LOWRANCE®

SIMRAD®

Outboard Pilot
Precision Pilot

Installation guide

English

www.lowrance.com
www.simrad-yachting.com

TECHNICAL SPECIFICATIONS

NAC™-1	
Operating temperature	–25°C to 55°C (–13°F to 131°F)
Protection	Splashproof, IPX5
Weight	0.6 kg (1.3 lb)
Power supply/load	9–16 V DC/140 mA + drive unit load
Performance	Drive: 8 A cont., 16 A for 1s
Pump-1	
Operating temperature	–15°C to 75°C (5°F to 167°F)
Protection	Splashproof, IPX5
Weight	2.2 kg (4.9 lb)
Hydraulic thread size	ORB-5
Load	5 A at 8 bar (116 psi), 7 A at 24 bar (350 psi)
Performance	0.8 L/m at 24 bar (350 psi)
Point™-1AP™	
Operating temperature	–25°C to 60°C (–13°F to 140°F)
Protection	Watertight, IPX7
Weight	0.14 kg (0.31 lb)
Power supply/load	9–16 V DC/<100 mA at 12 V DC
Performance	Heading: ±3°, Horizontal accuracy: 3 m (9.8 ft)
Compass safe distance	1 m (3.3 ft)
Precision™-9	
Operating temperature	–25°C to 65°C (–13°F to 149°F)
Protection	Watertight, IPX7
Weight	165 g (5.8 oz) + 130 g (4.6 oz) (bracket)
Power supply/load	8–16 V/1.4 W
Accuracy	±2° after calibration
Compass safe distance	0.5 m (1.7 ft)
Auto/Stby button	
Operating temperature	–25°C to 55°C (–13°F to 131°F)
Protection	Splashproof, IPX5
Weight	0.04 kg (0.09 lb) (including cable)

COMPLIANCE STATEMENTS

⚠ **Warning:** The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Outboard Pilot and Precision Pilot

- Complies with CE under EMC Directive 2014/30/EU.
- Complies with UKCA under The Radio Equipment Regulations 2017.
- Complies with the requirements of level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017.

Point™-1AP™

- Complies with RED Directive 2014/53/EU.
- Complies with UKCA under The Radio Equipment Regulations 2017.
- Complies with the requirements of level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017.

The relevant Declaration of Conformity is available on the following websites under the model documentation section: www.lowrance.com and www.simrad-yachting.com.

KIT CONTENTS

- NAC™-1 Autopilot computer
- Pump-1
- Point™-1AP™ compass (Outboard Pilot) or Precision™-9 compass (Precision Pilot)
- ORB fitting kit
- Auto/Stby button
- NMEA 2000® network kit

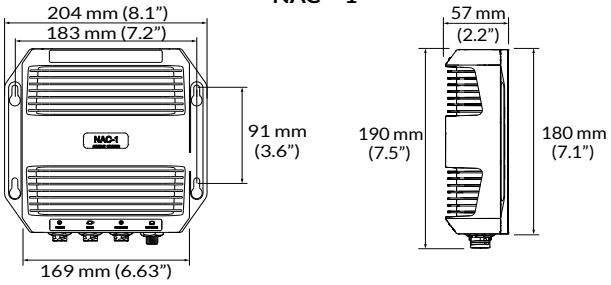
TOOLS NEEDED

- Cup or can, tape, gloves, screwdrivers, wrenches, drill

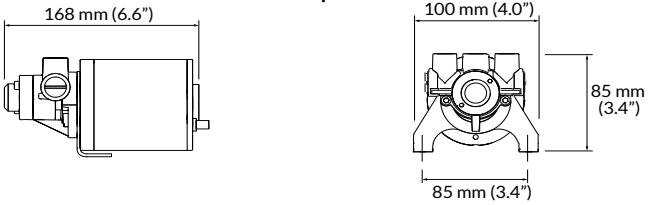
⚠ **Warning:** Always wear appropriate eyewear, ear protection, and a dust mask when drilling, cutting, or sanding. Remember to check behind all surfaces for obstructions, cables, etc. when drilling, cutting, or sanding.

DIMENSIONS

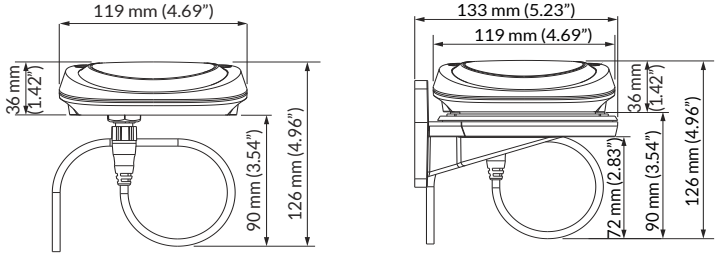
NAC™-1



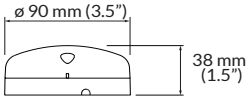
Pump-1



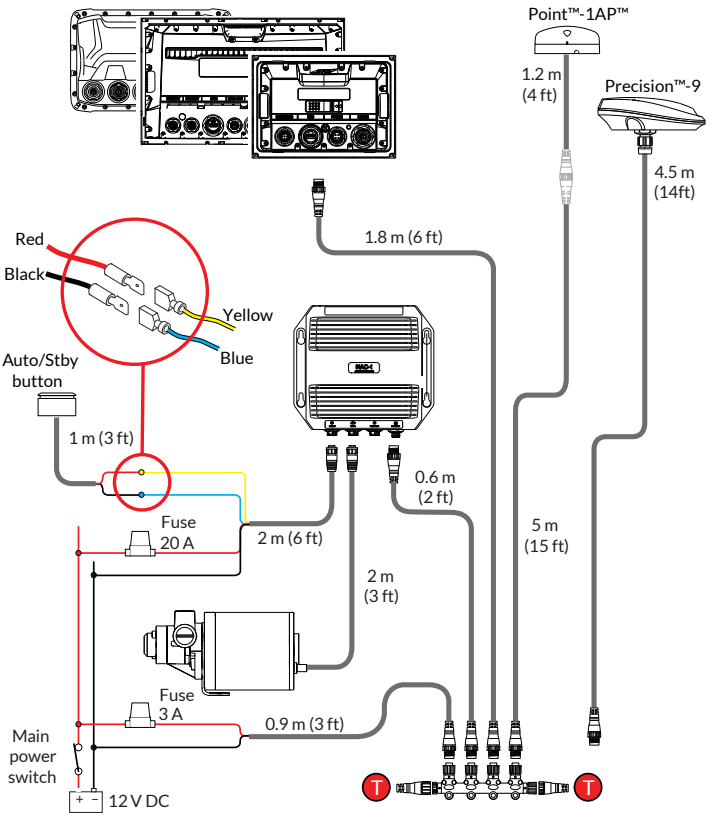
Precision™-9



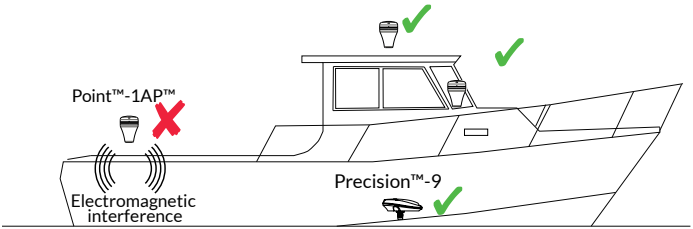
Point™-1AP™



WIRING


Point™-1AP™
1.2 m
(4 ft)
Precision™-9
4.5 m
(14ft)
1.8 m (6 ft)
Red
Black
Yellow
Blue
Auto/Stby
button
1 m (3 ft)
0.6 m
(2 ft)
Fuse
20 A
2 m (6 ft)
5 m
(15 ft)
2 m
(3 ft)
Fuse
3 A
0.9 m (3 ft)
Main
power
switch
12 V DC

MOUNT COMPASS



Point™-1AP™ and Precision™-9 compasses contain a magnetic heading sensor and should be mounted away from magnetic interference. The sensor should be mounted as level as possible in a location close to the vessel's center of pitch and roll.

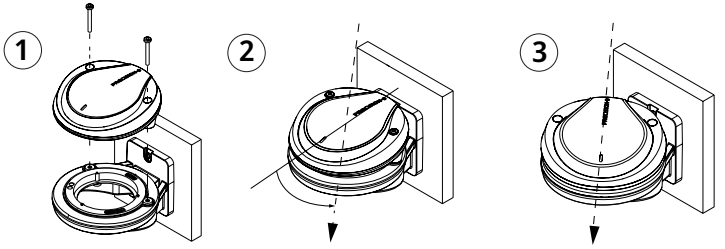
Point™-1AP™ also contains a GPS antenna. The sensor should be mounted in a location with a clear view of the sky and horizon away from electromagnetic interference.

Potential sources of magnetic or electromagnetic interference include:

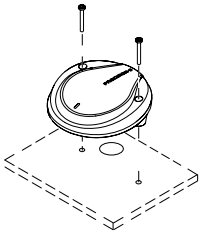
- Electrical motors, magnets, and moving metal items
- Outboard engines
- High current electrical sources such as main power cables, batteries, and distribution panels
- Audio speakers
- Radars
- Xenon search lights
- VHF antennas

PRECISION™-9

With bracket

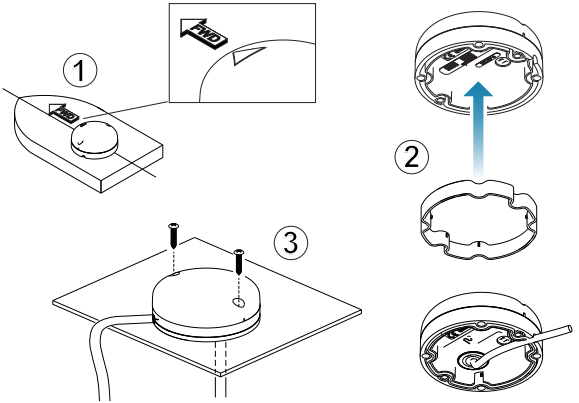


Without bracket

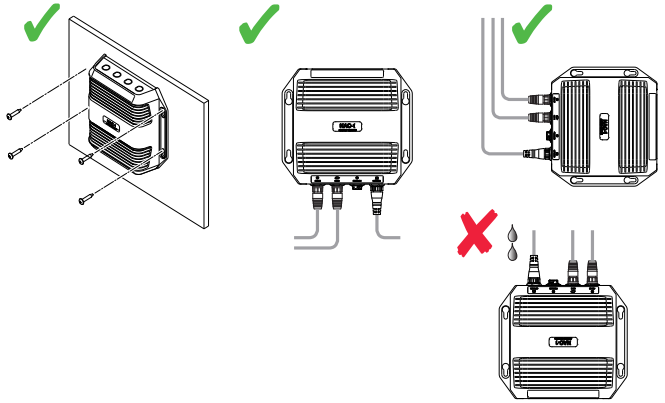


For more details about mounting Precision™-9, refer to the Precision™-9 installation guide available for download on www.lowrance.com and www.simrad-yachting.com.

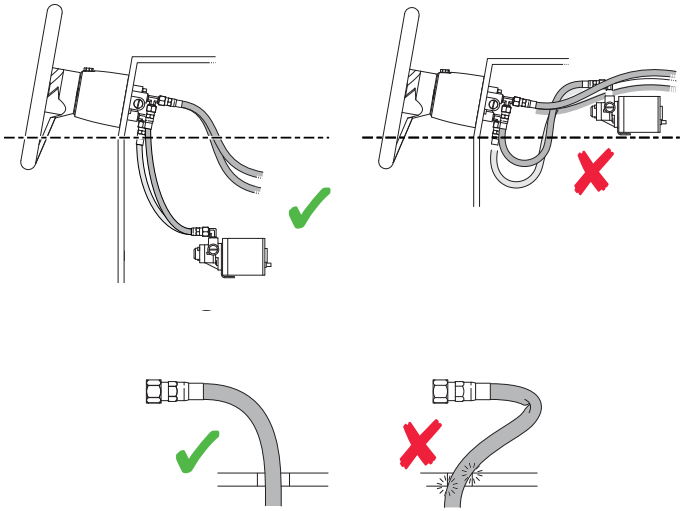
POINT™-1AP™



MOUNT NAC™-1



PUMP-1 MOUNTING LOCATION

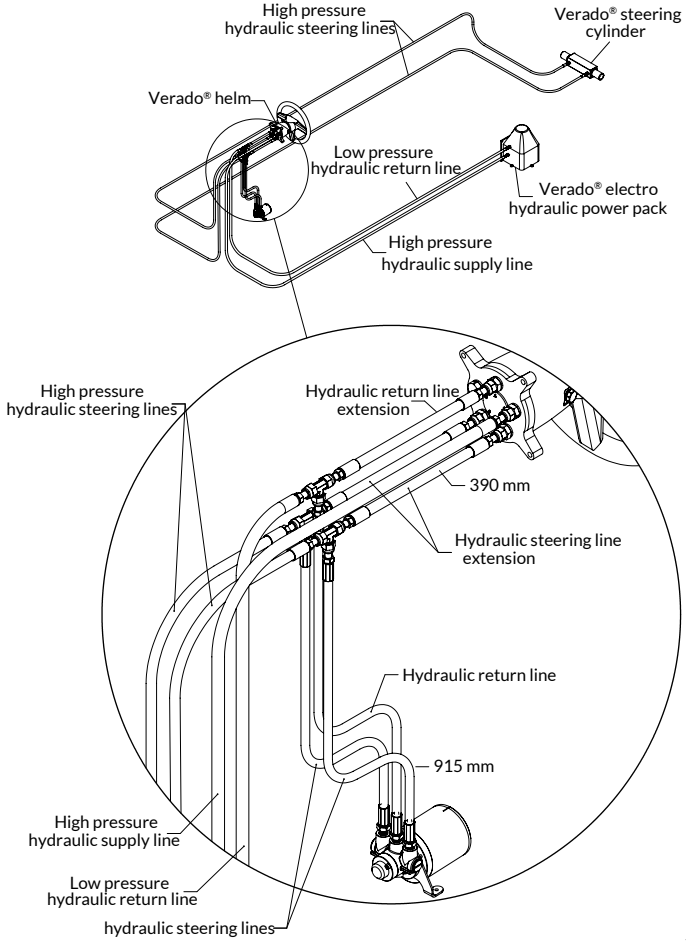


ORB FITTING KIT

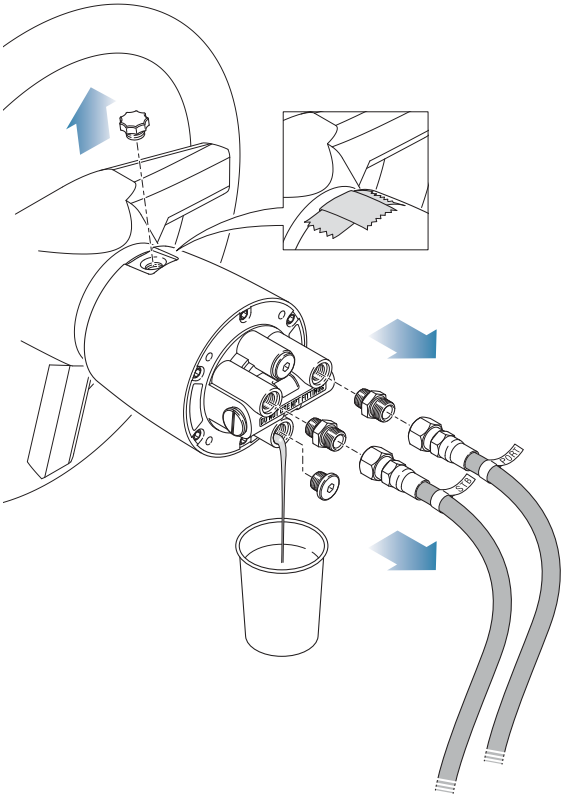
The hydraulic fitting kit comes with ORB fittings, which are compatible with the following steering systems:

- Teleflex™ SeaStar® HC5345, HC5347, HC5348, HC5358
- Teleflex™ BayStar® HC4600, HC4645, HC4647, HC4648, HC4658
- Hynautic® K6 Steering rams
- Steering rams from Vetus®, Uflex®, and Lecomble & Schmitt™

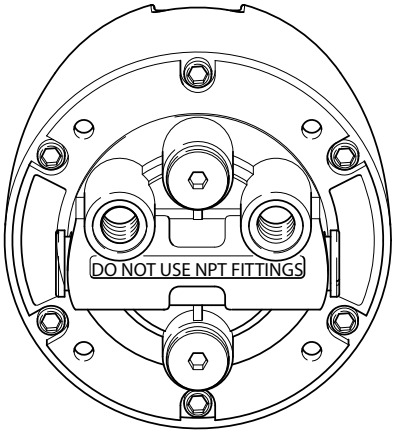
OPTIONAL VERADO® FITTING KIT



DISCONNECT HOSES FROM HELM PUMP



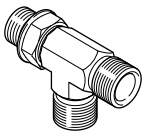
IDENTIFY TYPE OF FITTING REQUIRED

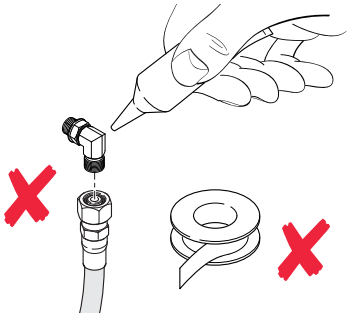


Text engraved on the back of this SeaStar® helm pump helps you identify the correct fittings.

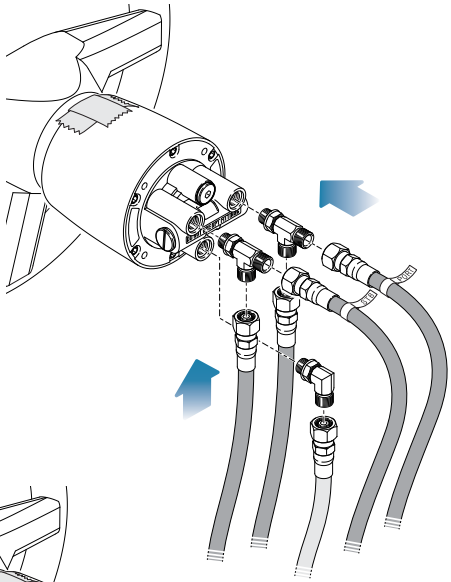
- ➔ ***Note:*** *Helm may vary by manufacturer. Ensure you use the correct fittings.*
- ➔ ***Note:*** *Never use Teflon® tape or liquid sealant on ORB hydraulic hose fittings.*

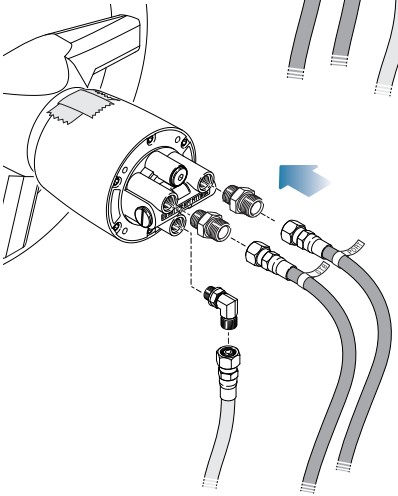
ORB fittings





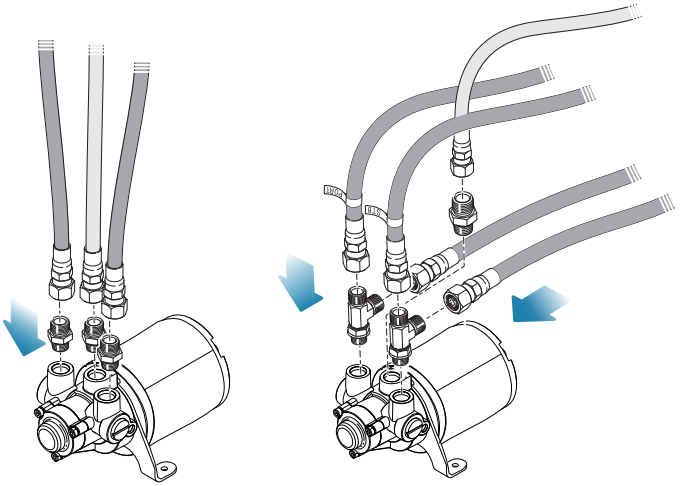
CONNECT HOSES TO HELM





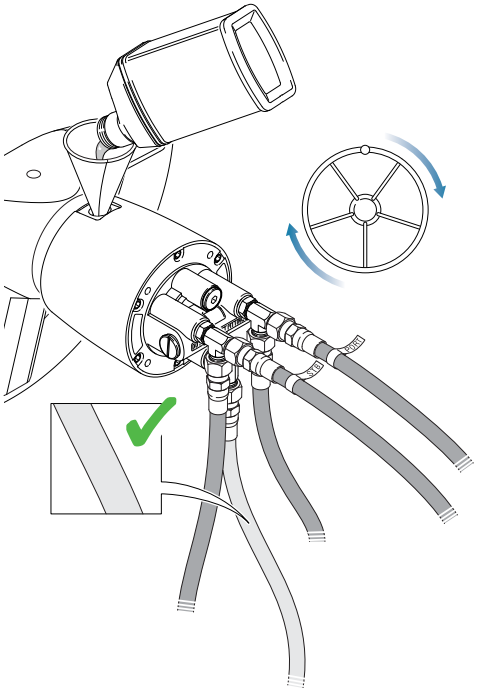
→ ***Note:*** *You can connect tee connectors to the pump if space is limited behind the helm.*

CONNECT HOSES TO PUMP-1



→ ***Note:*** *You can connect tee connectors to the pump if space is limited behind the helm.*

BLEED HYDRAULIC SYSTEM



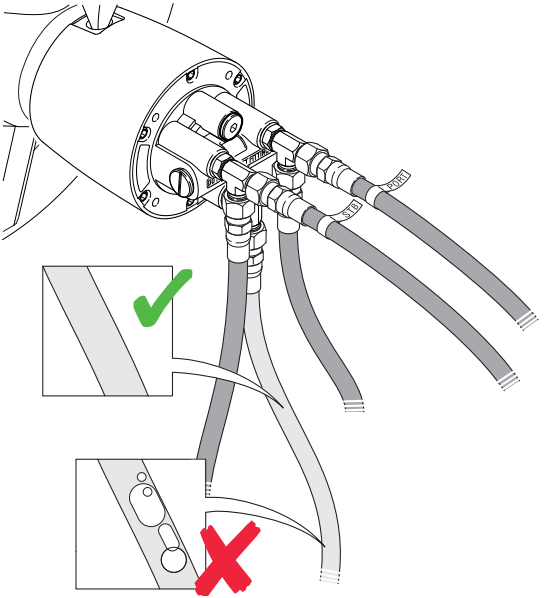
1 Slowly turn the wheel until the hydraulic cylinder stops, wait for a few seconds, and turn the wheel in the opposite direction until the hydraulic cylinder stops again. You may notice air being expelled from the filling port. Add more hydraulic fluid if the level is insufficient.

2 Continue turning the wheel and adding hydraulic fluid until the level is stable and the outboard engine responds firmly.

3 If air bubbles remain in the hydraulic system, follow the bleeding procedure described for your hydraulic cylinder.

➔ ***Note:*** *It is recommended you use a threaded filler tube to avoid spillage.*

BLEED PUMP-1



1 Activate non follow up mode on the Autopilot controller.

2 Press the Autopilot controller arrow keys for 3 seconds at a time, until the cylinder stops.

3 Wait for a few seconds, and repeat in the opposite direction until the hydraulic cylinder stops again.

4 Repeat in both directions until there are no air bubbles visible in the transparent tube.

5 Check the fluid level is filled to the manufacturer's specification.

6 Check all fittings for leaks after 24 hours.

COMMISSIONING

Refer to your Autopilot controller's documentation for commissioning instructions.