***** FOR COMPETITION USE ONLY Per US EPA Regulations *****

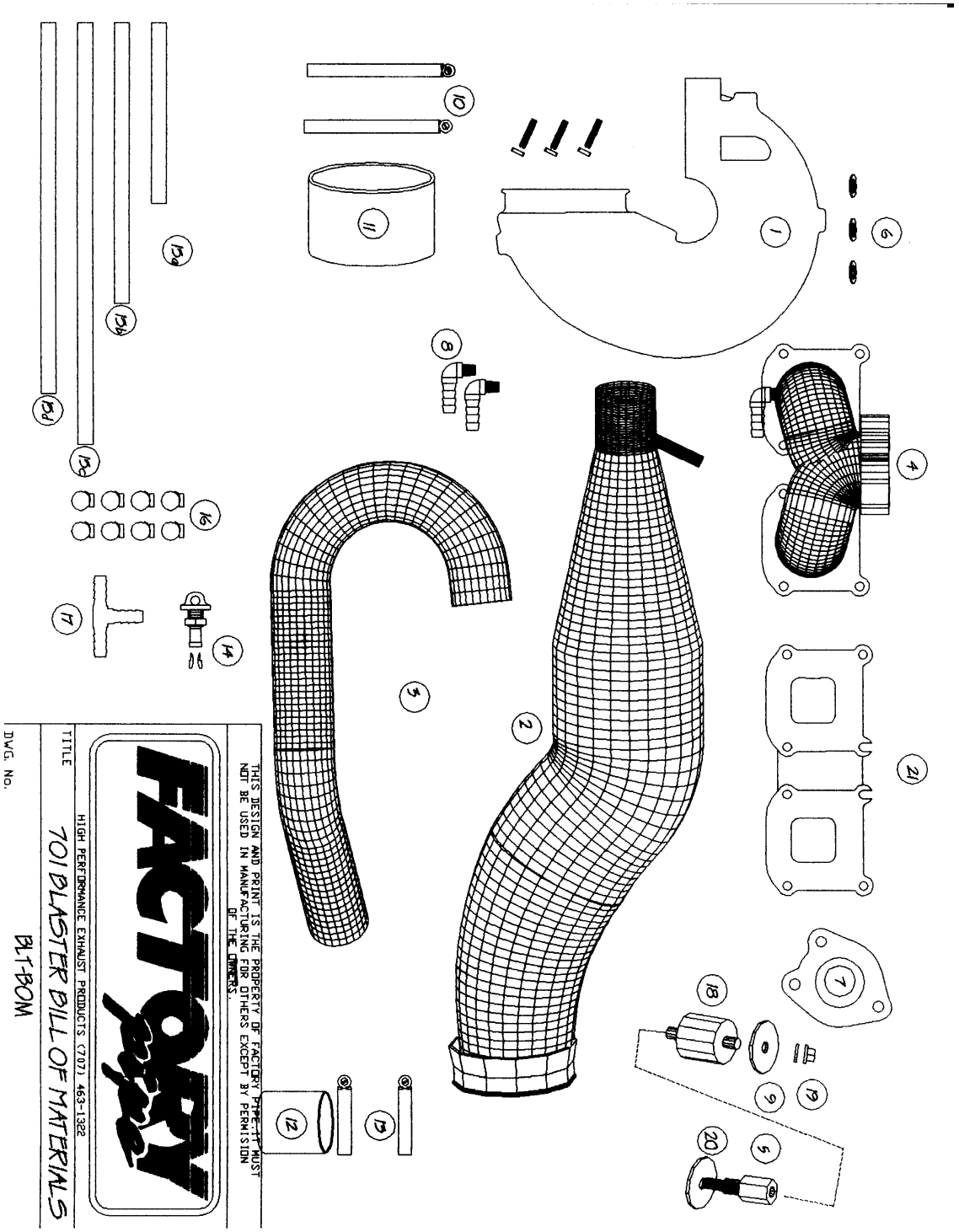
Factory Pipe
Bill Of Materials
701 WaveBlaster Limited

Item#	Qty.	Part Number	Part Description
1	1	COMCST0040	B style headpipe-701 Yamaha all/XIR
2	1	COMCH70101	701 WaveBlaster Ltd chamber only
3	1	COMST70101	701 WaveBlaster stinger
4	1	COMCST0210	701 WaveBlaster/SJ/FX-1 manifold
-	1	COMASM0080	701 Blaster Ltd hardware kit (Items 5-27)
5	1	COMASM0150	Blaster Ltd mount assembly
6	3	COMFAS0050	10mm x 1.25 x 40mm flanged head cap
7	1	COMGAS0010	3 Bolt headpipe gasket
8	1	COMFTG0120	1/8" Vinyl cap
9	1	COMFAS0200	Fiber insulating washer
10	2	COMCLP0050	100-120mm SS hose clamp (4")
11	1	COMHOS0100	4" Silicone coupler (2-1/16")
12	1	COMHOS0080	2" Silicone coupler (2-1/2")
13	2	COMCLP0020	#32 SS hose clamp (2")
14	1	COMFTG0110	Side squirter (3/8" hose)
15A	1	COMHOS0060	3/8" x 19" Waterline
15B	1	COMHOS0055	3/8" x 18" Waterline
15C	1	COMHOS0061	3/8" x 21" Waterline
15D	1	COMHOS0035	3/8" x 11" Waterline
16	8	COMCLP0010	#06 SS hose clamp (3/8")
17	1	COMFTG0060	3/8" Plastic T
18	1	COMMNT0030	#J-11729-177 Lord mount
19	1	COMFAS0090	3/8"-16 SS nut
20	1	COMFAS0075	2" SS flat washer, 1-1/4" OD
21	1	COMGAS0050	701 Yamaha manifold gasket
22	1	COMBRK0080	L Bracket Raider/ Blaster MOD
23	1	COMFAS0045	10mm x 1.25 x 20 Flanged head cap
24	4	COMFAS0040	10mm lock washer (.691"OD) SS
25	2	COMFAS0070	3/8" Ext. tooth washer SS
26	1	COMFAS0100	3/8-16 x 3/4" Hex head bolt SS
27	1	COMFAS0210	4" Plastic zip tie

< **CHECK CONTENTS AGAINST BILL OF MATERIALS. REPORT ANY SHORTAGES WHERE YOU PURCHASED YOUR FACTORY PIPE.**

< **READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.**

< **WATER INJECTION SET SCREWS ON TUNABLE HEADPIPES ARE PRE-ADJUSTED AND LUBRICATED. HOWEVER, YOU SHOULD DOUBLE CHECK ADJUSTMENT PRIOR TO INSTALLATION AND RE-LUBRICATE THEM ON A REGULAR BASIS TO PREVENT BINDING IN HEADPIPE.**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FACTORY PIPE-IT
HIGH PERFORMANCE EXHAUST PRODUCTS (707) 463-1322
TITLE
701 BLASTER BILL OF MATERIALS
DWG. No.
BLT-BOM

Factory Pipe
Instructions
701 WaveBlaster Limited

Remove your complete stock exhaust system excluding waterbox. If you are going to replace your stock waterbox, do so now. Factory Pipe offers a performance waterbox to compliment this system. Remove the styrofoam on the exhaust side of the hull starting approximately even with the front fuel tank mount. Score the styrofoam with a knife and remove the longer piece that runs along the exhaust side of the engine. For additional floatation this foam can be broken into smaller pieces and installed under the battery tray.

Replace the stock left/rear 8mm fuel tank bolt (leave stock bracket in place) with the Factory Pipe mount assembly (item #5). To install the aluminum side squirter (item #14), drill a 2" hole through the front left fiberglass approximately 2" behind the fuel/water separator and 2" up from bond line. The 1996 Blaster is already drilled and you need only replace the stock plastic side squirter with the aluminum side squirter. Apply silicone to threads insert through hole and tighten nut.

Clean all gasket material from cylinder. Attach the stock 3/8" cooling line from the pump to the barbed fitting on the Factory Pipe exhaust manifold (item #4) and secure with a #6 hose clamp (item #16). Install supplied exhaust manifold gasket (item #21) using two stock bolts in the top center holes of the cylinder. Loctite and thread these bolts in halfway and then install the Factory Pipe exhaust manifold using the remaining stock bolts and Loctite 242, torque to 13 ft.-lbs. Install the cylinder L bracket (item #22) to the front 10mm hole above exhaust manifold on cylinder. With the 3/8" slot facing up, secure the bracket with the 10 x 20mm bolt and 10mm lock washer (item #23,24). Use Loctite 242 and torque to 29 ft.-lbs. Install the Lord mount (item #18) into the 3/8" slot on top of bracket and loosely install a 3/8"-16 nut and star washer (item #19,25) on bottom side.

Note: Never use oil on hoses or couplers during assembly. Make sure they are free of oil or dirt.

Attach the 3/8" x 21" waterline (item #15C) to the bottom (near 4" opening) barbed fitting on the Factory Pipe headpipe (item #1) using a supplied #6 hose clamp (item #16). Install the 4" silicone coupler (item #11) to the headpipe and secure with a 100-120mm hose clamp (item #10). Position the clamp so it is accessible after installation into the hull. Double check the settings on the three water injection screws in the headpipe. We recommend starting with the bottom screw open 3/4 turn and the other two closed. You may adjust this later on to suit your riding style. Install the Factory Pipe headpipe to the manifold using the 3 bolt headpipe gasket (item #7). Secure with the three 10mm x 1.25 x 40mm flanged bolts w/washer (item #6) using Loctite 242 and torque to 32 ft.-lbs.

Warning! Never close all three headpipe screws simultaneously! This will cause the pipe to

overheat and may cause damage.

Slip the remaining 100-120mm hose clamp over the 4" silicone coupler. Using some water or Windex, install the Factory Pipe chamber (item #2) into the 4" coupler. Rotate and adjust the chamber until it seats flush against the headpipe and the chamber brackets align with the fuel tank and cylinder mounts. The fiber washers must be between the chamber brackets and the lord mounts.

It is very important that the chamber body and headpipe seat flush and tight inside the coupler. Otherwise, loss of performance and coupler failure may occur.

Once chamber is properly located adjust both 100-120mm clamps for access and tighten. Install the 3/8"-16 nut and star washer (item #19,25) on fuel tank mount and tighten. Install the 3/8-16 x 3/4" bolt and star washer (item #26,25) into the cylinder Lord mount and tighten. Do not use Loctite on Lord mount hardware or over tighten and compress rubber.

Install the 2" silicone coupler (item #12) halfway on to the end of the stainless chamber. Secure with a #32 hose clamp (item #13) and slip the remaining #32 clamp over the coupler. Rotate the lower stock rubber exhaust hose on the waterbox so it faces toward the left/front of the boat and leave clamp loose. Slip the other stock clamp over this hose. If you have cut this hose to accommodate another exhaust system you will need to replace it. Install the large end of the Factory Pipe aluminum stinger (item #3) into the waterbox hose and the other end into the 2" silicone coupler. Adjust stinger for clearance and tighten all clamps.

Install the 3/8 plastic T (item #17) on the remaining end of the 21" waterline from headpipe and secure with a #6 hose clamp (item #16). Attach the 3/8" x 19" waterline (item #15A) to the middle leg of T and the 3/8" inlet on chamber body and secure both with a #6 hose clamp (item #16). Install the 3/8" x 11" waterline (item #15D) to the remaining end of T and the side squirter and secure both with #6 hose clamp (item #16). Attach the 3/8" x 18" waterline (item #15B) to the top barbed fitting on the headpipe and the barbed fitting on the cylinder head and secure both with #6 hose clamps (item #16). Cap off the stock 1/8" vent on the cylinder head with the cap and zip tie (item #8,27).

Carb Adjustments:
These adjustments are for a stock engine. Your specific adjustments may vary depending on engine modifications, fuel, altitude and other variables. Please consult a qualified technician if you are not familiar with tuning your carburetor

701 Waveblaster Limited
Main Jet: 145
Pilot Jet: 120
High Speed Screw: 1 turn out
Low Speed Screw: 1-1/4 turn out
Needle & Seat: Stock
Spring: 95 gram
Comments: Aftermarket flame arrestors

1996-Newer 701 WaveBlaster Limited
Main Jet:140
Pilot Jet: 70
High Speed Screw: 1-1/8 turn out
Low Speed Screw: 7/8
Needle & Seat: Stock 1.5
Spring: 115 gram
Comments: Stock flame arrestor

Factory Pipe
Performance Exhaust 101

The purpose of an Aexpansion chamber@ is to return to the exhaust port a negative sound wave then a positive sound wave at precisely the right time. If the pressure wave returns too late, you lose some of the fresh fuel charge in the combustion chamber and performance. If the wave returns too soon, it pushes hot exhaust gas back into the combustion chamber contaminating the fresh charge and creating hot spots on the piston. The challenge to the pipe designer is to arrive at the proper exhaust tuning that will return the sonic waves at the correct time. This challenge is made all the harder by many impeller/nozzle combinations, engine configurations, riding conditions and rider preferences.

Traditionally, if you wanted low RPM torque and high RPM horsepower, it required several pipes. A few of our competitors cast rings into their pipes to achieve pipe tuning by Acut and try.@ In 1992 Factory Pipe introduced the first truly tunable pipe using our variable water injection system. This system allows you to modify where and how much water injects into the exhaust by the turn of a set screw. Where our competition had you change the length of the pipe, the Factory Pipe allows you to vary the exhaust gas temperature which in turn changes the sonic wave speed within the pipe. **Changing the sonic wave speed within the pipe has the same tuning affect as changing the length of the pipe.**

Factory Pipe
Tuning Your Exhaust System

Most Factory Pipe systems have our exclusive Atunable@ headpipe which allows you to custom tune the pipe to your riding style. The following page gives a general overview of how this system works and how each adjustment will affect the performance of your watercraft.

Double check all hoses, bolts and clamps from your installation. For the first Aon-water@ test of your new Factory Pipe we recommend closing the top and middle adjustment screws and opening the bottom screw 3/4 turn out from closed. This setting will be more water than is required but will provide a good starting point to test the pipe.

Ride the watercraft for several minutes while varying the throttle position. Open the engine cover as quick as possible after the ride and check the pipe temperature by splashing water on the chamber body directly after the headpipe coupler. **The water <u>should</u> lightly sizzle for the first few inches on the chamber body.**

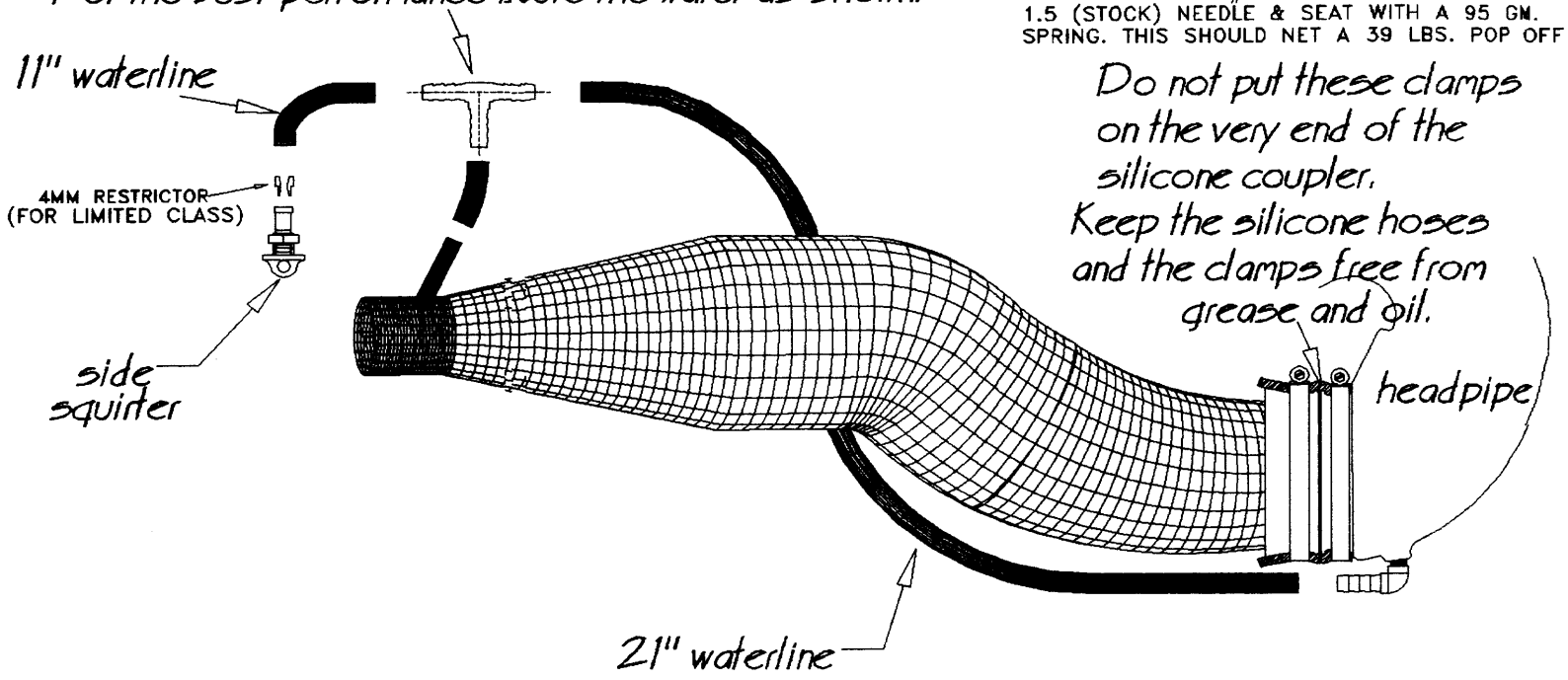
If the water **<u>does not</u>** sizzle, close the bottom adjustment screw 1/8 turn and retest. If the water **<u>sizzles rapidly,</u>** open the bottom screw 1/4 turn and retest.

This set up will provide the best top end performance of your watercraft. With the pipe adjusted as stated above, open the top screw 1/4 turn. This will cool the exhaust in the headpipe and provide better bottom end performance at the expense of some top-end. This would be an ideal setting for running slalom or a tight buoy course.

If you want a change that is somewhere in the middle of the two settings, close the top screw and open the middle screw 1/4 turn or add another 1/8 turn to the bottom screw.

Some engines may react differently from the above. For example, while testing the 650 Super Jet we found that we gained top end performance by running the top screw open and the others closed. You may use any combination of the three screws to achieve the desired performance. However, **AT LEAST ONE SCREW MUST REMAIN OPEN AT ALL TIMES TO PREVENT DAMAGE TO THE PIPE.**

The rotation of this "T" is very important.
For the best performance route the water as shown!



FOR A STOCK OR LIMITED BLASTER WE RECOMMEND THE FOLLOWING JETTING:
LOW SPEED JET: #120 1-1/4 TURNS OUT
HIGH SPEED JET: #145 1 TURN OUT
1.5 (STOCK) NEEDLE & SEAT WITH A 95 GM. SPRING. THIS SHOULD NET A 39 LBS. POP OFF

Do not put these clamps on the very end of the silicone coupler.
Keep the silicone hoses and the clamps free from grease and oil.

headpipe

TIPS & TRICKS

A good way to clean the silicone hoses and clamps is to throw them into the Washing machine. This will insure they dont slide off while riding. Keep an eye on the pipe temperature, you should NOT be quite able to hold your hand on the pipe after a hard ride.

FACTORY offers a WAVEBLASTER aluminum waterbox.

FACTORY pipe

HIGH PERFORMANCE EXHAUST PRODUCTS (707) 463-1322

TITLE: TIPS AND TRICKS

DWG. No.