
**Reciprocating internal combustion
engines — Vocabulary of components
and systems —**

**Part 11:
Liquid fuel systems**

*Moteurs alternatifs à combustion interne — Vocabulaire des
composants et des systèmes —*

Partie 11:

Systèmes de carburant liquide

ISO 7967-11:2022

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 7967-11:2014), which has been technically revised. <https://standards.iteh.ai/catalog/standards/sist/5fe0f178-809f-4f47-9829-cc5036ae7d6e/iso-7967-11-2022>

The main changes are as follows:

- terms and definitions modified and new entries added;
- editorial revisions.

A list of all parts in the ISO 7967 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Reciprocating internal combustion engines — Vocabulary of components and systems —

Part 11: Liquid fuel systems

1 Scope

This document establishes a vocabulary for liquid fuel systems of reciprocating internal combustion engines. The terms and definitions are classified as follows:

- fuel supply system (3.1);
- carburettor (3.2);
- fuel injection system (3.3).

Note ISO 2710-1 gives a classification of reciprocating internal combustion engines and denotes the basic terms and definitions of such engines and their characteristics.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 Fuel supply system

3.1.1

fuel supply system

system which consists of low-pressure fuel equipment for delivering fuel from the fuel tank to the high-pressure unit for fuel injection to the engine

3.1.2

fuel feed pump

low-pressure pump delivering fuel from the tank via one or several filters to the high-pressure-generating components

[SOURCE: ISO 7876-5:2021, 3.2]

3.1.3

fuel filter

fuel strainer

filter to eliminate contamination in the fuel

3.1.4

priming pump

pump to fill the fuel pipe at starting

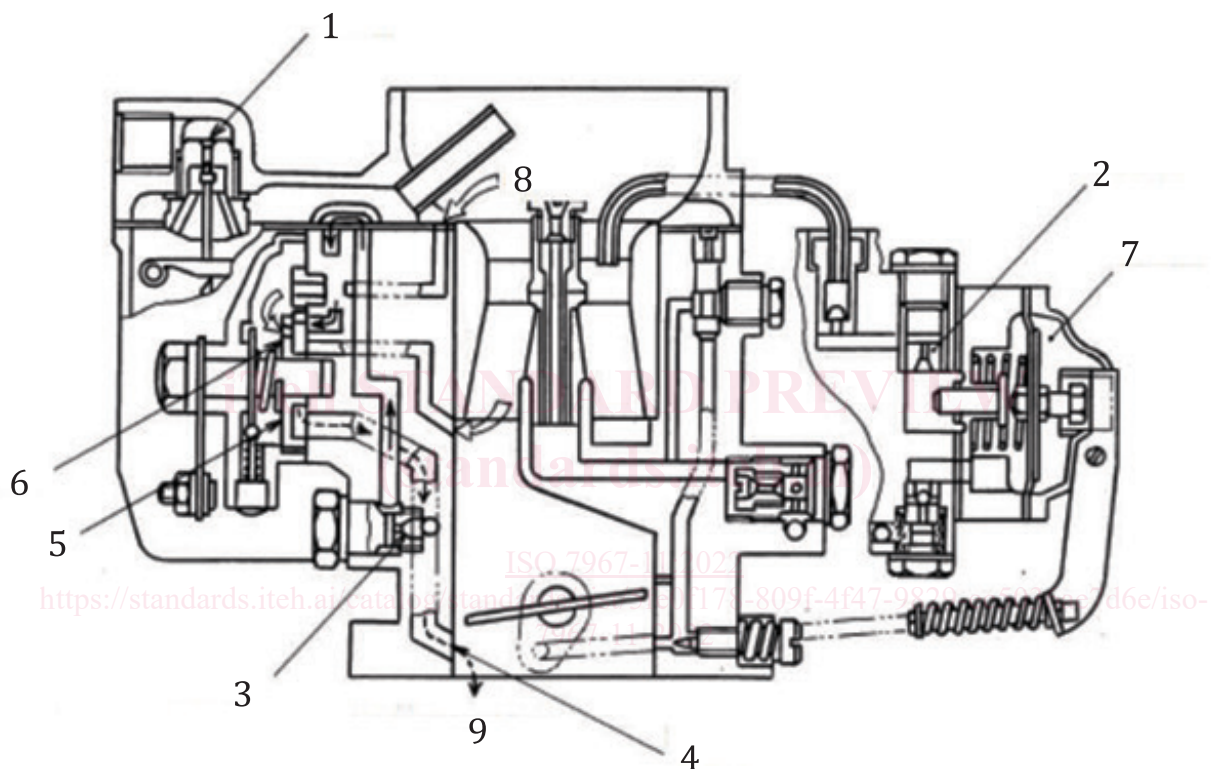
3.2 Carburettor

3.2.1

carburettor

device which vaporizes fuel into charge air and also controls the air-fuel ratio of the mixture

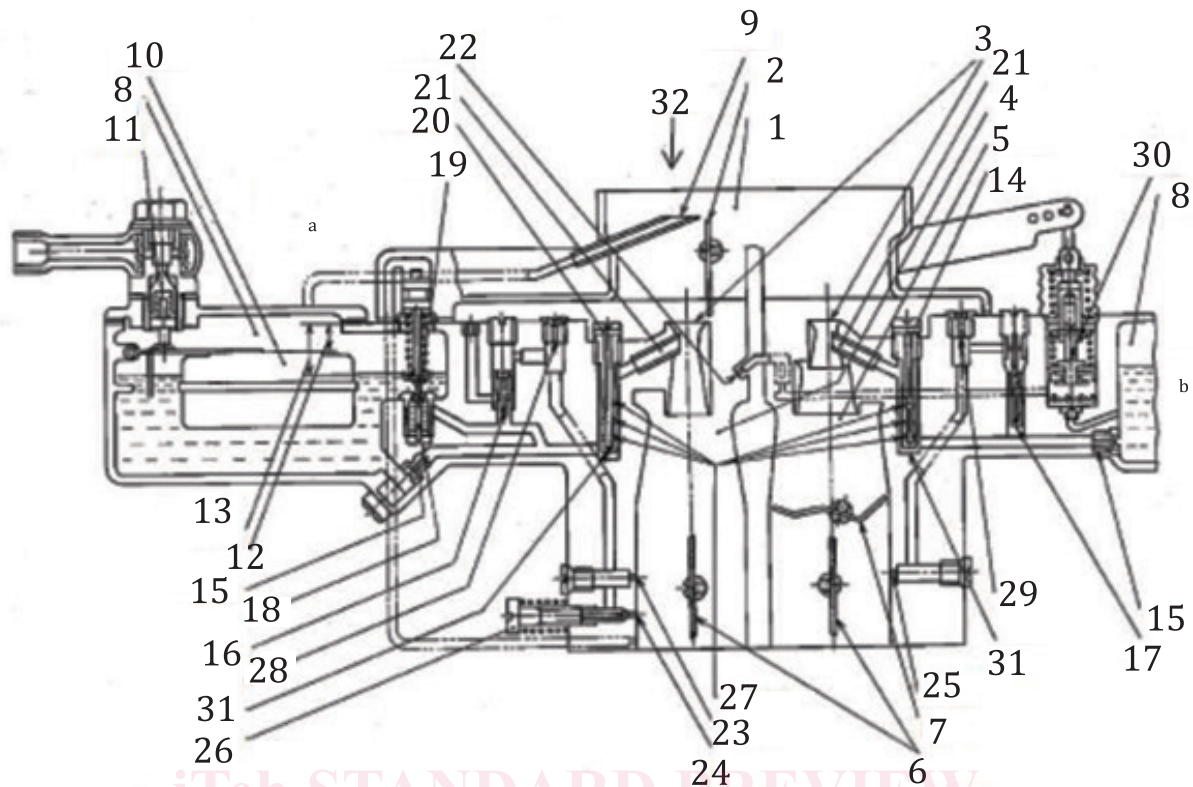
Note 1 to entry: See [Figure 1](#) and [Figure 2](#).



Key

- | | | | |
|---|---|---|--|
| 1 | float valve (3.2.47) | 6 | acceleration pump (3.2.85) |
| 2 | pump jet (3.2.60) | 7 | main well (3.2.86) |
| 3 | starting petrol jet (3.2.61) | 8 | air |
| 4 | starting mixture supply port (3.2.71) | 9 | fuel-air mixture |
| 5 | starting valve (3.2.72) | | |

Figure 1 — Single-barrel carburettor

**Key**

1	air horn (3.2.28)	12	float-level height (3.2.48)	23	progression hole (3.2.68)
2	choke valve (3.2.30)	13	fuel-level height (3.2.49)	24	primary idle orifice (3.2.69)
3	primary venturi (3.2.38)	14	fuel jet (3.2.51)	25	secondary throttle barrel bypass hole (3.2.70)
4	secondary venturi (3.2.39)	15	main jet (3.2.55)	26	idle needle valve (3.2.74)
5	third venturi (3.2.40)	16	slow running jet (3.2.56)	27	idle air bleed (3.2.82)
6	throttle valve (3.2.41)	17	secondary slow jet (3.2.57)	28	step air bleed (3.2.83)
7	air valve (3.2.42)	18	power bypass jet (3.2.58)	29	starting air jet (3.2.84)
8	float chamber (3.2.43)	19	power valve (3.2.59)	30	acceleration pump (3.2.85)
9	float chamber vent (3.2.44)	20	main air bleed (3.2.62)	31	main well (3.2.86)
10	float (3.2.46)	21	main nozzle (3.2.64)	32	air
11	float valve (3.2.47)	22	pump discharge nozzle (3.2.65)		
a	1 st stage.				
b	2 nd stage.				

Figure 2 — Two-barrel carburettor

3.2.2 elementary carburettor

carburettor (3.2.1) without compensation device which consists of the main system, the float unit, the venturi (3.2.33) and the throttle valve (3.2.41)

3.2.3 float carburettor

carburettor (3.2.1) in which the fuel level is maintained at a constant level by the float (3.2.46) and the fuel is absorbed in the air by the vacuum pressure at the venturi (3.2.33)

3.2.4 electronic-controlled carburettor

carburettor (3.2.1) which controls air-fuel ratio by the electronic circuit

3.2.5

air-fuel ratio feedback-controlled carburettor

carburettor (3.2.1) which is equipped with a device for feedback control of air-fuel ratio

3.2.6

fixed-venturi carburettor

carburettor (3.2.1) with a fixed venturi area

3.2.7

variable-venturi carburettor

carburettor (3.2.1) with a mechanism to make the venturi area variable

3.2.8

updraft carburettor

carburettor (3.2.1) with upward exit of air-fuel mixture

3.2.9

downdraft carburettor

carburettor (3.2.1) with downward exit of air-fuel mixture

3.2.10

horizontal carburettor

sidedraft carburettor

carburettor (3.2.1) with horizontal exit of air-fuel mixture

3.2.11

single-barrel carburettor

carburettor (3.2.1) with one set of *venturi* (3.2.33)

Note 1 to entry: See [Figure 1](#).

3.2.12

multi-barrel carburettor

carburettor (3.2.1) with more than two sets of *venturi* (3.2.33)

3.2.13

two-barrel carburettor

carburettor (3.2.1) with two sets of *venturi* (3.2.33)

Note 1 to entry: See [Figure 2](#).

3.2.14

compound carburettor

multiple carburettor

multi-carburettor

carburettor system with more than two sets of independent *carburettors* (3.2.1) in which *throttle valves* (3.2.41) are linked so as to work simultaneously or in sequence

Note 1 to entry: A unit with two carburettors is called a twin carburettor.

3.2.15

two-stage carburettor

carburettor system with two *carburettors* (3.2.1) with different characteristics in which each *throttle valve* (3.2.41) works in sequence

Note 1 to entry: The carburettor which works first is called the primary carburettor and the other is called the secondary carburettor.

3.2.16

float circuit

float system

mechanism which maintains the level of fuel in the *carburettor* (3.2.1)

3.2.17**main metering system**

high-speed system

high-speed circuit

circuit in the *carburettor* (3.2.1) where fuel flows continuously during normal engine operation, except during idling

3.2.18**slow speed system**

idle system

idle circuit

circuit in the *carburettor* (3.2.1) where fuel flows at idling

3.2.19**secondary idle system**

secondary low-speed system

circuit of the secondary *carburettor* (3.2.1) where fuel flows from the main fuel circuit when the opening of the *throttle valve* (3.2.41) is small

3.2.20**power system**

full-power circuit

power enrichment system

circuit where additional fuel flows for the enrichment of air-fuel mixture at high-power operation of the engine

3.2.21**starting system**

choke system

system or a series of parts in the *carburettor* (3.2.1) which restricts the air flow in the *venturi* (3.2.33) at the starting of the engine

3.2.22**accelerating system**

accelerator-pump system

circuit of additional fuel for the enrichment of air-fuel mixture at the sudden acceleration of the engine

3.2.23**compensating device**

device which adjusts air-fuel ratio in accordance with the requirement from the engine using a procedure such as the *air bleed* (3.2.52) method

3.2.24**bore size of throttle-body flange**

throttle-diameter

diameter of the exit of the *carburettor* (3.2.1), which indicates the size of the carburettor

Note 1 to entry: When the carburettor has two or more exits, the size is usually indicated by plural diameters.

3.2.25**carburettor body**

main body of carburettor

body including main parts of the *carburettor* (3.2.1), such as *venturi* (3.2.33) and *float chamber* (3.2.43)

3.2.26**air intake body**

body which forms the *air intake* (3.2.28) passage with the *choke valve* (3.2.30)

3.2.27

flange body

throttle body

body which forms the exit of air passage with the *throttle valve* ([3.2.41](#))

3.2.28

air horn

air intake

air intake portion of the *carburettor* ([3.2.1](#))

3.2.29

choke

mechanism that blocks the air inflow passage to the *carburettor* ([3.2.1](#)) to enrich the air-fuel mixture

3.2.30

choke valve

strangler valve

air shutter

valve for *choking* ([3.2.29](#)) the air inlet in the *carburettor* ([3.2.1](#))

3.2.31

choke relief valve

valve equipped in the *choke valve* ([3.2.30](#)) which relieves charge air when air-fuel ratio exceeds the limit due to excessive negative pressure at the *venturi* ([3.2.33](#))

3.2.32

automatic choke

device which operates the *choke valve* ([3.2.30](#)) automatically depending on the temperature of the engine

3.2.33

venturi

venturi tube

nozzle with throat which produces low pressure of charge air for fuel injection

3.2.34

venturi diameter

diameter of throat of the *venturi* ([3.2.33](#))

3.2.35

single venturi

venturi ([3.2.33](#)) of one part

3.2.36

double venturi

unified *venturi* ([3.2.33](#)) from two venturis

3.2.37

triple venturi

unified *venturi* ([3.2.33](#)) from three venturis

3.2.38

primary venturi

smallest *venturi* ([3.2.33](#)) of *double venturi* ([3.2.36](#)) or *triple venturi* ([3.2.37](#))

3.2.39

secondary venturi

venturi ([3.2.33](#)) larger than *primary venturi* ([3.2.38](#)) in *double venturi* ([3.2.36](#)) or *triple venturi* ([3.2.37](#))

3.2.40**third venturi**

largest *venturi* ([3.2.33](#)) of *triple venturi* ([3.2.37](#))

3.2.41**throttle valve**

throttle butterfly

part included in the *carburettor* ([3.2.1](#)) which controls the flow rate of air-fuel mixture into the engine

3.2.42**air valve**

air damper

damper which is equipped in the second stage of the *two-barrel carburettor* ([3.2.13](#)) for the control of air-fuel mixture

3.2.43**float chamber**

float bowl

chamber containing fuel with the *float* ([3.2.46](#)) which maintains the fuel level

3.2.44**float chamber vent**

pipe or *hole* ([3.2.66](#)) to introduce air pressure into the upper space of the *float chamber* ([3.2.43](#))

3.2.45**outer vent**

float chamber vent ([3.2.44](#)) connected to the atmosphere

3.2.46**float**

pontoon

part to maintain the level of fuel in the *float chamber* ([3.2.43](#))

3.2.47**float valve**

float needle valve

valve which detects the movement of the *float* ([3.2.46](#)) and controls the level of fuel in the *float chamber* ([3.2.43](#))

3.2.48**float-level height**

distance of the upper or lower surface of the *float* ([3.2.46](#)) from a certain reference surface of the *float chamber* ([3.2.43](#))

3.2.49**fuel-level height**

level of fuel measured from a certain reference surface of the *float chamber* ([3.2.43](#))

3.2.50**jet**

metering jet

metering orifice

<general term> orifice used in the *carburettor* ([3.2.1](#)) which controls fuel flow or air flow

3.2.51**fuel jet**

petrol jet

fuel-metering jet

jet ([3.2.50](#)) which controls the fuel flow

3.2.52

air jet

air bleed

well vent jet

jet (3.2.50) which controls bleed air flow

3.2.53

needle jet

jet (3.2.50) with a *jet needle* (3.2.54)

3.2.54

jet needle

fine bar installed in the *hole* (3.2.66) of a *jet* (3.2.50) to control the passage area of the fluid

3.2.55

main jet

main metering jet

jet (3.2.50) for the *main metering system* (3.2.17)

3.2.56

slow running jet

slow speed jet

idling jet

jet (3.2.50) for *slow speed system* (3.2.18)

3.2.57

secondary slow jet

jet (3.2.50) for *secondary idle system* (3.2.19)

3.2.58

power bypass jet

power jet

jet (3.2.50) for *power system* (3.2.20)

3.2.59

power valve

power jet valve

valve to control the fuel flow of the *power system* (3.2.20)

3.2.60

pump jet

accelerating pump jet

jet (3.2.50) in the *accelerating system* (3.2.22)

3.2.61

starting petrol jet

jet (3.2.50) for the *starting system* (3.2.21)

3.2.62

main air bleed

main air jet

jet (3.2.50) which bleeds air from the *main metering system* (3.2.17)

3.2.63

nozzle

discharge jet

discharge tube

nozzle to discharge fuel into charge air flow