



# **Owner's Manual**

## **Electric Series**

### **E150 & E250**

*ADVENTURE IS ALWAYS ON THE LINE!*



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* Last page of manual is Warranty Registration form.	

## SPECIFICATIONS – E150

Air Displacement.....	4.1 CFM (116 LPM)
Air Delivery.....	2.5 CFM @ 50 PSI
.....	(1750 RPM @ 345 kPa)
Motor.....	3/4hp
Electrical.....	10.8 Amp, 830 Watts, 110V, 60 Hz single
Electrical.....	5.4 Amp, 1188 Watts, 220V, 60 Hz single
Fuse Requirement.....	15 Amp
Amp at Maximum Working Pressure.....	10.8 Amp
Maximum Pressure.....	100 PSI
Unit Dimensions L x W x H (in).....	17 x 24 x 17
.....(cm).....	43.18 x 60.96 x 43.18
Compressor Type.....	Oil-less compressor,
.....	PermaLube™ design

CFM = Cubic Feet per Minute  
 LPM = Liters per Minute  
 PSI = Pounds per Square Inch  
 KPa = kilopascals

## SPECIFICATIONS – E250

Air Displacement.....	8.9 CFM (252 LPM)
Air Delivery.....	5.5 CFM @ 50 PSI
.....	1725 RPM @ 345 kPa)
Motor.....	1.5hp
Electrical.....	17.2 Amp, 1892 Watts, 110V, 60 Hz single
Electrical.....	8.8 Amp, 1936 Watts, 220V, 60 Hz single
Fuse Requirement.....	110V - 20 Amp, 220V – 15 Amps
Amp at Maximum Working Pressure.....	18 Amp
Maximum Pressure.....	100 PSI
Unit Dimensions L x W x H (in).....	17 x 24 x 17
.....(cm).....	43.18 x 60.96 x 43.18
Compressor Type.....	Oil-Less compressor,
.....	PermaLube™ design

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Edition 6/2005

## CONGRATULATIONS ON YOUR PURCHASE OF A BROWNIE'S THIRD LUNG!!

You now have in your possession the finest, most reliable, surface supplied breathing air system available. The operation is designed with your safety and convenience in mind, and by carefully reading this brief Manual you can be assured of many hours of trouble-free enjoyment.

### WHEN YOU RECEIVE YOUR NEW COMPRESSOR SYSTEM

1. Inspect the contents to be sure everything is included.
2. Contact your dealer within 5 days of receipt should your equipment be damaged or missing.
3. Read and understand the information in this owner's manual and the engine owner's manual before operating.

	E150B	E150X	E250B	E250X
Motor/Compressor in case	1	1	1	1
10 ft heat transfer hose w/filter	1	1	1	1
40 ft down line	1	1	1	1
20 ft diver hoses	1	1	2	2
Brownie's adjustable hookah regs	1	1	2	2
Brownie's Drop Weight Cumberbelt	-	1	-	2
Basic Tow Belt	1	-	2	-
Manual	1	1	1	1
Online Hookah Certificates	1	1	2	2
Spare Parts (2 Male & 2 Female QRS, Oring & Filter Kit)	1	1	1	1

## STOP!

**Before using this system or engaging in any underwater activities you must ensure:**

- 1) you are in good physical health**
- 2) you are in good mental health**
- 3) you have been properly trained**
- 4) you know the potential risks of diving**

### MEDICAL CLEARANCE/POTENTIAL RISKS

Diving can be one of the most exciting and rewarding activities you will ever experience. However, like most exciting activities, there are rules and procedures you must follow. Proper training is crucial to minimize risk and maximize enjoyment. Breathing in an underwater environment can be dangerous, or even deadly, if you don't know the rules or if you chose to ignore them.

Please refer to the *RSTC Medical Statement and Guidelines for Recreational Scuba Divers Physical Examination* included with this manual. You should complete all portions of the medical statement including the Divers Medical Questionnaire. One form is included for each diver set-up in your system package. You may photocopy the form as needed or download additional copies directly from [www.browniedive.com/training/medical.shtml](http://www.browniedive.com/training/medical.shtml). Please keep this information on file for future reference and to review with your doctor or any professional diving instructor.

The purpose of the *Divers Medical Questionnaire* is to find out if you should be examined by your doctor before participating in recreational diver training. A positive response to a question does not necessarily disqualify you from diving. A positive response means that there is a preexisting condition that may affect your safety while diving and you must seek the advice of your physician prior to engaging in dive activities. Please answer the following questions on your past or present medical history with a **YES** or **NO**. If you are not sure, answer **YES**. If any of these items apply to you or you are not sure, we must request that you consult with a physician prior to participating in SSA (surface supplied air) diving. Take the *RSTC Medical Statement and Guidelines for Recreational Scuba Diver's Physical Examination* to your physician. (**Note:** If you have already had a medical exam for diving within one year of the start of training, and had a physician give his or her approval at that time, you may bring a photocopy of the *RSTC Medical Statement* form your physician signed at that time, in lieu of obtaining a new form.)



**WARNING: IMPROPER USE OF ANY UNDERWATER DIVING EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH. DO NOT DIVE WITHOUT PROPER TRAINING.**

## ONLINE TRAINING

In the interest of sharing the most accurate and up-to-date information on accepted diving practices, Brownie's Third Lung has teamed up with Scuba-Training.net to provide free online dive training with the purchase of each Surface Supplied Hookah System.

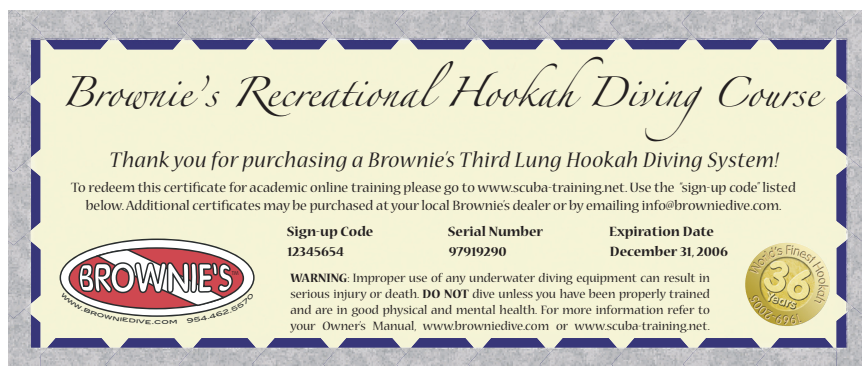
The program is an interactive, web-based learning course designed to teach you how to properly and safely use your hookah system. It is broken down into 7 modules each with specific Knowledge Requirements and Objectives.

The course utilizes a variety of written explanations, illustrations, photographs and streaming video to clearly convey each subject. Brownie's makes it easy for students of all ages, including children, to enjoy learning.

Each chapter concludes with a multiple choice quiz to test your understanding and comprehension of the topics covered. Incorrect answers are automatically reviewed and retested. Once you have successfully completed the quiz for that module, you can move on to the next module. After all chapters and quizzes have been completed there is a final comprehensive exam. The final exam follows the same format as the quizzes and may be retaken until it is successfully completed.

### TO BEGIN ONLINE TRAINING

1. Launch your browser window (Internet Explorer, Netscape, etc.).
2. Go to [www.scuba-training.net](http://www.scuba-training.net).
3. Locate the "sign-up code" (found on the hookah training certificate that came with your purchase) and enter it. (example pictured below).
4. You will be asked to create an account choosing a "user name" (usually email address) and password. You will also be asked to enter pertinent information to create an account, such as address and telephone number.
5. There will be a medical questionnaire that must be filled out before beginning the chapters. Answering yes to any question will require a consultation with a physician prior to participating in the in-water training phase.
6. Upon completion of the Online Training Course you will receive a diploma by email (the address registered with [scuba-training.net](http://scuba-training.net)) The diploma will be ready to print, frame and proudly display. Hold onto your user name and password so you can access your online course anytime you want to review.



### AFTER THE ONLINE COURSE IS COMPLETED

**It is time to visit your local dive store for the in-water training phase.**

The online course will provide academic knowledge. To complete your training you'll need to practice that knowledge in a controlled environment before venturing into open water. The course website, [www.scuba-training.net](http://www.scuba-training.net), includes a list of affiliated independent scuba instructors and professional dive stores by geographic region. You should enroll in an in-water skills course with a professional scuba instructor to review your academic knowledge and practice your water skills. Your instructor will review with you the topics covered in the online course and evaluate your comprehension of the course content. Next, they will arrange a series of dives in a controlled environment (usually a pool) to practice breathing through a regulator and other water skills. He or she will share techniques to improve your efficiency and comfort in the water. By working closely with your instructor, you will become a better (and safer) diver.

## RULES FOR SAFE OPERATION

1. The compressor should be located in a dry, clean and well-ventilated area.
2. Prior to use, inspect hoses, plug, and electric cord for signs of damage. Do not use if a deficiency is found. Contact Brownie's Third Lung for replacement parts. NEVER operate a damaged unit.
3. Do not tamper with pressure relief valve, as it has been factory set. Any readjustment of this valve could result in serious injury.  
Some compressors have an adjustable pressure relief valve. Do not set the valve higher than 60 psi. Regulator free flow may result at higher pressure.
4. Do not lubricate this compressor. Applying any type of oil, solvent or other material to any part of the compressor could result in polluted air not suitable for breathing.
5. Compressed air should not be aimed at anyone. Serious eye injury could result.
6. Compressor may not start if compressed air remains in the hose. Purge hose before starting.
7. All compressors generate heat even under normal operating conditions. To avoid serious burns, never touch the compressor during or immediately after operation.
8. Always disconnect air compressor from power source when attaching or detaching hoses. This prevents air pressure from blowing the fittings from hand and possibly causing injury.
9. When the unit is not in use, wrap cord around compressor and store in a dry place. Do not abuse cord.
10. Servicing should be performed by an Authorized Service Center.

## ELECTRICAL INFORMATION

The motor of this compressor has a thermal overload protector. If the motor should overheat, the overload protector will shut the motor off. If this should occur, push the on/off switch to the off position and allow the motor to cool for about 5 minutes. Restart the compressor. If the compressor fails to start, check for blown fuses. The compressor may need to cool further before attempting to restart.

If the overload protector shuts off the motor frequently, you may have a low voltage situation. Low voltage can also be suspected when:

1. the motor does not get up to full power or speed,
2. fuses or circuit breakers activate when starting the compressor,
3. lights dim or remain dim when compressor is started,
4. other motor operated appliances fail to operate properly (too many motor operated appliances on the same circuit),
5. an extension cord of insufficient gage to carry the necessary voltage (see EXTENSION CORDS below)

## GROUNDING INSTRUCTIONS

This product is for use on a nominal 120-volt circuit and has a three pronged grounding plug. A temporary adapter may be used to connect this plug to a 2-pole receptacle, if a properly grounded outlet is not available. The temporary adapter should only be used until a qualified electrician can install a properly grounded outlet. The green colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover.

This product should be grounded. In the event of an electrical short circuit, grounding reduces the risk of electrical shock by providing an escape wire for the electrical current.

**DANGER**—Improper installation of the grounding plug can result in a risk of electrical shock. If repair or replacement of the cord or plug is necessary, do not connect the grounding wire to either flat blade terminal. The wire with or without yellow stripes is the grounding wire. Check with a qualified electrician or service person if the grounding instructions are not completely understood or if in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

## EXTENSION CORDS

Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power, over heating and possible shutdown.

25' Length	50' Length	100' Length	150' Length	200' Length
16 Gage	14 Gage	10 Gage	8 Gage	8 Gage



## SETTING UP



**WARNING: DO NOT POUR OIL OR ANY OTHER MATERIAL INTO COMPRESSOR. FOREIGN MATERIALS MAY CONTAMINATE THE COMPRESSOR AND RUIN IT FOR AIR BREATHING. BREATHING FROM A COMPRESSOR THAT HAS HAD OIL MISTAKENLY ADDED MAY RESULT IN SERIOUS INJURY.**



**WARNING: NEVER OPERATE THE EQUIPMENT IN A TOXIC FUME ENVIRONMENT SUCH AS NEAR RUNNING OUTBOARD ENGINES, EXPOSED CHEMICALS OR FUEL SPILLS. THE UNIT IS FOR OUTDOOR USE ONLY AND SHOULD NEVER BE RUN IN AN ENCLOSED AREA.**

### STEP 1

Read instructions for operating the compressor found on page 5.

### STEP 2

Snap the 40-foot common hose to the compressor hose. Unreel rather than uncoil the hose on the deck. Even with the QRS fittings it is best to eliminate as many coil loops as possible.



### STEP 3

For one diver, snap one or more of the 20-foot diver hoses directly to the 40-foot down line. For two, snap a single QRS Y divider to the 40-foot, common hose; then snap the two 20 foot diver hoses to the Y divider. Snap the regulator to the end of the diver hoses. Attach the tow belt to the clip provided on the regulator hose.

### STEP 4

#### STARTING THE UNIT

Read "RULES FOR SAFE OPERATION" and "GROUNDING INSTRUCTIONS" found on page 5.

Flip the switch to the ON position and verify the motor/compressor is functioning properly.

The pressure relief valve on the compressor should release a sporadic puff of air or a light continuous flow. Breathing on the regulators should stop the flow indicating that the air is being properly regulated.

#### SOME TIPS ON USE OF THE EQUIPMENT

Increased levels of exertion could result in an increased breathing rate by the diver. If uncontrolled, the diver may consume more air volume than the compressor can supply, which can be perceived as a restriction in breathing. If you encounter this, simply SLOW DOWN your breathing or refrain from exerting great amounts of energy until your respiration rate becomes normalized. Excitement, activity level, current flow, depth and experience level of divers will dictate your dive.

#### THE CLEAN UP AFTER YOUR DIVE DAY

1. Thoroughly wipe down the entire unit with a damp rag (no cleaning fluids).
2. Do not force water into the compressor air intake.
3. When the unit is not in use, wrap cables around compressor and store in a dry place. Do not abuse cables.

#### HOW TO ADJUST THE DROP WEIGHT CUMMERBELT:

1. Unclip the front buckle.
2. Undo the Velcro underneath the buckle.
3. Lay the belt flat open. Unzip the sleeve located on the back of the belt. You will see that there is a piece of elastic with the Velcro adjustments on both sides. The belt should be adjusted evenly on both sides so the front buckle is centered across the mid-section. Simply undo the Velcro and re-adjust them to fit the waist of the diver. (\*For extremely small waist divers: You can switch the ends of the belt from opposite stainless steel loops to the loops that are next to each other. See Figure 2, bottom belt configuration will reduce belt size by approximately 3 inches.) Zip the sleeve back up.
4. Unclip the buckles that hold the drop weight pockets in place. Each pocket can hold up to 10 lbs. of weight. We recommend using soft lead shot weights rather than hard weights as they conform better to the shape of the pocket. See Figure 3. Undo the Velcro and distribute the weight evenly into each pocket, then re-Velcro.
5. Reinsert the pockets matching the bend in the pocket to the bend in the belt itself, and reconnect the buckles. See Figures 4 and 5.



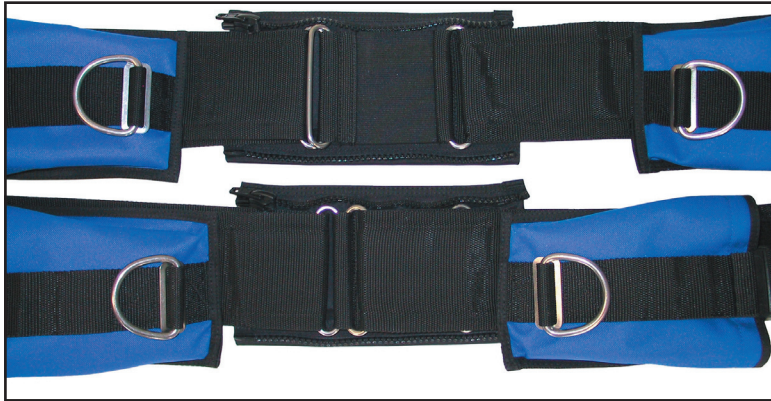


Figure 4



Figure 5

#### HOW TO USE THE DROP WEIGHT CUMMERBELT WITH AN EGRESSOR PACKAGE:

1. Follow above steps 1-5.
2. Then unzip the sleeve that came with the Cummerbelt, and put aside. You will no longer need this sleeve unless there are times that you choose to dive without the Egressor scuba system.
3. Zip the new sleeve onto the belt with the Brownie's logo facing upright. See Figure 7.
4. Mount the regulator onto the tank and insert the cylinder with the valve pointing outward. There are two strips of Velcro that should be attached in a criss-cross fashion around the cylinders neck. See Figure 8.
5. Turn the system on.
6. The mouthpiece has a bungee necklace attached so the regulator may hang easily around the neck for quick retrieval in an out of air situation. See Figure 6.



Figure 6



Figure 7



Figure 8

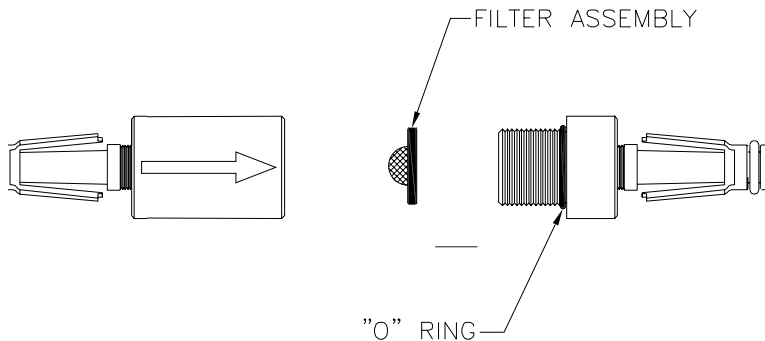
## PERIODIC MAINTENANCE

Much of the maintenance will be determined by such factors as frequency of usage, environmental conditions and proper handling and storage.

### Particle Filter

The inline filter between the black hose and the feeder hose needs to be inspected before every dive and cleaned when dirty. Particles can be blown or brushed from the stainless steel screen. Replace the screen filter if clogged, torn or otherwise damaged.

See the diagram below.



Occasionally other compressor maintenance is needed. It is best to call Brownie's service department to determine what parts are needed. Generally, all that is required is the cleaning off of mineral deposits from the valve plate and possibly some inexpensive replacement parts. Hard and frequent usage will require a scheduled inspection program to prevent breakdown. Your seasonal requirements and frequency of usage will dictate your maintenance schedule.

## TROUBLESHOOTING GUIDE

### CONDITION: Diver headache, nausea, dizziness.

POSSIBLE CAUSE: Boat engines running in vicinity of compressor. Exposed chemicals or fuel.

SOLUTION: Abort dive or move to a cleaner air environment.

### CONDITION: Insufficient air.

POSSIBLE CAUSE: Debris in inline filter.

SOLUTION: Replace or clean out as instructed above.

POSSIBLE CAUSE: Clogged or blocked intake.

SOLUTION: Inspect intake filter assembly. Clean or replace if necessary.

POSSIBLE CAUSE: Too many diver's for the depth attempted.

SOLUTION: Move to shallower water.

POSSIBLE CAUSE: Air leak in hose system.

SOLUTION: Check all fittings. Pouring water on the connections may help detect leaks.

POSSIBLE CAUSE: Compressor may require servicing.

SOLUTION: Have unit inspected and repaired by a qualified technician.

### CONDITION: System "frozen".

POSSIBLE CAUSE: Seized engine or compressor.

SOLUTION: Have unit inspected and repaired by a qualified technician.

### CONDITION: Any strange noises or erratic behavior in system.

POSSIBLE CAUSE: Water intrusion, loss of lubrication in main bearing.

SOLUTION: Have unit inspected and repaired by a qualified technician.





## **DEPARTMENT OF FISHERIES**

Ministry of Agriculture, Fisheries  
& Local Government  
P. O. Box N-3028  
Nassau, Bahamas  
Fax: (242) 393-0238

**MAF&LG/FIS/10**

8 April 2003

Mr. Robert M. Carmichael  
President/CEO  
Brownie's Third Lung  
940 Northwest 1<sup>st</sup> Street  
Fort Lauderdale, FL33311  
U.S.A.

Dear Mr. Carmichael,

Reference is made to your email of 26<sup>th</sup> March, 2003 that was addressed to the Bahamas' Ministry of Tourism relating to the usage of air compressors, hookah and scuba dive gear in the Bahamian exclusive economic zone.

Please be advised that current Bahamian laws do permit the possession and use of Scuba, hookah dive gear or air compressors for the purposes of recreational diving. However, the use of these apparatuses are strictly prohibited for the purposes of spearfishing or the collection of any marine resource while in Bahamian waters.

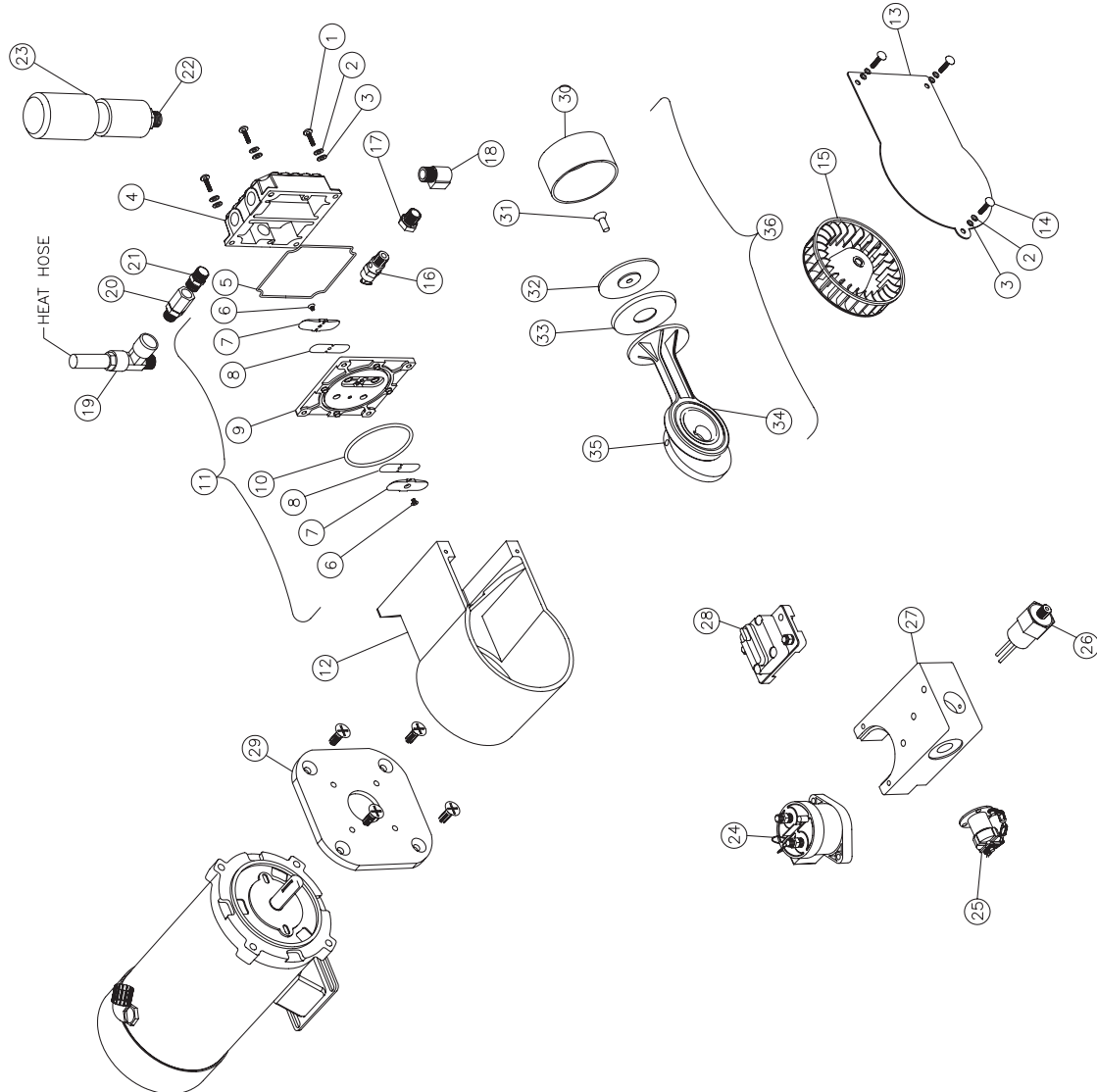
It is hoped that the above fulfills your request relating to the usage of the mentioned gear while in Bahamian waters.

Sincerely,

Edison Deleveaux  
For/DIRECTOR OF FISHERIES

NO.	PART NUMBER	DESCRIPTION
1	HMMSSSTOC-1	SCREW, 10-24, 1 INCH
2	WML2210	LOCK WASHER
3	AN960C10L	WASHER
4	AC2-15-2P	HEAD, TWIN, RIGHT SIDE
5	AC2-15-3P	HEAD, TWIN, LEFT SIDE
6	AC1-2-17	GASKET, VALVE HEAD SPECIAL
7	AC1-2-20	SCREW, 6-32 X 3/8
8	AC1-2-19	VALVE RESTRAINT
9	AC1-2-18	VALVE FLAPPER
10	AC1-2-13	VALVE PLATE
11	AC1-2-14	O-RING
12	AC-21	HOUSING TWIN
13	AC-21	VALVE PLATE ASSEMBLY
14	AC2-7SS	COVER TWIN SS VENTED
15	HMMSSSTOC.3/8	SCREW, 10-24, 3/8
16	638656	FAN-WHEEL DIRECT DRIVE TWIN
17	PR25-008	VALVE, PRESSURE RELIEF
18	110-64	REDUCER 3/8" MIP TO 1/4" FIP
19	28-158	ELBOW ST 3/8" 90° BARSTOCK
20	127F-6	TEE STREET PIPE FORGED 3/8"
21	5A704	UNLOAD CHECK VALVE
22	122-6	3/8" NIPPLE
23	28-224	NIPPLE, HEX, BRASS 3/8"x1/2"
24	ISS-280	SOCKET INTAKE STAFF .280
25	9012	RELAY
26	62879 3 PRONG 62876 2 PRONG	CONNECTOR GROMMET
27	LM-2B-100R/WL82	PRESSURE SWITCH
28	CB185-50 CB185-120	BREAKER BLOCK
29	ACFP	FUSE
30	AC1-2-10	MOTOR FACE PLATE
31	AC1-2-9	SLEEVE, CYLINDER
32	AC1-2-11	SCREW 1/4 20 x 5/8
33	AC1-2-12	PISTON CAP
34	AC-2-8	CUP PISTON AC-CUP
35	AC-2-6I	ROD, BARE AC UNITS
36	AC2-BAI	ECCENTRIC, INSIDE TWIN
	BTL-DDRB1	ROD BEARING ASSEMBLY , INNER
		COMPRESSOR HEAD REBUILD KIT

COMPRESSOR HEAD REBUILD KIT INCLUDES ITEMS MARKED WITH \*



# REBUILD KIT INSTRUCTIONS

Tools needed to perform this service:

Medium (6-8") Adjustable Wrench

5/32 Allen wrench

#2 Phillips screwdriver

1/2" and 5/16" nut driver or socket wrench

11/16", 1/2" and 5/16" wrench

Note: This procedure will deal with the disassembly of the compressor head and installation of the components contained in the compressor head rebuild kit.

You must have free access to exterior surfaces of the compressor assembly to perform this service.

1. Using a 11/16" wrench, remove the black Heat Hose from the compressor head.
2. Using a 5/16" socket, remove the screws (item 14), lock washers (item 2) and flat washers (item 3) from front cover (item 13). Remove cover.
3. Using 5/16" socket, remove the screws (item 1), lockwashers (item 2) and flat washers (item 3, 4 sets) from the compressor head. Remove compressor head (item 4).
4. Separate compressor head (item 4) from valve plate assembly (item 11).
5. Pull out piston sleeve (item 30).

*Inspect rod and bearing assembly. The piston rod should pivot freely on the bearing. There should be no play perpendicular to the bearing.*

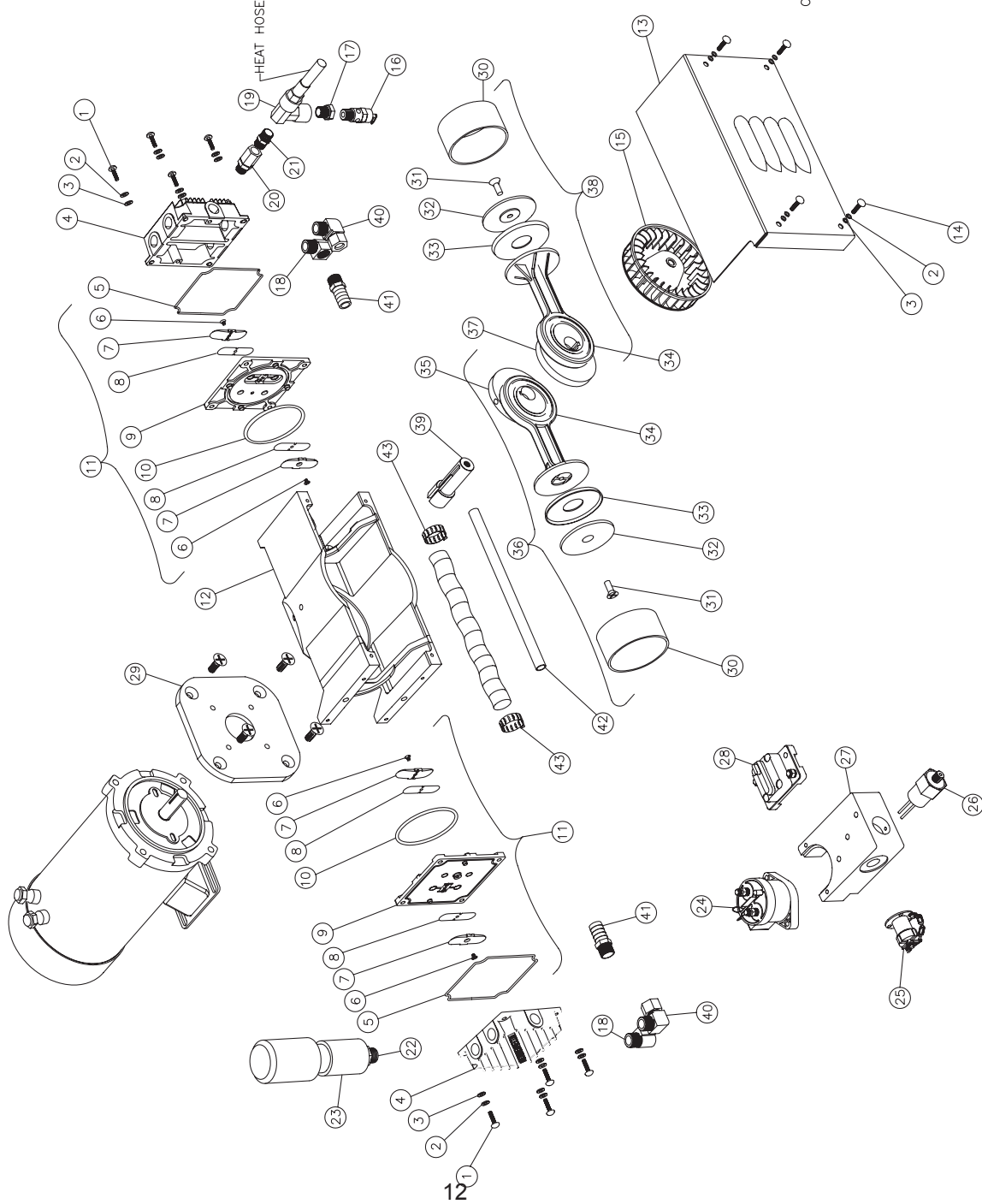
6. Using a #2 Phillips screwdriver, remove screws (items 6), valve restraints (items 7) and flapper valves (item 8) from plate.
7. Using a 5/32" Allen wrench, remove screw (item 31) from center of piston head. Remove cap (item 32) and cup (item 33).
8. Install new piston sleeve (item 30) over bare piston head onto piston rod.
9. Slowly pull engine start cord, or manually turn fan (item 15) to position piston at maximum extension.
10. Place piston cap (item 32) into center of new piston cup (item 33).
11. Install new retainer screw (item 31) through cap and cup, into threaded center of piston head. Tighten retainer screw into piston head.
12. Install new flapper valves (items 8) and valve restraints (items 7) onto valve plate (item 9), carefully matching valves with setting posts.
13. Install new o-ring (item 10) and gasket (item 5) making sure each is fully seated in its appropriate groove.
14. Hold completed valve plate assembly (item 11) gasket side up. Place head (item 4) onto valve plate assembly (item 11), lining up posts.
15. Place lockwashers (item 2) and flat washers (item 3) onto screws (item 1) and install into corner holes of the head assembly. Install two flat washers (item 3) onto the screw threads protruding through the head assembly. (Washers will be between head assembly and housing.) Align screws with holes in housing and begin threading by hand. Tighten using 5/16" socket.

**NOTE:** For a Twin Head Compressor, repeat steps 3-15 to install a rebuild kit on the other head.

16. Using adjustable wrench, remove relief valve (item 16). Install new relief valve and tighten until snug.
17. Align front cover (item 13) with holes in housing. Install screws (item 14), lockwashers (item 2) and flat washers (item 3). Tighten using a 5/16" socket.
18. Place motor/compressor assembly in pan or dish. Secure with same bolts and nuts as disassembled. Replace any straps that were removed.

NO.	PART NUMBER	DESCRIPTION
1	HMMSS10C-1	SCREW, 10-24, 1 INCH
2	WML2210	LOCK WASHER
3	AN960C10L	WASHER
4	AC2-15-2P	HEAD, TWIN, RIGHT SIDE
5	AC2-15-3P	HEAD, TWIN, LEFT SIDE
6	AC1-2-17	GASKET, VALVE HEAD SPECIAL
7	AC1-2-20	SCREW 6-32 X 3/8
8	AC1-2-19	VALVE RESTRAINT
9	AC1-2-18	VALVE FLAPPER
10	AC1-2-13	VALVE PLATE
11	AC1-2-14	O-RING
12	AC-VPA	VALVE PLATE ASSEMBLY
13	AC2-21	HOUSING TWIN
14	AC2-7SS	COVER TWIN SS VENTED
15	HMMSS10C.3/8	SCREW, 10-24, 3/8
16	638656	FAN-WHEEL DIRECT DRIVE TWIN
17	PR25-008	VALVE, PRESSURE RELIEF
18	110-64	REDUCER 3/8" MIP TO 1/4" FIP
19	28-158	ELBOW ST 3/8" 90° BARSTOCK
20	127F-6	TEE STREET PIPE FORGED 3/8"
21	5A704	UNLOAD CHECK VALVE
22	122-6	3/8" NIPPLE
23	28-224	NIPPLE HEX BRASS 3/8"x1/2"
24	ISS-280	SOCKET INTAKE STAFF 280
25	9012	RELAY
26	62879 3 PRONG 62876 2 PRONG	CONNECTOR GROMMET
27	LM-2B-100R/WL82	PRESSURE SWITCH BREAKER BLOCK
28	CB185-50 CB185-120	FUSE
29	ACFP	MOTOR FACE PLATE
30	AC1-2-10	SLEEVE, CYLINDER
31	AC1-2-9	SCREW 1/4 20 x 5/8
32	AC1-2-11	PISTON CAP
33	AC1-2-12	CUP PISTON AC-CUP
34	AC-2-8	ROD, BARE AC UNITS
35	AC-2-6I	ECCENTRIC, INSIDE TWIN
36	AC2-BAI	ROD BEARING ASSEMBLY, INNER
37*	AC-2-60	ECCENTRIC, OUTSIDE TWIN
38*	AC2-BAO	ROD BEARING ASSEMBLY, OUTER
39	ACS-A	SHAFT SPACER (12-24V ONLY)
40*	69-0806	ELBOW BRASS 1/2" TUBE x 3/8"MNPT
41	102-1006	BARB HOSE 5/8x3/8 BRASS MNPT
42	SS-T8-S-035-20	TUBING SS 1/2"x .035"
43	620-010	CLAMP SS SM
	BITL-DDRB1	COMPRESSOR HEAD REBUILD KIT

COMPRESSOR HEAD REBUILD KIT INCLUDES ITEMS MARKED WITH \*





# REBUILD KIT INSTRUCTIONS

Tools needed to perform this service:

Medium (6-8") Adjustable Wrench

5/32 Allen wrench

#2 Phillips screwdriver

½" and 5/16" nut driver or socket wrench

11/16", ½" and 5/16" wrench

Note: This procedure will deal with the disassembly of the compressor head and installation of the components contained in the compressor head rebuild kit.

You must have free access to exterior surfaces of the compressor assembly to perform this service.

1. Using a 11/16" wrench, remove the black Heat Hose from the compressor head.
2. Using a 5/16" socket, remove the screws (item 14), lock washers (item 2) and flat washers (item 3) from front cover (item 13). Remove cover.
3. Using 5/16" socket, remove the screws (item 1), lockwashers (item 2) and flat washers (item 3, 4 sets) from the compressor head. Remove compressor head (item 4).
4. Separate compressor head (item 4) from valve plate assembly (item 11).
5. Pull out piston sleeve (item 30).

*Inspect rod and bearing assembly. The piston rod should pivot freely on the bearing. There should be no play perpendicular to the bearing.*

6. Using a #2 Phillips screwdriver, remove screws (items 6), valve restraints (items 7) and flapper valves (item 8) from plate.
7. Using a 5/32" Allen wrench, remove screw (item 31) from center of piston head. Remove cap (item 32) and cup (item 33).
8. Install new piston sleeve (item 30) over bare piston head onto piston rod.
9. Slowly pull engine start cord, or manually turn fan (item 15) to position piston at maximum extension.
10. Place piston cap (item 32) into center of new piston cup (item 33).
11. Install new retainer screw (item 31) through cap and cup, into threaded center of piston head. Tighten retainer screw into piston head.
12. Install new flapper valves (items 8) and valve restraints (items 7) onto valve plate (item 9), carefully matching valves with setting posts.
13. Install new o-ring (item 10) and gasket (item 5) making sure each is fully seated in its appropriate groove.
14. Hold completed valve plate assembly (item 11) gasket side up. Place head (item 4) onto valve plate assembly (item 11), lining up posts.
15. Place lockwashers (item 2) and flat washers (item 3) onto screws (item 1) and install into corner holes of the head assembly. Install two flat washers (item 3) onto the screw threads protruding through the head assembly. (Washers will be between head assembly and housing.) Align screws with holes in housing and begin threading by hand. Tighten using 5/16" socket.

**NOTE:** For a Twin Head Compressor, repeat steps 3-15 to install a rebuild kit on the other head.

16. Using adjustable wrench, remove relief valve (item 16). Install new relief valve and tighten until snug.
17. Align front cover (item 13) with holes in housing. Install screws (item 14), lockwashers (item 2) and flat washers (item 3). Tighten using a 5/16" socket.
18. Place motor/compressor assembly in pan or dish. Secure with same bolts and nuts as disassembled. Replace any straps that were removed.

# WARRANTY

Brownie's Third Lung products are warranted to be free of defects in materials and workmanship for a period of one year from the date of retail purchase. A copy of retail purchase receipt, showing model and serial numbers is required to verify warranty eligibility. This warranty is limited and subject to the restrictions listed below.

Brownie's will repair, replace or refund valid warranty claims, at our discretion. Brownie's shall not be liable for any special, incidental or consequential damages beyond the wholesale purchase price.

Please fill out and return enclosed Warranty Registration Form along with a copy of dated retail purchase receipt to register your warranty.

## **What is not covered**

Inspection, service and/or labor charges will be paid by the retail consumer.

Some parts are subject to wear, even under normal or minimal use. All components should be inspected for wear on a regular basis. Replacement of worn items constitutes normal maintenance and is the responsibility of the owner.

This warranty does not cover damage resulting from the introduction of water, gas, oil or other contaminants, normal wear, improper use, improper maintenance, neglect of care, alteration, or unauthorized repair.

All repairs made, not covered under the terms of this warranty, will be made at the owner's expense.

## **RETURN GOODS POLICY AND INSTRUCTIONS**

To return merchandise to Brownie's for service or credit:

1. Call our sales department to obtain a RMA number,
2. Pack authorized items in sturdy container.

*NOTE: Always COMPLETELY drain all gas and oil from engines before packing. All gas-powered motors must be sealed in a durable plastic bag inside the shipping carton.*

3. Boldly print the RMA number on the package exterior.
4. Include: a note detailing the situation, a copy of original purchase receipt showing model number, serial number, date and place of purchase.
5. Ship package, freight prepaid, to our factory location in Pompano, FL.

Unauthorized returns, returns shipped freight collect and returns missing RMA numbers may be refused or subject to additional inspection/processing fees.

Items returned for credit must be in new condition (at our discretion) and will be subject to a 15% restocking fee (30% for custom orders.)



**3001 NW 25<sup>th</sup> Avenue, Ste. 1  
Pompano Beach, FL 33069**

**PHONE: 954.462.5570  
FAX: 954.462.6115**

**[www.BrowniesMarineGroup.com](http://www.BrowniesMarineGroup.com)**

# Warranty Registration

## ADVENTURE IS ALWAYS ON THE LINE

Your warranty cannot be registered without this form. We will not be able to inform you of important upgrades without the completion of this form. Please complete the requested information and fax or mail it back to us with a copy of the original cash register receipt. It is the policy of Brownie's Third Lung not to share customer information with any outside organization. Thank you and happy diving!

3001 NW 25<sup>th</sup> Avenue, Suite 1, Pompano Beach, FL 33069 PH: 954.462.5570 FAX: 954.462.6115

**Model Number:** \_\_\_\_\_ **Serial Number:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State or Province:** \_\_\_\_\_ **Zip:** \_\_\_\_\_ **Country:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Certification Agency:** \_\_\_\_\_ **Certification Level:** \_\_\_\_\_

**Certification Number:** \_\_\_\_\_ **Do you SCUBA dive as well as Hookah dive?** Yes No

**How many years have you been diving?** \_\_\_\_\_ **How many dives per year?** \_\_\_\_\_

**Store purchased from:** \_\_\_\_\_ **Store Location:** \_\_\_\_\_

**Date of Purchase:** \_\_\_\_\_ (don't forget to include a copy of original receipt)

**Are you...** Male / Female Married / Single **Age:** 18 to 25 26 to 35 36 to 45 45+

### How did you find out about our product?

Store Display

Internet

Mail Out

Friend

Witnessed a Brownie in use and could not bear to be without one

Publication: \_\_\_\_\_

Boat Show: \_\_\_\_\_

Other: \_\_\_\_\_

### Occupation:

Educator

Skilled Labor

Office

Management

Professional

Technical

Executive

Medical

Professional Diver

Student

Other: \_\_\_\_\_

### Other Interests:

Photography

Jogging

Tennis

Boating

Windsurfing

Fishing / Hunting

Camping

Hiking

Water Skiing

Exercise

Bicycling

Golf

Snow Skiing

Other: \_\_\_\_\_

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Brownie's Marine Group  
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Pompano Beach, FL 33069