

## Sailboat Safety Equipment (cont'd)

### Dinghy or Life Raft

For off-shore racing, an inflatable dinghy or life raft must be carried with the capacity to accommodate every member of the crew. Inflatable dinghys should be checked once every two years to ensure they are in good operational condition. Your Chrysler Yacht Dealer or Yacht Marine Yard can advise you where to have the dinghys checked and repacked.

### Flares

Flares of the very Pistol type are best for use under adverse conditions. Some of the smaller types in heavy winds tend to be blown into the sea very quickly. At least six red flares should be carried, with the flares being replaced according to expiration date listed on each flare.

### Fog Signals and Radar Reflectors

Both of these items are extremely important if sailing conditions deteriorate and visibility is severely restricted. Fog horns of the cannister pressure type are good, but a 'lung power' type should also be available. Sailboats cannot be picked up well on radar, thus the radar reflector is a must for bad weather. These should be purchased commercially and stored carefully to prevent damage since the accuracy of the angles on the reflector are most important.

### Anchor

The type of anchor carried will vary from region to region according to the bottom conditions. The anchor should include an anchor line with minimum length of three times the length of the yacht, which is attached to approximately six feet of chain which in turn is attached to the anchor. This chain ensures that the stock of the anchor will lie on the bottom permitting the anchor to dig into the bottom as it is dragged.

## Power Plant and Transmission of Power

### Engine

The engine installed in your Chrysler Yacht to provide auxiliary power is the Universal Diesel, Manufactured by Universal Motors, 1552 Harrison Street, Oshkosh, Wisconsin 54901

All necessary data and information about the Model 5411 Diesel is contained in the Engine Owner's manual and is not repeated here. Read this manual carefully so that it is thoroughly understood. The life and performance of an engine depends upon the care which it is given.

### Transmissions

The reduction gears and reverse gear are contained in the transmission casing attached to the after end of the engine. These gears normally need little maintenance, but the oil should be checked from time to time (see maintenance scheduled in the owner's manual). To avoid damage to the gears and increase clutch life, the engine should be at idle speed when shifting gears.

### Propeller Shaft

The propeller shaft in Chrysler yachts is as specified in specificati in the back section of this manual. It is supported at the inboard end by the shaft coupling and at the outboard end by a strut containing a cutless type rubber bearing. The shaft passes through the hull at the stuffing box.

### Shaft Alignment

The propeller shaft and the engine are aligned carefully prior to delivery of a new yachts. From time to time, however, this alignment should be checked, especially if there is excess vibration when the engine is running or loss of engine speed is evident. The alignment is checked in the following manner;

- a. Remove the bolts on the shaft coupling adjacent to the transmission box.
- b. Support the weight of the shaft and coupling and slide the coupling faces together by hand.
- c. Use a feeler gauge or a piece of metal stock of .003 maximum thickness to check that the gauge is gripped firmly completely around the circumference of the coupling faces.

If the feeler gauge does not pull evenly around the entire coupling, misalignment is indicated. This is corrected by placing shims under the engine legs until the coupling faces match evenly. Rotate the shaft 180 degrees and again check the alignment. If it is still out of line, this indicates a bent shaft. The shaft must be removed and straightened or replaced.

## Power Plant and Transmission of Power (cont'd)

### Removal of Propellers

For both solid and folding propellers, a wheel puller or propeller puller is required. This is available from a major hardware or marine hardware dealer.

To remove a folding propeller, proceed as follows:

- a. Remove all cotter pins from pivot bar for blades and shaft. Salvage these cotter pins if possible.
- b. Pull pivot bar for the blades. It will be noticed that on some propellers one end of the pivot bar is tapped for a bolt. Thread bolt into this end of the pivot bar and pull bar by means of the bolt. On other types, the pivot bar can be tapped out with a draft punch and hammer.

For both folding and solid propellers:

- c. Remove the shaft nut which is counter sunk inside the propeller hub on folding propellers and exposed on solid propellers. To remove shaft nut, a 1/2" square drive handle with extension is required.
- d. To remove the propeller, leave the propeller retaining nut in place but installed about 1 or 2 turns loose from the tight position (to protect the threads). The puller shaft should bear directly on the end of the propeller shaft or on the propeller retaining nut. If it bears on the propeller retaining nut a spacer of brass, aluminum or copper should be used to protect the nut. The puller must be installed straight and centered carefully so that its maximum effectiveness can be realized. Place the claws of the wheel puller behind the propeller hub.

While pulling the hub, it is often a help if the propeller hub is tapped with a composition hammer. If the propeller has been on for some period of time, some effort may be required to remove it.

### Installation of Propeller

Ensure that the bore of the propeller is free from dirt and corrosion and the end of the shaft is clean. The keyways of the propeller and shaft must be free from burrs. Place the propeller on the shaft with the keyways in the shaft and propeller in line. The key should fit as snugly at the sides with a .01 minimum clearance at the top. Do not force the key in as this may cause the propeller to be forced off center. The propeller, the locking nut and the cotter pin are then assembled on the shaft. Check to ensure that the propeller is correctly aligned.

### To check Propeller Alignment

Install the propeller completely as to be used. Clamp a piece of thin metal or wood on the propeller strut to touch one blade edge of the propeller. Rotate the shaft and the propeller by hand. Any vibration in the track will be indicated by either a gap between the next blade or the blade striking the indicator. If the propeller is so indicated to be out of line, it should be checked and balanced by a yacht marine yard familiar with this type of work.

### Exhaust Systems

In the external water operation, the engine water pump draws water through the engine through a hull fitting, which in turn circulates it through the engine block, then the engine exhaust manifold. The water is mixed with the exhaust gases at the exhaust elbow and hose, then discharged overboard through the exhaust port in the stern of the yacht.

On certain auxiliary engines operated in salt water, heat exchangers are installed. With this application the engine water pump draws water from the through hull fitting and circulates it through the heat exchanger, then discharged through the exhaust system overboard. The salt water in the heat exchanger lowers the temperature of the engine coolant circulated through the closed system in the engine block by means of the engine recirculating water pump. This coolant is 50% ethylene glycol and 50% fresh water and protects the system to approximately 32 degree F. The ethylene glycol should be used at all times to help prevent corrosion in the engine closed system.

## FUEL SYSTEM

### Fuel Tank

For fuel tank location on your Chrysler Yacht, check the fuel tank installation on the diagram section of this manual. The inlet cap and the fuel tank vent locations are also noted.

### Fueling

Before fueling your Chrysler Yacht, be sure that all open flame aboard the yacht is extinguished, no person is smoking, plus all electrical circuits and the main electrical switches are turned to the off position. The nozzle of the fuel hose must be touching the metal deck plate to ground static electricity. When the tank has been filled, close the inlet cap tightly and flush down any spills with fresh water. Before starting the engine, open all hatches and operate the bilge blower for at least five minutes.

It is recommended when refueling an outboard engine that the tank be removed from the yacht when being filled. The nozzle of the fuel hose must be touching the metal tank to ground static electricity.

### Fuel Grade

For the proper fuels and oils, see the engine manufacturer's specification for the correct gasoline, diesel and oil applications. For outboard engines use only the manufacturer's oil to fuel ratio.

## ELECTRONICS

### GENERAL

Many owners add electronic equipment such as logs, speedometers, depth sounders, (all of which usually require thru hull fittings) and relative wind indicators, wind speed indicators, radio direction finders, VHF and SSB radios, and various types of electronic navigation aids such as loran and omega (all of which require masthead fittings and/or antennas). Many of these items can be installed later by the owner or dealer.

Many problems develop in electronic instrumentation due to faulty installation. This should be done by a specialist. It is recommended that instruments containing their own battery package be installed whenever possible to prevent drain on the yacht's main battery when sailing.

### THRU HULL FITTINGS

If other than standard thru hull fittings are required and are to be added after the yacht is built, consult your Chrysler yacht dealer to determine the correct positioning of the thru hull fitting. Directions showing the components and installation of the thru hull fittings should be supplied with the unit.

### MASTHEAD FITTINGS

Masthead fittings should be installed carefully following manufacturer's recommendations. Cables leading from the masthead fitting should come out at the foot of the mast and a connector installed at this point to facilitate easy disconnect when the mast is unstepped. Keep all connectors, junctions and wiring as high in the boat as possible when installing electronic equipment to prevent them from coming in contact with water.

### ELECTRONIC EQUIPMENT

All electronic equipment feeding off the yacht's electric circuit should be separately fused. Radios and other D.C. accessories taking a high amperage should be wired directly to the yacht's battery with a fuse installed close to the battery. Make sure the polarity for the electronic accessories is correct and it is installed according to the Manufacturer's recommendations.

## INSTALLATION OF DECK FITTINGS

### WINCHES

Ensure that winch placement is where the deck is reinforced to accommodate it. The cabin area may be drilled enabling bolt entry to secure winches. Winches do not require backing plates, but lock washers and nuts only are required. The bolts protruding through the head liner should be cut off and dressed down with a file. Bolts for winches, tracks, cleats, etc., should be bedded with silicone sealant.

### OTHER

Any deck fitting which is under load (chainplates and inboard genoa tracks) should be checked at least once a year and rebedded with silicone sealant if found to be leaking.

## MAINTENANCE

Yachts to be kept tidy and ship-shape require maintenance on a regular and frequent basis. The frequency will depend upon the conditions in which the yacht is being used. You should constantly check the running and standing rigging, winches, engine, head, bilge and surface finishes for signs of needed maintenance.

## GELCOAT SURFACES

Wash down the gelcoat surface of the hull and the deck regularly with fresh water and a good detergent. A sponge or soft brush should be used on a smooth surface and a stiffer brush should be used on the non-skid areas of the deck. Follow by rinsing with fresh water.

At least once a year the top sides of the hull should be waxed with a good automotive or boat wax and polished. This will help the gelcoat to retain its colour and appearance. Do not wax the non-skid surfaces of the deck.

Minor scratches in the gelcoat surfaces can be repaired by buffing with a light abrasive cleaner followed by a waxing and polishing. Scrapes or damage that have broken through the gelcoat surface can be repaired with the gelcoat repair kit which comes with your yacht. Directions for these repairs are included with the gelcoat repair kit. For major damage, where a large area of gelcoat has been removed or the damage extends into glass lamination below the gelcoat, consult your Chrysler Yacht dealer or a qualified yacht marine yard.

Gelcoat surfaces below deck are cleaned with a good detergent and water and rinsed down with fresh water. These surfaces can also be waxed if required to maintain the appearance.

Gelcoat surfaces will stain if the yacht is moored where leaves fall on the deck or birds roost. Surfaces should be scrubbed down very frequently or have a protective cover if this occurs.

## WINDOWS AND HATCHES

Windows and hatches of your yacht are glazed with plexiglass which is impact resistant and very durable. The surface of plexiglass, however, is not highly abrasion-resistant and therefore gritty cleaning agents should never be used on them. Clean plexiglass with mild soap and water. If plexiglass requires polishing, plexiglass polish is available from most major hardware dealers. Toothpaste may be used as a substitute for plexiglass polish. Rinse afterwards with a mild detergent and clear water.

## TEAK

Exterior teak trim will develop a dull grey appearance if not maintained. Remove any dirt or salt with a damp cloth followed by sanding with a very fine grade of sandpaper, if required. Two or three times a year treat the exterior teak with a preparation such as Teak Brite or Teak Oil which is available from a marine hardware dealer or furniture store.



### Teak

Interior teak surfaces are maintained in the same manner as exterior surfaces. Remove dirt or cooking grease from teak surfaces before applying teak oil. This can be done of course, by washing down the surface with water and a mild detergent. Interior surfaces should be cleaned and treated once or twice a year.

### Bottom of the Yacht

If the yacht is not to be dry sailed, a good anti-fouling bottom paint is recommended. It is important this paint be very carefully applied in the first instance. If it is, regular maintenance will keep it in relatively good shape for a considerable period of time. In any event, when applying bottom paint, read and follow the manufacturer's instructions carefully and explicitly.

The amount of maintenance required on the bottom is dictated by waters in which the yacht is sailed and to some extent, by the use it gets. If the waters are polluted or are conducive to marine growth, the yacht should be hauled quite frequently and the bottom scrubbed down with brushes, detergent and fresh water immediately upon hauling. If for any other reason the yacht is hauled and it is planned to keep it out of the water for any length of time, the bottom should be scrubbed down immediately before any marine growth has the opportunity to dry and harden on the bottom.

If a smooth surface is required, the anti-fouling paint can be rubbed with a piece of burlap or sanded with a very fine wet sandpaper following the cleaning of the bottom. Any spots where the anti-fouling paint has been removed should be touched up with the same type of paint. When first purchasing the anti-fouling bottom paint, purchase an extra can for this purpose.

### Standing Rigging

Standing rigging is defined as fixed parts of the rigging which aid in support of the mast. The standing rigging and all the components listed under 'Stainless Steel' should be checked each time before going sailing and given a detailed monthly examination. Turnbuckles should be checked to make sure cotter pins are in place at top and bottom, cotter pin ends are turned back carefully and protected with plastic tape. Each spreader should be checked that the pins are in, and the spreader is not bent (up or down or aft). The end of the spreader where the shroud passes through must be taped. If any of the standing rigging is wire, sails may be ripped if strands are broken or protruding. Check also for signs of rust in wire rigging. A good safety practice is to paint a small white ring around the wire where it enters the terminal. The paint will show if any slippage occurs and will prevent salt from collecting in the minute spaces between the strands which will induce corrosion. Examine carefully where the wire enters the terminal end fitting for signs of rust or wear since this is a particularly vulnerable point when the yacht is sailed in a salt water area. If signs of rust or wear are found, the rigging should be replaced. Rod rigging should be examined for nicks or kinks and any signs of slippage where the wire enters the terminal end of fitting. If this is found, consult your Chrysler Yacht dealer or the manufacturer of the rod rigging.

### Running Rigging

Running rigging comprises all the gear that is normally used in handling and trimming of sails such as sheets, guys, halyards and vang. Main and genoa halyards are stainless steel wire and are subject to heavy loads and constant flexing as they pass over the sheave at the head of the mast and turning blocks at the foot of the mast. This constant flexing tends to fatigue the metal over a period of time. Consequently, halyards should be examined regularly for signs of stress and breaking strands. When signs of stress appear, the only solution is to replace the halyard. Again, the end fitting on a halyard should be examined carefully. On halyards with rope tails the splice between the rope and the wire tends to be a point of possible weakness and should be examined regularly. Rope halyards (used mainly for spinnakers) are not subject to wear as severe as wire halyards but should be checked two or three times a season. The end fitting should be checked each time the boat is sailed to ensure it closes and locks easily and securely. Rope sheets tend to fray over a period of time with use and only experience will dictate when they need replacement.

### Lifelines, Pulpits and Stanchions

Lifelines, like standing rigging, should receive periodic checks. The terminal ends at the connector must be well screwed into the barrel in order all the threads of the barrel are fully engaged and the lock nuts are done up tightly. This is most important as a life may depend on it. Again, check the swagings for signs of rust. Check pulpits and stanchions for dents or cracks at the base and ensure they are properly bolted down.

### Winches and Blocks

The installed winches on your yacht are as of high a quality as any available on the market. A manual is included in the kit accompanying your yacht describing winches and the maintenance required. Most problems with winches occur due to poor or improper maintenance. When sailing actively on salt water, winches should be stripped down, cleaned, and lubricated at least twice per season. The bolts securing the winches should be checked at least once a season. Access to the bolts supporting the winches in the cockpit may be gained through the aft bunk area. Bolts securing the winches located on the deck may be checked which are located in the deck head of the cabin. If it is necessary to remove a winch base and remove the bolts, the bolts should be resealed using a sealing compound such as silicone rubber or a butyl tape of the type used under the toe rail.

Blocks normally require little maintenance but they should be examined regularly for damage. Never leave a snatch block open. Be sure the snatch is properly closed before applying a load to prevent the cheek of the block being bent. Sheaves and blocks can be sprayed with a silicone lubricant to keep them running freely. The sheaves at the head of the mast should be checked before the spar goes into the boat in the spring and a couple of times during the season (this necessitates going up the spar in the bosun's chair) to ensure they are turning freely and the halyard is not cutting a groove into the sheave. The sheaves for the main and genoa halyards have oil-lite bronze bushings and normally do not require lubrication. All running rigging should be washed down with fresh water after sailing on salt water.

## UPHOLSTERY

The cushions and seat backs on your Chrysler yacht are covered with 4" fabric cushions, of which can be removed from the foam padding for cleaning. It is important that the upholstery be kept aired and that it be dried after use to prevent the development of mold.

It is also advisable at such times to clean out all lockers of damp clothing and leave locker doors open.