

## SELECTION OF THE PACKAGED HYDRAULIC STEERING SYSTEM FOR OUTBOARD ENGINE :

You can select the correct steering system for your boat by defining the maximum horsepower produced by the outboard engine/s and by correlating the rotational direction in case of multiple engines.

### For single engine of 115 Hp

In case of maximum horse power of single engine (1 x 115 Hp = 115 Hp), choose a Multisteer steering system upto 115 Hp i.e. **OH-115**.



### For twin engine installations of 115 Hp working in the same rotational direction

In case of maximum horse power of the twin engines (2 x 115 Hp = 230 Hp), choose a Multisteer steering system up to 250 Hp. i.e. **OH-400-TX**. This makes it a single steering system for twin engines through a tie rod.



### For twin engine installations working in counter-rotational directions, take into account the power of one engine only + 20%.

For maximum horse power of the twin engines (115 Hp + 20% of 115 Hp = 138 Hp), choose a Multisteer steering system up to 175 Hp i.e. **OH-300-TX**. This makes it a single steering system for twin engines through tie rod.



### For twin engines of 350 Hp working in counter-rotational directions

Maximum horse power for the installation of twin engine (350 Hp + 20% of 350 Hp = 420 Hp) choose a Multisteer steering system up to 700 Hp. i.e. **OH-700-TSL/R**. You now have a steering system with one cylinder **OC-700** for twin engines connected through a tie rod as well as a hydraulic line.



For twin engine installations when the calculated maximum power exceeds the maximum power of the available steering system: You will need to install a cylinder on each engine with a parallel hydraulic circuit see (Different Types of Steering Assemblies).

### For twin engines of 350 Hp working in the same rotational direction

For maximum horse power of twin engines (2 x 350 Hp = 700 Hp), choose a Multisteer steering system up to 700 Hp i.e. **OH-700-TSLR**. You now have a steering system with two cylinders **OC-700** for twin engines connected through a tie rod **T-5LR** as well as a hydraulic line.



### For triple engines of 250 Hp working in the counter rotational direction

Maximum horse power for the installation of triple engines (250+250+20% of 250 = 550) choose a Multisteer steering system up to 700 Hp i.e. **OH-700-3E**. You now have a steering system with two cylinders **OC-700** for triple engines connected through a tie rod as well as a hydraulic line.



## FRONT MOUNT SINGLE BALANCED OUTBOARD CYLINDERS

### Salient Features :

- ▲ Heavy Duty Balanced Cylinder : The number of turns (lock to lock) are equal from port to starboard.
- ▲ Rugged design generating best in class piston force 573 Kgf.
- ▲ SS 316L Hard Chrome Plated Piston Rod, Support Rod & Fasteners - Lock Nuts / Washers etc.
- ▲ Tube, Tiller Plate & Support Brackets are made of high quality anodized aluminum with ultimate tensile strength
- ▲ Includes a pair of 90° adjustable chrome plated brass elbow fittings to connect to 5/16" hose tube.
- ▲ Supplied with brass nickel chrome plated adjustable elbow fittings with in-built O ring which can be easily adapted in any direction
- ▲ Installation for Single, Twin and Triple & Quad engines
- ▲ Compatible to use with all MultiSteer Helms

HOSE KIT

OIL BOTTLES

FRONT MOUNT  
OUTBOARD CYLINDER

FRONT MOUNT  
HELM PUMP



## FLUSH / FRONT MOUNT HELM PUMPS

### Salient Features :

- ▲ Available in six different sizes with fixed displacement
- ▲ 3/4" standard tapered Shaft
- ▲ Built-in Lock Valve to safeguard feedback from the Rudder
- ▲ Integral Relief Valve to protect the steering system from excess pressure
- ▲ Easily accessible Lock Valve Seals & Shaft Seal for replacement
- ▲ All Helms include a pair of 90° adjustable Elbow Fittings to connect to 5/16" Hose tube
- ▲ Both the Ports are tightly locked with dummy plugs for hose connection to the Cylinder
- ▲ The dummy port is locked with Hex Stud which can be used to connect to the dual station kit
- ▲ Mounting Hardware & Template are provided with helm
- ▲ Helm mounting is designed to easily get interchangeable with other brands

## HYDRAULIC STEERING KIT

### HYDRAULIC STEERING PRODUCTS

#### FRONT MOUNT SINGLE BALANCED OUTBOARD CYLINDERS

##### Technical Specifications

Model No.	Volume		Port Threads (UNEF)	Force (Kgf)	Stroke (mm)	Air Bleeder Fittings	Weight (Kg)
	cc	ci					
OC-115	92.5	5.6	9/16-24	251	184	AB2	2.1
OC-175	122	7.4	9/16-24	422	203	AB1	3.7
OC-250	122	7.4	9/16-24	422	203	AB1	3.7
OC-350	166	10.1	9/16-24	573	203	AB1	5.1
OC-700	166	10.1	9/16-24	573	203	AB1	5.1
SC-300	133/165	8.1/10.0	9/16-24	464/574	204.5	AB1	1.1

### HYDRAULIC STEERING PRODUCTS

#### FRONT MOUNT HELM PUMPS

##### Technical Specifications

Model No.	Volume		Port Threads (UNEF)	Relief Pressure (Bar)	Recommended Steering Wheel Diameter	Weight (Kg)
	cc	ci				
HP-16	16	0.9	9/16-24	50	280 mm	2.3
HP-20	20	1.2	9/16-24	70	350 mm	4.2
HP-23	23	1.4	9/16-24	70	350 mm	4.2
HP-27	27	1.7	9/16-24	70	400 mm	4.2
HP-33	33	2.0	9/16-24	70	400 mm	4.2
HP-40	40	2.4	9/16-24	70	400 mm	4.2

## HYDRAULIC STEERING FOR OUTBOARD DIFFERENT TYPES OF STEERING ASSEMBLIES

### A. Single Cylinder - Single Engine

List of Components	Engine Upto 115 Hp	Engine Upto 175 Hp	Engine Upto 250 Hp	Engine Upto 350 Hp	Unit
Steering Kit	OH-115	OH-175	OH-250	OH-350	1 No.
Cylinder	OC-115	OC-175	OC-250	OC-350	1 No.
Helm	HP-16	HP-20	HP-23	HP-27	1 No.
Hose Kit	CT-5.0	CT-7.5	CT-7.5	CT-7.5	2 Nos.
Steering Fluid	HO-150*	HO-150**	HO-150**	HO-150**	1* / 2** Liters
Steering Wheel Revolution	5.8	6.1	5.3	6.2	Lock to Lock

### B. Single Cylinder - Twin Engines in Same / Counter Rotating Direction with Tie Rod

List of Components	Engine Upto 115/200 Hp	Engine Upto 175/300 Hp	Engine Upto 250/400 Hp	Engine Upto 450/700 Hp	Unit
Steering Kit	OH-200-TX	OH-300-TX	OH-400-TX	OH-700-T5L/R	1 No.
Cylinder	OC-115	OC-175	OC-250	OC-700	1 No.
Helm	HP-16	HP-20	HP-23	HP-27	1 No.
Hose Kit	CT-5.0	CT-7.5	CT-7.5	CT-7.5	2 Nos.
Steering Fluid	HO-150*	HO-150*	HO-150*	HO-150**	1*/2** Liters
Tie Rod	TX	TX	TX	T5L OR T5R	1 No.
Steering Wheel Revolution	5.8	6.1	5.3	6.2	Lock to Lock

### C. Twin Cylinders - Twin Engines in Same / Counter Rotating Direction with Tie Rod

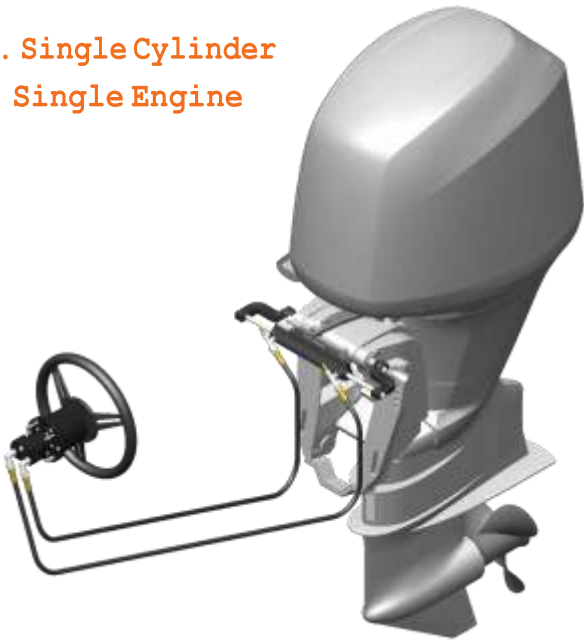
List of Components	Engine Upto 250 Hp	Engine Upto 350 Hp	Engine Upto 500 Hp	Engine Upto 700 Hp	Unit
Steering Kit	OH-250-TX	OH-350-TX	OH-500-TX	OH-700-T5LR	1 No.
Cylinder with Elbows	OC-115E	OC-175E	OC-250E	OC-700E	1 No.
Cylinder with T Fitting	OC-115T	OC-175T	OC-250T	OC-700T	1 No.
Helm	HP-27	HP-33	HP-33	HP-40	1 No.
Hose Kit 1	CT-5.0	CT-7.5	CT-7.5	CT-7.5	2 Nos.
Hose Kit 2	CT-1.0	CT-1.0	CT-1.0	CT-1.0	2 Nos.
Steering Fluid	HO-150	HO-150	HO-150	HO-150	3 Liters
Tie Rod	TX	TX	TX	T5LR	1 No.
Steering Wheel Revolution	6.9	7.4	7.4	8.3	Lock to Lock

### D. Twin Cylinders - Twin Engines in Same / Counter Rotating Direction w/ Liquid Tie Rod

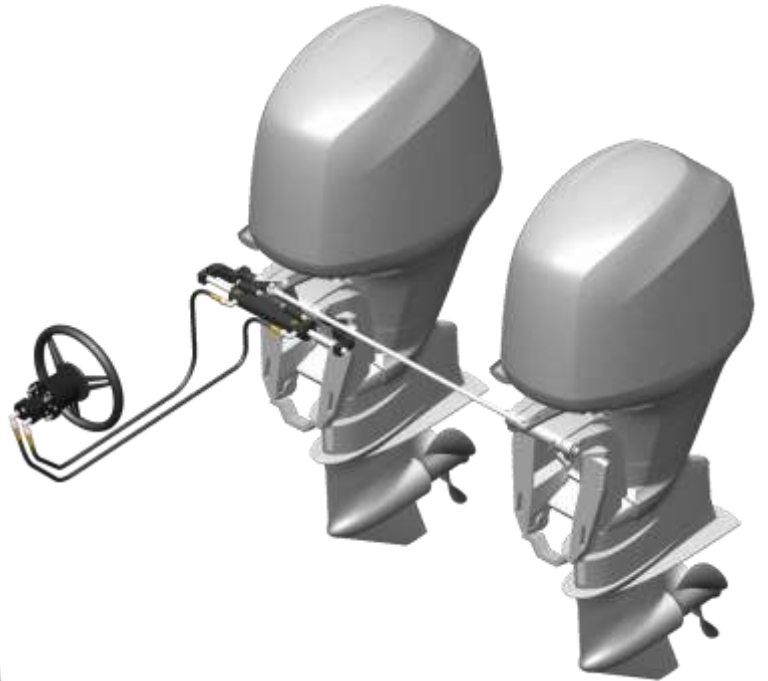
List of Components	Engine Upto 250 Hp	Engine Upto 350 Hp	Engine Upto 500 Hp	Engine Upto 700 Hp	Unit
Steering Kit	OH-250-D1	OH-350-D1	OH-500-D1	OH-700-D1	1 No.
Cylinder	OC-115	OC-175	OC-250	OC-350	2 Nos.
Helm	HP-27	HP-33	HP-33	HP-40	1 No.
Hose Kit 1	CT-5.0	CT-7.5	CT-7.5	CT-7.5	2 Nos.
Hose Kit 2	CT-1.0	CT-1.0	CT-1.0	CT-1.0	3 Nos.
Steering Fluid	HO-150	HO-150	HO-150	HO-150	3 Liters
Liquid Tie Rod	D1	D1	D1	D1	1 No.
Steering Wheel Revolution	6.9	7.4	7.4	8.3	Lock to Lock

Note for chart B and C : X is Part No. of Tie Rod. T-1/2/3/4/5L/5R/5LR

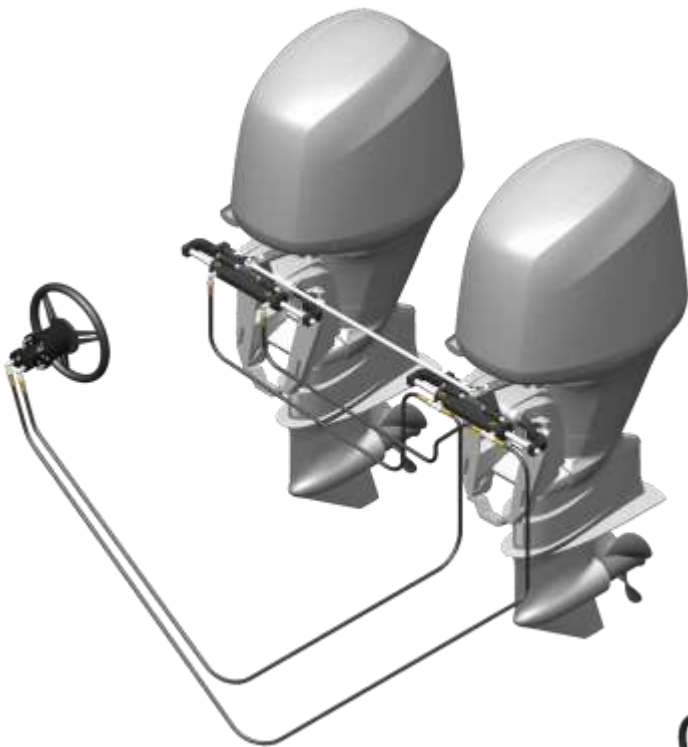
**A. Single Cylinder  
Single Engine**



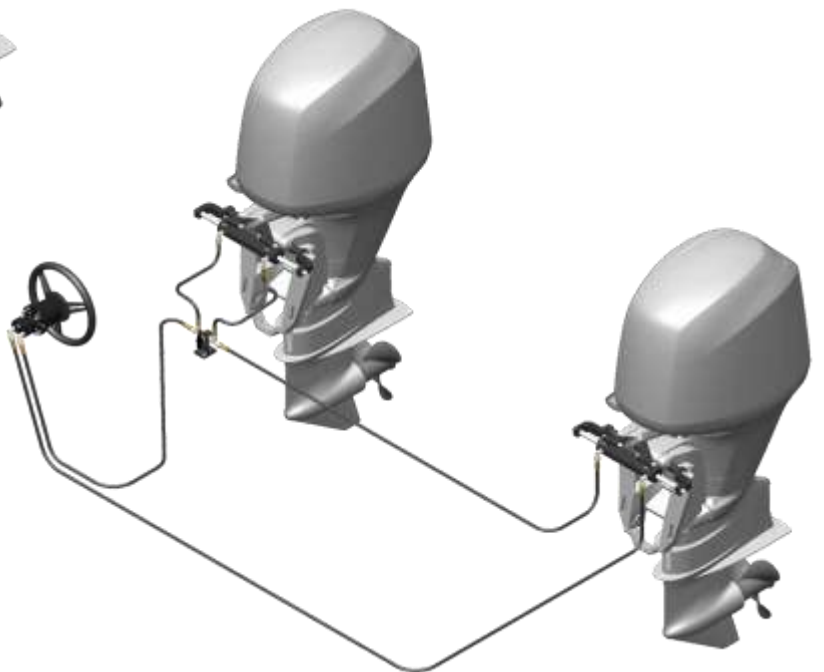
**B. Single Cylinder - Twin Engines  
in Same / Counter Rotating  
Direction with Tie Rod**



**C. Twin Cylinders - Twin Engines  
in Same / Counter Rotating  
Direction with Tie Rod**



**D. Twin Cylinders - Twin Engines  
in Same / Counter Rotating  
Direction w/ Liquid Tie Rod**



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