

*** FOR COMPETITION USE ONLY per US EPA regulations ***

Factory Pipe
Bill of Materials

Sea-Doo 785XP 1995/96&98 - GTX 1996/98 - SPX 1997/98 Spec I

<u>Item#</u>	<u>Qty</u>	<u>Part #</u>	<u>Part Description</u>
- 9,12,14)	1	COMASM0190	785 Spec I hardware kit 95&96 (including items 1-
1	2	COMCLP0012	SS hose clamp (1/2")
2	1	COMGAS0110	Spec I hp to man gasket
3	1	COMFAS0260	10mm x 1.5 x 30mm SS socket hd bolt
4	1	COMHOS0001	1/4@ x 18" Waterline
5	1	COMHOS0150	5-1/2" Silicone coupler (3")
6	2	COMCLP0080	#600 High torque SS clamp (5-1/2")
7	1	COMBRK0140	800 Headpipe support bracket
8	1	COMFAS0211	15" Zip tie
9	1	COMHOS00696	2"x 17" Waterline
10	1	COMIGN0010	95 Spec I & II Sea-Doo rev limiter
or	1	COMIGN0009	96 Spec I & II Sea-Doo rev limiter
or	1	COMIGN0011	97/98 Spec I & II Sea-Doo rev limiter
11	1	COMCST0370	785 Spec I headpipe
12	5	COMFAS0210	4" Plastic zip tie
13	1	COMCH78501	785 Sea-Doo chamber only
14	1	COMASM0420	1/8" NPT Pipe nipple w/ jet

Note: Item # 4 will not be used in this installation

- < **CHECK CONTENTS AGAINST BILL OF MATERIALS. REPORT ANY SHORTAGES WHERE YOU PURCHASED YOUR FACTORY PIPE.**
- < **READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.**

Factory Pipe
Instructions

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These carburetor adjustments/changes must be done prior to running the engine with the pipe installed. Failure to do so can and will result in serious engine damage. If you are not familiar with tuning carburetors, consult a qualified technician.

CARBURETOR ADJUSTMENTS

These carburetor recommendations are for 730 feet above sea level on a completely stock engine. All of our testing was performed on a stock engine with aftermarket flame arrestors. No claims are made by Factory Pipe for the performance, reliability or function of this exhaust system on a modified engine. Carburetor adjustments will vary depending on engine modifications, fuel, altitude, and other variables. PLEASE CONSULT A QUALIFIED TECHNICIAN IF YOU ARE NOT FAMILIAR WITH TUNING YOUR CARBURETOR(S). These carburetor adjustments must be done prior to running the engine with this exhaust system. The Rotax is a high performance engine and damage can and will occur if the carburetor(s) are not tuned properly. Factory Pipe does not recommend altering the stock ignition timing of this engine with our exhaust system. Make sure you follow the ECWI/Rev limiter module instructions very carefully so that you don't accidentally change your IGNITION TIMING!!!

Note: Make sure you check the stock jets, some units have been found to be incorrect.

Main Jet : 150 on front (Mag)carb, 152.5 on rear (PTO) carb

Pilot Jet : 70 (stock)

High speed screw : 2 turn out from closed on front(Mag) carb, 1 turn out on rear (PTO) carb

Low speed screw : 1 2 turn out from closed

Needle & Seat : 1.5 (stock)

Spring : 65 gram (stock)

Disconnect the battery before starting installation. Remove the stock exhaust headpipe and 2" hose, tailcone, headpipe support bracket, and the 10mm stud in stock manifold. Do not remove the stock 2" hose or clamps from waterbox. **Retain the following items:** two rubber mounts and one bolt from the stock chamber body, three of the stock exhaust headpipe to manifold bolts, four lock washers, and the stock bolts from the headpipe support bracket. If you do not have these items they may be purchased through your local Sea-Doo dealer.

Carefully remove the electrical box from the snap mount and unplug all connectors including the connector on the front engine mag cover. Open the box and install the supplied Micro-Touch rev limiter /ECWI module (item #10) per the supplied instructions. Before you close the electrical box you will need to route the wires that would go to the ECWI solenoid thru one of the waterproof fittings. Locate the fitting on the front of the electrical box cover with two wires in the grommet, loosen the plastic cap and pull the grommet out. On the back side of the grommet,

you will see two extra holes that do not go all the way through. Take a razor blade and slice through the grommet parallel to each of the two holes. This will allow the ECWI wires to be pushed into the holes then routed through the plastic cap. When the grommet is tightened it will seal around the wires. Secure the cap. Do not reinstall the electrical box at this time.

Make sure the fuel tank is not more than 2 full before you continue. Disconnect the three rubber straps on the fuel/oil tanks and slightly loosen the clamp on top of the oil tank (just enough so that the oil filler hose can rotate on the tank). Lift the front of the fuel tank and pull it forward by the fuel filler hose. It is not necessary to remove the fuel filler hose from the tank, it will bend temporarily while the chamber is being installed. Rotate the pipe side of the oil tank forward.

Cut the zip tie holding the oil line to the bottom left side hull clip, then using the 15" zip tie (item #8) loosely attach the oil line to the front motor mount tower. Slide the Factory Pipe aluminum chamber body (item #13) down along the side of the fuel/oil tanks with the large coupler end pointing upward.

When the stinger (small) end of the chamber reaches the engine you will need to rotate the coupler end of the pipe slightly toward the carbs so that the rear chamber mount slides down the side of the cylinders above the two fittings. Install one of the retained stock rubber chamber body mounts into the Factory Pipe rear chamber mount. Slip the stinger end of the chamber into the stock hose on the waterbox (do not tighten the clamp at this time). Note: The waterbox may have to be pushed rearward a 2" or so. After the chamber is in place, the oil tank can be rotated back and the fuel tank can be pushed back in place.

Reinstall the rubber straps on fuel and oil tank. Tighten the hose clamp that was loosened on the oil tank. Reinstall the electrical box and reattach all electrical connectors (there will be an extra connector with long wires from the Micro Touch rev limiter, tape them up out of the way).

Note: If you purchased the ECWI kit, route these wires through the clips where the stock wiring is, toward the middle of the cylinder head. This will be connected later as per instructions in ECWI kit.

Note: Do not use any type of oil lubricant on silicone couplers or waterlines. Use only water or Windex if required for installation.

Install the 5-1/2" blue silicone coupler (item #5) over the chamber body coupler. Secure with a #600 hose clamp (item #6) and slip the remaining #600 hose clamp over the silicone coupler and leave loose. Install the retained stock 8mm x 40mm hex socket bolt through the rubber mount on the rear of the chamber body into the threaded hole on the rear engine case. Do not tighten at this time.

Install the 2" x 17" waterline (item #9) on the 2" barbed fitting on the Factory Pipe headpipe

(item #11) and secure with a 1/2" hose clamp (item #1). If you are running this system on a completely stock 95-96XP, leave the 1/8" npt x 1/4" spray nozzle installed in the rear hole of the headpipe where the original fitting was on the stock headpipe. Make sure the 1/8"npt pipe plug is installed in the front hole of the headpipe next to the 2" 90 degree fitting.

Note: To make the headpipe installation easier, you may need to temporarily remove the stock flame arrestor plastic airbox, if still being used.

Spray some water or glass cleaner on the inside of the 5-1/2" blue silicone coupler and on the coupler end of the headpipe. Slip the headpipe into the hull and into the silicone coupler already attached to the chamber. You may need to use a small screwdriver to lift the hose over the end of the headpipe coupler. Once the headpipe is seated on the hose, align the headpipe flange with the manifold and slip the gasket (item #2) between them. Install the three retained stock bolts and lock washers with the supplied 10mm x 30mm bolt (item #3). Use medium strength Loctite and torque to 30 ft.-lbs.

Note: When chamber body coupler and headpipe coupler are seated properly the 5-1/2" blue silicone coupler will touch the ring on both the headpipe and chamber couplers.

After properly seated, secure the remaining #600 hose clamp on the 5-1/2" blue silicone coupler. Then secure the hose clamp on the stinger end of the chamber body and torque the rear chamber mount bolt to 18 ft.-lbs. Install the second retained stock rubber mount into the headpipe support bracket (item #7) then install on engine/headpipe with the retained stock bolts. Use medium strength Loctite and torque to 18 ft.-lb.

Attach the stock black 1/4" hose coming from the regulator on top of the waterbox to the spray nozzle on the rear of the headpipe and secure with a zip tie (item #12). Attach the open end of the 2"x 17" waterline to the fitting on the front of the cylinder head. Secure with a 1/2" hose clamp (item #1). Remove the regulator and install the 1/8" pipe nipple (item #14) with the #150 Mikuni main jet already installed, in place of the stock pipe nipple. Reinstall the regulator. Double check all hose connections and bolts.

Pipe Tuning

On a stock XP/SPX we suggest using the sprayer on the cylinder head (rear) side of the headpipe, plug the front headpipe hole with the 1/8" pipe plug. Limited race or engines with slightly higher compression, larger carburetors, a smaller pitched impeller, or all of the above may find better performance using the front headpipe sprayer.

To tune your pipe for best performance, adjust the red center cap on the regulator on top of the waterbox with a screwdriver. We suggest turning the regulator all the way in (clockwise) then out 2 to 1 turn. Turning the adjuster clockwise will spray more water into the pipe and counterclockwise will spray less water. Our testing has shown this system performs best with more water.

IMPORTANT NOTES

- 1. You must run a resistor type spark plug to prevent interference with the Micro-Touch rev limiter/ECWI module.**
- 2. You must run fuel with a minimum octane rating of 92 (premium pump fuel). Running a lower octane fuel can cause detonation and serious engine damage.**
- 3. Always warm up the engine prior to full throttle/high speed operation.**

WATER ROUTING

