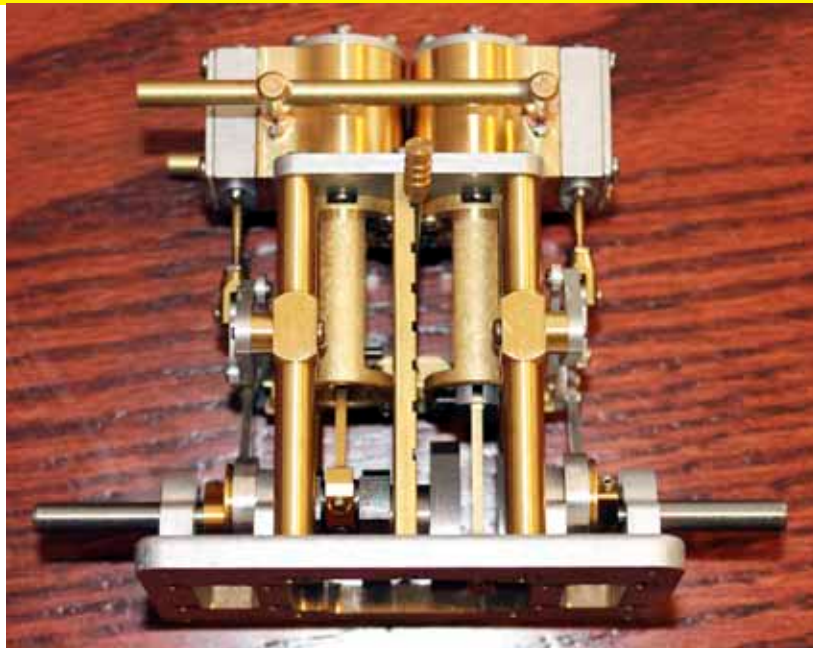


# TVR1ABB

## Steam Engine Assembly Kit



The Graham Industries TVR1ABB is a twin-cylinder, reversing steam engine with 1/2" diameter bore by 5/8" stroke. The crankpins are set 90 degrees apart so the engine is self-starting at any position of the crankshaft. A Hackworth reversing gear is used to provide reversing operation and is easily adapted to radio control. All machining is done and critical assemblies such as the silver-soldered manifolds are pre-assembled. All necessary materials and hardware are supplied with the kit. Most of the hardware is stainless steel and the machined parts are made from brass, aluminum and steel.

R166ZZ shielded ball bearings are used instead of the brass bearings that the TVR1A uses. This results in even slower low-end speeds, reduced friction and longer engine life.

Only a few hand tools are required to assemble this kit. These include: a small set of screwdrivers, needle nose pliers and a small file. Approximately 6 to 10 hours are required to assemble this engine. If desired, all parts will accept a high-polish. This will take some extra time but will produce an exhibition quality model.

With steam or air operating pressures up to 35 PSI, this is a powerful engine for model marine use. After breaking in, the TVR1ABB makes a good display model, operating reliably at low speeds with under 5 PSI pressure. Included with the kit is a detailed instruction manual with drawings, photographs and complete assembly instructions.

### Dimensions:

- Base: 3.000" x 1.844"
- Crankshaft end-to-end: 4.344"
- Crankshaft end diameter: 3/16 (.1875")
- Bottom of base to crankshaft center: .469"
- Height: 3.375"
- Weight: 323g

### Models available:

- TVR1ABB (Ready to assemble kit)
- TVR1ABB-FA (Fully assembled ready to run engine)

### Accessories available:

- TVR1AHEX (Brass hex head bolt dress up kit)



**BFLY1**

1 3/4" 5 spoke  
brass flywheel

**BFLY2**

1 3/4" 6 spoke  
brass flywheel

**MFLY**

1 3/8" marine  
brass flywheel

### Graham Industries

PO Box 15230  
Rio Rancho, NM 87174-0230  
FAX 24 hours (505) 715-4527  
Website: [www.grahamind.com](http://www.grahamind.com)

