BUSHTEC HITCH for CAN-AM SPYDER ROADSTER
Trailer Hitch Installation Instructions

READ ALL INSTRUCTIONS BEFORE YOU START

ATTENTION INSTALLER: THESE INSTRUCTIONS MUST BE GIVEN TO THE END USER!!!

BOMBARDIER RECREATIONAL PRODUCTS, INC., BRP AND/OR ANY AFFILIATE OR SUBSIDARY HAS NEITHER APPROVED OR ENDORSED *BUSHTEC* MFG. & SALES INC., ITS PRODUCTS, TRAILERS OR HITCHES. USE OF A TRAILER OR TRAILER HITCH ON ANY MOTORCYCLE COULD VOID YOUR WARRANTY AND MAY INCREASE YOUR CHANCES OF INJURY OR DEATH IN AN ACCIDENT SITUATION.

Important information is distinguished by the following notation:

NOTE: Provides key information to make procedures easier and clearer.

CAUTION: Indicates special procedures that must be followed to avoid damage to the motorcycle, trailer or accessories.

WARNING: Indicates special procedures that must be followed to avoid serious injury and/or death to a motorcycle operator or others.

WARNING: **THIS HITCH SYSTEM HAS BEEN EXCLUSIVELY DESIGNED FOR USE ONLY ON A STOCK CAN-AM SPYDER ROADSTER WITH STOCK EXHAUST. IT WILL NOT WORK ON ANY OTHER MOTORCYCLE. ANY MODIFICATION TO ANY PART OF THIS HITCH, INCLUDING BUT NOT LIMITED TO ALTERING THE SUPPLIED HARDWARE OR IMPROPER INSTALLATION COULD CAUSE INJURY OR DEATH AND IMMEDIATELY VOIDS ANY AND ALL WARRANTIES.**

WARNING: **INSTALLATION OF THE *BUSHTEC* HITCH SYSTEM SHOULD BE PERFORMED BY A QUALIFIED MECHANIC. THESE INSTALLATION PROCEDURES ARE ONLY A GUIDE AND SHOULD BE USED IN CONJUNCTION WITH THE FACTORY SERVICE MANUAL AND THE NECESSARY MECHANICAL SKILLS.**

WARNING: **THE END USER OF THIS PRODUCT ASSUMES ALL LIABILITY AND RESPONSIBILITIES THAT MAY ARISE DUE TO BUT NOT LIMITED TO, NEGLIGENCE FROM IMPROPER INSTALLATION OR USE, INCLUDING**

OVERLOADING, EXCEEDING THE RECOMMENDED LOAD LIMITS AND IMPROPER MAINTENANCE.

WARNING: **ALL HITCH HARDWARE SHOULD BE CHECKED PRIOR TO EACH USE. FAILURE TO DO SO COULD RESULT IN INJURY OR DEATH.**

BUSHTEC HITCH SYSTEM CONTENTS FOR CAN-AM SPYDER ROADSTER

1	Hitch Hoop	2	5/16”-18 x 1 ¾” Hex Bolt, Gr. 8
2	Support Struts	4	¼” Flat Washer
2	Upper Strut Mounts	2	5/16”-18 Nylock Nut
1	Electronic Relay Isolator Pkg	2	3/8”-16 x 1 ½” Socket Head Allen
	w/ Universal Subharness	2	Machined Insert Collar
1	Stainless Steel Hitch Lock	2	5/16” Flat Washer
1	Instructions	2	3/8”-16 Nylock Nut
1	Hardware Package to include:	2	3/8”-16 x 1” Hex Bolt, Gr. 8
6	Blue Butt Connectors	2	5/16”-18 x ¾” Socket Head Allen

CAUTION: **THESE STEPS MUST BE PERFORMED IN THE FOLLOWING ORDER. BUSHTEC RECOMMENDS THE USE OF A SERVICE MANUAL FOR REFERENCE TO PROPER DISASSEMBLY AND REASSEMBLY OF VEHICLE.**

WARNING**: ENGINE AND EXHAUST COMPONENTS ARE HOT FOLLOWING OPERATION. FAILURE TO ALLOW ENGINE AND EXHAUST TO COOL BEFORE ATTEMPTING INSTALLATION COULD RESULT IN BURNS.**

1. Place the Spyder on level ground in gear with engine off. Let engine and exhaust cool before performing installation.
2. Using key, release seat lock and lift at front.

CAUTION**: WHEN REMOVING FASTENERS FROM PAINTED PANELS, SUPPORT BASE OF TOOL TO AVOID JUMPING OUT OF SCREW HEAD AND DAMAGE TO FINISH.**

3. Remove right side (tank shelter) cover secured by four (4) Torx head screws, two at front below mirrors and two at rear of panel below front of rider seat. Set aside. Repeat for left side.
4. Remove right rear body side panel secured by one (1) Torx head screw at front of panel (previously covered by right side cover removed in step 3), three (3) Torx head screws on bottom of panel, securing unpainted underside fender panel to rear body side panel. Remove plastic rivets securing top of rear body side panel to underseat area inside passenger grab handle. Carefully

use a flat blade screw driver to lift center head upward. Once center is removed, remove outer portion while supporting panel. Locate connectors for turnsignal, noting color codes for connections. Disconnect and set aside. Repeat for left side.

5. Remove one (1) Torx head screw securing rear of unpainted underside fender panel to body panel between taillights on underside, above rear tire, Remove unpainted underside fender panel and set aside.
6. Install upper strut mount on right side to frame between frame plate forward of taillight using supplied 5/16”-18 x 1 ¾” Grade 8 Hex Bolt and ¼” flat washer. Bolt will pass through hole in forward frame plate, toward rear of bike, then through collar on tab, then through rear frame plate. Tab will be offset from collar toward center of the bike. Secure with supplied ¼” flat washer and 5/16”-18 Nylock nut. Do not tighten. Repeat for left side.

***WARNING*: USE EXTREME CAUTION WHEN USING POWER TOOLS TO AVOID INJURY. PLACE THE PANEL ON A PROPERLY SUPPORTED SURFACE, SUCH AS A WORK TOP WITH WOOD THAT CAN BE DRILLED THROUGH WITHOUT CONCERN FOR DAMAGE TO SURFACE. THIS WILL BETTER SUPPORT THE PANEL AND HELP TO AVOID INJURY. HOLD PANEL FIRMLY WHEN DRILLING.**

7. In this step, you will notch the unpainted underside fender panel to accommodate the upper strut mount pass through. All references to front, rear, center, and outside are made as the panel would sit when installed on the bike. The top side would be that which is away from the tire. Use the supplied template at the end of the instructions to locate the position of the cutout. Trim the template to the marked perimeter size, cut out the round hole that corresponds to the rear mounting hole already in the underside fender panel, and cut out the rectangle shape with cross line through it. This corresponds to the location of the notch. Simply flip the template over for the opposite side. The template is placed on the bottom side of the underside fender at the rear corners to mark the location of the notch, aligning the perimeter and the existing hole location. The fender will be notched on both the left and right sides, corresponding to the pass through point for the upper strut tab.

***CAUTION*: WHEN INSTALLING THE HITCH HOOP, HAVE A SECOND PERSON SUPPORT THE HOOP TO AVOID HOOP FALLING. IF THE HOOP IS LEFT UNSUPPORTED, THE MUFFLER, SWINGARM AND OTHER VEHICLE COMPONENTS COULD BE DAMAGED.**

***NOTE*: BUSHTEC RECOMMENDS THAT THE ELECTRICAL HARNESS IS RUN THROUGH THE RIGHT SIDE OF THE HOOP PRIOR TO INSTALLATION. THE PLUG SHOULD SIT JUST OUTSIDE OF THE REAR**

HOLE BELOW THE HITCH HEAD WITH THE WIRES EXITING THE HOLE ON THE BOTTOM SIDE OF THE RIGHT SIDE OF THE HITCH HOOP. WIRES SHOULD BE TAPED OR PROTECTED BY SOME MANNER FROM DAMAGE DUE TO PASSING THROUGH HOLES. IF ANY FLASHING IS VISIBLE INSIDE HOLE, USE A ROUND FILE TO REMOVE.

8. Remove the bolt, nut, collar and rubber washer securing the muffler to the right side passenger peg bracket. Install one (1) of the supplied machined insert collars into the recess hole in the peg bracket with one (1) 3/8”-16 x 1 ½” Socket head Allen bolt through collar, passenger peg bracket, hitch hoop and muffler bracket. Bolt should pass from outside toward tire. Secure with provided 5/16” flat washer and 3/8”-16 Nylock nut. Do not tighten.
9. Secure the left side of the hitch hoop by installing one (1) of the supplied machined insert collars into the recess hole in the left side peg bracket with one (1) 3/8”-16 x 1 ½” Socket head Allen bolt through collar, passenger peg bracket, and hitch hoop. Bolt should pass from outside toward tire. Secure with provided 5/16” flat washer and 3/8”-16 Nylock nut. Do not tighten. Support hoop with hitch head centered on rear tore.
10. Reinstall left and right rear body side panels using plastic rivets. It is not necessary to connect the rear turn signals as these panels will be removed again.
11. Install the unpainted underside fender panel using Torx head screws to secure to rear body side panels. The upper strut mounts should pass through the slots cut in step 7. Install the right and left struts (stamped w/ L & R) using one (1) supplied 3/8”-16 x 1 Grade 8 Hex Bolt per side at top and 5/16”-18 x ¾” Socket Head Allen bolts at the bottom. The top of the strut has a machined collar that is threaded and the bottom of the strut is countersunk for the Socket Head Allen bolt.
12. While having a second person hold the hitch head centered on the rear tire, tighten the bolts in this order; bolts securing the hitch hoop to the passenger peg brackets, upper, then lower strut bolts. Do not tighten the bolts securing the upper strut mounts to the frame. With the hitch hoop bolts and upper and lower strut bolts snug, check clearance between unpainted underside fender panel slots and upper strut mounts. There should be 1/4” clearance on all sides. Trim as necessary by removing struts and panel. Support hoop when removing struts.
13. Remove left and right side covers and set aside. Leave unpainted underside fender panel in place once slots have been trimmed and edges cleaned up. Tighten 5/15”-18 x 1 ¾” Grade 8 Hex bolts and Nylock nuts securing right and left upper strut mounts to frame. This must be done with hoop and struts in place and all bolts snug.

Installation of all the hitch components is now complete. You must recheck all bolts for proper tightness in this sequence:

1. Tighten the two (2) Socket Head Allen bolts securing hitch hoop to right and left side passenger peg brackets.
2. Tighten the (2) two hex bolts securing upper strut mount to frame.
3. Tighten the (2) two hex bolts securing the top of the strut to the upper strut mount.
4. Tighten the (2) Socket Head Allen bolts securing the bottom of the strut to the hitch hoop.

Installation of the hitch is now complete. You will reassemble the motorcycle after the following wiring instructions.

NOTE: **IF YOUR TRAILER IS EQUIPPED WITH COMBINED TURN SIGNAL AND BRAKE LIGHTS AND/ OR A 4 PIN HARNESS, A TRAILER LIGHT CONVERTER WILL BE REQUIRED TO COMPLETE THE INSTALLATION. THE TRAILER LIGHT CONVERTER IS NOT INCLUDED AND MUST BE PURCHASED SEPARATELY.**

NOTE: **THE ISOLATOR PACKAGE YOU RECEIVE WITH YOUR NEW HITCH COMES WITH GENERIC WIRING INSTRUCTIONS. THE INSTRUCTIONS YOU ARE HOLDING ARE MORE SPECIFIC TO THIS INSTALLATION. DUE TO TIGHT CLEARANCE UNDER THE SEAT IT IS SUGGESTED YOU FOLLOW THESE GUIDELINES AND CHECK THE INSTALLATION FOR CLEARANCE OF THE SEAT AND OTHER COMPONENTS PRIOR TO USE. THESE INSTRUCTIONS ARE A GUIDE THROUGH THE PROCEDURE.**

If you purchased this hitch with a new *BUSHTEC* trailer, you will have received a 4 foot bike side wire harness with the trailer. If you ordered this hitch separate of a trailer or have another manufacturer's trailer, you will need to buy or supply a harness. If you need a Bushtec harness, they are available for purchase from BUSHTEC. If you are using this hitch with any trailer other than a BUSHTEC, you will need to purchase the appropriate plug and sufficient length of wiring to reach the isolator package from your local parts store or trailer's manufacturer.

WARNING**: PLEASE FOLLOW ALL INSTALLATION INSTRUCTIONS ON THE PREVIOUS PAGES AND ABIDE BY ALL *NOTES*, *CAUTIONS* AND *WARNINGS*!**

WIRING INSTALLATION

1. The "bike" side harness should have been run prior to installation of the hitch hoop. If this has not been done, do this now. If the harness is to be run inside

the right side of the hoop as designed, it may be necessary to remove the hitch hoop.

***CAUTION*: SECURE THE HARNESS SO THAT IT CAN NOT BE DAMAGED BY THE REAR WHEEL OR ANY MOVING PARTS OF THE MOTORCYCLE.**

2. Secure the relay to the side of the battery box using wire ties, double stick tape or other method with wires running toward center or rear of vehicle.
3. Connect the Universal subharness to the 4 pin plug on the relay via the corresponding 4 pin plug. Locate the 3 wire plugs from the taillights to the main harness. Cut the shielding back to expose the individual wires. To each side you will also locate the wire connections for the turnsignals where connections will be made as follows.
4. You will connect the wires from the universal subharness of the relay to the motorcycle's harness. These connections are made by placing the Red T-tap connector around the desired wire and snapping closed. This will require a pair of pliers. Once you have located the relay, route the subharness wires to the area of the connections, trim wire to length, strip back the shielding and install a fully insulated male disconnect with a crimping tool. Plug the fully insulated male disconnect into the corresponding T-tap per the table above.

CAN-AM WIRE COLORS	FUNCTION	RELAY PICKUP
Orange	Running/ Tail Lights	Solid Green
White	Brake Lights	Solid Blue
Grey w/ Yellow Stripe	Right Turn	Solid Yellow
Grey w/ Red Stripe	Left Turn	Solid Brown

***NOTE:* DO NOT USE THE ACCESSORY CIRCUIT FOR 12V CONNECTION OF THE TRAILER RELAY BLOCK. IT IS NOT CAPABLE OF HANDLING THE LOAD.**

***NOTE:* REMOVE THE 30 AMP MAIN FUSE FROM THE FUSE HOLDER PRIOR TO ESTABLISHING BATTERY CONNECTIONS.**

The relay is equipped with two black wires exiting the module. These are both ground wires, with one needing to be connected to the negative terminal of the battery and the other connected to the ground feed for the trailer harness. It does not matter which wire is used for which connection but it is easiest to compare cut length and run the black wire that is similar in length to the red wire to the battery.

5. Connect the black wire to the battery ground terminal using the supplied eyelet connector. Connect the free side of the fuse holder to the red wire from

the relay block using the supplied crimp connector. Next, connect the supplied fuse holder to the battery positive terminal.

Connect the relay outputs to the harness wires as follows using supplied blue butt connectors:

BUSHTEC HARNESS	FUNCTION	RELAY OUTPUT
Green	Running/ Tail Lights	Green
Blue	Brake Lights	Blue
Yellow	Right Turn	Yellow
Brown	Left Turn	Brown
Black	Interior Light/ Accessory	Green

Bushtec recommends connecting the Interior Light to the running light circuit. If the interior light is left on but the ignition is turned off, the interior light will be turned off.

6. If you ordered the quick disconnect kit with your trailer hitch, you will connect the wires from one pigtail to the corresponding output wires from the relay, color for color. The second pigtail will be connected to the corresponding wires from the harness that is run through the hitch hoop. These connections will be made based on the type of trailer. The plug halves should be located behind the right rear side body panel.
7. (ALL OTHER APPLICATIONS) Connect your harness to the isolator package using the above solid colored outputs to the appropriate wires of your harness.

NOTE: **THE RED WIRE AND ONE OF THE BLACK WIRES OF THE ISOLATOR SHOULD ALWAYS BE HOOKED UP DIRECTLY TO THE POSITIVE (+) AND NEGATIVE (-) TERMINALS OF THE BATTERY. USE OF A CHASSIS GROUND IS NOT ACCEPTABLE IN ANY APPLICATION. YOUR TRAILERS HARNESS GROUND WIRE WILL NEED TO BE ATTACHED TO ONE OF THE SOLID BLACK WIRE OF THE RELAY PACKAGE.**

8. Insert the supplied 30amp fuse into the fuse holder and check the functions with your trailer plugged in.
9. Secure all the wiring making sure that nothing will affect the reassembly of the motorcycle.
10. (*BUSHTEC* Application) Install the hitch pin adapter onto the hitch head with the safety chain bracket on the underside of the hitch head, facing rearward.
11. (All other applications) Install the 1 7/8” stainless steel ball according to the supplied manufactures instructions. You are now ready to wire the motorcycle.

CHECK ALL HARDWARE TO MAKE SURE IT'S TIGHT. CHECK ALL ELECTRICAL CONNECTIONS. YOU ARE NOW READY TO REASSEMBLE YOUR MOTORCYCLE. REFER TO YOUR FACTORY SERVICE MANUAL FOR THE PROPER PROCEDURES.

12. Install one (1) Torx head screw securing rear of unpainted underside fender panel to body panel between taillights on underside, above rear tire,
13. Place right rear body side panel up to side of vehicle and reattach wiring for turnsignals. Position right rear body side panel to align holes and install plastic rivets securing top of rear body side panel to underseat area inside passenger grab handle. Install the outer portion first to secure panel then lock in place by inserting center- head will not sit flush with outer. Install right rear body side panel secured by one (1) Torx head screw at front of panel and three (3) Torx head screws on bottom of panel, securing unpainted underside fender panel to rear body side panel. Repeat for left side.
14. Install right side (tank shelter) cover secured by four (4) Torx head screws, two at front below mirrors and two at rear of panel below front of rider seat. Repeat for left side.
15. Push front of seat down to engage lock.

FINAL TRAILER HOOKUP

1. (*BUSHTEC* APPLICATION) Set the heim joint onto the hitch pin. Place the key into the lock and turn ¼ turn to the right. Place the lock on top the hitch pin and turn the key to the left ¼ turn while holding the lock, then remove key. Lift up on the lock to insure lock is engaged on the hitch pin. Place the black rubber cover over the lock to keep keyway free from debris.

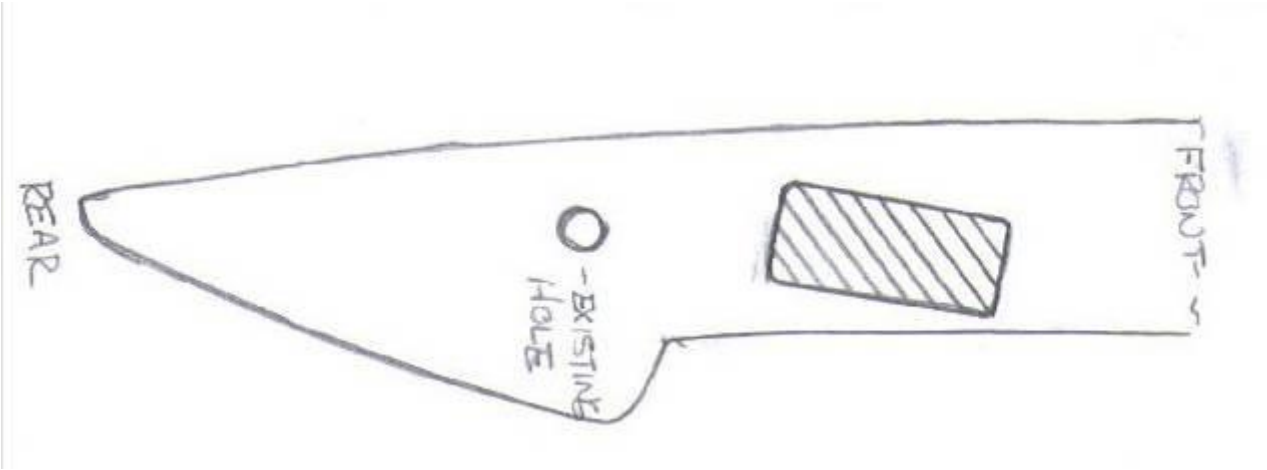
***WARNING*: THE KEY IS REMOVABLE REGARDLESS IF THE LOCK IS ENGAGED! CHECK THAT THE LOCK IS ENGAGED BEFORE USE.**

2. Remove the dead plug from the end of the bike harness and plug the trailer in. Hook the safety chain catch to the safety chain bracket below the pin. CHECK ALL TRAILER CONNECTIONS ONCE AGAIN!
3. (ALL OTHER APPLICATIONS) Attach the trailer to the ball and secure the coupler latch. Check that the trailer coupler is adjusted properly and in excellent working order.

***WARNING*: *BUSHTEC* ASSUMES ABSOLUTELY NO RESPONSIBILITY IN THE USE OF ANYTHING OTHER THAN A *BUSHTEC* TRAILER. PROPER USE, MAINTAINENCE, AND ANY AND ALL WARNINGS ASSOCIATED WITH TRAILERING ARE THE RESPONSIBILITIES OF YOUR RESPECTIVE TRAILERS MANUFACTURER. *BUSHTEC'S* TOTAL LIABILITY WILL BE LIMITED TO THE INITIAL PURCHASE PRICE OF THIS PRODUCT OR REPLACEMENT OF THIS PRODUCT AT OUR DISCRETION.**

4. Plug your trailer into the bike harness. Attach your safety chain to the rings on the sides of the receiver tube. **<u>CHECK ALL TRAILER CONNECTION.</u>**

Step 6-Upper Strut Mount-left side shown.



BUSHTEC

Performance Sport Trailers

Finished Installation of hitch.

350 LBS. MAXIMUM GVWR

55 LBS. MAXIMUM TONGUE WEIGHT

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