

OWNER'S GUIDE



Matilda 20

**IMPORTANT
PLEASE READ**

OUYANG BOAT WORKS LIMITED

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INTRODUCTION

Your dealer and the staff at OUYANG would like to congratulate you on your new MATILDA 20, and wish you and your crew many happy days of pure sailing fun in the years to come.

To help you enjoy your MATILDA 20 more, and make it a trouble free boating season for you, we have made a check list of items and encourage you to be familiar with them.

I. PRELIMINARIES

1. Insurance on boat and contents still effective?
2. Club or marina dues paid? Mooring or slip ready?
3. Familiar with local trailer operating regulations?
4. Familiar with local boating rules and laws?
5. Safety gear aboard, and all equipment operational?

II. LOADING

1. Stow all necessary boating gear properly to prevent rattling.
2. Sails in? Battens? Rudder? Etc . . .
3. Mast may ride on cabin roof secured fore and aft on bow and stern rail, or on trailer under boat. You may require to tie a red flag on aftermost end as required by local trailering laws.

III. TRAILER/TRAILERINC

1. Allow 100-200 lb. Tongue weight on trailer. Check tire pressure, and also condition of wheel bearings. They might need greasing.
2. Check that trailer lights are functioning. It is advisable to carry a couple of extra trailer light bulbs and fuses.
3. The keel should be lowered to rest with its full weight on the trailer. Do not tow trailer with keel hanging from winch cable.
4. Boat snug in bow roller of trailer? Safety chains on hitch? Etc. Let's take off to the launch ramp!! But watch your speed limit. Maximum towing speed is usually lower than maximum highway speeds.

LAUNCHING AND RIGGING

IV RIGGING BEFORE LAUNCHING

Step your mast before launching. It is much simpler on land than water. Also it gives the tires, wheel bearings, and trailer lights a chance to cool down before submerging them.

Make sure there are no overhead wires, tree branches, or such obstacles where you are stepping the mast up and between you and the launching ramp. When mast is stepped on factory trailer (8" wheel), the impaired vertical clearance is about 30 feet.

A. Stepping the mast:

1. Lay mast on cabin roof, mast foot towards bow section, masthead to stern, groove of mast facing down.
2. Attach spreaders, upper shrouds through outboard spreader ends (and tape ends with black electrical tape) to aft shroud plates. Lower shrouds on fore shroud plates. Backstay and bridle attached to stern plates. WATCH that you DON'T fasten backstay over and around optional stern rail! Leave forestay unattached for now.
3. Check that all halyards are free and cleated. Jib halyard is to port with rope tail along groove side of mast. Main halyard is to starboard with wire along groove side of mast.
4. Open all turnbuckles to about one-third, and tape turnbuckle toggles vertical to prevent twist when raising mast.
5. Walk the mast back, one person at foot of mast in foredeck and other mid mast in cockpit. Person in foredeck keep mast foot down and centre mast heel slot into bolt on mast channel, while person in cockpit raises mast as he walks towards bow.
6. Person in foredeck at the same time pulls on forestay, and fastens same when mast is upright. Adjust all turnbuckles for proper tension. Lower shrouds less tension than upper - no "S" bend in mast - recheck when under sail. (See Mast Tuning).

B. Boom

1. Attach gooseneck fitting into mast groove.
2. To rig mainsheet and boom vang, see figures 2 and 3.

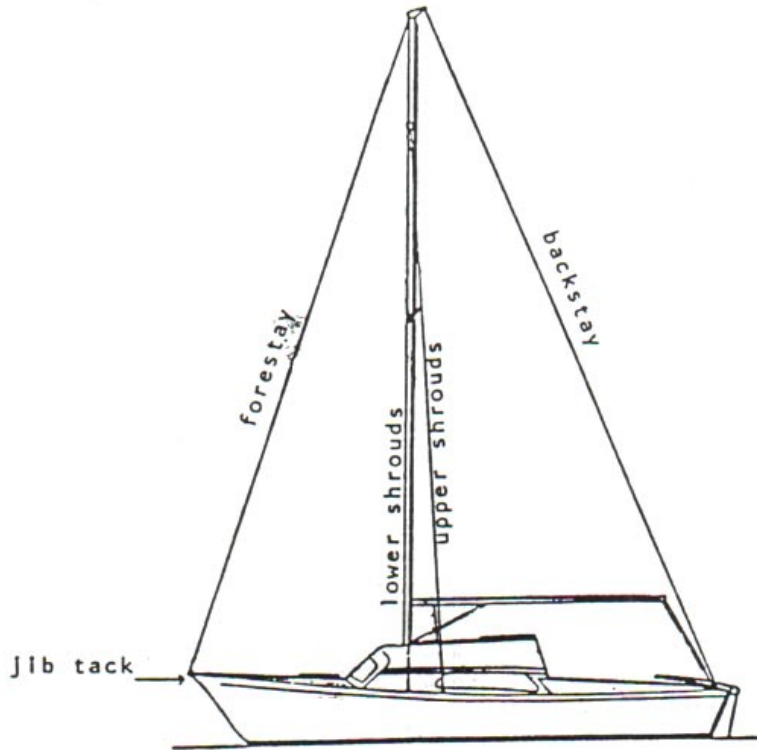


FIGURE 1. RIGGING PLAN

FIGURE 2. MAINSHEETING SYSTEM

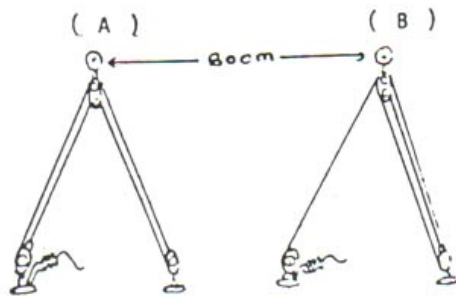
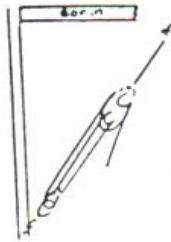


FIGURE 3. THE BOOM VANG



V. PRELAUNCHING CHECKS

1. Raise keel up as far as possible to clear trailer and lock keel winch.
2. Untie trailer tie-downs, etc.
3. Attach bow line, and if you wish--fenders, stern line, etc.
4. If you have outboard motor, mount same and gas tank.
5. Check again that all necessary boating gear is on board.
6. Disconnect trailer light plug from car end.

VI. LAUNCHING

1. Back trailer down ramp. Have one person on board and another on the ramp to hold bow line and guide driver.
2. Slack trailer bow eye line.
3. As soon as stern section of boat floats free from stern section of trailer, unsnap trailer bow-eye line and give the boat a push at the bow--your MATILDA will be water-borne.
4. If ramp is not steep enough, release tilt-up lever of trailer so trailer will tilt and boat will slide off into the water.
5. Watch that tail pipe of car does not touch water.

VII. DOCKSIDE PREPARATIONS

1. Set up rudder, motor or paddle your MATILDA to your dock or mooring with at least 15" of water depth.
2. Face bow of boat into the wind and bend on sails.
JIB OR GENOA
 - a. Fasten tack to hole in bow plate immediately behind forestay.
 - b. Hank jib/genoa to forestay.
 - c. Attach Jib Halyard to head of sail. Make sure you hold halyard shackle tight in your hand and not let it run up the mast. Otherwise you would have to either shin up the mast to get it down, or lower your mast.
 - d. Tie in sheets in centre to clew
 - e. Lead sheets outboard of shrouds through blocks, and around sheet winches and jam into camcleats.

MAINSAIL

- a. Slide foot of sail into boom groove from fore end.
- b. Secure tack in gooseneck with pin.
- c. Tighten foot of sail and lash clew to cleat on outboard end of boom, slide Head Into mast groove and attach main halyard.
- d. Insert Battens.

With sails bent on and sheet rove, you are ready to get underway. But please take a few moments to ensure everything is in order.

VIII. MAST TUNING

Improper tuning or handling of spars and rigging can cause mast or rigging failures. The following are few suggestions for tuning your mast and rigging:

1. Mast should be set straight athwartships with a slight rake aft of about 3 (three) Inches.
2. Shrouds must be kept at a reasonable tension to avoid unnecessary compression on the mast causing it to bend.
3. Forestay/backstay 'just firm' with backstay slightly tighter.
4. While sailing to windward in a series of tack, make necessary adjustments of the turnbuckles on the slack leeward shrouds after observing the mast on the opposite tack.
5. Check mast by sighting from the deck up will reveal whether further adjustments are necessary.
6. For better windward performance, the jib stay and backstay may be tightened up more. Remember to slack off the amount you "took-up" after the sail to avoid unnecessary strains on the rigging.
7. UNDER NO CIRCUMSTANCES SHOULD ANY OF THE RIGGING BE SET UP "BAR-TIGHT".

THE DROP KEEL

IX. KEEL/KEEL WINCH

The MATILDA drop-keel works on a four-pulley system. The bearings on these pulleys must be greased as frequently as needed. Two to three checks a year should prevent them from freezing up. Grease the pulleys early Spring, mid Summer, and late Fall if needed. To get at the pulleys:

1. Unscrew top panel of keel housing on starboard side.
2. Grease with "wheel bearing grease" available at most automotive supply stores.

At the bottom of the aft section of the keel housing, there is a stainless lock-pin bolt that prevents the keel from going down further beyond this point. Do not remove this bolt. If you must, do so only when boat is out of the water. Caulk with heavy marine sealant when you rebolt this fitting!

When using the keel winch, the winch pawl lock works automatically when raising the keel (clockwise direction). When lowering the keel, the winch pawl lock must be released BEFORE going in the anticlockwise direction. Once a desired position is reached, the lock pin must be set back on the ratchet before taking your hand off the winch handle.

FAILURE TO LOCK WINCH PAWL LOCK OR MAINTAIN PROPER CONTROL OF WINCH CAN LEAD TO SEVERE DAMAGE TO THE BOAT AND POSSIBLE INJURY TO THE OPERATOR.

It is advisable to remove winch handle and store below deck especially when boat is left unattended at mooring.

The keel must be let to rest on trailer when trailering and should be raised as far up as possible when launching or recovering at ramp.

SAILING BASICS

Before we go any further in this Manual, we would like to outline the very basic forms of sailing. Please note this is not a "cramp" course in how to sail, nor a detailed lesson.

And please don't consider yourself a "know all" when you finish reading the Manual. The object of the entire manual is to acquaint newcomers to sailing, and those skipping or crewing on a MATILDA 20 for the first time to help you and your crew rig and sail your MATILDA 20 faster and safely.

Some important basics are:

- A. Sitting position: Learn to sit properly, and always sit facing the sail, never with your back to it.
 - B. Balance: Distribute crew and gear weight evenly. Avoid getting the boat 'stern heavy' (weight too far aft, move weight fore to correct) or 'bow heavy' (weight too far fore, move weight aft to correct).
 - C. Heeling: a. Heeling to Leeward: if your boat heels because of too much wind, you can correct this by hiking out on the weather side OR If this doesn't help, let your sail out or head up.
b. Heeling to Windward: This is when weight of the skipper and/or crew is too far over on the weather side. You should never heel your boat to weather.
 - D. Sail it Right! Sailing right is a matter of keeping your boat at the correct angle for the wind conditions. Heel the boat over in very light winds so the sail will hold its shape. On a windy day, try to hold, the boat as flat as possible.
 - E. Heading up: Know how to 'head up', into the wind when you want to avoid excessive heeling.
 - F. Falling off: You 'fall off' when you want to veer your boat away from the wind--that is, the bow of the boat moves away from the wind.
 - G. Coming about: Coming about is a form of turning. The boat heads up into the wind and crosses it thus changing the direction of the craft.
 - H. Jibing: Jibing is a form of turning, and used when it is more convenient than coming about. It is similar to 'falling off' except the sail changes sides when you jibe and it does not when you 'fall off'.
- Remember, ALWAYS WATCH YOUR SAILS.

GENERAL SAILING CHARACTERISTICS OF THE MATILDA 20

A. LIGHT WINDS

In light wind it is difficult to sail to windward very tightly close hauled. It does not produce drive in the boat. Sails should then be eased off considerably including the boom vang in order to beat to windward without drifting. Crew weight on leeward side to give slight heel might help.

Leave keel half down on this tack.

In lights airs, MATILDA 20 does fairly well in a beam reach with main and genoa. In a Force 3 breeze, one would make about 4 knots and in a Force 5 possible 7 knots. Leave keel half down.

B. MEDIUM WINDS

Perhaps this condition would be most suitable to skipper and crew. As the wind force increases, so does the MATILDA 20 ability to point. One may have to lower the keel all the way down. The MATILDA 20 will run very well in about a force 5 and one would make about 8 knots. On this tack, the MATILDA 20 will get up and plane very easily. One can have the board all the way up and the MATILDA 20 will 'track' well with no yaw, pitch, or roll.

C. HEAVY WINDS

The MATILDA 20 is an extremely stable and dry boat. Sailing close-hauled to windward in heavy weather is not good practice as the boat will not make good time due to sudden wind shifts resulting in a zig zag performance.

Broad reaching in heavy weather would be very exciting and one could easily plane the MATILDA 20 safely. The keel would preferably be a quarter way down to cut down any pressure on the rudder. It is necessary to move crew weight aft.

A dead run in this wind condition requires skill in order to keep the boat under control while planing. Accidental jibing could occur from one, tack to another. It is therefore good practice to sail slightly off the dead run course on one tack and when able, jibe to opposite tack in order to stay on course as close as possible.

THE THREE POINTS OF SAILING ARE:

1. Beating or Closehauled:

A boat is said to be beating or closehauled when she is headed on a course as close to the winds as she can sail with her main boom sheeted over the boat.

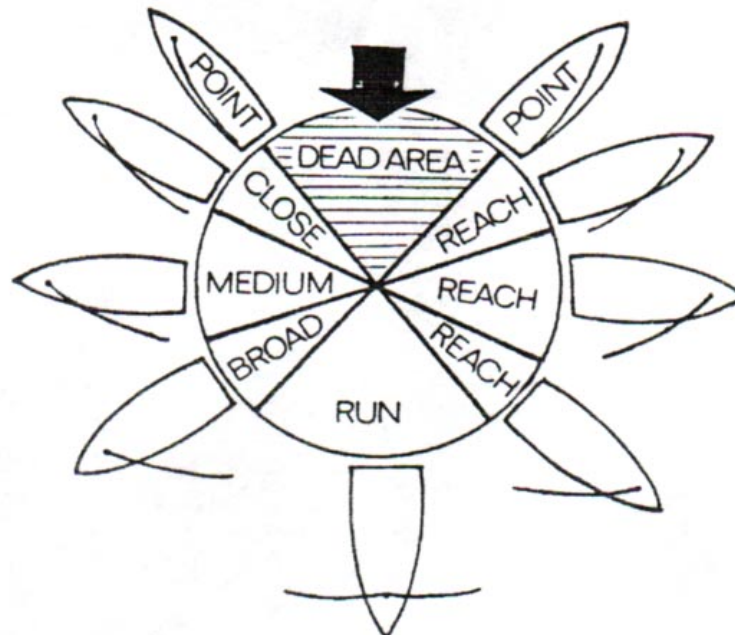
2. Running Free:

When a boat is sailing in the same direction as the wind she is said to be running free or sailing before the wind, with her main boom let out at nearly a right angle to the boat.

3. Reaching:

We say a boat is reaching when the wind is coming over the side of the boat. There are three types of reaches. Note the difference in each in the direction in which the wind is coming over the side of the boat, and the way the sail is trimmed in the following "Sailing Circle".

sailing circle



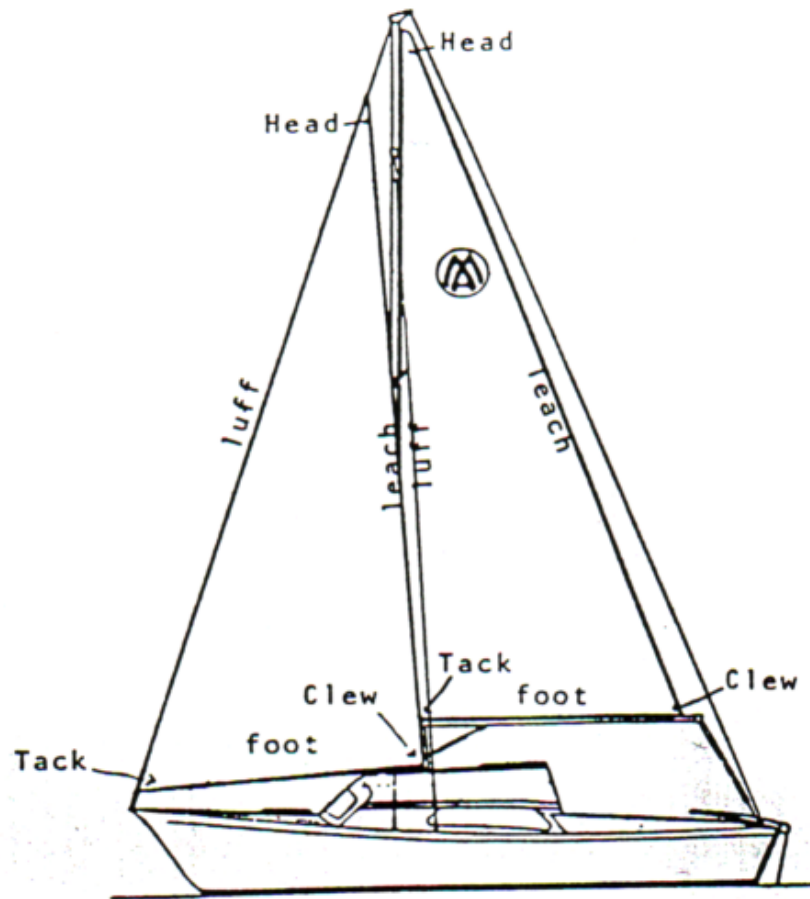


FIGURE 4. THE SAIL PLAN

SAIL DIMENSIONS:

<u>SAIL</u>	<u>Luff</u>	<u>Foot</u>	<u>Leach</u>
Main	21' 0"	8' 4"	22' 6"
Jib	22' 0"	8' 8"	20' 6"
Genoa	23' 3"	13' 6"	23' 1"

For spinnaker dimensions, check with manufacturer.

HAUL-OUT AND RECOVERY PROCEDURES

Trusting that you had an enjoyable sail and you are ready to haul out your MATILDA 20 onto your trailer, the procedures run in reverse to our previous steps. We would like to emphasize the following points:

1. Store your sails, sheets and gear neatly.
2. Before recovering boat onto trailer, raise keel up as far as possible to clear the trailer. Do not forget to lower the keel again once it is on the trailer to take the tension off the keel cable.
3. Centre boat on trailer during recovery.
4. Lower mast by unfastening forestay turnbuckle, and walking mast back. You may want to leave the backstay and shrouds to their chainplates as is while trailering. But make sure these rigging and forestay are secured along the length of mast with shock cord ties or lines.
5. A good hosing of deck and especially under the waterline after each major haul out keeps the boat looking sparkling clean.

MAINTENANCE

The following maintenance tips should be of value:

A. SPARS:

The mast and boom is silver anodized and protected against corrosion. Dust, dirt, salt, smoke will stick to this coating, which can further be protected by applying a good paste wax (Simonize, etc.)

B. RIGGING:

Clean rigging means clean sails. Wipe with a damp cloth before stepping the mast.

Also, do periodical checks of turnbuckle take-ups, cotter pins, etc. and keep spare parts of rigging gear if necessary.

If dacron line becomes stiff or dirty, soak in warm soapy water which will make the line soft, clean and flexible again.

C. SAILS:

When storing sails in sailbags, always fold and bag them neatly. Remove battens from sail pockets. If sails are wet, dry by hoisting them on a calm day or stow below spread out to dry. Clean with a wet sponge or hose off if sails become caked with salt. Check condition of sails periodically for small tears and chafe. Send sails to a sailmaker if necessary before it becomes too costly to repair.

HARDWARE:

The hardware of your MATILDA 20 is made from many types of materials, all of which can be cleaned and brought back to a bright finish with automotive chrome cleaner or household detergent.

Winches must be cleaned and lubricated. Lubrication is important on all moving parts. And this includes turnbuckles, sheaves, winches, etc. If any part needs replacing - replace!

E. WOODWORK:

Teak wood is weather resistant due to its natural oils. In due course, the teak turns grayish or blackish. This can be quickly remedied by first sanding with a 80 grit garnet paper and oiled with teak oil.

The mahogany used are finished with a satin varnish, and are used in the berth and joint trims.

Interior bulkheads are formica applied. They do not require exterior treatment. one should however maintain proper housecleaning.

F. GELCOAT AND FIBREGLASS:

A periodic maintenance programme a good cleaning and waxing of the fiberglass surfaces will save expensive maintenance costs at a later date.

Good hosing of fresh, warm water and chamois will do the cleaning Job. Dull or faded spots should be waxed. Wax liberally at waterline and at least 10 (ten) inches above.

In due course, you might experience 'streaks' on the gelcoat, or what is termed as 'hairline cracks' which cannot be covered, filled or repaired successfully. They are usually found in curves and sharp corners, and are the results of the boat working in. These are harmless in that it is only superficial and is not extended beyond the gelcoat into the fiberglass.

BOOKLETS ON BOAT SAFETY & HANDLING
(A Partial List)

Bibliography of Publications: The 1974 reference guide of boating safety, including standard reference books, publications, booklets, pamphlets, films, instruction cards and training aids. Available free from Dept. of Transportation, U.S. Coast Guard Auxiliary, 1st Coast Guard Dis, 150 Causeway St. Boston, MA 02114.

Boat Trailering: The laws and safety practices of trailering and the Do's and Don'ts of launching. Free from Pennsylvania Fish Commission, Bureau of Waterways. Box 1673, Harrisburg, PA 17120.

Facilities Files: Reprints of articles on many phases of boating facilities, construction and maintenance. Free from Outboard Boating Club of America, 401 N. Michigan Ave, Chicago, Ill 60611.

Fun & Safety Afloat: Provides quick information on most boating subjects and covers many safety procedures. Free from Gulf Oil Co, Marketing Dept, Room 1126, Gulf Building, 712 Main St. Houston, Tex 77002.

Instant Sailing: Gives all the information and step-by-step pictorial directions necessary to make sailing safe and sound. Available for 15¢ from Outboard Boating Club of America, 401 N. Michigan Ave, Chicago, Ill 60611.

Keeping Pleasure Boating Pleasant: Covers tips of trailering, rules of the road, rescue procedures, water skiing, aids to navigation, etc. Free from State Farm Insurance Co. Public Relations Dept. Bloomington, Ill 61701.

Squall Line: Storm signals, weather signs and how to ride out a storm. Free from Marine Services, New Jersey Marine Police, Box 1889, Trenton, N.J. 08625.

Texaco Cruise Kit: Cruising charts of the Great Lakes and adjacent waterways, other charts available, conversion and deviation cards, cruise plan card, travel card application and tips on fuel and lubrication. Free from Texaco Waterways Service. Texaco Inc. 135 E 42nd St, New York, N.Y. 10017.

Towing Tips for the Trailer Sailor: Trailer safety and maintenance. Free from State of California, Dept. of Navigation and Ocean Development, 1416 Ninth St. Room 1336, Sacramento, CA 95811.

RETRACTET MOTOR MOUNT

The undernoted is in reference to the type manufactured by G. B. Mills Company. Inc.

The Model 26 bracket for the MATILDA 20 has been designed for outboard motors with rated horsepower from 2½ to 6 included. This bracket will also accommodate the lightweight 7 HP Scott motor.

The Model 710 bracket for the MATILDA 23 has been designed for outboard motors with a rated horsepower from 7½ to 10.

DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO ADJUST THE SPRING TENSION ON THESE BRACKETS. THEY HAVE BEEN PROPERLY CALIBRATED AT THE PLANT, AND REQUIRES NO FURTHER ADJUSTMENT --- ANY ATTEMPT TO TAMPER WITH THE SPRING ADJUSTMENT MAY RESULT IN DAMAGE TO THE BRACKET, OR COULD CAUSE PERSONAL INJURY.

Any attempt to mount motors of higher rated horsepower than that for which brackets have been designed may damage the bracket and will automatically void the guarantee.

INSTRUCTIONS FOR USE

As will be observed, the Retracket Mount has been designed so that the counterbalancing spring energizes the side bail arms over centre to give an automatic locking action in the parked position. As the motor mount plate is pushed outward and down, a point reached where the weight of the motor over balances the force of the spring sufficiently to cause the motor to drop firmly against the stop position and ready for use.

For spare parts and warranty claims, please see listings under "Manufacturers".