Weems & Plath®

Manufacturer of Fine Nautical & Weather Instruments

C. Plath Compass Manual

Congratulations! You have just purchased a superior quality navigational instrument backed by over 150 years of experience in the nautical industry. Your C. PLATH compass has been manufactured to the highest precision standards that will ensure its accuracy and reliability as long as you own it.

214 Eastern Avenue
Annapolis, MD 21403-2569 USA
410-263-6700 · fax 410-268-8713
www.weems-plath.com

C. PLATH
COMPASSES · SEXTANTS

C. PLATH MERKUR® & VENUS COMPASS LIMITED NEW PRODUCT WARRANTY

Your new instrument is warranted against defects in material and workmanship for three (3) years, (see Limited Lifetime Warranty for Dome) from the date of original purchase.In the event of any such defect, return the instrument postage prepaid, along with proof of purchase and an explanation of the defect, to C. PLATH c/o Weems & Plath, Inc., 214 Eastern, Annapolis, Maryland 21403, Attention: Customer Service or to one of the Authorized Service Centers listed at the end of this manual, and it will be repaired or replaced at our option and at our expense. The repaired or replacement instrument will be returned to you postage prepaid. This warranty is void if the product has been modified or altered, subjected to misuse or abuse, damaged during transit, dropped or otherwise has been treated with a lack of reasonable care, or if repairs have been made by persons not authorized by C. PLATH. All implied warranties covering merchantability, fitness for particular purpose, or otherwise are limited in duration to three (3) years (see Limited Lifetime Warranty on Dome) from the date of original purchase. The repair or replacement as described above is your exclusive remedy under this warranty. In addition, Weems & Plath, Inc. shall not, under any circumstances, be liable or responsible hereunder for consequential, incidental, indirect or special damages. Note that some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of the incidental or consequential damages, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

LIMITED LIFETIME WARRANTY (GLASS DOME ONLY)

C. PLATH, warrants the Merkur® and Venus glass dome against all defects in workmanship and material including cracking, crazing and turning yellow, for as long as the original retail purchaser owns the compass. This warranty is void if the product is modified or altered, is subjected to misuse, abuse, damage during transit, is dropped, treated with a lack of reasonable care, or if repairs are made by persons not authorized by C. PLATH. To obtain warranty service for such defects, return the product within the warranty period, freight prepaid, to C. PLATH c/o Weems & Plath, Inc., 214 Eastern Avenue, Annapolis, Maryland 21403, Attention:

Customer Service, together with satisfactory proof of your purchase, such as a sales slip or receipt. Warranty service can also be done by an Authorized Service Center listed at the back of this manual. During the three years after your purchase, defects in the dome will be remedied without charge, and the product will be returned to you postage prepaid. After the three years, C. PLATH will provide a new dome at no charge, but will reserve the right to charge you its then current established hourly labor rate to fit the replacement dome.

DISTINCTIVE FEATURES OF C. PLATH COMPASSES:

- Super strong, scratch-proof glass dome guaranteed for life against cracking, crazing, and yellowing under normal use. Insensitive to ultraviolet radiation.
- Full spherical construction with internal gimbal system.
- Seawater resistant light alloy housing.
- Red dazzle-free illumination for 12 volt systems (24 volts upon request).
- Double bottom (expansion diaphragm) compensates volume changes in compass fluid due to temperature changes.
- Dished card with 1° or 5° graduations (depending on model).
- Three year warranty.

SPECIFICATIONS FOR ALL C. PLATH COMPASSES:

- Accuracy of indication: less than or equal to 1°.
- Lag error: less than or equal to 2°.
- Oscillation period: greater than or equal to 4.7 seconds.

These values exceed the International Organization of Standardization (ISO)

- Temperature Range: -22°F to 158°F (Corresponds with the ISO norm for commercial shipping).
- Vibration resistance exceeds the requirements of the DHI (German Hydrographic Institute).

FEATURES OF VENUS COMPASSES

- 5-3/4” Apparent card diameter.
- Full spherical construction with internal gimbal system.
- Balanced for use in northern and southern hemispheres.
- Accuracy of indication: less than or equal to 1°.

Lag error: less than or equal to 2°.
Oscillation period: less than or equal to 4.7 sec.
These values exceed the ISO norm (International Organization of Standards).

• Temperature range: -22°F to 158°F. Corresponds with the ISO norm for commercial shipping.
• Vibration resistance exceeds the requirements of the BSH (German Hydrographic Institute).
• Seawater resistant light alloy housing with super-strong glass dome that is insensitive to ultraviolet radiation.
• Red dazzle-free illumination for 12 volt (24V by special request).
• Dished card with 1° or 5° graduation (depending on model).
• Oscillation-free double bottom compensates volume changes in compass fluid.
• Accuracy at all angles of heel insured by full internal gimballing.
• Apparent card diameter: 5-3/4" (150mm).
• Cutout diameter: 6" (152mm).
• Weight of compass: 6 lbs. 12 oz.
• Weight of cylinder: 4 lbs. 1 oz.
• Three year warranty on body.
• Lifetime warranty on glass dome.
• A compensation capsule is available as an option to be mounted to either the boat, the cylinder mount or compass base.

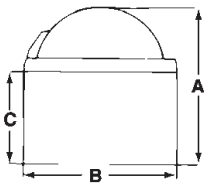
OPTIONS FOR VENUS COMPASSES:

73 467 Venus Compensation Capsule
73 464 White Cylinder Mount
73 460 Black Cylinder Mount
73 310 White Detachable Hood
73 260 Black Detachable Hood
73 311 White Hood with Visor
73 253 Black Hood with Visor

Venus Dimensions:

A	B
8-3/8"	7-7/8"
213mm	200mm

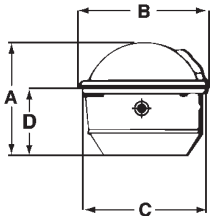
C
4-3/4"
120mm



Venus Dimensions:

A	B	C
7-1/4"	7-1/8"	6"
183mm	181mm	152mm

D
3-5/8"
93mm*
*with compensation capsule add 5/8" (15mm)



FEATURES OF MERKUR® COMPASSES

• Full spherical construction with internal gimbal system.
• Accuracy of indication: less than or equal to 1°.
• Lag error: less than or equal to 1°.
• Oscillation period: greater than or equal to 5 sec.
The above values exceed the ISO norm (International Organization of Standards).
• Temperature range: -22°F to 158°F.
• Vibration resistance exceeds the requirements of the BSH (German Hydrographic Institute).
• Seawater resistant, light alloy housing. Super-strong glass dome, insensitive to ultraviolet radiation.
• Red dazzle-free illumination.
• Concave card with clear 5° graduation.
• Glass dome guaranteed for life against cracking, crazing and yellowing under normal use.
• Oscillation-free double bottom compensates volumetric changes.
• Full internal gimbal system accommodates all angles of heel without compromising accuracy (all models except VZF).
• Apparent card diameter: 4-3/4" (120mm).
• Weight: 4 lbs. 8 oz.
• Three year warranty on body.
• Lifetime warranty on glass dome.
• Cut-out diameter: 5-1/2" (139mm).
• A compensation capsule is available as an option to be screwed to either the boat or compass base.

SPARE PARTS FOR ALL MERKURS®

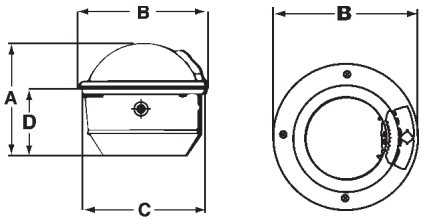
41 258 Spare 12 Volt Bulb
33 623 Socket and Wires
41 259 Spare 24 Volt Bulb

Merkur® SR High Speed

• High speed/highly dampened.
• For horizontal flush mounting.
• 3 lubber lines.
• Compensation capsule available.
• Optional glare guard.
• USCG Approved #160.014/11/0.

Merkur® SR Dimensions:

A	B	C	D
5"	6-1/4"	5-1/2"	2-7/8"
126mm	159mm	139mm	72mm



Option For Merkur® SR HS

73 137 Merkur® Compensation Capsule Merkur® SR

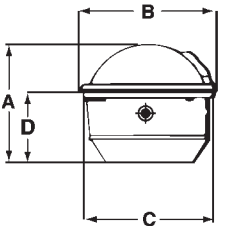
• For horizontal flush mounting or bracket mounting.

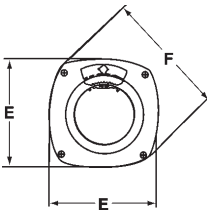
Options For Merkur® SR

73 137 Merkur® Compensation Capsule
73 1115 Mounting Bracket

Merkur® VZE & SE Dimensions:

A	B	C
5"	5-3/4"	5-1/2"
126mm	145mm	139mm
D	E	F
2-4/5"	5-3/4"	6-3/5"
72mm	145mm	168mm





Merkur® VZE

• High speed/Highly dampened design.
• For flush bulkhead mounting.
• Both models can be mounted with a 5° variance.
• 6 lubber lines for easy reading at any angle.
• Duplex card: easily read as a direct or dished card.
• Optional back cover for neat installations.
• Compensation capsule available for easy compensation.

Option For Merkur® VZE

73 137 Merkur® Compensation Capsule
73 370 Bulkhead Back Cover - Black
73 371 Bulkhead Back Cover - White

Merkur® SE

• For horizontal flush surface mounting.
• 3 lubber lines.
• Compensation capsule available.
• USCG Approved #160.014/9.
• Used on most lifeboats.

Option For Merkur® SE

73 137 Merkur® Compensation Capsule

INSTALLATION HINTS

Before attempting to mount your compass, be extremely careful that you have examined the chosen area thoroughly. Keep in mind where the helmsman will be so you can locate the compass in a position that offers maximum visibility and comfort. Check that there are no magnetic interferences nearby (within three feet if possible). Remove the magnetic source or relocate the compass to eliminate potential error. If this is not possible, use the compensation capsule. The compass must be mounted so that main, or center, lubber's line is parallel with the centerline of your boat. Failure to do this will result in a constant error that will be impossible to correct, so take your time and be as accurate as possible when completing this step. It's usually a good idea to do all of these preliminary steps then double check to make sure you have not overlooked anything before you permanently attach the instrument. Stainless steel screws are recommended. Other metals may cause electrolysis if not used with the proper non-metallic washer. When hooking up the electrical connection for the lighting on your

compass, twist the wires together to neutralize the magnetic field that the flow of electricity creates. It's a good idea to do this to any wiring in the vicinity to minimize the chance of interference.

INSTALLING OPTIONS

Venus

You can opt to install Venus flush or to a pedestal using the cylinder mounts. The cylinder mounts are attached by installing bolts through the holes provided in the cylinder and flange of the compass. If the hood is desired, place the rubber gasket provided in the depression left between the flange and the top of the cylinder. With this in place, simply slide the hood over the assembly so it fits snugly. Do not dispose of the gasket even if you do not want the hood. You may decide to buy it later.

Merkur®

You can opt to install Merkur® flush, bulkhead, binnacle, bracket or mast mount. If your compass is a Merkur® Square Flange model, you have been supplied with a template for either bulkhead or flush mounting. To install the Round Flange model in the Merkur® cylinder mount, slide the compass into the cylinder by lining up the two holes in the cylinder with the holes in the side of the compass and fasten together using the screws provided. If the mounting bracket is to be used, it is attached to the compass with the screws provided (see illustration). Lubricate these attaching screws with a waterproof-high melting point grease. The bracket is then attached to the boat with the brass screws in the second packet. This is designed to be either a removable bracket, using just two screws with the gray nylon washer, or a permanent mount using three screws (the third screw in the center for locking). The Merkur® Mast Mount is an option that must be used with the mounting bracket. The mast mount is fed into the sail feeder track, much the same way as a sail stop, positioned, and then the bracket may be bolted to the mount.

MAINTENANCE

Bulb replacement on the Venus and Merkur® is easy: simply remove the screw that holds down the lighting housing, exposing the bulb and socket assembly. Unsnap the assembly from the housing, and pull the bulb out of the socket. In the Merkur® VZF and VZ models, remove the bulb socket assembly from the compass housing with a steady pull.

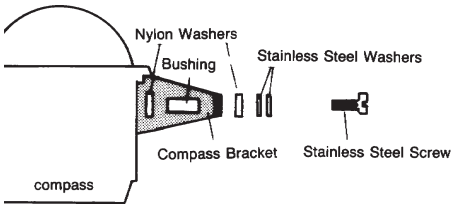
HOW A COMPASS OPERATES

The basic design of a compass stems from the fact that any magnet, large or small, hasat least two areas of concentrated magnetism called poles. If you were to place two magnets next to each other, you would discover that the ends, or poles, of the magnets would either attract or repel each other. The ends that attract each other

are opposite poles, the ends that repel each other are like poles. Likewise, the core of the earth contains a large molten mass of magnetic iron, actually a giant magnet with areas of concentrated magnetism near the geographic North and South Poles. Therefore, if we put a bar magnet in a position where it can move freely, we would discover that the magnet will always line itself up in a north-south orientation, one pole pointing directly north, the other directly south. This principal was discovered thousands of years ago and all magnetic compasses are based on this concept.

VARIATION

While the above may sound simple, there is a basic complication. The two areas of concentrated magnetism in the earth, called the magnetic poles, are not aligned with the geographic North and South Poles. The magnetic North Pole is about 800 miles south of the geographic North Pole typically referred to as true North Pole; the magnetic South Pole is almost 1600 miles from the true South Pole. This difference is called variation. Variation is defined as the angle between the magnetic North Pole and the true North Pole. This is illustrated on any chart with a compass rose on it, which has the magnetic compass rose inside the true compass rose, showing the difference for that particular area. Variation is expressed in degrees measured east or west and changes with geographical position. If you drew a line from where you are to the true North Pole, and then drew another line from the same position to the magnetic North Pole, the angle between the two lines is the variation for that location.



DEVIATION

Deviation occurs when an outside magnetic source interferes with the earth's magnetic field, causing the compass needle to deviate from magnetic north. Deviation is created by materials on board that may have a magnetic field: radios, depth-finders, tachometers, really just about anything electric or made of iron or steel. This type of localized magnetism will create a greater influence on the compass than the earth's magnetic field, rendering the compass reading inaccurate. Compass deviation is a problem, but it can be corrected fairly easily in one of two ways. The first and easiest is to move the interfering item or items at least 30 inches from the compass; or, if this is not possible, the compass needs to be adjusted. This is explained below.

A WORD ABOUT COMPENSATION

The absolute necessity for compensators has been overrated. For steel hull boats a compensation system is essential, but for the majority of boats owned today, there is little need for compensation due to the many choices of mounting the compass

away from error causing equipment. Compensation is required to correct for deviation. For this purpose, built-in compensators are convenient. The potential hazard of built-in compensators is inviting the tinkerer to inadvertently adjust for a mounting position that did not need correction. Professional compass adjustment services are available or you can elect to do it yourself. But, please remember; Your life may depend upon exact compass function. The C. PLATH Compensation Capsule is available as an option; instructions for compensation are included with the capsule.

WHY C. PLATH OFFERS A SEPARATE COMPENSATOR RATHER THAN A BUILT-IN COMPENSATOR

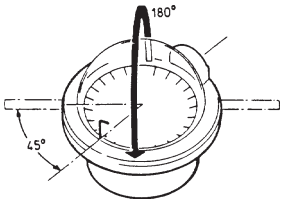
We feel there is a general disadvantage with built-in compensators. Once adjusted, the compass will never show true north again! Separate compensators allow the compass, by itself, to show north if not affected anymore or if moved to other positions.

REVERSED LUBBER LINES

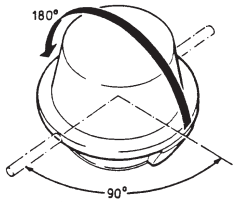
Occasionally during shipping the lubber lines on a compass may be rotated to the front of the compass rather than the back where they belong. This is only caused by the compass being rolled upside down during shipping. It can not happen when the compass is mounted and does not harm the compass in any way.

To correct the problem:

1 - Turn the compass over onto the dome on an imaginary axis set off 45° to the lubber line.



2 - Return compass to the upright position on an imaginary axis 90° to the lubber line.



The lubber lines should now be in the correct position. If not, repeat step 1 and step 2. It may take a few tries.

CARIBBEAN

Marine Consultants (Trinidad) Ltd.
Port of Spain, Trinidad, West Indies
43 Charles St.
Phone: 868-625-1309
Fax: 868-625-2270
Contact: Patrick Potter or Suzanne

CANADA

The Compass Shop
Coquitlam, BC, Canada V3K 5Z6
#5 – 120 Glacier Street
Phone: 604-202-4531
Contact: Davil Calam

WEST COAST

Baker Marine Instrument & Repair
Also Sextants/Binoculars
2425 Shelter Island Drive
San Diego, CA 92106
Phone: 619-222-8096

Captain's Nautical Supply
Also Sextants/Binoculars
2500 15th Ave. W.
Seattle, WA 98119
Phone: 206-283-7242

Commercial Marine Electronics and The Compass Adjuster
1320 Kalani Street, B309
Honolulu, HI 96817
Phone & Fax: 808-841-3300
cmeofhawaii@mail.com
Contact: Jerry Zak

Nor-Cal Compass Adjusting
667 Bird Court
Novato, CA 94947
Phone: 415-892-7177
norcal.compass@verizon.net
Contact: Hal McCormack

Safe Navigation
236-240 Pine Avenue
Long Beach, CA 90802
Phone: 562-590-8744
Fax: 562-491-0073
Contact: Alex

GREAT LAKES

Great Lakes Compass Adjusting & Repair
31 North Alfred Avenue
Elgin, IL 60123
Phone: 847-697-6491
Contact: Bob Peterson

The Preferred Avionics & Instruments
3679 Bowen Road
Howell, MI 48855
800-736-6143
Contact: Randy

SOUTHERN & GULF STATES

Baker Lyman & Company
5250 Veterans Memorial Boulevard
Metairie, LA 70006
Phone: 504-831-3685 or 800-535-6956
Contact: Cary

Barrueco's Compass Adjustment
2592 SW 69th Ave.
Miami, FL 33155-2929
Phone: 305-667-6036
Contact: Robert Barrueco

JK&E Enterprises
7075 121 Way, North
Seminole, FL 33772
727-398-5132

Ron Fodor Compasses
1201 SW Live Oak Cove
Port St. Lucie, FL 34986-2005
Phone: 772-340-2999
Fax: 772-340-2947
Contact: Ron Fodor

L.B. Harvey Marine
7024 SW 46th Street
Miami, FL 33155
Phone: 305-856-1583

Island Compasses South
505 Little Cove Lane
Lake Wylie, SC 29710
Phone: 904-269-3810
Toll Free: 888-269-3810
Contact: Asa Lassiter

Land, Sea & Sky (Texas Nautical)
1925A Richmond Avenue
Houston, TX 77098
Phone: 713-529-3551

Lauderdale Compass
300 West State Road 84
Ft. Lauderdale, FL 33315
Phone: 954-522-4885

EAST COAST

Andrews Compass
15 Baptist St.
Mattapoisett, MA 02739
Phone: 508-758-3001

Cape Atlantic Compass Repair
14 Greate Bay Drive
Somers Point, NJ 08244
609-204-2681
Contact: Joe O'Flynn

Cape Compass
114 Blacksmithshop Road
West Falmouth, MA 02574
Phone: 508-457-9093
Contact: Jeff Kaufman
www.capecompass.com

Connecticut Compass Service
301 Grassy Hill Rd.
Lyme, CT 06371
Phone: 860-434-2019

East Coast Compass
1 Queen Anne Ave.
Cambridge, MD 21613
Phone: 410-463-0325
tshubb@comcast.net

J. Gordon & Company, Inc.
726 Second Street
Annapolis, MD 21403
410-263-0054

Hempstead Navigation
296 William Reynolds Road
Exeter, RI 02822
Phone: 401-294-9310
Contact: Capt. Robert Hempstead

Maryland Nautical Sales
1400 E. Clement Street
Baltimore, MD 21230
Phone: 410-752-4268
Contact: Brian Davis

Nor-East Nautical
(Antique & Flat Face Compass Repair)
330 Cedar Lane
Mt. Laurel, NJ 08054
Phone: 856-235-0217
Contact: Ray Stinsman, Jr.

North Sea Navigator
9 Logan Hill Road
Northport, L.I., New York 11768
Phone: 631-757-7169
Contact: Connie Jacobs

Viking Instruments, Inc.
(Optical Instruments)
41 Summer Street
Kingston, MA 02364
Phone: 781-585-2100
Fax: 781-585-3100

Robert E. White Instrument, Co.
Also Sextants/Barometers
11 Pound Street
Medfield, Massachusetts 02052
Phone: 617-482-8460
Toll Free: 800-992-3045
Contact: Ridge White

George B. Winther Yacht Service
Whit Marine, Murphy Point
Mystic, CT 06355
Phone: 203-536-0845

COMPASS SWINGERS

MARYLAND (ANNAPOLIS AREA)

Joe Duffy 410-868-6504
James Duffy 410-626-9892
Dick Stimson 410-268-0080

NEW JESERY

College Park Marine, New Jesery
Phone: 800-624-6389
Contact: Frank West

ILLINOIS

Great Lakes Compass Adjusting & Repair
31 North Alfred Ave., Elgin, IL 60123
Phone: 847-697-6491
Contact: Robert S. Peterson
rspeterson@wowway.com