleeve springs replaced by ultra long life mechanical cams.
- Customer serviceable parts include the electronic circuit board with micro switches and cam followers, upper part of shifter post, gear plates, and shifter knob.
- Detachable USB adaptor for future upgrades and integration with other racing gear (such as wheel, pedals or dashboard controls).
- Detachable clamp for mounting the unit in different positions or surfaces.
- Aftermarket accessories will be available at www.act-labs.com.

RS Shifter 2006 features an electro-mechanical interface utilizing an interchangeable cast metal shift gear plate system. This allows for different shift patterns and enables alternate mounting options. Users may also add after-market shifter grips, knobs, and clamping accessories for custom mounting.



Specifications:

	Length	Width	Height	Weight
RS Shifter 2006	120mm (4.72")	120mm (4.72")	260mm (10.24")	500g (1.1lbs)
SP2006 package (w/o gear plate & adapter box)	126mm (4.96")	170mm (6.69")	340mm (13.39")	1.35kg (2.98lbs)
Clamp with knob	85mm(3.4")	35mm(1.38")	82mm (3.23")	300g each (0.67 lbs)
Shifter knob with upper post	42mm(1.65")	58mm(2.28")	110mm (4.4")	56g (0.09 lbs)

Package Contents

- RS Shifter Unit
- Clamps(attached to the shifter)
- Different types of screws(see Appendix 1 for details)
- USB adapter (optional, separate purchase)
- Gear plates, 4N, 5N, 6N, High/Lo (optional, separate purchase)

Desktop Installation

The RS Shifter unit is secured to your desk using the clamps attached to the shifter housing at the factory. For table top surfaces from 11mm to 40mm thick (0.44 to 1.6”), clamp down and turn the knob counter clockwise until secure.



- Do not over tighten to avoid the damage to the desktop surface and the clamp arms. There are 2 small pads attached to the top of clamp for protecting the top of the mounting surface and two more to protect the bottom. Ensure they are present.
- If your table is thinner than 11mm (0.44”), we suggest that you add a board or other hard shim material underneath the table to properly tighten the clamps.
- If your table is thicker than 40mm (1.6”), you can buy aftermarket clamps suitable for desks up to 70mm (2.8”) thick.

Cable Connections

The RS Shifter comes with a mini DIN connector which is connected to the PC through an adapter box (available for purchase separately). The USB adapter box connects to any open USB port which in turn is recognized as an HID (human interface device) by the PC operating system. No drivers are required.





- The USB adapter box allows the RS Shifter to be used with any third party wheel. All you need is an open USB port to plug it in.
- The USB adapter box has ports for a clutch and throttle/brake pedal setup. Other adaptors will be introduced for specific applications, please visit www.act-labs.com for future updates.
- Note: If you are not using ACT LABS pedals, insert filter plugs into the other DIN connectors to avoid transmitting 'noise' to your PC. If your USB adapter box is an upgraded version (which shows "Wheel/Pedal/Shifter on the box), you can ignore this note since no 'noise' will be generated.

Downloads

GPL Utility

A utility file for incorporating the Shifter into GPL can be downloaded at the following location:

<http://www.gplshift.dk/>

* Special thanks to "jsj" for developing and maintaining this free utility for GPL'ers to enjoy RS Shifter. "jsj" is not related to ACT LABS and the GPL Utility must be downloaded from the above site.

ACT LABS Shifter /Clutch Utility V2.3 (updated March 2006)

<http://www.act-labs.com/products/race1.htm#>

* You can find the readme and updated game support list from the downloaded file

Aftermarket Gear Plate, Shifter Knob, and Accessories

Shifter Knob

The standard shifter knob may be replaced with aftermarket shifter knobs by changing the upper post. ACT LABS offers a fiber carbon shifter knob with a threaded upper post. You can also buy a machined upper post with threading to fit Momo shifter knobs. For more details, go to:

<http://www.act-labs.com/products/race1.htm>

To Change Shifter Knobs:

The standard knob is glued to the upper half of the Shifter post. **DO NOT TRY TO REMOVE IT FROM THE POST!**

The shifter knob weighs about 35 grams (1.2oz). If you use an aftermarket shifter knob, the recommended weight should be lighter than 300 grams (11oz).





1. Use a #1 Phillips head screw driver.
2. Clamp the shifter to a sturdy desk or bench.
3. Move the shaft into Gear 4 so that the screw and spring washer is easily accessible.
4. Loosen the screw and spring washer on the post, then remove both the shifter knob and the upper post together as a unit.
5. It will take around 5 ½ turns to take out the upper half. **Do not turn more than 8 times** as the screw and spring washer may fall out and into the shifter housing.
6. Add the new upper post with aftermarket knob to the lower post, then align the screw hole with the screw and washer at the lower post
7. Tighten the screw & washer firmly.

* In case the screw and washer fall into the shifter housing and you can't take it out, use the replacement screws labeled "#7" shipped with the shifter.

** If you do not follow these instructions to change the gear plate, the warranty will be voided

Gear Plate

RS Shifter 2006 comes with a standard 7 speed + Reverse gear plate. Customers can purchase other shifter gate plates to meet their needs as the RS Shifter has the following possible combinations to suit your needs:

- 4 speed + Reverse
- 5 speed + Reverse

- 6 speed + Reverse available.
- Up/down 'sequential' or 'tiptronic' style shifting

The sequential gate system only allows for the engagement of the 'neutral' detent position and thus the shifter will always return to that point after an upshift or downshift is made.

Changing Gear Plates:





1. The first few steps for changing the gear plate are the same as removing the shifter knob. Refer to Steps 1 to 4 on page seven to remove the shift post.
2. Remove the two securing screws at the edges of the gate plate and the plate itself.
3. Re-install the new gate in reverse order, ensuring that the screw holes line up properly.
4. Start BOTH gate screws before tightening to help ensure proper alignment.
5. Seat the plate as flat as possible, then tighten the screws down to lock it in place.
6. Replace upper shift post portion as described in Steps 5-7, on page seven.

If you do not follow these instructions to change the gear plate, the warranty will be voided.

Changing Microswitches:

Microswitches are soldered to easily-removed individual PCB assembly panels. These may be serviced by replacing the faulty microswitch/PCB assembly combination as a unit.

Microswitch detent slider blocks are also exchangeable in the same fashion. The harness system is completely modular, and can be removed or installed using the built-in quick disconnect plug terminations at the individual PCBA panels.

The cam system on the shift post yoke and saddle assembly can be replaced in the unlikely event of wear at those points creating errors in the shift timing.

A detailed description of these procedures is available upon request from ACT LABS tech support. E-mail us at rstechsupport@act-labs.com, using subject line “**PCBA Replacement Manual**”.



Troubleshooting and Maintenance FAQ

Q: Why doesn't my RS Shifter work under Windows 98 SE?

A: Windows 98 SE does not install by default all the files needed for USB 2.0 functions to work properly. There is a "HID.CABS" inside the Windows system folder that is on the operating system CD-ROM. If you fail to install this file, Windows 98 SE will not recognize the RS Shifter.

Please insert your Windows 98 SE CD-ROM and install this file. After installation, Windows 98 SE will immediately recognize the RS Shifter in the Windows game controller.

Warranty and Technical Support

CUSTOMER SATISFACTION, WARRANTY AND RETURN INFORMATION

Your satisfaction is our top priority. If you are not 100% satisfied with your ACT LABS product, you may return it for a replacement or refund within 30 days of the delivery date.

NOTE: This return policy is only in effect for merchandise purchased from www.act-labs.com. Products purchased from our retail partners shall abide by the return policies of the retailer.

Your ACT LABS Product is warranted against defects in materials and workmanship for 90 days from the delivery date of the product.

ALL returns, for any reason, must be pre-authorized by ACT LABS and be accompanied by a Return Merchandise Authorization (RMA) number.

To obtain an RMA number for technical reasons, contact our Technical Support staff at orders@act-labs.com with subject line: **ACT LABS RMA Request.**

To obtain an RMA number for non-technical reasons, contact our Sales staff at sales@act-labs.com with subject: **ACT LABS RMA Request.**

If any product is returned to ACT LABS without an RMA number, then ACT LABS has the right to refuse acceptance of the items and send the product back to the customer freight collect.



ACT LABS is not responsible for any damages that happen to occur during shipping or as a result of improper packaging. ACT LABS reserves the right to deduct 20% from any applicable refund if goods are received in damaged condition.

This does NOT include returns resulting from the customer's inability to install or use any ACT LABS product, drivers, or bundled software owing to computer or game-console hardware or software misconfiguration, defect, or other incompatibility with the ACT LABS product, drivers, or bundled software.

The customer is responsible for all shipping costs back to our return centers or repair facilities.

TECHNICAL SUPPORT

If you require help installing or troubleshooting your ACT LABS equipment, contact our technical staff by email at:

rstechsupport@act-labs.com

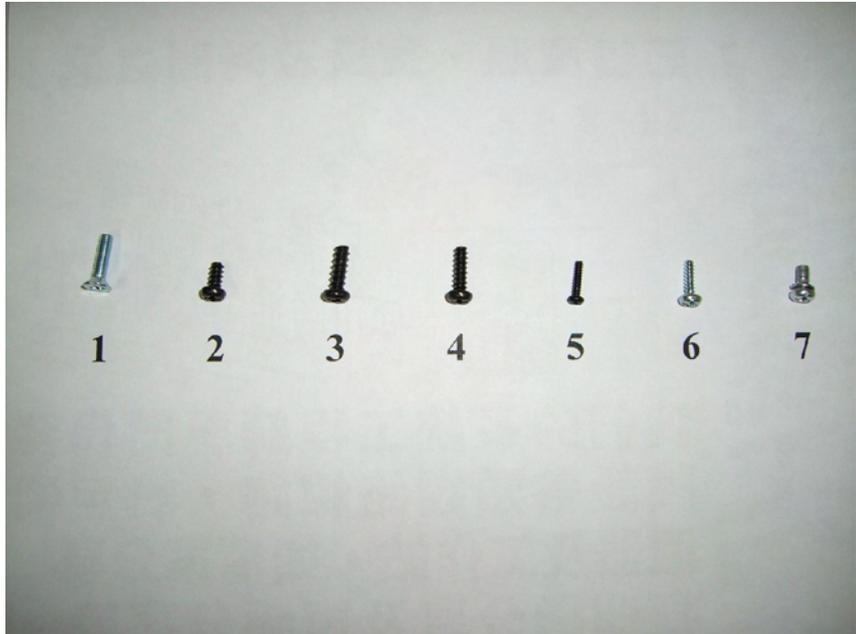
Technical support by phone should be limited to simple technical questions. Hours of operation are Monday to Friday, 9:00 am to 5:00 PM, Pacific Standard Time. (GMT -8).

North America toll-free: 1-800-980-9997

Direct dial: 1-604-278-3650 ext 3

Appendix 1- Replacement Screws

Small bags of replacement screws are included in the RS Shifter package. These are useful in case the originals on the shifter are lost or the heads are stripped out.



Number	Description	Qty	Location
1	SCREW,KM3X12,STEEL,ZI	6	Clamps
2	SCREW,PB3.0X6,STEEL,BK	1	Back cover
3	SCREW,PB3.5X10,STEEL,BK	4	Shroud
4	SCREW,PB3.0X10,STEEL,BK	4	Bottom housing
5	SCREW,PB2.0X8,STEEL,BK	7	PCBA panel
6	SCREW,PB2.3X8,D=5MM,STEEL,ZI	2	Gear Plate
7	SCREW,PMT3.0X6,WASHER,STEEL,ZI	1	Shaft