

**Draline b.v.**  
NL-6031 RK  
Nederweert

No. **SB-T01-001-R0**

Date **06.07.2016**

**Subject** Conversion of  
PSR T01 pre-Type-Certificate engines and  
PSR T01 gas start engines to  
PSR T01 KS kerosene start engine design

**Effectivity** Optional for  
PSR T01 pre-Type-Certificate engines and  
PSR T01 gas start engines, according to  
Type-Certificate Data Sheet E.108, 31.10.2014,  
PSR T01 Build Standard Version 13, build standard J

**Accomplishment** Operators of  
PSR T01 pre-Type-Certificate engines and  
PSR T01 gas start engines

**Reason** Introduction of PSR T01 KS kerosene start engine design.

**Instruction** The conversion of engines to PSR T01 KS kerosene start engine design includes replacement of engine parts and modification of ECU software settings.

The build standard of the PSR T01 KS kerosene start engine design is described in PSR T01 Build Standard Version 17, build standard L.

Depending on available engine parts, converted engines will comply with build standard L.1, L.2 or L.3.

Instructions for the conversion of engines to build standard K are summarised in  
20000-0699, 0, Module, Turbine Homologation  
20000-0700, 0, Module, Fuel board T01 Homologation  
20000-0701, 0, PSR Jet System T01 Homologation

Instructions for the conversion of engines to build standard L are summarised in  
20000-0556, 0, Module, Turbine Gas-KS Ombouw  
20000-0557, 0, Module, Fuel board Gas-KS T01 Ombouw  
20000-0558, 0, PSR Jet System T01 Ombouw

The conversion of engines has to be conducted by an approved maintenance organisation.

An EASA Form 1 will be issued for converted engines.

**Material** Parts to be replaced are summarised in the Annex.

Limitation                      None.

Remark                         Information and instructions for continued airworthiness are published on [www.psr-jet-system.com](http://www.psr-jet-system.com).

Approval                        **The technical content of this document is in accordance with AP to DOA Ref. EASA.AP235.**  
and  
reference to EASA approval of related changes to type design and repair designs, when applicable.

PREPARED BY CVE



19.07.2016

APPROVED BY HD



DRALINE  
ADOA  
EASA.AP235  
HD  
002

---

## 1 build standard J type design to K changes

### build standard J type design ▷ K changes

Parts to be replaced, in order to change the build standard from J type design to K changes, are summarised below.

#### engine

- casing
  - part, DRA 20000-0285-2, Hull PSR
  - ▷ part modified
  - part, DRA 20000-0285-3, Hull PSR

#### fuel system

- engine fuel filter
  - part, DRA 20000-0505-0, Fuel filter assembly
  - ▷ part modified
  - part, DRA 20000-0505-2, Fuel filter assembly

---

## 2 build standard K changes to L changes

### build standard K changes ▷ L changes

Parts to be replaced, in order to change the build standard from K changes to L changes, are summarised below.

#### engine

- casing
  - part, DRA 20000-0231-2, Module Hull
  - ▷ part modified
  - part, DRA 20000-0575-1, Module Hull KS
  
  - part, DRA 20000-0245-6, Frontcap MK2-HP PSR
  - ▷ part modified
  - part, DRA 20000-0581-1, Frontcap PSR KS
  
  - part, DRA 20000-0668-0, Plug holder
  - ▷ part modified
  - part, DRA 20000-0687-1, Plug holder Kerosene
  
- main engine
  - part, DRA 20000-0282-1, Module Turbine montagemiddelen
  - ▷ part modified
  - part, DRA 20000-0532-0, Module Turbine montagemiddelen
  
  - part, DRA 20000-0288-1, Glow plug
  - ▷ part of gas start system
  - part, removed
  
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0653-1, Kero burner assembly
  
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0576-1, Burner connector KS
  
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0655-0, Kero burner nut

- ▷ part of fuel start system, introduced  
part, DRA 20000-0656-0, Kero burner CP
- ▷ part of fuel start system, introduced  
part, DRA 20000-0685-0, Ring
- ▷ part of fuel start system, introduced  
part, DRA 20000-0578-1, Bolt banjo
- ▷ part of fuel start system, introduced  
part, DRA 20000-0579-1, Hex extender PSR KS
- ▷ part of fuel start system, introduced  
part, DRA 20000-0577-2, Hex extender PSR banjo
- ▷ part of fuel start system, introduced  
part, DRA 20000-0580-2, Restrictor banjo
- ▷ part of fuel start system, introduced  
part, DRA 20000-0586-2, Restrictor KS (with filter)
- ▷ part of fuel start system, introduced  
part, DRA 20000-0596-2, Restrictor banjo with hose nipple
- fuel and lubrication system
  - part, DRA 20000-0666-0, Fuelsystem
  - ▷ part modified
  - part, DRA 20000-0635-0, Fuelsystem KS
  - part, DRA 20000-0291-2, Hex extender PSR gas
  - ▷ part modified
  - part, DRA 20000-0543-1, Hex extender PSR KS OUT
- mounting
  - part, DRA 20000-0261-8, Turbine bracket assembly
  - ▷ part modified
  - part, DRA 20000-0560-2, Turbine bracket assembly KS

#### containment

- compressor
  - part, DRA 20000-0239-5, Containment ring compressor
  - ▷ part modified
  - part, DRA 20000-0559-0, Containment ring compressor KS

#### gas system

- engine gas line, gas tank to engine gas filter
  - part, DRA 20000-0351-2, Gashose extension, 25cm
  - ▷ part of gas start system
  - part, removed
- engine gas filter
  - part, DRA 20000-0258-2, Gasfilter assembly
  - ▷ part of gas start system
  - part, removed
  - part, DRA 20000-0259-0, Cap, 20000-0259
  - ▷ part of gas start system
  - part, removed
  - part, DRA 20000-0260-0, Housing, 20000-0260
  - ▷ part of gas start system
  - part, removed
- engine gas valve
  - part, DRA 20000-0295-2, Gas valve PSR, 20000-0295
  - ▷ part of gas start system
  - part, removed
- engine gas needle valve
  - part, DRA 20000-0350-2, Flow control valve (machined)
  - ▷ part of gas start system
  - part, removed

---

## fuel system

- engine fuel splitter
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0516-1, Hose connector split KS
  
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0517-1, Hose connector split M6

## engine fuel board

- general
  - part, DRA 20000-0264-4, Module fuel board
    - ▷ part modified
    - part, DRA 20000-0525-1, Module fuel board KS T01
  
  - part, DRA 20000-0247-5, Mounting plate bottom
    - ▷ part modified
    - part, DRA 20000-0524-1, Mounting plate bottom KS T01
  
  - part, DRA 20000-0263-3, Mounting plate top
    - ▷ part modified
    - part, DRA 20000-0518-2, Mounting plate top KS
  
  - part, DRA 20000-0270-1, Connector M5/M6 gas
    - ▷ part of gas start system
    - part, removed
  
  - part, DRA 20000-0271-2, Hose connector M5 gas
    - ▷ part of gas start system
    - part, removed
  
  - part, DRA 20000-0508-1, Hose connector gas/gas
    - ▷ part of gas start system
    - part, removed

## engine control unit

- general
  - part, DRA 20000-0235-3, Module ECU
    - ▷ part modified
    - part, DRA 20000-0527-3, Module ECU KS

## engine service data terminal

- general
  - part, DRA 20000-0274-1, Module Service Data Terminal
    - ▷ part modified
    - part, DRA 20000-0274-2, Module, Service Data Terminal

## cabling

- general
  - part, DRA 20000-0404-2, Cable wiring, ECU -> Module Switch
    - ▷ part modified
    - part, DRA 20000-0523-1, Cable wiring, ECU -> Module Switch KS
  
  - part, DRA 20000-0371-1, Glowplug connector assy
    - ▷ part of gas start system
    - part, removed
  
  - part, DRA 20000-0340-3, R8 Glowplug connector
    - ▷ part of gas start system
    - part, removed
  
  - part, DRA 20000-0375-0, Bladveer
    - ▷ part of gas start system
    - part, removed

---

### 3 build standard K changes to L.1 changes

#### build standard K changes ▷ L.1 changes

Parts to be replaced, in order to change the build standard from K changes to L.1 changes, are summarised below.

##### fuel system

- engine fuel pump
  - part, DRA 20000-0293-0, Fuel pump
  - ▷ part renamed
  - part, DRA 20000-0293-0, Fuel pump PSR T01
- engine fuel start valve
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0295-2, Gas valve PSR

##### hardware

- engine safety circuit
  - hardware, power switch circuit board, 1.62, 05.04.2012
  - ▷ switch voltage modified
  - hardware, power switch circuit board, 1.62C, 05.04.2012

##### software

- engine control unit
  - software, engine control unit, setting, 5.07 A, 07.04.2011
  - ▷ setting modified
  - software, engine control unit, setting, 6.00 L.1, 24.12.2015

---

### 4 build standard K changes to L.2 changes

#### build standard K changes ▷ L.2 changes

Parts to be replaced, in order to change the build standard from K changes to L.2 changes, are summarised below.

##### fuel system

- engine fuel pump
  - part, DRA 20000-0293-0, Fuel pump
  - ▷ part modified
  - part, DRA 20000-0695-0, Fuel pump PSR T01, V2
- engine fuel start valve
  - ▷ part of fuel start system, introduced
  - part, DRA 20000-0295-2, Gas valve PSR

##### hardware

- engine safety circuit
  - hardware, power switch circuit board, 1.62, 05.04.2012
  - ▷ switch voltage modified
  - hardware, power switch circuit board, 1.62C, 05.04.2012

##### software

- engine control unit
  - software, engine control unit, setting, 5.07 A, 07.04.2011
  - ▷ setting modified
  - software, engine control unit, setting, 6.00 L.2, 24.12.2015

---

## 5 build standard K changes to L.3 changes

### build standard K changes ▸ L.3 changes

Parts to be replaced, in order to change the build standard from K changes to L.3 changes, are summarised below.

#### fuel system

- engine fuel pump
  - part, DRA 20000-0293-0, Fuel pump
  - part modified
  - part, DRA 20000-0695-0, Fuel pump PSR T01, V2
  
- engine fuel start valve
  - part of fuel start system, introduced
  - part, DRA 20000-0529-1, Igniter valve PSR

#### engine control unit

- general
  - part, DRA 20000-0681-1, ECU Heatsink
  - part modified
  - part, DRA 20000-0515-1, ECU Heatsink KS

#### hardware

- engine safety circuit
  - hardware, power switch circuit board, 1.62, 05.04.2012
  - switch voltage modified
  - hardware, power switch circuit board, 1.62C, 05.04.2012

#### software

- engine control unit
  - software, engine control unit, setting, 5.07 A, 07.04.2011
  - setting modified
  - software, engine control unit, setting, 6.00 L.3, 24.12.2015