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JAPANESE INDUSTRIAL STANDARD

**Glossary of Terms Relating to
Control of Air Pollutions from
Automobile Emissions**

JIS D 0108—1985

Translated and Published

by

Japanese Standards Association

Printed in Japan

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD

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Glossary of Terms Relating to Control of Air
Pollutions from Automobile Emissions

D 0108-1985

1. Scope

This Japanese Industrial Standard specifies the terms relating to the control of air pollutions emitted from automobiles.

2. Classification

The classification of terms shall be as follows:

(1) Fundamentals

- (1.1) Automobile by power source
- (1.2) Air contaminant
- (1.3) Control device

(2) Engine

- (2.1) Combustion chamber and valve working
- (2.2) Suction system and air-fuel mixture
- (2.3) Abnormal phenomena and preventive device
- (2.4) Electronic control
- (2.5) Mixing-ratio control and apparatus
- (2.6) Exhaust system
- (2.7) Ignition system
- (2.8) Fuel injection system

(3) Exhaust Emission Control Device

- (3.1) Secondary air
- (3.2) EGR
- (3.3) Catalyst
- (3.4) Reactor and others
- (3.5) Deceleration control system
- (3.6) Parts for control system

Reference Standards: See page 46.

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(4) Purifying Device of Evaporative Emission and Blowby Gas

(4.1) Fuel evaporative emission

(4.2) Blowby gas

(5) Fuel and Lubricating Oil

(5.1) Fuel

(5.2) Lubricating oil

(6) Components of Emission Matter and Measurement

(6.1) Components of emission matter

(6.2) Analyzer

(6.3) Sampling method and sampling apparatus

(6.4) Testing condition and testing apparatus

(6.5) Control

3. Terms and Meaning

Terms and meaning shall be as follows:

Remark: The terms in conventional use shall not be used hereinafter.

(1) Fundamentals

(1.1) Automobile by Power Source

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (1.1-1)	GASORIN-JIDŌSHA	Automobile equipped with a gasoline engine as a prime mover.	gasoline-fueled automobile petrol motor car		JIS D 0101
Reference (1.1-2)	JĪZERU-JIDŌSHA	Automobile equipped with a diesel engine as a prime mover.	diesel powered automobile, compression ignition engine automobile		JIS D 0101
Reference (1.1-3)	DENKI-JIDŌSHA	Automobile equipped with an electric motor as a prime mover. Because of no heat engine, exhaust emission does not contaminate the air.	electric vehicle		JIS D 0101
1101	HAIBURIDDO-SHINKI-JIDŌSHA	Automobile equipped with two kinds of prime movers or more such as combination of a heat engine and an electric motor, with anticipation of the effect by the combination. Controlling the load on heat engine and the change of rotation, the exhaust of air-contaminating matter can be decreased.	hybrid powered automobile		
1102	SUTĀRINGU-ENJIN-JIDŌSHA	Automobile equipped with a reciprocating external-combustion engine using fluid of high heat conductivity such as H ₂ or He as a working medium. Because the fuel burns under the optimum condition, the exhaust of air contaminating matter is lessened.	Stirling engine automobile		

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No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
1103	RANKINSAIKURU- ENJIN-JIDŌSHA	Automobile equipped with a continuous burning external-combustion engine in which working fluid such as water or organic compound changes between liquid phase and gas phase. Owing to the burning of dilute mixture gas, the temperature of boiler wall is comparatively low, and the exhaust of air contaminating matter is lessened.	Rankine cycle engine automobile	JŌKI- ENJIN	
1104	GASUTĀBIN- ENJIN-JIDŌSHA	Automobile equipped with an engine which can change thermal energy of gas into mechanical energy by means of sequential compression, heating, and expansion of the gas. Because of sequential combustion, the exhaust of air contaminating matter is lessened. Remark: This is usually composed of a compressor, burner, turbine, and others.	gas turbine engine automobile		

(1.2) Air Contaminants

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
1201	HAISHUTSU- BUSSHITSU	A general term for material emitted from an automobile. This contains exhaust gas, fuel evaporative emission, blowby gas, and in addition, volatile matter such as solvent vapor from the coatings of a car body.	emission matter (material)		JIS B 0110

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
1202	HAISHUTSUGASU	General term of gases emitted from an automobile such as exhaust gas, fuel evaporative emission, and blowby gas.	emission gas		JIS B 0110
Reference (1.2-1)	HAIKIBUSSHITSU	The material emitted outside from the exhaust system. This contains particulate matter.	exhaust emission	HAIKI-GASU	JIS B 0110
Reference (1.2-2)	HAIKIGASU	The gas emitted outside from the exhaust system of an engine.	gaseous emission, exhaust gas		JIS B 0110
Reference (1.2-3)	RYŪSHIJŌ-BUSSHITSU	General term of matters contained in exhaust emission; heavy metal compounds such as lead oxide, dust such as soot, black smoke, and tar-like substances.	particulate matter	BIRYŪ-SHI	JIS B 0110
1203	JĪZERUHAIKIEN	The component, shielding sunlight, that is contained in exhaust emission of a diesel engine. Generally classified into black smoke, blue smoke, and white smoke.	diesel smoke		
1204	JŌHATSUGASU	General term of evaporative substances emitted from an automobile. This contains fuel evaporative emission and solvent vapor from coatings of body.	evaporative emission		
Reference (1.2-4)	NENRYŌJŌHATSU-GASU	Fuel vapor emitted into air from fuel system.	fuel evaporative emission		JIS B 0110
Reference (1.2-5)	KURANKUSHITSU-HAISHUTSUBUTSU	The material emitted in to the air from a crankcase, breather, or the opening of a lubricating system.	crankcase emission		JIS B 0110
Reference (1.2-6)	BURŌBAIGASU	The gas emitted by blowby. The blowby gas of a gasoline engine contains high concentration HC.	blowby gas		JIS B 0110

(1.3) Control Device

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
1301	HAISHUTSU-BUSSHITSU-JOKASŌCHI	The device to decrease harmful constituents contained in emission matter. General term of an exhaust emission control device, control system of fuel evaporative emission, and reduction device of blowby gas.	emission control system		
Reference (1.3-1)	HAIKIJŌKASŌCHI	General term of the devices to decrease the harmful constituents contained in exhaust gas.	exhaust emission control device		JIS B 0110

(2) Engine

(2.1) Combustion Chamber and Valve Working

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.1-1)	FUKUSHITSUSHIKI-NENSHŌSHITSU	The combustion chamber which is divided in to a main chamber and auxiliary chamber between which are connected by connecting channel.	divided combustion chamber		JIS B 0108
Reference (2.1-2)	SUKISSHU	A gas flow toward the direction of cylinder radius at near the end of compression stroke, caused by the working gas forced out from the gap between the upper face of a piston and lower face of a cylinder head.	squish		JIS B 0108

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.1-3)	SUWĀRU	The swirling flow of working gas around the centre axis of a cylinder.	swirl		JIS B 0108
Reference (2.1-4)	SHŌENRYŌIKI	General term of the area, to which flame cannot reach, such as the gap between the upper part of a piston and cylinder wall, near the side wall of a combustion chamber, or others. If this area becomes large, HC content in exhaust gas will increase.	quench area		JIS B 0108
2101	SĀFEISUBORYŪMU-HI	Ratio of the surface area of a combustion chamber to the volume. If this ratio is small, the HC content in exhaust gas will decrease. Abbreviated as S/V (surface volume ratio).	surface volume ratio		
Reference (2.1-5)	BURŌBAI	The phenomenon that the working gas flow out from the periphery of pistons or valve stems.	blowby, blow-by		JIS B 0108
Reference (2.1-6)	BEN-KASANARI	The interval when an intake valve and exhaust valve open simultaneously. Generally expressed by crank angle. For gasoline engine, the generation of NO _x can be controlled, to some degree, by the adjustment of valve overlap.	valve overlap		JIS B 0109
Reference (2.1-7)	BEN-KAIHEIJIKI	Timing of opening and shutting of an intake valve, exhaust valve, and scavenging valve. Generally expressed by the crank angle from a dead point. This influences the quantity and temperature of exhaust gas.	valve timing		JIS B 0109

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.1-8)	NAIBU EGR	While gas exchanging, the operation to increase the quantity of remaining gas on purpose to get the same effect as an exhaust gas recirculation.	internal EGR, internal exhaust gas recirculation		JIS B 0110

(2.2) Suction System and Air-Fuel Mixture

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.2-1)	HĪTORAIZA	A part of an intake pipe, where air-fuel mixture or suction gas is heated by hot water, exhaust gas, electric heater, or others.	heat riser		JIS B 0109
2201	KYŪKI-KANETSU	The method to heat suction gas in order to accelerate the vaporization of fuel.			
2202	KONGŌKI-KANETSU	The method to heat air-fuel mixture in order to accelerate the vaporization of fuel.			
Reference (2.2-2)	ONCHŌSHIKI-KŪKISEIJŌKI	The air cleaner equipped with a device capable of maintaining suitably the temperature of intake air.	temperature controlled air cleaner		JIS B 0110
2203	TEINETSUYŌRYŌ-KYŪKISŌCHI	The suction device whose thermal inertia is made specially low in order to accelerate the warming up of suction system.	low thermal inertia induction system		

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.2-3)	AIDORUKONSEN-TA	The compensating device to prevent, while idling, over-concentration of air-fuel mixture accompanied by the increase of suction-gas temperature.	idle compensator		JIS B 0110
2204	ONCHŌSHIKI-KASOKUPONPU	The acceleration pump of a carburetor able to change its discharge characteristic according to the warming up condition of an engine.			
2205	KONGŌKIBUNPAI	The distributing condition of fuel and air supplied to each cylinder when supplying air-fuel mixture to plural cylinders.	air-fuel mixture distribution		
Reference (2.2-4)	SŌJŌKYŪKI	Charging method intended for stratification in order to form rich air-fuel mixture in the vicinity of ignition plug and lean mixture in other places.	stratified charge		JIS B 0108
2206	KINSHITSUKYŪKI	Charging method to fill uniformly homogeneous air-fuel mixture into whole combustion chamber.	uniform charge		
Reference (2.2-5)	RIRONKONGŌKI	The air-fuel mixture whose mixing ratio is theoretical.	stoichiometric mixture		JIS B 0108
Reference (2.2-6)	KIHAKUKONGŌKI	The air-fuel mixture whose air-fuel ratio is larger than theoretical ratio owing to containing superfluous air.	lean mixture		JIS B 0108
Reference (2.2-7)	NŌKONGŌKI	The air-fuel mixture whose air-fuel ratio is smaller than theoretical ratio owing to containing superfluous fuel.	rich mixture		JIS B 0108

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
2207	UINDŌ	Narrow range of air-fuel ratio in the vicinity of theoretical mixture ratio when three way catalyst functions effectively.	window		
2208	ONDOHOSHŌ	On purpose to maintain an appropriate mixing ratio, to compensate the ratio by means of sensing the temperature of charged gas or other representative characteristics.	temperature compensating		
2209	KŌDOHOSHŌ	On purpose to maintain an appropriate mixing ratio, to compensate the ratio by means of sensing the altitude or other representative characteristics.	altitude compensating		
2210	KIATSUHOSHŌ	On purpose to maintain an appropriate mixing ratio, to compensate the ratio by means of sensing the atmospheric pressure or other representative characteristics.	atmospheric pressure compensating		
2211	HERIKARUPŌTO	Herical suction port to accelerate the mixing of fuel and air by means of making eddy inside a cylinder caused by rotating inertia of suction mixture or suction air.	helical port		

(2.3) Abnormal Phenomena and Preventive Device

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.3-1)	NOKKINGU	Abnormal combustion caused by partially igniting a corner of gas.	knocking		JIS B 0108
Reference (2.3-2)	RAN-ON	In the case of a spark ignition engine, the phenomenon that firing continues due to surface ignition even after stopping of sparking.	run(ning)-on		JIS B 0108
2301	RAN-ON-BŌSHI-SŌCHI	The device to prevent run-on. There are methods to cut off the path for fuel, to shut the throttle valve of a carburetor, and others.			
2302	NENRYŌKATTO	Cutting off the supply of fuel on purpose to control the emission of HC or to prevent run-on.	fuel cut		
Reference (2.3-3)	ATOMOE	Phenomenon of continuing the burning after passing normal burning period.	after burning		JIS B 0108
Reference (2.3-4)	AFUTAFAlA	The phenomenon of burning the gas explosively, which has been exhausted without burning in a cylinder, in an exhaust system. This is apt to take place when applying a countermeasure for exhaust gas, and may damage a post-treating device of catalyst or the like.	after fire		JIS B 0108
Reference (2.3-5)	GYAKKA	The phenomenon that the flame in a cylinder goes back in a suction pipe. This is apt to take place when too-rich or too-lean mixture is let burn at starting or when the countermeasure for exhaust gas, e.g. delaying ignition timing, is carried out.	back fire		JIS B 0108

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.3-6)	MISUFAIA	The phenomenon that the mixture does not burn. If fuel goes into the emission control device as it has not burnt yet, temperature may rise excessively owing to the rapid acceleration of reaction.	misfire		JIS B 0108
Reference (2.3-7)	AISHINGU	The phenomenon of icing at a carburetor or other places owing to the low temperature of outside. By icing, the injurious constituents may increase in exhaust matter.	icing		JIS B 0108
Reference (2.3-8)	BĒPAROKKU	Due to the accumulation of fuel vapor or air in the fuel system such as a carburetor, fuel in-jection equipment, and others, the phenomenon that the supply of fuel is hindered.	vapour-lock, vapor-lock		JIS B 0108
Reference (2.3-9)	PĀKORĒSHON	The phenomenon that running of an engine is made disorder because the fuel in the float chamber of a carburetor has become high temperature and been boiled.	percolation		JIS B 0108

(2.4) Electronic Control

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.4-1)	DENSHISEIGYO-KIKAKI	The carburetor able to control the air-fuel ratio by means of an electronic circuit.	electronic controlled carburetor		JIS B 0110

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.4-2)	DENSHISEIGYO-NENRYOFUNSHA-HOSHIKI	The fuel injection system able to control the amount of injection and timing of injection by means of an electronic circuit.	electronic controlled fuel injection system		JIS B 0110
2401	ENJIN-SHŪCHŪ-DENSHISEIGYO-HOSHIKI	The electronic controlled engine system that, after having electronically memorized the optimum values of ignition time, air-fuel ratio, EGR ratio, and others with relation to running condition, controls to make those values optimum by feedback or the like with receiving the electric signals from various sensors.			

(2.5) Mixing-Ratio Control and Apparatus

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.5-1)	KŪNENHI-FĪDO-BAKKUSEIGYO	This means automatic control of air-fuel ratio by detection of oxygen concentration and the like in exhaust gas.	feedback control of air-fuel ratio		JIS B 0108
Reference (2.5-2)	AIDORURIMITTA	The equipment to limit the movement of the idling adjusting screw in order to make lower the air-fuel ratio while idling than a certain limit.	idle limiter		JIS B 0110
2501	CHŌKUŌPUNA	The device to open forcibly a choke valve until a certain limit when the engine has been warmed up in some degree, in order to prevent increasing CO and HC owing to rich mixture while running the choke valve.	choke opener		

(2.6) Exhaust System

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
Reference (2.6-1)	HAIKIPŌTORAINA	A liner inserted in an exhaust port for maintaining the temperature of exhaust gas high.	exhaust port liner		JIS B 0110
2601	HAIKIATSU-MYAKUDO	The intermittent variation of the pressure inside an exhaust pipe owing to the discharge of exhaust gas.	exhaust pulsation		

(2.7) Ignition System

No.	Terms	Meaning	Reference		
			English Equivalent	Everyday Japanese	Reference standard
2701	TENKAJIKISEIGYO-HŌSHIKI	The system to control ignition timing to decrease the amount of HC and NO _x .	ignition timing control system		
Reference (2.7-1)	TASETTENSHIKI-DISUTORIBYŪTA	The distributor able to use alternately two breakers or more according to the driving condition.	multi-contact distributor		JIS B 0110
Reference (2.7-2)	FUKUDŌMAKUSHIKI-DISUTORIBYŪTA	Owing to the vacuum advance with two diaphragms, the distributor which can change spark advance according to driving condition.	dual diaphragm distributor		JIS B 0110
Reference (2.7-3)	TORANJISUTA-TENKASŌCHI	The ignitor by which high voltage of the secondary side is obtained by interrupting primary current of an ignition coil using a transistor circuit. Since producing continuously accurately spark energy, the increase of harmful constituents in exhaust gas by a misfire or the fluctuation of ignition timing, can be prevented.	transistor ignitor		JIS B 0110