

# OUTBOARD HYDRAULIC STEERING SYSTEM



**MULTISTEER**

## 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 engines
- ▲ Compatible to use with all MultiSteer Helms

### HOSE KIT



### OIL BOTTLES



## 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 red 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

### FRONT MOUNT HELM PUMP



### FRONT MOUNT OUTBOARD CYLINDER



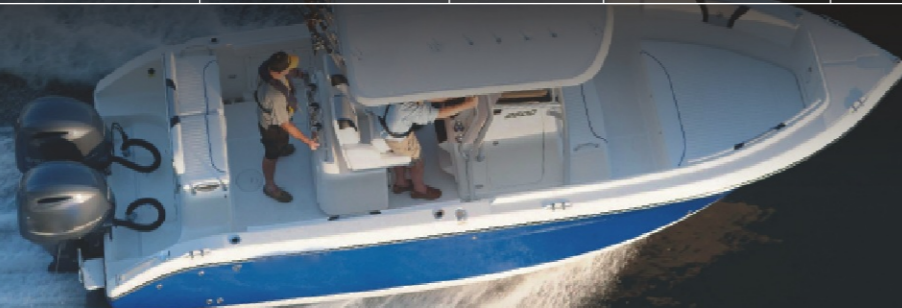
## HYDRAULIC STEERING KIT

### Technical Specifications:

Model No.	Application	Mounting	Vol. in cc	Output Force in Kg	Port Threads
LM-OC-115AFN	For Engines up to 115 Hp	Front Mount	92.5	277	9/16"
LM-OC-175AF	For Engines up to 175 Hp	Front Mount	122	422	9/16"
LM-OC-350AF	For Engines up to 350 Hp	Front Mount	166	573	9/16"
LM-OC-300AS	For Engines up to 300 Hp	Side Mount	130/164	455	9/16"

### Technical Specifications:

Model No.	Volume		Port Threads	Relief Pressure in Bar	Recommended Steering Wheel Diameter	Weight in Kg
	in cc	in ci				
LM-HP-16	16	0.9	9/16"	50	280mm	2.2
LM-HP-20	20	1.2	9/16"	70	350mm	4.0
LM-HP-23	23	1.4	9/16"	70	350mm	4.0
LM-HP-27	27	1.7	9/16"	70	400mm	4.0
LM-HP-33	33	2.0	9/16"	70	400mm	4.0
LM-HP-40	40	2.4	9/16"	70	400mm	4.0



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

To select a correct MultiSteer Steering System for your boat, first define the maximum horse power developed by the outboard engine(s) and the rotational direction of the propellers on installations with respective engines.

For Single Engine installation; working in any rotational direction, directly use the steering system as per mentioned maximum horse power of the engine.

### Example for Single Engine of 115 Hp :

Maximum horse power for the installation of single engine  $1 \times 115 \text{ Hp} = 115 \text{ Hp}$ .

Here, you will select MultiSteer Hydraulic Steering System up to 115 Hp i.e. POHS-115AFN.

For Twin Engine installations; working in the same rotational direction, add the power of both engines

### Example for Twin Engine of 115 Hp in same rotational direction :

Maximum horse power for the installation of twin engine  $2 \times 115 \text{ Hp} = 230 \text{ Hp}$ .

Here you will select MultiSteer Steering System up to 350 Hp. i.e. POHS-350AF-TR.

This way you can install single steering system for twin engines through tie rod.

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

### Example for Twin engine of 115 Hp in counter-rotational direction :

Maximum horse power for the installation of twin engine  $115 \text{ Hp} + 20\% \text{ of } 115 \text{ Hp} = 138 \text{ Hp}$ .

Here you will select MultiSteer Steering System up to 250 Hp. i.e. POHS-175AF-TR.

This way you can install single steering system for twin engines through tie rod.

For Twin Engine installations; when the calculated maximum power exceeds the maximum power of the available steering system; it will be necessary to install a cylinder on each engine with a parallel hydraulic circuit (see "Different Types of Steering Assemblies" on page 18).

### Example for Twin Engine of 300 Hp in same rotational direction :

Maximum horse power for the installation of twin engine  $2 \times 300 \text{ Hp} = 600 \text{ Hp}$ .

Here you will select MultiSteer Steering System up to 600 Hp. i.e. POHS-350AF-TT.

This way you can install a steering system with two cylinders LM-OC-350AF for twin engines connected through tie rod as well as hydraulic line.

### Example for Twin Engine of 350 Hp in counter-rotational direction :

Maximum horse power for the installation of twin engine  $350 \text{ Hp} + 20\% = 420 \text{ Hp}$ .

Here you will select MultiSteer Steering System up to 700 Hp. i.e. POHS-350AF-TT.

This way you can install one steering system for twin engines connected through tie rod. You can also install a steering system with two cylinders i.e. POHS-250-AF-TT or POHS-350-AF-TT for twin engines connected through tie rod as well as hydraulic line.

### Example for Triple Engine of 175 Hp; 2 in counter 1 in same rotational direction :

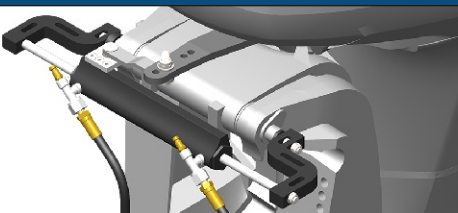
Maximum horse power for the installation of triple engine  $175 \text{ Hp} + 175 \text{ Hp} + 20\% = 385 \text{ Hp}$ .

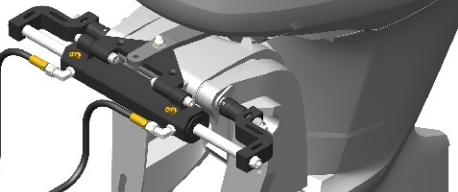
Here you will select MultiSteer Steering System up to 700 Hp. i.e. POHS-350AF-TT-3E.

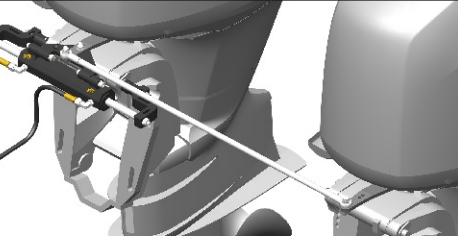
This way you can install a steering system with two cylinders LM-OC-350AF for triple engines connected through two tie rods as well as hydraulic line.

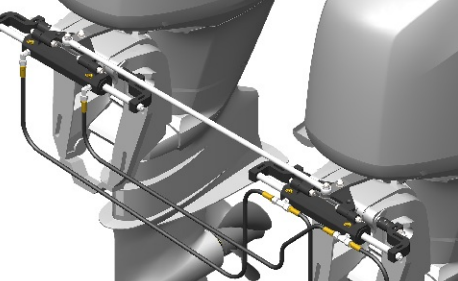


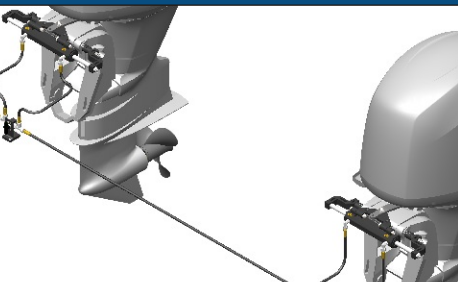
## ORDER GUIDE MULTISTEER PACKAGED HYDRAULIC STEERING SYSTEM

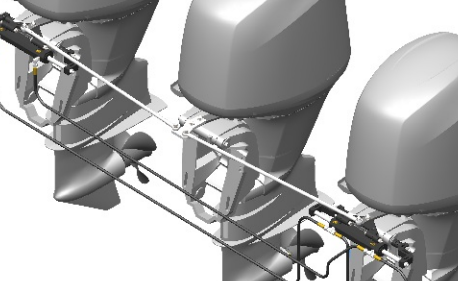
Single Cylinder - Single Engine	List of Components	Engines up to 115 Hp	Qty
	Steering Kit	POHS-115AFN	1 NO.
	Cylinder	LM-OC-115AFN	1 NO.
	Pump	LM-HP-16	1 NO.
	Hose Kit	LM-CT-5.0	2 Nos.
	Oil	LM-HO-150	1 No.
	No. of Turns	5.8	NA

Single Cylinder - Single Engine	List of Components	Engines up to 175 Hp	Engines up to 350 Hp	Qty
	Steering Kit	POHS-175AF	POHS-350AF	1 NO.
	Cylinder	LM-OC-175AF	LM-OC-350AF	1 NO.
	Pump	LM-HP-23	LM-HP-27	1 NO.
	Hose Kit	LM-CT-7.5	LM-CT-7.5	2 Nos.
	Oil	LM-HO-150	LM-HO-150	2 Nos.
	No. of Turns	5.3	6.1	NA

Single Cylinder - Twin Engine	List of Components	Engines up to 200/300 Hp	Engines up to 450/600 Hp	Qty
	Steering Kit	POHS-175AF-TR	POHS-350AF	1 NO.
	Cylinder	LM-OC-175AF	LM-OC-350AF	1 NO.
	Pump	LM-HP-23	LM-HP-27	1 NO.
	Hose Kit	LM-CT-7.5	LM-CT-7.5	2 Nos.
	Oil	LM-HO-150	LM-HO-150	2 Nos.
	Adjustable Tie Rod	LM-T-3	LM-T-3	1 No.
No. of Turns	5.3	6.1	NA	

Twin Cylinder - Twin Engine (with Tie Rod)	List of Components	Engines up to 250/350 Hp	Engines up to 600/700 Hp	Qty
	Steering Kit	POHS-175AF-TT	POHS-350AF-TT	1 NO.
	Cylinder	LM-OC-175AF	LM-OC-350AF	2 Nos.
	Pump	LM-HP-33	LM-HP-40	1 NO.
	Hose Kit	LM-CT-7.5	LM-CT-7.5	2 Nos.
	Oil	LM-HO-150	LM-HO-150	3 Nos.
	Adjustable Tie Rod	LM-T-3	LM-T-3	1 No.
	Hose Kit 2	LM-CT-01	LM-CT-01	2 Nos.
No. of Turns	7.4	8.3	NA	

Twin Cylinder - Twin Engine (with Liquid Tie Bar)	List of Components	Engines up to 250/350 Hp	Engines up to 600/700 Hp	Qty
	Steering Kit	POHS-175AF-DV	POHS-350AF-DV	1 No.
	Cylinder	LM-OC-250AF	LM-OC-350AF	2 Nos.
	Pump	LM-HP-33	LM-HP-40	1 No.
	Hose Kit	LM-CT-7.5	LM-CT-7.5	2 Nos.
	Oil	LM-HO-150	LM-HO-150	3 Nos.
	Hose Kit 2	LM-CT-XX	LM-CT-XX	2 Nos.
	Liquid Tie-Bar	LM-DV-01	LM-DV-01	1 No.
No. of Turns	7.4	8.3	NA	

Twin Cylinder - Triple Engine (with Tie Rod)	List of Components	Engines up to 250/350 Hp	Engines up to 600/700 Hp	Qty
	Steering Kit	POHS-175AF-TT-3E	POHS-350AF-TT-3E	1 No.
	Cylinder	LM-OC-250AF	LM-OC-350AF	2 Nos.
	Pump	LM-HP-33	LM-HP-40	1 No.
	Hose Kit	LM-CT-7.5	LM-CT-7.5	2 Nos.
	Oil	LM-HO-150	LM-HO-150	3 Nos.
	Hose Kit 2	LM-CT-XX	LM-CT-XX	2 Nos.
	Adjustable Tie Rod	LM-T-3/T4	LM-T-3/T4	2 Nos.
	No. of Turns	7.4	8.3	NA

**Note :** All the above twin engine installations are considered to have propellers in same/counter rotational direction while for triple engine, propellers of two engines have same rotational direction while one have counter rotational direction.



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