

INSTALLATION INSTRUCTIONS

(ENG) **Installation instructions**
Battery Sensor

(GER) **Einbauanleitung**
Batteriegeber

(FRE) **Instructions de montage**
Capteur de batterie

(SPA) **Instrucciones de montaje**
Sensor de batería

(ITA) **Istruzioni di montaggio**
Sensore batteria

(SWE) **Monteringsanvisning**
Batterisensor

(BZS) **Instruções de instalação**
Sensor da bateria

(RUS) **Инструкция по установке**
Датчик батареи

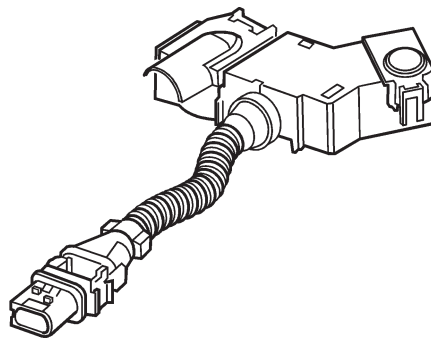
(CHI) **安装须知**
电池传感器

(JPN) **取付説明書**
バッテリーセンサー

(TUR) **Montaj talimatları**
Akü Sensörü

تعليمات التركيب
تيراطبلا رعشتسم

(ARA)



VOLVO
PENTA

⚠️ IMPORTANT!

This kit with its accompanying instructions is produced for Volvo Penta's service workshops, boat-builders, machine manufacturers and other authorized workshops which have personnel with qualified professional training.

The installation instructions are only produced for professional use and are not intended for non-professional use. Volvo Penta will not assume any liability whatsoever for damage incurred, either damage to materials or personal injury, which may result if the installation instructions are not followed or if the work is carried out by non-professional personnel.

⚠️ WICHTIG!

Dieser Satz mit vorliegender Einbauanleitung ist für Volvo Penta Kundendienst-werkstätten, Werften, Maschinenbauer und für andere ermächtigte Werkstätten mit beruflich geschultem Personal vorgesehen.

Die Einbauanleitung ist nur für den berufsmäßigen Gebrauch vorgesehen und nicht für unprofessionelle Anwendung gedacht. Volvo Penta übernimmt nicht die geringste Haftung für irgendwelchen Schäden an Personen oder Sachen, die als Folge einer Nichtbefolgung der Einbauanleitung oder wegen Ausführung der darin beschriebenen Arbeiten durch nicht beruflich geschulte Personen entstehen.

⚠️ IMPORTANT!

Ce kit, avec instructions de montage, est destiné aux ateliers de service Volvo Penta, aux constructeurs de bateaux et autres ateliers de construction agréés avec un personnel qualifié.

Les instructions de montage sont exclusivement conçues pour une utilisation professionnelle. Volvo Penta se dégage de toute responsabilité pour d'éventuels endommagements, corporels ou matériels, résultant du non respect des instructions ou d'un travail effectué par un personnel non compétent.

⚠️ IMPORTANTE!

El presente juego con las instrucciones de montaje se destina a los talleres de servicio Volvo Penta, constructores de embarcaciones y máquinas y a otros talleres autorizados que cuentan con personal capacitado.

Las instrucciones de montaje están destinadas únicamente para uso profesional, por lo que Volvo Penta no aceptará responsabilidad alguna por cualquier daño, tanto personal como material, resultado de no haber seguido las instrucciones de montaje o de haber sido efectuado el trabajo por personal que no está debidamente capacitado.

⚠️ IMPORTANTE!

Questo kit e le relative istruzioni di montaggio sono stati realizzati per le officine di servizio Volvo Penta, i cantieri, i fabbricanti di macchine e tutte le altre officine autorizzate il cui personale ha ricevuto un addestramento qualificato e specializzato.

Le istruzioni di montaggio sono state redatte esclusivamente per uso professionale e non sono adatte all'uso non professionale. La Volvo Penta non si assume alcuna responsabilità per eventuali danni alle cose o alle persone, derivanti da trascuratezza nel seguire le istruzioni di montaggio oppure dall'esecuzione dei lavori da parte di personale non qualificato.

⚠️ VIKTIGT!

Denna sats med föreliggande monteringsanvisning är framtagen för Volvo Pentas serviceverkstäder, båtbyggare, maskintillverkare och övriga auktoriserade verkstäder som har personal med kvalificerad fackutbildning.

Monteringsanvisningen är enbart framtagen för yrkesbruk och är inte avsedd för icke yrkesmässig användning. Volvo Penta påtager sig inget som helst ansvar för eventuella skador, såväl materiella som personskador, som kan bli följden om monteringsanvisningen ej följs, eller om arbetet utförs av icke yrkeskunnig personal.

⚠️ IMPORTANTE!

Este lote, juntamente com as instruções que o acompanham, é produzida para as oficinas de serviço da Volvo Penta, construtores de barcos, fabricantes de máquinas e outras oficinas autorizadas que tenham pessoal com treinamento profissional qualificado.

As instruções de instalação são produzidas apenas para uso profissional e não se destinam ao uso não profissional. A Volvo Penta não assumirá nenhuma responsabilidade por eventuais danos, sejam danos materiais ou lesões corporais, que possam ser resultado de falha em seguir as instruções de instalação ou se o trabalho for realizado por pessoal não profissional.

⚠️ ВАЖНОЕ ЗАМЕЧАНИЕ!

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⚠️ 重要事項！

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安装须知仅供专业使用，不可进行非专业使用。沃尔沃遍达对因未遵循安装须知或由非专业人员操作可能导致的任何材料损坏或人身伤害不承担任何责任。

⚠️ 重要!

取説を同梱した本キットは、有資格で職業訓練を受けた要員が駐在する、ボルボペンタの整備工場、ボートメーカー、機械メーカー、その他の認定工場で製造されます。

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⚠️ ÖNEMLİ!

Bu kit, yanında gelen talimatlarla birlikte, profesyonel eğitim almış personeli bulunan Volvo Penta yetkili servisleri, tekne üreticileri, makine üreticileri ve diğer yetkili servisler için üretilmiştir.

Montaj talimatları sadece profesyonel kullanım için hazırlanmıştır ve profesyonel olmayan kullanım için değildir. Volvo Penta, montaj talimatlarına uyulmaması veya çalışmanın profesyonel olmayan personel tarafından gerçekleştirilmesi durumunda, malzemelerin hasar görmesi olsun yaralanmalar olsun, meydana gelebilecek zararlardan hiçbir şekilde sorumlu tutulamaz.

⚠️ هام!

• تم إنتاج هذا الطقم بالإضافة إلى التعليمات المرافقة الخاصة به لورش إصلاح خدمة Volvo Penta ولمصنعي القوارب والشركات المصنعة للمكينات وورش الإصلاح الأخرى المعتمدة التي يعمل بها موظفون يتمتعون بالتدريب المهني المؤهل.

• تعليمات التركيب مخصصة للاستخدام الاحترافي فقط وغير مصممة للاستخدام غير الاحترافي. لن تتحمل Volvo Penta أي مسؤولية من أي نوع عن التلفيات المتكبدة، سواء التلف في المواد أو الإصابة الشخصية، التي قد تحدث نتيجة عدم اتباع تعليمات التركيب أو إذا تم تنفيذ الأعمال بمعرفة أفراد غير مهنيين.

Standard torque Nm (lbf ft)
Standarddrehmoment Nm (lbf ft)
Couple standard Nm (lbf ft)
Pares estándar Nm (lbf ft)
Coppia standard Nm (lbf ft)
Standard moment Nm (lbf ft)
Padrão de torque Nm (ft lbf)
Стандартный момент Nm (lbf ft)
标准扭矩Nm (磅力英尺)
基準トルクNm (lbf ft)
Standart tork Nm (lbf ft)
العزم القياسي بالنيوتن متر (رطل/قدم)

M6	10 (7.4 lbf ft)
M8	24 (17.8 lbf ft)
M10	48 (35.5 lbf ft)
M12	85 (63 lbf ft)
M14	140 (103.6 lbf ft)
M16	220 (162.8 lbf ft)
M18	290 (214.6 lbf ft)
M20	430 (318.2 lbf ft)

Fig. 1

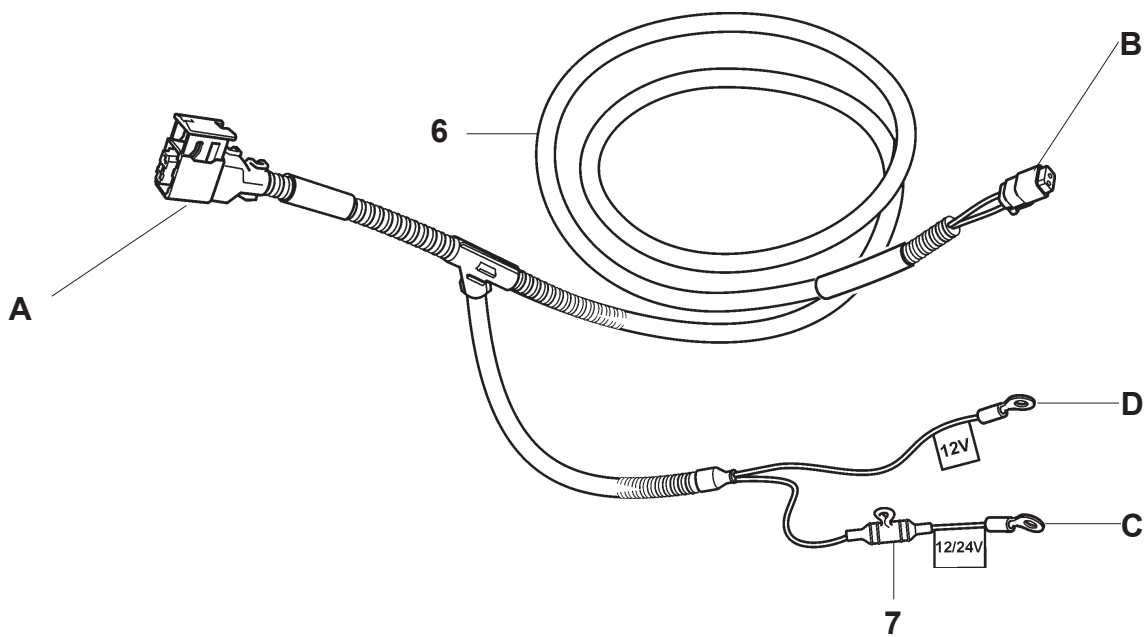
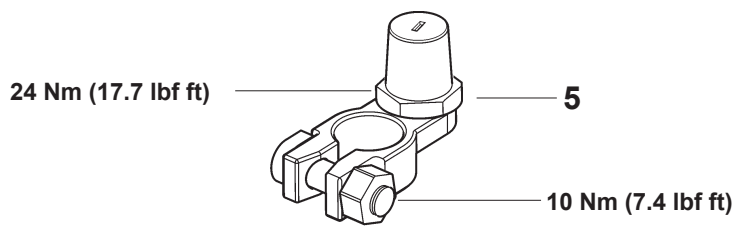
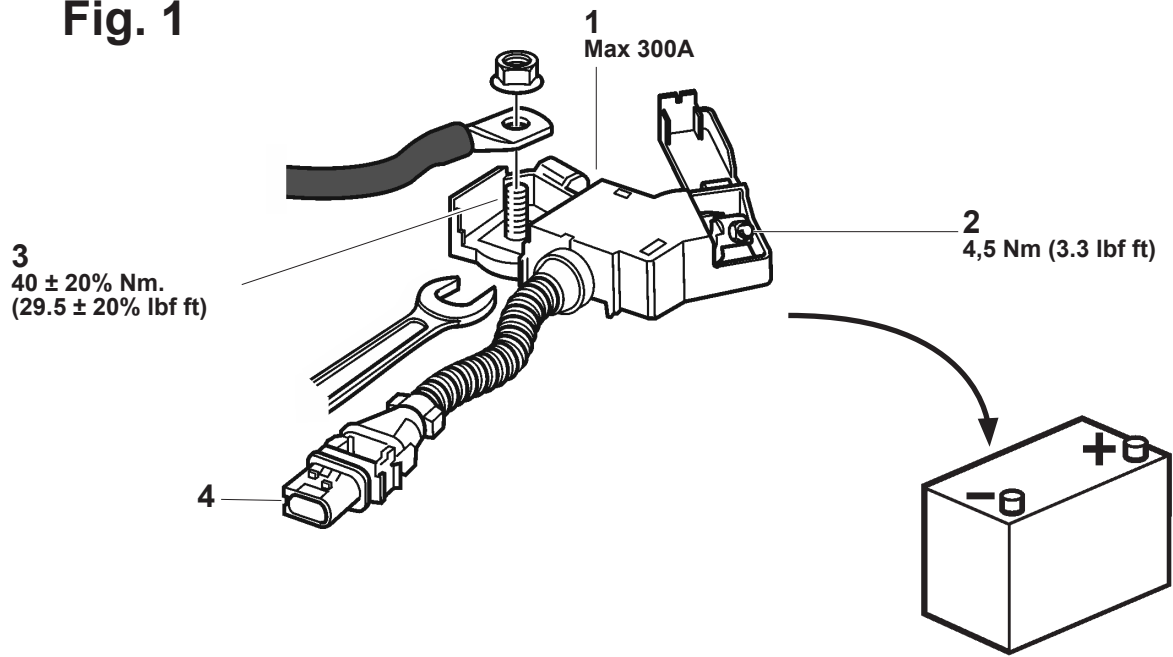


Fig. 2

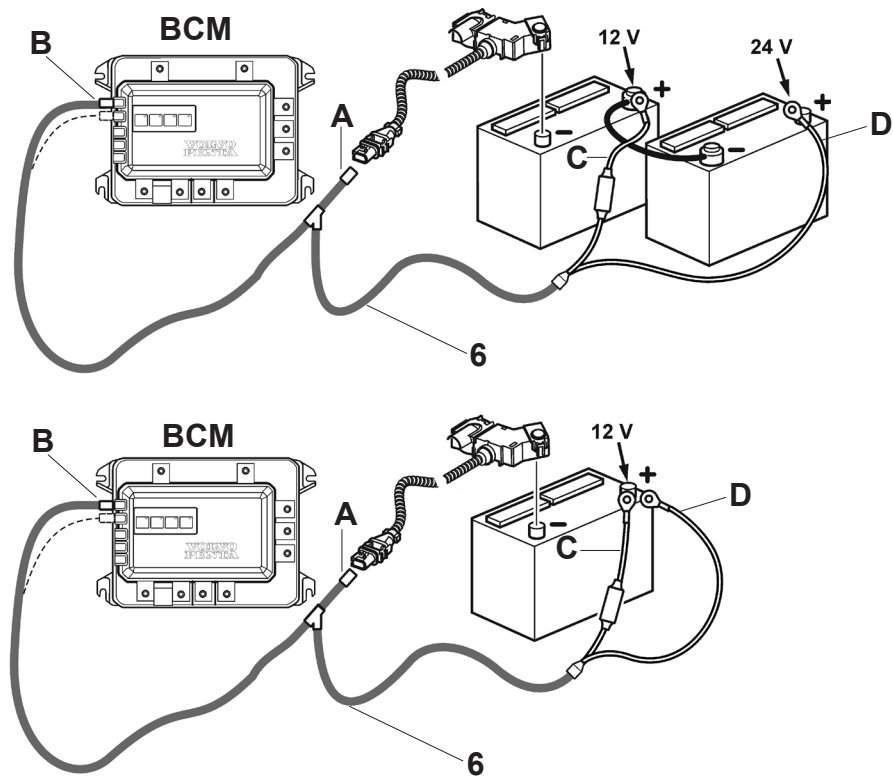
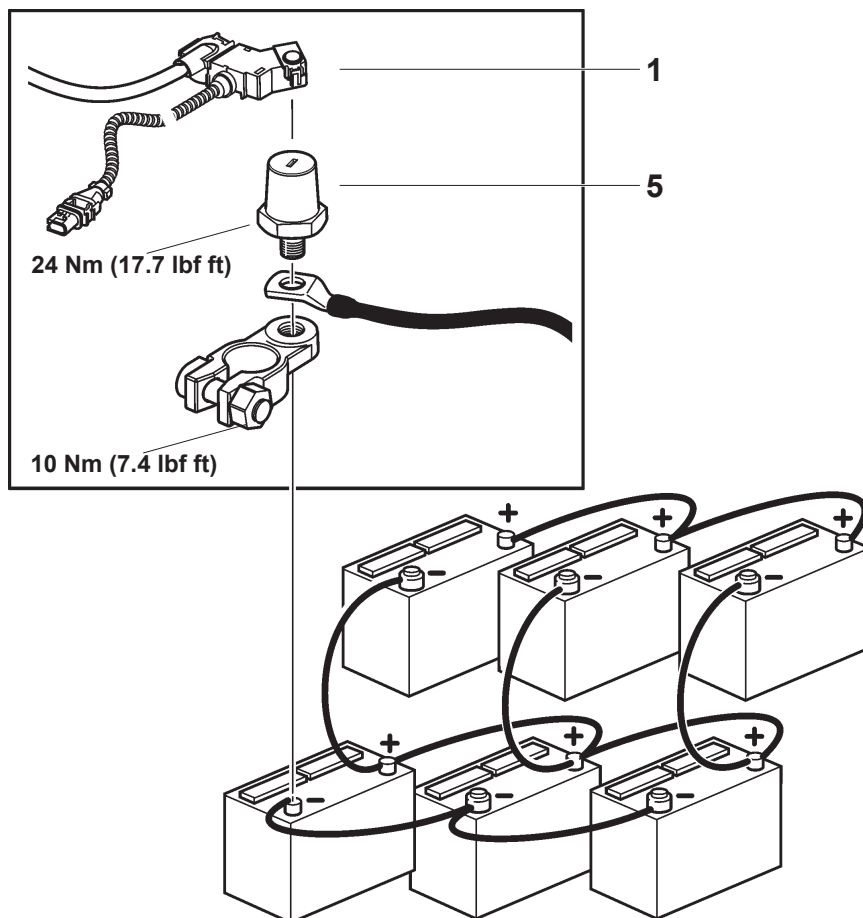


Fig. 3



ENG

Read through the instructions before work is begun. Check that all parts are included in the package.

Items in illustrations in the instructions may differ from the model being worked on. The illustrations are used for different instructions and may therefore vary between engine models. The essential information is correct.

This kit contains:

Designation	Quantity	Pos. in fig
Battery Sensor, Max 300A	1	1
Battery clamp*	1	2
Screw M10x20 mm*	1	3
Cable*	1	4
Battery pole adapter	1	5
Adapter-wiring harness	1	6
Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque $40 \pm 20\%$ Nm ($29.5 \pm 20\%$ lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).
3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

4. The adapter-wiring harness connections, Fig. 2:
 - (A) Connect to the Battery Sensor.
 - (B) Connect to the BCM: Inputs BS1 och BS2.

12V: (C) and (D) connect to 12 V positive battery pole.
24V: (C) 12V connects to 12V positive pole and (D) 24V connects to 24V positive pole.
5. Battery pole adapter, mount as in Fig. 3.
 Adapter: Tightening torque 24 Nm (17.7 lbf ft).
 Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
 To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

WARNING!

Do not touch the connections during the start attempt: Risk of arcing. Do not bend over any of the batteries either.

GER

Anweisung vor Aufnahme der Arbeit vollständig durchlesen. Prüfen, dass alle Teile in dem Paket enthalten sind.

Da die Bilder in den Service-Unterlagen bei verschiedenen Motormodellen verwendet werden, können einzelne Teile von der jeweiligen Ausführung abweichen. Die wesentlichen Informationen stimmen jedoch stets überein.

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 To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

WICHTIG!

Während des Startversuches dürfen die Anschlüsse nicht versetzt werden (Gefahr von Funkenbildung). Neigen Sie sich nicht über eine der Batterien.

FRE

Lire toutes les instructions avant de commencer le travail. Vérifier que toutes les pièces sont incluses dans le lot.

Certains détails dans les illustrations de ces instructions peuvent être différents du modèle sur lequel s'effectuent les travaux. Les illustrations sont utilisées dans différentes instructions et peuvent donc varier entre les différents modèles de moteurs. Les informations principales restent cependant toujours exactes.

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Location

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- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

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1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque $40 \pm 20\%$ Nm ($29.5 \pm 20\%$ lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

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5. Battery pole adapter, mount as in Fig. 3.

Adapter: Tightening torque 24 Nm (17.7 lbf ft).
 Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
 To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

AVERTISSEMENT!

Ne pas toucher aux connexions pendant la tentative de démarrage (risque d'étincelle).
 Ne jamais se pencher au-dessus des batteries.

SPA

Antes de iniciar el trabajo véase toda la instrucción. Comprobar que el embalaje contiene todas las piezas.

Hay detalles en las figuras incluidas en estas instrucciones que pueden diferir del modelo con el que están trabajando. Las figuras se usan en instrucciones diferentes y, por lo tanto, pueden variar entre varios modelos. Lo esencial, sin embargo, es correcto.

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Adapter: Tightening torque 24 Nm (17.7 lbf ft).
 Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
 To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

¡ADVERTENCIA!

Durante la tentativa de arranque no hay que tocar las conexiones (por el riesgo de formación de chispas).
 No inclinarse sobre las baterías.

ITA

Leggere attentamente le istruzioni prima di iniziare l'installazione. Controllare che nella confezione vi siano tutti i pezzi.

I dettagli nell'immagine contenuta in queste istruzioni possono essere diversi dal modello con cui si lavora. Le immagini ricorrono in vari fogli di istruzioni pertanto possono variare fra i diversi modelli di motore. Le informazioni basilari sono però corrette.

This kit contains:

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Battery clamp*	1	2
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* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque 40 ± 20% Nm (29.5 ± 20% lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).
3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

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 - Adapter: Tightening torque 24 Nm (17.7 lbf ft).
 - Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
 - To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

⚠ AVVERTENZA!

Non toccare i contatti durante il tentativo di avviamento (rischio di scintille). Non sporgersi sopra le batterie.

SWE

Läs igenom hela anvisningen innan arbetet påbörjas. Kontrollera att alla delar ingår i paketet.

Detaljer på bilder i denna instruktion kan skilja från den modellen ni arbetar med. Bilderna återanvänds i olika instruktioner och kan därför variera mellan olika motor-modeller. Den väsentliga informationen är korrekt.

Denna sats innehåller:

Benämning	Antal	Pos. i figur
Batterisensor, Max 300A	1	1
Batteriklämma*	1	2
Skruv M10x20 mm*	1	3
Kabel*	1	4
Batteripol-adapter	1	5
Adapterkablage	1	6
Säkring**	1	7
Monteringsanvisning	1	-

* Ingår i batterisensor

** Ingår i adapterkablage

Placering

- Gemensam minuskabel från alla laster i installationen ansluts till batterisensorn. Batterisensorn, Fig. 1 (1) monteras på batteriets minuspol.
- Batterisensorer från två olika batterigrupper, såsom förbrukarbatteri eller startbatteri, kan anslutas till samma BCM (Battery Control Module)
- Dra inte kablarna i tvära böjar. Se till att det finns tillräcklig kabellängd så att enheten kan lossas för service.

Montering

1. Anslut först gemensam minuskabel från installationens alla laster till batterisensorns M10-skruv enligt Fig. 1 (3). Använd en fast nyckel, 20 mm (0.78") som mothåll på undersidan av batterisensorn enligt Fig. 1. Åtdragningsmoment 40 ± 20% Nm (29.5 ± 20% lbf ft)

OBS! Anslut inga laster direkt till batteriets minuspol.

2. Montera batterisensorn på batteriets minuspol med batteriklämmans mutter, Fig. 1 (2). Åtdragningsmoment 4,5 Nm (3.3 lbf ft).

3. Använd batteripol-adaptern (5) om batterisensorn inte passar på batteriets pol och om en batterigrupp ska övervakas. Se punkt 5 nedan.

Anslutningar

4. Adapterkablage, anslutningar enligt Fig. 2:

(A) Ansluts till batterisensorn.

(B) Ansluts till BCM: Ingångar BS1 och BS2.

12V: (C) och (D) ansluts till 12 V positiv batteripol.

24V: (C) 12V ansluts till 12V pluspol och (D) 24V ansluts till 24V pluspol.

5. Batteripol-adapter, montera enligt Fig. 3.
 - Adapter: Åtdragningsmoment 24 Nm (17.7 lbf ft).
 - Polsko: Åtdragningsmoment 10 Nm (7.8 lbf ft).
 - För mätning av hela batterigruppen, montera batterisensorn på det första eller sista batteriets minuspol i gruppen.

OBS! En batterigrupp ska bestå av identiska batterityper.

⚠ VARNING!

Rubba inte anslutningarna under startförsök (risk för gnistbildning). Stå inte lutad över batterierna.

BZS

Ler todas as instruções antes de começar o trabalho.
Verificar se todas as peças estão incluídas no pacote.

Itens constantes nas ilustrações destas instruções podem diferir do modelo no qual se está trabalhando. As ilustrações são usadas para diferentes instruções e podem variar entre os modelos de motores. As informações essenciais estão corretas.

This kit contains:

Designation	Quantity	Pos. in fig
Battery Sensor, Max 300A	1	1
Battery clamp*	1	2
Screw M10x20 mm*	1	3
Cable*	1	4
Battery pole adapter	1	5
Adapter-wiring harness	1	6
Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque 40 ± 20% Nm (29.5 ± 20% lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).
3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

4. The adapter-wiring harness connections, Fig. 2:
 - (A) Connect to the Battery Sensor.
 - (B) Connect to the BCM: Inputs BS1 och BS2.

12V: (C) and (D) connect to 12 V positive battery pole.
24V: (C) 12V connects to 12V positive pole and (D) 24V connects to 24V positive pole.
5. Battery pole adapter, mount as in Fig. 3.
Adapter: Tightening torque 24 Nm (17.7 lbf ft).
Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

⚠ AVISO!

Não tocar na conexão durante a tentativa de dar partida:
Risco de formação de arco. Não se inclinar sobre as baterias.

RUS

Перед началом работы внимательно прочтите данную инструкцию.

Проверьте наличие всех деталей в комплекте.

Детали, изображённые на иллюстрациях в данной инструкции, могут отличаться от деталей конкретной модели. Эти иллюстрации используются для разных инструкций, поэтому могут изменяться в зависимости от модели двигателя. Однако основная информация соответствует действительности.

This kit contains:

Designation	Quantity	Pos. in fig
Battery Sensor, Max 300A	1	1
Battery clamp*	1	2
Screw M10x20 mm*	1	3
Cable*	1	4
Battery pole adapter	1	5
Adapter-wiring harness	1	6
Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque 40 ± 20% Nm (29.5 ± 20% lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

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3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

4. The adapter-wiring harness connections, Fig. 2:
 - (A) Connect to the Battery Sensor.
 - (B) Connect to the BCM: Inputs BS1 och BS2.

12V: (C) and (D) connect to 12 V positive battery pole.
24V: (C) 12V connects to 12V positive pole and (D) 24V connects to 24V positive pole.
5. Battery pole adapter, mount as in Fig. 3.
Adapter: Tightening torque 24 Nm (17.7 lbf ft).
Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

⚠ ОСТОРОЖНО!

Не трогайте электрические соединения во время попытки запуска: Опасность образования электрической дуги. Не наклоняйтесь над батареями.

CHI

开始工作前，通读全部安装须知。
检查并确认所有零件都在此套件内。

本说明书图示中的零件与正在使用的模块可能有所不同。
图示针对各种不同的安装须知，因此不同发动机模块图示
之间可能存在差异。但基本信息是正确的。

This kit contains:

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Screw M10x20 mm*	1	3
Cable*	1	4
Battery pole adapter	1	5
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Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque 40 ± 20% Nm (29.5 ± 20% lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).

3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

4. The adapter-wiring harness connections, Fig. 2:
(A) Connect to the Battery Sensor.
(B) Connect to the BCM: Inputs BS1 och BS2.
12V: (C) and (D) connect to 12 V positive battery pole.
24V: (C) 12V connects to 12V positive pole and (D) 24V connects to 24V positive pole.
5. Battery pole adapter, mount as in Fig. 3.
Adapter: Tightening torque 24 Nm (17.7 lbf ft).
Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.



警告!
在启动尝试过程中不要接触连接：电弧危险。
不要弯曲任何电池。

JPN

ヒント: 指示を注意深く読んでから作業を開始してください。
部品がすべて同梱されているか確認してください。

本書の図に示されている部品は、作業している機種と詳細が異なる場合がある。図は複数の取扱説明書に使用されているため、エンジン形式によって詳細が異なる場合がある。しかし、基本的な情報は共通である。

This kit contains:

Designation	Quantity	Pos. in fig
Battery Sensor, Max 300A	1	1
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Screw M10x20 mm*	1	3
Cable*	1	4
Battery pole adapter	1	5
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Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque 40 ± 20% Nm (29.5 ± 20% lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).

3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

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(A) Connect to the Battery Sensor.
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12V: (C) and (D) connect to 12 V positive battery pole.
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5. Battery pole adapter, mount as in Fig. 3.
Adapter: Tightening torque 24 Nm (17.7 lbf ft).
Pole shoe: Tightening torque 10 Nm (7.8 lbf ft).
To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.



警告
始動を試みている間は接続部に触れないでください。
アークが発生するおそれがあります。
バッテリーの上にかがみこまないでください。

TUR

Çalışmaya başlamadan önce tüm talimatları okuyun.
Bütün parçaların pakette yer aldığını kontrol edin.

Bu talimattaki resimlerde gösterilen parçalar üzerinde çalışılan modelden farklı olabilir. Resimler farklı talimatlar için kullanılmıştır ve bu nedenle motor modellerine göre farklılıklar gösterebilir. Temel bilgiler doğrudur.

This kit contains:

Designation	Quantity	Pos. in fig
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Cable*	1	4
Battery pole adapter	1	5
Adapter-wiring harness	1	6
Fuse**	1	7
Installation instructions	1	-

* Included with Battery Sensor

** Included with Adapter-wiring harness

Location

- Connect the common negative wire from loads to the Battery Sensor's. Mount the Battery Sensor, Fig. 1 (1) on the negative battery pole.
- Battery Sensors from two different battery groups, such as Accessory battery or Starter battery, can be connected to the same BCM (Battery Control Module)
- Do not run cables with sharp bends. Make sure that there is sufficient cable to allow the unit to be removed for service.

Installation

1. First, connect the common negative cable from loads to the Battery Sensor's M10 screw as in Fig. 1 (3). Use a fixed spanner, 20 mm (0.78") as counter hold underneath the Battery Sensor as in Fig. 1. Tightening torque $40 \pm 20\%$ Nm ($29.5 \pm 20\%$ lbf ft)

NOTE! No loads shall be connected directly to any of the negative battery poles.

2. Mount the Battery Sensor on the negative battery pole with the Battery clamp's nut, Fig. 1 (2). Tightening torque 4,5 Nm (3.3 lbf ft).

3. Use the Battery pole adapter (5) if the Battery Sensor does not fit on the Battery pole and if a battery group is to be monitored. Refer to step 5 below.

Connections

4. The adapter-wiring harness connections, Fig. 2:
(A) Connect to the Battery Sensor.
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To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

⚠ UYARI!

Marş denemesi sırasında bağlantılara dokunmayın:
Ark riski. Hiçbir akünün üzerine eğilmeyin.

ARA

اقرأ التعليمات بالكامل جيدًا قبل بدء العمل.
تأكد أن كل الأجزاء موجودة في العبوة.

العناصر الواردة في الأشكال التوضيحية من هذه التعليمات قد تختلف عن الطراز الجاري العمل عليه. الأشكال التوضيحية مستخدمة لمختلف التعليمات ولذلك فقد تختلف بين طرازات المحركات. المعلومات الأساسية صحيحة.

This kit contains:

Designation	Quantity	Pos. in fig
Battery Sensor, Max 300A	1	1
Battery clamp*	1	2
Screw M10x20 mm*	1	3
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Location

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To measure the entire battery bank, mount the Battery Sensor on the first or the last battery in the battery bank.

NOTE! A battery bank must consist of identical battery types.

⚠ ريذحت

شودح رطخ: لي غشتلا ادب قلواجم ءانثأ تل اي صوتلا سملت لا
ني تي راطنلا نم ي ا يل ع كهمس جب ليدت لا. يئ ا برطك سوق

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com



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