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JAPANESE INDUSTRIAL STANDARD

Standard Form of Specifications of Vehicles with Rotary Snow Plough

JIS D 6510—1986



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Standard Form of Specifications of Vehicles
with Rotary Snow Plough

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1. Scope

This Japanese Industrial Standard specifies the standard form of specifications, hereinafter referred to as the "form of specifications", of vehicles with rotary snow plough, hereinafter referred to as the "rotary vehicles", and gist of entering the specifications.

Remark: The units and numerical values given in { } in this standard are in accordance with the International system of Units (SI) and are appended for reference.

2. Form of Specifications

The form of specifications shall be as follows:

- (1) This specification shall be in accordance with the form of Attached Table.
- (2) This specification indicates the outline of performance and elements of the rotary vehicle, in entering a part of items may be omitted or added with the item not specified in the table, depending upon the using object of this specification or the style of rotary vehicle.
- (3) The construction of each part, material, full drawing, etc. shall be written in addition or appended, as required.

3. Gist of Entering Specifications

The order and gist of entering the specification shall be in accordance with (1) to (13).

Further, in the items of performance, dimensions, and mass, the numerical values obtained on a horizontal paved road surface in the case of wheel type and on the horizontal road surface or horizontal paved road surface in the case of crawler type under the working order condition at no load excepting where specially specified with making the tyre air pressure (in the case of wheel type), the set pressure of relief valve, etc. under the standard condition designated by the manufacturer, shall be entered.

(1) Rotary Vehicle or Device

- (a) Style and Name of Rotary Vehicles or Rotary Devices Using for designation of rotary vehicles (or devices); enter the manufacturer's mark, style, designation of rotary vehicle (or device) and division of vehicle exclusively for one engine, vehicle exclusively for two engines, unit type, separate type, P.T.O. type, etc.

Applicable Standards and Reference Standards: See page 14.

(b) Manufacturer's Name

- (c) Enter the rotary device style (unit type, separate type, P.T.O. type, etc.) and snow-removing mechanism style (one stage-blower type, two stage-ribbon screw auger type, etc.)

(2) Automobile Body Concerning the automobile manufactured for exclusive use as the rotary vehicle, hereinafter referred to as the "exclusive use vehicle", omit it.

- (a) Automobile Style and Name Use them for designation of equipped automobile, and enter the manufacturer's mark, designation, name of automobile.

(b) Manufacturer's Name(3) Performances

- (3.1) Maximum Snow-Removing Capacity Let the entering value be two significant figures and in addition append the quality of snow (classification of snows, density of snow) which is the base of this numerical value and the snow-throwing-away distance.
- (3.2) Maximum Snow-Removing Width In the case of mounting attachment, append the effect.
- (3.3) Rotary Device Front Surface Height
- (3.4) Maximum Height of Chute Enter the tip height of the chute (in the case where the chute cap exists, include it) under the snow-removing figure.
- (3.5) Height of Snow-Cutting Plate It shall be the height of snow cutting plate tip under the snow-removing figure.
- (3.6) Snow-Throwing-Away Distance Enter the snow-throwing away distance at each speed stage at the rated rotational speed of the engine.
- (3.7) Travelling Speed For each speed stage under the rated rotational speed of engine, enter the travelling speeds respectively at working and forwarding.
- (3.8) Gradeability Enter the gradient angle ($\tan \theta$) climbable continuously. In this case the rotary vehicle shall be under the working order condition.
- (3.9) Front Overhang Dimensions Concerning the following respectively append the measuring points.
- (a) Length Enter the dimension of overhung length at rotary device mounting side under the travelling figure.
- (b) Height Enter the dimension of overhung height at rotary device mounting side under the travelling figure.

- (3.10) Minimum Turning Radius Enter the following items at the maximum travel steering angle:
- (a) Outermost Side of Rotary Vehicle Enter the radius of circular arc drawn by the outermost side of rotary vehicle (excluding the snow-cutting plate). Append the corresponding measuring places.
 - (b) Innermost Side of Rotary Vehicle (Wheel Type) Enter the radius of circular arc drawn by the innermost side of rotary vehicle (excluding the snow-cutting plate). Append the corresponding measuring place.
 - (c) Outermost wheel Centre (Wheel Type) Enter the radius of trace centre of wheel passing the outermost side.
 - (d) Innermost Wheel Centre (Wheel Type) Enter the radius of trace centre of wheel passing the innermost side.
 - (e) Outermost Side of Crawler Contacting Ground Surface Trace (Crawler Type) Enter the radius of outermost side of crawler trace at the minimum turning.
- (3.11) Tilting Limit Angle Enter the smaller angle out of the maximum tilting angles in left or right direction which maintains the stable condition of rotary vehicle under the travelling figure.
- (3.12) Noise Enter the outside noise and the operating chamber inside noise at the vehicle stopping and at the snow-removing work.
- (4) Main Dimensions Enter the dimensions of rotary vehicle at travelling figure.
- (a) Overall Length
 - (b) Overall Width
 - (c) Overall Height Append the measuring points.
 - (d) Ground Clearance of Undercarriage Append the measuring point.
- (5) Mass and Load Distribution
- (a) Total Mass of Rotary Vehicle Enter the total mass under the working order condition.
 - (b) Load Distribution Enter the load applied on front axle and rear axle of the total mass of rotary vehicle under the travelling figure. Further, in the case of crawler type, enter the contacting ground area and the ground pressure.

- (a) Rated Rotational Speed
 - (b) Rated Output
 - (c) Maximum Torque
 - (d) Fuel Consumption Rate Enter the fuel consumption rate at the rated output.
- (7.2.6) Supercharger Enter the style (division of turboblower type, roots type, etc.)
- (7.2.7) Fuel Pump Enter the style.
- (7.2.8) Speed Governor Enter the division of centrifugal type, pneumatic type, etc. and the division of all speed type, maximum and minimum type, etc.
- (7.2.9) Lubricating Series
- (a) Lubricating Method Enter the division of gear pump pressure feed type, sprinkling type, etc.
 - (b) Filtering Method Enter the division of full flow, bypass type, etc.
 - (c) Cooling Method Enter the division of air cooling, water cooling, etc.
- (7.2.10) Air Cleaner Enter the division of centrifugal type, oil tank type, filter paper type, etc.
- (7.2.11) Cooling Style Enter the division of suction type, pressing out type of fan and the division of pressurizing type, open type, etc.
- (7.2.12) Charging Generator Enter the division of a.c. and d.c., voltage, and capacity.
- (7.2.13) Starting Electric Motor Enter the voltage, and output.
- (7.2.14) Batteries Enter the classification, voltage, capacity, number of units, etc. according to JIS D 5301 and the like.
- (7.3) Main Clutch Enter the division of dry type and wet type, division of single plate and double plates, working style (spring type, oil hydraulic type, etc.), existence of brake, and operation style (division of hand operation and foot operation and the servo unit style).

(7.4) Torque Convertor

- (a) Name Enter the manufacturer's mark, style name.
- (b) Style Enter the number of elements, number of stages, number of phases.
- (c) Stall Torque Ratio
- (d) Cooling Method Enter the style of cooling, and style of radiator.

(7.5) Power Distributor

- (a) Style Enter the gear style and the like. In the case of integral construction with the speed change gear, append the effect.
- (b) Reduction Speed Ratio Enter the respective reduction speed ratios of travel output shaft, and snow-removing work output shaft.

(7.6) Speed Change Gear for Travel

- (a) Style Enter the gear style, number of speed change stages, method of speed change (division of slide engaging type, service engaging type, equal speed engaging type, planetary gear type, etc.) and operating method (division of manual operation, oil-hydraulic operation, etc.).
- (b) Speed Change Ratio Enter the speed change ratios concerning the forward and backward travellings at each speed stage.

(7.7) Speed Change Gear for Snow-Removing Enter the vehicle exclusively for single engine. Further in the case where there are speed change gears for exclusive use for blower and auger respectively, enter respectively in division of uses.

- (a) Style Enter according to (7.6) (a).
- (b) Speed Change Ratio In the case of integral speed change gear for blower and auger, enter the speed change ratio at each speed stage.

(7.8) Speed Reduction Gear for Travelling

- (a) Style Enter the style of gear and others.
- (b) Speed Reduction Ratio