

# AMERICAN TURBINE, INC.

3692 RIVERSIDE DRIVE  
ASOTIN, WA 99402  
509-243-5387 FAX 509-243-5391

## JACUZZI ENERGIZER YJ INSTALLATION INSTRUCTIONS

### 1. Remove pump from boat.

- a. Disconnect all control cables steering and reverse.
- b. Unbolt transom adapter from hull. Cut all silicone with razor and gently pry from transom. Slip off over bowl and nozzle. It will probably be necessary to remove rudder at this point.
- c. Unbolt all bolts from suction flange located in very bottom of boat. the back two bolts screw in from the bottom.
- d. Break gasket seal and remove from boat.

### 2. Completely disassemble pump.

- a. Remove eight ( 8 ) 3/8 16 x 1-1/2 bolts from bowl suction flange. Remove water coolant tube. Break gasket seal and remove bowl assembly.
- b. Remove impeller nut. Do not remove impeller at this time.
- c. Remove bearing cap from front of suction piece. Remove all spacer shims and discard (the energizer kit does not require these spacer shims).
- d. With large dead - blow hammer (or shop hammer and 2x4) drive the shaft and impeller assembly against wear plate to remove impeller. Remove impeller. Remove key (dikes or side cutters work best).
- e. Pull shaft from suction. Remove snap-ring behind mechanical seal. Remove seal assembly (note sequence of parts so they can be placed on new shaft properly).
- f. Remove wear plate and locator pins.

### 3. Clean up.

- a. Clean excess grease from bearing bore of suction with solvent or soap and water. Clean suction piece and bearing cap. Remove bearing cap seal.
- b. Sand inside suction to remove scale and old primer so that body filler and primer will adhere properly.

### 4. Building a Jacuzzi "Y" Energizer pump.

- a. Clamp or bolt Jacuzzi suction piece to work bench. Leave plenty of work room on both ends.
- b. Open gasket set, bolt kit, and locate wear ring adapter plate.
- c. Glue suction adapter gasket to wear ring adapter with a light film of silicone. Align holes properly. Silicone suction flange lightly and bolt wear ring adapter to suction, Place 4 equi-space bolts to hold adapter in place until silicone sets up. We advise you to fair in the wear ring adapter (with body filler) for improved water flow into the impeller **(HIGHLY RECOMMENDED)**. We suggest a glass enhanced body filler. Two coats are usually necessary.

### 5. Shaft Assembly. ( see drawing ) The Delux Kit has the shaft assembled.

- a. Install thrust washer, thrust bearing, thrust washer, and snap-ring on shaft as shown.
- b. Install seal pack, spring assembly, and snap-ring.
- c. Install new shaft assembly in suction.
- d. Install new seal in bearing cap.
- e. Install bearing cap and torque bolts to 25 ft/lb.

## 6. Install Impeller.

- a. Slip impeller over shaft (without key) to shoulder of shaft. Add impeller shims as needed to attain .025 to .035 clearance between impeller and front shoulder of wear - ring ( see drawing). Place 1/4 x 2 1/2 key in key way. Replace impeller. Lubricate threads with anti - seize or bearing grease to reduce corrosion. Tighten impeller nut to 70 ft /lbs.

## 7. Install Bowl Assembly.

- a. Remove all bolts from suction adapter assembly.
- b. Index bowl around so the coolant-fitting hole is on your left. Place two 3/8 x 2-1/2 studs in the two bolt holes nearest you (top two bolts). Loc-tite.
- c. Place bowl O-Ring on register.
- d. Press bowl against adapter. Start 3/8 hex nuts and lock washers on studs. Start all 3/8 cap screws and lock washers. Snug 4 bolts at 90-degree increments and turn shaft (through hand hole) by hand. No resistance or noise should be noticed between impeller and wear ring. If resistance is felt, realign bowl. Do this by loosening bolts and pulling up on shaft through hand hole and re-tighten bolts at the same time. Secure all bolts.
- e. Install bowl plug.
- f. Grease bowl bearing about 18 squirts.
- g. Install steering assembly.
- h. Do not install hand hole cover yet.

## 8. Install pump.

- a. Clean all silicone and gasket material from intake and transom.
- b. Smooth a light film of silicone sealer on intake flange. Place base gasket on intake and carefully align holes. Let it set until gasket is secure.
- c. Installing the pump is a 2-man job.
- d. Get in the boat and have your helper set the pump through the transom hole. Try not to slide the pump on gasket. Lift pump slightly to clear gasket. Position pump almost to the drive shaft. Hold drive shaft straight with one hand and with the other hand through the hole, rotate shaft to align splines. Start all bolts. Back two bolts start from bottom.

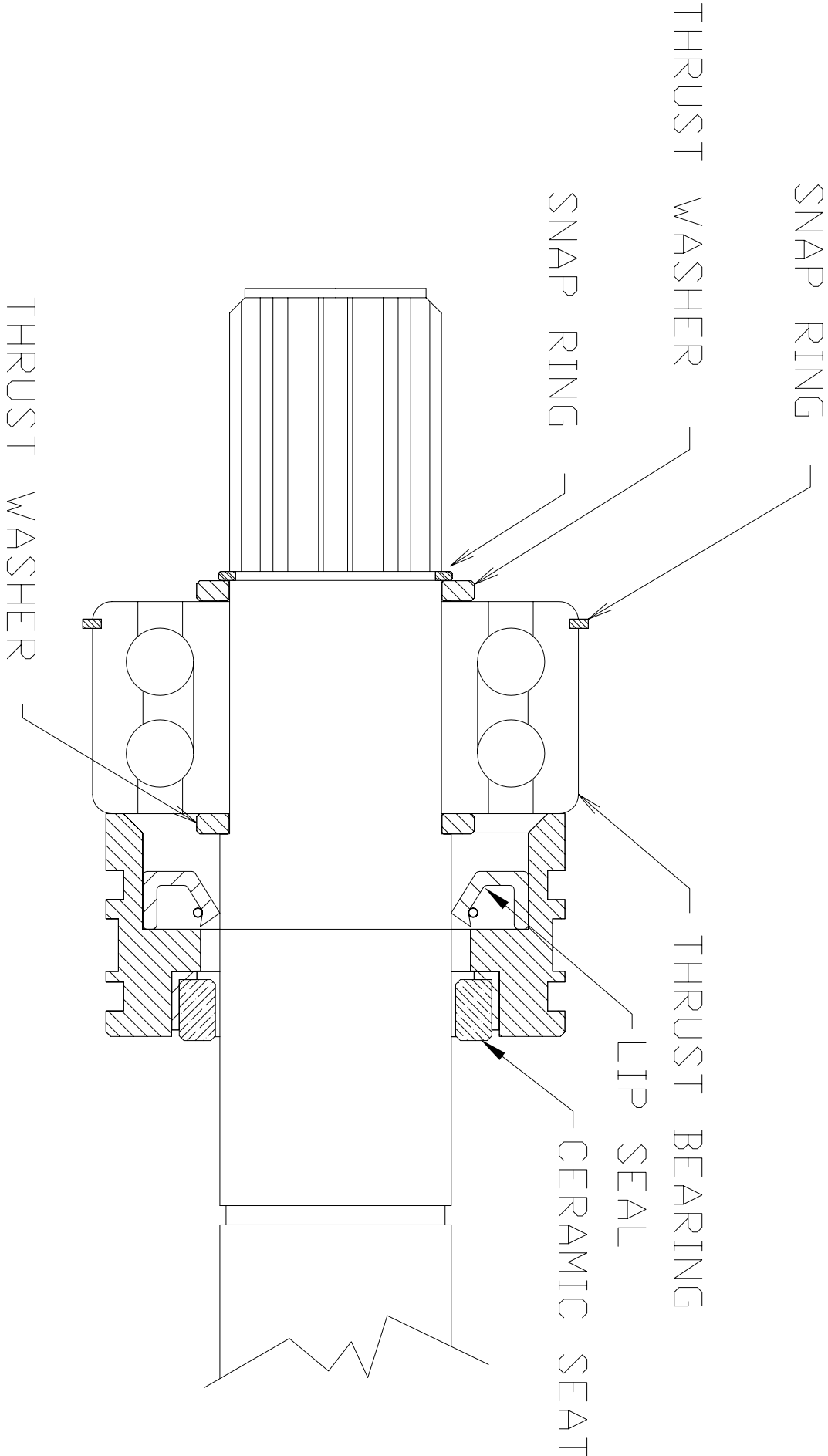
## 9. Replace Transom Adapter.

- a. Slip transom adapter over bowl and secure to transom.
- b. Run a small bead of silicone around bowl and transom adapter flange.
- c. Install tiller arm and attach steering cable. Check and adjust for center. Turn steering wheel all the way from one side to the other. Counting the revolutions and turn back half - way centering the steering wheel. Align the steering nozzle with the boat. Adjust steering tube to line up cable with the tiller. Bolt together with 3/8 x 1 1/2 bolt. Hex nut and nylon nut.
- d. Install reverse cable using the cable adapter provided; slide the adapter over the cable. The lock pin hole goes down, place the cotter pin through the pin hole into the groove on the cable. Place the reverse clevis on cable and insert into reverse bucket lever.
- e. Reverse lever will work backwards. Loosen side panel beside seat to allow access to back side of shifter. Remove 1/4 " bolt and washer from shift tab, index tab 180 degrees. Make sure it goes on square properly and replace bolt use **loc-tite**. Now is the time to check cable clevis and replace if necessary. Replace panel and secure.
- f. Shift lever to full reverse and make sure bucket completely closes. Adjust if necessary, by moving the cable adapter up or down.
- g. Install hand hole cover. Make sure rubber o-ring is in good shape. If not, replace it. do not use silicone,
- h. Grease thrust bearing with **SFR** (supplied) about 35-40 squirts. Grease every 8 hours.
- i. Check for leaks.

**NOTE: IF YOU HAVE THE GOLDEN EAGLE VERSION, YOU WILL HAVE TO RELOCATE THE STEERING CABLE AND FABRICATE A STEERING EXTENSION.**

IF YOU REQUIRE HELP CALL (509) 243-5387 8:00-5:00 PT

# JACUZZI YJ BEARING AND SEAL ASSEMBLY



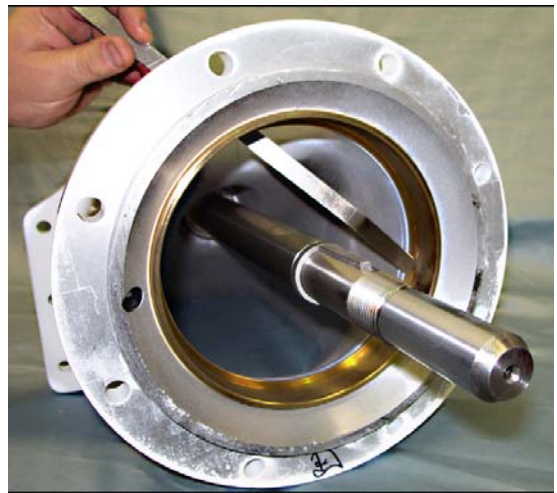
# AMERICAN TURBINE

## IMPELLER / WEAR RING SHIMMING INSTRUCTIONS

AT, TJ, SD-309, DOMINATOR, BERKELEY, ENERGIZER KITS

### Tools Needed:

- |                      |                     |
|----------------------|---------------------|
| 1. .030 Feeler Gauge | 5. Impeller Wrench  |
| 2. Propane Torch     | 6. 3/4 Wrench       |
| 3. Bent Screw driver | 7. 9/16 Wrench      |
| 4. WD-40             | 8. Dead Blow Hammer |



### To remove old wear ring:

Use a propane torch. Place the flame on the brass ring go around in a circular motion until the insulator starts to melt. Grab the ring with a bent over screwdriver (90deg.) and pull out. Clean up wear ring bore.

### Installation:

Place wear ring in freezer for four hours. Place insulator in suction bore. Spray with WD-40. Start wear ring by hand. Tap wear ring in using a wooden block and a mallet. You may use an old impeller but it may bottom out on the shaft before seating the ring.

### Important:

Wear ring must be seated square in the bore with-in 0.004" side to side.

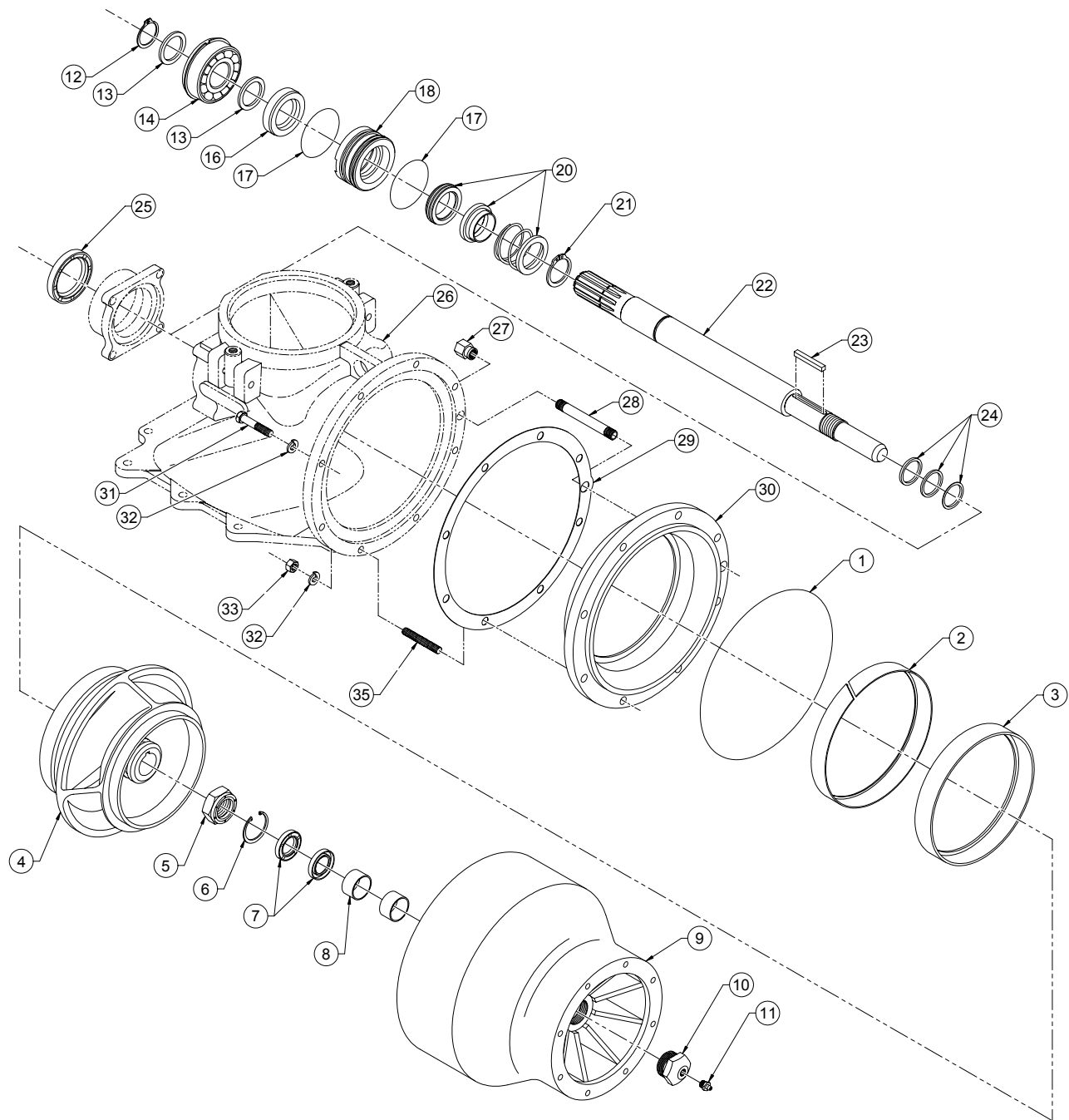
The axial clearance between the impeller and the impeller shoulder must be 0.025"-0.035" (check several places around the wear ring). Check again after the impeller nut has been tightened.

Torque impeller nut to 70 ft/lbs. Torque bowl bolts to 50 ft/lbs.

# AMERICAN TURBINE

## JACUZZI YJ ENERGIZER KIT

PART # K2008 & K2208



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## JACUZZI YJ ENERGIZER KIT

PART # K2008 & K2208



## LEGEND

SYM.	DESCRIPTION	QTY.	PART NO.	SYM.	DESCRIPTION	QTY.	PART NO.
1	BOWL ORING	1	O3101	18	SEAL PAC	1	SH2208
2	WEAR RING LINER	1	WR6004	20	MECHANICAL SEAL	1	SL4008
3	WEAR RING	1	WR5800	21	SNAP RING MECH SEAL	1	SH1608
4	IMPELLER	1	IM****	22	PUMP SHAFT	1	SH1008
5	IMPELLER NUT	1	SH3507	23	IMPELLER KEY	1	SH3007
6	BOWL SNAP RING	1	SC9201	24	SHIMS	1	K4007
7	BOWL SEAL	2	SL2003	25	BEARING CAP SEAL	1	SL1007
8	BOWL BEARINGS	2	B1502	26	12YJ SUCTION	1	****
9	BOWL	1	SC9108	27	BRASS NIPPLE ADAPTOR	1	SC6208
10	BOWL PLUG	1	SC9001	28	BRASS NIPPLE	1	SC6108
11	BOWL PLUG ZERT	1	SC8901	29	GASKET	1	G4508
12	SHAFT SNAP RING	1	SH1507	30	SUCTION PIECE ADAPTOR	1	SC6008
13	THRUST WASHER	2	SH2005	31	HHCS, 3/8-16 X 2	6	F30CS
14	THRUST BEARING	1	B1103	32	LOCKWASHER, 3/8	8	F30LW
16	SEAL PAC SEAL	1	SL3508	33	HEX NUT, 3/8	2	F30HN
17	SEAL PAC O-RING	2	O3108	35	STUD, 3/8-16 2-1/2	2	F20ST