



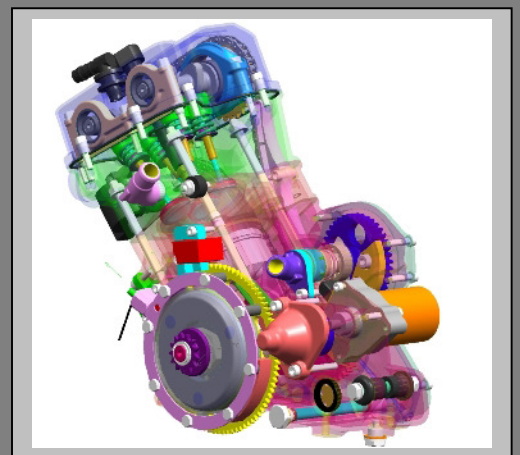
BulliX 4 T

Manual

Construction

Operation

Maintenance



Prior to operation of this paramotor the pilot should familiarize themselves with this manual. It contains operating instructions and details pertaining to the maintenance of the BulliX 4T.

The owner needs to become familiar with all aspects of operation and maintenance prior to the use of this motor. The owner needs also to adhere to laws pertaining to their own country regarding flight restrictions and maintenance as well as what is contained in this manual.

Information regarding important updates to this model will be made available via your importer, and published in the relevant national flying magazines under

<http://www.fresh-breeze.de/en/service/dfgdfg.html>

Please note:-Do not make any flights in turbulent weather conditions through as a paraglider in principle receives its shape only by the internal pressure. This can be established only when normal air flow conditions prevail. You need to fly with increased caution when thunderstorms are near by or forecasted.

Under no circumstances should a

pilot fly too close to the storm front. Land if ever in doubt. Other areas in your country will also have flight restrictions and laws of entry. These include but are not limited to military zones, controlled aircraft areas and populated areas. Seek information about an area before taking flight as well as the appropriate licensing.

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Bullix 4 T

Contents



If all parts are available, the seat is raised at first



Now I get the front end along with the cockpit



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Assembly Instruction

The front end is pushed with the cables into the seat and....



.... locked with the wing nut screw. By this type of lock, the seat length adjustment can be easily performed.



The rear wheels are easily removable. Secured with special bolt.



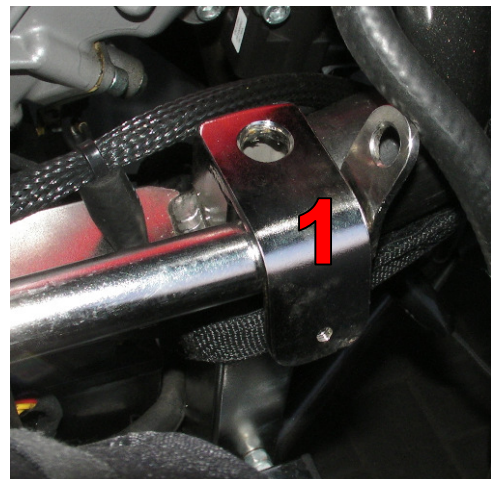
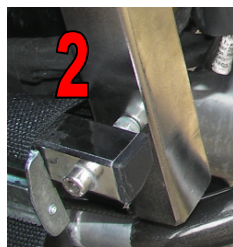
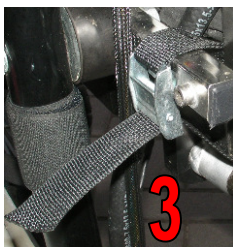
Now you take the engine....



and hang it on the trike



The engine itself rest in the hook's (1) In additional, the motor frame inserted into the bolt (2). The motor is secured on both sides with the belt (3)

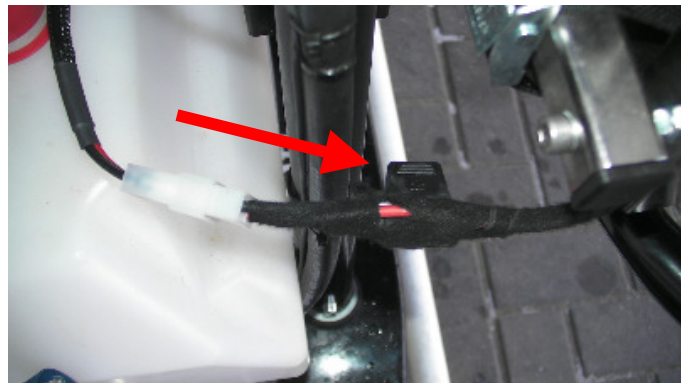


Within the marked area you find all connector for the electric.

- 1.White connector for battery
- 2.Double wire connector for fuel pump.
- 3.Mutliple (6) connector for cockpit.
- 4.Quick connector for fuel line.



Main fuse (15 A) for battery circuit



The 12 Volt 9 Ah battery is maintenance free and also secured with the velcro.After assembly check for tightness.



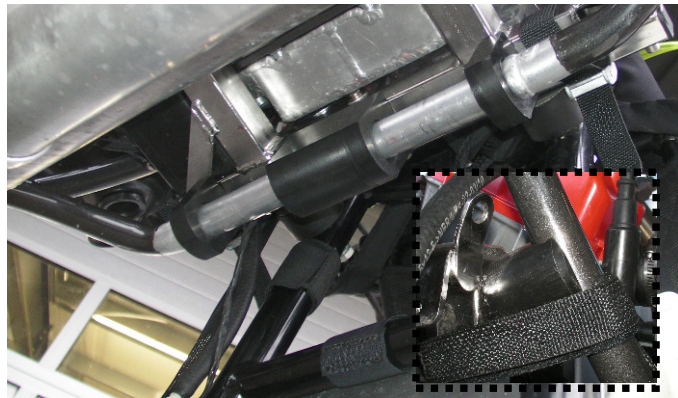
At next take the cage and....



...mount it.



It's important to make sure that the cage is pushed into the holder under the engine and side to the engineframe left and right.



The cage held together on the upper part by velcro



The aluminium tube with a rubber cord secured the glider lines against accidental contact with the propeller at the bottom and.....



... is mounted on the end of the hooks on the outside of the wheel.



Then we take the propeller
and...



...screw it to the propeller hub with 20 Nm
torc.



The push rods are held by these
straps in the horizontal position.



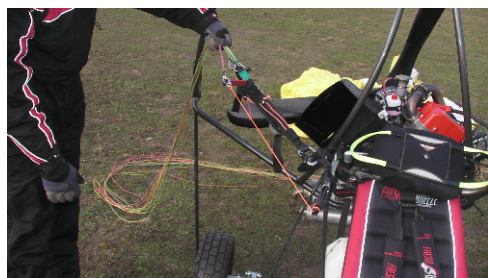
The glider must be mounted in this carabiner. The brake line should be run here by the lower pulley, so that the brake handle can be reached in flight at any time.



The start aid line is suspended in the A-line.



The correct length of the start aid line is essential to check. The red line of the start aid line must sag slightly when the strap is pulled 90° to the push rod. This must be explained/set by an experienced instructor.



All lines from the glider should be placed in the holder before take off.



Seat Bealt.

The trike has a 4-point seat belt system. The belt has 4 buckles and can herewith adjust for differnt body sizes. One central buckle to open the hole system is positioned in the amount of belly upon my torso



For start the engine open the red cover and set the toggle switch up.



The electric starter is activated by pressing the button. The engine must started in the neutral position of the throttle lever



To switch off the engine close the red cover



Take-off procedure

Before you start, the glider must be laid out behind the trike, and all lines have to be connected correctly to the BulliX 4T. The trike has to be pulled as much forward as possible. The lines must be more or less straight. If the trike is too close to the edge of the paraglider, the glider will get a sudden impulse while taking off. This may lead to high peak loads in the glider, reducing its lifetime, as well as to an overloading of the push rods: Their webbing belts are not supporting horizontal loads, only vertical loads! A horizontal overload of the push rod may result in a damaged seat by bending the upper horizontal strut!

When you are buckled up and after having wind checked (always take off and land against the wind!!) you can start the engine. The throttle lever is taken in the hand and both brake handles are taken from the push rods into the hands. Give gradually power to the engine and watch up ahead for the glider. If the paraglider doesn't come up symmetrically, correct it immediately but gently with the brake.

As the trike is controlled on ground just by steering the paraglider. It is absolutely important to control the glider precisely at any time. Otherwise stop the start! Once the glider is over the trike it may be necessary to brake a little bit, otherwise it may go forward too much and drop over. After a few seconds under full throttle the trike will take off and fly. Depending on the wind and glider the take-off distance is 10-25 meters.

Flight

Flying the BulliX 4T is very similar to flying a standard backpack motor system.

During flights the throttle lever can be rested into this holder.

To maintain a straight flight it may be possible to trim the paraglider accordingly via its trims.



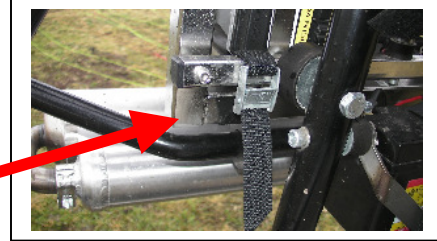
Landing

Landing the trike is much easier than a regular paramotor as the forward speed doesn't play an important role. But it is essential to land straight against the wind.

The trike is tested by DULV for maximum strength, but nevertheless it's important to land as slow as possible. The glider should be flared as you do with a standard backpack motor. Don't brake down the glider too early. After landing the motor should be switched off before the glider comes down. So you reduce the risk the glider can fall into the propeller, although the motor is equipped with a centrifugal clutch.

The following points should be attend before every start

- Cage secure on frame with velcro
- Cage in good shape
- Propeller clearance
- Pilotsuspension and straps witout any stress
- All rubbermount check for fissures
- Check glider and all line
- Coolingsstyem ,expansion tank; level and leaky
- Fuel with min. 95 Octance
- Fuel system,level and leaky
- Full throttle test (7800 1/min)
- Kill switch test
- Oillevel
- Engine secured with webbingstraps



The following points should be attend each 10 h

- Fuelfilter and dirt inside
- Exhaust spring
- Exhaust for fissure

The following poist should attend each 25 h

After the first 25 h control valve for tappet clearance. Thereafter all 50 h
Intake valve 0,05 mm up to 0,15 mm Outlet valve 0,2 mm up to 0,3 mm
Oilchange Castrol Edge full systethic 0W40(900ml)

GLIDER

- THE GLIDER SHOULD BE CHECKED ALL 2 YEARS.SEND TO THE MANUFACTURER

MOTOR

- THE ENGINE SHOULD BE CHECKED EACH YEAR ALIKE HOW MUCH HOURS IT'S USED

!!!

WITHOUT THESE CHECK'S NO WARRENTY OR OTHER CLAIMS!

**PLEASE USE ONLY FRESH BREEZE GENUINE SPARPARTS.THIS WILL TAKEN POSSESSION
ALL SAFETY AND STIFFNESS WHICH IS REQUIERED FROM DULV.**

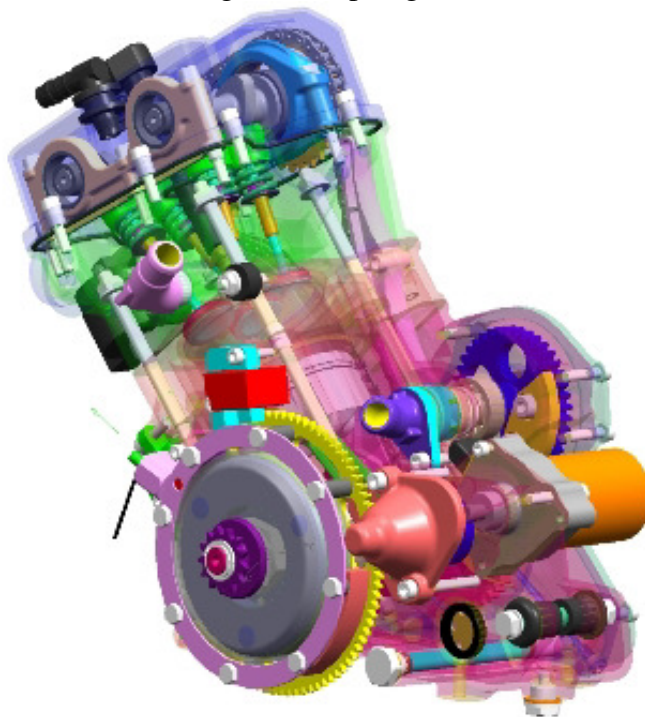
!!!

**BE SURE TO FOLLOW THIS SAFETY ADVICE EVERY TIME YOU USE
FRESH BREEZE MOTORS !**

- USE YOUR ENGINE CAREFULLY. DISREGARDING ANY SAFETY ADVICES AND INCAUTIOUS BEHAVIOUR MAY LEAD TO SERIOUS INJURIES.
- NEVER COME CLOSE OR GRAP INTO THE SPINNING PROPELLER. HIGH RISK OF SERIOUS INJURIES.
- THE ENGINE MAY NOT BE STARTED WHEN IT IS STANDING ON THE GROUND. HIGH RISK OF SERIOUS INJURIES.
- NEVER TOUCH HOT PARTS (ENGINE, EXHAUST). HIGH RISK OF BURNING.

Bullix

Engine	1 Cylinder 4 stroke with balance countershaft
Cooling	Watercooled with integrated pump
Enginecase	Aluminium
Cylinder	Aluminium with nikasil coated
Bore / stroke	75 / 56,5 mm
Capacity	249,6 ccm
Power	23 kw at 7800 1/min
Cylinderhead	4 valve per cylinder,2 overhead camshaft
Crankshaft	Forged steel,
Piston	Aluminium forged
Rod	Steel forged
Lubrication	Integrated dry pump with diaphragm pump
Ignition	Digital ignition with rev limiter
Sparc plug	NGK C8E 16 M 10 x 1 12 Nm
Fuel system	Electronic fuel injection
Gearbox	Drive belt with centrifugal clutch Poly-V belt 775 8PK
Engine weight	15 kg incl. E-Starter
Weight trike total	89 kg without paraglider



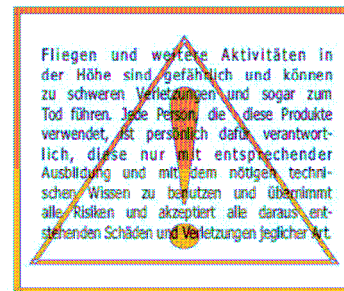
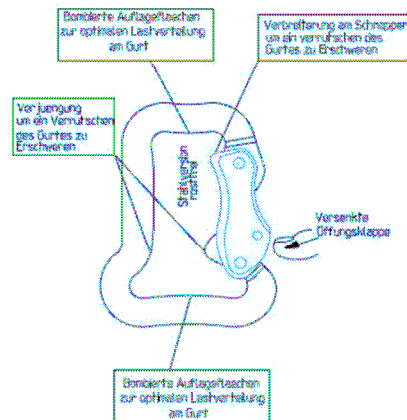
Bullix 4 T

Technical Info

AustriAlpin Powerfly Karabiner sind zur Verwendung als Gurtkarabiner bestimmt. Die am Karabiner angegebenen Festigkeitswerte gelten zur Verwendung für Gurte: (schmale Seite: 20mm/ breite Seite: 45mm)
Die Kennzeichnung auf dem Karabiner hat folgende Bedeutung (Dieses Kennzeichnungsbeispiel dient nur zur Erklärung. Gültigkeit haben nur die eingepprägten Werte auf dem Karabiner)

KN125 10 MONO + B | D |

Klammer A: Festigkeit in der Hauptachse des Karabiners in KN
Klammer B: Festigkeit bei offenem Schnapper in KN
Klammer C: Tauglichkeit für Einzelpilotenaufhängung (min 18 KN)
Klammer D: Tauglichkeit für Tandempilotenaufhängung (min 24 KN)



Gebrauchsanleitung

Vor jedem Start muss der Schnapper:

- 1) geschlossen und verriegelt sein
- 2) Verschluss und Verriegelung kontrolliert werden

Kontrollieren Sie vor jedem Gebrauch ob der Karabiner unbeschädigt ist und ob alle Teile einwandfrei funktionieren. Bei jedem Zweifel über die Sicherheit darf dieser nicht mehr verwendet werden. Beachten Sie, dass nur bei fachgerechtem Einsatz die angegebenen Festigkeitswerte erreicht werden, und eine sichere Funktion gewährleistet ist. Beim Einsatz in Gleitschirmen bzw. Gurtzeugen ist darauf zu achten, dass der Karabiner in die dafür vorgesehenen Schlaufen eingehängt wird, da nur diese die nötige Festigkeit aufweisen und für optimales Verhalten des Schirmes konzipiert sind. Der Öffnungsmechanismus ist so konstruiert, dass eine unbeabsichtigte Öffnung weitgehend ausgeschlossen wird. Trotzdem muss darauf geachtet werden, dass kein Gegenstand (Gurt, Leine, Band usw.) die Öffnungsklappe berühren oder betätigen kann. Der Anwender sollte genauestens über die Geräte, die er verwendet Bescheid wissen sowie über die nötige Erfahrung verfügen, um diese fachgerecht einzusetzen. Sollten Produkte von mehreren Personen verwendet werden (z.B. Flugschulen, Trainingszentren usw.) empfehlen wir eine systematische Überprüfung. Es ist darauf zu achten, dass AustriAlpin bei nicht sachgemäßer Verwendung, keine wie auch immer geartete Verantwortung und Haftung übernimmt.

Reinigung, Wartung, Pflege:

Reinigen Sie den Karabiner mit reinem Wasser. Für eine möglichst lange Funktionsdauer ist es notwendig, alle Gleitteile an ihren Gelenken mit einem Tropfen Öl zu schmieren. Die Aufbewahrung sollte in gereinigtem und trockenem Zustand, in trockener Umgebung auf nicht metallischem Untergrund erfolgen. Chemische Einflüsse bzw. Temperaturen über 150°C sind unbedingt zu vermeiden.

Der Karabiner darf nicht mehr verwendet bzw. muss getauscht werden wenn:

- der Schnapper nicht mehr selbstständig schließt oder sichert;
- Beschädigungen, die eine Sollbruchstelle darstellen könnten, vorhanden sind;
- der Karabiner überhitzt oder überlastet wurde;
- die Gebrauchsdauer erreicht ist. Gebrauchsdauer:

POWERfly - Inox Stahl: 1.500 Flugstunden oder 5 Jahre

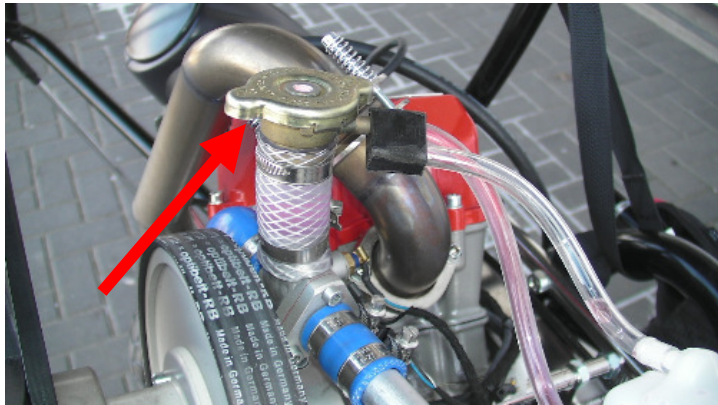
With 6 mm allen key open the clamping of the hub mounting...

...and with 10 mm allen key turn right the excentric cam to tighten the belt.(8PK 775 Optibelt)
For loosen the belt turn left.
Subsequently tighten the clamping of the hub mounting.



BulliX 4 T Belt Tensioner

Cooling water refiller lid

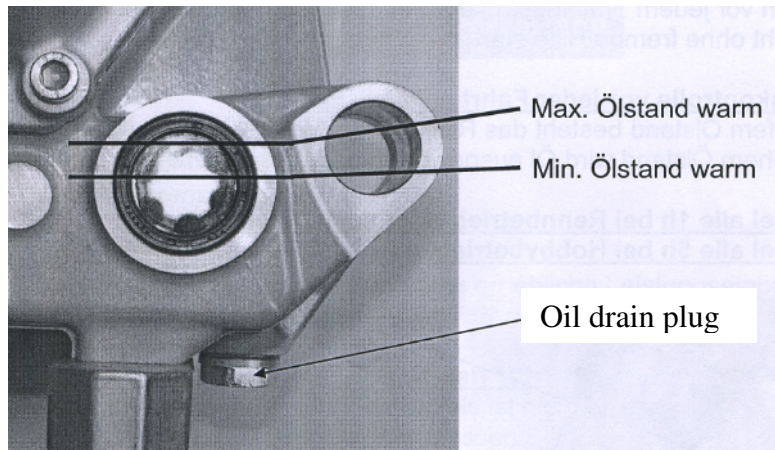


Reservoir for cooling water should always be partially filled.



Water and oil temperature gauge is in between between 70-80 ° C.
The standard version of the 4 T BulliX is just equipped with a water temperature gauge. The cooling system is self-vented, it should nevertheless be noted by hand during the warm-up phase, if the radiator getting warm. This guarantees the function of the cooling system. Against freeze and corrosion use GL4 cooling liquid.

BulliX 4 T Cooling System



The oil drain plug owns on the the upper end a magnet. This attracts metal shavings and must be cleaned at each oil change. This screw is tightened to 26 Nm. (M 14 x 1.5)



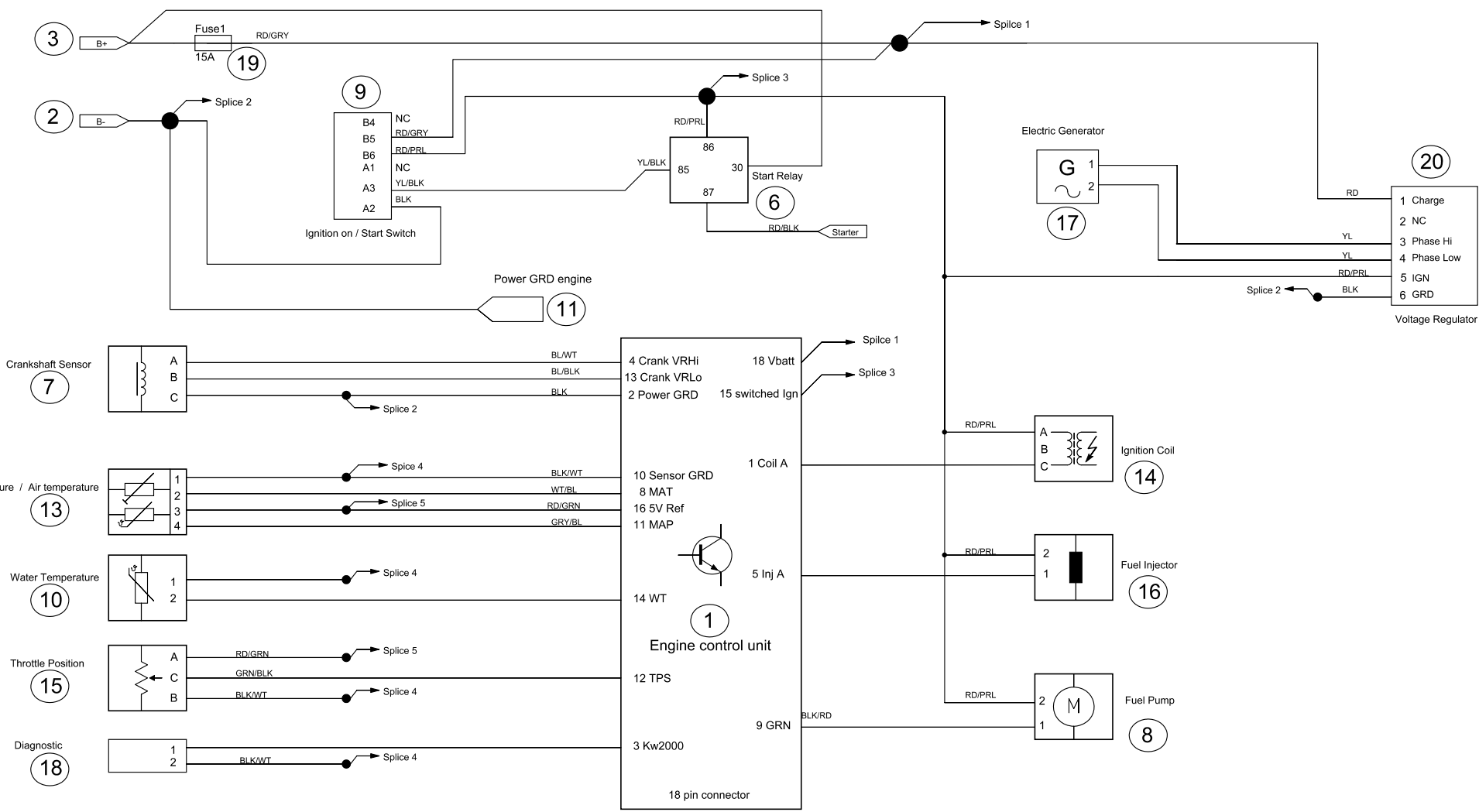
Each 50 h clean this filter. Be aware that the filter will be returned corrected so that it gets its functional.

This screw is tightened to 26 Nm.

The oil volume is 900 ml, the best oil is Castrol Edge Full Synthetic 0W-40

BulliX 4 T

Lubrication system



Splices for Distribution

- Splice 1 : Vbat. distribution
- Splice 2 : Power Ground distribution
- Splice 3 : switched Ign. + 12 V distribution
- Splice 4 : Sensor Ground distribution
- Splice 5 : Sensor supply +5V distribution

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Drawing No :	RX-EFI_SA250	MOD:Delphi MT05.1
Rev :	B	
Date :	23. 09. 2008	