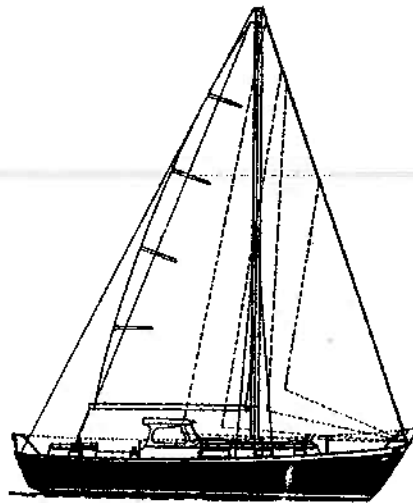


# RASMUS 35



**R** **Hallberg Rassy**  
44080 Ellös, Sverige. Telefon 0304/50290

I N F O R M A T I O N   S H E E T

Type of boat: RASMUS 35

Construction No:.....

Year of Manufacture:.....

Color of the Hull: Gelcoat: Syntes 1000

Superstructure: Gelcoat: Norpol 332

Motor No:.....

HALLBERG-RASSY BOAT YARD  
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INSTRUCTIONS FOR BOAT OWNERS  
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This booklet is intended to give some hints and information regarding the best handling and maintenance of your boat. It does not, however, in any way claim to be complete, but deals with some of the questions, which have been previously answered upon delivery.

This Instruction is not intended as an "Operation Manuel", but deals primarily with details, which are specifically related to our boats.

As a rule, the new owner always has to dedicate sufficient time in order to get himself acquainted with his new boat and its construction.

The responsibility for the proper maintenance is up to the buyer.

We wish you GOOD LUCK and  
many HAPPY NAUTICAL MILES!

## Maintenance of the Gelcoat - Repair of Damages

The outer, colored coating of a fiberglass boat is called the Gelcoat. This is a plain coating, which protects the fiberglass hull and at the same time gives the boat an elegant and easy-to-care exterior. The thickness of the Gelcoat is approximately  $1/32 - 1/64$  of an inch and thus considerably thicker than a normal color coat. It is completely homogenous and has the same hardness right through. This is why it is often possible to remove bad scratches through grinding or polishing without having to apply any new plastic. It is not difficult either to repair deeper scratches or damages. Any air bubbles, scratches or ruptures that may occur in this outer coating does not mean that water can penetrate the laminate.

### 1) Maintenance of plastic surfaces in good condition

The plastic surfaces of the boat should be kept clean and spotless for a nice appearance. Use regular detergents and water but avoid detergents which may cause scratches. Do not use detergents containing ammonia as they may damage fittings, plexiglass, etc. Detergents and solutions should be thoroughly rinsed off. Should the shiny surfaces get dull they can be polished either by hand, using a polishing agent, or by using a low revolution machine. There are several special polishing agents for fiberglass boats on the market.

Waxing is normally required, but can do no harm. When waxing notice that the wax has to be worked well. Do not wax any surfaces with pattern, which will make them slippery.

### 2) Repair of superficial scratches, etc.

Scratches in the gelcoating may often look deeper than they really are and as the scratched surface is different in color than the shiny one, you may think that the colored coating has been penetrated. For reasonably deep scratches use water sanding. Start with a coarse paper and little by little change down to a fine paper (No 800). Rub the surface after sanding, i.e. use polish and an abrasive on the surface as well as on the surrounding undamaged surfaces.

### 3) Repair of deep scratches and scuffings

If the gelcoating has been damaged and completely removed, the repair is done as follows. Get Gelcoat in the proper color (See Information Sheet) and a hardener from a fiberglass manufacturer or the yard. The damage is then cleaned with the edge of a knife and covered with masking tape very closely on both sides of the hole. Mix the Gelcoat and the hardener (approximately 2% of the hardener). The temperature in the working area should be between 60-80 F.

Use a generous amount of the Gelcoat to fill in the damaged spot and immediately place a piece of tape over the same to avoid the Gelcoat from running. After the plastic has hardened, grind off the surplus and polish the surface.

Scaffings under the waterline are filled with putty epoxy (Interpad) and then painted with a 2-component primer, e.g. International Poly Ground.

Larger scaffings, in case the boat hits bottom hard, have to be cleaned from crushed fiberglass through grinding and are then repaired with fiberglass mat and plastic before final putting (repair sets are available on the market).

### Maintenance of Wood - Interior

The interior surfaces of mahogany are thoroughly treated with a synthetic laquer and even after many years of use do not normally need any other maintenance than a cleaning. Should a surface, however, be damaged to the extent that it would be necessary to re-varnish same, the whole damaged surface has to be sanded and then varnished with a mat laquer (International Lagolac or similar). Most of the minor damages are taken care of with a little bit of oil. Interior teak, mouldings, etc. can be oiled once in a while with teak oil.

### Exterior Wood

The exterior wood is made of genuine teak and is not dependent on either laquer or oil for its protection. It is thus a matter of taste whether the teak should be varnished or be left untreated. It is our opinion that the varnished teak has a better appearance and that it sets off a better contrast against the other plastic surfaces. But of course a certain maintenance is required to keep it up from wear and tear. On varnished seats we strongly recommend the use of non-skidding and non-scratching footwear. When the teak is treated at the yard they use a synthetic varnish with a phenolic resin glue base. Varnish with an oil base is not suitable and a 2-component varnish should not be used on top of the old varnish. Untreated teak is scrubbed thoroughly at the same time as the cleaning of the fiberglass surfaces and will after some time take on a silvergrey shade. In our experience, the use of teak oil on the exterior may cause bad looking surfaces, which are difficult to maintain. Therefore we do not advise any oiling. It is most important that the maintenance treatment of varnished surfaces is made in time. When you can see that it is needed it is too late. It is a good piece of advice to re-varnish already after one or two months in the first season and then at least once every year. When you re-varnish, the surrounding fiberglass surfaces must be well protected from streaks or drips of varnish, which otherwise leaves spots which are difficult to remove. Should you happen to spill some varnish be careful to remove same immediately as, even if it is practically translucent from the start, it will from the sun turn yellow very quickly on the fiberglass surfaces.

### Mast and Rigging

If the boat is not commissioned at delivery and therefore the owner has to take care of the stepping of the mast and the rigging, the following procedure should be followed. The halyards are checked and the shrouds and stays are attached to the mast. If the top navigation light is not yet mounted, it should be done before stepping the mast. The spreaders are mounted and locked on to the mast and top shrouds. In order to make it simple to obtain the correct angle of the spreaders, stretch the top shrouds along the mast and make a mark at the position of the spreader bracket on the mast. This marking indicates the correct position for the outer end of the spreader. Any covers for the turnbuckles should be attached at this stage. When the mast has been stepped and the shrouds and stays have been fastened to their respective chain plates, the rigging is tightened by hand and the mast adjusted into a vertical position.

The Principal Adjustment of the Rigging is made so that the top shroud and the aft stay is tightened to correspond to approximately 10 % of the weight of the boat and the headstay somewhat more, which will give this stay quite a rigid feeling. Next in line come the forward undershrouds, which should make the mast bend slightly forward at the spreaders. Finally the aft undershrouds are not tightened more than is possible by hand. As the various items, such as wires and mast, settle, the rigging should be tightened, but not before some hours of sailing in fresh breeze.

First reset the rigging as done when you first step the mast. A correct stepped mast will assure you to get the best performance of your boat. An incorrectly adjusted mast may give excess weather helm or opposite effect.

To be sure that the mast, when under stress, does not form a S-curve. After final trimming make sure that the turnbuckles are locked with splitpins for protection. It is advisable to use tape over the same.

Inspect the rigging when the mast is taken down, either for winter storage or for other reasons. Special care should be given to halyards. Grease the top and bottom shives. Wash the mast and afterwards hose it thoroughly.

Before stepping, also control all wire connections for running lights and antennas.

The anodized surface can be protected by using a silicone-free wax. The luff of the sail would move easier if the slot is treated with paraffine.

The wind can cause vibrations in the mast and rigging. This happens most often when the boat is moored at the dock and is quite normal and natural. But sometimes you may find it somewhat disturbing. Vibrations seldom occur during sailing.

The most common cause is that the topping lift is too tight. Specially if the boat is moored and the wind is coming in from the side, the mast itself may vibrate alongship. This can be remedied by stretching the spinnaker topping lift to some suitable place aft.

A small change in the tension of the rigging often eliminates the vibrations.

#### General Hints about Sailing, etc.

The Rasmus' construction assures complete safety and she has been tested during severe conditions during ocean passages and numerous crossings of known rough water as the North Sea and the Baltic. It can generally endure more than its crew. Reefing should however be done in time to obtain the best performance and good seamanship is essential.

The Largest Genua Jib (350 sq.ft.) is used for wind conditions up to abt. 10-15 knots, and is generally sheeted home on the wind so that at the height of the spreader it is abt 4-5" outside of the stay. The sheet is always outside of the double lifelines and stays.

The Working Jib (240 sq.ft.) is a large jib giving balance to the boat in much the same way as the large Genua Jib. It is normally sheeted home outside of the double life lines and stays. Together with the main reefed down 3-4 rolls on the boom, it provides for good sailing in a stiff breeze.

The Heavy Jib (165 sq.ft.) is the best size jib in winds above 25-30 knots.

Through deep reefing and using a small jib (storm jib, 100 sq.ft., is available) with the motor running abt 1.200 r/m, sailing in heavy weather can be very comfortable. It is now that you will discover the boat's advantage as a motor sailer.

#### Halyard winches

The main and jib halyards are maneuvered by reel type winches. The same handles as for the sheet winches are used. The winches are provided with a brake, maneuvered by a small lever. The brake has a free wheel function, so that it can be tightened before starting to hoist. When the sail is about a foot from fully hoisted, the halyard is pressed over to the smaller drum closest to the mast in order to avoid the risk of jamming the wire, with the risk for damage and delay when the sail is taken in. The handles should always be removed directly after the sail is hoisted to avoid risks when the brake is released to let the sail go down.

A spinning handle may give injuries.

### Reefing of the Main Sail

The simplest way is to reef the sail while in port. To take out a reef is more simple than to start reefing but of course it can well be done at sea. It is very important that the halyards are completely stretched and still more so that the sail is stretched out on the boom. It is to be preferred that you always carry the reef brook for at least the first reef ready in the sail. The shortest of the two lines provided ( $\phi$  abt. 10 mm) is fixed to the outer traveler on the port side of the boom and is then taken through the eye at the leach of the sail for the lower reef, through the eye on the outer traveler on the starboard side through the eye on the clamcleat aft of the winch and is belated on the winch. The second brook is drawn the same way but from the forward traveler on the port side, through second eye in sail and eye on forward starboard traveler directly to cleat.

If a reef is to be taken in under sail it is an advantage to put the boat on the starboard tack.

- 1) The main sheet is eased off slightly.
- 2) The topping lift is tightened to suspend the outer end of the boom.
- 3) A handle is locked into the halyard winch and is firmly held while the brake is released and the sail is lowered sufficient to hook the eye of the first reef at the tack.
- 4) The reefbrook for the first reef is placed on the winch on the boom and is tightened until the sail is stretched hard along the boom.
- 5) The halyard is tightened again not forgetting to push the wire over on the small drum for the last turns. The luff should be well stretched.
- 6) The topping lift is released and the main sheet trimmed. If you wish, a small diameter line can be drawn through the eyelets in the sail round the boom to tidy up the loose part of the sail.

The second reef is taken in much the same way after the reef has been locked in the clamcleat and released from the winch.

To let out a reef the same operations are made in reverse.



The Sails are made of Dacron or Terylene and do not need any special care during the first hours of sailing to obtain optimum shape. They are pretty well water resistant and in an emergency you may stow them away even when moist.

The Main Sail is to a very large extent dependent on the right stretching alongside the foot and luff and the manner of trimming can change its appearance completely. Wrinkles at the bottom of the pocket for the battens are most often caused by improper stretching of the luff along the mast. The clew must be securely fastened to the boom and the foot stretched firmly. Make sure that the rope goes around the boom and through the eye in the clew.

The jib should be firmly stretched on the headstay. Use the halyard winch on the mast.

There are always some wrinkles at the corners of the sails, but this does not influence the efficiency of the sail. The sails should be inspected thoroughly every year in regard to minor damages and worn out seams, which may have to be repaired.

#### Instructions regarding the Engine Installation, Steering, Drainage, etc.

Regarding the engine itself we refer to Volvo's Instruction Book, which should be thoroughly studied before using the boat. The instruction book does not comprise those parts of the motor referring to the very installation.

#### Maneuver under engine

Your engine is fitted with a Volvo Penta RB Mechanical reverse reduction gear with one lever for the gear and one for the RPM. Engine maneuvers should always be carried out at a low RPM and with firm distinct movement of the gear lever. If the gear shows any tendency to slipping, the maneuver cables should be adjusted without delay. In close quarter maneuvers the RPM lever may be set at fast idling RPM (regularly not over 1000 to 1200 RPM) and the gear lever alone is used for the maneuvers.

Note that the Shaft's Stuffing Box grease cup is accessible for greasing in the locker for the steering in the aft cabin. For the first time under power, the pressure cap (top cap of grease press) should be turned half a turn every second hour for the first six hours. After this the stuffing box normally only requires greasing one or two times in a season. Do not overgrease, as this may damage your rubber stern bearing.

If the stuffing box after a while has a tendency to leakage, more than a slight dripping which is as should be, it should be adjusted by loosening the stop nut and pulling the box approximately half a turn, but not more. The box should still be dripping a little.

The Cooling Water Intake is located on port side in the engine room. In the intake line a water strainer is placed, either on the engine or separately. The strainer should be checked regularly.

#### Vacuum Valve

In the cooling water line is a vacuum valve fitted to prevent water from entering the engine by suction after it has been stopped. This is placed in the cockpit locker on the port side forward. Twice each season the vacuum valve should be opened and cleaned in fresh water.

1. Loosen the complete valve from its fixture and invert it.
2. Loosen the cap, check and clean the membrane and refit in opposit order. If the membrane is damaged it must be replaced.

NOTE! Check carefully that the membrane is correctly located when reassembling.

The Fuel Oil Filter is of a combined water separating and fine filter type and is mounted on the starboard side in the engine room. The filter should be inspected regularly, specially after filling the fuel tanks, with regard to the water collecting in the lower part of the glass container. The water cannot be drained off while running, but it should not be allowed to rise too high in the filter, as this would ruin the paper filter in the upper part.

#### Drainage Pump for the Fuel Oil Tank

If you would suspect that the fuel tank contains water, this can be removed by using a special pump built in under the seat on starboard side in the cockpit.

The Fuel Oil Tank is located under the engine and has a nominal volume of 75 gallons. The suction pipe to the engine is, however, located about 4 inches above the lowest point. In order to avoid that the fuel pump sucks air, specially while running in open sea, a further margin should be left. To calculate the cruising range (under power), the accessible fuel

should be calculated to about 55-60 gallons, which gives 360 nautical miles with engine, using approximately 1 gallon/hour at 7 knots. You can take a sounding on the tank through a plug on the pipe for filling located forward of the engine.

The Fresh Water Tank holds approximately 75 gallons and is built in under the floor in the main cabin. There are several inspection openings for cleaning of the tank. Do not open unnecessarily because of the risk of leakage if the seal is improperly replaced.

The Steering is now a mechanical sprocket and chain system with transmission by wire rope led over sheaves to a quadrant on the rudder stock. The maintenance is limited to squirting light motor oil on the sheaves and the chain a few times in the season and to inspect and oil the wire ropes. Replace the wire at the first sign of a frayed strand or after about 5 years. Keep oil away from the brake pads.

The Bilgepump is of a very efficient membrane type and is mounted starboard under the seat in the cockpit. It operates from the large bilge immediately forward of the engine. Access also from main cabin by lifting the floorboard. The pump is designed in such a way that large particles can pass through without causing any blockage. Should this happen anyhow, the pump is cleaned by loosening the membrane. As the pump being designed for a heavy suction tube the bilge cannot be completely dry through suction.

#### Bottled Gas (L.P.) Installation

The yard delivers the Rasmus 35 as a standard equipped with a 2-burner stove with range. This stove is of a low-pressure propane type equipped with safety pin that will automatically turn off the gas if the flame has been accidentally extinguished. A L.P. pipe, made of solid copper, is installed between the forward stowing place and the stove, where it is connected by a shut off valve. The owner has to install the proper L.P. tube suitable for his particular needs and a suitable reduction valve for low pressure (300 mm). The L.P. tube must be securely installed to prevent it from overturning or coming loose. After the installation, all connections are tested by opening the valves to the stove. Have all connections brushed with soap water checking for leakage. This check should be done regularly, at least twice a year or when a leakage is suspected. Maximum safety is obtained by closing the valve at the L.P. gasbottle when the stove is not in use.

### The Head

The boat is equipped with a reliable marine-head of over board discharge type. The bowl is flushed by pumping seawater and pressing out the waste directly into the sea. The discharge is connected with a special bottom valve, which normally should be kept closed and in any case always while sailing. In an OPEN position the handle points away from the incoming pipe and the valve is open when the handle points along the pipe on either side. Normally the valve for incoming seawater has to be closed only when the boat is not in use for a long time. The valve is placed under the floor in the forepeak. It is important that the flushing valve of the toilet is set completely in the position of CLOSED.

When in use, the bottom valve shall first be opened. The bowl is then flushed a couple of times. After use, the bowl is emptied through forceful pumping, at the same time as the small valve at the side of the bowl is open = FLUSH. When the water level has risen somewhat in the bowl, the small valve at the side shall be closed and the pumping is continued until the bowl is emptied. Put flush valve back to OPEN position. Never put any foreign matter in the toilet! A match might easily clog the toilet. Close the bottom valve after use. As regards the winter maintenance, flush the toilet with detergent and water and drain through the bottom plug.

For different areas the toilet may be fitted by sewage treatment equipment or holding tanks.

### Bottom Valves

Besides the bottom valves for the cooling water intake and the head, as previously mentioned, there are also the following through hull valves:

Two 1 1/4" from the self-bailing cockpit, placed port and starboard in the engine compartment;

Sink drain 1 1/4" under the sink;

Wash basin drain 1".

All these through hulls are equipped with sea cocks. Furthermore, there is a 1 1/4" through vent above the water line on starboard as an outlet for the bilge pump.

### Electric Pump for Fresh Water and Shower

Please note the following when electric pumps have been installed for the fresh water system:

The pumps start automatically when opening a faucet. Note that the pumps in use are heavy users of electricity. They are also sensitive to too low voltage. If the voltage is low, due to poor charging of the battery in use, the pump will not start, but the automatic control device is on and the batteries are quickly drained. At the same time the pump engine can be overheated even without blowing the fuse.

### The Electric System

The electric system is 12 Volt and has 2 different circuits. One for starting the engine and one for other use onboard, lights, etc. Even if the lightning battery is completely discharged, this does not affect the second battery for starting the engine. Each circuit has as a standard one 114 Amp. hour battery, which is located under the aft seat portside in the main cabin. The batteries can be turned off by the main battery switches, which are located under a cover on the front panel of the seat. The alternator has a direct connection with the lightning battery and will not be affected if the switches are turned off by mistake.

### The Fuse Boxes

The fuse boxes are located at the navigator's table, where one electric outlet is also located. All fuses are of 8 Amp. except the icebox and pressure water pump, which use 15 Amp.

The Interior Light Bulbs are generally of 5 and 10 W coil type (type Philips 12844 and 12866 or similar).

The Light Bulbs in the navigation running lights are 25 W, except for the stern navigation light, which is 10 W Hella, type 8GA 002 600-12 resp. 699-12 or similar. Spare lamps can be purchased from the dealer or directly from the Hella representative.

There are three 12 Volt outlets: One at the navigator's table, one in the head compartment and one in the aft cabin. Minus and plus should be checked when plugging in appliances sensitive to polarity, e.g. portable TV sets, etc.

#### NOTE IMPORTANT! CHECKING UP ON HOSE CLAMPS

Hose clamps, specially those positioned below the waterline where a leak means water entering the boat, must be checked up some time after delivery and then annually. The clamps are, where possible, of stainless steel and will not corrode. The hose must be so firmly attached to the fitting that it cannot be turned by hand and it must not leak. Extreme tightening should elsway be avoided as it may make the treads of the screws to override and the clamp to lose its grip.

#### Holding Tank for the Toilet (European type)

A holding tank can be obtained as an accessory to the standard toilet. This is installed in the stowage space, portside of the toilet. This tank makes it possible to use the toilet while in port without pumping out the waste, which later can be emptied into the sea. It is used in about the same manner as without the tank, but instead of opening the bottom valve for drainage, the valve of the holding tank is opened. After use, the tank valve is closed. With careful use of the flushing water, the tank should normally be enough for one family during a weekend. The tank is emptied in open sea by first opening the bottom valve and then the tank valve, the tank is then drained through selfpressure. The tank is flushed with the toilet pump and emptied and is then ready for use again. The tank is equipped with ventilation opening outside and above waterline. If the tank is full, the flushing water will come through the hose to the ventilation and the pumping must be stopped immediately. It is advisable to flush the tank with some chemical disinfectant and detergent before the winter season.

#### Lifting, slipping and winter storage

The Rasmus can easily be lifted using a crane with soft lifting strops. The center of gravity is positioned lengthwise below the front opening windshield window. Spreaders on the lifting stops should be used to avoid excessive pressure on the wooden rail cappings.

When lifted on a slipway or placed in winter storage, the weight of the vessel should be supported by woodfaced blocks. One should be placed as far forward as possible under the flat keel and one about 1 meter (3") forward of the rudder.