

## BLEEDING THE CLUTCH HYDRAULIC SYSTEM

For Greenline 33 and 40

**OPOZORILO: Opisani postopek lahko izvaja samo usposobljeno osebje.!**

**Ta postopek zahteva dve osebi.**

### Seznam opreme in materialov, potrebnih za izvedbo postopka odzračevanja

- zavorna tekočina DOT4,
- prozorno plastično cev (notranji premer fi-4mm),
- posoda (prozorna plastenka) za zbiranje odvečnega olja pri odzračevanju,
- viličasti ključ 11mm, viličasti ključ 13mm,
- moment ključ 2 ÷ 20 Nm, visok natični ključ 11mm in nizek natični ključ 13mm,
- dvoje kombiniranih klešč (ene naj bodo koničaste kombinirane klešče),
- kos suhe čiste krpe.

**WARNING: Only qualified personnel should perform this operation!**

**This task requires two persons.**

### List of accessories and material needed to complain the task:

- brake fluid DOT4,
- transparent plastic hose (inner diameter fi-4mm),
- container (transparent plastic bottle) for excessive oil collection during bleeding process,
- fork wrench 11mm, fork wrench 13mm,
- torque wrench 2÷20 Nm; deep socket 11mm and normal socket 13mm,
- two pairs of pliers (one pair preferably needle pliers),
- a piece of clean dry cloth.

### Bleeding the clutch hydraulic system procedure

Stikalo **48V HYBRID DRIVE SWITCH** mora biti izklopljeno.

Stikalo **DIESEL / ELECTRIC HYBRID SWITCH** preklapimo v **DIESEL** (Slika 31). S tem zagotovimo, da je hidravlični sistem odprt in v sistemu ni pritiska.

The **48V HYBRID DRIVE SWITCH** must be set to **OFF**.

Set the **DIESEL / ELECTRIC HYBRID SWITCH** to **DIESEL** (Figure 31). This assures that there is no pressure in the clutch hydraulic actuating system and the system is opened.

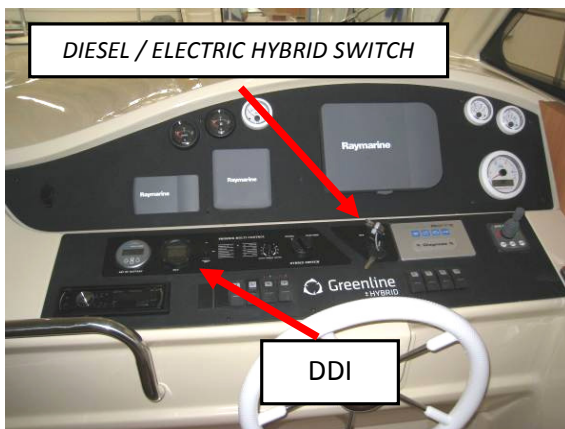


Figure 1

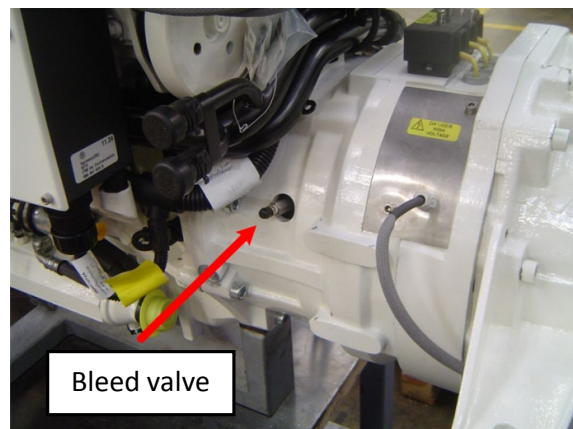


Figure 2

Preverite nivo zavorne tekočine v posodi – nivo tekočine mora biti med **min** in **max** indikatorjem na posodi (Slika 33). Na aktuatorju odstranite sornik, ki povezuje ročico z batnico hidravličnega cilindra (Slika 33). Potegnite batnico ven (Slika 35). Nataknite prozorno cev na ventil za odzračevanje (Slika 32) in vstavite drugi konec cevi v prazno posodo za zbiranje odvečnega olja. S krpo zaščitite ohišje (Slika 34). Dopolnite ali napolnite posodo z zavorno tekočino.

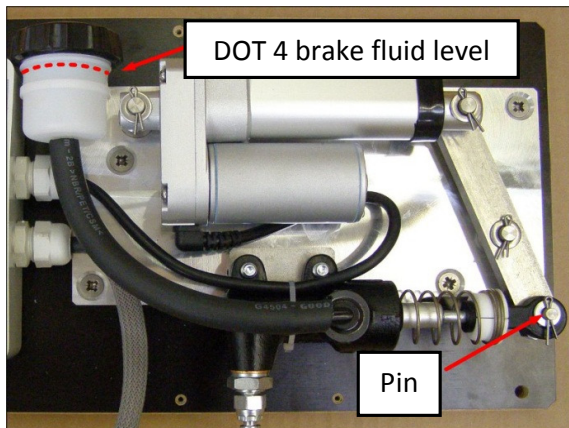


Figure 3

Check brake fluid level in the container – must be between **min** and **max** indicator (Figure 33). On the actuator remove the pin connecting lever and the master cylinder piston rod (Figure 33). Pull the piston rod OUT (Figure 35). Put transparent hose on bleed valve (see location on Figure 32) and insert the other end of the hose in an empty bottle. Protect housing with a piece of cloth (Figure 34). Add or fill the brake fluid.



Figure 4

Nato naredite naslednje:

- **Odvijte** odzračevalni ventil na hidravličnem priključku z viličastim ključem 11mm (Slika 34) in **potisnite** batnico noter (Slika 35).
- **Privijte** odzračevalni ventil in **potegnite** batnico ven (Slika 35).

Ta postopek ponavljajte toliko časa dokler se zračni mehurčki pojavljajo v prozorni cevi. Pri izvajanju postopka je potrebno hidravlični priključek zavarovati, z viličastim ključem 13mm, pred odvitjem in pred prekomernim privitjem. Potrebno je stalno preverjati raven zavorne tekočine, ki ne sme biti nikoli nižja od 1/3 višine posode.

Ko je sistem odzračen, nudi močan odpor, pri potisku z roko navznoter. Privijte odzračevalni ventil z navorom  $13^{+2}$  Nm, pri tem pa, z viličastim ključem 13mm, zavarujte hidravlični priključek pred prekomernim privitjem (Slika 34).

Odstranite cev in vstavite sornik, podložko in razcepko na svoje mesto. Po potrebi dodajte zavorno tekočino v posodo.

Then do the following:

- **Loosen** the bleed valve on the hydraulic connector with fork wrench 11mm (Figure 34) and **push** the piston rod **IN** (Figure 35).
- **Tighten** the bleed valve and **pull** the piston rod **OUT** (Figure 35).

Repeat this procedure as long as air bubbles appear in the transparent hose. While performing this operation connector must be secured with wrench 13mm against unscrewing and over tightening. Also constantly check brake fluid level which should never fall below 1/3 of the container.

When the system is bled, master cylinder piston rod becomes very stiff to push **IN** by hand. Tighten the bleed valve with torque  $13^{+2}$  Nm while securing the connector with wrench 13mm against over tightening (Figure 34).

Remove the hose and put the pin, washer and split pin back to their place. If necessary, add brake fluid in the container.

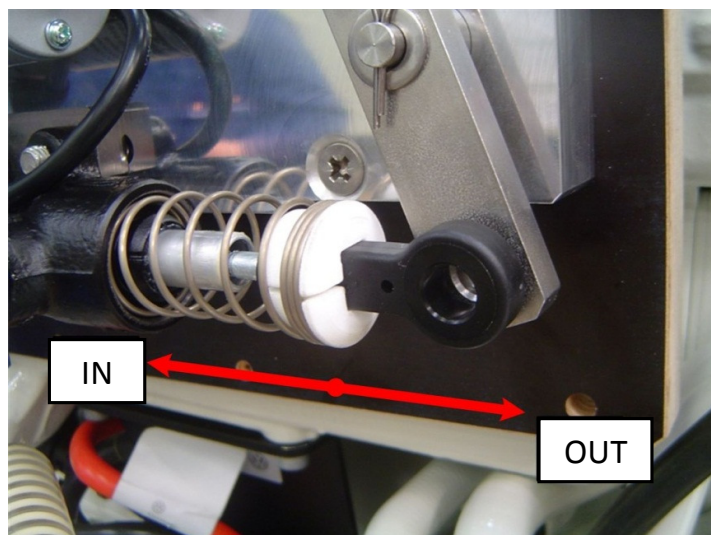


Figure 5

### **Clutch function test**

Kako preveriti, če je sklopka deaktivirana:

- stikalo **DIESEL / ELECTRIC HYBRID SWITCH** prekopimo v **ELECTRIC**,
- E-motor mora delovati z menjalnikom v nevtralnem položaju pri maksimalnih vrtljajih.
- DDI mora pri tem delovanju prikazovati naslednje vrednosti:
  - **Minimalno 1400 rpm.**
  - **Maksimalni baterijski tok 40A.**

How to check if the clutch is disengaged:

- -set the **DIESEL / ELECTRIC HYBRID SWITCH** to **ELECTRIC**,
- E-motor should be run at gearbox neutral position and full throttle – max. revolutions.
- Data display interface (DDI) must display:
  - **E-motor speed min. 1400 rpm.**
  - **Max. battery current 40A.**