

Edson

INTERNATIONAL

Edson CDi™ Steering System Installation Guide & Owner's Manual Model 464



Rating Specifications

Spacemaker CDi and Diamond Series CDi Specifications:

Maximum Wheel Turns Lock-to-Lock: 1.8 @ 72 degrees of rudder travel

Maximum Permissible Output Force: 2800 lb./12,500 N

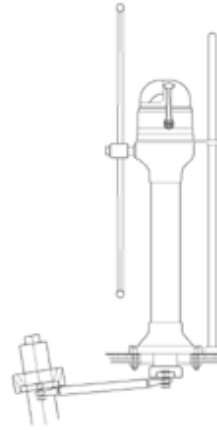
Maximum Rudder Torque at Midships: 1860 lb.ft./257 Kgmf

Maximum Rudder Torque at Full Lock: 3300 lb.ft./ 457mkg

CDi Steerers fully comply with ISO13929 and are CE Approved.

Basic System Components

1. Steering Pedestal
2. Output Lever
3. Stop Ring/Backing Plate
4. Draglink
5. Tiller Arm
6. Wheel (purchased separately)



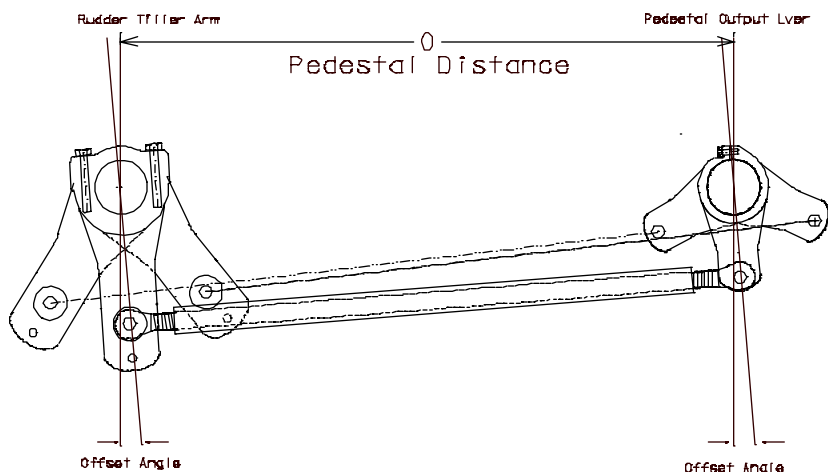
General Description

The **Edson CDi Geared Steering System** is the most advanced geared system for yachts available today. The combination of the *360° Circular Rack, Interlocking Gears, Large Diameter Downshaft, Oversize Stainless Bearings*, and all non-magnetic, marine-grade materials make the **Edson CD-i Geared Steering System** extremely reliable and sensitive. The pedestal includes the *Circular Rack Gear with Integral Wheel Shaft/Pinion Gear and Torque Tube* and is supplied standard with a wheel brake. Steering Wheels are available in a large number of sizes along with a full range of accessories for a custom look. The *Draglink and Tiller Arm* are machined to customer specifications for an exact fit. Refer to **Table 1** to determine required measurements for CDi planning and installation. Please ask for special instructions for fastening tiller arms to composite shafts.

CD-i Installation Overview

The **Edson CDi Geared Steering System** has been designed to allow for ease of installation and adjustment. Please read over the following guidelines completely before starting the installation process. If you experience any problems, or have any questions concerning the installation or operation of the *CDi Steerer* that are not covered here, please contact your *Edson Distributor* or Representative, or *Edson Customer Service*. We will be happy to provide technical assistance.

Wide Angle Geometry provides greater sensitivity and control. As you turn the wheel farther the angle between the draglink and the centerline increases (gets wider). This provides the most mechanical advantage where the rudder loads are highest and the greatest sensitivity with the rudder near midships.



CD-i Installation Instructions

1. After carefully locating the pedestal mark the center on the cockpit sole and cut a six inch diameter hole. Seal the cut edges of the deck with epoxy. Before mounting the pedestal be sure that the cockpit sole will carry the loads of the steerer and the pedestal. Remember the helmsman and crew will be using this for support in heavy weather.

2. With the wheel installed place the pedestal on the deck making sure that the wheel is squared to the centerline. Mark the four mounting holes. Move the pedestal and drill a one half inch clearance hole for each mounting bolt.

3. The stop ring is installed on the underside of the deck using the pedestal mounting bolts. Set the pedestal over the hole and loosely mount the stop ring below decks. For proper placement of the stop ring align the pedestal bolts with the bolt hole slots that correspond to the **Offset Angle** for your installation (see table below).

Screw the stop ring to the deck. Once you have fitted the pedestal and set the appropriate offset, remove the pedestal and bed the base and fasteners with an good quality marine sealant and fasten the pedestal and stop ring to the deck.

4. Spread the output lever at the split using the blade of a screwdriver. With the key inserted into the keyway slide the lever onto the output shaft and tighten the clamping bolts.

5. Attach the tiller arm to the ruddershaft. Be sure that the arm is offset forward the correct amount before drilling the rudder shaft for a pin. (Note: if your tiller arm is keyed the angle is preset.)

6. Install the draglink on the pin of the output lever and the pin on the tiller arm. Adjust the length so that the output lever is centered between the stops when the rudder is centered to the boat.

**Example with
6° Offset**

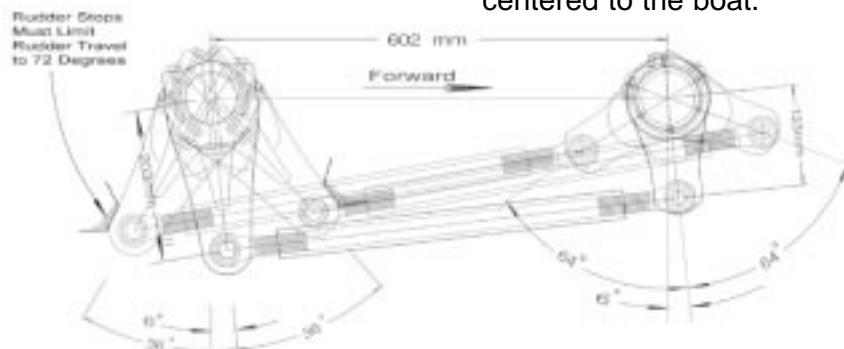


Table 1

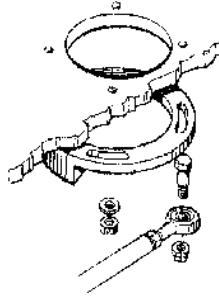
<i>Distance C/L Pedestal to C/L of Rudderpost</i>		<i>Offset Forward</i>
in .	m m	
7.5 - 8.5	190 - 215	20°
8.5 - 9.5	215 - 240	18°
9.5 - 10.5	240 - 265	16°
10.5 - 11.5	265 - 290	14°
11.5 - 13	290 - 330	12°
13 - 17.7	330 - 450	10°
17.7 - 22.5	450 - 570	8°
22.5 - 31.5	570 - 800	6°
31.5 - 50	800 - 1300	4°

Rudder Stops

Rudder stops are essential for any steering arrangement.

The Rudder Stop Ring / Backing Plate provides a simple to install rudder stop that also provides additional reinforcement to the cockpit floor. Proper alignment of the Rudder stop is critical for it to work correctly.

For proper placement of the Stop Ring, align the pedestal bolts with the degree marks along the bolt-hole slots that



correspond with the **Offset Angle** for your particular installation (see chart). For example, if the Offset Angle is 12 degrees, the bolts should be centered on the 12 degree mark on the bottom of the Rudder Stop Ring. The offset angle is always forward.

Larger vessels should use conventional independent rudder stops at the tiller arm.



When Independent stops are installed the tiller arm travel should never exceed 72°. Allowing additional travel will cause the output lever to over travel and may result in loss of steering or the failure of the system.



Testing and Operation

For complete information on Testing and operation refer to the **Installation Checklist EB-419**

Steering Brake



The brake engages by rotating the knob at the wheel hub in a clockwise direction. It releases by rotating the knob anti-clockwise.



OPERATING THE AUTOPILOT WITH THE BRAKE ENGAGED MAY CAUSE PREMATURE BRAKE WEAR

Warnings

THE WHEEL MUST BE HELD FIRMLY WHILE BACKING DOWN.



ALLOWING THE STEERING WHEEL TO SPIN FREELY WHILE OPERATING THE VESSEL IN REVERSE CAN CAUSE SHOCK LOADING WHICH MAY LEAD TO A LOSS OF STEERING OR DAMAGE TO THE STEERING SYSTEM.



CD-i Maintenance

The **Edson CD-i Geared Steering System** has been designed for years of trouble-free service. But as with all systems used in the harsh marine environment, proper maintenance and care is required so that the system stays in like-new condition.

Seasonally:

1. Remove the compass and the 4 screws holding the compass and/or engine control to the Pedestal Top. Apply anti-seize lubricant to the bolts when re-installing.

2. Lubricate the Rack and Pinion Gears with teflon grease such as Superlube, **Edson** part number 827-3.

Twice a Season:

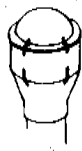
1. Clean the pedestal and components with fresh water and wax all painted surfaces with a high-quality wax.

2. Grease Needle Bearings with Teflon grease.

3. Apply a small amount of the Teflon grease to the balls on the draglink assembly and move the ball joint side to side.

Monthly

1. Check that the output lever, drag link and tiller arm are secure. Check fasteners on the Output Lever and Tiller.



Tech Tip: For proper alignment when reinstalling the compass, we recommend placing three or four pieces of tape on the pedestal and compass as shown. Slit the tape when removing compass for realignment during reassembly. Your compass **MUST** then be checked for accuracy before using the boat.



Now Available Onboard Spares Kit



CDi Spares Kit 312-CDi

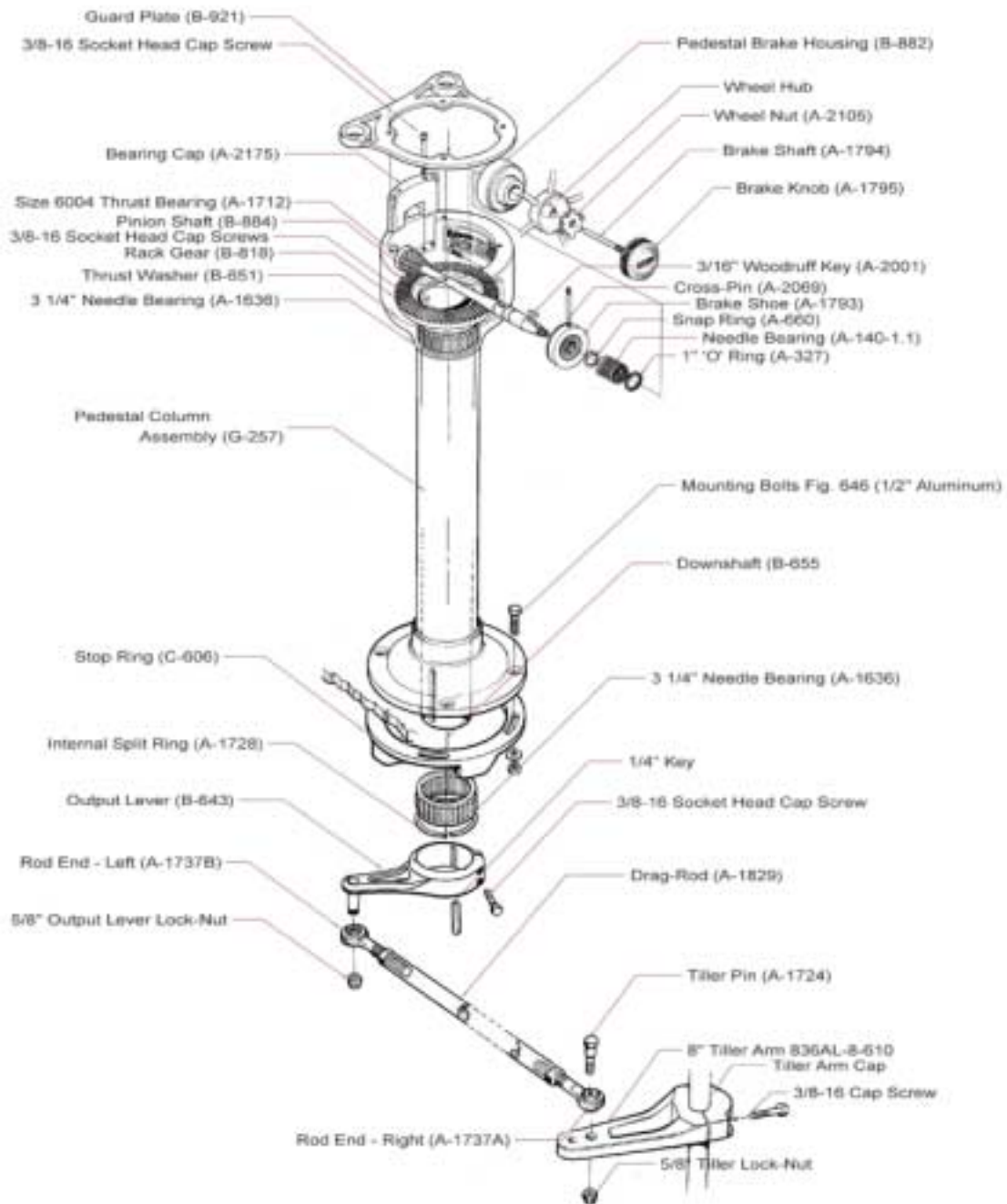
The ideal onboard spares kit for any Edson CDi Steering System.

Includes:

- 1- A-1737A RH Rod End
- 1- A-1737B LH Rod End
- 1-Wheel Shaft Key
- 1-SS Shaft Washer
- 1- SS Snap Ring
- 1- 3oz. Teflon Lube

Available from your Edson Dealer.

Classic™ CD-i Parts Diagram Model 464



464 Classic CD-i Pedestal Parts List

Quantity	Part Description	Edson Part #	Edson Reference
1	Owner's Manual		<i>EB-417-01</i>
1	464 Classic Pedestal		
1	Pedestal Column Assembly	G-257	
1	Output Lever Assembly	B-643	
1	Key for Output Lever	B-171-8	
1	Stop Ring	C-606	
2	Internal Split Ring	A-1728	
2	3 1/4" Needle Bearing	A-1636	
1	Downshft	B-655	
1	Circular Rack Gear	B-818	
1	Thrust Washer	B-651	
1	Pinion Shaft	B-884	
1	Thrust Bearing	A-1712	
1	Bearing Cap	B-921	
1	3/16" Woodruff Key	A-2001	
2	1" Snap Rings	A660	
1	1" Needle Bearing	A-140-1.1	
1	O Ring	A-327	
1	5/8-18 Wheel Nut	A-2105	
1	Brake Housing	B-882	
1	Brake Shoe	A-1793	
1	Brake Cross Pin	A-2069	
1	Brake Shaft	A-1794	
1	Brake Knob	A-1259	
1	Tiller Arm	836AL-8-610	
4	Pedestal Mounting Bolts	646-4HEX	
1	Draglink Assy. (A-1737L&R Ends w/A1729Rod)	617-CDi	