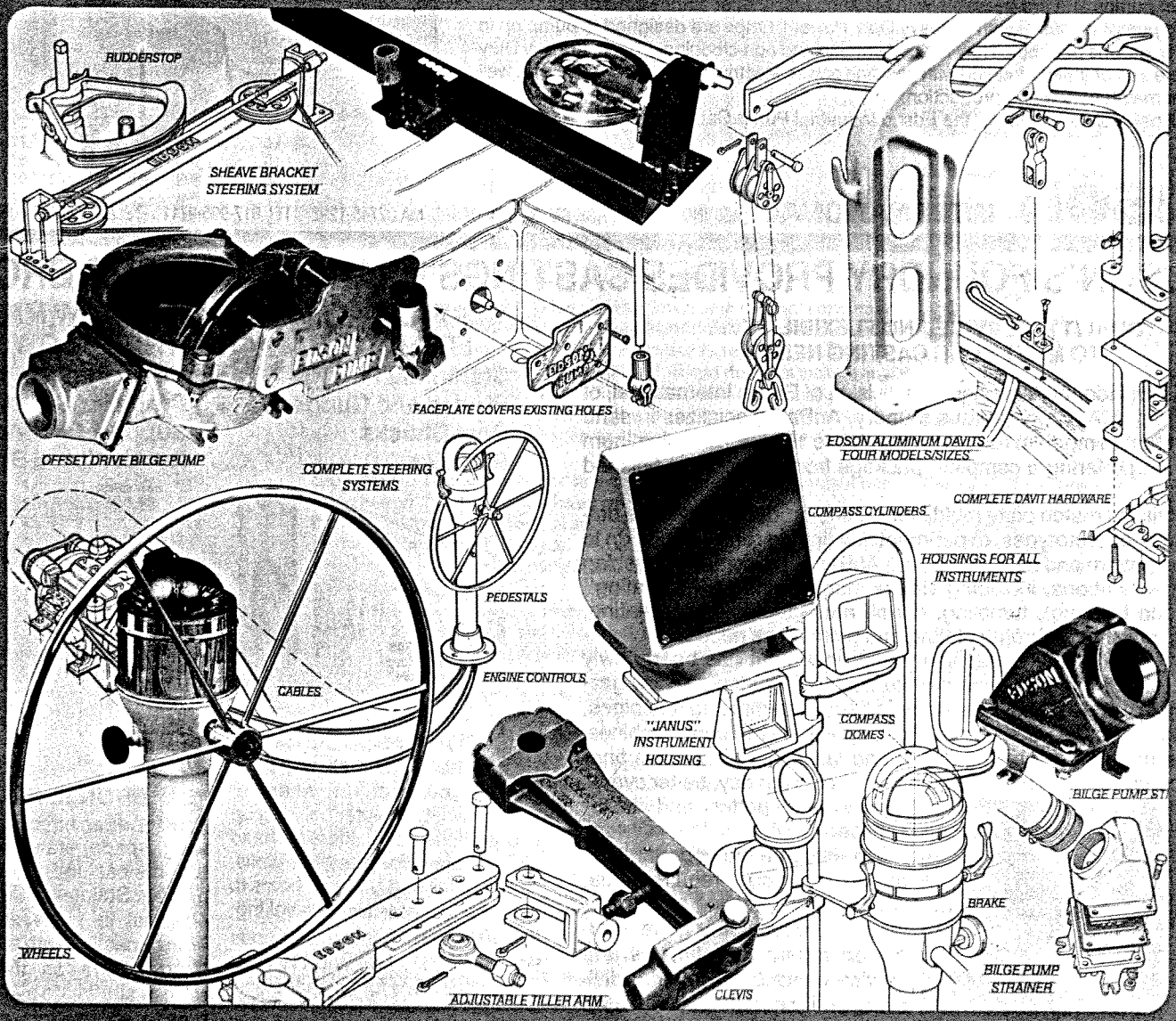
THE EDSON CORP., 460 INDUSTRIAL PK. RD., NEW BEDFORD, MA 02745-1292 TEL. 617-995-9711 TELEX 95-1337 FAX 617-995-5021

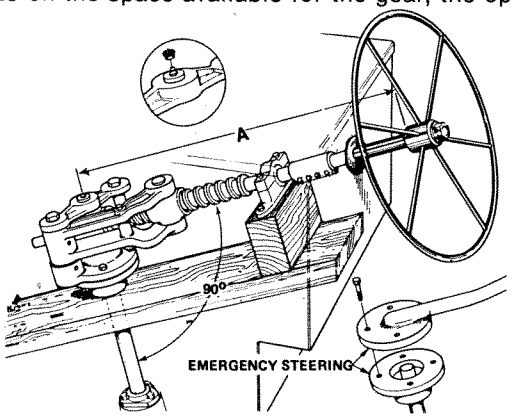
Contact Your Edson Dealer

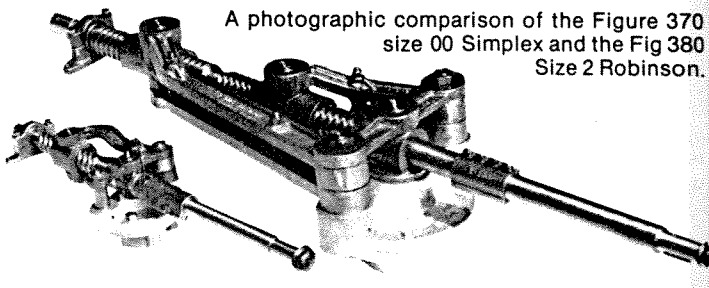
Edson INTERNATIONAL



Edson WORM STEERERS

Edson offers three basic models of Worm Steerers: Simplex, Robinson, and Meteor. The Simplex is the most popular model and is manufactured in three sizes for boats up to about 50 feet/*15m* in length. There are two basic designs of the Simplex; one with the worm mechanism forward of the rudderpost, the other with the mechanism aft of the rudderpost. The actual choice depends on the space available for the gear, the operating features are identical.





A photographic comparison of the Figure 370 size 00 Simplex and the Fig 380 Size 2 Robinson.

Three Edson Worm Steerers for boats 45 to 85 feet overall length. Great care must be taken to select the proper gear by size and model and it is recommended that plans be sent to Edson for review by Edson.

The Meteor is a steerer that has an equal amount of worm forward of the rudderpost as well as aft of the post. The Robinson is available with either both worms forward of the rudderpost or all aft of the rudderpost. Both Meteors and Robinsons have an extension aft for attachment of an Auto-Pilot.

WORM STEERER SELECTION CHART

Steerer Size	Turns Hard-Over to Hard-Over in 90 degrees	Overall Length of Boat	Rudder Post Bores	Approx. Steerer Weight
Simplex 00	3.25	35	1″ Pilot 1¾″ max.	33/*15k*
Simplex 0	3.75	35-45	1″ Pilot 2″ max.	48/*22k*
Simplex 1	4.50	45-55	1¼″ Pilot 2½″ max.	72/*32k*
Meteor 1	4.50	45-65	″ ″	120/*54k*
Robinson 2	6.0	65-85	2½″ Pilot 3¼″ max.	230/*105k*

If in doubt as to steerer size, if the boat is very heavy, or if the boat is to be sailed offshore, go to the next larger size. Your naval architect must be consulted as to the final selection.

Wheel Shaft Size to fit Wheel Bore 1″, 2-3/8″ Hub Length 1/4″ key. Special Wheel Shaft Diameters Available.

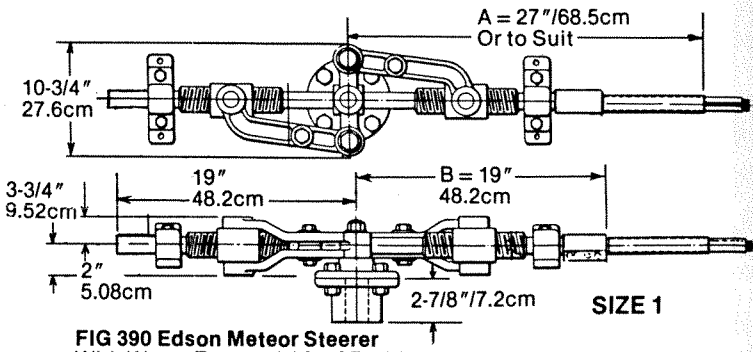


FIG 390 Edson Meteor Steerer
With Worm Fore and Aft of Rudderpost. Wt. 128 lbs./58.5 k

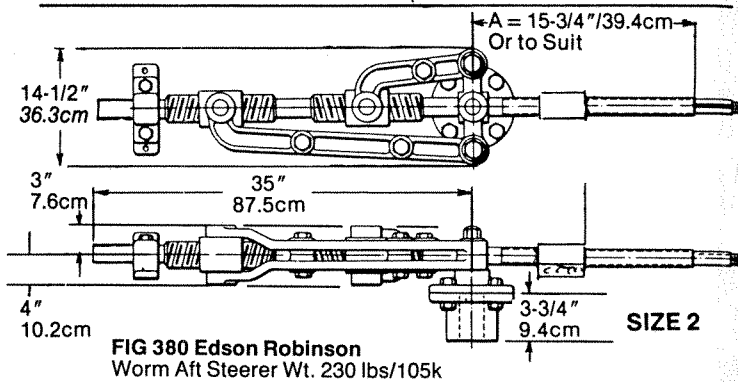


FIG 380 Edson Robinson
Worm Aft Steerer Wt. 230 lbs/105k

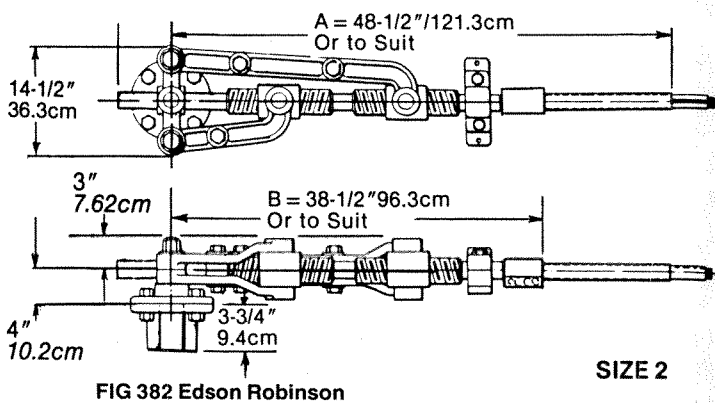


FIG 382 Edson Robinson
Worm Forward Steerer Wt. 230 lbs/105k

Worm steerer installations must be well designed and well thought out from all standpoints. The basic system is mounted at 90° to the rudderpost and is rigid at this point. The Self-Aligning Bearing supplied with the gear must be well bolted down to a timber or strong moldment on a fiberglass design. It is important to design in the basic features that make for a successful installation. It is recommended that the top of the wheel, the actual part you hold onto, be 31″/*79cm* to 33″/*82cm* up from the cockpit floor. This will allow standing beside the wheel without reaching down to the wheel, also sitting in back of the wheel or alongside it and have the wheel at a convenient height.

Essentially a Worm Steerer is a non-reversing system with little to no "feel" and is most commonly used on a long-keeled cruising design. The steerer design features more turns of the wheel from hard over to hard over than is normally designed into a wire type of pedestal systems.

The Worm Steerers would then not be recommended for a short-keeled fast turning boat or one that does not track as well as the long-keeled boats. The non-reversing feature will hold the wheel in place on most boats most of the time. It will give or turn if the boat is hit by a large wave or the boat has an excessive helm due to basic design, force of the wind, or balance of the sails. The gears are strong and relatively heavy as they must stand all of the strain of the rudder when transmitted to the gear.

The shaft extension or the wheel shaft itself can be easily adpated to an Auto-Pilot by the addition of the necessary pilot sprocket. The choice of the location is one that will allow the sprocket chain to be led at right angles to the worm shaft directly to the Auto-Pilot motor box.

When ordering, advise Edson of Rudderpost bore diameter, Keyway size and Keyway position — these will be machined by Edson. If a special "A" length is required, be sure to include it.

SIMPLEX WORM STEERERS

Edson

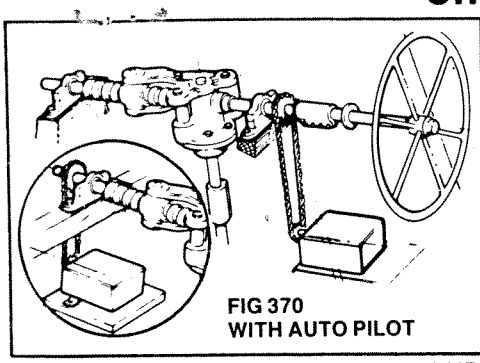
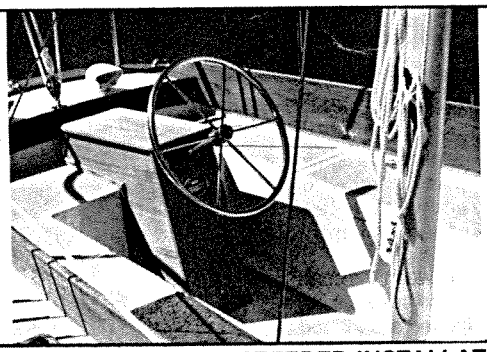


FIG 370
WITH AUTO PILOT



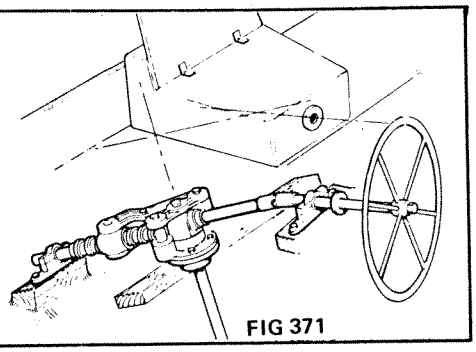


FIG 371

THREE TYPICAL WORM STEERER INSTALLATIONS

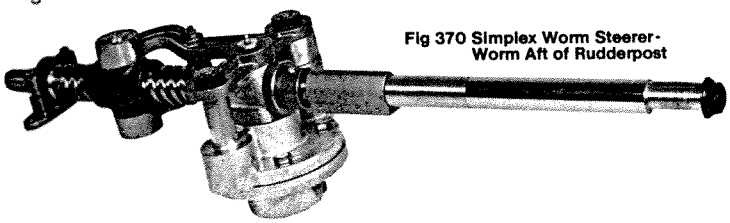
WORM AFT OF THE RUDDERPOST.

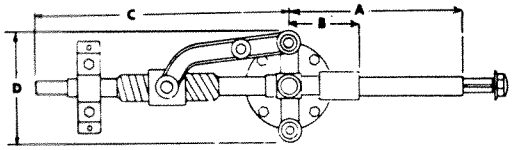
For those boats with room aft of the rudderpost for the mechanism of the steerer. The most common installation is the *Fig. 370* which is a straight forward gear with the wheel at the same angle as the rudderpost. The different styles of steering boxes/seats should be noted in the drawings and photographs. The more comfortable you make the handling of the boat the more pleasure it gives, and even more important the longer a helmsman can steer without becoming tired.

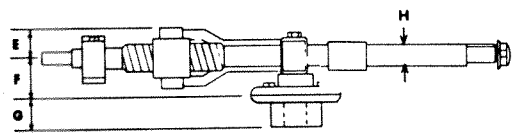
Note on the drawing above the *Fig. 370* with the optional *Fig. 679 Coupling* and the *Fig. 782 Rudderpost Extension.* These parts which are necessary when the steering gear is attached to the top of the original rudderpost, would then place the top of the wheel below the 32"/*81cm* to 33"/*84cm* recommended height. As noted under the above Figure numbers in the catalog these parts are available in many sizes and lengths and can be made to order to fit the boat's special requirements.

The Worm Steerers are all simple in design and many have seen hard usage for 15 to 20 years. They are constructed of time proven materials. The wheel shafts are stainless steel, the worm shaft steel, the arms and bearings are cast bronze. The traversing nut is bronze with replaceable "Babbitt" Threads. The Rudderpost Flanges are cast iron. The Simplex Steerers have a single balanced thread with bronze thrust washers.

Fig 370 Simplex Worm Steerer-
Worm Aft of Rudderpost







DIMENSIONS FIG. 370 (INCHES & CM)

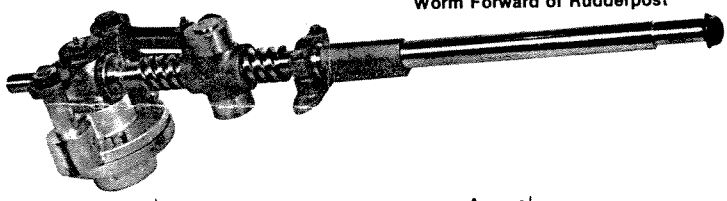
Size	A(370)	B(370)	C	D	E	F	G	H
00	14-1/4 *36.1*	6-1/4 *15.8*	14-1/4 *36.1*	7 *17.8*	1-3/4 *4.44*	2-1/4 *5.86*	2 *5.08*	1 *2.54*
0	15 *38.1*	7 *17.7*	16 *40.6*	9 *22.9*	2-1/8 *5.4*	3-1/4 *8.12*	2-5/16 *5.87*	1 *2.54*
1	16 *40.6*	8 *20.3*	19 *48.2*	13 *33.2*	2-3/16 *5.55*	3-3/4 *9.3*	2-3/4 *6.98*	1-1/2 *3.8*

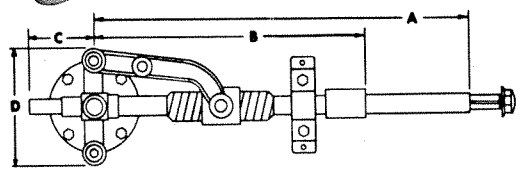
The box that encloses the gear should be watertight yet easily removable. There are several sketches and photographs that illustrate some of the designs that have been successfully employed. Being built up they do offer an excellent seat and will also give better visibility over the house. A simple hinged folding seat back can be built, cushions added and the helmsman will have cruising luxury. In all cases keep the seat low enough so the helmsman's feet are firmly planted on the cockpit floor or other brace. If they are left dangling the circulation will be cut-off and the position becomes uncomfortable.

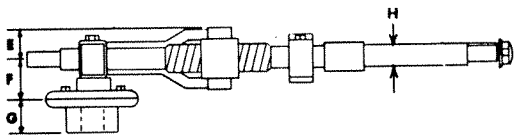
WORM FORWARD OF THE RUDDERPOST:

This model places all of the mechanism forward of the rudderpost. The "B" dimension is the minimum length of the steerers. The "A" dimension is variable down to "B"+ ½"/*1.27cm* or it can be made longer at additional cost. As a guide the exposed shaft that is between the steerer box and the aft side of the wheel should be about 6 inches long for proper leg clearance. Special wheel bores can be obtained at a small additional cost. Advise Edson of the bore, bore length, and keyway size that fit your requirements. Note the "C" dimension covers a 1"/*2.54cm* diameter shaft with ¼"/*.635cm* keyway. This stub shaft is excellent for an Auto-Pilot Drive Sprocket. Note the Self-Aligning bearing should be as close to the wheel as is reasonably possible. It can be placed either forward or aft of the shaft coupling. The bearing being close to the wheel reduces any "Rubberiness" of the wheel.

Fig 372 Simplex Worm Steerer-
Worm Forward of Rudderpost







Furnish Edson the rudder post size and keyway size and its location based on 0° being the bow. Figure 371 and 373 are supplied with universal assembly's and an extra bearing and the "A" dimension is about 2½" longer than the 370 and 372 fixed shaft steerers. For full paticulars please send for information sheet from Edson engineering.

DIMENSIONS FIG. 372 (INCHES & CM)

Size	A (372)	B(372)	C	D	E	F	G	H
00	24-1/4 *61.6*	16-1/4 *41.2*	4-1/2 *11.4*	7-1/2 *19.2*	1-3/4 *4.44*	2-1/4 *5.7*	2 *5.08*	1 *2,54*
0	26 *50.0*	18 *46*	5 *12.7*	9 *22.8*	2-1/8 *5.4*	3-1/4 *8.12*	2-5/16 *5.87*	1 *2,54*
1	29 *73.9*	21 *53.3*	6 *15.4*	13 *33.2*	2-3/16 *5.5*	3-3/4 *9.3*	2-3/4 *6.98*	1-1/2 3.8

REQUIRED MAINTENANCE

For maintenance of all Edson Steering Systems we recommend using #30 Oil on all Pivot Points and Water Pump Grease on the worm itself and on the grease fitting on the center of the steerer. Check the flange alignment by loosening the four bolts on the top of the steerer and check as on a propellor shaft coupling. The 90° angle is extremely important and this point will cause binding if not correctly aligned. Inspect and oil frequently.