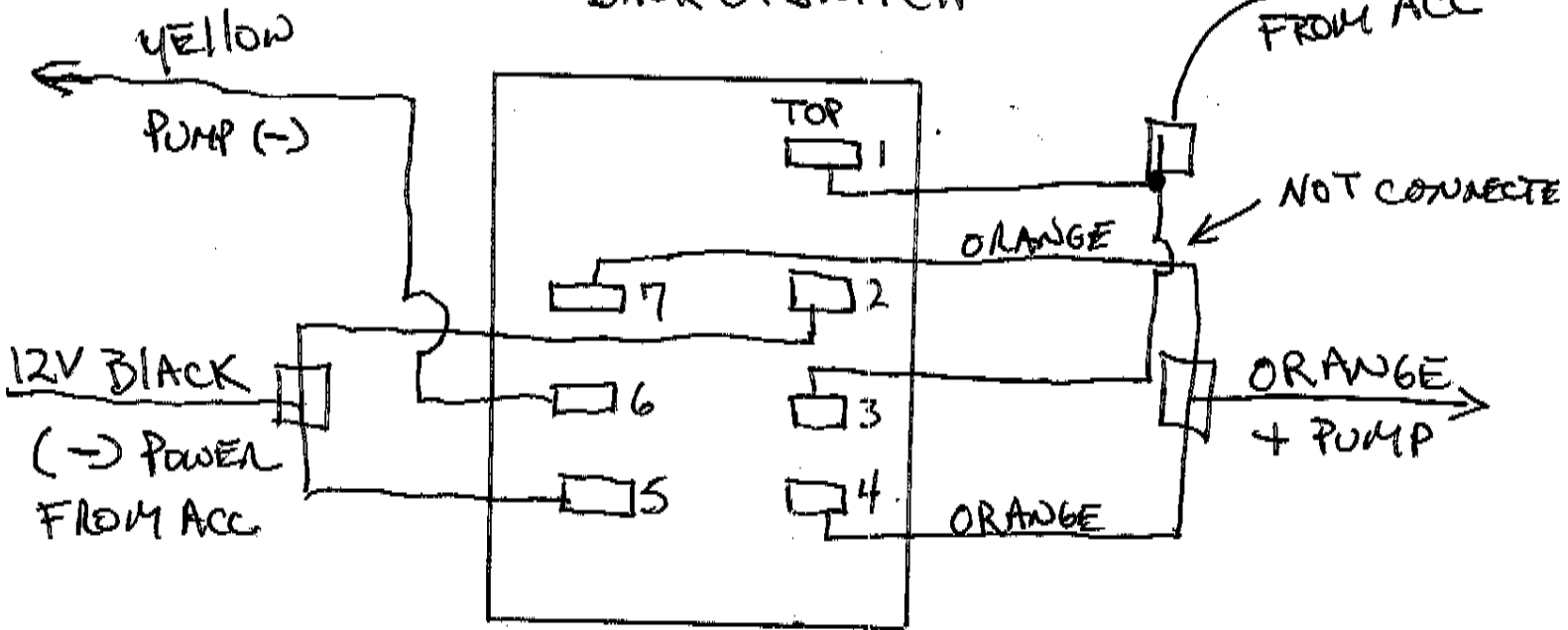


# JABSCO CORRECT WIRING FOR 18220-1123 BACK OF SWITCH



- 1 = LIGHT COMMON PLUS
- 1 & 7 = FILL LIGHT
- 1 & 5 = EMPTY

## BALLAST PUMP

3-08

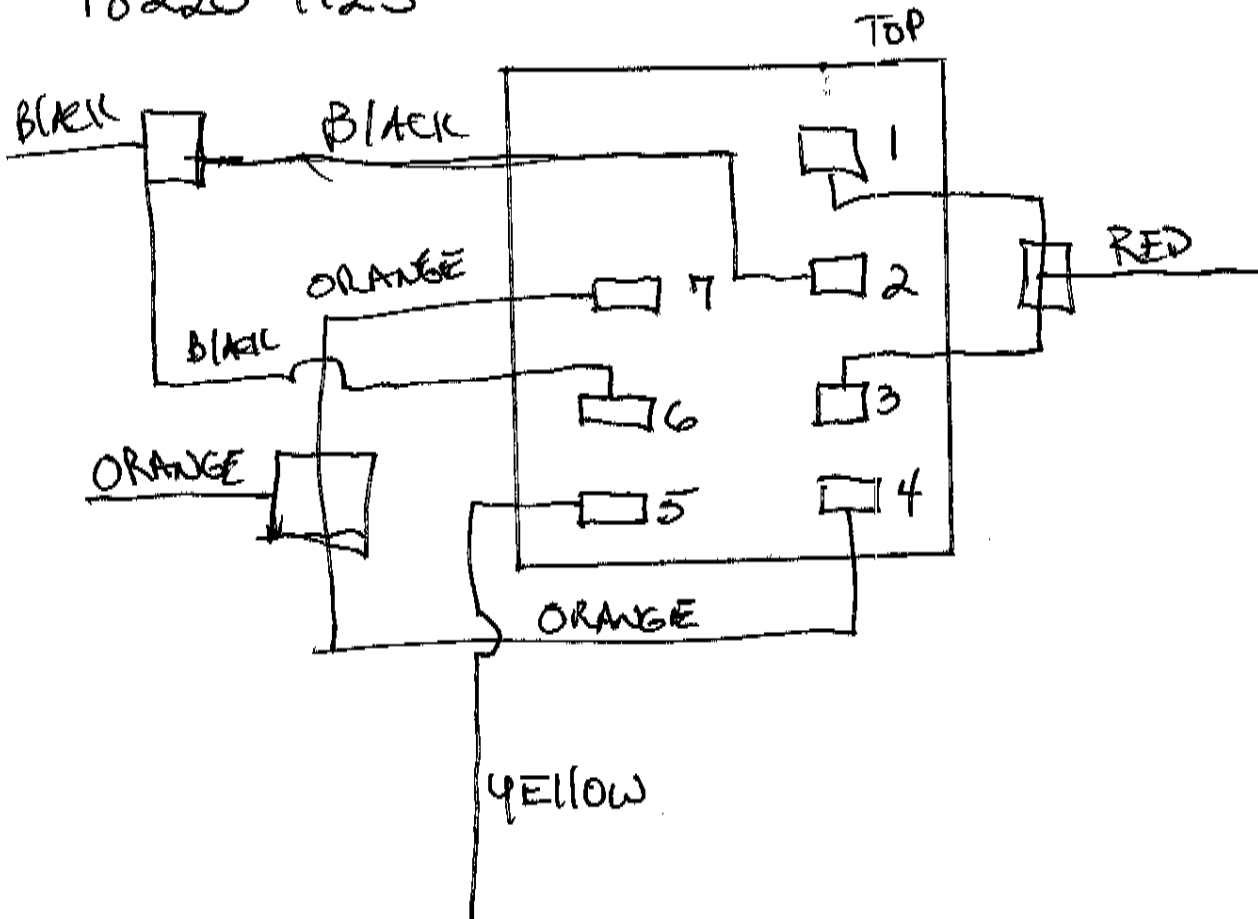


JABSCO

ORIGINAL WRONG DIAGRAM

18220-1123

BALLAST REVERSIBLE SWITCH





# Model 18220-1123

## BALLAST PUPPY

### Wakeboard Towboat Ballast Pump

#### FEATURES

**Pump:** Bronze  
**Impeller:** Jabsco Nitrile compound  
**Seal:** Lip Type  
**Ports:** 1/2" Internal Pipe Threads  
 1" External Hose Barb  
**Motor:** Equipped with Run-Dry Protection Device (Patent Pending)  
 12 Volt DC  
 Permanent Magnet Type  
 Fully Enclosed  
 Stainless Steel Shaft  
 Ball Type Shaft Bearing  
 Reversible

**Dimensions:** 3-5/8" (93mm) high,  
 7-1/8" (182mm) long  
 4-3/4" (120mm) wide

**Weight:** 6 lb (2.7 kg)

**Rating:**

**Motors meet USCG Electrical Regulation 183.410 and ISO 8846 MARINE for IGNITION PROTECTION on gasoline powered vessels.**

#### ⚠ WARNING



Explosion hazard. Do not pump gasoline, solvents, thinners or other flammable liquids. To do so can cause an explosion resulting in injury or death.

#### ⚠ WARNING



Explosion hazard. Do not operate with rivets removed from motor case. Explosion resulting in personal injury, death or property damage can occur. Case openings must be sealed to avoid explosion and maintain ignition protected rating.

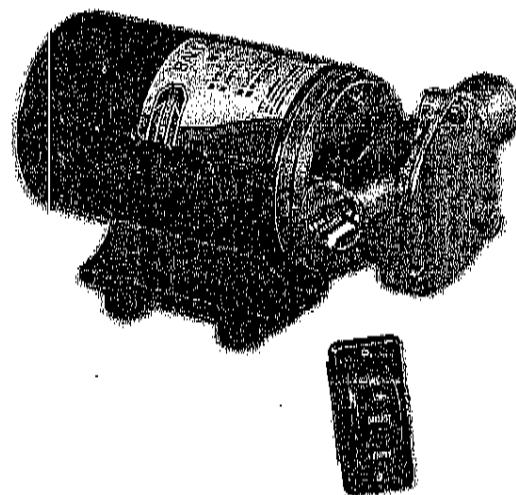
#### ⚠ WARNING



Sinking hazard. Do not exceed manufacturer's combined maximum weight capacity and persons capacity as specified in vessel's "Maximum Capacities" warning placard. To do so can cause sinking that can result in loss of property and life.

#### APPLICATION

The Ballast Puppy is designed to pump water into Wakeboard Liquid Ballast Tanks and when reversed will also pump water out of them. It has a flow rate of 11 gallons per minute, so it can fill most ballast tanks in about five minutes. It is equipped with a Run-Dry Protection Device (patent pending) to automatically shut-off the pump and protect the impeller from run-dry damage should the pump be mistakenly left on after the Ballast Tank is empty.



Model 18220-1123

#### INSTALLATION

The pump must be mounted in a dry location – the motor is not waterproof and must not be submerged. SELECTION OF A COOL VENTILATED location will generally extend pump motor life. The unit can be mounted in any desired position. It is best to mount so that water dripping from loose port connection will not wet the motor. The pump head may be rotated 180° on the motor to change the direction of flow.

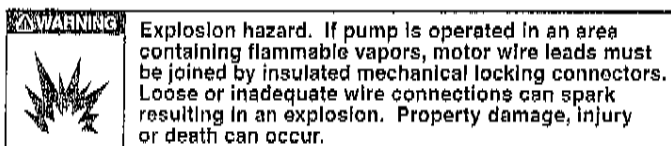
#### PLUMBING CONNECTIONS

Pump ports have external 1" hose barb and internal 1/2" pipe threads. Use hose that does not kink when bent and with sufficient wall thickness to prevent collapse when used on suction side of pump. Hoses should be routed so that some water will be retained in pump body to wet the impeller. Wetting the impeller aids in priming and extends impeller life. Use a strainer on the intake hose to stop trash and solids from going through the pump. All hoses must have airtight connections to enable fast priming.

PSI	Total Head		Capacity	
	Feet	Metres	GPM	LPM
2.1	5	1.5	9.0	34
4.3	10	3.0	8.5	32
6.5	15	4.6	8.0	30
8.7	20	6.1	7.5	28

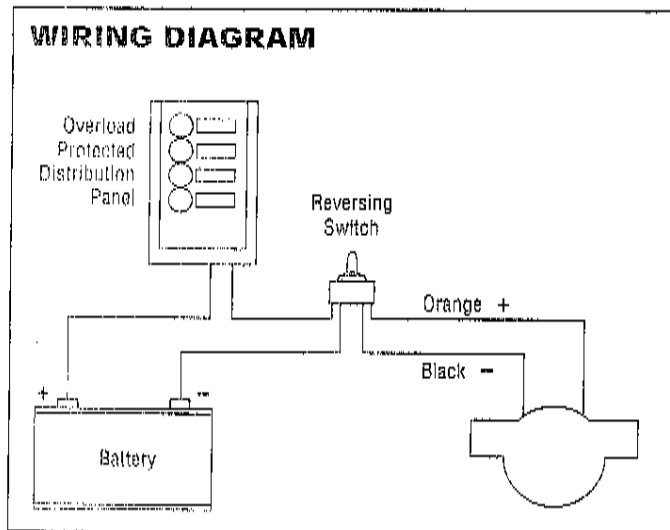
Table shows approximate Head-Flow for new pump.

## ELECTRICAL CONNECTIONS



**NOTICE:** To prevent motor damage, use only multi-strand copper wire in size recommended. **DO NOT** use ordinary lamp cord or other substitutes

The Ballast Puppy should be wired to the Polarity Reversing Switch (provided) through an over-current protected distribution panel fitted with a 20 amp breaker or fuse. This circuit should be dedicated to the Ballast Puppy and free of any other accessories. The Polarity Reversing Switch requires that both positive and negative conductors be run from the power source to the switch as well as both positive and negative conductors run from the pump to the switch. These conductors must be sized to match the recommended wire size in the Electrical Specification Chart for the total length of the circuit (the sum of the length of all positive and negative conductors). Use positive locking type wire connectors (crimp type butt connectors) to complete all connections at the pump and reversing switch. Use only quality marine grade multi-strand copper wire of the proper size as determined from the Electrical Specification Chart below.



## OPERATION

The Ballast Puppy is reversible so it can both add liquid ballast and then pump it back overboard when ready to lighten the load. The stylish double throw reversing switch (provided) is intended to be mounted in a convenient, easily accessible location for quick and easy ballast control. The pump can fill a typical forty gallon tank in about 5 – 6 minutes.

When ready to add ballast, simply flip the switch to the fill position and watch for indicators that the tank is full, then switch the pump off. To reduce the ballast load, flip the switch to the drain position and the pump will reverse itself to pump liquid ballast back overboard. To fully empty tank, just leave the pump in the drain position and monitor the tank level so that the pump can be turned off when the tank is empty. Alternatively, simply pay attention to the sound made by the pump and when the frequency changes (higher pitch) and it gets louder, that is an indication the tank is empty and the pump should be turned off. However, if for some reason attendants become distracted and do not notice the change in pump sound or that the tank is empty, the Jabsco Ballast Puppy is equipped with an exclusive Run-Dry Protection Device (patent pending) to prevent serious impeller damage. This Run-Dry Protection Device senses the absence of water and after a short period of sustained run-dry operation will shut-off the pump before the impeller is badly damaged. The delay in run-dry operation before pump shutdown provides adequate time for initial pump priming when filling the ballast tank.

The Ballast Puppy is designed for intermittent duty cycles only. It is capable of filling most ballast tanks in about 5 – 6 minutes and can be immediately reversed to empty the tank if urgent de-ballasting is required. However, after about twenty minutes of continuous running the Run-Dry Protection Device will interrupt power to the pump and cause the pump to shutdown. The pump would then need to cool off for about twenty minutes before normal operation will resume.

The pump cannot run against a closed outlet as may be encountered when installed in systems with valves to regulate flow. Pressure for normal operation should not exceed 20 feet of head (8.7 psi).

## ELECTRICAL SPECIFICATIONS AND MINIMUM WIRE SIZE

VOLTAGE	AMP DRAW	FUSE SIZE	WIRE SIZE PER FEET OF RUN*				
			0'-10' (0 M-3 M)	10'-15' (3 M-4.5 M)	15'-25' (4.6 M-7.6 M)	25'-40' (7.6 M-12.2 M)	40'-60' (12.2 M-18.3 M)
12V DC	12	20	#16 (1.5 mm <sup>2</sup> )	#14 (2.5 mm <sup>2</sup> )	#12 (4 mm <sup>2</sup> )	#10 (6 mm <sup>2</sup> )	#8 (10 mm <sup>2</sup> )

\* Length of run is total distance from power source to pump and back to ground. Wire sizes listed are SAE gauge and metric millimetres<sup>2</sup>.