OPERATION

ENGINE OPERATING INSTRUCTION

The engine installed in your yacht has already been run and all systems tested before it left the O'Day plant.

Study your owner's manual and get to know your engine. The knowledge could be of great assistance to you. Also, some manufacturers have clinics aimed at the customer; contact them for details.

It is advisable that you follow the engine manufacturer's procedures and recommendations on run-in and maintenance.

On yachts with propeller shafts, please use the following procedures:

Alignment of Engine to Shaft

The engine must be properly and exactly aligned with the propeller shaft. No matter what material is used to build a boat, it will be found to be somewhat flexible; and when launched, the boat hull will change its shape to a greater extent than is usually realized. It is, therefore, very important to check the engine alignment at frequent intervals and to correct any errors when they appear.

Misalignment between the engine and the propeller shaft is the source of trouble which are often blamed on other causes. It will create excessive bearing wear, rapid shaft wear, or leakage of transmission oil through the rear seal. A bent propeller shaft will have exactly the same effect, and it is, therefore, necessary that the propeller shaft itself be perfectly straight.

The engine should be moved around on the bed and supported on the screw mounts until the two halves of the couplings can be brought together without using force and so that the flanges meet evenly all around.

Never attempt a final alignment with the boat on land. The boat should be in the water and have had an opportunity to assume its final water form. It is best to do the alignment with the fuel and water tank about half full and all the usual equipment on board and after the main mast has been stepped and final rigging has been accomplished.

Take plenty of time in making this alignment, and do not be satisfied with anything less than perfect results.

The alignment is correct when the shaft can be slipped backward and forward into the counterbore very easily, and when a feeler gauge indicates that the flanges come exactly together at all points. The two halves of the propeller coupling should be parallel within 0.003 inches.

In making the final check for alignment, the engine half coupling should be held in one position, and the alignment with the propeller coupling checked in each of four positions, rotated 90^{o} between each position. This test will also check whether the propeller half coupling is in exact alignment on its shaft. Then, keeping the propeller coupling in one position, the alignment should be checked, rotating the engine coupling as described above.

The engine alignment should be rechecked after the boat has been in service for one to three weeks and, if necessary, the alignment remade. It will usually be found that the engine is no longer in alignment. This is not because the work was improperly done at first, but because the boat has taken some time to take its final shape. It may even be necessary to realign at a further period.

The coupling should always be opened up and the bolts removed, whenever the boat is hauled out or moved from the land to the water and during storage in a cradle. The flexibility of the boat often puts a very severe strain on the shaft or the coupling or both, when it is being moved.

During the alignment procedure, check the set screws which hold the propeller half coupling to the shaft. These must be tight, in contact with the shaft, and safety wired.

Stuffing Box

The stuffing box provides a seal for the propeller shaft at the inner end of the shaft log. It is connected to the shaft log with heavy wall hose, double clamped at each end. This flex hose allows the stuffing box to maintain alignment with the prop shaft without creating excess wear of the packing, due to misalignment or vibration. The packing used is wax impregnated 3/16" x 3/16" square flax.

When the shaft is turning, it is normal to have a slight leakage at the seal, about one drop per 30 seconds. This acts as a coolant, as well as a lubricant, to protect the seal and shaft

surface. Should excessive leakage be apparent, release the lock nut and tighten the packing nut slightly and retighten the lock nut. Restart engine and check again with shaft turning.

When it becomes necessary to replace the packing (boat should be hauled), loosen the lock nut, back off the packing gland nut, and slide it forward on the shaft. Remove all the old packing and replace it with three rings of new packing. Stagger the ends of each ring so as not to provide a path for water to leak through.

Do not wind one continuous strip spirally around prop shaft to make a seal.

Slide the packing gland back and tighten enough to create a heavy drag on the shaft. This will seat and form the packing.

Back off the packing nut until the shaft feels free and reset the lock nut. Recheck for proper leakage when boat is returned to the water. Be sure the lock nut is secure, as operating the boat in reverse could cause the packing gland to screw off the stuffing box, allowing water into the boat.

FLOODING OF ENGINE WITH WATER

Your O'Day is supplied with a water-lift (wave suppressor) type of muffler that under normal conditions, when the engine is not running, provides wave suppression and water storage to help keep water from flooding the engine.

NOTE: There is a direct path from the overboard exhaust port via the water-lift muffler to the engine and from the water pump to the muffler. Accidental conditions (sea) and operator error (prolong starting attempts), can thus cause an excessive volume of water to fill the muffler and flood the engine.
UNDER SUCH ACCIDENTAL SEA AND/OR MISUSE CONDITIONS, ENGINE FLOODING MAY BE UNAVOIDABLE.
In the final analysis there is no way to stop the flooding under accidental sea and/or misuse conditions.

Sea Flooding:
Your O'Day exhaust system is designed and installed to the highest standards and, as stated above, could still flood under certain heavy-sea conditions. The only added safety precaution you could add would be to install a rubber flap to the overboard exhaust port. This would dramatically slow the surge effect of waves hitting the port.

Operator Error:
This is a nagging source of water in the engine and occurs when an operator repeatedly attempts to start an engine; i.e., he "grinds" the starter - not 2 or 3 times - but continually.

The amount of cranking time varies from engine-to-engine, factors being the amount of each piston's displacement, the water pump's capacity, and whether the battery is cranking a full R.P.M.

FUELING PROCEDURE

DANGER: FAILURE TO FOLLOW THESE FUELING DIRECTIONS COULD CAUSE A FIRE OR EXPLOSION WHICH COULD RESULT IN SERIOUS BURNS OR DEATH.

When preparing to fuel your boat, the following procedures should be followed to assure safety:

A. Properly secure the boat to the dock.

B. Turn off the engine, stove, heater, radio, lights, etc.

C. Turn battery switch to OFF.

D. Close all hatches, ports, etc., to prevent entry of fumes.

E. Maintain continuous contact between the nozzle and deck plate to prevent a static charge.

F. Fill tank to a maximum 95% of capacity to allow for expansion.

G. Clean any spills after replacing and tightening fuel-fill cap.

H. Before operating the engine or turning battery switch to ON, open all hatches and check for fuel leaks.

Always be sure the fuel-fill cap is tight, to prevent water and dirt from getting into the fuel tank. Periodically check the fuel filter and water separator. Those should be drained and cleaned, as needed. The filter elements should be replaced annually.

WHEEL STEERING

Pedestal Steering. Steering gear on your boat has been selected and installed to give you smooth and reliable steering action. A basic familiarity with the steering system will help you avoid trouble. Heavy duty linked chain and sprockets in the steering pedestal control the steering cables. The cables run to a metal sheave box located under the cockpit sole and then to a steering quadrant bolted to the rudder post. Access is via the cockpit seat hatch.

Service. It is imperative that the steering system be inspected and lubricated at regular intervals. All sheaves in the system should be inspected for wear and alignment. The rudder post bearings should be lubricated with a heavy marine grease at frequent intervals. A grease fitting is provided in the rudder post assembly. The steering cable tension may be adjusted on the steering quadrant. Cable tension should be as tight as possible without causing excessive system friction. If in doubt, have a competent mechanic inspect and adjust the system. Cable tension should be checked periodically because stainless cable will stretch.

Emergency Steering Gear. The emergency tiller should be stored in a convenient and accessible place. A deck plate in the cockpit provides access to the rudder post. The emergency tiller is slotted to match the cross pin in the rudder post. It is recommended that you practice the installation procedure before an emergency arises.

Master AC and DC Control Panels. The master electrical control panels are located on the aft bulkhead, behind the companionway stairs. The AC master panel includes circuits for the water heater and 110 volt outlets. The DC master and accessory panels handle all other electrical systems.

Circuit Breakers. Accessory loads may be selected as desired by turning on the master-control panel circuit breakers. The circuit breakers will automatically open the circuit by switching themselves to "OFF" in the event of an overload on a particular circuit. Always investigate the cause of the overload and correct any deficiencies before re-positioning the circuit breaker to "ON".

ALL WIRES, CONNECTIONS, AND TERMINALS SHOULD BE INSPECTED REGULARLY FOR LOOSE CONNECTIONS WHICH MAY CAUSE ELECTRICAL SPARKS, HIGH RESISTANCE, OR FIRES. THIS IS ESPECIALLY IMPORTANT FOR ENGINE ACCESSORY WIRING.

The voltage meter in the DC panel will give you an indication of your battery condition. By moving the battery test switch to the #1 or #2 position, you can check the individual batteries. This may be checked with the selector switch in the "OFF", "1" or "2" position, but not in the "BOTH" position, as this will give you the combined condition of the batteries. The condition of the batteries should be checked frequently, and the batteries should be kept as fully charged as possible to assure long life. Allowing a battery to run down, or deep cycled, for a prolonged period could kill the battery. Be sure to check the battery fluid level and add water, if needed.

Battery Selector Switch

Before leaving your boat, always turn the master-battery switch to the "OFF" position to prevent power drainage. DO THIS ONLY AFTER YOU HAVE SHUT DOWN THE ENGINE, for you may burn out the alternator diodes.

CAUTION!

You may switch from one battery to another for charging, but DO NOT pass through the "OFF" position while the engine is running. This may burn out the alternator diodes. Keep the engine RPM as low as possible, when switching batteries.

Shore-Power System (Optional)

The shore-power system accepts 110V AC through a three-prong male connection located in the cockpit. There are two current carrying conductors, positive and negative, as well as a grounded non-current carrying conductor. WARNING: NEVER USE AN ADAPTER THAT ELIMINATES THE GROUNDING CONDUCTOR. SEVERE SHOCK, INJURY, OR DEATH MAY RESULT.

A master-circuit breaker (30 amp.) is provided for the shore-power system, as well as branch-circuit breaker for the water heater and 110V outlets. To activate shore power, throw the circuit-breaker switch after the shore-power line is connected to dock power.

In addition, there are both audible (buzzer) and visual (yellow light on panel) reverse polarity indicators. With all switches off, attach the power cable to the inlet. Next, attach the power cable to the dockside outlet. WARNING: IF THE POLARITY INDICATOR LIGHTS AND/OR SOUNDS, DISCONNECT THE CORD IMMEDIATELY! THIS INDICATES A REVERSE POLARITY SITUATION, WHICH IS DANGEROUS.

ELECTRICAL - Continued

Shore-Power System (Optional) - Continued

SEVERE SHOCK, INJURY, OR DEATH MAY RESULT. DIAGNOSE AND CORRECT THE PROBLEM BEFORE PROCEEDING.

If the polarity is correct, switch on the breaker for the outlets and/or hot-water tank as desired. Be sure the hot-water tank is full before turning on the circuit, or you will damage the heating element (see plumbing and commissioning sections).

It is recommended that all appliances or lights be wired with three-prong grounded plugs.

GROUND FAULT INTERRUPTER

For your safety, the 110V AC outlets in this yacht are protected by an INTERRUPTER ground fault circuit interrupter receptacle and are so indicated by appropriate labels. In the event of power failure which has not affected the fuse or breaker serving these particular outlets, unplug all cord-connected appliances from the INTERRUPTER protected outlets, and restore power by pressing in the red RESET button on the INTERRUPTER receptacle. To test, press the yellow TEST button. The RESET button will pop out exposing the word TRIP, indicating that power is off at the INTERRUPTER protected outlets. Push the RESET back in and reconnect the appliances one at a time. A defective appliance which trips the INTERRUPTER should be repaired at once.

If the RESET button will not stay in after all appliances have been disconnected from the circuit, call a qualified electrician.

GROUND FAULT INTERRUPTER - Continued

If the RESET button does not pop out when the yellow TEST button is pressed, PROTECTION IS LOST. Do not use any outlets on the circuit. Call a qualified electrician. TEST REMINDER: FOR MAXIMUM PROTECTION AGAINST ELECTRICAL SHOCK HAZARD, TEST YOUR GROUND FAULT CIRCUIT INTERRUPTER AT LEAST ONCE A MONTH. TEST PROCEDURE: 1. Push yellow TEST button. The red RESET button will pop out, exposing the word TRIP. Power is now off at all outlets protected by the INTERRUPTER, indicating that the device is functioning properly. 2. If TRIP does not appear when testing, do not use any outlets on this circuit. Protection is lost. Call a qualified electrician. 3. To restore power, push RESET button.

The INTERRUPTER is designed to protect people from the line-to-ground shock hazards which could occur from tools or appliances operating from this device, or from down-line outlets protected by it. It does not prevent electric shock, but does limit the time of exposure to a period considered safe for normally healthy persons.

It does not protect persons against line-to-line or line-to-neutral faults. The INTERRUPTER does not protect against short circuits or overleads. This is the function of the fuse or circuit breaker.

CAUTION: Persons with heart problems, or other conditions which make them susceptible to electric shock may still be injured by ground faults on circuits protected by the INTERRUPTER. No safety

devices have ever been designed which will protect against carelessly handled or misused electrical equipment or wiring.

Preventive Maintenance

Electrical systems are adversely affected by moisture and a salt-air environment. Preventive maintenance consists of protecting the system from the elements and periodic inspection for damage created by the elements.

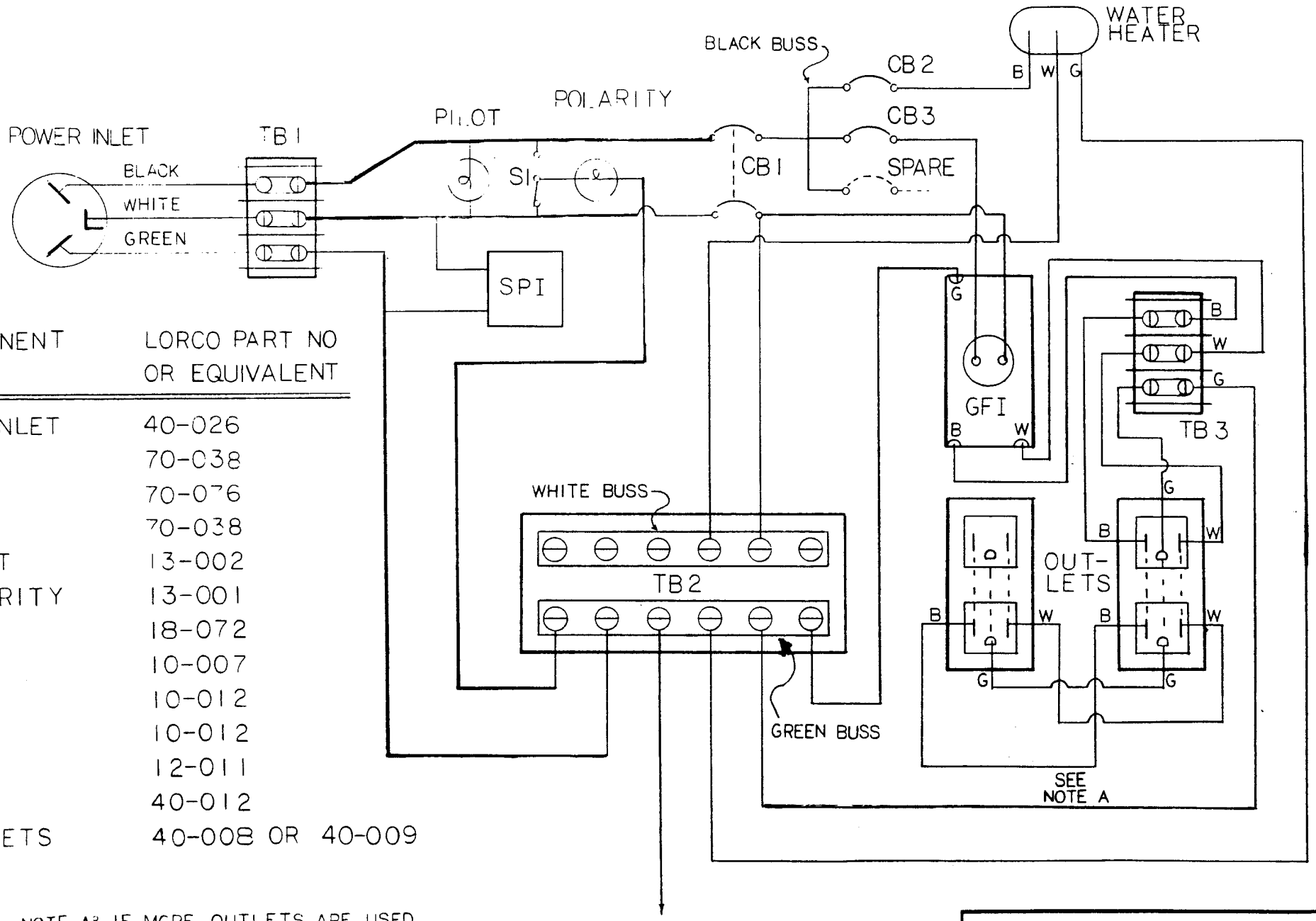
There are several aerosol spray products available for protecting the system. WD-40 and CRC are but two of the better-known types.

Periodically check all wire harness and connections for secure fastenings, cleanliness, and any signs of physical damage or corrosion. A dirty or corroded terminal will cause resistance and could generate heat. It is extremely important that connections be kept clean.

WARNING: DO NOT PERFORM ANY MAINTENANCE OR REPAIR FUNCTION ON A "LIVE CIRCUIT".

WARNING: DO NOT TURN MAIN DC SWITCH OFF WHILE ENGINE IS RUNNING. THIS COULD CAUSE DAMAGE TO THE ALTERNATOR.

WARNING: DO NOT USE THE 110 VOLT SYSTEM WHILE THE BOAT IS HAULED OUT OF THE WATER. A GROUND WIRE MUST BE RUN FROM THE BOAT'S GROUND SYSTEM TO THE SOURCE OF POWER'S GROUND (CASE GROUND). ASK YARD FOR ADVICE AND ASSISTANCE IN THIS MATTER.



COMPONENT	LORCO PART NO OR EQUIVALENT
PWR INLET	40-026
TB1	70-038
TB2	70-076
TB3	70-038
PILOT	13-002
POLARITY	13-001
SPI	18-072
CB1	10-007
CB2	10-012
CB3	10-012
SI	12-011
GFI	40-012
OUTLETS	40-008 OR 40-009

NOTE A: IF MORE OUTLETS ARE USED THEN SHOWN. WIRING IS TYP FOR ALL.

TO ENGINE BLOCK / BOAT BONDING SYSTEM

BANGOR PUNTA MARINE (O'DAY)

SCALE NONE | APPROVED BY RLP | DRAWN BY E. DRAU

DATE 4-12-84 | REVISED 5-22-84

AC ELECTRICAL SYSTEM

LORCO MARINE INC | DRAWING NUMBER 6010-02-6

LIGHTNING GROUND

DANGER: WHILE THE GROUNDING SYSTEM SPECIFIED IN THE AMERICAN BOAT AND YACHT COUNCIL PROJECT E-4 IS THE MOST WIDELY USED LIGHTNING PROTECTION SYSTEM KNOWN TO US, WE URGE YOU TO AVOID EXPOSING YOURSELF TO LIGHTNING, SINCE NO SYSTEM WILL PROVIDE COMPLETE PROTECTION TO BOAT OR OCCUPANTS IN ALL CIRCUMSTANCES.

The spars and standing rigging on all O'DayYachts are grounded, in compliance with the American Boat and Yacht Council Project E-4, to attempt to minimize damage resulting from lightning and provide a measure of safety for personnel.

Each chainplate, the mast step, and all thru-hulls are attached by means of a #8 AWG solid copper wire to the keel. (Engine and/or strut are included on inboard models.) In the event lightning strikes the spar, the system is designed to carry the charge by the wire to ground.

WARNING: IN AN ELECTRICAL STORM, DO NOT TOUCH THE MAST, BOOM, OR ANY STANDING RIGGING. THESE ARE ALL ELECTRICAL CONDUCTORS, WHICH WILL CARRY HIGH VOLTAGE AND CAUSE SEVERE SHOCK, INJURY, OR DEATH. IN THE EVENT OF AN ELECTRICAL STORM, THE FOLLOWING PRECAUTIONS ARE RECOMMENDED:

1. As much as possible, stay below with the hatches closed.
2. Avoid contact with any items making contact with the electrical system and with any other metallic parts of the boat.
3. Stay out of the water.
4. If the boat is struck by lightning, compasses and electrical equipment should be checked to determine that no damage or change in calibration has occurred.

NAVIGATION LIGHTS

Navigation lights must be in accordance with the rules and regulations of the waters in which you intend to cruise.

In general, navigation lights are to be used from sunset to sunrise in all weather conditions. It is good practice to use the lights any time visibility is reduced by inclement weather.

Your O'Day Yacht is equipped with the following navigation lights:

A) Red and green 10 point side lights mounted near the bow.

B) White 12 point stern light.

C) White 20 point bow light mounted on the mast.

D) White 32 point masthead light mounted on top of the spar.

A & B are wired to the "running lights" switch on the DC panel.

C is wired to the "bow light" switch.

D is wired to the "masthead light" switch.

We recommend:

1. Underway by sail, the running lights (side lights and stern light) be on.
2. Underway by power, the running lights and bow light be on.
3. At anchor, the masthead light be on.

PRESSURE WATER SYSTEM

(Optional)

The fresh-water tank is of a seamless plastic construction, supported and baffled. It is vented through a chrome vent on the outside of the hull and filled through a plate mounted on deck. Both the O'Day 28 and the O'Day 31 have a 25 gallon tank, located under the starboard settee.

The pressure pump is a self-priming diaphragm pump. There is an in-line filter installed on the pump to prevent any foreign material, which may have entered the water tank, from damaging the pump. This filter should be checked periodically and cleaned as needed. To operate the pump, turn the 12-volt system on and move the electrical-control panel "pressure-water" switch to the "on" position. When priming the pump, first open all faucets. The pump will go on and build up pressure in the system. When all faucets are delivering a steady stream of water, close them. The pump will go off automatically. Whenever you open a faucet, the pump will cycle on and off to maintain pressure in the system.

If your yacht is equipped with a hot-water heater, it will be located in the engine room. Be sure the water line feed valve is open with the check-valve arrow pointed toward the water heater. The pump will fill the tank and pressurize the hot-water system.

DO NOT TURN THE 110-VOLT SYSTEM WATER-HEATER CIRCUIT ON UNTIL THE HOT-WATER TANK IS FULL, OR THE ELECTRIC HEATING COIL WILL BE DAMAGED. Once the tank is full, you may heat water by

switching the 110V panel main breaker and water-heater circuits on. With the engine operating, the heat exchanger will automatically heat the water in the tank.

The plumbing used in your yacht is a polybutyl material, which is FDA approved for use on domestic-water systems. The connections and elbows are self-sealing conical plastic units, which contain a stainless steel retaining ring to hold the tubing in the fitting.

Before shipment from the factory, your water system was thoroughly tested. However, if any leaks are found, hand tightening of the fittings should stop them. If this does not work, you may take an additional 3/4 of a turn with a wrench.

THRU-HULL FITTINGS

All of the underwater thru-hull fittings are equipped with shut-off valves. These shut-off valves are to prevent water incursion in the event of a hose failure. These shut-off valves will also prevent flooding of the head, if a head valve fails.

ALL THRU-HULL SHUT-OFF VALVES SHOULD BE SHUT OFF, WHEN THE THRU HULLS ARE NOT IN USE! This will prevent any problem in case of accident. Be sure to re-open the shut-off valve on the engine before starting the engine. Following this procedure will result in a secure boat.

HEAD OPERATION

O'Day has passed along the manuals which cover the operation and maintenance of the toilets installed in your yacht. Please read these and familiarize yourself and crew with their details. Also, fill out and send in the warranty cards.

If the heads installed in your boat discharge only to dockside pumping stations, the waste access plate for the forward head is located on deck near the chainplate on the port side. The aft discharge is on the starboard side, at the aft end of the cockpit.

For heads equipped for both dockside and overboard discharge, there are "Y" valves and diaphragm pumps mounted in the discharge line. For the forward head, these are mounted under the port settee in the main cabin. For the aft head, they are mounted under the berth, on the starboard side.

To discharge dockside:

1) Move the "Y" valve handle in line with the deck discharge hose.

2) Insert dockside pump into the deck waste plate and pump tank.

To discharge overboard:

1) Move "Y" valve handle so that it points toward the diaphragm pump.

2) Open the discharge thru-hull seacock.

3) Operate diaphragm pump to empty tank.

4) Close thru-hull seacock.

HEAD OPERATION (Cont'd.)

Note: U.S.C.G. regulations prohibit the discharging of untreated wastes. Be sure you are more than 3 miles off shore before pumping waste overboard.

Be sure to close all thru-hulls when away from the boat.

Although Lear Siegler Marine uses the best quality hose and rigid plastic tanks, we suggest that a good quality chemical be used to help prevent the possibility of any aroma permeation.

COOKING STOVES

PROPANE STOVES

The propane stove in your boat has been pressure tested at every joint with a special fluid at the plant prior to shipping, but we recommend that you have it checked by your own dealer after it has been launched, as boats go through some fairly heavy jars during overland travel. Details on the operation of the propane stove will be found in the manufacturer's instruction manual, which should be carefully reviewed.

To Operate:

1. Be sure the burner valves are in the OFF position.
2. Be sure the electric safety switch over the stove is in the OFF position.
3. Turn the valve on at tank.
4. Move the electric safety switch into the ON position.
   a. This switch controls a Solenoid mounted between the propane tanks. In the OFF position there is no pressure anywhere inside the boat. Please refer to Marinetics Corp., Document #609.
5. Turn on the burner valve you desire and light. If the system is new, or the tanks have just been replaced, there could be a quantity of air in the supply line. WARNING: YOU MAY GO THROUGH MORE THAN ONE MATCH, BUT DO NOT LEAVE BURNER VALVE ON WHILE GETTING ANOTHER MATCH LIT. THE GAS COULD BE COMING OUT WHILE YOU'RE GETTING THE NEXT MATCH LIT. THIS COULD CAUSE AN EXPLOSION.

When cooking has been completed, turn off the electric safety switch; and after the burner goes out, close the burner valve. This will indicate that the electric safety valve is working and will also remove pressure from the feed line inside the boat. For added safety, the manual shut-off valve at the tanks may be closed, when the boat is left unattended or overnight.

The entire system should be checked out at least once a year. Pay particular attention to corroded or cracked fittings and supply lines.

ALCOHOL STOVES

Please refer to manufacturer's manual. They cover the operation of these stoves in detail.

WARNING:

1. THE FLAME DURING AN ALCOHOL FIRE IS QUITE OFTEN INVISIBLE.

2. DO NOT MOUNT THE FIRE EXTINGUISHER NEAR THE STOVE. DURING A FIRE, YOU MAY NOT BE ABLE TO GET TO IT.

3. WATER IS ONE OF THE BEST EXTINGUISHERS FOR ALCOHOL FIRES.

MAINTENANCE

M A I N T E N A N C E

Occassionally deck fitting leaks may occur due to flexing of the hull and deck, movement or stress on the fitting, or deterioration of the sealant. The flexing of hull and deck is normal and may occur during racing, sailing in very heavy winds, or upon hauling or launching. These deck leaks can be easily cured by removing the leaking fittings, cleaning the fitting base and deck area thoroughly, rebedding the fitting with a good marine sealant.

FINISHES

Gelcoat

The gelcoats used on all exterior and interior surfaces of your Yacht are the highest quality materials available for marine use. These gelcoats have the best possible color retention, gloss, and resistance to weathering. However, even the best gelcoats need some maintenance to preserve their finish.

- Whenever feasible, the deck and topsides should be rinsed with fresh water.
- Wash the gelcoat surfaces with a mild detergent or car wash solution. Use a sponge or towel on smooth areas and a soft brush on nonskid surfaces. Be careful not to use abrasive cleaners or solutions containing chlorine.
- At least once a year, apply a good coat of high-quality wax to all smooth surfaces. Buff down with a clean towel.

If the surface becomes dull, it can often be returned to a high gloss by hand buffing with an automotive buffing compound of a very fine grade. If a power buffer is used, extreme care must be exercised to prevent burning through the gelcoat surface. This is particularly true of corners and edges. Always apply a coat of wax after compounding.

Small scratches or abrasions,which do not go through the gelcoat, can be removed by wet sanding with 320 grit paper, followed by wet sanding with 600 grit, compounding, and waxing. For deep scratches or holes, you should rely on your dealer or local gelcoat repairman to provide a good cosmetic repair.

Gelcoated surfaces can be painted. However, to assure a good finish, which will last, careful preparation and application is necessary. This should be done by professionals.

Teak

The interior and exterior woodwork on your Yacht is primarily teak. This unique wood will not rot and requires minimum maintenance. All the teak was treated at the factory with a high-grade teak oil.

On the interior, you should apply a new coat of oil at the beginning of each season. Use a good grade teak oil, which is available through your dealer or local marine hardware store. This will maintain the rich brown color of the wood.

The exterior teak, if left untreated, will turn a light gray, which some yachtsmen prefer. However, as the teak weathers, the grain raises, and there is a tendancy for the wood to check and/or split. Periodic cleaning with a teak cleaner will remove the gray color with a minimum of labor. A good coat of teak oil will help prevent the checking and splitting.

Teak may be varnished, which will produce a beautiful finish and provide good protection. A varnished interior would normally last two seasons. However, on exterior teak, a new coat should be applied every four months. Before applying varnish, be sure the surface is dry, sand thoroughly, and wipe with acetone to

remove some of the oil. Before attempting to varnish teak, you should consult your local marine paint expert.

Laminated Surfaces

The non-wood cabinet surfaces are either mica or polyester laminates, chosen for their durability and ease of maintenance. They should be cleaned with a mild detergent. Avoid using abrasive cleaners, as they will leave small scratches and will dull the finish. These surfaces may be coated with household waxes to mask small scratches and maintain the original lustre.

Hull Liner and Cushion Covers

The hull liner and cabin cushions are highly durable syntehtic fabrics, chosen for their appearance and low maintenance. Should they be stained, clean with a sponge dampened in a mild detergent. Upholstery cleaners may be used, but try them on a small area first. DO NOT dry clean or use dry cleaning chemicals, as they may attack the material or its backing.

Lexan and Plexiglass

The sliding doors in the cabinets and the ports are made of lexan or plexiglass. Clean these with window cleaner or a mild detergent. Do not use chemical cleaners or abrasive cleaners, as these will damage the finish.

Spars and Hardware

The spars on your O'Day Yacht are anodized a tough and durable finish that withstands the harsh effects of the elements. They should be washed with fresh water, whenever possible, and thoroughly rinsed before being stored. All moving parts, such as sheaves, should be lubricated during the season.

The hardware and rigging are stainless steel, chrome-plated brass or coated aluminum. These should be rinsed with fresh water periodically. Should you experience surface staining, which looks like rust on the stainless hardware, it can be removed with metal polish and either a rag or bronze wool. Each month a light coat of lubricant should be applied to turnbuckles, blocks, and the screw or spring retaining pins on the blocks and slides,to assure ease of operation and prevent sticking.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE

1) Check liquid level in all cells once every week or two. Add water as required. Bring liquid level to 3/8 inch above top of separators. It is much better to add water in small amounts frequently, than to put too much in and flood out the electrolyte, thus causing damage to adjacent wiring and equipment, plus loss of acid.

   Generally, the local drinking water in the United States is safe for use in batteries; but to be sure, check with your battery supplier.

   Add water only. Add no battery dopes, special liquid, or powders. These are harmful or useless.

2) Before adding water, take a hydrometer reading of one cell. (Don't use same cell each time; change around). If above 1.225 Specific Gravity, battery is sufficiently charged. If below 1.225 Specific Gravity, remove battery for bench charge. If level is too low to read, add water and take hydrometer reading the next day.

3) After adding water, examine hold-downs. Make certain battery is secure. Hold-downs should make a snug fit, but not necessarily the tightest fit, or the container may be forced out of shape.

   Examine cables and terminals for tightness, corrosion, and wear. Corrosion occurs from the spilled electrolyte getting on metal, other than lead. Lead does not corrode. To remove corrosion, scrape or brush it off. Then immerse the part in

3) an alkaline solution, such as baking soda, in the proportions of one pound soda to a gallon of water. One can tell when all the electrolyte is neutralized by observing when the bubbling stops. Wash with water, dry, and apply a prepared grease available from battery dealers.

4) Examine battery for broken or cracked covers, case, and cracks in sealing compound. If any of the above defects are present, remove battery at once and have repaired. Acid loss from any of the above defects will shorten battery life. Acid escaping through cracked covers or sealing compound will cause corrosion of terminals, cables, carrier, and adjacent parts.

5) Batteries should be recharged, if hydrometer reading is below 1.225.

6) DO NOT LEAVE A BATTERY ON CHARGE FOR MORE THAN 48 HOURS. STOP CHARGE when two hydrometer readings recorded two hours apart show no increase, or when terminal voltage readings recorded two hours apart show no increase.

   If there is no rise in voltage or specific gravity in a period of two hours, further charging is USELESS and MAY DAMAGE BATTERY BEYOND REPAIR. Have your supplier check battery for possible acid adjustment or repair.

7) On this bench recharge, the specific gravity is expected to read certain values before considered serviceable for continued use. The hydrometer reading should be above 1.260.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE - Continued

7) The full charge gravity when new was 1.270 - 1.290. If battery does not register as above, have your battery supplier inspect it. He may be able to adjust acid or make repairs.

8) In cold weather, do not fill cells with water and let stand without running motor long enough to allow water to mix with acid, as freezing might occur.

9) Spare batteries should be recharged at least every 4 or 5 weeks, in order that the Specific Gravity may be maintained at 1.240 or above.

10) Use a battery with sufficient ability to carry the connected load.

11) Wash dirt and corrosion off top of battery to eliminate intercell discharge.

12) Neutralize corrosion in battery box by washing with solution of baking soda as recommended in No. 3; rinse with water.

13) The amount of water which is needed by the different cells will be a clue to other problems. For example, if each week the water, which was put in the previous week has been used, it is reasonable to expect that too much charging current has passed through the battery; hence, the voltage regulator should be checked.

All cells in the battery should take the same amount of water. If one cell should take more than the others and does this each week, it would be expected that the container is leaking. Whether the leakage is through the bottom of the container, or from the sides of the container, can be determined by examination.

STANCHION GASKETS

In our constant effort to upgrade and eliminate potential problems, we have started to use a gasket under the stanchion bases to reduce leaking problems. These gaskets do not require large fastener pressures to do their job. If leaking occurs, try just a small (1/2 turn) to the fasteners. Under no circumstances should the fasteners be tightened until the gaskets "ooze" out from under the stanchions. At the factory we have also bedded the gasket in silicone sealant.

If there are any questions relative to the above, please do not hesitate to contact us.

PERIODIC MAINTENANCE

The following list of items and their accompanying numbers is in no way intended to be all that should be done to your yacht. This is only a suggested general list and is not intended to override the individual manufacturer's manual. It also is not arranged in any special order. The numbers are in numerical order and not in priority order. Some numbers and their meanings may also seem redundant, but we feel it is better to be redundant than lax.

ALWAYS FOLLOW THE OWNER'S MANUAL THAT COMES WITH THE ENGINES, HEADS, ETC.

PERIODIC MAINTENANCE

	End of First Week	Monthly	Winterizing	Remarks
Deck Fittings	5		1,4,5	
Rudder Blade		1	1	
Rudder Post	6	1,6	1,4,5,6	
Propeller Shaft	1	1	1,4	
Stuffing Box	1,2,5	1,2	1,4	
Zinc Anode		1	1	Replace at least once a year
Propeller		1	1,4,5	
Bilges			4,7	
Cockpit Drain Hoses	2	2,5	2,4,5,7	7 Some cockpit hoses have low points that hold water
Sea Cocks	1,2,3	2	1,4,6	
Pumps	1	1,2,5	1,4,5,7,8	
Water Tanks	2	2	1,4,7	
Piping, Fresh Water	2	2	1,4,7	
Lighting			1,3,4	3=WD-40 or CRC
Battery	1	1,4	1,4,8	4=Clean with baking soda & water solution
Water Filter		1,2,4	1,4,7	
Fuel Filter	1,5	1,5	1,4,5	4=Outside Only
Air Filter	1	1,5	1,5	
Exhaust System	1,2,5	1,2,5	1,4,5,7	
Engine Mounts	1,5	1,5	1,3,5	

PERIODIC MAINTENANCE (Cont'd.)

	End of First Week	Monthly	Winterizing	Remarks
Mast, Boom	1,3	1,3,4,5	1,3,4,5,6	
Standing Rigging	1,5	1,4	1,3,4,5,6	
Running Rigging	1	1,3,4	1,3,4,5,6	
Winches	1,5	1,3,4,5	1,3,4,5	
Engine Alignment	1,2	1,4,5	1,4,5	Disconnect coupling before hauling
Hose Clamps	5	1,5	1,3,4,5	Do not overtighten
C/B models only-Centerboard & Hoist	2	1,2,4,5	1,3,4,5,6	
Chainplates	1,2,5	1,2,4,5	1,2,4,5	Rebed at least twice a year
Tiller Strap if applicable	1,3,5	1,3,4,5	1,3,4,5	
Bilges	Check daily---more often if the boat is leaking			
Stoves, Alcohol, Propane	1,5		1,4,5	Check supply hoses for deterioration every Spring. If hose cracking is evident, replace.

1. Check condition 2. Check watertightness 3. Lubricate
4. Clean with fresh water 5. Check tightness 6. Grease
7. Drain and/or anti-freeze 8. Disconnect

MANUALS

LEAR SIEGLER MARINE SUPPLIERS

I Mast Supplies and Parts (including lights):

ISOMAT SPARS:

Bay Sailing Equipment
986 Cherry Street
Fall River, MA 02720
617-678-4419

Engineer Marine Systems, Inc.
80 NW 73rd Street
Miami, FL 33150
305-751-6071

Yacht Riggers
4448 27th Avenue West
Seattle, WA 90199
206-282-7737

Sparcraft
2501 Alton Avenue
Irvine, CA 92714
214-957-3222

KENYON SPARS:

Kenyon Marine
New Whitfield Road
Guilford, CT 06347
203-453-4374

DWYER-DAMCO SPARS:

Dwyer Damco
3 Jefferson Road
P. O. Box 201
Branford, CT 06405
203-481-0122

II PUMPS:

FRESH WATER PRESSURE PUMP:

Surflo
Bristol Products
P. O. Box 644
Cohoes, NY 12047
518-237-3300

BILGE PUMPS:

Raritan Eng. Co.
1025 N. High Street
Millville, NJ 08332
609-825-4900

HOLDING TANK PUMPS:

Guzzler
Bosworth Co.
134 Thurbers Avenue
Providence, RI
401-438-8411

III ENGINES:

UNIVERSAL DIESELS

Universal Medalist Industries
123 Jackson Street
Oshkosh, WI 54901
414-231-4100

YANMAR DIESELS:

Mack Boring
Engine City, Route 22
Union, NJ 07083
201-964-0700

LEAR SIEGLER MARINE SUPPLIERS - Continued

IV SAILS(including Spinnaker Gear):

Neil Pryde Sails
P. O. Box 156
8300 Cerritos Avenue
Stanton, CA 90680

V HEADS:

GROCO
Gross Mechanical Lab
7240 Standard Drive
Hanover, MD 21076

Mansfield Sanitary, Inc.
Big Prairie
Ohio 44611
216-496-2301

VI WINCHES:

Barlow
26 Burnside Street
Bristol, RI 02809
401-253-7443

VII LIGHTS:

RUNNING LIGHTS:

Lucas
Hi Seas
4861 24th Avenue
Port Huron, MI 48060
313-385-4411

MAST LIGHTS:

(See mast supplier)

VIII CIRCUIT BREAKERS AND PANELS:

LORCO
715 Perimeter Road
Manchester, NH 03103
603-669-6270

EDSON PEDESTAL MAINTENANCE GUIDE

This guide has been prepared to assist you in the proper maintenance of your Edson Steering System. To properly maintain the moving parts in the top of the pedestal, it is necessary to remove the compass and its cylinder. For proper alignmment when re-installing the compass, we recommend placing 3 or 4 lengths of tape on the pedestal and compass as shown below. Slit the tap when removing compass, align the strips of tape when re-installing the compass for visual compass re-alignment. Your compass MUST then be check for accuracy.

Lubrication of needle bearings should be done by squeezing Edson Fig. #827 Teflon Lubricant into the holes located on top of the bearing housings inside the pedestal bowl. Spin the wheel when squeezing the lubricant in to make sure the entire bearing is serviced. Winch grease or water pump grease can be used as an alternative, but don't let the bearings run dry. Do not over grease as it will run onto the brake pads. Oil the chain with #30 weight motor oil. Do not grease chain as it does not penetrate the links.

Inspect the condition of the wire, tension of the wire and lightly oil. Edson recommends placing about 5 layers of "Kleenex" on the palm of your hand, squirt oil on the tissues and lightly oil the wire. This will lubricate the strands but will also "flag" a broken or hooked strand by tearing off a small section of tissue. If you do have a wire break, replace the wire immediately. See Edson Fig. 775 wire and chain replacement kits. (Caution: Wire splinters can cause painful cuts.) Replace the wire after 5 years. If still good, keep the old wire on board as a spare. To check for proper wire tension, lock the wheel in position by using the pedestal brake, or by tying off the wheel. Cable tension is best when you cannot move the quadrant or drive wheel by hand with the wheel locked in place. Over tightening will greatly reduce the sensitivity of the system.

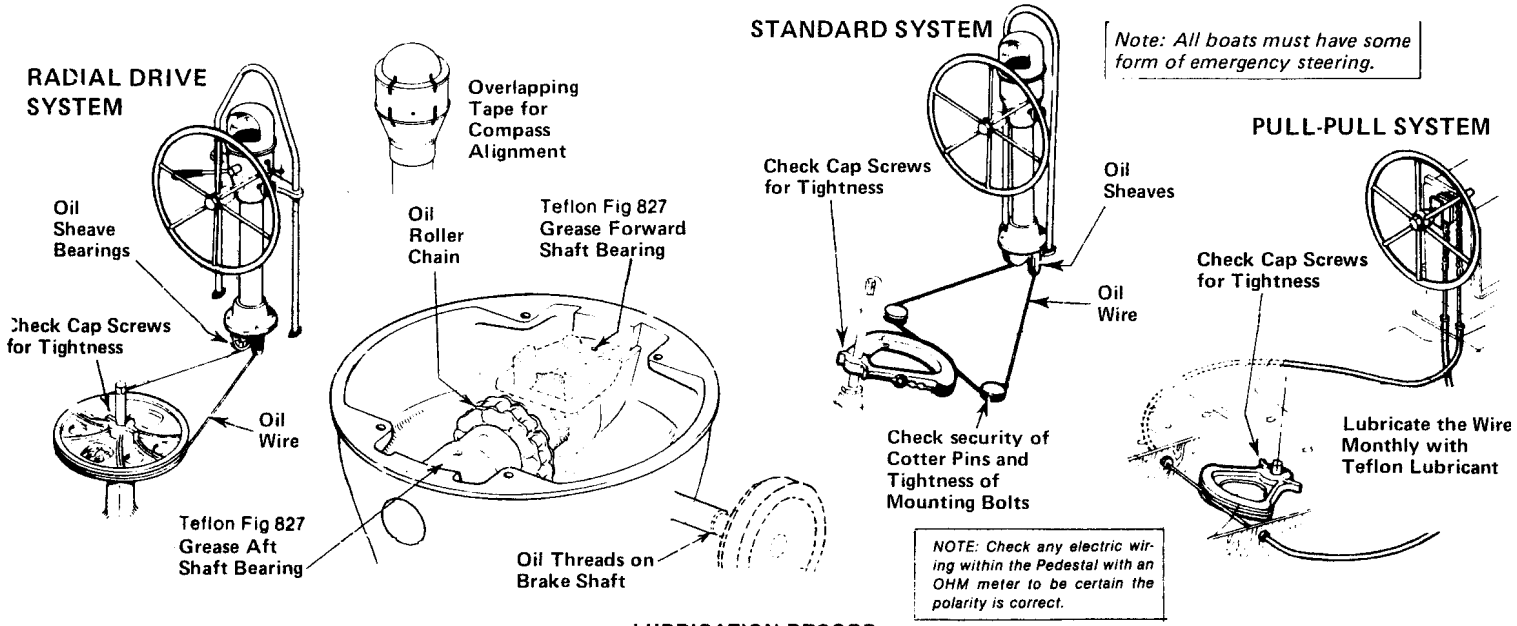
It must be emphasized that all on board must be familiar with the care and operation of the Steering System and engine controls. One person must be assigned the job of maintenance and must be thoroughly familiar with the operation and intent of all the equipment. If at any time your Steering System makes strange noises or reacts differently than it has previously, you must find the causes immediately and correct the problem.

Screws, nuts, bolts as well as clevis and cotter pins that are part of the steering system, engine controls, or pedestal accessories must be check regularly for tightness and wear. Failure to inspect all steering parts, engine controls and pedestal accessories may cause loss of control or failure of the engine or steering system. *All boats must have an emergency tiller or its equivalent and all on board must be familiar with its location and operation. An emergency tiller drill is just as important as a man-overboard drill and must be regularly conducted.*

On a new boat and at least once a year, inspect the system when under a strong load. On a calm day and under power, go away from the other boats and with the person who is assigned the maintenance watching from below, put the wheel hard over at full throttle. The maintenance man should watch carefully for all parts of the system bending, distorting, creaking, or giving any indication of failing if placed under a heavy load for a period of time. If for any reason, something did fail or needs adjusting the day is early and you will have plenty of time.

When leaving your boat at her mooring or slip, make sure that your wheel is properly tied off. DO NOT LEAVE THE STEERING SYSTEM TO FREE WHEEL.

The pedestal exterior should be cleaned with detergent and water, do not use acetone or/and any other strong solvents as they may damage the finish. Edson will be pleased to assist you. Call us or write us if we can help.



LUBRICATION RECORD

component	lubricant	schedule	first year 19__	second year 19__	third year 19__	fourth year 19__	fifth year 19__
sheave bearings	#30 oil*	check and oil monthly					
pull-pull cables	Teflon Fig 827	check and grease monthly					
wire rope	#30 oil*	check and oil annually					
roller chain	#30 oil*	check and oil annually					
pedestal shaft bearings	Teflon Fig 827	check and grease annually					

*Any light oil is suitable. We recommend #30 weight motor oil since most boat owners have it aboard

Caution: 1.) On extended voyages your steering system should be inspected each day and lubricated weekly. Carefully inspect your steering system at least one week before a vacation cruise to avoid last minute maintenance.
2.) When the boat is unattended secure the wheel with the brake or a line. In rough weather the rudder can swing violently from stop to stop causing damage.

For complete maintenance information please contact

Edson International

The Edson Corporation
460 Industrial Park Road
New Bedford, Mass. 02745

Telephone (617) 995-9711
Telex 95-1337

Edson

CUSTOMER SERVICE

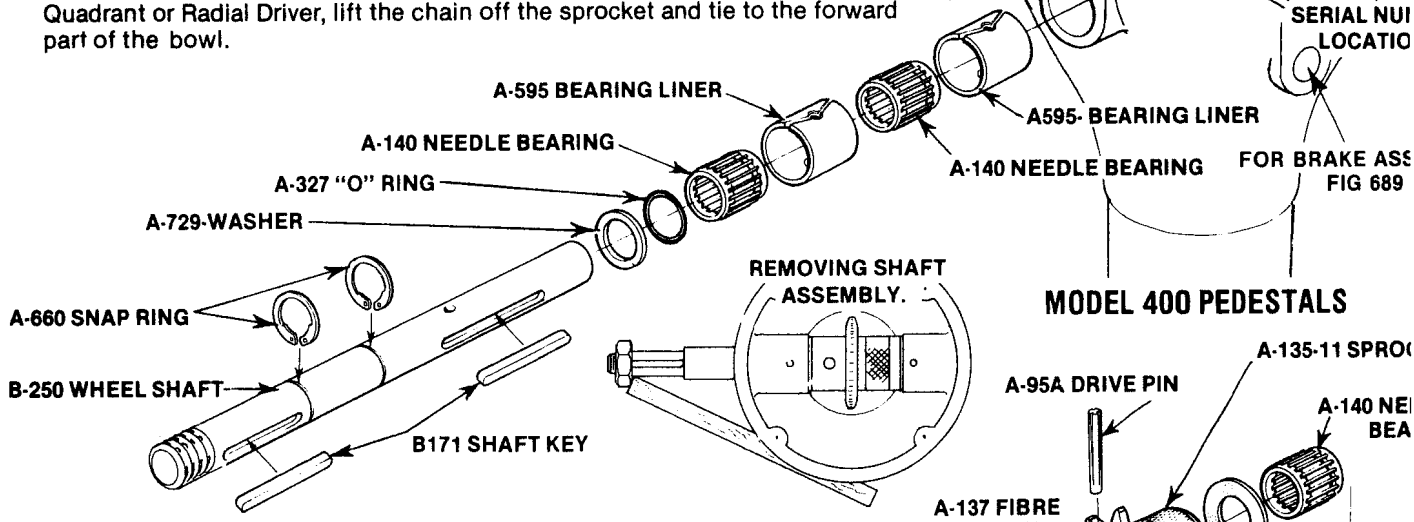
PARTS LIST / EDSON PEDESTAL STEERING ASSEMBLY

As a further service to our customers we have illustrated a parts breakdown showing the design and construction of your Edson Pedestal Steerer. These parts drawings will assist you in the proper maintenance of your steering system.

If disassembly should become necessary the following instructions will provide a simple but precise method of removing and replacing the steering shaft and its components.

DISASSEMBLY

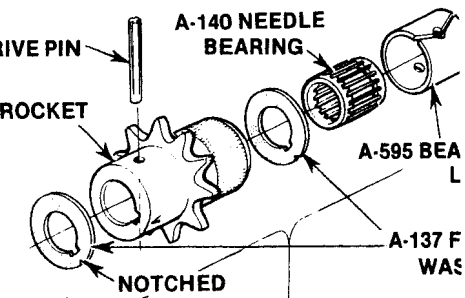
1. With the wheel and brake assembly removed, replace the wheel nut with any standard thread ¾" or 1" hex nut.
2. Loosen the steering cables and chain by backing off the take-up eyes at the Quadrant or Radial Driver, lift the chain off the sprocket and tie to the forward part of the bowl.



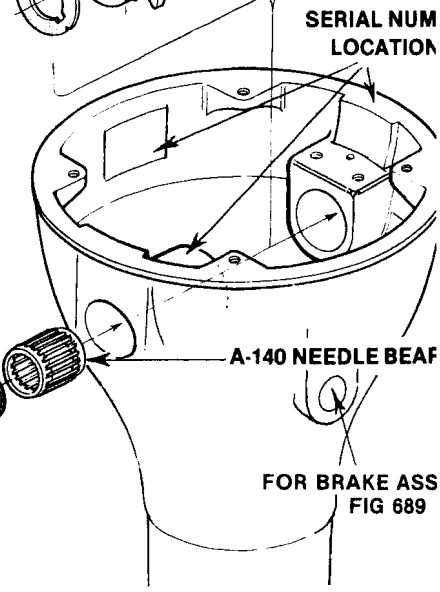
3. Align the notch in the aft fibre washer with the "V" stamped on the sprocket.
4. Carefully drive the pin out of the sprocket (drive from the round end toward the grooved end).
5. With a piece of wood against the ¾" or 1" hex nut, gently tap the wheel shaft from the housing, see illustration above, be careful not to drop the shaft components into the pedestal.
6. Remove sprocket, two fibre washers and forward needle bearing.
7. Remove aft needle bearing and washers.
8. Wipe out any dirt or old grease before reassembly.

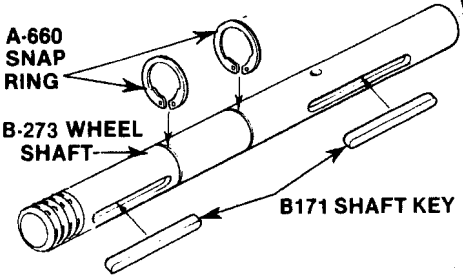
To reassemble reverse the above procedure, do not grease the bearings until reassembly is completed.

NOTE: Check your compass for possible readjustment.



MODEL 400 PEDESTALS





MODEL 334 & 335 PEDESTALS

ORDERING INSTRUCTIONS

When ordering spare parts give the pedestal serial number, part number, part name, and quantity. Your order will be filled promptly.

If you have any question don't hesitate to call the Edson factory. We will be pleased to assist you.

Edson International

The Edson Corporation
460 Industrial Park Road
New Bedford, Mass. 02745

Telephone (617) 995-9
Telex 95-1

FOSS FOAM, INC. // POLYURETHANE FOAM

YOUR FOSS FIBERGLASS & URETHANE RUDDER

The Foss Company has been producing sailboat rudders for over 20 years for most major boat companies. The fiberglass blade with it's rigid urethane core makes an extremely strong dependable rudder.

The near neutral bouyancy of your rudder helps the performance of your boat by reducing total weight, as well as reducing the moment of inertia in the stern. Near neutral bouyancy also is helpful should the rudder ever need to be removed for steering system repairs. The boat does not need to be hauled out of the water to remove the rudder.

Tough fiberglass and urethane plastic used in the construction of your rudder is nearly indestructable. The urethane core is composed of a strong rigid closed cell urethane. Water, diesel solvents, or marine borers will not damage your rudder blade.

When you paint your rudder the first time, particular attention should be paid to the paint manufacturer's instructions for preparing the surface. Solvent washing is not enough. The rudder must be sanded heavily to remove a heavy coating of mold release. We recommend white paints be used. White is a popular color as it is easy to see weeds and other debri which can catch on your rudder.

Surface repairs may be performed by cleaning, drying and roughing up the damaged area, and applying bondo or any similar filler with a putty knife. Should a small blister appear, it may be filled with resin or cut away and repaired. Once the patch has dried, it may be sanded smooth and painted directly with bottom paint or any coating you desire.

We do not recommend the use of dark colors on your rudder, as they generate heat when the boat is out of the water in the sun. Since the rudder is made of celular material this heat can cause dimentional changes and cosmetic damage. If the rudder is painted with a dark color it should be shielded from the sun with a white wrapping when the boat is out of the water. The rudder warranty excludes damage caused by heat.

You should make periodic inspections of your rudder and look for possible damage from grounding or electrolysis.