

# Installation Instructions

## PerfectPass Wakeboard Pro

### Step 1. *Installation of Servo Motor / Throttle Cable*

Refer to detailed instruction photos attached for Volvo or Mercruiser applications.

Using the hose clamps on the manifold hose, loosely mount the servo motor on top as shown in photo. Tighten later after final positioning.

See amended instructions (photo pages) in manual for Mercruiser or Volvo for connecting PerfectPass cable to boat throttle cable.

After final connection, check and adjust position of servo motor ensuring the motor box cover closes properly and servo throttle cable is not in contact with any moving parts. Make sure servo motor cable has 2 or 3 inches of free travel. Securely tighten hose clamps on servo motor. (Do not “tie wrap” cable as it must be able to move freely). (Make sure the gold resistor and wiring does not touch anything metal).

With the throttle in neutral position, adjust brass hex connector if necessary to ensure there is **no gap** between it and the end of the servo motor cable (any gap may cause engine to surge up and down in neutral). Adjust and snugly tighten all parts.

Turn the black servo motor knob in a clockwise position until **snug**. With throttle in neutral, the linkage should appear as in photo.

**Linkage Test** – This is a quick & easy test to check throttle cable & linkage.

With key OFF, push throttle lever to  $\frac{3}{4}$  open position. Now take the black knob on servo motor and wind it counter clockwise a full turn and then clockwise a full turn. Do this slowly in each direction and as you do this the engine throttle arm should be opening and closing very smoothly. If the cable is “rubbing” or “catching” on a fuel rail or decorative engine cover, the servo & cable should be repositioned to eliminate this. The stainless cable inside the black jacket **MUST** be able to seamlessly move for the control to work properly.

With key off, push manual throttle to full open position and back to neutral. PerfectPass cable should move freely in both directions.

**IMPORTANT:**

- Never “tie wrap” PerfectPass throttle cable.
- Make sure all wires are tied away from hot or moving parts and there is adequate clearance.
- The manual throttle on your boat should operate and feel the same as before the PerfectPass was installed, or you may have to adjust the hex nut.

### Step 2. *Installation of Master Module*

Mount the Master Module under the dash normally on the bulkhead in a dry, accessible location.

Route servo motor power cable from Master Module to servo motor and connect. (Use tie wraps to keep cable away from moving parts). Make sure the tips **on the plug are facing up** towards the top of the Master Module box. A wire snake will be helpful.

*Step 3. Mount Dash Display*

Remove the existing speedometer from dash. Install PerfectPass In-Dash Display and connect to Master Module. (Alternatively, you can replace the tachometer). (If there is a speedo tube on back, it must be clamped).

*Step 4. Connect Power Wire ( Purple / Black Wire)*

Depending on the boat and model, there are a number of ways to connect to a switched (12 volt) power source.

On boats with traditional analogue gauges and posts on back of tachometer, there is a 12 volt (+) post often marked (IGN) which is an easy connection for the PerfectPass purple wire. The black wire end can attach to the ground (-) post marked (GND). Alternatively, any switched 12 volt power source and ground is suitable.

*Step 5. RPM Cable Installation (Gray / Black Wire)*

The **Gray wire** with ring terminal can be easily attached to the “SEND” post on back of tachometer. This Gray wires picks up the raw engine rpm from this post. The **Black wire** ring terminal can be attached to any suitable ground, including the ground post on the tachometer. (If there is not a post, connect to the solid gray wire coming from the tachometer).

*Step 6. Install Paddle Wheel speed sensor and connect to Master Module. (See attached detailed instructions).*

*Step 7. Test system power by turning on key. Following a short delay the dash display should become active and the black servo knob should be difficult to turn indicating system is powered.*

For assistance call (902) 468-2150.

**Smart Craft**

If you have a new boat with the Mercruiser “Smart Craft”, there is not an RPM signal at the dash. You will need to locate the RPM wire lead on the engine and bring this signal to the dash.



# Installation and Set Up of Stern Drive Paddlewheel (Airmar ST300)

## Tools and Material Required

2 inch hole saw, Sealant eg. GE silicone sealer

## Installation

Depending on accessibility and trailer configuration, either of these locations will work well.

**Option #1** - In front of engine, about 8 – 10 inches from centerline. (Left or right).

**Option #2** – Behind engine, about 10 inches from center and about 8 inches from stern.

This will place the paddle on the smooth v-part of the hull. (Make sure the location will not interfere with trailer loading). Never install behind a strake, depth sounder, etc. as the flow of water must be smooth and undisturbed. Ensure there is sufficient room to pull the inner paddlewheel assembly from the housing.

The hole saw is used to cut the hole for the paddlewheel working from the bottom of the boat. (You may wish to drill a pilot hole with a drill bit from the inside to make it easier to locate from underneath).

Before disassembling the paddlewheel unit, take note of the arrow on the bottom of the housing and on the top of the inner paddlewheel assembly near the cable exit, these arrows both point forward when the unit is installed. Disassemble the paddlewheel unit by unscrewing the locking cap until it is completely free to turn, then pull complete assembly up and separate from housing. Take care not to loose the paddlewheel itself and its stainless steel shaft, which maybe free when the unit is disassembled.

Remove housing nut and rubber ring gasket. (This gasket will be installed later on the inside of boat). The sealant must be placed on the surface of the sealing flange on the housing and also on some of the lower threads of the housing to help lock the sealing nut in place. The bottom of the hull in the area of installation must be clean and dry for the sealant to seal properly; inside the bilge should also be clean to allow the seal nut to be properly tightened. Install housing from below boat with the arrow on the bottom surface of the housing pointed toward the forward direction of travel of the boat, parallel to the keel of the boat. Install gasket and seal nut should be tightened snugly by hand so that the sealant is forced out of the sealing surface and the housing flange is as close as possible to the hull surface. The excess sealant must be wiped away from the housing to give the water flow a clear path. A final check of the location of this directional arrow and inside notch in housing should be made before the sealant is allowed to setup.

Reassemble the paddlewheel unit by sliding the inner unit into the housing with the arrow on the inner housing pointing toward the front. (Ensure paddlewheel assembly is properly centered in “notch” of housing, with arrow pointing toward bow). Hand tighten the locking cap and ensure the unit is fully seated in housing.

The output cable should be run under the floor or around outside of wall and plugged into the master module.

*(Included with this unit are a “Plug” and extra paddle and axle kit.)*