L23 and 23SL

Owners Manual

Leisure Owners Association

Issue 1
May 2012

Disclaimer

All the information and advice contained in this Manual is offered in good faith, but it essentially reflects the experience and views of individual members. The Association cannot, and does not, warrant the accuracy, safety or practicability of any of the material.

Safety

Readers are urged to read, and to adhere to, the advice, particularly in a Health and Safety context, given by manufacturers concerning use of their products.

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LEISURE OWNERS ASSO*CIATION*

L23 and 23SL Owners Manual

Section 1

Introduction

Purpose and Structure

The purpose of this Manual is to provide a comprehensive reference for these boats, including descriptions of repairs, modifications etc that owners have carried out.

Although the two boats are considerably different in appearance, this is largely because of the design of the topsides. The hull, rudder, skeg, mast rig etc are identical, although the internal fit out differs slightly.

The Manual is structured in a series of Sections, each dealing with a different aspect of the boat, eg Mast & Standing Rigging. Inevitably, there is a degree of overlap between sections, eg in which should go methods of turning lines back to the cockpit. Each Section opens with a description and pictures of the original arrangements – where possible – then continues with information about repair, modification etc. The latter material has been culled from a variety of sources, and much editing, particularly of the material extracted from the two old Forums, has been necessary. *No material from the Forum opened in March 2012 is included.* It has been produced only in an electronic form, partly because of the sheer volume of material, but mostly because this approach allows for updated versions readily to be produced. Individual pages can be printed as hard copies eg, to take to the boat for a particular project.

History of the Boats

Production of the original design (OD) Leisure 23 was started by Cobramold in about 1972 at their factory in Stansted. This model was replaced by the 23SL, with its characteristic 'sharpie' look, in about 1978, still being manufactured by Cobramold. But by the early 1980s, production had passed into the hands of Brinecraft, at their Brightlingsea facility – and they changed the colour of the below–decks mouldings from brown to white, thus providing a ready means of identifying the builder of any one boat. Production continued until around 1986/7, when a major fire brought things to a halt. A few boats were subsequently produced in Germany, but effectively, Leisure yachts were no longer being made. The moulds are believed now to be in Poland.

Specifications

The original brochure for both boats can be found on our main website: L23 and SL23. Most boats were built as twin keel versions, but some were fin keeled.

Acknowledgements

This manual has not been produced by the 'Association'. It is a compendium of some factual information, but it primarily reflects the advice and experience of individual members, who have taken the time, over the years, to commit these to paper. We are extremely grateful to these folk.

Most of the material has been extracted from the Forum on the old website, and from the Forum and the Library on the new site. If ***YOU*** have something which ***YOU*** could contribute, then please send this to the me for inclusion in the Reference Library.

Barri Hopkins
Editor

Section 2

Starting Out

Introduction

So, you have bought your Leisure 23 and are now looking at the boat with its sails off, its mast down, bits of rope and wire all over the place, desperately trying to remember what the previous owner told you. Hopefully, the information below will be helpful. It must be said however, that many owners have modified their boats, and the following guidance relates to a 'standard' 23 – if one exists. Also, there are slight differences in the mast and rigging between the 23 and 23SL.

Safety

The first and essential step is to ensure that the boat is safe to work on. If she is standing on the ground, then chock up the skeg so that she cannot tip backwards. Similarly, another piece of wood jammed between the forward end of the hull and the ground will stop her rocking forward. If the boat is on a trailer, ensure that she is firmly lashed to the trailer both fore and aft. Either couple the trailer to the car, or chock up the rear of the trailer so that it cannot tip backwards.

Mast and Rigging

Diagrams for the 23SL and 23 can be found at Rigging Diagram 23SL and Rigging Diagram L23
The mast can be raised by two people, although a third pair of hands is always useful to clear the inevitable snagging of a wire or rope (it is much safer to let the yard or sailing club staff raise the mast with a crane). Guidance on raising (and lowering) the mast is contained in Section 5, Mast and Standing Rigging.
First, the mast must be properly orientated and the running rigging (rope) and standing rigging (wire) must be correctly positioned.
Make sure that the heel of the mast is over the bow, that the sail track (groove) is facing downwards and that the furling genoa foil is lying on top of the mast and spreaders. The backstay should be lying underneath the mast. Drape the backstay bridle over the stern. The two cap (upper) shrouds should each run through the alloy fitments on the end of the spreaders with split pins or screws ensuring that the shrouds cannot escape; the spreaders themselves should be secured to the mast by split pins or nuts and bolts. The bottle screw on each upper shroud can now be connected to the middle deck eye. The forward and aft lower shrouds can now be connected to their deck eyes.
Next, and a most important step *loosely tie the top of each bottle screw to the guard wire with a piece of shock cord.* Failure to make the bottle screws 'stand up' like this can result in bent or broken bottle screws, should they become snagged on the deck eyes as the mast is raised.
Before going on to raise the mast, check that all the running rigging is in its proper place. There should be at least three ropes – the topping lift, main halyard and genoa halyard, plus a thin signal halyard from the starboard spreader from which you proudly fly your Leisure Owners pennant. There may also be a cruising 'chute or spinnaker halyard.
The:

- topping lift runs over the rearmost sheave on the mast head (crane) and runs up and down entirely external to the mast and should be lying underneath the spreaders
- main halyard emerges from the mast crane in front of the topping lift but runs down inside the mast and exits via a sheave at the foot of the mast
- genoa halyard routes over the sheave on the front of the mast, and exits down inside the mast and out via a sheave on the foot
- thin signal halyard runs through an eye or small block on the underside of the starboard spreader.

At this stage, check that the radio aerial is mounted and that the masthead navigation lights, work.

Before going on to raise the mast, it is worth spraying the sail tracks on the boom, mast, and furling genoa foil with a dry silicone spray. This considerably eases the mounting of the sails.

With the mast erected, insert the boom gooseneck - long bit downwards - into the slot or gate in the mast (Fig 1), with the sail track of the boom uppermost. Insert the split pin (which should be dangling on a piece of cord from the mast) into the hole in the mast sail track below the gate and let the boom rest on it. Connect the topping lift to the end of the boom to support it in a horizontal position, and shackle the main sheet to the tang on the end of the boom and to the horse – the slider on the rail across the companion way on the 23SL or, on some 23s, across the transom. You are now ready for the mainsail.

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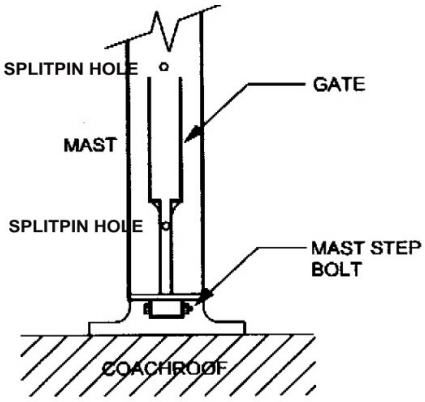
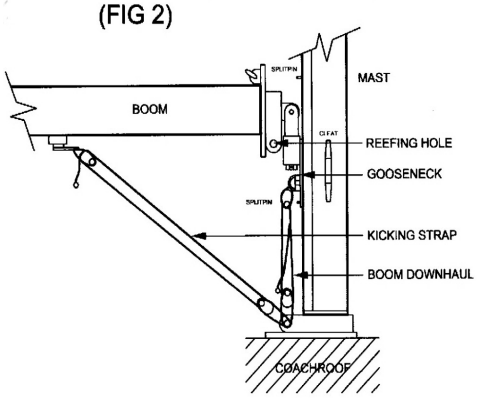


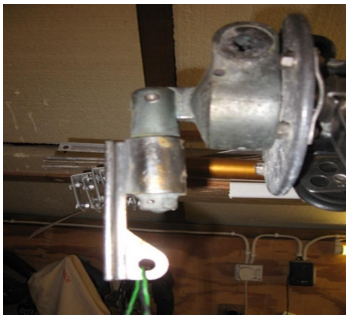
GATE (FIG 1)

GOOSENECK & DOWNHAULS
(FIG 2)



Mainsail

Insert the aft corner (clew) of the sail into the groove on the boom and ease the sail along the boom. Shackle or lash the forward end (tack) to the lug on the roller reefing plate, and lash the other end to the cast eye on the end of the boom. Shackle the main halyard to the head of the sail. Insert the head of the sail into the gate and haul the sail up, feeding the sliders or boltrope into the gate as you go. Make off the halyard on a cleat on the mast.
Insert the second split pin into the hole in the track just above the upper gate. There should be a boom downhaul which is fitted between the lug on the under side of the gooseneck and the mast step bolt so that the mainsail, once raised and with the lower split pin removed, can be tensioned by pulling the boom down with the downhaul (Fig 2).



Originally, the main sail was furled by inserting a cranked handle into the gooseneck fitting and turning to wind the sail around the boom. The kicking strap function was provided via a large horseshoe claw, which allowed the boom and sail to rotate within it. If you have a claw, it should be lashed to the aft end of the boom so that it lies about 3ft from the mast. A downhaul should be fitted between the claw and the mast step bolt. However, many owners have changed to slab reefing, where the sail is pulled down onto the boom and not wound round it. In this case, there should be a fitting underneath the boom so that a kicking strap, with its own jamming block, can be connected between it and the mast step (Fig 2).

Foresail

As originally supplied, both models had a forestay onto which the genoa was simply clipped by piston hanks. Many owners have since converted to furling genoas, where the sail is wound onto a foil which rotates around the forestay. There are many different models in existence, but the

principles are the same.
Before hoisting the genoa – on a calm day - check that the forestay is tight; if it is slack, problems will occur. Shackle the halyard to the top mounting of the top swivel of the furling kit, feed the head of the genoa into the sail track and shackle it to the lower mounting of the top swivel. Haul on the genoa halyard whilst a second pair of hand feeds the sail. When fully hoisted, shackle the foot of the sail to the mounting on the lower drum. Apply as much tension as possible to the halyard, and make it off on a cleat on the mast.
The next task is to get the reefing line – assuming it is a single line – wound onto the drum. Roll the genoa around the foil by twisting the foil, so that the sail is wound as tightly as possible, with the UV strip on the outside of the bundle. Put a tie around it. Connect the reefing line to the drum and twist the bundle to put lots of turns on the drum. Some careful thinking is required to determine the correct direction of twist!! Connect the genoa sheets to the clew of the genoa and then test the unfurling/furling action, keeping slight tension on the genoa sheets. If the genoa won't furl completely, you will need to remove the sheets and put a few more turns on the drum.

Engine
Your engine could be an outboard, or an inboard diesel or petrol, sail drive or shaft drive – the latter is not common. It is difficult to offer any advice with such a wide range of possible motors. The following pointers are largely obvious. Before going afloat, or leaving the mooring or pontoon, ensure that:

- for inboard engines, the cooling water inlet valve is open, and that water is emerging from the exhaust when the engine is run
- for outboard engines, the vent screw on the top of the tank is open, and that water is emerging from the tell-tale tube when the engine is run
- you have plenty of fuel
- the propeller turns when a gear is selected

Miscellaneous
Before going afloat, or leaving the mooring or pontoon, ensure that:

- you have a list of all the things you should do/check – and do, or check them
- all seacocks (except the engine cooling water intake) are shut, and that the log impeller, or the log blanking cap or plug, is in place.
- any gas supply is turned off at the cylinder
- you have a serviceable boathook – preferably two
- you and your crew are wearing buoyancy aids
- the VHF radio works
- you are flying your ensign – and of course, your LOA pennant from the starboard spreader.

Section 3

Hull & Deck

General

Both versions have identical hulls, but the superstructure differs markedly. The SL is readily identified by its 'sharpie' form, with its sloping coach roof, whereas the original design had a stepped coach roof. This, and other differences in design can be seen in the brochures for the two models Brochures. Both fin and twin keel versions were built, though the latter predominates. Nine colours were available, at extra cost, but the most popular colour was white.

Most boats have a tendency to list to port, a feature which some owners have compensated for by, eg, carrying an inflatable in the cockpit starboard locker, or shifting a battery to the starboard side.

Hull

The hull itself is a very substantial one-piece GRP construction, with the thickness of the material approaching 25mm in the bows. The join between the hull and superstructure is covered externally by a teak rubbing strake, through bolted and, in most cases, with the screw heads recessed and plugged; some have bolts whose heads are simply countersunk. Internally, the bond is covered by a broad teak ply strip. There are very few known cases of osmosis with these hulls. The skeg and the keels are both bolted-on additions (Rudders and Skegs are covered in Section 6). The keels are rough steel castings, and are inevitably subject to rusting and pitting where the protective coating has been damaged. The effects are more cosmetic than serious, and treatment of rusty keels is the subject of a few items below. They are affixed to the hull by stainless studs, whose stainless nut are accessible below the cabin sole, but are covered with a thick coating of flo-coat.. No problems are known to have arisen from this method of securing the keels .

The issue of antifouling would fill a manual in its own right, particularly the question of which product to use. Its largely a question of 'you pays your money and takes your choice'. There are, however, a few basic guidelines:

- make good any significant damage with an epoxy filler
- lightly abrade the existing coating, with WET abrasive paper. Doing it with dry paper produces toxic dust.
- do not use hand or power wire brushes to remove rust. This action polishes the metal.
- check that your intended antifouling is compatible with the existing coating. If you are unsure, put a tie coat on first.
- apply the antifoul generously.

Deck and Coach Roof

The two GRP skins of the roof enclose a balsa core; these skins merge at the edges of the roof to form solid GRP walls, of irregular thickness, in which the windows are fitted. The side decks also incorporate a balsa core. All the cockpit benches, walls, bulkheads etc are single skin GRP. There are moulded-in non-slip areas in the gelcoat, and winch pads on the coach roof and coaming. Few problems are known to have arisen, with this form of construction, except where water leaks around fittings have caused the balsa core to soften, and then be crushed as attempts are made to tighten the loose fittings. There have also been one or two cases where delamination has occurred on the side decks; ingress of water through cracks causing the upper deck skin to bubble up. The cockpit floor is 20mm solid grp.

Cockpit
The two models have slightly differently shaped cockpits, but the basic construction is the same. Both the starboard side and lazarette locker lids are of a relatively light construction, and are prone to show signs of wear, particularly in the fixing of the hinges to the hull. Replacement locker lids are not currently available, but should you need one, Hurst Marine, Hurst Marine are usually ready to consider the case for new mouldings.

Deck Fittings
The 'standard' boat was supplied fitted with only two (jib) sheet winches, but most owners have since fitted additional winches, turning blocks, clutches etc on the coach roof. Stanchions were an optional extra. Any new fittings should be provided with a substantial marine ply backing plate and penny washers. There should be no need to dig out the balsa core, unless this has collapsed.

All the fixings for the coach roof fittings can be accessed from within the cabin, but the teak ply ceiling has to be removed (see Section 8, Cabin Interior). Those on the side decks and bridge deck, mainly sheet tracks and stanchion bases, can be accessed from within the cabin by removing the teak ply cover panels. Different types of stanchion bases will be found; the only known difficulties concern corrosion between the stanchions and bases, making the former very difficult to remove. (The other problem relates to 'helpful' folk grabbing the top of the stanchion as one comes alongside, the considerable leverage exerted causing hairline cracks in the deck…..)
Fixings for the cleats and winches on the coaming can be accessed via the cockpit lockers or quarter berth.

All the deck hardware - cleats, tracks, Samson post , bow roller, etc ,are through-bolted pieces of kit, and with the exception of the stanchions, there have been few reported problems. The picture, showing a badly elongated fixing hole in the stemhead, illustrates the need, occasionally, to inspect such items.

Cockpit Drains
As supplied, the boats were fitted with crossed-over drains, without seacocks. Whether the skin fittings exited the hull above or below the water line seems to have been a random decision by the fitter. Much has been queried and written about these drains – sometimes referred to as self-bailers – as will be seen in the Forum items below.

Repair, Modifications etc

Reference Library Items
Cockpit Drains Modification
Forehatch Sealing
Grab Rail Refurbishment 1
Grab Rail Refurbishment ***2***
Marking the Waterline
Midship Cleats
Osmosis
Saildrive Aperture Closing
Water Leak Through Deck

Forum Items
Anchor Chain
Antifouling Preparation
Cockpit Drains
Cockpit Drains
Cockpit Drains and Cowls
Cockpit Locker Hinges
Contrast Stripe
Copper Antifouling
Displacement
Derusting Keels
Dodgers
Extra Keel

Section 4

Engines and Propulsion Systems

Original Arrangements

Both boats were originally offered with a fitted outboard bracket as standard, with a choice of petrol or diesel saildrive engines as optional extras. Engines from Vire, Petter and Volvo were offered, mostly about 7.5hp. Many of these of these original engines have survived, despite their age, but many have been replaced by more powerful units. If a purchaser opted for an inboard engine, a small fuel tank of about 20 litres capacity was fitted in the lazarette, with the filler situated in the top of the transom coaming.

The vast majority of boats now have inboard diesel engines, a few of these being shaft driven, and the information below essentially relates to these inboard diesels. The picture shows a newly-installed Volvo D1-13

Overheating

This is probably one of the most frequent problems that arises, frequently signalled by the overheat alarm sounding, or steam issuing from the exhaust. The causes are many and varied, but two of the more obvious, and easy ones to check, are a blocked water inlet eg by a plastic bag, or an impeller failure; Yanmar engines suffered particularly from the latter. A quick look at the exhaust outlet will tell if cooling water is being ejected or not. Other causes are more difficult to diagnose and cure, as will be seen in the items below. Mismatch between engine and propeller is one of the less obvious reasons; some indication of this is given if the exhaust smoke is black when the engine is more or less flat out.

Engine Failure

One of the more worrying problems. The most usual reason for this is either a blocked fuel line or air in the fuel line. Guidance on bleeding air from the system can be found in the Reference Library items below. A suspected blockage in the system – or, rarely, a failed pump – can be checked by loosening the fuel feed at the injector(s) and cranking the engine with the throttle wide open. If there is no seepage of fuel - a piece of kitchen towel is an excellent tell-tale - then there is a blockage. Working back through the pipework, loosening one joint at a time and cranking the engine, should enable the blocked section to be identified and removed for cleaning out. And then bleeding the system.

Starting Difficulties

There is a host of reasons why an engine my be sluggish to start, including a faulty injector, poor compression due eg to stuck piston rings, and air in the system. A low battery can also be the culprit because it turns the engine over too slowly. If the engine hasn't fired up within about 20 secs of total cranking time, then the cooling water inlet valve should be closed until the engine is running. Failure to do this results in a build up of cooling water in the exhaust system which could find its way into a cylinder, with expensive results.

Sometimes, a reluctant engine can be persuaded to start with a shot of a 'quick start' spray into the air intake, but the use of this should be avoided, if possible, because there is apparently a real risk of serious damage to the engine. An alternative – not always practicable – is to warm the air intake, eg with a hair drier!

Fuel

All fuel, particularly diesel, should be filtered as it is poured into the tank. A funnel with an

integral filter is the usual method of doing this. Fuel tanks, particularly if holding diesel, should be kept full. This avoids the inevitable sludge at the bottom of the tank being stirred up as it would be if the fuel level was low, and the sea conditions were rough. And for steel tanks, it also helps to avoid water condensation within the tank, and the consequent risk of breeding the dreaded diesel bug – though less seems to be heard of it these days.
Some members are advocates of adding a cleaning additive to the fuel, such as Diesel Redex. This product is claimed to help free sticky piston rings, and at least one member reports positive results. Some members also prefer to use white road diesel.

Maintenance

All engines require regular and proper maintenance as specified in the relevant owners handbook. Before the engine is finally 'put to bed 'for the winter, the cooling system should be flushed, first with fresh water, and then with a strong solution of anti-freeze. The oil, and the oil filter, also should be changed *before* the boat is laid up, and the oil should be changed again, mid-season ,if the engine has had considerable use. The primary fuel filter (sometimes called the water separator) should be changed at the beginning of each season.

Repair, Modifications etc

Outboard Engines

Reference Library Items

Outboard Tiller
Outboard Steering Device
Impeller Change 4HP Mariner

Forum Items

Emergency Outboard Bracket
Outboard Air In Fuel Line
Outboard Emergency Engine
Outboard Overheating
Outboard Remote Control
Outboard Replacement
Outboard What Size 2
Replacement Outboard
Reversing With Outboard
Yamaha Outboard Problems

Inboard Engines, Saildrives and Propellers

Manuals

110S Saildrive Workshop Manual
2000 Operators Manual
2000 Workshop Manual
2010 Operators Manual
2010 Workshop Manual
MB2 50S Installation Manual
MB2 50S Operators Manual
MB2A/50S Workshop Manual
MD5A /Saildrive110s Brochure
MD6A/7A Workshop Manual
MD7A Operators Manual
Petter 6 AB1W Operators Manual
Petter AC1WM Operators Manual

Other Reference Library Items

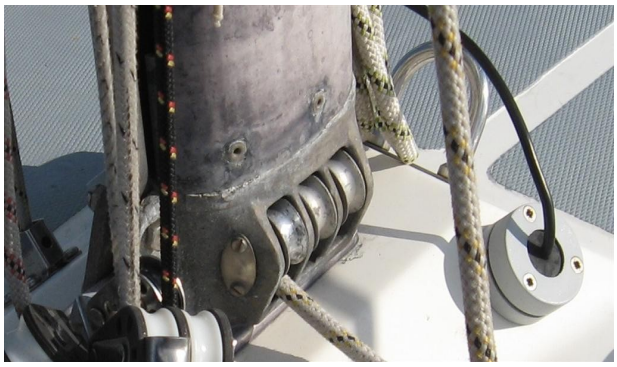
Bleeding MD5A
Bleeding MD7A
Fuel Sight Gauge
Installing 110S Saildrive
Installing 110S Saildrive
Lubricants
MB2 Notes
MB2 Tips
MD5 Seawater Pump
MD7A Rebuild
MDA/B/C Parts List
Propeller Calculation Propking xls
Propeller Calculation xls
Propellers - Choosing
Seal Replacement 110S
Seal Replacement 120S
Volvo Folding Prop Maintenance
Water Inlet Modification

Forum Items

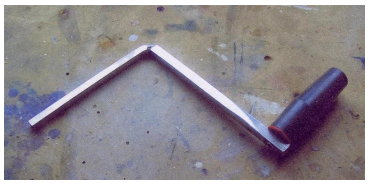
Section 5

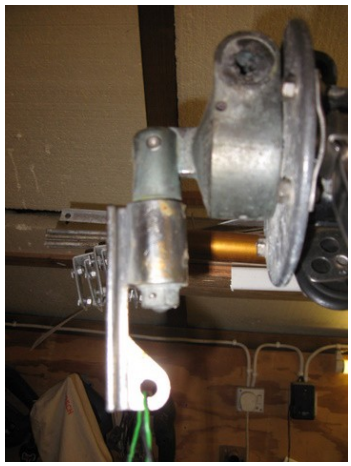
Mast & Standing Rigging

Original



Both versions were originally provided with black or gold anodised masts and booms, made by SSSpars – now a long time out of business. A 'lake rig' 30ft high mast was offered in place of the standard 26ft item. The mast heel was originally an alloy block fitted into the bottom of the mast and which carried the sheaves over which the internal running rigging was routed. The slot in the base fits over a matching upstand on the alloy deck plate. All the rigging is (normally) in 5mm stainless steel, with three shrouds each side, and a single backstay connected to two chainplates on the transom by a wire bridle. The upper shrouds were routed to the masthead via two alloy spreaders.
The compression load of the mast and rigging is transferred to the hull via the bulkhead door frame which, in turn, is bedded on the hull via a large dollop of fibreglass.





The original round boom had provision for roller reefing the main by use of a cranked handle (the picture is of a DIY handle) that was inserted into the gooseneck. The latter fitting had an eye in a lug on the underside, with a downhaul attached to it and to the bolt in the mast step, so that the luff of the mainsail could be hauled tight, once the main had been raised.

Two split pins inserted into the sail track provided resting stops for the boom and for the sail when lowered. Many owners have dispensed with this roller reefing in favour of slab reefing, which provides a better set to the sail when reefed. It is also possible to reef without the need to leave the cockpit, as is described in the Section 7 'Sails, Running Rigging and Reefing'.

On some boats,the kicking strap function (to prevent the boom rising) was provided by a roller reefing claw, a horseshoe with internal rollers, which allowed the boom and rolled sail to rotate within it. This was lashed to the aft end of the boom so that it lay a roughly 1/3 of the boom length from the mast. A downhaul was fitted between the claw and the bolt in the mast step.

Many boats now sport different masts and booms because of mast breakage or damage. Some have suffered damage to the alloy mast heel and deck plate, both of which are quite brittle, and are easily damaged if, for example, the mast slews sideways when being raised or lowered. Ways of making good such damage are included in this Section.

The mainsheet runs on a RWO track through-bolted through the companionway. The car is locked in place by two spring loaded plungers. Replacement parts are still available for this kit from some chandlers.

Foresail roller reefing was not supplied originally – sails were simply hanked on – but many

owners have since converted to roller reefing. More about this in Section 7.

Repair, Modifications etc

Reference Library Items
Colnebrook Furling Gear
Damaged Mast Foot
Painting the Mast
Plastimo Furling
Raising the Mast 1

Forum Items
Anti-snag Cleats
Boom Droop 2
Cruising 'chute Block
Kicking Strap Slide
Mainsail Roller Reefing Handle
Lowering the Mast
Lowering the Mast 2
Main Sheet Traveller
Main Sheet Traveller Bearings
Mast Corrosion
Mast Foot Sheaves
Mast Heel Repair
Mast Heel Repair
Mast Raising 2
Mast Raising/Lowering
Mast Rake
Mast Sheaves
Raising the Mast
Reefing Boom Single Line
Rigging Replacement
Rigging Tension
Rigging Tension 2
Sagging Boom
Seized Mast Step Bolt
Shroud Tension
What Genoa Furling System

Section 6

Rudder & Skeg

Rudder and Tiller

The basic construction of the rudder is a stainless steel frame (though some frames of mild steel are known to exist), encased in a GRP moulding, and filled with foam. Welded tangs secure the frame to the rudder stock. The foot of the rudder stock sits in a pintle bolted to the skeg. The geometry at the foot of the rudder is not good. The stock runs through a plain bearing on the underside of the hull, and through a stainless steel plate holding a (replaceable) nylon bearing at the top of the housing in the cockpit. The stock also runs up through a tube glassed to the bottom of the hull. Although the top of this is open, it is above the waterline,thus effectively sealing the lazarette from water ingress. The tiller pivots vertically in an alloy tiller head casting, which is internally tapered to fit the taper on the rudder stock. The head casting is held either by a screw into the rudder stock, or by a nut on the threaded end of the stock. There is also a grub screw through the side of the casting which locates in an indentation in the rudder stock.

If the GRP moulding becomes damaged by accident, or repeated heavy grounding, it can lose its integrity, allowing water to ingress. If the internal structure is of mild steel, then this rusts, and the fault in the GRP becomes more pronounced. Repair of this critical item is sometimes possible; if this is not practicable, replacement units are available through the Association's approved supplier, Hurst Marine (Hurst Marine), though not from stock.

The original tiller was shaped from a solid piece of hardwood. Replacements, which are available from Hurst Marine, are now made from laminated strip-wood. The head casting was originally a cast alloy fitting, which is easily fractured, either when trying to remove it, or by over-tightening the bolt through the jaws in an attempt to eliminate slackness when the tiller pivots. The modern equivalent, also available from Hurst Marine, is machined from solid stainless steel.

Skeg

The construction is similar to that of the rudder. The whole unit is bolted to the hull via studs, the nuts of which are accessible, through the lazarette. The nuts are flo-coated for protection.

The usual problem with the skeg is identical to that of the rudder, ie the ingress of water. The deterioration of the structure is sometimes sufficient to allow the skeg to move laterally. Replacement skegs are available via Hurst Marine.

Repair, Modifications etc

Reference Library
All About Rudders
Loose Tiller
Rudder Schematic
Skeg Redesign (this refers to the L27 but the principles are applicable to the L23)
Skeg Removal

Forum
Rudder and Skeg Repair
Rudder Rumble
Rudder Split
Rudder Stock Play
Skeg Bolt Weeping
Skeg Drainhole
Tiller Extension
Tiller Rot

Section 7

Sails, Running Rigging and Reefing

Original Arrangements

Both models were originally offered with hanked on foresails and a Barton roller reefing main. Other sails, slab reefing for the main, and Colnebrook roller reefing for the genoa,were offered as extras. The main was fitted with sliders rather than a bolt rope.

A question frequently asked is whether the sail number indicates the age of the boat. The answer is that it doesn't do so precisely, because the sails, (made by Rockall) appear to have been issued more or less at random.

Lazy Jacks

When the main is lowered, it usually flops all over the deck obscuring your view, before being flaked down and tied onto the boom – not convenient if you are single handed. With lazy jacks fitted, the sail is constrained into a heap on top of the boom and can be tidied away at leisure. Many owners also go the next step and fit some form of stackaway pack, where the sail cover is permanently fitted to the boom. The only downside to fitting lazy jacks is that when raising the sail, the boat has to be dead to wind, otherwise there is a risk of the battens getting caught outside the lines.

Running Rigging

As supplied,the halyards were 3/8” diameter braid-on-braid, and the topping lift 1/4”. Many owners opt for 6mm for the topping lift and genoa furling line, 8mm for halyards and kicking strap, and 10 or 12mm for the main and genoa sheets. There are no 'standard' lengths of the various lines; this depends on how the lines are routed and cleated off on the individual boat. The rigging diagram is at Rigging Diagram.

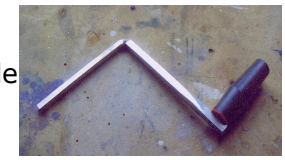
For safety and convenience reasons, many boats have their control lines led back to the cockpit via various turning arrangements of blocks, and via clutches or jammers on the coach roof. The picture shows one such arrangement. Note also in the other picture that there is no downhaul on this gooseneck; it is fixed rigidly to the upper mast step bolt by a metal strap (15mm stainless tubing flattened at the ends), the luff of the main being hauled tight by the main halyard.

All lines should be removed from the boat during the winter and inspected for wear. This can be done easily if a lightweight, say 2 or 3mm, messenger is pulled through on the end of each line. A good way of joining the two is by sewing a couple of loops onto the end of each line with a medium whipping twine. The messenger can then be tied on to the loops with a bowline, and the join covered with plastic insulating tape to taper the joint. Putting the lines in a low temperature cycle in the washing machine will remove ingrained dirt and salt. It is best to constrain the lines in a bag, eg an old pillowslip, to reduce the amount of tangling.

The usual problem with lines is either breakage and/or losing a halyard in the mast. Providing there is still one halyard - or messenger – in the mast, the situation can be retrieved, although access to the mast head is necessary, either by dropping the mast, or by going up it. In principle, the existing in-mast line is used to pull TWO messengers (of different colours) through. As soon as the pair have entered the mast heel, with a bit of bent wire, fish the 'lost' messenger out through its correct sheave; it may be helpful to remove the sheaves to do this. Then keeping

slight tension on to try to stop the messengers twisting, haul away until both messengers appear at the mast crane. Repeat the bent wire trick, and you should then have two messengers in their correct positions.

Reefing the Main



Some of the original main roller reefing systems survive; the two difficulties that do arise are loss of the reefing handle, and the turning mechanism within the boom fitting becoming jammed. Replacement handles are available from many chandlers eg Marinestore, but at around £40. But when one considers that the handle receptacle is simply a square hole in the turning mechanism, other solutions come to mind, such as getting a local metal workshop to make simple one. The picture shows a DIY handle.

There is no easy solution to the jammed mechanism problem except WD40. New replacements are not available, and members have reported considerable difficulties when trying to dismantle the fitting. If your mechanism has jammed, perhaps this is an opportune time to convert to slab reefing, which enables a better set to the sail when reefed, and can provide for the reefing to be done from the cockpit.

All slab reefing systems require the main to have reefing cringles in the leech and luff. Four cringles would provide two stages of reefing which should be ample. Although these appear to be simple eyelets, do not be tempted to do it yourself; there are considerable stresses on the sail when reefed, and the sail has to be heavily reinforced around the cringles.

There are many forms of slab reefing, both commercial and DIY. Broadly they can be classified into three types:

- single line systems, where one line is used to pull down the leech, the luff cringle being clipped over a hook affixed to the gooseneck; you have to go the mast with this method. Barton makes such a system at a cost of about £90, excluding the lines. One supplier is Jimmy Green
- single line systems where one line pulls down *both* leech and luff. These systems enable reefing to be done from the cockpit. The large number of blocks used in such systems necessitates the use of a winch to overcome the friction. The article in the Reference Library list below, Single Line Reefing, describes such a system (fitted to an L27, but the principles are the same)
- two line systems, where one line is used for the leech and one for the luff. Less effort is required, but there are more lines in the cockpit.

All these systems can be installed using the existing boom, by fixing blocks, tracks etc. Booms are available designed for slab reefing, which make a much tidier – and more expensive – method of routing the lines along the boom. Before choosing this approach, be sure that the gooseneck arrangements are compatible with the existing mast and, if you have a spray hood, that the main sheet will not foul the aft edge of the sprayhood. One supplier is Z Spars.

Reefing the Genoa

Most boats now sport a roller reefing genoa of some sort, whether a continuous line system or single line. Providing the maker's service instructions are followed, these systems should give little trouble. Most of the reported difficulties relate either to drums that are stiff to turn, or the genoa halyard wrapping itself around the reefing foil as the reefing line is wound in or out. There is much discussion about these topic in the items below.

Three of the basic guidelines in both cases above are to ensure that the:

- forestay is really tight. Remove any sagging by tightening the back stay(s)
- upper swivel is fairly close to the mast head sheave
- genoa halyard is really tight. When hoisting it initially, make sure that it is surged hard

If none of these remedies is successful, then you may need to fit a halyard diverter to improve the angle between the halyard and the mast. One supplier of these devices is Plastimo, whose 608 kit can be found on many 23s Plastimo (page 21). There are less common causes, which are the subject of forum items below.

Techniques

Advice on tuning your rigging, flying a cruising 'chute etc can be found below, particularly in the Reference Library items. One general piece of advice that can be confidently given is that it is far better to reef early, than when you are being over-pressed by the wind. This gives you a more comfortable and safe ride, and the boat will probably be faster.

Repair, Modifications etc

Reference Library

Colnebrook Reefing Gear
Jib Sheets Without a Shackle
Overhaul Plastimo Gear
Sail Maintenance
Single Line Reefing
Trim the Headsail
Trim the Mainsail
Tuning the Rigging
Using a Cruising 'Chute

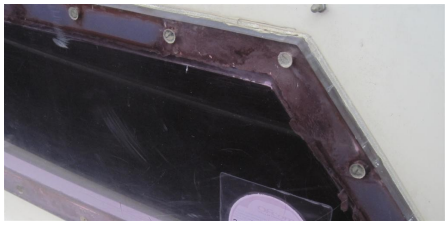
Forum Items

All About Lazyjacks
Colnebrook Gear Problems
Cruising Chute Choice
Furling the Genoa
Genoa Pole Length
Genoa Reefing Jamming
Halyard Dimensions
Halyard Wrap
New Mainsail
New Mainsail
Plastimo Gear Jamming
Reefing Points - How Many
Roller Reefing the Main
Slab Reefing - Setting Up
Storm Jib

Section 8
Windows & Hatches

Original Arrangements

Windows: 23SL



The windows on this model are different from those on the L23. The material is 10mm Perspex, and the bevelled-edged windows are affixed to the cabin sides by countersunk stainless steel screws. The screws do not penetrate into the cabin because the sides are double skinned, as shown in the second picture (with the window trim removed). Between the window and the cabin side, there is a strip of self-adhesive neoprene which provides the primary seal between window and cabin side. Leaks are the usual problem, and as can be seen in the photo, sealant has been applied round the edge of the window. Another slight weakness is that the countersunk screws tend to act as wedges, and over tightening these in an attempt to stop leaks can cause the Perspex to split. Over time, the windows suffer from UV crazing, and there is little that can be done about this except to replace them. There is information later in this Section about replacing windows.

Windows: L23

The two pictures (right) well illustrate the different window arrangements in the L23. The inner skin has moulded-in recesses around the window apertures, which bring the two skins into contact, though not a bonded contact. This enables the windows to be through-bolted. On the exterior there is an alloy trim with a thin silicone sealing to the cabin side. Internally a wood trim surrounds the window, with the 'nut' of the nut and bolt. This fixing is an inter-screw with, unlike the picture, a countersunk screw, where the 'nut' is a blind screw, with the shank threaded on the inside. When refitting the screws into the aluminium frame, the hole should be covered with a thin layer of silicone to avoid contact corrosion and leaks. The main problems with this form of construction are leaks, which can cause the interior wooden surrounds to rot. The only solution is to fabricate new trims. The old trims should be removed carefully to serve as templates for the new ones.

Hatches: 23SL

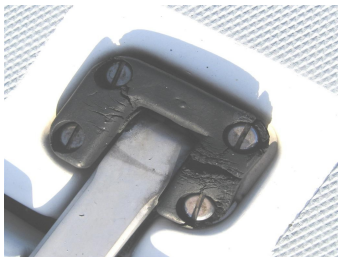
There are two hatches, excluding the anchor locker lid, the main and the forehatch. The main hatch is a double-sided moulding, which slides on two troughs in the garage roof and is retained in place by two teak mouldings. It is easily removed for cleaning or repair:

- Remove the few pan headed screws securing the garage top to the deck and lift it away.
- Remove the countersunk screws securing the two teak mouldings each side of the hatch and carefully prise away – there should be sealant at least around the screw holes.
- Lift the hatch away.
-

Replacement hatches are available from LOA suppliers, Hurst Marine

The fore hatch is also a double-sided moulding, which is secured to the deck by two 'rubber' hinges. Many of these hinges have deteriorated with time, and now show severe cracking. The LOA has sourced replacement items, which are available from Hurst Marine, together with

comprehensive instructions for the simple replacement job. The pictures show the 'before' and 'after' situation.



Hatches: L23

The principal differences from the 23SL are that the main hatch does not incorporate a translucent panel, and it does not slide back, when open, under a protective garage roof as the the hatch on the 23SL does. One member built his own garage as can be seen in this picture.

The forehatch is a single skin grp moulding with a clear gelcoat panel in the middle to admit light. There is a rubber sealing profile on the edge of the hatch, which overlaps the upstandion the deck, which seals it quite effectively. However this is not glued in place, so it can be easily torn loose. Glueing it in place is the remedy.

The grp of the forehatch is a also bit thin, which causes the hatch to deform when stepped on. One member laminated an extra layer of 600 grams glass fabric to the back (pictured) which eliminated the problem, and allowed the hatch to be walked on.

Repair, Modifications etc

Reference Library Items

Forehatch Hinge Replacement (23SL)
Forehatch Seal (L23)
Hatches in Cockpit
Window Replacement (SL23)
Window Replacement 2 (SL23)
Window Replacement L27 (*same principles as for 23SL)*

Forum Items

Forehatch Leak (SL23)
Window Replacement 2 (SL23)
Window Replacement 3 (SL23)

Section 9

Cabin Interior

General

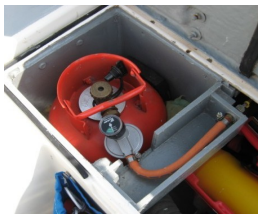
Both the earlier model, and the SL version are, in principle, very similar in construction below decks. The differences essentially reflect the different design of the windows and coach roof, the latter giving an an additional 40mm headroom. In both models, the cabin wall and roof have an air-spaced inner grp skin, which merges with the outer grp skin into a single wall at the join of the superstructure and hull; they also have a thin teak ply lining screwed to the ceiling inner skin. All the berth mouldings are single skin GRP, and the cabin sole is a moulded sheet of grp screwed to the berth and galley mouldings. It is worth lifting this occasionally because water from any substantial leak tends to accumulate here.

Galley Facilities

The water supply to the sink unit was originally provided in the L23 by a 55 litre built-in grp tank, which utilised the hull and locker side in the fore peak. The 23SL had a separate steel tank in the fore peak. Both tanks fed a hand-operated pump mounted on the sink unit. Some boats now have either a foot pump, or an electric unit, operated by a micro-switch within the tap unit, and perhaps an in-line filter such as a Jabsco unit. Whether a stop valve was originally fitted on the sink outlet is not known. Suffice it to say that if you haven't got one, you should fit one.

Cooking facilities were provided by a two-burner alcohol cooker – a gas-fired cooker was an optional extra. There is some discussion below about the best fuel to use in an alcohol cooker. Whilst there are articles below concerning gas, it has to be stressed that any work done on a gas installation should, ideally, be carried out, or certified, by a 'Gas Safe' technician. Three of the key safety points about gas installations are:

- gas bottles, both in use and any spare, must be stored such that any escaping gas drains overboard (picture is of an installation in the lazarette)
- when not in use, the gas supply must be turned off at the gas bottle
- a working gas alarm should be fitted, and used, such as one of the Pilot models.



Heads

A chemical toilet was the standard fitment, with the option of a sea toilet. Many boats now have the latter; the picture shows a standard bowl Jabsco neatly fitted into the toilet area. The usual problem with such arrangements is that the outlet sea cock, if it is of the traditional type, is either too stiff to turn, or that it leaks. There is detailed advice on the Blakes website, paragraph 3, about correct adjustment of their valves. Because they are not environmentally friendly, a prohibition on the use of sea toilets in inland waterways would not be unexpected.

Berths

Although expensive, a complete reupholster is a very effective way of enhancing the appearance of the boat below decks, as well as providing an increased level of comfort. Costs vary considerably, depending heavily upon the choice of covering material; circa £2,000 should not be unexpected for new covers and foam. It is generally true to say that it is false economy to re-cover the old foam; this will undoubtedly will have lost its elasticity and its shape, and it will not meet current fire prevention standards.

Storage

One of this model's particular strengths, in that it has a large volume of storage below decks. The one drawback is that the deep lockers do not make for convenient use. Adding shelving, such as shown in the pictures makes life that bit easier.

Table Area

Some owners do not like the table arrangement in that it obtrudes into the 'gangway', and does not provide a comfortable lounging facility, particularly because of the (relatively) low clearance under the side deck. There are one or two modification items below, as well as a method of better utilising the shallow and deep void under the table top.

Repair, Modifications etc

Reference Library

Berth Extension
Chart Storage
Cleaning Teak Woodwork
Cleaning Teak Woodwork 2
Forecabin Storage 1
Forecabin Storage 2
Seacock Replacement
Table Area
Upholstery (for a 27, but the principles apply to a 23)

Other

Pumped Water

Forum Items

Alcohol v Gas Cookers
Charcoal Heater
Cupboard Hinges
Eberspacher Heater
Gas Testers
Interior Woodwork
Jabsco Toilet
Quarter Berth Storage
Reupholstering
Seacock Servicing
Separate Heads
Spirit vs Gas
Table Modification
Table Modification 2
Table Resurface
Toilet
Upholstery (for 27, but same principles)
Water and Gas Storage
Water Leak
Water Tank Cleaning
Water Tank Cleaning 2
Water Tank Replacement

Section 10

Electrics and Instruments

Original Arrangements

When these boats were built, very little was fitted as standard. All interior and navigation lights, the battery, and log and echo sounder were all 'standard' extras. A 'cable loom' and switch panel were fitted, but it is now unclear about what facilities these provided. The wiring diagram in the Reference Library Wiring Diagram gives a good indication of how the various electrical items could have been wired. Advances in technology, members' ingenuity, and the depth of their pockets, have resulted in boats now equipped in vastly different ways.

Batteries

Most boats now carry two batteries with a change-over switch such that either can be used for engine starting, or to feed domestic needs. If only one battery is fitted, it must have an isolating switch. The primary engine battery should be located close to the engine to minimize voltage drop when starting an in-board engine. Charging is usually done by the engine alternator, and often via a 'split' arrangement whereby the charge is fed only to the 'low' unit; an article in the Reference Library, below, describes one method. Batteries require maintenance, particularly in terms of cleaning corrosion from the terminals and greasing them, though few now need the electrolyte to be topped up. Securing arrangements for these heavy items need to be robust to withstand the abrupt motion of the boat in rough water. Given the propensity for all 23s to list to port, placing one battery on the starboard side of the boat is a useful ploy. Leisure-type batteries are the most suitable for marine use, since they can stand being discharged to a lower level than standard car batteries. But no unit should be discharged to less than 50% of its capacity otherwise its life will be shortened. A condition meter is useful in this context, such as available from RS

Wiring

All wire used on boats, both for 12 volt and mains wiring, should be multi-strand and not solid; the latter can fracture with vibration. Ideally, this should be tinned copper wire, and it MUST be heavy enough to carry the current of the items(s) it is serving, otherwise it can overheat and cause a fire. The table below gives an indication of different sized wires and their current-carrying capacities:

Sample data re current carrying capacity etc

Dia of strands (mm)	No strands	Approx area mm^2	Approx max capacity (Amps)
0.2	24	0.75	4.5
0.3	14	1	9
0.3	21	1.5	13
0.3	28	2	17
0.3	44	3	27

Each piece of equipment served should be protected by an individual fuse; the item below 'Fuses' covers this topic in depth.

The weakest points of any electrical circuit are usually the connections, and particularly so in a marine environment. Deck connectors are very susceptible to corrosion – and difficult to clean. On one 23SL, all the mast cables are routed through deck glands and are connected inside the boat, in the ceiling recess in the forepeak, as pictured below.

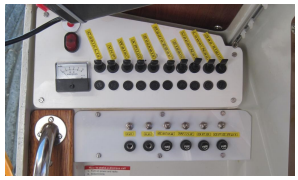
The best form of connection is undoubtedly a soldered joint, but this is not always practicable. Switches and fuse holders often are constructed with spade-type terminals.

The double-skinned construction of the superstructure does provide scope to run wires between the two skins, any holes cut in the inner grp ceiling skin to facilitate threading being covered by the teak ply panel.

Lighting

The original saloon filament lighting provided warm, if somewhat dim illumination in the cabin, but could draw several amps. Many owners have now opted for LED lighting which draws miniscule amounts of current, at the price of much brighter and harsher illumination. There is also movement towards LED navigation lights (expensive). Replacement LED bulbs and fittings for both interior and navigation lights are available from firms such as E C Smith.

Switch Panels



The original panel only provided for four circuits, far fewer than needed today. Many owners have fitted commercial panels, but many others have gone down the diy route, tailoring the design of the panel to meet their electrical control requirements and the physical space constraints.

Shore Power

Bringing mains power aboard is a real boon. It makes the installation of a cool box or fridge viable, as well as enabling batteries to be brought to full charge via a battery charger. Mains power and water make a dangerous, potentially(!) lethal, combination, and the provision of shore power MUST be done properly. There is more than one article below about how to do this safely.

Instruments

It is difficult to say much about instruments because of the vast choice now available and the differing needs of individual owners. Perhaps the four units needed as a minimum for navigation are echo sounder, compass, and either log, GPS or chart plotter, and radio. The question most usually asked in this context is where is the best place to site the echo sounder and /or log. Manufacturers' instructions are clear, in principle, but the application of them is a different matter. A convenient site for the log impeller is in the small locker under the hanging locker. Any 'flooding' when the log is removed for cleaning is neatly constrained. The forward starboard locker under the seat is a frequent choice for the echo sounder. Log impellers often need removal to clean accumulated weed and barnacles off the paddle wheel; the need is reduced if the impeller is withdrawn after each trip. There is more than one item below on log impeller problems.

Repair, Modifications etc

Reference Library

12 Volt Socket Installation
Basic Electrics
Battery and Alternator Management
Battery Maintenance
Charging From Outboard
Fuses
Private Mobile Radio
Shore Power
Split Charging System
Split Charging System 2
Twin Battery Installation
VHF Basics
Wiring Diagram

Manuals
Stingray Echosounder
Stowe Dataline

Forum
Autohelm Repair
Autopilot Wiring
Ammeter for Outboard
Battery Charging from Outboard
Battery Location
Battery Type
Car Radio Installation
Deck Glands
Deck Glands 2
DSC VHF
Echosounder Problems
Echosounder Problems 1
Echosounder Problems 2
External Speaker
GPS Power Supply
Handheld VHFs
Instrument Locations
LED Lighting
LED Switches

Other
Shore Power 2

Log Problems
Log Problems
NASA Echosounder Problems
NASA Log Problems
NASA Log Problems 2
NASA Log Problems 3
Portable Generators
Shore Power
Shore Power 2
Solar Panels
Solar Panels 2
Solar Panels Cheap
Switch Panel
Switch Panel 2
Transducer and Log Locations
Transducers and AIS
VHF Aerial Problems
Wind Generators and Solar Panels
Wind Instrument

END