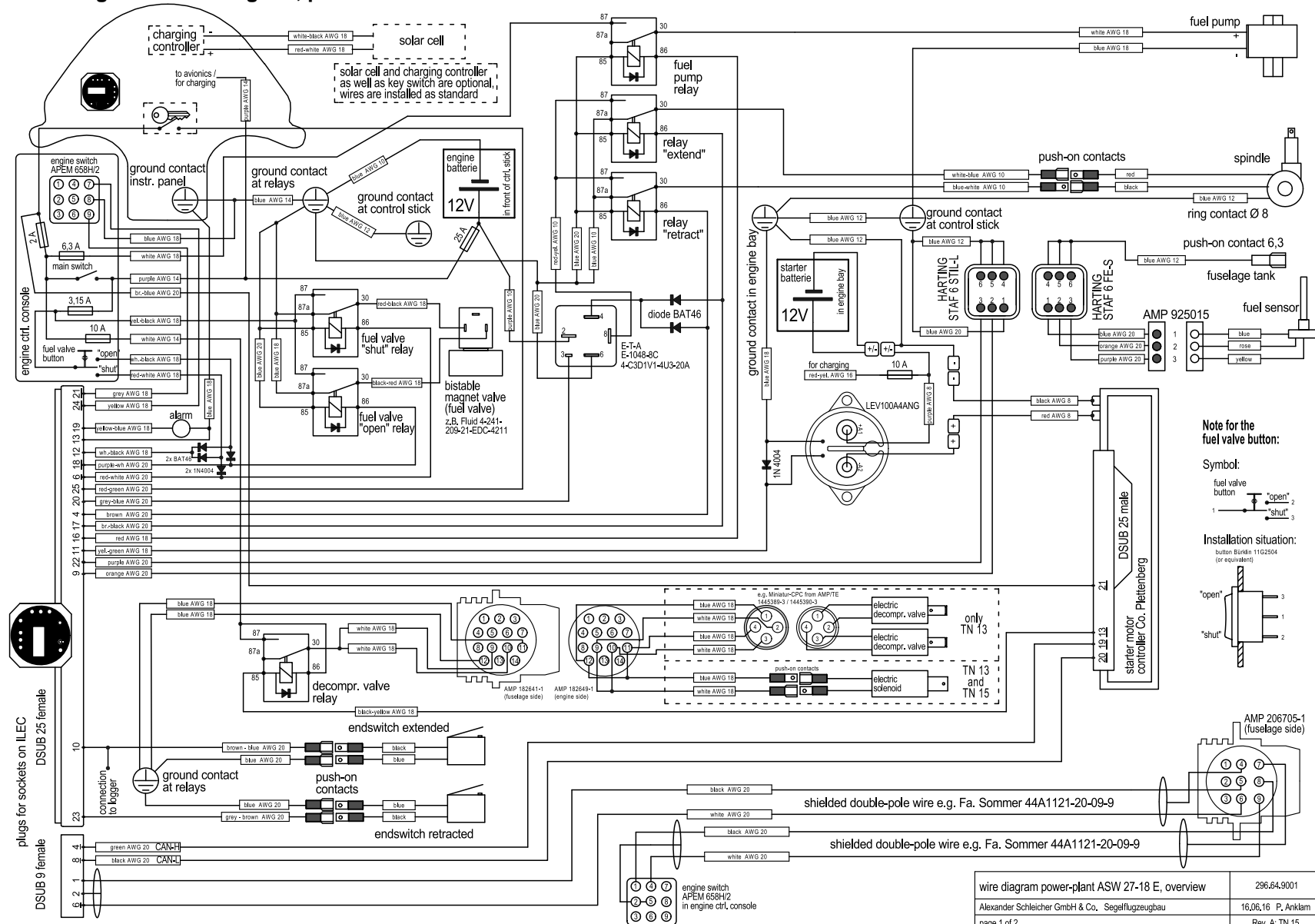
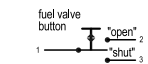


Fig. 2.13.1-2 Engine Circuit Diagram, part 1

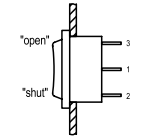


Note for the fuel valve button:

Symbol:



Installation situation:  
button Burdin 11C2004 (or equivalent)



wire diagram power-plant ASW 27-18 E, overview	296.64.9001
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Minimum material necessary for re-assembly:

Silencer: 4 Schnorr – tooth lock washers, S8x13x0,8  
Manifold: 4 Thermag-nuts SW12 M8 SSN 441  
4 Schnorr – tooth lock washers, S8x13x0,8  
2 gaskets, 1,5mm thick

## Engine

Disassemble propeller and exhaust, see previous page. Unplug the spark plug caps.

All the wiring remains in the aircraft respectively at the engine mount. Three wires coming from the fuselage control the ignition coils. One line is attached to each ignition coil with a push-on contact. Carefully remove the silicone around the coils to access and separate these contacts. Unscrew the third line, which is attached to the base plate of the coils. To loosen the cable ducts on top of the crank case, remove one screw and the two forward springs supporting the exhaust. To loosen the cable duct on the right side unscrew its clamps.

Disconnect the fuel line from the fuel-pump (line towards carburettor). The impulse hose (10) between crankcase and fuel pump must be deducted from the pump. The hoses have to be secured against penetrating dirt.

Loosen the 3 power cables of the starter motor from their mount on the crankcase above the air intake case. The disconnecting points are protected by colored shrink hoses. Cut this shrink hose in, so that the disconnecting points can be opened or remove the shrink hose completely and mark the colors at the cable ends. Feed the power cables back downwards through the air intake case. Disassemble the starter motor, refer to section 12.6 maintenance instruction G and deposit it besides the engine mount (sensor cables must not be stressed!).

Disconnect the screw joints between the engine and the engine mount carrier (two set of counted nuts at the crankcase, and two nuts below the bar between the cylinder heads). The engine can then be deducted along the engine mount carrier. Take care, that nothing falls into the air intake case (13) near by.

The re-assembly follows in reverse order. When assembling, do not forget the ground line between upper cable ducts and the top of the left vertical strut. Replace Thermag-nuts, Schnorr tooth lock washers, hose clips and shrink hoses with new ones. Tie up the screw joints of the engine mount carrier so far, that the rubber elements are compressed to about 9 mm (3/8 in). Apply temperature resistant silicone around the ignition coils after reconnecting the ignition lines. The installation of the engine has to be checked by an inspector.

Minimum material necessary for re-assembly:

2 Schnorr - tooth lock washers, S8x13x0,8

4 Thermag-nuts SW12 M8 SSN 441

4 self-locking nut M5

Temperature resistant silicone

Hose clips, cable-fixer, shrink hose (red, yellow, blue)

### 2.13.3 Temporarily shut down of the Power-plant

If an engine is not going to be operated for longer than two months, it has to be preserved according to the Engine Manual:

Drain the fuel system. Inject about 5 cm<sup>3</sup> (0.3cu.in.) two-stroke oil through the intake system into both intake ports. With the ignition turned off, and open decompression valve, turn with the propeller about 10 revolutions.

Lock the entrance opening at the air intake and the exhaust opening.

10. Inspect the gas spring: With a fresh battery and with engine doors kept open: if extending takes significantly more time than retracting, replace the gas strut (See also Section 2.13.4 "Dismantling & Re-Assembling Power-Plant").
11. Check if the decompression valves open and close lightly. Clean according to engine manual, if sticky oil remnants may let them go hard. When the valves are closed there must be a gap between the sheet metal connecting the valves and the actuating lever (coming from the solenoid). When the valves are open (e.g. during the engine start or positioning) both valves must be opened to the stop.
12. Check the sheet metal holding the pneumatic fuel pump for cracks.
13. Check the stop for the retraction of the engine on the bottom of the engine bay for correct operation.
14. Check the hinges in the engine mounting and at the engine compartment doors. Apply oil if necessary, see section 8. Check screws and bolts for tight fit.
15. Examine the elastic tensioning cords of the engine compartment doors. Replace if damaged.
16. Exhaust: check the exhaust silencer for cracks and the screws for tight seat. Examine condition of the sliding collars at the manifold. If there is play, the O-rings under the sliding collars are worn.
17. Open the lid at the side of the engine compartment. Visual inspection of the starter motor controller. Examine the condition of the wires and plugs as well as the tight seating of the housing.
18. Remove the rear cover of the starter motor. Examine the tight fitting of the starter rotor on the crankshaft. By rotating the engine the rotor of the starter must not rub against its housing (look for scratches). Pay attention to excessive oil leakage.

	Fuel hoses damaged	Check fuel hoses for cinks, leaking fuel, damages. Are fuel lines from the tank connected?
	Fuel filter blocked	Check filter at the line coming from the tank
	Pneumatic fuel pump	Visible damage, leaking fuel?
	Line between crank case and pneumatic fuel pump	Check for damages. This line must be free from fuel or oil
No compression	Decompression valves do not close properly	Valves must move easily. Is the engine extended, the valves are closed. In this position a gap must exist between the actuation lever (coming from the solenoid) and the connecting sheet between the valves.
Speed-signal	Bad speed signal at the power-plant instrument	The engine speed is measured by the sensor system of the starter motor and transmitted to the power-plant instrument. If the instrument shows unreasonable values (e.g. 0 or 9999) the sensor system or wire is faulty
Mechanical damage		Unplug spark-plug caps and turn the engine at the propeller. Abnormal rubbing, scratching, untrue running?

## 12.2 Special Tools

### For rigging the wings:

- a) Lever for locking and unlocking the airbrakes at the root rib, AS P/N 270.05.0002
- b) T-shaped handle for outer wing junction, AS P/N 290.05.0010

### For rigging the tail plane:

- c) Socket wrench for hexagon socket head screws, 6 DIN 911-12.9 (Allen Key), and
- d) Rigging plate AS P/N 99.000.4657

### For filling the water tank in the fin:

- e) Filling nozzle AS P/N 99.336.0022

### For water ballast ports in the wing and behind landing gear doors:

- f) Calliper Face Spanner (e.g.: Gedore No. 44/7") with pins 3 mm dia.

## 12.3 Supply Sources for Special Tools

Special tools with AS-part number can only be obtained through Messrs. Alexander Schleicher.

The Allen key c) and the caliper face spanner f) are available from all good tool shops, but can also be obtained through Messrs. Alexander Schleicher.