



**HATCH &
PORTLIGHT
FITTING
GUIDE**

Introduction

Fitting a new or replacement hatch or portlight can be a simple and rewarding procedure. By following these clear instructions you will be able to complete the job easily. But remember the most important part of fitting a new hatch or portlight is, forward planing.

Before you order your hatch or portlight, you need to make some straightforward measurements. When replacing an old hatch or portlight, carefully measure the old hatch and aperture, you then have the information to hand to make your choice for the selection.

When you are replacing an older Lewmar hatch or portlight and you would like to find a direct replacement, the Lewmar standard cut out sizes have remained constant, however the corner radius may have changed on certain models. If you cannot match up a new hatch or portlight with the existing range of cut outs, the only solution may be to build an intermediate frame from timber.

If you are selecting a location for a new hatch or portlight you must make sure the surface is flat with a maximum tolerance of +/- 1mm. You should also consider that if you are fitting a new hatch or portlight, cutting a hole in your boat might compromise the structural integrity of the boat. Hatches and portlights should not be considered as stiffening members and it is recommended that the deck be adequately stiffened to prevent distortion during heavy weather. If you have any doubts about the location you are going to place the hatch or portlight, you should consult a yacht designer or surveyor.



TOOLS REQUIRED

- Bedding compound and application gun (silicone)
- Fastenings (supplied with portlights)
- Power drill and set of drill bits
- Jig saw
- Screwdrivers, Allen keys, spanners (depending on product)
- Compass (for marking hatch radii)
- Felt tip pen / Ruler

This guide will help you choose a particular hatch or portlight, however you will have to take time and read the hatch and portlight location guidelines in this booklet, as the CE regulations stipulate where certain products may be fitted.

With this simple well illustrated guide, choosing your hatch or portlight is easy, don't forget that the most important part of the task is not fitting the hatch, but planing the job well and having the correct tools to hand.

To replace any of your craft's existing hatches or undertake a retrofit installation Lewmar offers a comprehensive range of sizes. Available in the Medium Profile and Low Profile ranges.

Medium Profile Hatch

The Medium Profile hatch has identical styling to the Low Profile while providing greater strength as a result of thicker acrylic and deeper frame sections.



This product is ideal on the foredeck of larger offshore yachts. The hatch also features Lewmar's unique sealing system allowing easy acrylic replacement.

Low Profile Hatch

The Low Profile hatches have soft styling and sleek looks. They are ideal for use on power craft.

The smaller ventilation hatches are suitable for any deck location on sail boats and the larger hatches can be used as foredeck hatches on small to mid size yachts.



The hatch also features Lewmar's unique sealing system allowing easy acrylic replacement.

ABS plastic and aluminium trimkits are available, making the interior installation easy and stylish. The kit comes complete with fly screen.



ABS Plastic Trimkit



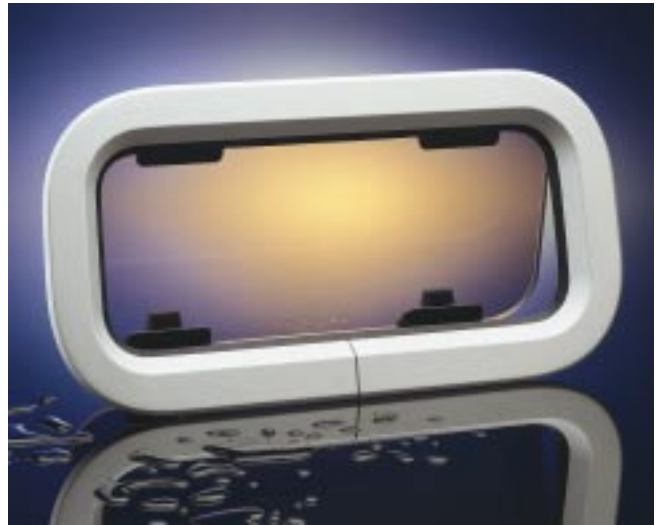
Aluminium Trimkit



All product complies with the relevant parts of International Standards ISO/DIS 12216.2(E). This standard covers the applicable essential safety requirements of the Recreational Craft Directive 94/25/EC. Please refer to inside rear cover

Standard Portlight

The Standard Portlight completes the family look of the portlights. It is ideal for the cruising boat being competitively priced the range is stylish, easy to use and simple to install. It is an ideal replacement for the older standard portlights.



Atlantic Portlight

Atlantic portlights are well styled with clean lines and clear vision through the window.

The acrylic window has an aluminium frame making the hatch very reliable, qualifying for CE area 1 (in hull) between size 10 to 32.



Ocean Portlight



For ultimate safety and security, the Ocean portlight is unsurpassed. Ideal for in hull installation, on blue water cruising yachts.

All portlights and fixed lights come complete with fixings and flyscreen except the size 4 left & right hand New Standard Portlights. Flyscreens are not available on these models.

WHAT HATCH? WHAT PORTLIGHT?

Hatch & Portlight Specifications & Dimensions

Medium Profile Hatch - Specifications

Part Number	Size	Lower Frame Flange		Overall Size						Cut-Out Size Dimensions change if Trimkits are used							
		mm	in	Length	Width	Height	Radii	mm	in	mm	in	mm	in				
39930020	30	15	3/8	397	15 3/8	527	20 3/4	32	1 1/4	78	3 1/8	327	12 7/8	457	18	42.5	1 1/8
39940020	40	15	3/8	492	19 3/8	492	9 3/8	32	1 1/4	78	3 1/8	421	16 5/8	421	16 5/8	42.5	1 1/8
39944020	44	15	3/8	513	20 3/8	513	20 3/8	32	1 1/4	78	3 1/8	442	17 3/8	442	17 3/8	42.5	1 1/8
39950020	50	15	3/8	448	17 3/8	578	22 3/8	32	1 1/4	78	3 1/8	377	14 7/8	507	19 7/8	42.5	1 1/8
39954020	54	15	3/8	463	18 3/8	578	22 3/8	32	1 1/4	78	3 1/8	392	15 3/8	507	19 7/8	42.5	1 1/8
39960020	60	15	3/8	578	22 3/8	578	22 3/8	32	1 1/4	78	3 1/8	507	19 7/8	507	19 7/8	42.5	1 1/8
39970020	70	15	3/8	698	27 3/8	698	27 3/8	32	1 1/4	78	3 1/8	627	24 7/8	627	24 7/8	42.5	1 1/8
39977020 *	77	15	3/8	770	30 3/8	770	30 3/8	32	1 1/4	78	3 1/8	699	27 3/8	699	27 3/8	42.5	1 1/8

Low Profile Hatch - Specifications

Part Number	Size	Lower Frame Flange		Overall Size						Cut-Out Size Dimensions change if Trimkits are used							
		mm	in	Length	Width	Height	Radii	mm	in	mm	in	mm	in				
39900030	00	15	3/8	281	1 1/8	281	11 1/8	25	1	77.5	3 1/8	211	8 3/8	211	8 3/8	42.5	1 1/8
39903030	03	15	3/8	246	9 3/8	301	11 1/8	25	1	77.5	3 1/8	176	6 7/8	231	9 1/8	42.5	1 1/8
39910030	10	15	3/8	330	12 3/8	330	12 3/8	25	1	77.5	3 1/8	260	10 1/4	260	10 1/4	42.5	1 1/8
39920030	20	15	3/8	272	10 7/8	417	16 3/8	25	1	77.5	3 1/8	202	7 7/8	347	13 7/8	42.5	1 1/8
39930030	30	15	3/8	397	15 3/8	527	20 3/8	25	1	77.5	3 1/8	327	12 7/8	457	18	42.5	1 1/8
39940030	40	15	3/8	491	19 3/8	491	19 3/8	25	1	77.5	3 1/8	421	16 5/8	421	16 5/8	42.5	1 1/8
39941030 *	41	15	3/8	246	9 3/8	491	19 3/8	25	1	77.5	3 1/8	176	6 7/8	421	16 5/8	42.5	1 1/8
39944030	44	15	3/8	512	20 3/8	512	20 3/8	25	1	77.5	3 1/8	442	17 3/8	442	17 3/8	42.5	1 1/8
39950030	50	15	3/8	447	17 3/8	577	22 3/8	25	1	77.5	3 1/8	377	14 7/8	507	19 7/8	42.5	1 1/8
39954030	54	15	3/8	462	18 3/8	577	22 3/8	25	1	77.5	3 1/8	392	15 3/8	507	19 7/8	42.5	1 1/8
39960030	60	15	3/8	577	22 3/8	577	22 3/8	25	1	77.5	3 1/8	507	19 7/8	507	19 7/8	42.5	1 1/8
39965030 *	65	15	3/8	560	22 1/8	max 675 min 560	max 26 3/8 max 22 1/8	25	1	77.5	3 1/8	See Drawing Above*				42.5	1 1/8

- Hatches should be fitted to a flat surface with a maximum tolerance of ±1mm.
- Fastening size for lower frame section use 5mm CSK screw No. 10 UNC 2BA.
- Fastening size at the hinge section use M6 (1/4") bolts.
- Backing plate part number 360061909 (M6) or 360062909 (1/4").
- ★ Part No's marked with a ★ are made to order.

Standard Portlight - Specifications

Part Number	Size	Version	Overall Size						Cut-Out Size Dimensions change if Trimkits are used							
			Width	Length	Height	Radii	mm	in	mm	in	mm	in				
393020500	0	Opening	176	6 7/8	323	12 5/8	4	3/16	62	2 1/2	156	6 1/8	303	11 3/8	52	2 1/8
393120500	1	Opening	191	7 1/2	367	14 3/8	4	3/16	62	2 1/2	171	6 3/4	347	13 3/8	52	2 1/8
393180500	1RE	Opening	191	7 1/2	367	14 3/8	4	3/16	95	3 3/4	171	6 3/4	347	13 3/8	85.2	3 3/8
393220500	2	Opening	176	6 7/8	425	16 3/8	4	3/16	62	2 1/2	156	6 1/8	405	15 5/8	52	2 1/8
393320500	3	Opening	191	7 1/2	449	17 3/8	4	3/16	62	2 1/2	171	6 3/4	429	16 7/8	52	2 1/8
393420500	4	Opening	191	7 1/2	646	25 3/8	4	3/16	62	2 1/2	171	6 3/4	627	24 3/8	52	2 1/8
393440500 *	4L	Opening	195	7 3/4	708	27 3/4	4	3/16	62	2 1/2	175	6 7/8	688	27 1/8	52	2 1/8
393450500 *	4R	Opening	195	7 3/4	708	27 3/4	4	3/16	62	2 1/2	175	6 7/8	688	27 1/8	52	2 1/8
393520500	5	Opening	264	10 3/8	449	17 3/8	4	3/16	62	2 1/2	244	9 5/8	429	16 7/8	52	2 1/8
393780500	7RE	Opening	191	7 1/2	425	16 3/8	4	3/16	62	2 1/2	171	6 3/4	405	15 5/8	52	2 1/8

Atlantic Portlight - Specifications

Part Number	Size	Version	Overall Size						Cut-Out Size Dimensions change if Trimkits are used							
			Width	Length	Height	Radii	mm	in	mm	in	mm	in				
39110090	10	Opening	174	6 7/8	304	12	6	1/4	71	2 7/8	154	6 1/8	284	11 1/8	61	2 3/8
39130090	30	Opening	200	7 7/8	400	15 3/8	6	1/4	71	2 7/8	180	7 1/8	380	14 7/8	61	2 3/8
39132090	32	Opening	200	7 7/8	400	15 3/8	6	1/4	100	2 3/4	180	7 1/8	380	14 7/8	90	3 3/8
39140090 *	40	Opening	200	7 7/8	480	18 3/8	6	1/4	71	2 7/8	180	7 1/8	460	18 1/8	61	2 3/8
39152090 *	52	Opening	241	9 3/8	559	22	6	1/4	71	2 7/8	221	8 5/8	539	21 1/8	61	2 3/8
39160090 *	60	Opening	200	7 7/8	600	23 3/8	6	1/4	71	2 7/8	180	7 1/8	580	22 3/8	61	2 3/8
39164090 *	64	Opening	200	7 7/8	650	23 3/8	6	1/4	71	2 7/8	180	7 1/8	630	24 3/8	61	2 3/8

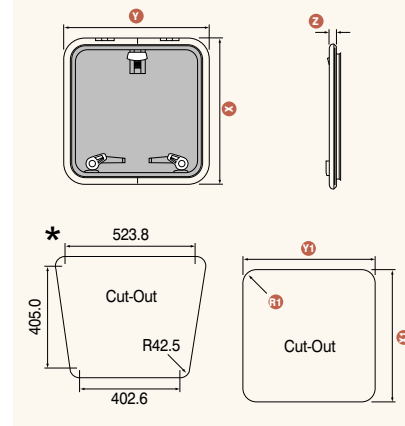
Ocean Portlight - Specifications

Part Number	Size	Version	Overall Size						Cut-Out Size Dimensions change if Trimkits are used							
			Length	Width	Height	Radii	mm	in	mm	in	mm	in				
398920500	1	Opening	222	8 3/8	410	16 1/8	6	1/4	80	3 1/8	194	7 1/2	382	15	65	2 1/2

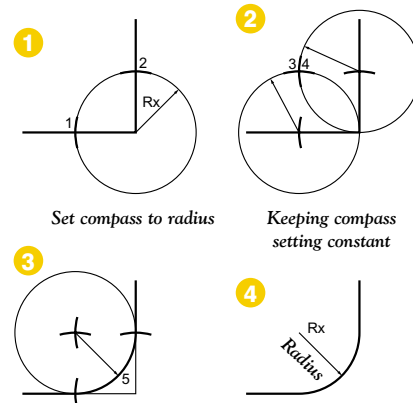
- All Portlights are supplied complete with 12 off M5 25mm screws (hull thickness 17-25mm)
- Maximum hull thickness 34mm (1 3/8 in), minimum hull thickness 7mm (1/4 in).
- Portlights should be fitted to a flat surface with a tolerance ± 1mm.
- Clear acrylic and fixed Portlights are available - please refer to our Mainline catalogue.
- ★ Part No's marked with a ★ are made to order.

The specification charts below provide cut out dimensions for standard Medium & Low Profile Hatches and Portlights.

Hatch Dimensions

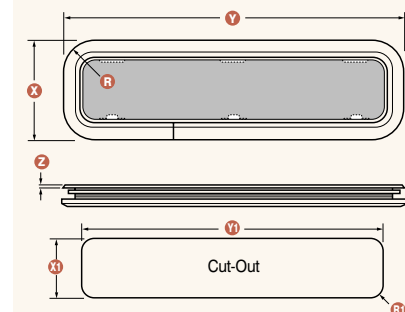


Using a Compass to Radius a Corner



After setting do not adjust

Portlight Dimensions



The following checklist takes into account all the issues normally encountered when planning a hatch or portlight installation.

General

Hatches and portlights should be fitted to a flat surface with a maximum tolerance of +/-1mm.

For decks of composite construction (e.g. GRP) it is recommended that the exposed laminate be sealed with the appropriate material prior to fitting the hatch.

Openings in metal decks should have all burrs and sharp edges removed. It is recommended that the lower frame of the hatch is suitably insulated from the deck if there is a possibility of electrolytic corrosion with the aluminium frame of the hatch.

Hatches and portlights should not be considered as stiffening members and it is recommended that the deck be adequately stiffened to prevent distortion during heavy weather.

Cutting holes in deck and hull can compromise the structural integrity of a boat. If in doubt consult a competent yacht designer or surveyor.

Portlights

Portlights have a maximum and minimum deck thickness to which they may be fitted. Portlights fitted to hulls approaching the maximum deck thickness may have restricted opening.

Portlights require different fastenings to suit different deck thickness. If the fastenings supplied with the portlight do not suit your hull thickness it will be necessary to order the required fastenings separately.



Hatches

Hatches should not be opened and closed more than necessary until the lower frame has been securely mounted to the deck.

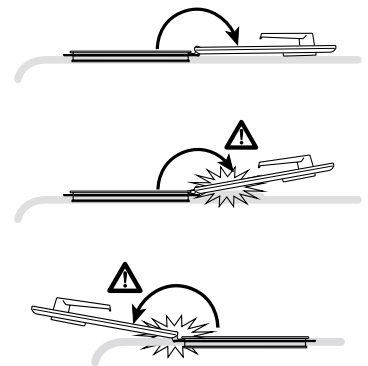
Hatches may be fitted to decks of any thickness. However, on thinner decks the flange in the lower frame may intrude into the cabin.

If a Trimkit is being fitted the size of the hole cut out in the boat must be increased by 3mm.

Hatches lids have to be opened past 90 degrees in order to fasten the hatch to the deck.

If an obstruction stops a hatch opening this far it will not be possible to fit it.

When a hatch is fully open the lid should come to rest so that it is supported near the edge with the handles. If this is not the case, and the lid is supported near the hinges, the leverage on the lid may cause the hatch to be damaged.



Tools/Consumables

CHECKLIST

- Bedding compound and application gun (silicone)
- Fastenings (supplied with portlights)
- Power drill and set of drill bits
- Jig saw
- Screwdrivers, Allen keys, spanners depending on product
- Compass (for marking hatch radii)
- Felt tip pen
- Ruler



Hatch Fitting Instructions

1 Removal of Existing Hatch

To elevate delamination and associated damage to the deck, great care should be taken when removing the old lower frame.



Make a bridge of wood over the corner of the hatch frame. Take care to protect the deck by placing cardboard or carpet under the feet of the bridge. Place a second piece of wood under the boat's inside hatch frame, across the same corner as the bridge. It may be necessary to mitre joint the ends of the second piece of wood to ensure contact is only with the hatch's lower frame.



Use a G clamp to pull the second piece of wood upwards towards the bridge, this will start to lift the lower frame off the deck.



As soon as the frame has lifted by a few millimetres use a sharp, thin bladed knife to cut the bedding compound between the frame and deck. Prior to fitting the new hatch ensure all the old sealant has been removed and the old fastening holes have been filled.

2 Retro Hatch Fitting

Mark The Cut Out

Before marking up the hatch cut out area ensure it is being fitted to a flat surface (+/- 1mm).



Mark the cut out dimensions of the hatch onto the deck. Remember, if a trim is being fitted it will be necessary to increase the cut out by the amount stated.

To mark up the hatch's corners follow the 'How to radius a corner' instructions on page 2.



Offer the hatch up to the marked out dimensions to check accuracy.

3 Cut & Drill

Take care to avoid any power cables, gas pipes or other services. Please ensure that you use the appropriate safety equipment such as electrical power breakers and safety glasses.



Drill a hole for the jigsaw blade on the waste side of the cut line.



Use a jigsaw to cut the aperture through the boat. It may be necessary to cut or remove the headlining.



Alternatively - A hole cutter that matches the corner radii may be used to cut the corners



Test fit the hatch before applying sealant.



While the hatch is in place mark the lower frame fixing holes.



With the hatch removed from the deck drill all fastening holes.

4 Bed Down & Seal

When you are entirely happy with the installation of the hatch. Apply a generous bead of bedding compound all the way around the frame where it is in contact with the deck.



Apply sealant to both sides of fasten holes on the hatch frame. If replacing an existing hatch fill any old fixing holes with sealant.



Refit the hatch to the deck. Around the hatch frame a small amount of bedding compound should be forced out of the gap between the frame and deck. Fasten the lower frame to the deck.



The hatch should be through bolted in the hinge areas, while self-tapping screws can be used for fitting the remainder of the lower frame to the deck sheet.



Clean up the excess bedding compound



Finished hatch installation.

Portlight Fitting Instructions

1 Mark The Cut Out



Cut out the template provided, check it is accurate by placing it over the back of the portlight. Portlights should be fitted to a flat surface (+/- 1mm). Tape the template to the boat and mark the cut line.

2 Cut & Drill

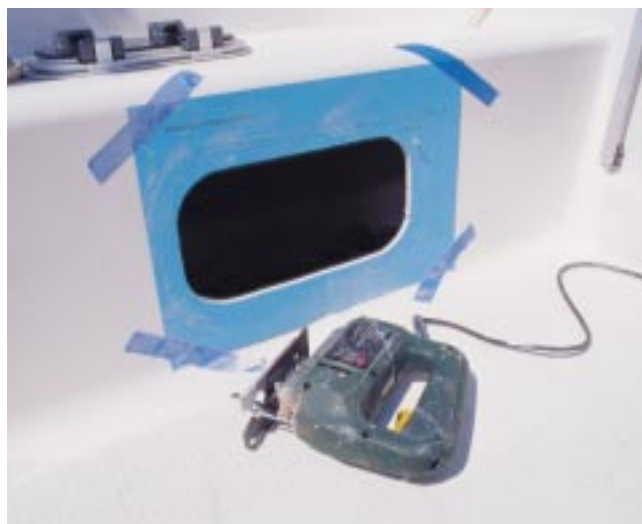
Take care to avoid any power cables, gas pipes or other services. Please ensure that you use the appropriate safety equipment such as electrical power breakers and safety glasses.



Drill a hole for the jigsaw blade on the waste side of the cut line.



Use the jigsaw to cut the aperture through the boat.



It may be necessary to cut or remove the headlining.

3 Test Fit



Portlights are fitted by clamping the outer frame against the deck using the inner frame fitted inside the boat.



Test fit the portlight and clamp ring before applying sealant.

4 Bed Down & Seal

If you are replacing an old portlight fill any old fixing holes with sealant.



When you are entirely happy with the installation of the portlight, remove and set it aside. Apply a generous bead of bedding compound all the way around the frame where it is in contact with the deck.



Refit the portlight to the boat. A small amount of bedding compound should be forced out of the gap between the frame and the deck the whole way round the frame.



Clamp the outer frame to the inner frame with the fixings enclosed. Ensure the fixing threads are greased.



Clean up the excess bedding compound.



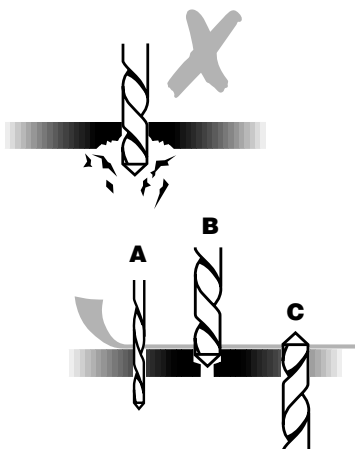
Finished portlight installation.

Hatch Vent Fitting Instructions

HATCH VENT FITTING INSTRUCTIONS

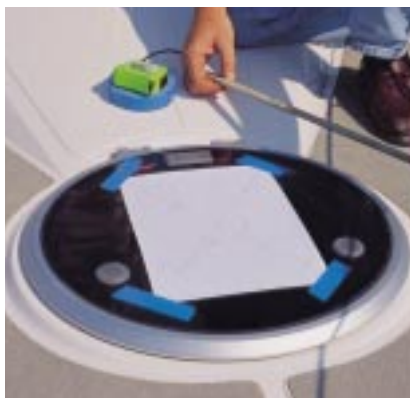
- Fits to hatch or deck*.
- Styled to match the Low & Medium Profile hatches.
- Captive bung - it can't be lost.
- Fits deck thickness to 100mm*.
- CE Approved and leak tested.
- No sealant required.

* Trim not included for deck fitting.



When cutting or drilling acrylic it is necessary to come in from both sides. Drilling or cutting all the way through will result in the acrylic breaking out when cutter comes through.

1 Drilling & Cutting



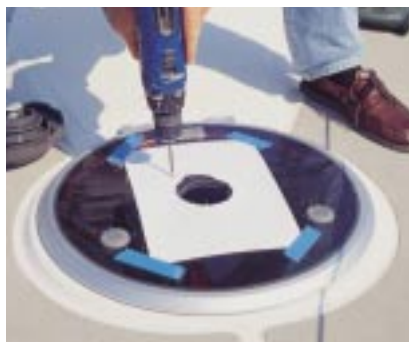
Tape the vent template to the hatch ensuring it is clear of all handles, stays etc.



Drill a pilot hole for the hole saw.



Cut the hole in from both sides using a 80mm (3") hole saw.



Drill pilot holes for fastenings.



Drill 6mm (1/4") fastening holes from both sides.

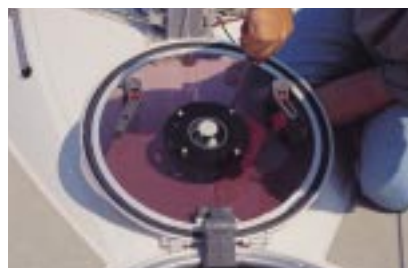
2 Assembly & Fastening



Assemble ventilator with inside, o-rings and seal all in place.



Fit to the hatch.



Fasten from the inside.



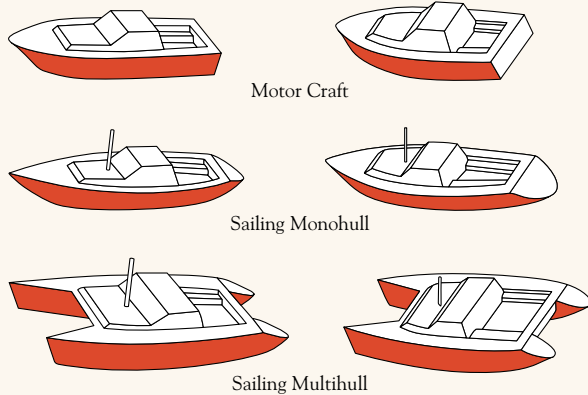
"Pull down plunger to close".



The vent may also be fitted to decks. For top down fastening break out the top of the fastening holes. When top down fastening use sealant to seal the screw holes. It will be necessary to use fixings other than those supplied. A trim is available on part number 361040992.

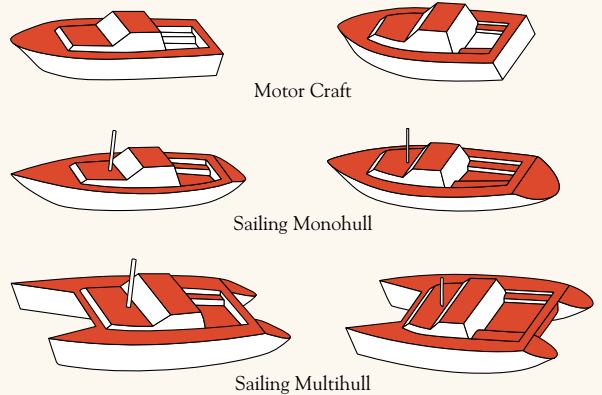
CE Areas

CE Area 1



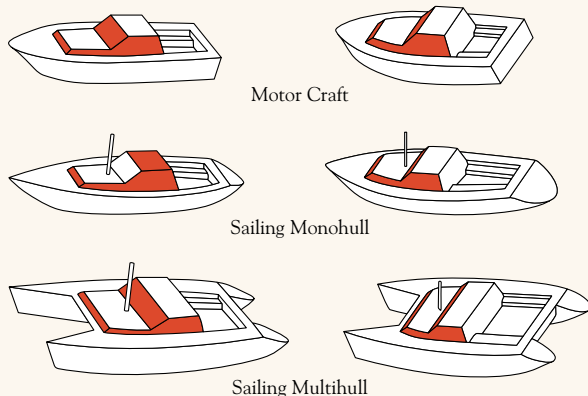
Area 1 :
"Part of the hull sides situated above the waterline"

CE Area 2



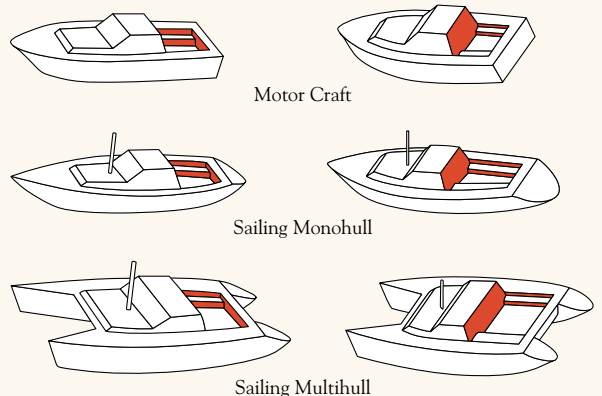
Area 2:
"Area, other than Area 1 where persons are liable to walk or step"

CE Area 3



Area 3 :
"Area other than Area 1 or 2, for example Superstructures"

CE Area 4



Area 4:
"Parts of Area 3 protected from the direct impact of sea or slamming waves, for example cockpit sides and rear faces of Superstructures"

These drawings and notes are for guidance only, when specifying a boat please consult the full regulations.

CE Approval

The CE Regulations apply to craft up to 24m in length, which are sold in the European Union. Although the regulations do not apply, it can be a useful guide, for small craft through out the world.

The Regulations divide up the boats hull and deck into four specific "Areas". A product, which is suitable for fitting to an area for which it is approved, is suitable for all the areas below its category. For example, a portlight, which is approved for Area 2 may also be, fitted to Areas 3 and 4 but not Area 1.

All the hatches and portlights in this publication are CE Approved, the Areas for which they are approved are shown on the product pages

NB. For craft with a freeboard greater than 1/12 of their overall length, a different upper limit applied to Area 1.

Please refer to the recreational craft directive 94/25/EC

Hatches

Description	Sizes	Area
Medium Profile Hatch	All	2
Low Profile Hatch	All	2

For a more details of the CE regulations, please refer to the recreational craft directive 94/25/EC

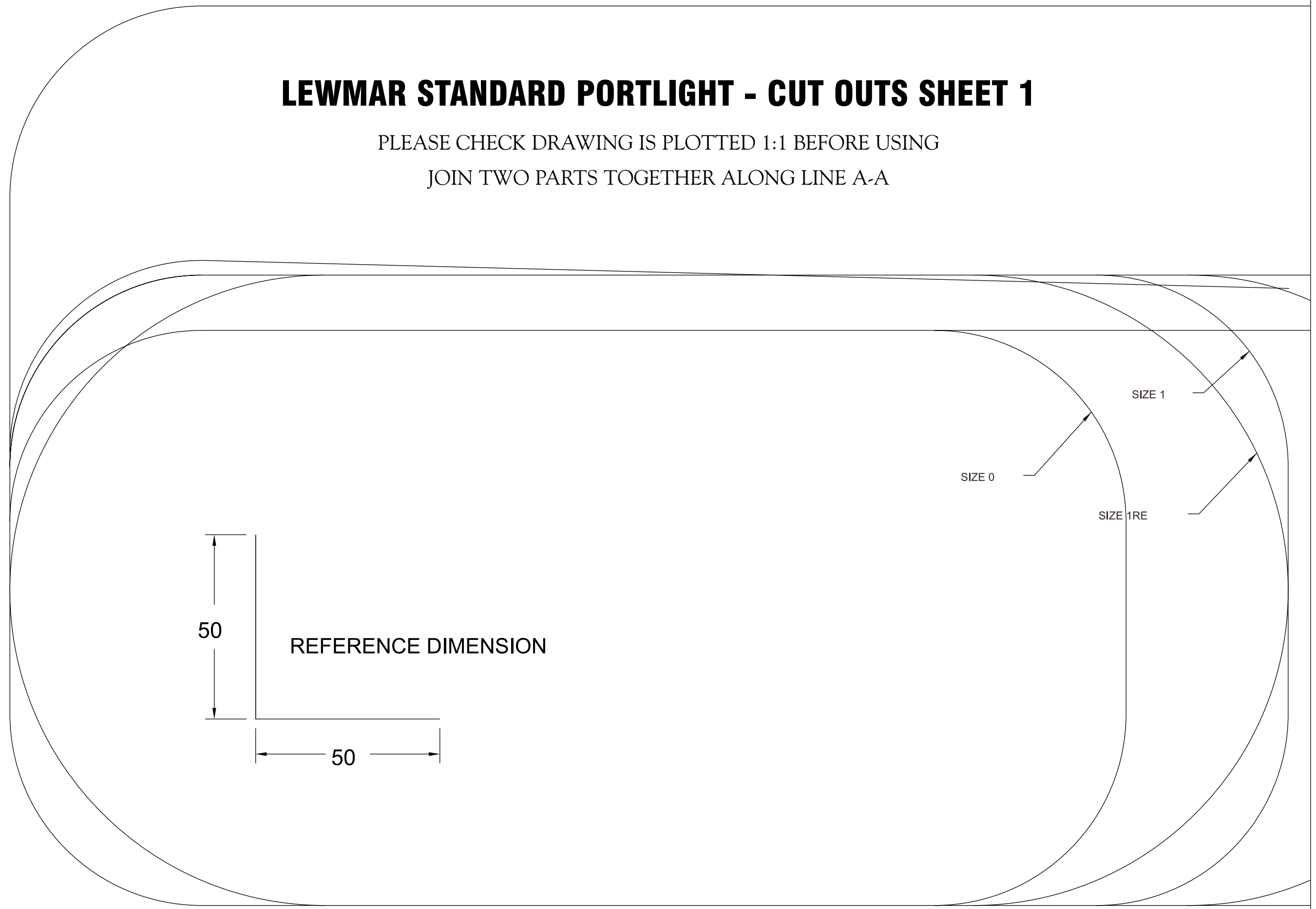
Portlights

Description	Sizes	Area
Standard Portlights Fixed	0, 1, 1RE & 2	1
Standard Portlights Fixed	3, 4, 4L, 4R & 7RE	2
Standard Portlights Opening	All	2
Atlantic Portlights Fixed	All	1
Atlantic Portlights Opening	10, 30, 32	1
Atlantic Portlights Opening	40, 55, 60, 64	2

A →

LEWMAR STANDARD PORTLIGHT - CUT OUTS SHEET 1

PLEASE CHECK DRAWING IS PLOTTED 1:1 BEFORE USING
JOIN TWO PARTS TOGETHER ALONG LINE A-A



SIZE 0

SIZE 1

SIZE 1RE

50

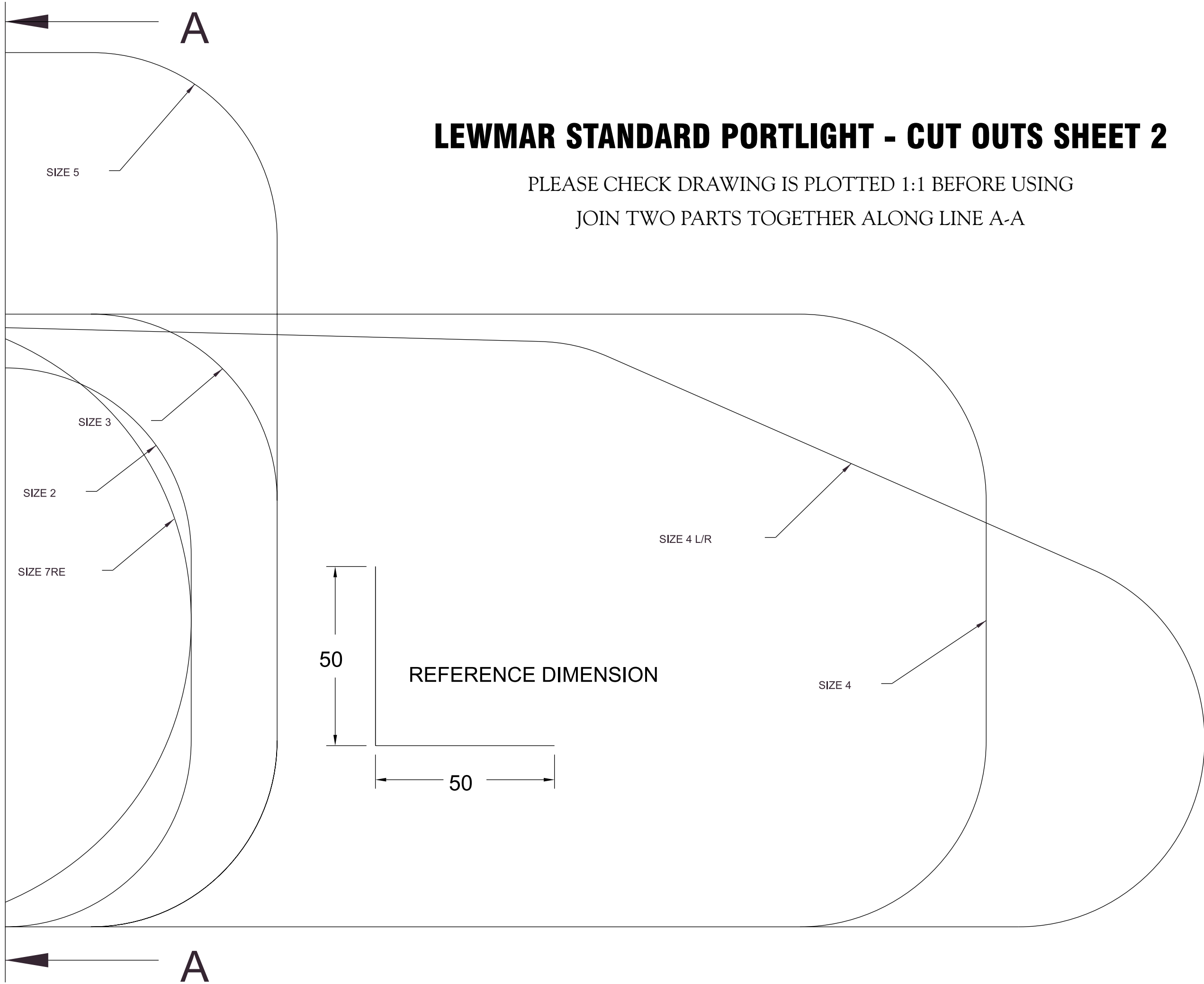
REFERENCE DIMENSION

50

A →

LEWMAR STANDARD PORTLIGHT - CUT OUTS SHEET 2

PLEASE CHECK DRAWING IS PLOTTED 1:1 BEFORE USING
JOIN TWO PARTS TOGETHER ALONG LINE A-A



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