

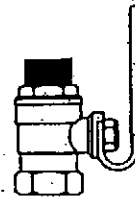
**Kodiak Pro Flow Bait Livewells available in 7 sizes from 14 thru 52 gallons. Guaranteed to keep bait alive longer than any other livewell sold. Call or write for a Free catalog.**

# KODIAK MARINE PRODUCTS

## THRU HULL MOUNT Red Head BAIT PUMP

### KODIAK ACCESSORIES

#### KV77 UNI-SEX BALL VALVE



- Built-in male nipple
- Extra large port opening
- 3/4" pipe size
- Compact design for increased flow
- Handle will not interfere with pump

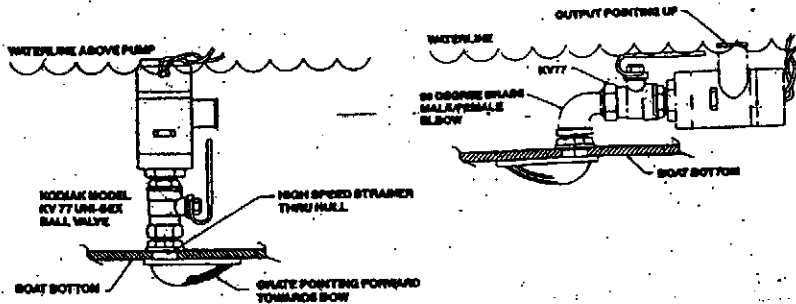
Model	Flow Rate Per Min	Amperage Draw	Suggest Bait Tank Size
K360	3.4	1.7	5 to 15
K500	5.0	1.85	15 to 30
K700	8.8	3.5	30 to 45
K1100	11.9*	4.15	45 to 60

\*Flow rate from thru hull at 2 ft. horizontal and 5 ft. vertical head with 3/4" hose except model K1100.  
\*Model K1100 require the use of 1" or 1 1/4" hose for maximum flow rate, pump outlet 1 1/2".

### INSTALLATION INSTRUCTIONS

#### MOUNTING AND OPERATION

1. Your Kodiak-Red Head can be mounted several different ways, as shown below. The important thing to remember is since it is a non-self priming pump it **MUST BE MOUNTED BELOW THE WATER LINE.**
2. Mounting directly to your thru hull fitting is the easiest and will also supply the most water. **ALL THRU HULL FITTINGS SHOULD BE CLOSED WHEN YOUR BOAT IS LEFT UNATTENDED IN THE WATER.**



#### BAIT TANK PLUMBING KITS

- Thru Hulls.
- Valves
- Aerators
- Sea strainers
- Livewell Accessories

(Pro Flow Livewells scientifically designed to keep bait alive longer)

FOR A COMPLETE CATALOG ON ACCESSORY ITEMS, WRITE:

### KODIAK MARINE PRODUCTS

530 Wellington Ave., Cranston, RI 02910

(401) 467-2750

Fax (401) 467-2650

#### DETAILED MOUNTING INSTRUCTIONS ENCLOSED.

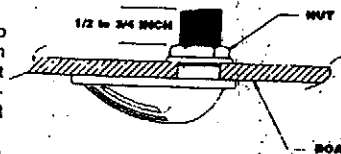
"Conserve our ocean resources - your recreation and our business depend on it!"

applied to the pickup surface that touches the bottom of the boat and around the threaded tube that passes thru the hull on both sides. Do not use silicon sealant, it will deteriorate after prolonged exposure to salt water. After sealing, tighten the hold down screws and tighten the nut on the thru hull.

Next, mount a 3/4" ball valve to the pickup with teflon tape. When choosing a valve look for one that has a low profile, a full port opening (not a restricted opening), and is hard chrome plated.

Kodiak Marine supplies a valve with these features. The KV-77 is a unisex valve, one side is a 3/4" female pipe thread, and the other is a 3/4" male pipe thread. This eliminates the need for a closed nipple between the valve and pump, which will allow the pump to sit lower improving performance. The KV-77 has the largest port opening of any forged bronze valve we have seen. **IF YOU MARINE DEALER DOES NOT STOCK THEM THEY CAN BE ORDERED DIRECT FROM KODIAK MARINE.**

If you choose to use a standard ball valve install the supplied nylon 3/4" closed nipple above the thru hull fitting using teflon tape.



You are now ready to mount the pump itself onto the 3/4" male thread of the KV-77 or closed nipple. Apply teflon tape only to the threads, sealant will make it difficult to remove the pump should the need arise. Being careful not to cross thread the base, screw the pump on until it is hand tight only. **DO NOT USE A WRENCH, YOU WILL CRACK THE BASE.** Only 4 to 6 turns should be necessary. The pump will not rotate once the output hose is installed.

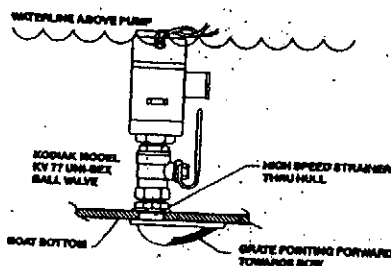
#### ELECTRICAL CONNECTION:

Wire: Normal installations require 14 gage wire. Installations over 25' from the battery use 12 gage wire.

Marine color code for pump wires is brown (+) positive, white or black (-) negative.

To avoid any possible electrical noise to your VHF, twisting the wires as shown will cancel out electromagnetic forces caused by the brushes in the pump motor.

Do not cut the wires from your pump, it can cause water wicking into the motor housing and void your warranty.



**Polarity:** Polarity is important. If it is not correct, the pump will rotate backwards. Water will still come out of the discharge nozzle but the flow will be greatly reduced. The correct polarity will be obtained when the BROWN wire of the pump is connected to the positive (+) side of the battery. The white or black pump wire connects to the negative (-) side of the battery.

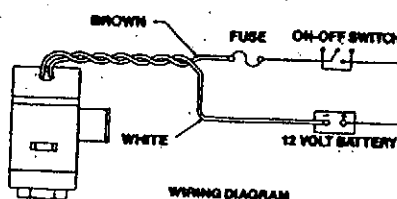
**Fusing:** To protect your electrical wiring and switch from possible overload install a fuse in the positive (+) brown lead from the battery. Use a waterproof fuse case. The fuse should be sized from the following chart.

PUMP	K-360	K-500	K-700	K-1100
Amp Draw	2 1/2	2 1/2	4	4.5
Fuse	3 Amp	3 Amp	5 Amp	6 Amp

**Connections:** The best way to make wire connections is by using waterproof shrink type butt connectors. After installing wires and crimping the butt connector a heat gun is used to shrink the connector over the wire thus sealing the join completely. Ask your marine dealer to show how they work. **THEY ARE WELL WORTH THE EXTRA COST!**

**Hose:** Use 3/4" ID marine grade reinforced smooth walled hose. Using ridged or big pump hose IS NOT RECOMMENDED, it may leak due to the pressure created. The K-360, K-500, and K-700 have a 3/4" barbed outlet so the hose can be slipped on and held in place with a hose clamp.

**K-1100 USERS - PLEASE READ THIS.** The output side of your pump is 1 1/8" for flexible 1" ID hose. Reducing down to 3/4" or smaller will reduce the flow rate up to 40% depending on the length of the hose run. If your bait tank or washdown is sized for 3/4", make the initial hose run with 1 1/8" or 1" then reduce down at the tank or washdown valve. If you are using your pump for washdown and have a washdown valve, check to see that it is a full port size opening, most marine style dog bone handled types are not and they greatly reduce flow.

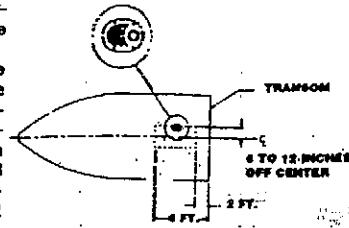


**HOSE RUN:** THE PATH OF YOUR HOSE RUN IS IMPORTANT. If the following guidelines are not followed, air bubbles may become trapped in the hose

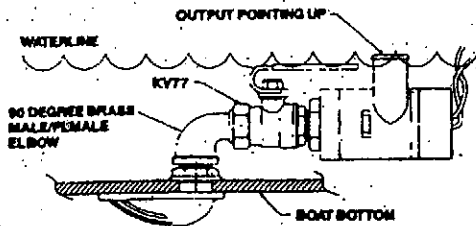
ive which will not allow smooth water flow over the thru hull, and avoid curting the thru hull behind such a feature.

On boats which are trailered, check for the trailer bunk location prior to lifting. Do not place the thru hull where it will interfere with any part of the trailer.

In some cases it may be necessary to mount the pump sideways (horizontally) due to too little vertical clearance. This is an acceptable method, and the pump will function normally provided the output is pointed straight up blowing air to vent out. If you mount this way the pump intake and valve should int toward the stern for maximum water pickup.



After choosing the best location, drill a hole in the hull with a 1" hole saw, being careful not to drill at an angle to the hull which will prevent a flush fit when the thru hull is installed. A half round file or rotoburr will be needed to smooth the hole up a little for the thru hull to fit in. Place the thru hull fitting in the hole with the slotted grate facing the front of the boat. Make sure the thru hull seats flush against the hull. Drill 3 or 4 small hold down screw holes thru



fitting and the boat bottom. From inside the boat install the thru hull nut until snug. Mark a point on the thru hull threaded tube 1/2" to 3/4" above the nut. Move the nut and thru hull fitting from the boat. Cut off the excess tubing with your mark with a hack saw. Deburr the sawed edge. This step will tighten the installation, and seat the pump further below the waterline for

best pickup may now be installed and sealed into place. Sealant should be

## INTRODUCTION

Proper installation of your Kodiak pump is imperative for it to run properly. This guide will help in your installation. PLEASE READ THIS INSTRUCTION MANUAL PRIOR TO INSTALLING YOUR NEW PUMP.

## INSTRUCTIONS:

Your Kodiak pump has been designed for mounting directly to a valve above your thru hull. The female thread on the pump is 3/4 npt.

COAST GUARD REGULATIONS REQUIRE A SHUT OFF VALVE ON ALL THRU HULL FITTINGS PLACED BELOW THE WATERLINE.

DO NOT MOUNT DIRECTLY TO A THRU HULL WITHOUT A SHUT OFF VALVE. THIS IS A VIOLATION OF COAST GUARD REGULATIONS, AND EXTREMELY DANGEROUS. LEAKING OR BREAKAGE COULD RESULT IN THE SINKING OF YOUR VESSEL.

THE SHUT OFF VALVE MUST BE CLOSED WHEN YOU BOAT IS LEFT UNATTENDED WHILE IN THE WATER.

Since centrifugal pumps are pushing pumps, not drawing pumps, the further below the waterline your pump is located the more water it will pump. The installation instructions given and additional fittings recommended will provide for placement of the pump as far below the waterline as possible.

## THRU HULL INSTALLATION

Purchase a 3/4" high speed pickup thru hull fitting. They are designed to supply water while your boat is under way, and have a filter grate to keep debris out. If the waters you travel in have a high weed or grass content a sea strainer or placement of a screen in your intake is advisable. Weeds and grass ingested into the pump will stall out the motor and cause seal failure. Overheating and meltdown will result if the recommended fuse is not used. Weed caused failure is not covered under warranty.

For optimum performance the thru hull should be mounted two to six feet in front of your transom, and six to 12 inches off the centerline of your boat (see below). In some cases this may not be possible, but mounting as close to this ideal location as possible will improve the performance of the pump. In boats in excess of 30 ft. it may be possible to mount the thru hull pickup further forward and off centerline due to the deep draft. However, the pump must stay below the waterline at all times.

Avoid mounting too close to the stern, this area is prone to air bubbles, which may cause airlocks in the pump. Avoid mounting the pickup too far off center, this may put the pump above the waterline when the boat is on plane or when it rocks. Do not mount the pickup behind or in front of any other thru hull or thru hull transducer. They create turbulence which will decrease the efficiency of the aft mounted unit. Note any hull design feature your boat may

which can make priming the pump difficult. The output hose on your pump must run in a continuous uphill direction to your washdown valve or bait tank. This creates back pressure on the pump keeping the water chamber full while running, or allowing water into the pickup when starting the pump. It also allows water to drain when the pump is not in use.

If you design your system with a long horizontal run, or dips in the hose run it will seal the system, not allowing air to clear. This will result with the pump not filling with water when you start up your system, and failure of the pump to pump water.

THE PATH OF YOUR HOSE RUN IN A CONTINUOUS UPHILL ANGLE AND MOUNTING THE PUMP AS FAR BELOW THE WATERLINE AS POSSIBLE ARE CRITICAL TO THE OPERATION OF YOUR BAIT SYSTEM:

## WASHDOWN USE:

If your pump is to be used solely for washdown you will need another pickup in addition to the one for your bait system. Using a T fitting and trying to run two pumps off one pickup will not work.

Mount the washdown pump in the manner described for a bait pump. Run a hose from the pump to a bulkhead mounted valve. PVC is ok to use here. Attach your cockpit washdown hose to this valve. Use the minimum hose length necessary to reach all areas of your cockpit fishing area. Use of hose in excess of 10' in length or less than 3/4" ID will reduce the flow rate, and make it more difficult to prime the pump on start up.

Initial start up: Prior to starting the pump, open the valve so the air can bleed out of the system first. When water begins to run out of the hose, the valve can be shut, or adjusted down with no detrimental effects to the pump.

## BACKUP SYSTEM:

All professional bait system installers recommend a backup system for your bait tank. Some fishermen keep a spare pump on board, which could be used as a bait, bilge or washdown pump in an emergency. A washdown pump can be used as a backup bait pump if necessary. To use your washdown pump as a backup should your bait tank pump fail simply run the washdown hose into the bait tank. Replace the bait system pump as soon as possible.

## PROBLEMS:

Most problems result from improper installation or use of the bait system. The most common problems encountered and possible causes and remedies are listed in the TROUBLESHOOTING section of this manual. Please refer to this section if your pump is not operating correctly. If you are unable to correct any problem you are experiencing using the guidelines outlined there, please contact KODIAK CUSTOMER SERVICE. We can be reached at (401) 467-2750.

## TROUBLE-SHOOTING SECTION

### SYMPTOM: REDUCED FLOW

POSSIBLE CAUSE: Plugged pickup, thru hull or pump  
CURE: Clean thru hull of debris. If pump is plugged close valve and clean out around impeller.

POSSIBLE CAUSE: Discharge hose plugged with trash  
CURE: Clean out hose by back flushing with pressurized water (remove hose from pump first).

POSSIBLE CAUSE: Low Battery Voltage  
CURE: Check battery condition and charge if low. Always charge batteries immediately upon returning to port or home, not just prior to going out next time to help extend battery life.

POSSIBLE CAUSE: Kinked discharge hose  
CURE: If kinks are caused by sharp bends install 90° plastic barb fittings in line with hose clamps.

POSSIBLE CAUSE: Wrong polarity  
CURE: Check to see that brown wire (+) is hooked to positive battery terminal.

POSSIBLE CAUSE: Partial airlock  
CURE: Turn pump off for 15 seconds and then restart.

### SYMPTOM: NO WATER PUMPED

POSSIBLE CAUSE: Wire connections  
CURE: Check wire connections for corrosion visual check is not enough, a slight pull on each wire will tell if wires are still joined.

POSSIBLE CAUSE: Blown fuse  
CURE: Check fuse size according to the chart in Step 8. If fuse size is correct, and fuse still blows check impeller of pump. Remove any debris jamming the impeller.

POSSIBLE CAUSE: Air lock  
CURE: Backing up your boat may cause air bubbles which will stall the pump. Turn off pump for 15 seconds to clear air and restart.

### SYMPTOM: MELTDOWN WIRES OVERHEATED, MELTED INSULATION

POSSIBLE CAUSE: Combination of jammed impeller and wrong size fuse  
CURE: Check impeller for debris. It must rotate freely. Replace fuse with the correct size per chart in the installation instructions. Replace wiring and/or fuse if needed.

### SYMPTOM: PUMP CONTINUALLY LOSES PRIME

POSSIBLE CAUSE: Improper mounting  
CURE: Make sure the high speed pickup is mounted with the filter grate facing forward. Refer to installation instructions for best location to mount thru hull fitting.

POSSIBLE CAUSE: Hose run  
CURE: Output hose should run uphill evenly from pump to bait tank, avoid long horizontal runs, and runs with low and high points.