# Components, cables and cable harnesses

| Description | Part no. |
|---|---|

## HIU module
Helm Interface Unit
180x185x65 mm
(7.1x7.3x2.6 in.)
Gas 888653
D3 Sterndrive 3587329
D3 Reverse gear 3807347

## Button panel kit
For Tachometer-LCD 3586943

## Key switch
Key switch, Gas/D3 856659

## Buzzer
Diameter 26.3 mm (1.04 in.)
3863454

## Instruments
| Description | Part no. |
|---|---|

### Tachometer-LCD
Engine speed/hours, text messages
Diameter 85 mm (3.35 in.)
Black 3586222
White 3586223

### Tachometer
Engine speed/hours
Diameter 85 mm (3.35 in.)
Black 881647
White 881653

### Boat speed
Diameter 85 mm (3.35 in.)
Black, 0-40 Knots 874917
Black, 0-60 Knots 881645
White, 0-40 Knots 874930
White, 0-60 Knots 881650

### Alarm
Diameter 52 mm (2.05 in.)
Black 874915
White 874927

### Coolant temperature
Diameter 52 mm (2.05 in.)
Black, Degrees C 874904
Black, Degrees F 874918
White, Degrees C 874931
White, Degrees F 874931

### Engine oil pressure (Gas only)
Diameter 52 mm (2.05 in.)
Black, bar 874908
Black, psi 874919
White, bar 874923
White, psi 874932

### Voltage
Diameter 52 mm (2.05 in.)
Black, 12 V 881649
White, 12 V 881658

### Power Trim, analog
Diameter 52 mm (2.05 in.)
Black 874948
White 874949

### Power Trim, digital
Diameter 52 mm (2.05 in.)
Black 881648
White 881654

### Fuel level
Diameter 52 mm (2.05 in.)
Black 874914
White 874926

### Front ring kit (clamp)
Diameter 52 mm (2.05 in.)
Black 881611
Chrome 881613
Diameter 85 mm (3.35 in.)
Black 881612
Chrome 881614

### Front ring kit
Diameter 52 mm (2.05 in.)
Black 874709
Chrome 874733
Diameter 85 mm (3.35 in.)
Black 874708
Chrome 874732

### Flush mounting
Diameter 52 mm (2.05 in.)
X-ring 874843
Diameter 85 mm (3.35 in.)
X-ring 874844

| Description | Part no. |
|---|---|

## Multisensor kit (retractable)
Sender incl. cable,
incl. cable 5 m (16 ft) 3587054

## Multisensor kit (transom mounted)
Sender incl. cable,
incl. cable 5 m (16 ft) 3587055

## Fuel level sender
Sender (3-180 ohm),
incl. cable 6 m (20 ft) 874840

## Plug
Dust cover for10-pin connector, Gas only
1-3/8" 984454

## Light switch (push button)
Extra optional equipment 828719

## Cables (pos. refer to the EVC^MC layout)

| Pos | Ft | m | Part no. |
|---|---|---|---|
| 1. Engine harness (Gas only) | 1.6 | 0.5 | 881816 [2] |
| 2. Engine–HIU | 16 | 5.0 | 881800 [1] |
| 3. Trim pump/Trim sender (Sterndrive) | 16 | 5.0 | 881804 [1] |
| Plug (Reverse gear) | | | 3807515 |
| 4. Fuel level sender, Multisensor | 16 | 5.0 | 881802 |
| 5. Fuel level sender, Multisensor, 2:nd HIU (twin engine installation) | 16 | 5.0 | 881805 |
| 6. Gauge harness | 1.6 | 0.5 | 881801 [1] |
| 7. Trim control/Instrument light switch | 1.6 | 0.5 | 881803 [1] |

### 8. Extension cables, 6-pole
HIU–Trim pump/Trim sender
HIU–Fuel level sender/Multisensor
HIU–Gauge harness
HIU–Trim control/Instrument light switch

| Ft | m | Part no. |
|---|---|---|
| 10 | 3.0 | 888243 |
| 16 | 5.0 | 888244 |
| 23 | 7.0 | 888245 |
| 30 | 9.0 | 888246 |
| 36 | 11.0 | 888247 |

### 9. Extension cables, 8-pole
HIU–Engine

| Ft | m | Part no. |
|---|---|---|
| 10 | 3.0 | 888248 |
| 16 | 5.0 | 888249 |
| 23 | 7.0 | 888250 |
| 30 | 9.0 | 888251 |
| 36 | 11.0 | 888253 |

### 10. Extension cable, 3-pole
Instruments

| Ft | m | Part no. |
|---|---|---|
| 16 | 5.0 | 874759 |

## EVC^MC cable kits
1) EVC cables (included in D3 engine specification) 3587052
2) Engine Adapter (included in gasoline engine specification) 3587053

## Connector dimensions:

### 6-pole
H = 21 mm (0.82 in.)
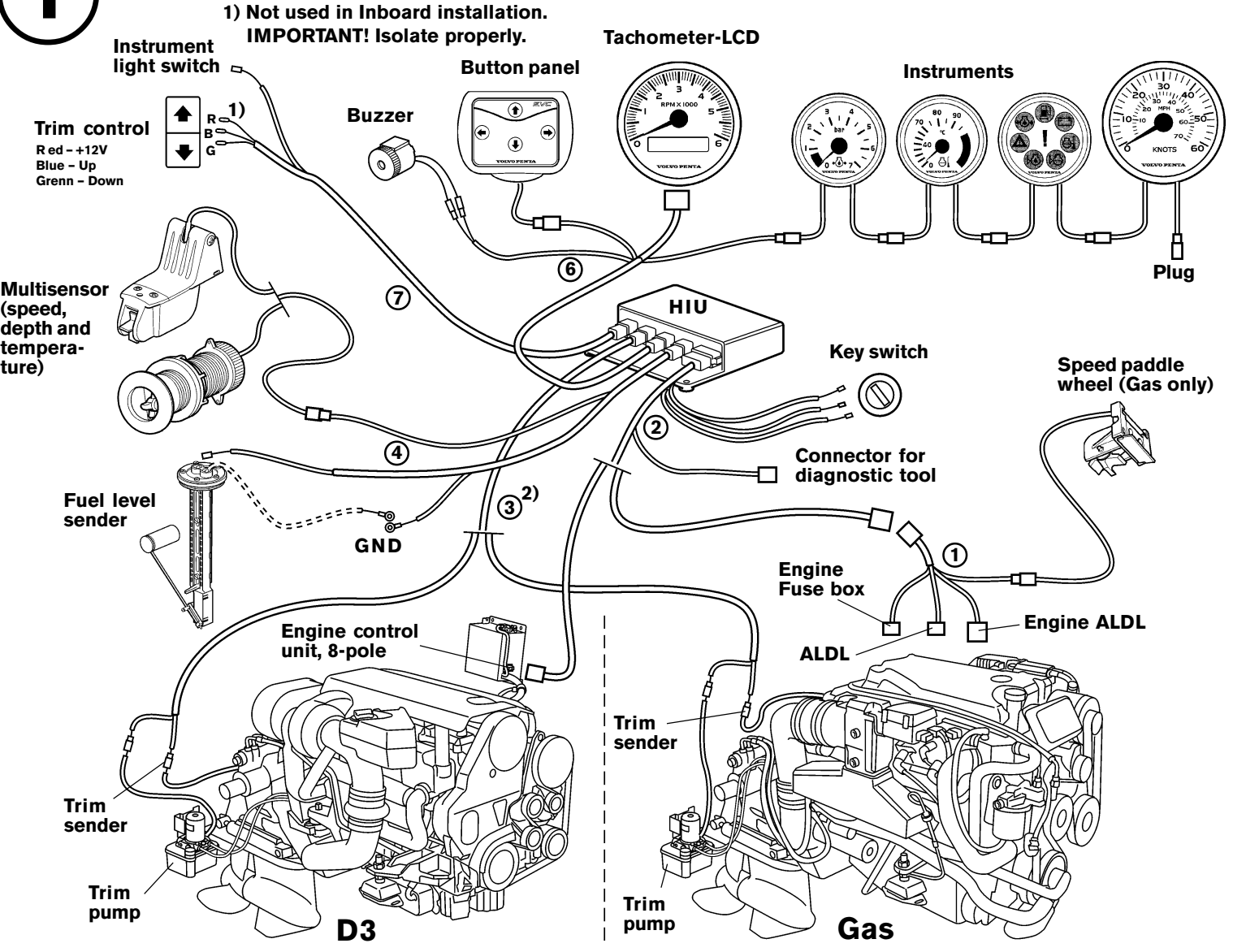W = 23 mm (0.88 in.)
D = 32 mm (1.26 in.)

### 8-pole
H = 25 mm (0.99 in.)
W = 37 mm (1.44 in.)
D = 45 mm (1.77 in.)

### 12-pole
H = 23 mm (0.88 in.)
W = 41 mm (1.62 in.)
D = 48 mm (1.90 in.)

## Following EVC^MC documents are available to order:
Installation Instructions Manual 7743225
Wiring and Pin-out Schematic for Single Engine Installations 7743347
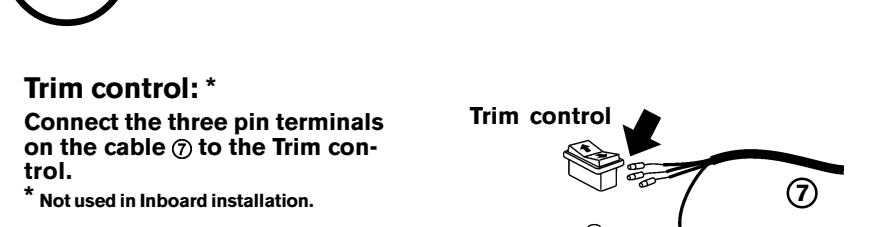Wiring and Pin-out Schematic for Twin Engine Installations 7743348

**NOTE! Do not use this poster for order specifications.**

## ① EVC^MC layout
1) Not used in Inboard installation. IMPORTANT! Isolate properly.



2) Not included in Inboard inst.kit. (HIU connector, plugged)

## ② Connect cables to engine
**Gas:**
Connect the Engine harness ① connectors with marking text Engine ALDL (1), ALDL (2) and Engine Fuse box (3) to the engine.
Secure the Engine harness with clampings.

**D3:**
Connect the Engine-HIU cable ② to the connector (1) placed on the Engine control unit.
Secure the Engine-HIU cable with clampings.

## ③ Connect cables to Trim pump, Trim sender, Fuel level sender, Multisensor, Speed paddle wheel

**Trim pump: ***
Connect the 2-pole connector on the cable ③ to the Trim pump.
* Not included in Inboard inst.kit

**Trim sender: ***
Connect the 2-pole connector on the cable ③ to the Trim sender.
* Not included in Inboard inst.kit

**Fuel level sender:**
Connect the receptacle terminal on the cable ④ to the Fuel level sender.
Connect the ring terminal on the cable ④ to the ground socket.

**Multisensor:**
Connect the 6-pole connector on the cable ④ to the Multisensor.
For mounting Multisensor, see User and Installation Instructions.

**Speed paddle wheel (optional and not a Volvo Penta part):**
Connect the 3-pole connector on the Engine harness ① to the Speed paddle wheel. At twin installation, connect the Speed paddle wheel to the "Master" HIU.
For mounting Speed paddle wheel, see its installation instructions.

NOTE! Conduct all the above-mentioned cables to intended place and secure them with clampings, ties or similar.

## ④ Mount HIU. Connect and clamp cables
Connect the 2-pole connector on the cable ③ to the Trim pump.

Secure cables with cable ties

Mount HIU with three screws

### HIU configuration
| | |
|---|---|
| C1 brown | Trim control |
| C2 blue | Trim pump/Trim sender (Sterndrive) |
| C2 blue | Plug (Reverse gear) |
| C3 pink | Gauges |
| C4 yellow | Fuel level sender/Multisensor |
| C5 grey | |

HIU label

## ⑤ Connect cables to Trim control, Instrument light switch, Key switch

**Trim control: ***
Connect the three pin terminals on the cable ⑦ to the Trim control.
* Not used in Inboard installation.

**Instrument light switch:**
Connect the receptacle terminal on the cable ⑦ to the Instrument light switch. Use the +12V from Trim control cabel harness to connect feed power to the instrument light switch.

**Key switch:**
Connect the three receptacle terminals on the cable ② to the Key switch.
NOTE! The terminals may alternatively be routed to a Neutral Safety Switch and a Safety Lanyard, respectively.
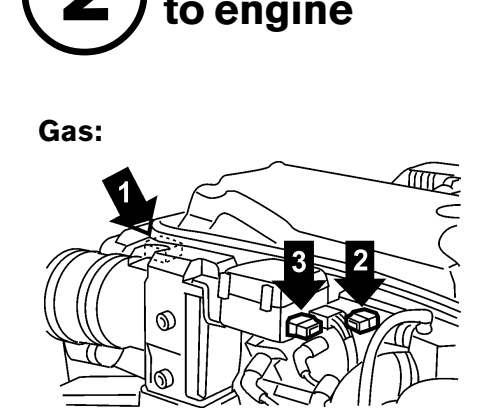
## ⑥ Mount and connect the Button panel
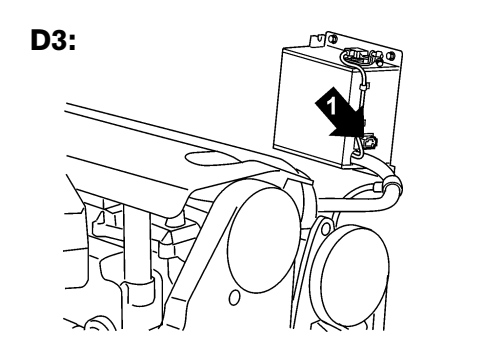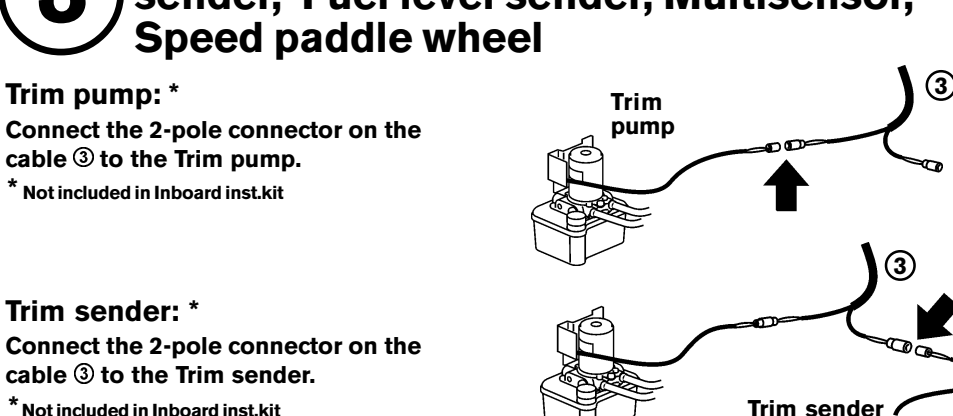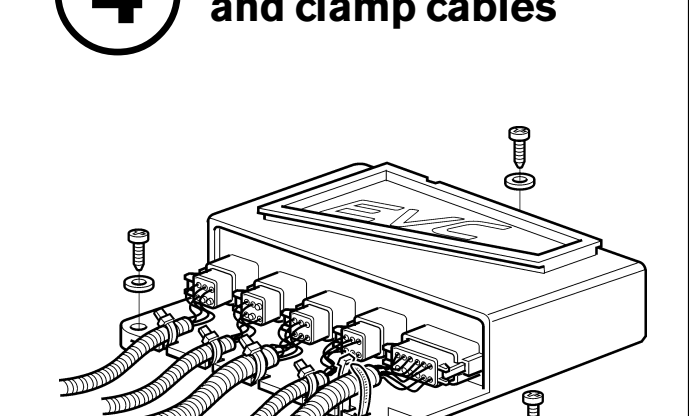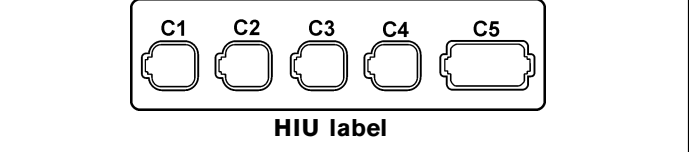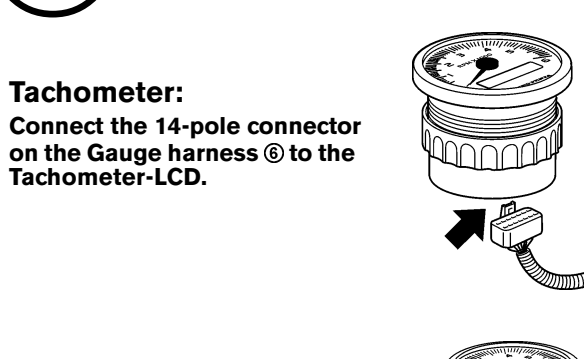Button panel can also be flush-mounted. See Installation instructions.

Dash board hole diameter: 33 mm (1.30")

Connect the 6-pole connector on the Gauge harness ⑥ to the Button panel.

## ⑦ Mount Tachometer and Instruments
Tachometer and Instruments can also be flush-mounted. See Installation instructions.

12-25 mm (0.48-1.00")
2.5 mm (0.10")
12 mm (0.48")

Dash board hole diameters:
Instruments:
85 mm (3.35")
52 mm (2.05")
Instruments, flush mounted:
83 mm (3.27")
49 mm (1.93")

Max. recommended CC measurement excl. extension cable (all instruments): 220 mm (8.6")
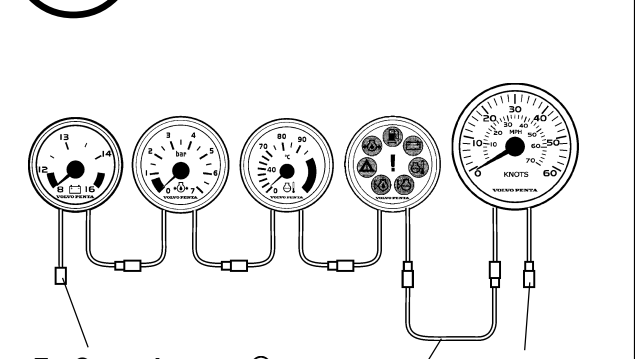
## ⑧ Connect Tachometer-LCD and Buzzer
**Tachometer:**
Connect the 14-pole connector on the Gauge harness ⑥ to the Tachometer-LCD.
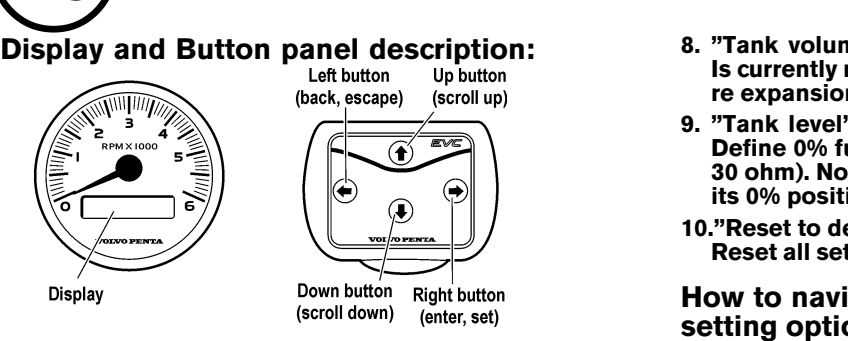
**Buzzer:**
Connect the two tab terminals on the Gauge harness ⑥ to the Buzzer.
Place the Buzzer beneath the dash board and make sure there is nothing to constrain the alarm-sound.

## ⑨ Connect Instruments in series
To Gauge harness ⑥, 3-pole ext. cable ⑩
3-pole ext. cable ⑩
Plug

## ⑩ Carry out settings of the EVC^MC
NOTE! To carry out settings there must be Tachometer-LCD and Button panel installed.

### Display and Button panel description:
Left button (back, escape)
Up button (scroll up)
Display
Down button (scroll down)
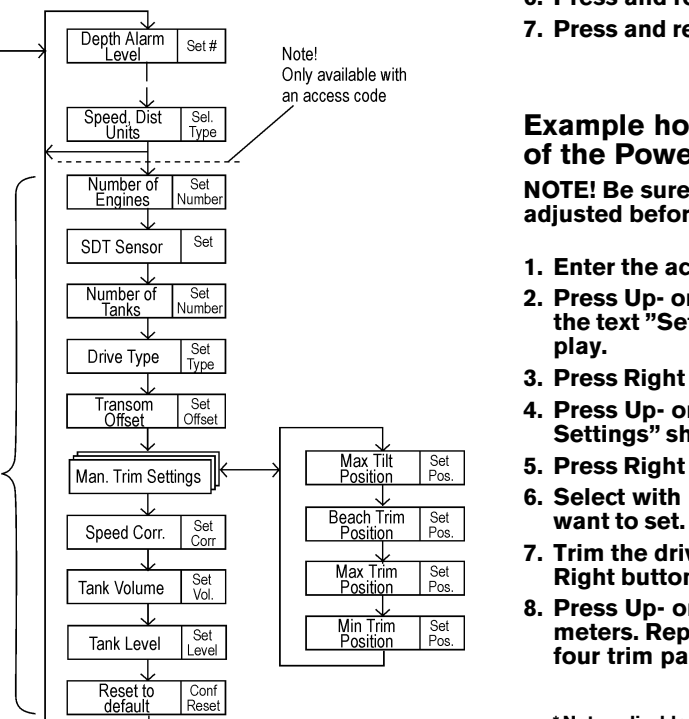Right button (enter, set)

### Setting options (intended for boat builders and authorized personal):
1. "Numbers of engines" (default: Single): At single installation, select "Single". At twin installation, define the HIU for port engine as "Master" and the HIU for starboard engine as "Slave".
2. "SDT Sensor" (default: Yes (Gas), No (D3)): Set if Multisensor is installed or not
3. "Numbers of tanks" (default: 1): Set how many fuel tanks which are connected to the HIU
4. "Drive type" (default: SX): Select type of sterndrive which is installed Inboard installation (default: No drive)
5. "Transom Offset" (default: 0): * Specify a correction value (=offset) for misaligned trim sensors or non-standard transom angles (standard transom angle: 13°).
6. "Manual trim settings" (default: according to the drive type selected): Define the four parameters of the drive trim (max. tilt, beach trim, max. trim and min. trim)
7. "Speed correction" (default: 0): Specify a correction factor depending which Speed sensor is installed
* Not applicable for inboard installation

8. "Tank volume": Is currently not supported by the system, and is for future expansion
9. "Tank level": Define 0% fuel level (default D3: 3-180 ohm, Gas: 240-30 ohm). Note that the Fuel level sender must be set in its 0% position at key-on.
10. "Reset to default": Reset all settings to predefined default values

### How to navigate on the menu to reach the setting options:

Settings → No Faults → Depth → Gauges

Depth Alarm Level → Set #
Speed, Dist Units → Set Type
Number of Engines → Set Number
SDT Sensor → Set Type
Number of Tanks → Set Number
Drive Type → Set Type
Transom Offset → Set Type
Man. Trim Settings → Max.Trim Position / Set Pos. / Beach Trim Position / Set Pos. / Max.Trim Position / Set Pos. / Min Trim Position / Set Pos.
Speed Corr. → Set Corr.
Tank Volume → Set Vol.
Tank Level → Set Level
Reset to default → Conf Reset

Note! Only available with an access code

Setting options intended for boatbuilders and authorized personal

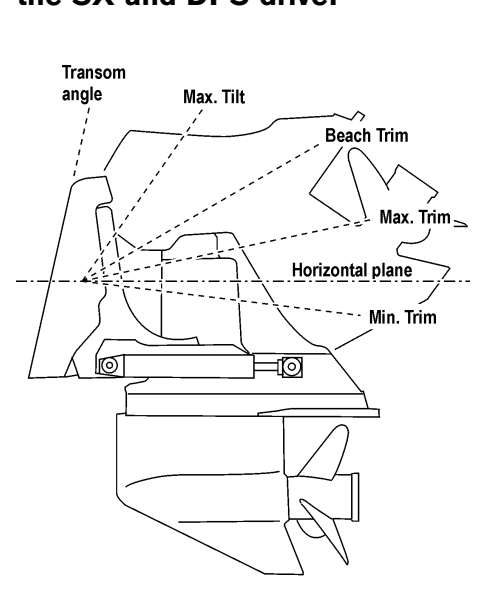* Not applicable for inboard installation

### The procedure to enter the access code:
1. Turn off the Key switch for at least 3 sec.
2. Press down Right button on the Button panel and keep it down while turning on power with the Key switch.
3. Release the Right button before the welcome screen disappears.
4. Wait until the welcome screen has disappeared.
5. Press and release the Right button once.
6. Press and release the Left button twice.
7. Press and release the Right button once.

### Example how to carry out manual settings * of the Power trim:
NOTE! Be sure that the Transom offset is correct adjusted before setting the trim of the drive.
1. Enter the access code if not already done.
2. Press Up- or Down button on the Button panel until the text "Settings" shows up on the Tachometer display.
3. Press Right button once.
4. Press Up- or Down button until the text "Man. Trim Settings" shows up.
5. Press Right button once.
6. Select with Up- or Down button which parameter want to set.
7. Trim the drive to the wanted position and press Right button once to set the parameter.
8. Press Up- or Down button for the other trim parameters. Repeat the procedures 6 and 7 until all the four trim parameters are set.
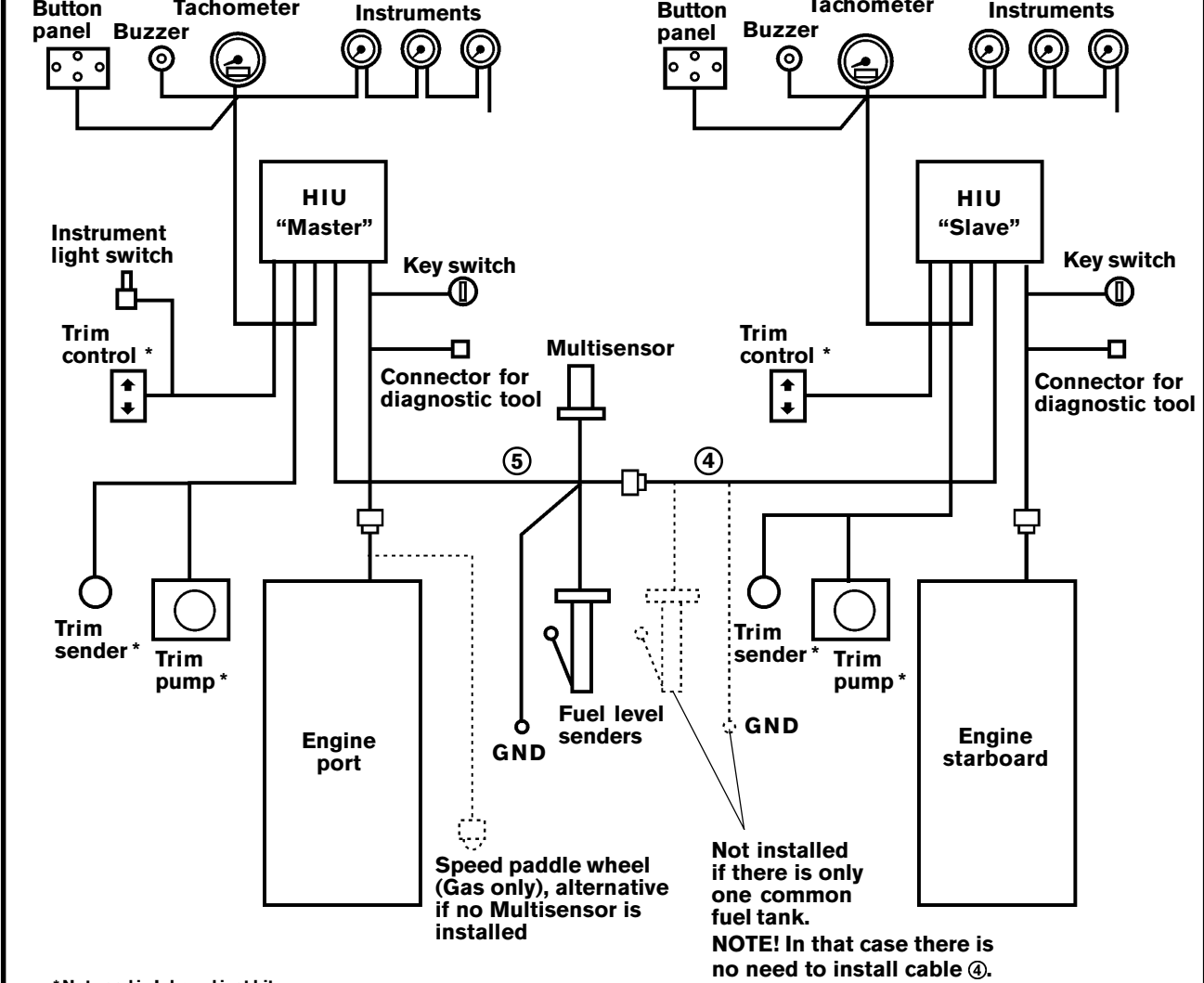* Not applicable for inboard installation

### Recommended trim limits of the SX and DPS drive:
Transom angle
Max. Tilt
Beach Trim
Max. Trim
Horizontal plane
Min. Trim

| Max. trim limits of drives at 13° Transom angle | SX | DPS |
|---|---|---|
| Max. Tilt | 55° | 55° |
| Beach Trim | 30° | 30° |
| Max. Trim | 12° | 6° |
| Min. Trim | –7° | –7° |

NOTE! Consider if there is a platform above the sterndrive when setting the max. tilt limit.

## Twin engine installation
Button panel, Tachometer, Buzzer, Instruments
HIU "Master"
Instrument light switch
Key switch
Trim control
Connector for diagnostic tool
Trim sender
Trim pump
Engine port
GND
Speed paddle wheel (Gas only), alternative if no Multisensor is installed
Fuel level senders
Multisensor
HIU "Slave"
Key switch
Trim control
Connector for diagnostic tool
Trim sender
Trim pump
Engine starboard
GND
Not installed if there is only one common fuel tank. NOTE! In that case there is no need to install cable ④.

* Not used in Inboard inst.kit.

# EVC^MC Installation Procedure, Electronic Vessel Control, Gas and D3

VOLVO PENTA