

How to choose a steering system for your boat

Bullhorn & Front-mount steering for OUTBOARDS

OBKIT1

BULLHORN STYLE OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 211BH cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



Selection of the most suitable steering system for your boat is a simple matter of:-

- 1) Matching the HP of your outboard to the recommended capacity of the steering system.
- 2) Deciding which TYPE of cylinder best suits your engine-well.
- 3) Considering your budget as to whether you want to go for the normal pleasure rated system or invest in the top-of-the-range commercial system.

TYPES

BULLHORN type steering is by far the most popular steering system for outboard motors as it is compact, simple to install and requires the minimum amount of clearance in an engine well.

FRONT MOUNT type steering is also popular because of the lower cost, combined with the fact that the hoses are in a fixed position and do not move. The disadvantage is the amount of space required in the engine well due to the piston rod travelling in each direction.

SERIES

The **Commander** Series (COMKIT models) are designed for use on pleasure boats only with HP limitations up to 200HP. It utilises a state-of-the-art aluminium cylinder design, with unique electrolytic insulation between metals for maximum corrosion resistance. The **PRO** versions are designed for both pleasure and commercial use

The **Admiral** Series (OBKIT models) are designed for the most robust operation in both pleasure and commercial vessels and offer the strongest and most corrosion resistant steering cylinders on the market. There is no equivalent of these cylinders available from any other manufacturer.

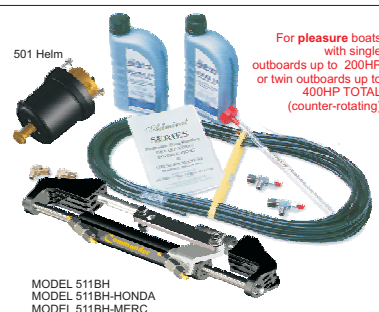
MATCHING YOUR OUTBOARD TO THE CORRECT CYLINDER TYPE AND STYLE

Manufactured in Australia, HyDrive continues to manufacture the highest quality steering systems to suit the ever changing designs and developments in outboard motors. The following chart should be used as a guide to select the correct kit to match your motor(s). If in doubt, contact your nearest HyDrive distributor.

COMKIT1

BULLHORN STYLE OUTBOARD KIT

Complete with:-
1 x 501N8 helm
1 x 511BH cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



COMKIT1-PRO

BULLHORN STYLE OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 511BH cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



OBKIT5

FRONT MOUNT Style OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 216FM cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



COMKIT5

FRONT MOUNT Style OUTBOARD KIT

Complete with:-
1 x 501N8 helm
1 x 516FM cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



Selection of steering for OUTBOARDS - SIDE-MOUNT STYLE

SPORTKIT OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 212T cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit



Typical side-mount installation using 210TSE

SIDE-MOUNT or TUBE-MOUNT

The Side or Tube-mount type cylinders are very popular because of the ease of fitting and the economical price which allows a very simple upgrade from cable steering to hydraulic for vastly improved results.

Selection of this type of steering is entirely dependent on the HP of the outboard(s) as the type of mount is universal to all brands and HP of motors that are fitted with tilt-tubes. Some very small outboards do not have tilt-tubes and therefore must use the same pivoting bracket that is attached to the customer's current cable.

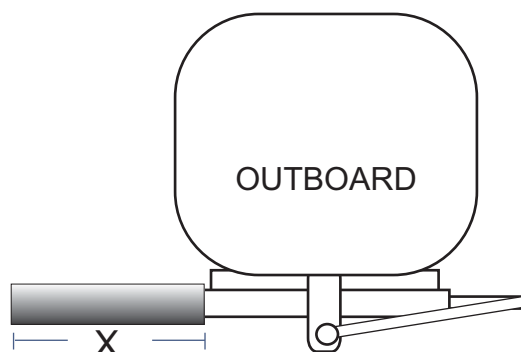
Fitting is very simple as the hydraulic cylinder screws directly onto the threaded tilt-tube in the same location as the existing cable steering. It connects to the tiller arm of the outboard using the standard drag-link already connecting the cable.

ADVANTAGES

- Low cost system
- Ease of fitting
- Hoses remain stationary

DISADVANTAGES

The amount of side-clearance required.



Side Clearance requirements

Model 210T (balanced) - 540mm (21.2")
Model 210TSE - 330mm (13")
Model 212T - 315mm (12.4")

COMKIT-SPORT OUTBOARD KIT

Complete with:-
1 x 501N8 helm
1 x 212T cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit
Instructions



OBKIT-2 OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 210T cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit



OBKIT-3 OUTBOARD KIT

Complete with:-
1 x 401N8 helm
1 x 210TSE cylinder
2 litres ULTRA-15
15M nylon hydraulic
tubing
Fittings
Bleeding kit



HYDRIVE MODEL SELECTION - OUTBOARD MOTORS ONLY

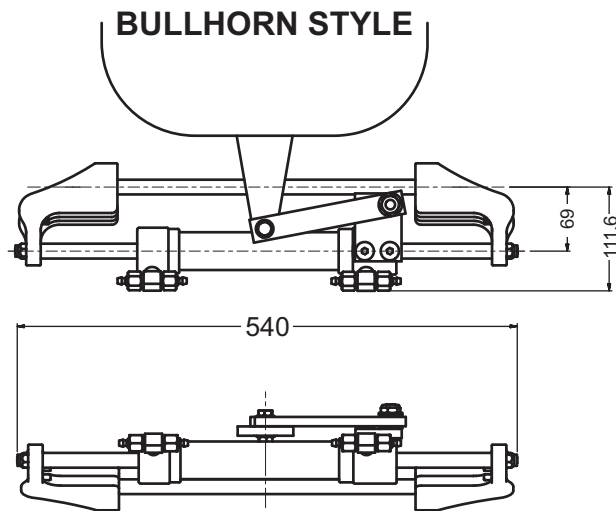
BRAND	YEAR	MOTOR	HP	HYDRIVE KIT OPTIONS	NOTES
Johnson/Evinrude	All years	2 Stroke Single	up to 200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2 Stroke Single	up to 300HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		2 Stroke Twin counter-rotating	up to 400HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2 Stroke Twin counter-rotating	up to 600HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
HONDA	PRE-2006	4 Stroke Single	75HP-90HP	Budget - COMKIT1- HONDA Bullhorn style Admiral-OBKIT1- HONDA Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4 Stroke single	100HP-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: The 130HP requires the use of the Honda version
		4 Stroke Single	225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4 Stroke Twin counter-rotating	up to 400HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note - if using twin 75HP, 90HP or 130HP motors then Honda version required
		4 Stroke Twin counter-rotating	twin 225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
	POST-2006	4-Stroke single	75-90HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-Stroke single	115HP	Budget - COMKIT1- HONDA Bullhorn style Admiral-OBKIT1- HONDA Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-Stroke single	135HP-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-Stroke single	225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4 Stroke Twin counter-rotating	up to 400HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note - if using twin 115HP motors then Honda version required
		4 Stroke Twin counter-rotating	twin 225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	

BRAND	YEAR	MOTOR	HP	HYDRIVE KIT OPTIONS	NOTES
YAMAHA	ALL YEARS	4-Stroke single	30 - 40HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4-Stroke single	50-70HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: The transom clamps on these motors must be cut off to allow full tilt of the steering system which would otherwise interfere on the clamps. These clamps will interfere on ALL makes and brands of bullhorn or front-mount steering cylinders.
		4-Stroke single	80-90HP F-SERIES 70HP	Budget - COMKIT1- HONDA Bullhorn style Admiral-OBKIT1- HONDA Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: The transom clamps on these motors must be cut off to allow full tilt of the steering system which would otherwise interfere on the clamps. These clamps will interfere on ALL makes and brands of bullhorn or front-mount steering cylinders.
		4-Stroke single	100-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-stroke single	200-300HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4-stroke single	350HP	Admiral OBKIT1- HP OR OBKIT1-HP-XT	High peformance unit required on 350HP
		4 Stroke Twin counter-rotating	50-70HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: The transom clamps on these motors must be cut off to allow full tilt of the steering system which would otherwise interfere on the clamps. These clamps will interfere on ALL makes and brands of bullhorn or front-mount steering cylinders.
		4 Stroke Twin counter-rotating	80-90HP F-SERIES 70HP	Budget - COMKIT1- HONDA Bullhorn style Admiral-OBKIT1- HONDA Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: The transom clamps on these motors must be cut off to allow full tilt of the steering system which would otherwise interfere on the clamps. These clamps will interfere on ALL makes and brands of bullhorn or front-mount steering cylinders.
		4-Stroke Twin counter rotating	100-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4 Stroke Twin counter-rotating	200-300HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4 Stroke Twin counter-rotating	350HP	Admiral OBKIT1- HP OR OBKIT1-HP-XT	High peformance unit required on 350HP
		2-Stroke single	115-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke single	50-90HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors

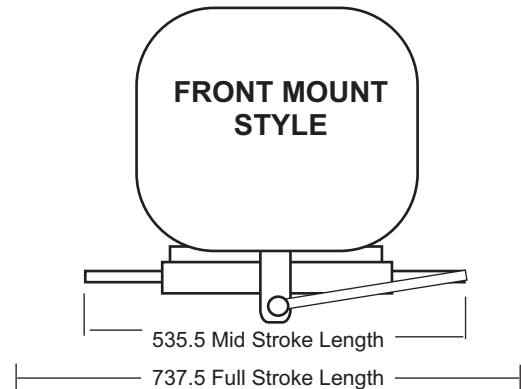
BRAND	YEAR	MOTOR	HP	HYDRIVE KIT OPTIONS	NOTES
MERCURY	ALL YEARS	VERADO SINGLE	135-175HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		VERADO DUAL Counter rotating	135-175HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		OPTIMAX SINGLE	75-115HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		OPTIMAX SINGLE	135-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		OPTIMAX DUAL counter rotating	75-115HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		OPTIMAX DUAL counter rotating	135-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		OPTIMAX SINGLE	225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		OPTIMAX DUAL counter rotating	225HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4-Stroke single	60-115HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		4-Stroke DUAL Counter rotating	60-115HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		2-Stroke single	40-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke single	EFI 250HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		2-Stroke single	40-90HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke single	Bigfoot 40-60HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke DUAL Counter rotating	40-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke DUAL Counter rotating	EFI 250HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		2-Stroke DUAL Counter rotating	40-90HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		2-Stroke DUAL Counter rotating	Bigfoot 40-60HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	

BRAND	YEAR	MOTOR	HP	HYDRIVE KIT OPTIONS	NOTES
SUZUKI	All years	4-stroke single	40-140HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: some older models may require a spacer to fit into the recess under the tiller arm. These are available on request. Current motors do not require them.
		4-Stroke single	150-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-Stroke single	225-250HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
		4-Stroke DUAL Counter rotating	40-140HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note: some older models may require a spacer to fit into the recess under the tiller arm. These are available on request. Current motors do not require them.
		4-Stroke DUAL Counter rotating	150-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		4-Stroke DUAL Counter rotating	225-250HP	Budget - COMKIT1- PRO Bullhorn style Admiral-OBKIT1 Bullhorn style	
TOHATSU	ALL YEARS	SINGLE	60-90HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		SINGLE	100-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	
		DUAL Counter rotating	60-90HP	Budget - COMKIT1- MERC Bullhorn style Admiral-OBKIT1- MERC Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	Note- Merc versions required on bullhorn type steering for these motors
		DUAL Counter rotating	100-200HP	Budget - COMKIT1 Bullhorn style Admiral-OBKIT1 Bullhorn style Budget - COMKIT5 Front-mount style Admiral- OBKIT5 Front-mount style	

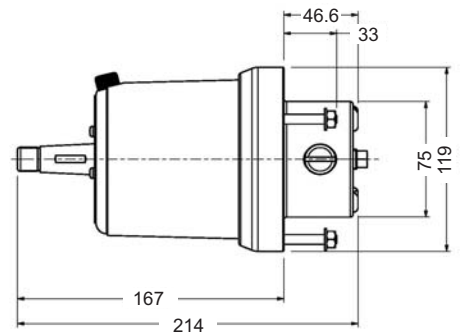
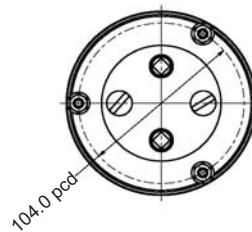
BASIC DIMENSIONS AND CLEARANCE REQUIREMENTS FOR CYLINDERS



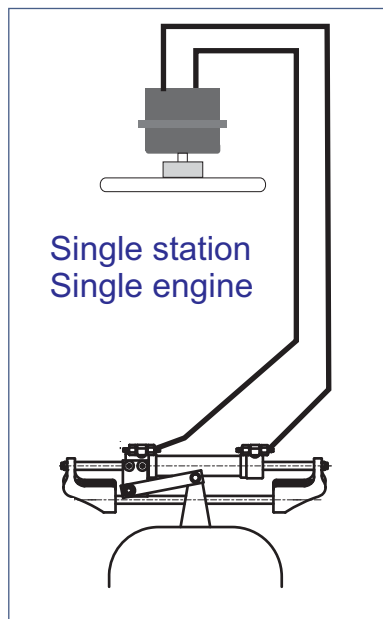
**Models 211BH & 511BH
OBKIT1 & COMKIT-1**



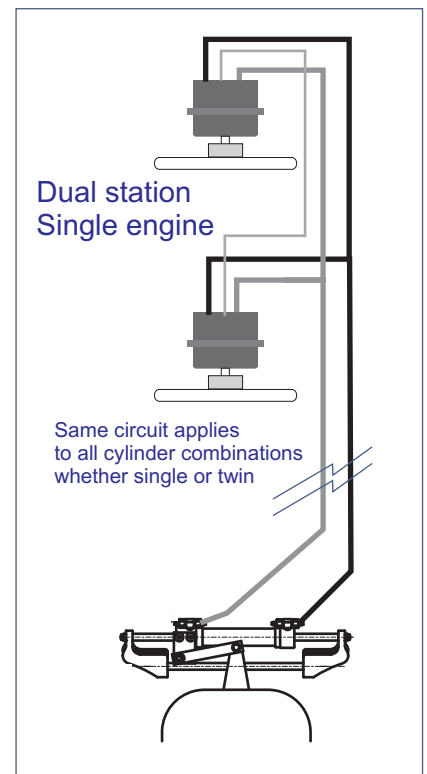
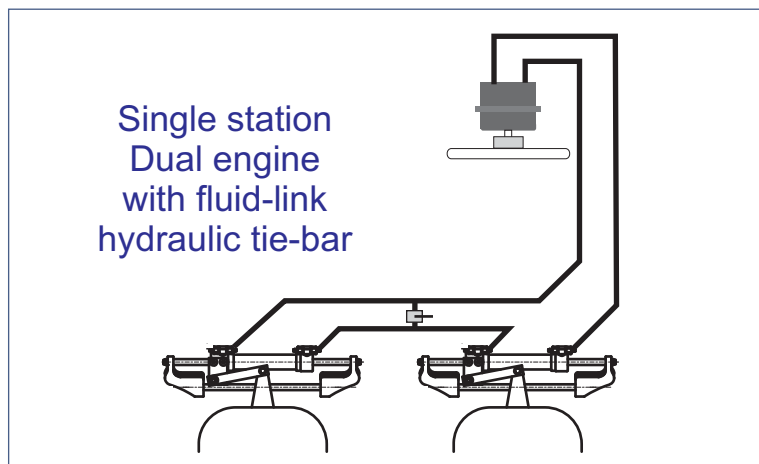
**Models 216FM & 516FM
OBKIT5 & COMKIT-5**



**HELM DIMENSIONS
401 & 501**



Typical installation
circuits



HYDRAULIC BOAT STEERING

Helm accessories

The Series 401, 402 and 501 helm units come with a range of fitting options.

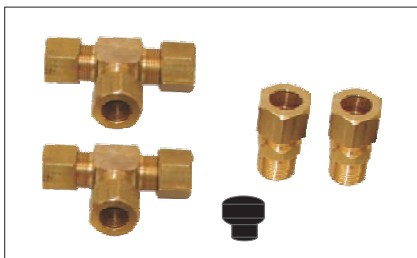


WEDGE-401 20 degree wedge kit for mounting horizontal to vertical installations fits any standard model 401, 402 & 501 helm unit.



REAR-MOUNT Kit - fits any model 401,402 and 501 helm unit - adjustable from low-profile to full protrusion for maximum flexibility in helm placement. Simply trim the spacers and studs to adjust the amount of penetration into the helm position. The front dash or console ring is fully O-ring sealed against pump body to prevent water ingress to the rear of the console. Easy to fit - easy to adjust - looks great.

The new 401, 402 & 501 series helms - now the most versatile helm on the market!



DUAL STATION PARTS

DSKIT-N8 Dual station kit to suit 3/8" nylon tubing. Required for connection of two steering helm units. Kit includes two T-pieces with nuts & olives, two balance-line nipples with nuts & olives plus one non-vented filler cap.



CATAMARAN DUAL CYLINDER PARTS

CATN-8 FLUID-LINK ball valve to suit 3/8" nylon tubing. Required for connection, bleeding and synchronising of two independent hydraulic cylinders. Kit includes pre-fitted T-pieces with nuts & olives.

Manufactured in Australia by
HYDRIVE ENGINEERING PTY LTD
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South Australia 5013
Tel +61 8 82431633 Fax +61 8 84457938
email: sales@hydrive.com.au Web: www.hydrive.com.au