

JIS

JAPANESE INDUSTRIAL STANDARD

Glossary of terms relating to suspension of automobiles

JIS D 0111-1992

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Glossary of terms relating to suspension
of automobiles

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1. Scope

This Japanese Industrial Standard specifies the terms relating to the suspension of automobiles. However, the terms relating to the two-wheeled vehicles are excluded.

Remarks: The standards cited in this Standard are as follows:

JIS B 0101-Glossary of terms relating to fasteners

JIS B 0103-Glossary of terms used in springs

JIS D 0104-Glossary of terms relating to main systems of
automobiles

2. Classification

The classification of the terms is as follows:

(1) General terms of the suspension system

(2) Terms of suspension method and type

(a) Suspension method

(b) Spring type

(3) Terms of components

3. Terms and definitions

The terms and the definitions are as follows:

Furthermore, English equivalents and idiomatic expressions are shown for informative reference.

Remarks 1. If the standard at the end of the definition column is followed by an *, the definition of the term specified in the applicable Japanese Industrial Standard is further restricted.

2. Parentheses under a term show the pronunciation.

3. Idiomatic expressions are avoided as much as possible.

(1) General terms of the suspension system

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
1000	懸架装置 (けんがそうち)	KENGASŌTI	The suspension system is placed between the carbody or frame and wheels, support the body with springs, to soften the vibration and shock from the road and control the relative places of the body and wheels to transfer the load applying to the wheels to the body. (Refer to JIS to JIS D 0104 *)	suspension system	-
1001	車軸懸架装置	SYAZIKU KLENGASŌTI	A suspension system wherein the left and the right wheels are connected by an axle.	rigid axle suspension system	BĪMU AKUSERU
1002	独立懸架装置	DOKURITU KENGASŌTI	A suspension system wherein the left and the right wheels are not connected by an axle and are able to move independently.	independent suspension system	-
1003	平衡懸架装置	HEIKŌ KENGASŌTI	A suspension system wherein the suspension mechanism of the front and rear or left and right are connected in order to control the movement of the body.	equalizing type suspension system	KANREN KENGA SŌTI, SOKAN KENGA SŌTI

(2) Terms of suspension method and type

(a) Suspension method

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2101	縦置き板ばね式	TATEOKI ITABANESIKI	A suspension method wherein the leaf spring (Refer to 3034) is attached to the axle connecting the left and the right wheels lengthwise parallel to the body. (Refer to Attached Fig. 1)	parallel leaf spring type	HEIKŌ RIHŪ-SIKI
2102	横置き板ばね式	YOKOOKI ITABANESIKI	A suspension method wherein the leaf spring is transversely parallel to the axle. (Refer to Attached Fig. 2)	transversal leaf spring type	-
2103	オーバスラング式	ŌBA SURANGUSIKI	A suspension method of the parallel leaf spring type wherein the leaf spring is attached to the upper side of the axle.	over slung type	-
2104	アンダスラング式	ANDA SURANGUSIKI	A suspension method of the parallel leaf spring type wherein the leaf spring is attached to the lower side of the axle. (Refer to Attached Fig. 1)	under slung type	-
2105	4リンク式 (ふおりんくしき)	4-RINKUSIKI	A suspension method wherein the point of the axle is determined with four links of the rigid axle suspension system. (Refer to Attached Fig. 3) Remarks: There is also a three-link type with three links and a five-link type with five links.	four-link type	-

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2106	トルクチューブドライブ式	TORUKU TYŪBU DORAIBUSIKI	A suspension method wherein the final reduction gear is extended forward with the tube and attached to the most rearward position of the transmission or the body with a ball joint. (Refer to Attached Fig. 4) Remarks: The propeller shaft penetrates through this tube.	torque tube drive type	-
2107	タンデムアクスル式	TANDEMU AKUSURUSIKI	A suspension method wherein two axles are attached in order to reduce the pressure on the road and the counter-pressure on the body or to add the tractive force. (Refer to Attached Fig. 5) Remarks: This method is often used for large tracks, special vehicles and the like. It is divided into many types (trunnion type, four-spring type, walking beam type, rocker beam type, etc.)	tandem axle type	-
2108	ド・ディオン式	DO DIONSIKI	A suspension method using a fixed axle connecting the left and right wheels wherein the final reduction gear is attached to the body or the frame. (Refer to Attached Fig. 6) Remarks: The driving force is transferred to the wheels by the driving shaft with a universal coupling.	de Dion type	-

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2109	ダブルウィッシュボ ーン式	DABURU WISSYUBONSIKI	A suspension method using two control arms (refer to 3001) above and below. (Refer to Attached Fig. 7)	double wishbone type	-
2110	マクファerson式	MAKUFĀSONSIKI	A suspension method using a suspension strut (refer to 3054) supporting the body at the top edge and the trans- verse link (Refer to 3010). (Refer to Attached Fig. 8)	MacPherson type	SUTORATTO SIKI
2111	スライディングピラ ー式	SURADINGU PIRĀSIKI	A suspension method wherein the kingpin is extended above and reciprocates in the tube fixed to the body. (Refer to Attached Fig. 9)	sliding pillar type	-
2112	デュボネ式	DUBONESIKI	A suspension method wherein the kingpin is fixed to the body and the trailing arm (refer to 3002) or the leading arm (Refer to 3003) is incorporated in the steering knuckle. (Refer to Attached Fig. 10)	Dubonnet type	-
2113	スイングアクスル式	SUINGU AKUSURUSIKI	A suspension method wherein the joint at the final reduction gear attached to the body is supported by the driving axle rocking at the center and the control arm. (Refer to Attached Fig. 11)	swing axle type	-

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2114	ダイアゴナルスイングアーム式	DAIAGONARU SUINGU AKUSURUSIKI	A suspension method of the swing axle type wherein the swing axle of the control arm and the joint inside the driving shaft are placed abreast. (Refer to Attached Fig. 12)	diagonal swing axle type	-
2115	トレーリングアーム式	TORERINGU AMUSIKI	A suspension method using a trailing-arm for which the swing axle is parallel to the axle. (Refer to Attached Fig. 13)	trailing arm type	-
2116	セミトレーリングアーム式	SEMITORERINGU AMUSIKI	A suspension method using a trailing arm for which the swing axle is attached diagonally to the axle. (Refer to attached Fig. 14)	semi-trailing arm type	-
2117	ダブルトレーリングアーム式	DABURU TORERINGU AMUSIKI	A suspension method using two trailing arms above and below. (Refer to attached Fig. 15)	double-trailing arm type	-
2118	リーディングアーム式	RIDINGU AMUSIKI	A suspension method using a leading arm containing the swing axle parallel to the axle. (Refer to Attached Fig. 16)	leading arm type	-
2119	ロッカアーム式	ROKKA AMUSIKI	A suspension method wherein the coil spring (Refer to 3042) and the rocker arm are combined on the damper shaft at one of the front wheels. (Refer to Attached Fig. 17)	rocker arm type	-

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2120	オレオ式	OREO-SHIKI	A suspension method wherein the springs [For example air springs (Refer to 3031)] are attached to the kingpin shaft in order that the steering torque may be transferred around the shaft by the steering arm. (Refer to Attached Fig. 18)	oleo type	-
2121	トーションビーム式	TŌSYON BĪMUSIKI	A suspension method wherein the deformation of torsion elasticity is permitted and the left and right trailing arms are connected with a torsion beam (Refer to 3013) which has bending elasticity. (Refer to Attached Fig. 19)	torsion beam type	TORERINGU TUISUTO AKUSURUSIKI, TORERINGU AMU TŌSYON BĪMUSIKI

(b) Spring type

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2201	空気ばね式	KŪKIBANESIKI	An air spring (Refer to 3031) shall be used as the suspension spring. (Refer to Attached Fig. 20)	air suspension type	-

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
2202	流体ばね式	RYŪTAIBANESIKI	A hydraulic spring (Refer to 3032) shall be used as the suspension spring. (Refer to Attached Fig. 21)	hydropneumatic suspension type, hydroelastic suspension type	-
2203	ゴムばね式	GOMUBANESIKI	A rubber spring (Refer to 3033) shall be used as the suspension spring. (Refer to Attached Fig. 22)	rubber suspension type	-
2204	板ばね式	ITABANESIKI	A leaf spring shall be used as the suspension spring. [Refer to Attached Figs. 1, 2, 5, 6 and 7 (c)]	leaf spring suspension type	RĪHU SUPURINGUSIKI
2205	コイルばね式	KOIRUBANESIKI	A coil spring shall be used as the suspension spring. [Refer to Attached Figs. 3, 4, 7 (a), 8, 12 and 17]	coil spring suspension type	KOIRU SUPURINGUSIKI
2206	トーションバー式	TŌSYONBĀSIKI	A torsion bar, (Refer to 3043) shall be used as the suspension spring. [Refer to Attached Figs. 7 (b) and 13 (b)]	torsion bar suspension type	-

(3) Terms of components

No.	Term (Japanese characters)	Reading	Definition	Informative reference	
				English equivalent	Idiomatic expression
3001	コントロールアーム	KONTORŌRU ĀMU	An arm that controls the movement of the wheels mainly for double wishbone type, etc. (Refer to Attached Fig. 7)	control arm	SASPENSYON ĀMU
3002	トレーリングアーム	TORĒRINGU ĀMU	An arm wherein the rotating shaft is in front of the axle and the rear edge is running out above and below. [Refer to Attached Figs. 13, 14, 15, 18 and 19]	trailing arm	-
3003	リーディングアーム	RĪDINGU ĀMU	An arm wherein the rotating shaft is behind the axle and the front edge is running out above and below. (Refer to Attached Fig. 16)	leading arm	-
3004	ラテラルロッド	RATERARU RODDO	A rod attached between the axle and body laterally to support the lateral force of the wheels. [Refer to Attached Figs. 3, 4, 19 (b), 20 (b)]	lateral rod	PANĀRU RODDO
3005	ラジオスロッド	RAZIASU RODDO	A rod attached between the axle and the body vertically to support the vertical force of the wheels (in the direction of front and rear). [Refer to Attached Fig. 20 (b)]	radius rod	-
3006	トルクロッド	TORUKU RODDO	A rod used to support the torque around the axle during acceleration and deceleration. [Refer to Attached Fig. 5 (a)]	torque rod	-