



Troubleshooting and Tech Tips

In this section you will find the most current tips and solutions concerning situations that occurred during last season, as well as the latest updated procedures information concerning the latest technologies used by BRP. All the troubleshooting procedure should be used in conjunction with the *SHOP MANUAL* and other BRP service publications.



TROUBLESHOOTING AND TECH TIPS INDEX FROM TECH UPDATE BOOKS - 2002 THROUGH 2010

ENGINE	SUBJECT	YEAR BOOK	DISCUSSED
RFI	Idle	2005	RFI single cylinder idle explained
	3-D steering bushing	2005	New bushings offered
	OTAS	2005	3-D OTAS facts
	3-D TPS	2006	TPS performance issue
	3-D OTAS switch	2006	Discussion on new OTAS switch
	Cylinders	2008	Identifying RFI cylinders differences 2004 and 2003
	TPS settings	2010	When you may want to check TPS settings and how to set
947 DI	Connectors	2002	Connectors that can be plugged in to the wrong component
	Oil consumption	2002	Oil consumption facts
	Injector carbon dam	2002	Installation tips on the carbon dam and O-rings
	Fuel pumps	2002	Issues with the fuel pump
	Fuel pumps	2002	Unseating the check valve on a fuel pump
	15 amp injector fuse	2002	Direct injector shorting out causing the 15 amp injector fuse to blow
	Fuel filter	2002	Fuel filter direction
	CPS faults	2002	Reasons why CPS fault P0335 becomes active
	Air pump	2002	Reasons why air pressure could be low
	Oil tank venting	2002	Oil tank venting
	TPS faults	2002	Detailed info on the 2 types of TPS faults
	Reed valves	2002	Comments on reed valves
	Spark plugs	2002	Spark plug tips
	Rave valve solenoid	2002	Detailed explanation of the rave valve solenoid
	Cylinders and injectors	2004	Component differences between a DI and DI LE
	Loss of ground	2005	Running problem caused by a bad ground
	Engine review	2008	A review of the differences between the DI STD and DI LE engines and parts interchangeability
MPEM replacement	2010	Detailed procedure on how to replace an MPEM	
947 carb	RX-X	2002	Similarities of the RX-X engine and 947 carby
B.U.D.S. on 947's	B.U.D.S.	2002	Fault screen info; terms and meanings on 947 DI's
B.U.D.S. on 4 TEC's	B.U.D.S.	2003	Total review on the installation and functions of B.U.D.S.
			Detailed info on B.U.D.S. functions and cluster displays
	MPI-2 hardware	2009	<i>SERVICE BULLETIN 2006-9.</i> What is needed for the MPI-2



SECTION 3

Troubleshooting and Tech Tips

ENGINE	SUBJECT	YEAR BOOK	DISCUSSED
4-TEC	Valve cover gasket	2003	Model year 2002 valve cover gasket tab removal
	D.E.S.S. (digital encoded security system) recognition	2003	An involved explanation on D.E.S.S. recognition on 2002 models
	4-TEC all	2003	What to do if there is water in engine
	Ring installation	2003	Extra info on piston ring installation
	Oil level check	2003	Defining the proper procedure to check engine oil
	Oil in PTO cover	2003	Reasons why oil collects in the PTO cover, what are the consequences, and what to do about it. See also <i>2004 TECHNICAL UPDATE BOOK</i>
	Fault code P1202	2003	Crankcase venting theory, why P1202 becomes active, and what to do about it
	Dipstick blowing out of crankcase	2003	Reasons why what to test
	Cam timing	2003	Step by step cam timing procedure
	Head torque	2003	Head torque and sequence explained
	Flywheel balance holes	2003	Assembly procedure of the encoder wheel and flywheel
	Powering up the MPEM and ECM	2003	The sequence of how these components are powered up
	ECM fuse	2003	Special procedure on checking the 5 amp ECM fuse
	General info	2003	Details about various sensors and fault codes
	OPS and OTPS	2004	Detailed info and troubleshooting procedures on the OPS and OTPS
	Oil in PTO cover	2004	More theory of why oil collects in the PTO cover and what to do about it
	New oil filter cap	2004	Aluminum cap replaces the plastic cap
	Rebuilding a 4 TEC	2004	Helpful facts and tips on rebuilding the 4-TEC engine
	Electrical power loss	2004	A fuse that could cause a power loss
	ECM Kostal connectors	2004	Detailed information on the ECM connectors and troubleshooting tips
	Dept finder message	2004	Why 'Sensor' is displayed on the cluster
	Supercharger slip clutch	2004	Checking a supercharger clutch for slippage, and what to do if it does
	Ventilation	2005	Reason why a carbon seal can cause ventilation
	Intermittent bogs	2005	Troubleshooting running problems
	Engine mount oil leak	2005	Rare oil leak on the front engine mount and procedures to repair it
	Overheating	2005	Different reasons the high temperature is displayed
	Lanyards	2006	Lanyard will programmed ECM will not recognized it
	Bent encoder tooth	2006	Discussion on the encoder wheel
	Flywheel bolts	2006	Non reusable flywheel bolts
	Air silencer restriction	2007	Internal defector that may cause a restriction
	Recorded hours	2007	What hours are recorded
	Long blocks	2007	Introduction of long blocks
Long block interchangeability	2007	What to do to fit the new longblocks on previous models	
Head interchangeability	2007	Head interchangeability on different year model engines	



SECTION 3

Troubleshooting and Tech Tips

ENGINE	SUBJECT	YEAR BOOK	DISCUSSED
4-TEC (cont'd)	Valve guides	2007	Finished guides now available
	Cylinder head screws	2007	Cylinder head screws are no longer reusable
	CPS	2007	Test spec's 2006-2007 CPS's
	Fuel pump filter	2007	Discussion on lower fuel pump filter
	Stick coils	2007	Misfires and type of grease to use
	Counter balancers	2007	Differences of counter balancers
	Crankcase breathing	2007	Crankcase venting theory on 2006 and up engines
	OPS wire diagram	2008	Error on wire diagram
	Depth finder	2008	New depth finder
	Fuel pressure gauge	2008	Superseded RFI gauge
	ECM	2008	Polarity protection discussion
	Oil pressure	2008	Oil pressure taken at the head
	Exhaust overheat	2008	Plugged gooseneck injection holes
	Cluster	2008	Ability to flash new cluster <i>SERVICE BULLETIN 2008-3</i>
	Over molded drive shafts	2009	Installation procedures
	ECM replacement	2009	ECM replacement with B.U.D.S.
	ECM	2009	Replacement ECM speed issue
	Diode cap	2009	Diode allows the main relay to energize
	Tops switch	2009	Review of TOPS switch function and identification of different types
	1503 crankshaft differences	2009	Changes starting in year 2006
	Oil spray nozzles	2009	Oil spray nozzle identification
	Hose clamps	2009	Inspection of clamps
	Venturi bailer tubes	2010	Bailer system operation
	T-code on cluster	2010	Cluster displays T-Codes when replaced
	s3 hull	2010	s3 Hull repair system
	Drive shaft turning tools	2010	Details on which tools are used for different models
	Over molded Battery cable corrosion	2010	Hidden corrosion causing various electrical issues
	iS fault codes	2010	Detailed review of various iS fault codes
	iS battery box retaining nut issue	2010	Retaining bolts hard to remove or stripped
	1503 oil pressure regulator	2010	OIL light comes on LCD display
	Overheating facts	2010	Explanation of H-TEMP on LCD and possible cause
	iS analog inoperative	2010	Analog needles inoperable
iS fault code strategy update	2010	<i>WARRANTY BULLETIN 2009-3 P0232 & C2232</i>	
Collapsed oil filter	2010	What causes oil filters to collapse	
1503 long blocks	2010	Description of assemblies and associated part numbers	
Bent rods	2010	Pictures and causes of bent rods	



ENGINE	SUBJECT	YEAR BOOK	DISCUSSED
4-TEC GTI rental	Battery	2008	Installing a 2008 GTI rental battery on previous GTI
4-TEC SCIC	RXP recalibration	2005	Facts about the 2004 RXP recalibration
	ECM's and wire harness	2005	Explanation of the knock sensor adapter, wire harness and ECM facts
	Wire harness on BVIC	2006	Wire harness updates
	Intercoolers	2006	Testing intercoolers
	Superchargers	2006	Kit P/N's and rebuild facts
	Dirty superchargers	2007	What a dirty supercharger can do to performance
	Supercharger repair kits	2008	Kit part numbers and repair procedures
	External intercooler condensation	2009	Engine may stumble, until water is processed
	Fault code P0106	2010	Intake pressure sensor out of range/ Booster
Miscellaneous	Spark plug and piston failure analysis	2002	Detailed failure modes on spark plugs and pistons
	Vinyl cleaners	2006	Recommended vinyl cleaners
	Wire diagram book	2007	Part number of the book
	Fiberglass and Gelcote warranty claims	2010	Reminder on what is needed when contacting Technical Service for warranty claiming
	Electrical current draw	2010	Electrical draw specifications
RFI, DI & 4 TEC	Maintenance light flashing	2010	Review on how to reset maintenance light
Sea-Doo Boat	Perfect pass	2008	User's guide
	Wakeboard tower sound system	2008	Infinity instruction and installation guide
	Sea-Doo Boat reverse gate bushing seizing	2010	Reverse gate difficult to move. <i>SERVICE BULLETIN 2009-6</i>
	08-09 Challenger 230 sliding door end cap failure	2010	New thicker cap part numbers listed
OPAS equipped models	OPAS	2003	OPAS info and facts
All injected engines	Fuel filter	2004	Mesh filters now available on the bottom of the fuel pumps
2004 2-stroke	D.E.S.S. switch and cut-off relay	2004	Detailed info and schematic diagrams of these 2 components
2004 2-stroke	Mag wire chaffing	2005	Prevention of mag wire chaffing

D.E.S.S. KEY RECOGNITION

Intermittent D.E.S.S. Key Recognition

We have written about D.E.S.S. key recognition and the proper procedures to follow in order to get the iControl units to recognize the key and then start but have continued to receive reports of issues with this.

Remember the D.E.S.S. lanyard has two functions. One is the magnet inside the lanyard draws up and closes the switch inside the D.E.S.S. post when attached, waking the ECM. The ECM then "Searches" for the computer chip inside the lanyard and determines if it is a code that has been programmed to the ECM. The logic in the ECM was originally programmed as follows. After the switch has been closed by the lanyard, the ECM has one second to find and accept the code in the lanyard. Thus, if the lanyard is held close to the post the magnet is strong enough to close the switch and start the timer. If the lanyard is not attached fully within 1 second the ECM does not recognize the key and the single beep will be heard.



Since then a Warranty Bulletin was produced and the procedure raises the time limit from the original 1 second to a longer time of 5 seconds. This update greatly reduces the chance of a false start up of the unit.

If there are any customer complaints of inconsistent tether operation please reference and perform Warranty Bulletin 2010-9. All unsold units should have Warranty Bulletin 2010-10 performed before delivery to the customer.

Following the procedure found in the Operator's Guide and Shop Manual every time you are attempting to start the vehicle will allow proper D.E.S.S. recognition and ease the starting procedure.

1. **D.E.S.S. key should be at least 6 inches from D.E.S.S. post.**
2. **Push START/STOP button.** This is important because this allows the main relay to activate and continue the power up sequence.
3. Next firmly and with purpose **install the D.E.S.S. key.** If the key is programmed the unit should give you a double beep showing it is being recognized.
4. Next push the START/STOP button for the engine to start. If not done in this order (if key is installed first then the start/stop button is pushed), the start up procedure may be inconsistent.

NEW ENGINE ALIGNMENT PROCEDURE FOR ICONTROL UNITS

The 2010 Technical Update Book discusses the change in alignment specifications to the alignment shaft. Then Service Bulletin 2010-6 was created to list the changes in the alignment tools to modify the original alignment tools produced, for the 2009 and 2010 model year units. To simplify all this, the 2010 Shop Manual has a complete updated procedure utilizing the new alignment tools. This procedure can be found starting on page 24 in the *2010 RXT/GTX/WAKE PRO SERIES SHOP MANUAL*.

All 2009 and 2010 iControl units should be aligned with this updated procedure.

P0127 FAULT CODE ON 1503 NA

When ever a customer with a 2010 Sea-Doo, produced with a NA (normally aspirated) engine, is experiencing a Check Engine light, warning buzzer and the unit has a rev limit of 6700, check the unit with B.U.D.S. for an active or occurred P0127 code. This normally will occur during hot engine re-starts in very warm ambient climates. A likely scenario would be while skiing or tubing on a hot day and restarting the engine shortly after stopping it.

This is caused by a fault code that was intended to detect inoperable intercoolers on intercooled models only. The air temperature sensor (ATS) is located in the engine air intake plenum and will sense very warm air accumulating in the plenum on a hot engine when it is stopped. Upon restart the ECM software is setting a fault because it is sensing air over 120 degrees and therefore reports that the Intercooler is not working, even though the NA does not have one.

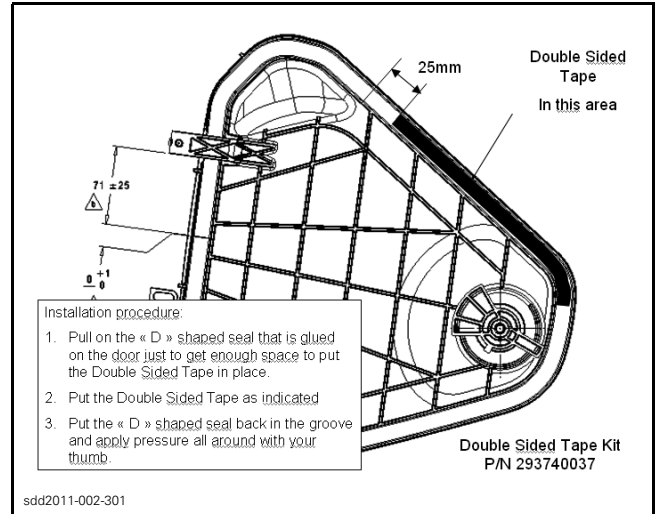
This situation has been remedied by performing Warranty Bulletin 2010-10 (unsold units) or Warranty Bulletin 2010-9 (sold units).

Please locate and read these bulletins as related to the effected units.

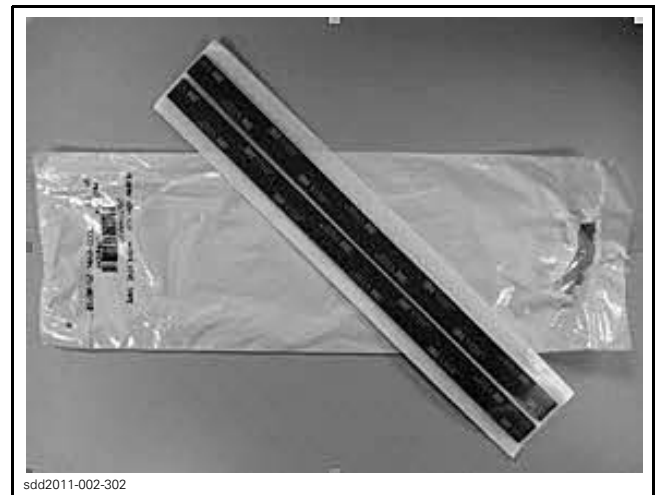


2010 FIXED DECK GTX, RXT AND WAKE MODELS

Some iControl fixed deck models may have a gap between the access panel and the hull when fully closed. In certain extreme riding conditions or uncovered mooring situations during very heavy rains, some customers may experience what they feel is unacceptable leakage from the rear access panel seals. A Double Sided Tape Kit (P/N 293 740 037) has been developed to address the issue, however it must be understood that these panels are not designed to be water tight in submersed conditions. Always keep unattended watercraft covered.



Double sided tape kit P/N 293 740 037.



Remove access panels.

Pull up "D" shaped seal that is glued on the door just to get enough space to put the new "double Sided" tape in place.





Install Double Sided Tape starting 25 mm or 1 inch from recess edge as shown.



Reinstall the "D" shaped seal back in the groove and apply pressure all around with your thumb.



WATERCRAFT BULLETIN OVERVIEW

When prepping any new model year 2009 or 2010 watercrafts it is important to perform all the outstanding Service and Warranty Bulletins. This will eliminate the need for the customer to bring the unit back to your dealership for updates, after the unit is originally delivered.

Listed here is a quick reference guide to bulletins that may need to be finalized before the unit is delivered to the customer at the time of sale.

2009 iS:

Warranty Bulletin 2009-2 -- Supercharger outlet hose inspection, front splash deflector rivets, seat inspection and adjustment and iBR software Update

Warranty Bulletin 2009-3 -- iS Fault Code Strategy Update

Warranty Bulletin 2009-4 -- D.E.S.S. Key replacement at PDI for iS models.

Warranty Bulletin 2009-5 -- Replace the cluster

2010 Various Models:

Warranty Bulletin 2010-1 Rear view mirror broken

Warranty Bulletin 2010-6 Supercharger hose inspection

Warranty Bulletin 2010-7 iBR Inspection at PDI



BOARDING PLATFORM AND STORAGE COVER SHOCK ENDS REPLACEMENT

When removing these shocks you must first cut the tie wrap holding the protective bellows. Then unscrew the gas shock from the shock nut. The complete procedure can be found in the 2009 and 2010 Shop Manuals or the 2009 Interactive Shop Manual which was sent to your dealership 2 years ago. If your customer accidentally breaks the shock nut, it is available separately, without having to order the entire shock. Simply order P/N 269 501 717 and replace it. Warranty does not pay claims for the entire shock assembly if the shock is not defective.

FRONT PANEL MELTING AND DEFORMING

A very important step in the PDI process is getting the unit out of the crate. We have found a potential issue that may arise if the following steps are not followed.

It is critical when uncrating a Sea-Doo Watercraft, to take the unit out of the shipping bag or protective wrap as soon as the top of the crate is removed. We have found that if the unit is left inside the enclosed bag with exposure to the sun, temperatures can rise to significantly high levels. This increase in temperature may be hot enough to start to melt and distort the plastic hood. Please make sure your PDI team is aware of this communication.





GPS OPERATION

The GPS found on the new iS Watercrafts has many functions. This GPS is located in the craft's dash cluster. There is a GPS INDICATOR LIGHT located on the cluster to show if the satellites have been located. The GPS needs at least 3 locked satellites to have the LED ON and use GPS speed.

One function of the GPS is to monitor the speed of the vehicle, which was obtained on prior models thru the use of a paddle wheel on the stern of the craft. With the new system the vehicle speed will still be displayed even if the GPS signal is **temporarily** lost, by using a default mode that is calculated in the iBR. Because the GPS is located in the cluster of the vehicle, it is always powered up, even after the main relay is powered down. After the ECM is shut down, if the watercraft is used within 2 hours, the GPS will be ready within 3 seconds because the GPS uses the satellites almanac data in its memory. If the watercraft is used after the 2 hour shut down, the GPS will need to find the satellites. It can take up to 30 seconds after the satellites are found, for the speed reading to show on the cluster.

Because the clock, altimeter and compass functions on iControl craft's are set thru the GPS, the craft must have a satellite signal for these to operate. The clock time in hours can be set if needed, as stated in the owner's manual, but the minutes can not be altered.

Care must be taken when troubleshooting a cluster related issue, and keep in mind that the issue could be caused by a failed satellite signal to the GPS. Most of the time troubleshooting is performed inside a shop environment and it is likely the GPS **WILL NOT** get a signal indoors.





ICATCH TRAILER UPDATES

Several updates have been written since the iCatch trailer was 1st introduced last season. The PDI bulletin was updated reflecting the Extremely important changes in trailer set up, utilizing the optimum location of the "fit", since the iCatch system is adjusted specifically to the PWC hull type. The iCatch system must be used along with the iCatch bow cup for proper mounting at the front of the craft. It is also mandated to be sure the craft is properly strapped at the rear as stated in the owner's manual. A thorough understanding of the trailer operation, discussed with the customer at the time of delivery, will help to eliminate all the trailering concerns of the customer.

When performing a PDI on an iCatch trailer please reference this quick overview of the appropriate Warranty and Service Bulletins.

2010 Models

Predelivery Bulletin 2010-5, Rev 3

Warranty Bulletin 2010-5 iCatch alignment and Safety Cable Installation

Warranty Bulletin 2010-8 iCatch Handle Cable Breakage

2011 Models

Predelivery Bulletin 2011-1 Rev 1



REAR ACCESS COVER RUBBER BUMPER

TIP: To keep the rubber bumpers that cover the Allen bolts on the access panels from falling off, a possible preventive procedure is to apply a drop of adhesive to the rubber bumper (P/N 291 003 038) before installing it onto the bolt. Loctite 414 (P/N 413 705 800) should be used. Loctite 406 (P/N 293 800 100) can be substituted if needed.





December 15, 2010 Subject: **New Version of B.U.D.S. (3.0.3.5) for Watercraft and Boat**

No. **N/A**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
All	All Sea-Doo™ Watercraft and Boat	All	All

GUIDELINES

This B.U.D.S. version is for Sea-Doo watercrafts and boats only.

NOTE: You will not able to read any other product line. Other product lines should be using the following versions available on BOSSWeb.

B.U.D.S. VERSION	PRODUCT LINE
3.0.5.4	Can-Am™ Roadster
P2.3.31	Can-Am ATV
3.0.1.2	Can-Am Side-by-Side
3.1.2.0	Ski-Doo® and Lynx®

REMINDER: All MY2006 and older products must still use the version P2.3.14 as per the *B.U.D.S. REVISED BULLETIN P2.3.26* dated September of 2009.

The new B.U.D.S. version is now available on BOSSWeb, go to:

- www.bossweb.brp.com
- ComCenter = Document
- Document Type = Diagnostic Software
- Select the following version

B.U.D.S. 3.0.3.5

IMPORTANT: Like previous version of B.U.D.S., this new version 3 requires an access code. Starting with version 3.0, the access code is now available on BOSSWeb, there is no need to call your service representative. Go to:

- www.bossweb.brp.com
- ComCenter = Document
- Document Type = Diagnostic Software
- Select the following document

Get B.U.D.S. 3.0 Access codes on BOSSWeb ComCenter

Refer to the following table for detail of the new version.

NEW FEATURES

- Support all MY2011 SeaDoo/Boat models
- Integration of all published FC files for Watercraft / Boat:
 - 296000339.FC / 296000340.FC : ECM update for Watercraft MY2010 (fix for intermittent tether cord recognition and P0127 issue, per warranty bulletins 2010-9 and 2010-10)
 - 296000341.FC: Cluster update for Boat MY2010 (fix U1301 issue, per warranty bulletin 2010-8)
 - 296000343.FC: ECM update for Boat (Sync mode functionality improvement)
 - 296000344.FC: Cluster update for GTX¹/RXT™ 215/260 Premium, RXT™-X™ and RXT™-X™ aS™ (fix distance to empty, "speed not plausible" ECM error and cluster buzzing in severe water conditions)

IMPROVEMENTS

- Disappearance of hidden dialog boxes. Hidden boxes caused B.U.D.S. to appear frozen.
- D.E.S.S. POST INTERFACE (P/N 529 036 019) is now detected on all models. No more need to go in MPI menu to select informations
- Fault information reported when clicking on the "more details" button
- Validation of model number
- Automatic procedure for ECM replacement

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B.U.D.S. SOFTWARE INSTALLATION

Proceed with the regular installation procedure.

If you are not familiar with B.U.D.S. or how to install it please go to:

- www.bossweb.brp.com
- ComCenter = Document
- Document Type = Diagnostic Software
- Category = B.U.D.S.
- Select the following document

**B.U.D.S. PROGRAM
INSTALLATION INSTRUCTIONS**

† GTX is a registered trademark of Castrol Ltd, used under license.



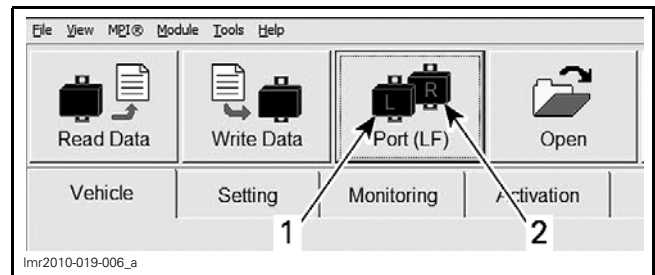
NEUTRAL SWITCH FAILURE ON 210 CHALLENGER MODELS

In 2010, a number of Challenger 210 models were built with a new style shifter that uses a typical marine grade neutral safety switch. Some of these switches have the potential to fail, thus rendering the starting system inoperable. This issue was identified and a Warranty Bulletin issued. The bulletin number is 2010-5; it is a campaign that should be performed at PDI if possible. **To Recap:** the symptom is both starter motors being disabled, leading to a no-start condition.

210 AND 230 CHALLENGER B.U.D.S. TIP

210 and 230 Challenger Sea-Doo Boats have iTC (intelligent throttle control) along with two engines and two ECMs that can communicate with each other through the CAN network. The wiring harnesses are identical so there are two diagnostic connectors but it makes no difference which one is used when connected to B.U.D.S. However, when connected you must choose what engine/ECM you want to communicate with. This can be done by choosing the R or L icon as shown below.

Another good tip is to ensure that BOTH engines have had the "maint." reminder reset properly during a service (this is the small wrench icon in the gauge cluster). In the event that only one motor has been successfully reset, the boat may leave the dealership only to have the other engine soon begin to warn that the service interval is due, causing unnecessary frustration and wasted time for both the dealer and customer. This is why it is critical to ensure both engines have been reset, and data written to both ECMs.



1. Port (L) ECM selected
2. Starboard (R) ECM available



O.T.A.S Fault Codes

Last season we received several reports of OTAS fault codes being stored with no problems being found. Many times the technicians report that after troubleshooting the system, the faults did not reoccur. We have had many of these sensors returned for evaluation, and have found that 100% of them have had no problem found.

After investigating we believe the faults may be caused by an excessive amount of dielectric grease in the three pin Deutsch connector. It appears that the grease may be opening the female terminals (hydro-lock) causing an intermittent connection.

When troubleshooting this system you should check that all the terminals are fully seated in the connector housing and that there is not an excessive amount of grease inside the connector.

NOTE: Improper use of dielectric grease may cause electrical connection issues.

There has also been some confusion in testing this circuit, caused by an error in the 2009 and 2010 *SHOP MANUAL* and *WIRING DIAGRAM*. The ECM terminal H1 should be the Black wire and the ECM terminal H3 should be the Black/Green wire. Please make sure to make the corrections to your Shop Manuals. This information can be referenced in the Service Bulletin 2010-8.

WATERCRAFT
SERVICE
Bulletin

December 16, 2010 Subject: **Shop Manual and Wiring Diagram Corrections for the O.T.A.S.** No. **2010-8**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2009	GTX Limited iS	All	All
	RTX iS		
2010	GTX, GTX iS and GTX Limited iS		
	RTX, RTX iS, RTX-X and RXT-X RS		
	WAKE Pro		

The information provided is applicable to the following shop manuals:
 – 2009 *SHOP MANUAL* (P/N 219 100 3711)
 – 2010 *SHOP MANUAL* (P/N 219 100 429)

SHOP MANUAL CORRECTION

Where to find information to update:
 – *STEERING AND PROPULSION* section
 – *STEERING AND O.T.A.S.* subsection
 – *O.T.A.S. SWITCH* topic.

Update table of the following test.

O.T.A.S. Switch Ground Wire Continuity Test

3-PIN CONNECTOR	ECM ADAPTER TOOL	RESISTANCE Ω (OHM)
PIN B	H1	0.5 Ω

WIRING DIAGRAM CORRECTION

O.T.A.S. Switch Wire Identification To ECM

Update wiring diagram for the O.T.A.S.™ (Off-Throttle Assisted Steering) switch wire identification.

- ECM terminal H1 SHOULD be the Black wire
- ECM terminal H3 SHOULD be the Black/Green wire.

1: To Fuse Box

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 sdd2011-002-310_en

NEW! iBR ACTUATOR PART NUMBER AND SUBSTITUTIONS

All 2009 and 2010 iBR Actuators will substitute to the 2011 iBR Actuator along with the needed parts to install this new execution.

The iBR Actuator unit that was previously installed on 2009 and 2010 models has been updated to standardize and ease the installation of replacement iBR units. This is a direct bolt on application that will not need a calibration update. Only the correct vehicle model number and serial number will need to be matched to the cluster, with B.U.D.S. as with past replacements. The iBR job code has been adjusted to reflect the additional parts needed for installation. Simply order the part number in the *PARTS CATALOG* and you will receive all the correct parts.

Units: model year 2009 and 2010 GTX, RXT and WAKE Models Equipped with iBR

P/N 278002321 (2009) and P/N 278002476 (2010HO)

Substitutes to 278002321a or 278002476a which will substitute to and includes:

- 1 - 278002606 iBR assembly
- 1 - 268000087 U-Arm Bracket
- 2 - 207382060 M8 x 20 Bolt
- 2 - 234081600 M8 Washer
- 1 - 293900007 Bushing
- 1 - 268000067 LH Support Plate

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2011 Technical Update Book — Sea-Doo PWC and Sport Boats



P/N 278002418 (2010BVIC)

Substitutes to 278002418a which will substitute to and includes:

- 1 - 278002605 iBR assembly
- 1 - 268000087 U-Arm Bracket
- 2 - 207382060 M8 x 20 Bolt
- 2 - 234081600 M8 Washer
- 1 - 293900007 Bushing
- 1 - 268000067 LH Support Plate



Attn: PAC Manager
**PARTS
ACCESSORIES
RIDING GEAR**



ZIP

- SKI-DOO®
- SEA-DOO®
- EVINRUDE®
- CAN-AM® ATV
- CAN-AM® SSV
- CAN-AM® Roadster

DECEMBER 2010

SEA-DOO ADVANCED TEC TRAILERS: IMPORTANT UNLOADING INFORMATION



The Sea-Doo Advanced TEC™ and Advanced TEC™ iCatch™ trailers will be shipped out starting this month. This year, the trailers are shipped fully assembled and crate-free, which affects how you will unload them. Please see enclosed information on how to unload each of these trailer models, without injury to your personnel or damage to the trailers.



➤ The trailers are shipped in packages of two. The photo on the left shows a shipment of six trailers, two per protective cover.

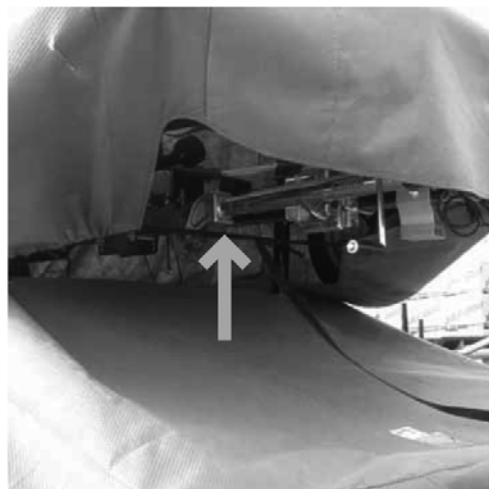
REQUIRED EQUIPEMENT:

- Forklift with unloading forks of at least 72 inches (183 cm) in length.

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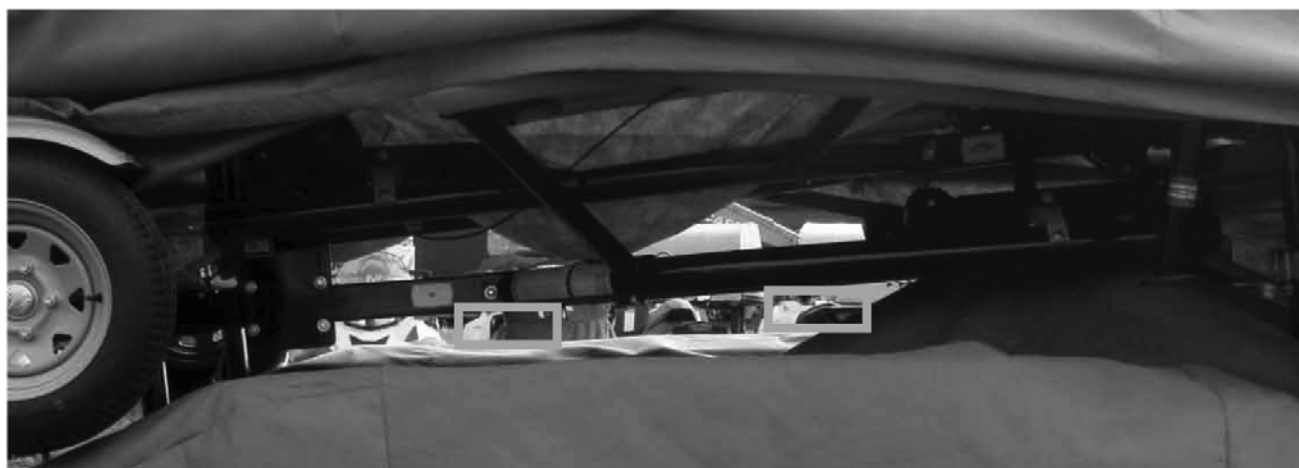
Advanced TEC iCatch Trailers



1 Unfasten the cover ties.



2 Lift the cover to reveal the wheels and frame.



3 Insert the forks under the two-trailer package, as shown. Make sure the forks reach the frame pipe on the other side of the trailer.

4 Unload a single two-trailer package at a time. The upper support tubes will slide upwards and out of the support tubes of the two-trailer package directly underneath.



Advanced TEC Trailers



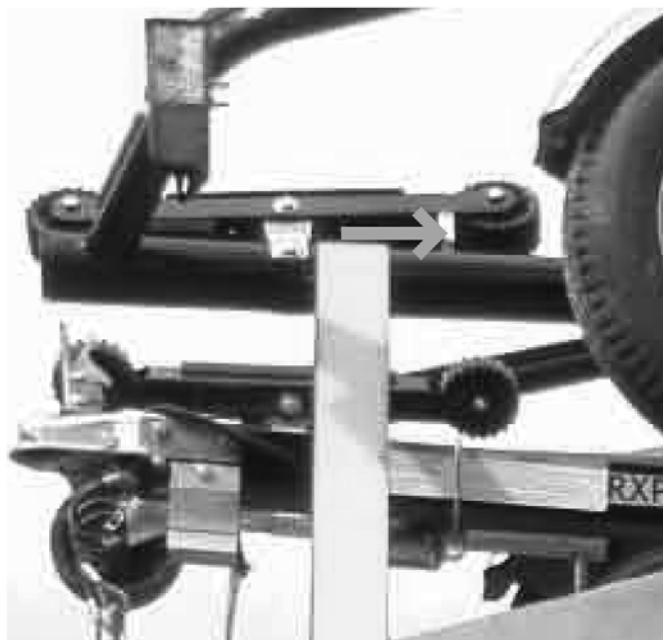
- 1 Insert the forks under the two-trailer package, as shown.
- 2 Unload a single two-trailer package at a time. The upper support tubes will slide upwards and out of the support tubes of the two-trailer package directly underneath.



ADDITIONAL INFORMATION

WHERE TO POSITION TIE-DOWN STRAPS FOR SECURE TRANSPORT

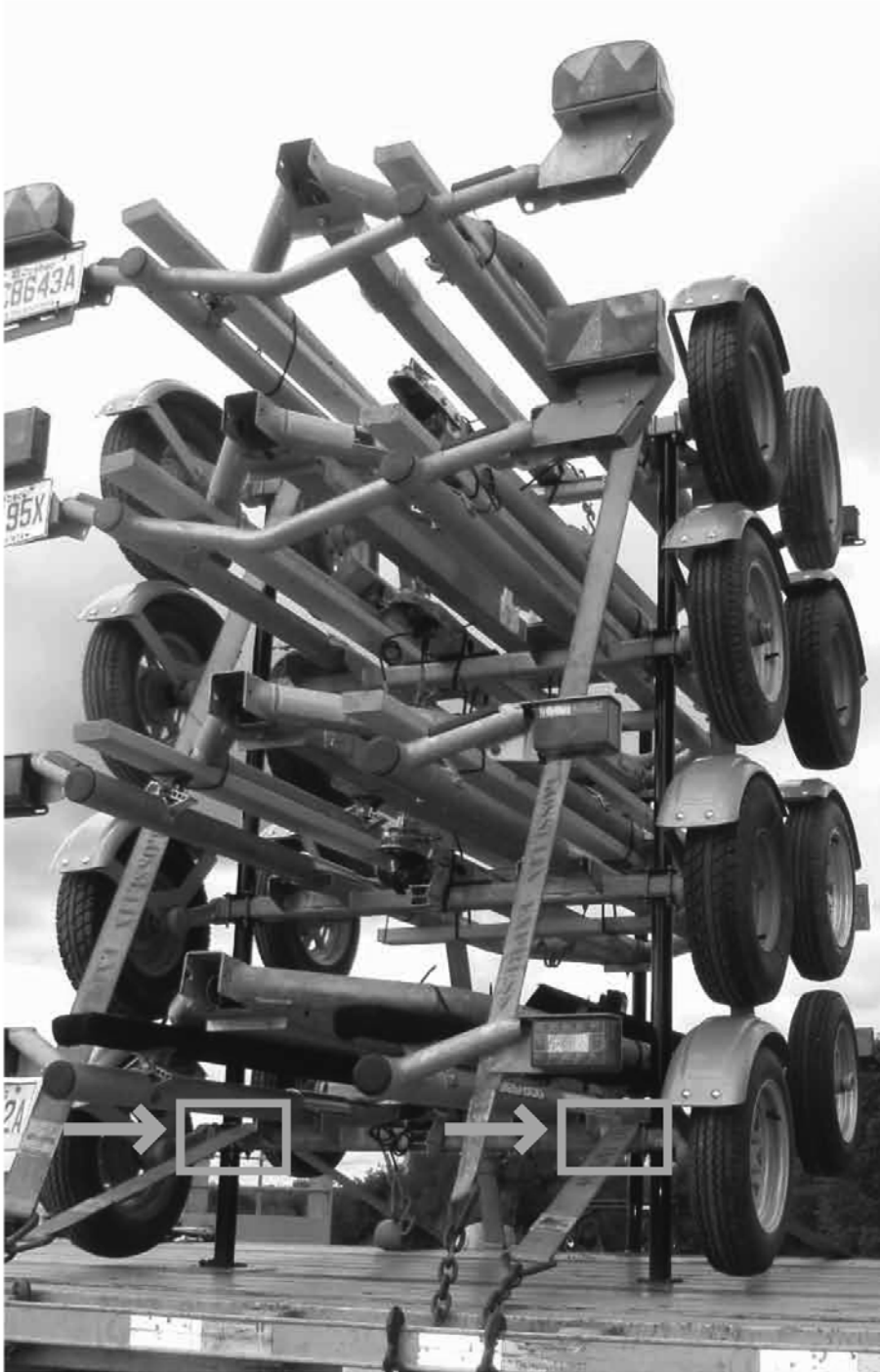
Advanced TEC iCatch Trailers



Always position the tie-down strap to the frame on the inside of the roller-bunk system. Be careful not to over tighten the straps.



Advanced TEC Trailers



Position the tie-down strap on the axle between the support tubes and the frame.



2007 INDEX



SEA-DOO

PREDELIVERY

SUBJECT

MODEL

2007-1 Predelivery 3D
2007-2 Predelivery 4-Tec North America/International

SERVICE

SUBJECT

MODEL

2007-1 Impeller Chart Sea Level High Altitude All
2007-2 Importance Of PDI All
2007-3 Transport Canada Compliance Labels All Canadian Models
2007-4 Carbon Monoxide Label Installation California Models Only
2007-5 Safety Lanyards All
2007-6 Service Tools All
2007-7 Paint Codes and gelcoat All
2007-8 4 TEC's Aluminum Jet Pump Wear Ring All
2007-9 Long Block Service Parts All
2007-10 Electric Probe Tool All
2007-11 B.U.D.S. 2.3:13 All
2007-12 Model Year 2007 4-TEC Single ECM All
2007-13 Storage Procedure for 4 TEC Equipped Vehicles All 4 TEC's
2007-14 Storage Procedure for 4 TEC Equipped Vehicles 3 D
2007-15 New Valve Guide Tools All 4 TEC's
2007-16 Pre Season Inspection All 4 TEC's
2007-17 Fuel Pump Activation Procedure All 4 TEC's

WARRANTY

SUBJECT

MODEL

2007-1 Steering Cable Stem Arm Bolt 4-TEC's
2007-2 Fuel System Pressure Relief Valve 4-TEC's

ADMINISTRATIVE

SUBJECT

MODEL

2007-1 Operators Guide Availability on the Web All



2008 INDEX



SEA-DOO

PREDELIVERY

SUBJECT

MODEL

2008-1	Preelivery	All
2008-2	Install the Correct Software in gauge Cluster	All

SERVICE

SUBJECT

MODEL

2008-1	CO warning label installation (CA only)	All
2008-2	Transport Canada compliance labels	All
2008-3	Ability to flash new cluster (Rev 1)	All except GTI series
2008-4	Importance of PDI	All
2008-5	Sea Level and High Altitude Impeller Chart	All
2008-6	Paint Codes & Gelcoat	All
2008-7	Fuel Tank Venting System	All
2008-8	Service tools	All
2008-9	Battery care reminder	All
2008-10	Storage procedure	All
2008-11	RXP / RXT Storage Cover Shock Bracket Location	RXP, RXP-X, RXT, RXT-X
2008-12	2003 to 2009 - Supercharger Service Part Update	All supercharged models
2008-13	Pre-Season / Annual Safety Inspection	All

WARRANTY

SUBJECT

MODEL

2008-1	RXT Storage Cover Replacement	RXT, RXT int.
2008-2	Exhaust and Supercharger hoses coming off	RXP-X, RXT-X
2008-3	SAFETY RECALL - Fuel Vent Hose Chafing	RXP-X

ADMINISTRATIVE

SUBJECT

MODEL

2008-1	Operators guide availability on the web	All
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2009 INDEX



SEA-DOO

PREDELIVERY

SUBJECT

MODEL

2009-1 All Except GTX LTD and RXT iS (North America)
 2009-2 rev 1 All Except GTX LTD and RXT iS (International)
 2009-3 rev 3 GTX LTD iS 255 and RXT iS 255 (All Countries)

SERVICE

SUBJECT

MODEL

2009-1 Service Tools
 2009-2 Carbon Monoxide Warning label Installation
 2009-3 Transport Canada-Safety and Security- Compliance Labels
 2009-4 Sea-Doo Battery Activation, Charging and Maintenance
 2009-5 Sending and Saving B.U.D.S. files
 2009-6 Replacing and Updating the ECM's calibration parameter table
 2009-7 Ignition Coil Long Term Reliability
 2009-8 GTX 255 LTD / RXT 255 iS New Special Tools
 2009-9 Sea Level and High Altitude Impeller Chart
 2009-10 Paint Codes and Gelcoat
 2009-11 Storage Procedure
 All
 All (California Only)
 All
 All
 All
 All
 All
 All
 All
 All
 GTX Limited iS 255, RXT iS 255

WARRANTY

SUBJECT

MODEL

2009-1 Update for Early Release Boat Show Watercraft
 2009-2 rev 1 Supercharger Hose & Seat Inspection, Splash Deflector, iBR Software Update
 2009-3 iS Fault Code Strategy Update
 2009-4 DESS Key Replacement on iS Models - Unregistered Vehicles Only
 2009-5 rev 1 Cluster Not Working on iS models - Unregistered Vehicles Only
 2009-6 rev 1 Cluster Not Working in iS models - Registered Vehicles Only
 GTX Limited iS 255, RXT iS 255
 GTX Limited iS 255, RXT iS 255
 GTX Limited iS 255, RXT iS 255
 GTX Limited iS 255, RXT iS 255
 GTX Limited iS 255, RXT iS 255
 GTX Limited iS 255, RXT iS 255

ADMINISTRATIVE

SUBJECT

MODEL



2010 INDEX



SEA-DOO

PREDELIVERY

SUBJECT

MODEL

2010-1	Predelivery	RXT, GTX and WAKE PRO (North America)
2010-2 rev 1	Predelivery	RXT, GTX and WAKE PRO (International)
2010-3	Predelivery	RXP, GTI and Wake (North America)
2010-4	Predelivery	RXP, GTI and Wake (International)
2010-5 rev 1	Predelivery	ADVANCED TEC™ and ADVANCED TEC iCatch trailer
2010-6	Predelivery	ADVANCED TEC™ iCatch trailer (International)

SERVICE

SUBJECT

MODEL

2010-1	Compliance Labels	All (Canadian models only)
2010-2	Carbon Monoxide warning label installation	All (California models only)
2010-3	Sea Level and High Altitude Impeller Charts	All
2010-4	Batteries Activation, Charging and Maintenance	All
2010-5 rev 1	Paint Codes & Gelcoat	All
2010-6	Alignment tool and diagnostic harness	All iControl

WARRANTY

SUBJECT

MODEL

2010-1 rev 1	Rear view mirror broken	GTX(STD, LTD, iS) and RXT (iS, X)
2010-2	Steering Extension Block Bolts Tightening	RXT-X and RXT-X RS
2010-3	Sponson Bolts without Thread Locker	GTI and WAKE
2010-4	Parts Missing in the PDI Kit	GTI (International)
2010-5 SAFETY	iCatch trailer system / Securing the PWC	ADVANCED TEC™ iCatch trailer
2010-6	Supercharger Outlet Hose Inspection	GTX LTD iS, RXT iS, RXP-X, RXT-X (unregistered only)
2010-7	iBR inspection at PDI	GTX LTD iS and RXT iS (unregistered only)
2010-8	iCatch handle cable breakage	ADVANCED TEC™ iCatch trailer
2010-9	Tether Cord Recognition, Fault Code P0127	All iControl (Previously Registered)
2010-10	Tether Cord Recognition, Fault Code P0127	All iControl (Non Registered)

ADMINISTRATIVE

SUBJECT

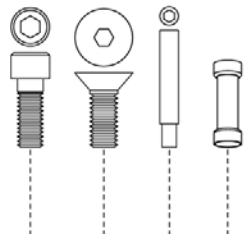
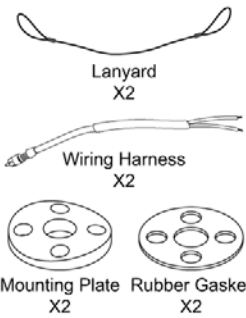
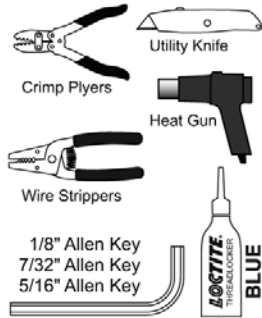
MODEL

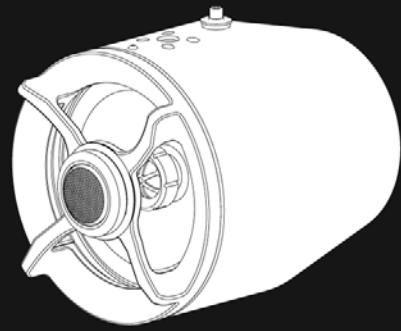
2010-1 rev 1	Registration of ADVANCED TEC™ trailer	ADVANCED TEC™ & ADVANCED TEC™ iCatch trailer
2010-2	U.S. EPA Regulations and BRP warranty changes	All (U.S. only)



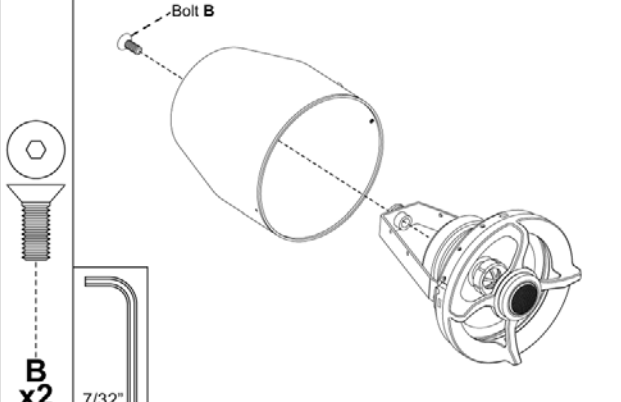
SEA-DOO

Tower Speaker Assembly Instructions

HARDWARE	PARTS	Tools Required
 <p>A x8 B x2 C x2 D x4</p>	 <p>Lanyard X2 Wiring Harness X2 Mounting Plate X2 Rubber Gasket X2</p>	 <p>Crimp Pliers Wire Strippers Utility Knife Heat Gun LOCTITE BLUE</p> <p>1/8" Allen Key 7/32" Allen Key 5/16" Allen Key</p>



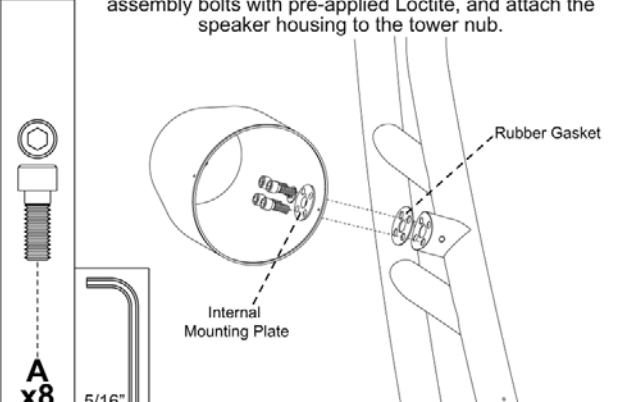
A Remove speaker from the speaker housing by removing bolt 'B'. Repeat each step for both speakers.



Bolt B

B x2
7/32"

B Place the rubber gasket between the speaker housing and tower nub, place the internal mounting plate inside the speaker housing and line up the holes. Insert the 4 assembly bolts with pre-applied Loctite, and attach the speaker housing to the tower nub.

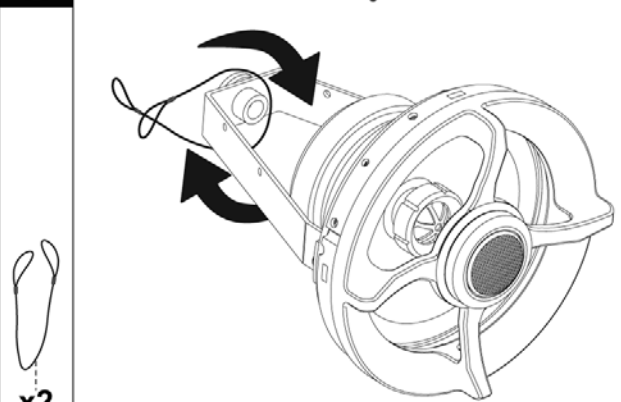


Rubber Gasket

Internal Mounting Plate

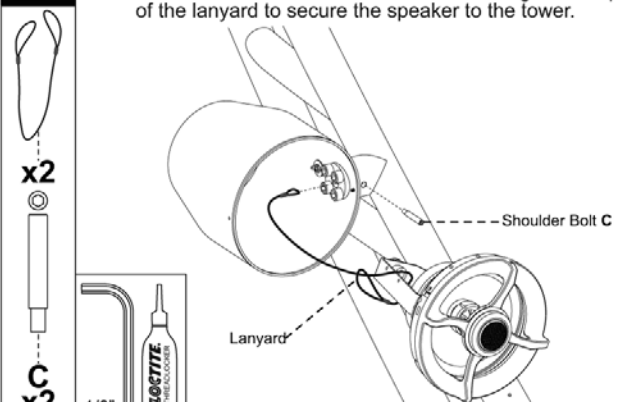
A x8
5/16"

C Pass the small end of the lanyard around the speaker spine and through the large end of the lanyard. Gently pull until taught.



C x2

D Insert the small end of the lanyard through the speaker housing and into the speaker nub on the tower. Apply Blue Loctite to the shoulder bolt 'C' and insert it through the loop of the lanyard to secure the speaker to the tower.



Lanyard

Shoulder Bolt C

C x2
1/8"



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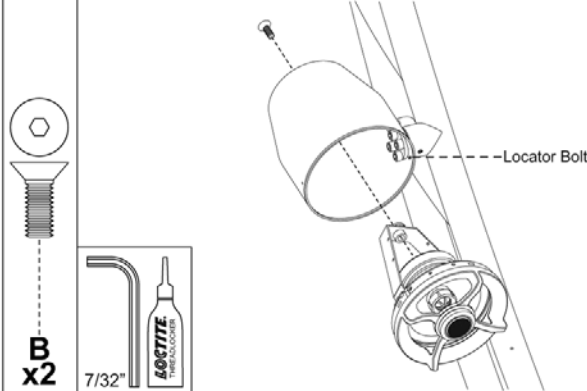


SEA-DOO

Tower Speaker Assembly Instructions

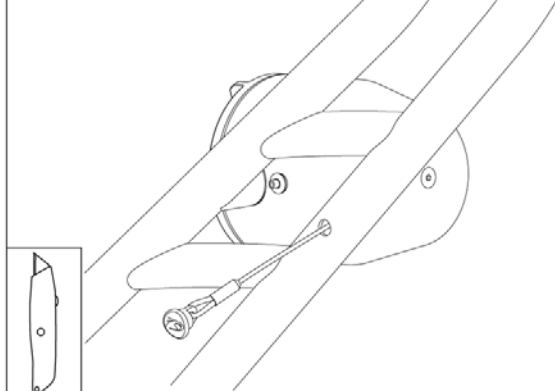
E

Lining up locator bolt with the slot on the speaker, insert the speaker and spine into the speaker housing. Apply Blue Loctite to a flat head bolt, insert at the back of the speaker housing and attach to the speaker spine inside.



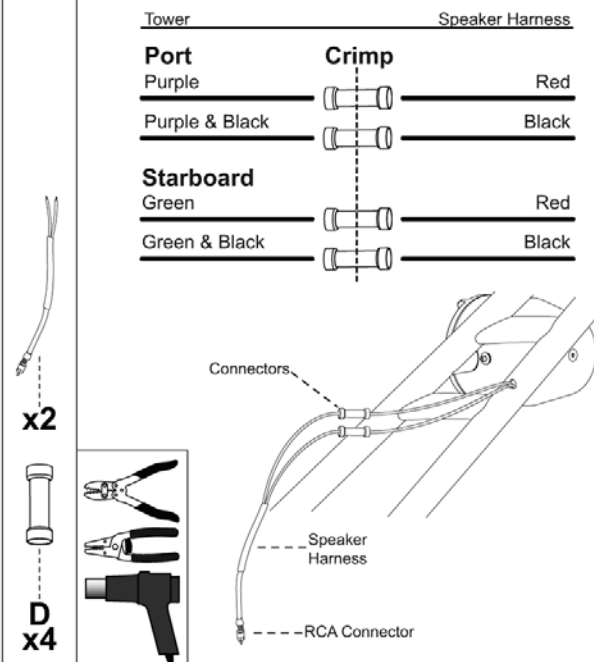
F

On the tower, gently pull the black rubber plug to access the wires. Carefully cut the shrink wrap with a utility knife to expose the speaker wires within and remove the plug. **Be very cautious not to cut through the wire's insulation.**



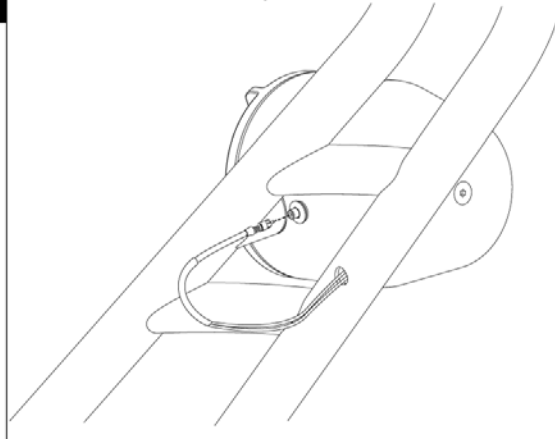
G

1) Use wire strippers to expose 1/4" of wire on all wires. 2) Slide matching wires (as illustrated) into opposing ends of the connectors and crimp. 3) Heat shrink the connectors. 4) Carefully push the wires back into the tower tubing.



H

Plug the red RCA connector to its corresponding speaker jack.



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If you have any questions please call : 1-780-962-0868

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