



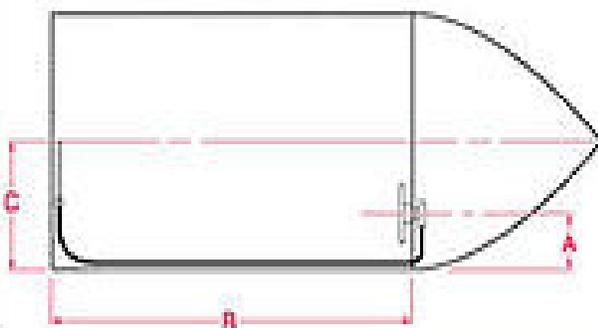
## Advice on mechanical steering systems and how to measure cables:

**Though measurements are mentioned here in CM's the cables we supply are in 1 foot increments**

The steering system itself comprises of wheel, helm, bezel to fit helm to dash and steering cable (See image ABOVE), ALL STEERINGS are the SAME spec in terms of cable travel and how they work, you feed the cable in one side of the helm, it wraps round the gear inside and comes out the other side. You fit the helm to the dash using the mounting kit supplied and the shaft on the helm is a standard  $\frac{3}{4}$ " taper with a woodruff key to locate the steering wheel (NOT splines like a car)  $\frac{3}{4}$ " taper is STANDARD on all boat helms. ON SOME Helms the cable can be fed in either side of the helm and you can obviously bring the cable from the right or the left of the motor. BEFORE you fit it think about how the boat turns and MAKE SURE how you have configured it will allow the BOAT to TURN RIGHT when you want to TURN RIGHT !! Image above (right) shows the engine end of the cable, stainless rod and the large nut mentioned.

### SEE BELOW HOW TO MEASURE YOUR BOAT FOR A STEERING SYSTEM:

#### Measuring Your Boat For A Completely New System



#### All Installations

Measure as indicated along the intended cable route

A = Centreline of wheel to gunwhale

B = Dash to transom

C = Gunwhale to centre of engine

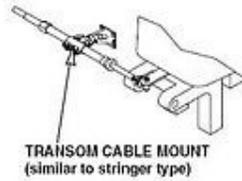
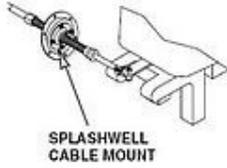
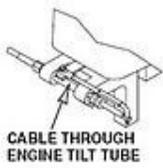
#### Option 1

For thru tube installations add A, B & C + 15 cm then round up to the next nearest 25 cm

#### Option 2

For splashwell or transom mounting installations add A, B & C then subtract 20 cm then round up to the next nearest 25 cm

## DIFFERENT WAYS TO CONNECT THE STEERING AT THE MOTOR:



**TILT TUBE MOUNTING:** All NEW steering Cables come with a large nut on the end of the cable that threads on to a metal tube that passes through the front of most motors (Image Right there is a threaded tube at the front of the motor, the steering cable passes through here and the large nut does up tight on this thread), this tube is found at the point that the motor hinges around when tilted up and down. Through tilt is the BEST option to use, HOWEVER older motors and small hp 10 and less often do not have this fitting, then you have to use one of the other options. To connect the end of the steering cable to the front of the motor you will need a DRAG LINK, these are supplied with all NEW remote control motors. We do have generic ones that will fit most engines, see part 1289 below.

(And you can see the item in use above connecting from the end of the steering cable back to the front of the motor) The Image (below) also shows how through tilt steering looks when assembled. If your engine is in a well make sure there is enough room for the cable to travel out the far side and not hit the side of the boat, if there is not enough room you need to use a splash well kit even if you have a through tilt tube on the motor.

**Shown here on the right is a selection of other steering parts. not all listed on E Bay, that we can supply,**

**TRANSOM CABLE MOUNT** This option you use when you do not have a through tilt tube (Part 229 to the left) You will also need to connect the steering cable end to

**UNIVERSAL MOUNTING KITS**

- 1229- Transom kit, permits connection to any outboard engine not having a tilt tube. Regardless of size. All necessary fasteners are supplied.
- 1230- Splashwell kit, ideal for use when transom is less than 21" (540mm). Supplied with aluminum tube, two 1/4" plates and 1/4" fasteners.
- 1400- Splashwell kit, with 90 degree support.
- 1107- Transom through tube kit, ideal for inflatable boats and in situations where it is impossible to fit a transom or splashwell kit.
- 1003- Spare tube for 1229 and 1230.
- 1236- Stainless steel arm. Specially made for use with 1107 transom kit. Due to lower position of kit.
- 231- Clevis, Universal end connector for all modern steering cables. This extremely heavy 1/2" section is supplied with 1/4" bolts and lock nuts.
- 245- Old type 3/8" UNF threaded ball end connector.
- 246- Old type 1/2" UNF threaded ball end connector.
- 3417- Metric 10mm ball joint for Ultraflex.
- 3718- Metric 10mm Clevis for Ultraflex (and 251)
- 243- DMC cable pulley steering connector (and 252)
- 3470- Ultraflex clevis, new type.
- 3471- Same as 3470 but made from 316 with 1/4" spring adjuster clef lock.
- 343- Old Mercury and BMC cable pulley steering connector.
- 245- Yamaha cable pulley steering connector.
- 247- Universal 1/4" mechanical steering connector. Fits to a large proportion of engines.
- 2003- Morse adaptor to fit Teleflex Safe-T cables to Morse D295 steering helm. Also allows Multiflex cables to fit Ultraflex 100, all G and BMC cables.
- 2004- Adapts helms with threaded spigots to fit quick connect Teleflex, Fast connect Ultraflex (M56) cables. Also will fit Multiflex heads if M56 cable is preferred to M47.
- 4054- Adapts Ultraflex M47 or Teleflex Big "T" and Safe "T" cables with threaded nut to fit new quick connect helms.
- 2020- "Seachoice" cable buddy eliminates greasy steering rods forever. Made from 1/4" and can be installed on all cable and side mounted hydraulic steering systems to clean, seal and lubricate the system.

the motor and here you use Part 231 (to the left) a Clevis Kit. Obviously you need to have something on the front of the motor to connect the steering cable to and many NON REMOTE CONTROL motors only have a simple handle not the TILLER PLATE or TILLER BAR that a remote control motor has. Here you need to select from 243, 247, 245, 242, 3471 to the left for the plate that best suits your handle.

**SPLASH WELL CABLE MOUNT** This option you use when the engine is in a well and you do not have room for either through tilt or the transom clamp (Part 230 to the left) You also need the clevis kit and the tiller plate for this option.

**TRANSOM KIT (Part 1167: LEFT)** Splash well and transom clamp options only suit upto 55 hp, this will work upto 115 hp if you do not have a through tilt tube on the motor.

## The BEST option by far for steering in a boat is HYDRAULIC



We have these kits listed in E Bay and they come with hoses that can be cut to length, there are different kits for different makes and models of engine so contact us BEFORE you order to make surte you are getting the right kit.

**BARNET MARINE CENTRE LTD, 14 West Burrowfield, Welwyn Garden City, Herts, AL7 4TW.  
TEL NOS; + 44 (0) 1707 331 389**

**Whilst cables and helms are available separately we find that they wear together and placing a new cable in an old helm seldom works as one damages the other and then they have to all be replaced !**