VOLVQ PENTA.

AS Volvo Penta SE-405 08 Goteborg, Sweden

Parts Bulletin

Group

Number Version

P-64-0

1 01

New QL Mechanical and Hydraulic Steering Systems

Models: QL Accessories

Distribution: Parts

Date: 01-2006

Binder: Parts

Replaces:

OL Mechanical Steering System

A new product range of mechanical steerings is now introduced and available for delivery. The new range comprises four steering gears, all using a Planetary Gear Design, as well as a new range of steering cables. For further details of the new product range (part numbers etc), please see product leaflet 7745828.

- As a replacement of the previous rear mount steering gear 853181, use the new gear 3818019 or 3818023 (Non-Feedback type), however be aware of that the new steering gears require another type of installation kit, using a different drill template.
- A new rear mounted gear "No-feedback type", is now part the product range.
- The two rear monted steering gears are also available for installation with the new tilt mechansm, allowing adjustable steering wheel angle (+1-24 degrees and five locking positions)
- The new steering cables also fit as replacement cables for the superseded mechanical steering gear 853181.

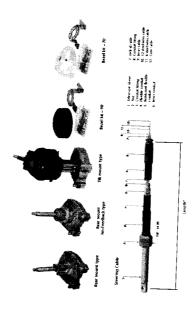
OL Hydraulic Steering System

A new product range of hydraulic steerings is now introduced and available for delivery. The new range comprises three types of helm pumps, i.e. front mount, rear mount and tilt mount. Each type is available with three different pump displacements, i.e. 28-, 33- and 39cm Irevulotion Also three steering cylinders are available, displacement 116-, 168- and 215 ern respectively. All three cylinders are intended for boats with rudder installation. For further details of the new product range (part numbers etc), please see product leafle t 7745828.

- The new helm pumps require a different template compared to the previous helm pump, 1140580
- The tilt mount pumps installed with the tilt mechanism, allow adjustable steering wheel angle (+1-24degrees and five locking positions)
- The cylinders are all of balanced type, i.e. equal number of turns lock-to-lock port to starboard and vice-versa.

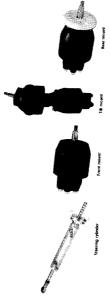
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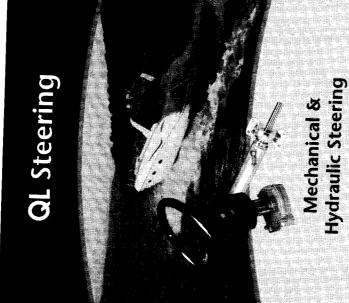


QL Hydraulic Steering

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Model		-					
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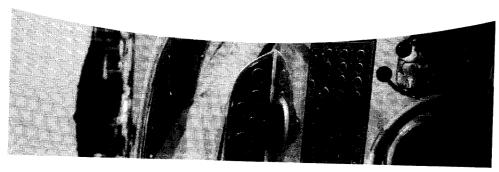












Select the appropriate steering system for your boat

QL steering systems include mechanical and hydradilic system and admit systems. The QL mechanical steering system to based on a planetary geat design that provides an optimum reduction ratio with a menimum of physical effort. Installation is simple and requires no subsequent adjustment. The QL thy valuality steering system offers a write range of helm pumps and globbest steering system offers a write range of helm pumps and controlled the purple of the systems. Steeling wheels are specially adapted to marine conditions, which means that they are aniemag-netic and manufactured from corrosion resistant materials and are suitable for use with the QL steering systems.

Note! Selection of the appropriate steering system is an important factor for the function and safety of your boat. We always recommend consulting qualified personnel when selecting, installing and maintaining a streeting system for your boat.

QL Mechanical Steering

The Questionard steering behin are available in four models, all under the first through our group with three aut models are the forth on the sail and at the same three rest and the same three rest and the created helm as in the design provides are not always and a same three accessing the sail and at the same three restains the sail and at the same three are sail when any which are the design provides and the sail and a sail

No-Feedback steering



Planetary Gear Design with three satellite gears that rotate on their axis and of the same time rotate around the central nem axis

et.) or internal forces such as rudder torque originated by the way of realizon or the propeller with the Q1 Non-feedback planted as patient as the back applied to the tener of signstance are obtained as device ablows the behin half to bek until turned by the off offers, multi-hing place beach direction and ending the feedback loads on the steering cade. The mechanism lock in disrespend when the other turns its wives lim for the disrespend when the driver turn its wives lim for the feedback loads on the steering cade. The mechanism is clear in disrespend when the driver turn its wives lim for the market diving a boat size in and state; if in order market diving a boat size in and state; if it is not a feed to see that the case is seen and the size of t

Adjustable steering wheel

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- Rear mount Planetary Helm Gear.
- Rear mount Planetary Helm Gear of No-Feedback type. Planetary Helm Gear for filt mount.
- Planetary Helm Gear Helm of No-Feedback type for Tilt mount.

All four models offer the following features and technical specifications: Features QL Mechanical Steering Fast connection and simple installation.

* All stainless steet cable output ends * Standard 3/4" tapered shaft · Lock-to-lock steering wheel turns approx 3,8

· Corrosion resistant materials

Maximum allowable stressing wheel demotis: 406 mm (167) Stroke 228 mm (9")

Minutes steeling cable bend radius 200 mm (7,97)

Optional 90- or 70-degree matalia CE and ABYC. approved

QL Hydraulic Steering

A hydradic steering system constits of a steering pump, a cyfurber the file that usder, hydradic fact and the con-rected synon taking lunder operating conditions, a time file a telening shorted will send the control fact that the steering sometimes, a time into one of the two convected hydradic fines. The flast will be pumped not one of the chambers of the cyfielder and either extend or retact the cyfinder cold, depending on the steering wheel relation.

The fluid garing out from the cortex chamber of the cyt-medin refurence to the belinn was been being systatic.

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We find the components the bear of the opponent. The Bear of the components being a hydraulic pump and a welve search? The was absenting present to coughout fluid from returning along the same line, undelst seach stee-the radder or propalation must The cyteries are double only gathon, letter beakensed on underlandered. A balanced cythele mass equal number of turns lock-to-lock, port of sectional and vice-serve, while a ministanced near or sectional and vice-serve, while a ministanced mean or expensed and vice-serve, while a ministanced mean or exclusion and vice-serve, while and other balanced system.



To be considered when selecting a hydraulic steering system

The strength request to steer a local equipped with a yndhaulic steering pythen is removed proportional to the unitaries of the strength of th



Adjustable steering wheel

Features QL Hydraulic Steering.

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- Front mount helm pump • Rear mount helm pump
- Tilt mount helm pump
 Steering cylinder
- * Buff-in lock valve for positive nuclder lock All balanced cylinders for radder installation Standard 3/4" tapered stainless steel shaft integral relief valve for over-pressure protection * Ball bearing piston race Compact design
- Cast iron rotor for greater durability and langer life * 1/4" NPT fittings for 3/8" tube · Complete with elbow littings • CE and ABYC approved

Easily accessible lock valve and shaft stall for replacement



VOLVO PENTA.

AS Volvo Penta SE-405 08 Goteborg, Sweden PartsBulletinGroupNumber VersionP-97-11

QL Discontinues Marine Electronics Range

Models: QL Accessories

Distribution: Parts Date: 12-2005 Binder: Parts Replaces:

The rarge of marine navigational electronics was introduced 2000, but unfortunately the sales volume has been developing very poor since then. In addition to that, our supplier is now renewing several of the main components, which have a major impact on the current range offered by Volvo Penta.

This means that when sold out there will be no replacement item for the products below:

PIN	Description
41103700	Antenna
41103701	Instrument
41103702	Imouls sensor
41103703	Sensor
41103705	Sensor
41103706	Bracket
41103707	Cable
41103708	Cable
41103709	Cable
41103710	Cable clamp
41103711	Sensor
41103712	Sensor
41103713	Instrument
41103714	Instrument
41103715	Instrument