

OPTIMUS EPS STEERING MERCURY VERADO ENGINES



Product Overview

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AGENDA

- Optimus EPS for Mercury Verado Engines
- Single, Twin, Triple, and Quad setups
- Optimusbom.com config tool
- Summary



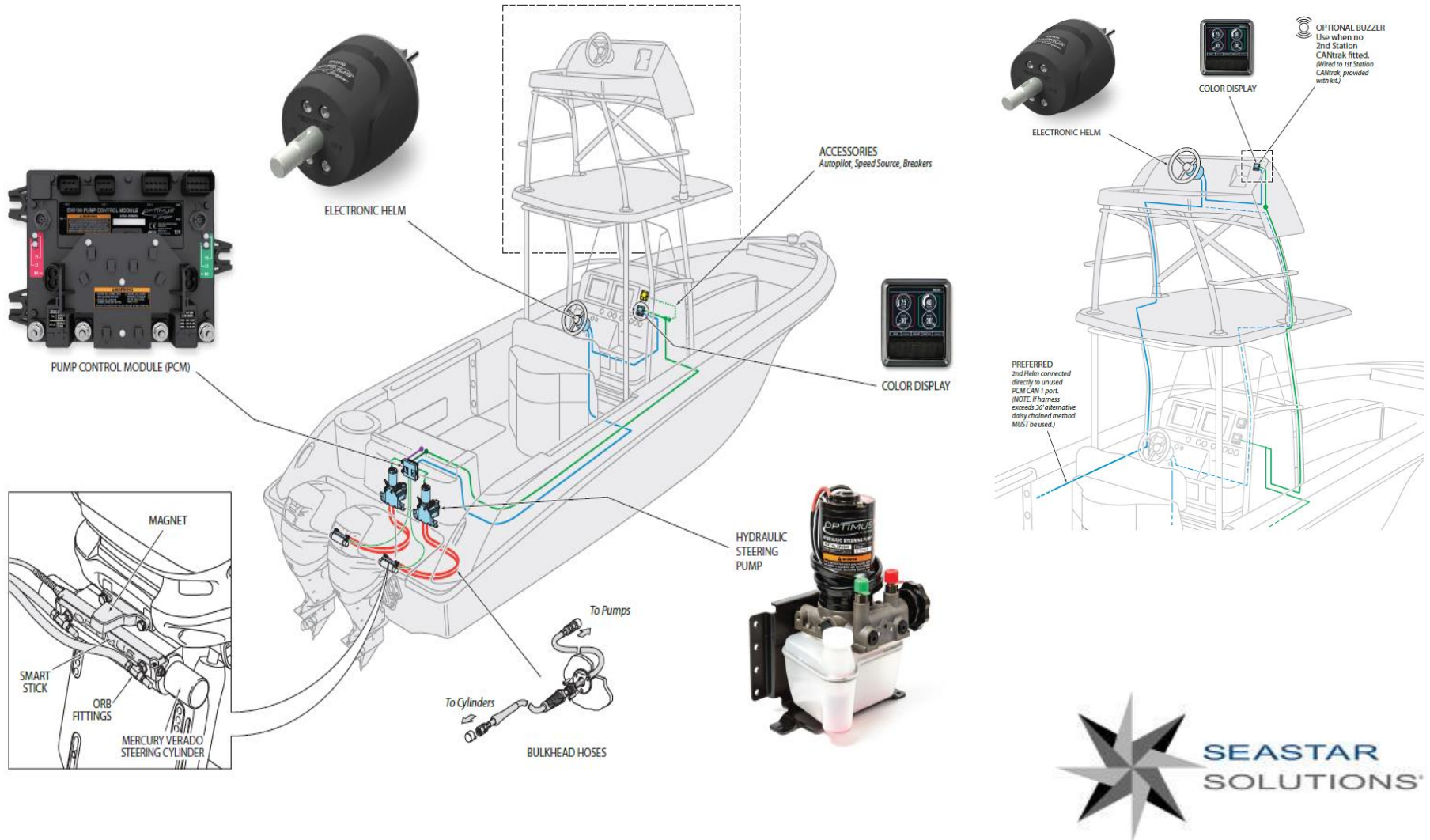
Optimus EPS

1. Optimus Electronic Power Steering System (EPS)
 - Available as a stand alone EPS system
 - Single and Twin now
 - Triple and Quad will be released in Sept 2017
2. Optimus 360 joystick control for EST controlled engines
 - Target is to have JS in Q1 2018
 - Will support SeaStation and Autopilot (when available)



Optimus EPS- Schematic

All the parts are standard Optimus EPS components except for custom smart-stick assy, and magnet assy that attaches to the Verado steering cylinder



Optimus EPS



SMARTSTICK – VERADO™ INSTALL PROCEDURE

- For boats already equipped with a Verado steering system, it is highly recommended to drain the system of its hydraulic steering fluid.
- After draining hydraulic fluid remove the Verado hydraulic fittings, which includes the two 90° elbow hose fittings and the two bleed fittings on each side of the Verado cylinder body. Do this for each cylinder in the system.
- Remove any original tie bar or tiller hardware if equipped.

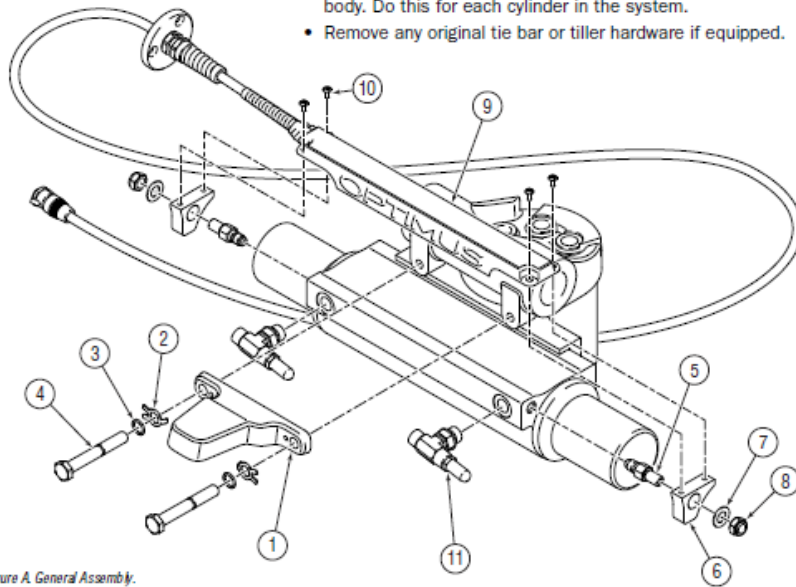


Figure A. General Assembly.

- Uses the existing steering cylinder
- Replace existing bleed fittings with supplied bleed plugs
- Secure smart-stick mounts
- Install and fasten magnet bracket assy
- Install and fasten smart-stick
- Very clean and simple installation

HARDWARE KIT # HA6830		
ITEM	DESCRIPTION	QTY.
1	Magnet Bracket	1
2	Tab Lock Washer	2
3	Thin Top Washer	2
4	M10 Bolt	2
	Loctite® 263	A/R

HARDWARE KIT # HA5505		
ITEM	DESCRIPTION	QTY.
5	Bleed Plug c/w O-ring	2
6	SmartStick Mount	2
7	Large Washer	2
8	Nyloc® Nut	2
9	SmartStick	1
10	#6-32 Phillips	4

HARDWARE KIT # HF6013		
ITEM	DESCRIPTION	QTY.
11	Horizontal Bleed Tee	2



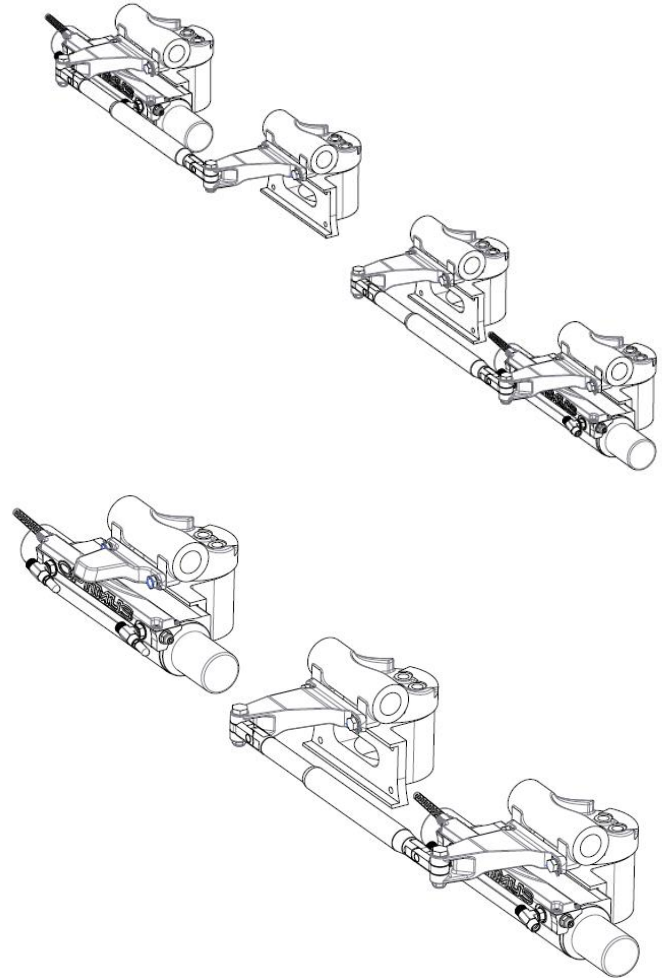
Optimus EPS



Optimus EPS – Triple and Quads



Triple & Quad Optimus EPS- Uses custom designed brackets to attach the tie bar



Features and Benefits

Feature and Benefit	Optimus EPS
No oil at helm	✓
Plug and play autopilot compatibility	✓
No a/p pump or rudder feedback unit	✓
Adjustable speed sensitive wheel effort	✓
Adjustable speed sensitive turns lock to lock	✓
Low & High speed Rudder Stop position	✓
Seems like you have a new boat	✓
Can be retrofitted to existing electronic engines. Don't have to buy new engines	✓
No tie bars (twin configuration)	✓
No liquid tie bar (CAT)	✓
Pumps – on demand, extends battery life	✓
Components based on existing SeaStar reliability and quality	✓



Optimus EPS and Optimus 360

Popular engine brands: Yamaha, Suzuki, BRP (Evinrude), Mercury, Honda

	Popular Engine Brands (MST)	Yamaha EST	Mercury Verado	Suzuki EST	BRP G2	BRP ICON	Honda EST
Single OEPS	Y	Y	Y	Y	Y	Y	Y
Twin OEPS	Y	Y	Y	Y	Y	Y	Y
Triple OEPS	Y	Y	Y	Y	Y	Y	Y
Quad OEPS	Y	Y	Y	Y	Y	NA	NA
Twin JS	Y	Y	NA	Y	Y*	Y	NA
Triple JS	NA	Y	NA	Y	Y*	Y	NA
Quad JS	NA	Y	NA	NA	NA	NA	NA
JS Upgrade	Y	Y	NA	Y	NA	NA	NA

- * All joystick and steering components must be purchased from BRP distributor
- NA, Currently not available
- MST, mechanical shift and throttle engines
- EST, electronic shift and throttle engines
- OEPS, Optimus electronic power steering
- JS, Includes both OEPS and joystick control
- JS upgrade, can add joystick control to an existing OEPS vessel



Autopilot Systems

Raymarine EV2 - direct connection to canbus

SIMRAD SG05 – direct connection to canbus via SG05 box

Garmin GHP20/Reactor – direct connection to canbus

- If there is an existing a/p system, the pump will no longer be needed.
- The rudder feedback unit is no longer required.
- If the system is not one of the above models some components will need to be replaced.
- All these systems above are available now.
- Garmin and Raymarine will need the head unit where as SIMRAD can use their MFD
- Need to purchase the drive by wire system



Optimusbom.com

- Optimusbom.com is setup for single and twin Verado systems



Optimus EPS - Mercury Verado Drives System Configurator

		Single Engine	Dual Engine	Triple Engine	Quad Engine
	Description				
HA5505 KIT SMARTSTICK REPLACEMENT EPS MERCURY VERADO ENGINES	Smartstick and mounting brackets	1	2	2	2
HF6013 KIT ASSY FITTING ORB-6 HORIZ BLEED TEE -6 ORB TO 3/8 TUBE	-6 ORB horizontal bleed t's (2)	1	2	2	2
HA6830 KIT BRACKET MAGNET SINGLE EPS MERCURY VERADO OPTIMUS	This is the bracket that does not connect to a tie bar. Contains magnet.	1	2	1	0
HA6831 KIT BRACKET MAGNET MULTI EPS MERCURY VERADO OPTIMUS	This is the magnet that does connect to a tie bar. Contains magnet.	0	0	1	2
HA6832 KIT BRACKET NO MAGNET MULTI EPS MERCURY VERADO OPTIMUS	This is the bracket that does connect to a tie bar. Does NOT contain magnet.	0	0	1	2
HA6833 KIT H/W M8 FASTENERS PRE-GEN 5 MERCURY VERADO OPTIMUS	Contains M8 tiller hardware for old engines. NOT for use with tie bar brackets.	A/R	A/R	NA	NA

Corepacks

- Three core packs were created for the Verado kits
 - The hydraulic pump (EP1553) used in this core pack uses the large motor, unbalanced body and the reliefs within the pump are set to a different level of performance as well as compared to the pumps used with the other outboard core packs such as EPSK1200C

Corepacks	Engine	Interface
EPSK3100P	Single engine	Dash Panel
EPSK3100C	Single engine	Color display
EPSK3200	Multi engine	Color display

NOTE: Mercury has various methods to capture RPM, please make sure you determine the method so the correct parts are ordered.



Summary

- Optimus EPS (single, twin, triple, quad) provides car-like steering performance for Verado powered engines Mechanical and Electronic engines
- Custom designed smartstick and magnet assembly bracket that innovatively attaches to the Verado steering cylinder
- Uses all well proven Optimus components along with the existing Verado steering cylinder
- Get all the expected speed dependent steering functions plus on demand steering pumps
- Optimus EPS is the building block for when Joystick is available
- Warranty is the standard two year for pleasure use





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