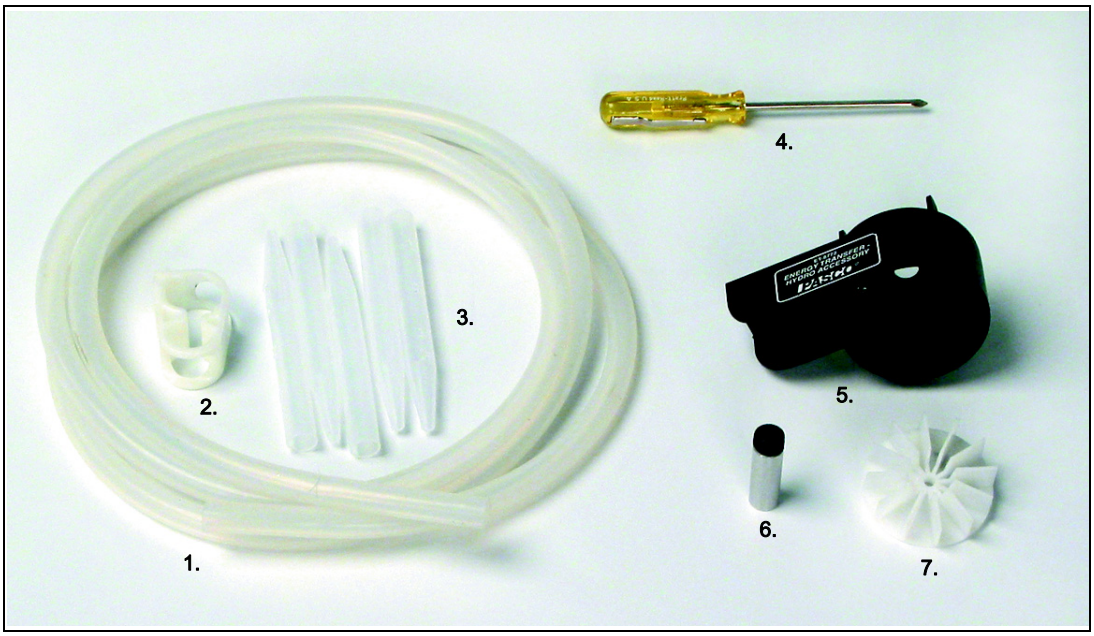
Energy Transfer - Hydro Accessory

Model No. ET-8772



Equipment List

Included Equipment	Included Equipment
1. Plastic tubing, 6.56 feet	2. Tube Clamp, 1/4-1/2” (1)
3. Nozzle (5)	4. Screwdriver, #0 Phillips (1)
5. Impeller Housing (1)	6. Nut, standoff, 3/8x6-32x1/2 (1)
7. Impeller(1)	

Additional Equipment Required	Model Number
Energy-Transfer Generator	ET-8771B
Water Reservoir	ME-8594
PASCO Interface and Data Collection Software	(See PASCO catalog)

Introduction

The Energy Transfer–Hydro Accessory (ET-8772) is used for demonstrating hydroelectric power generation and was designed for use with the Energy Transfer–Generator (ET-8771B).

The impeller fits into the Hydro Accessory housing. The nozzle fits into a spring clip on the underside of the impeller housing. The nozzle can be connected to a piece of plastic tubing and external water source.

When the nozzle is connected to an external water source, water runs through the nozzle and turns the impeller, making the accessory ideal for the study of hydroelectric power generation.

The supplied nozzles can be cut to a variety of orifice sizes and used for hydroelectric efficiency studies. The angle where the water stream hits the fin of the turbine is also adjustable and has an effect on the hydroelectric efficiency.

Setup Procedure

1. Attach the ET-Hydro Accessory housing to the shaft of the ET-Generator (ET-8771B) using the two captured screws and the supplied screwdriver.

2. Put the turbine blade on the shaft and tighten the ET-Generator knob onto the shaft screw. (NOTE: Use the knob that came with the ET-Generator; not the standoff and thumbscrew that came with the Hydro Accessory.) Put a finger in the recess of the housing and hold the magnet to keep it from turning.

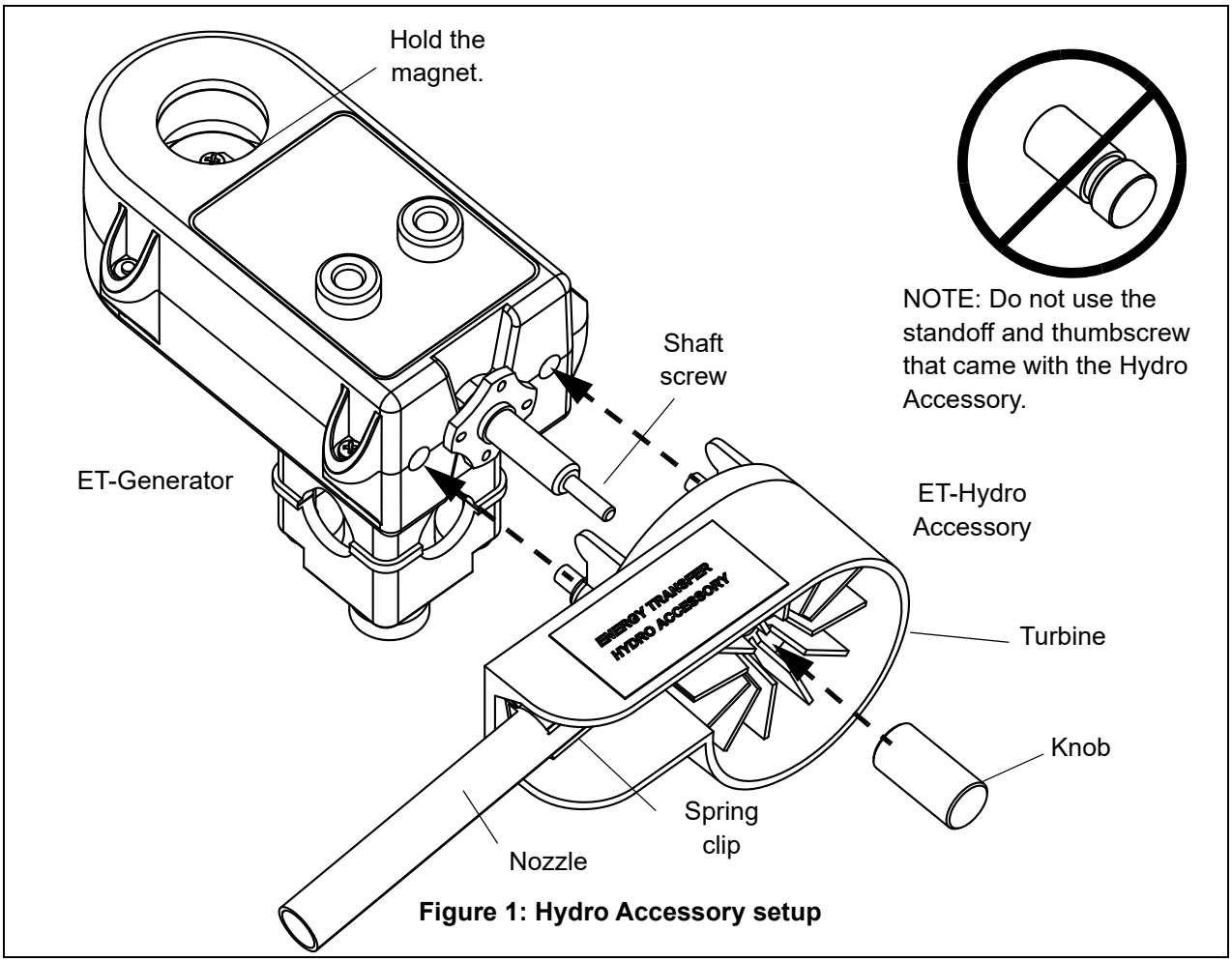


Figure 1: Hydro Accessory setup

3. Insert the pointed end of a plastic nozzle into the spring clip underneath the housing.

Note: The clip is spring loaded and can turn to adjust where the water stream hits the turbine. To increase the water flow, cut (trim) the nozzle end.

4. Connect the nozzle to a piece of tubing connected to an external water supply. (See section below and Figure 3).

Note: Have a beaker or container below the housing to collect water exiting the turbine (Figure 2).

5. Run the water supply through the nozzle of the turbine and watch the turbine spin.

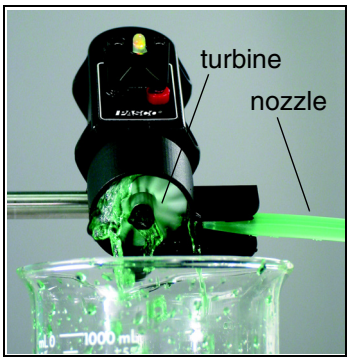


Figure 2: Nozzle Clipped in Turbine Housing

Using the ET-Hydro Accessory with the Water Reservoir

PASCO's Water Reservoir (ME-8594) is recommended for holding and supplying the water to the Hydro Accessory.

1. Connect a tube from the bottom hose fitting of the Water Reservoir to the nozzle on the ET-Hydro Accessory (Figure 3). Clamp the tube.

2. To allow water flow into the ET-Hydro Accessory, open the clamp to the bottom tube. Water will run through the nozzle and turn the impeller.

For more information on setting up the ME-8594 Water Reservoir with the ET-Hydro Accessory, see the instruction sheet for the Water Reservoir. For suggested experiments with the ET-Hydro Accessory, see the ET-8771B ET-Generator manual.

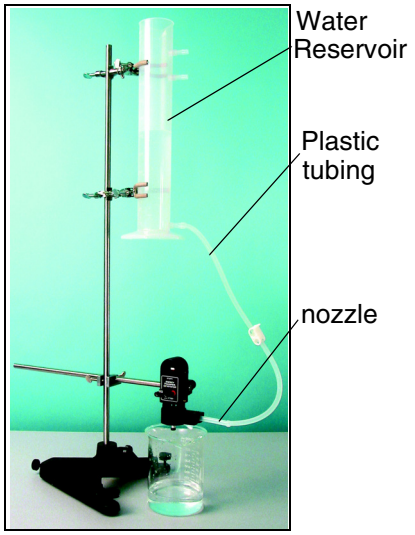


Figure 3: Water Reservoir and Generator

Technical Support

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