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**Safety property requirements and test method for fuel tanks of
all-terrain vehicles**

全地形车燃油箱安全性能要求和试验方法

(English Translation)

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Table of Contents

Preface
1 Scope
2 Terms and definitions
3 Fuel tank safety requirements
4 Fuel tank safety performance test method
Appendix A (normative) Fire Test Method

Foreword

Chapter 3 of this standard (except 3.1.3), Article 4 and Appendix A mandatory, the rest are recommended.

Appendix A of this standard is a normative appendix.

The standard four all-terrain vehicle by the National Standardization Technical Committee (SAC/TC344) and focal points.

1 Scope

This standard specifies the safety requirements and test methods for all-terrain vehicle fuel tank.

This standard applies to all-terrain vehicle with a fuel tank of a variety of metals and non-metallic fuel tank.

2 Terms and definitions

The following terms and definitions apply to this standard.

Fuel tank

Fixed at four all-terrain vehicle, for storing fuel independent housing assembly.

Fuel leakage fuelleak it was outwardly from the fuel tank fuel line or drip like whereabouts.

Rated capacity as a fuel tank design parameters refueling capacity.

Fuel quality loss fuelweightloss in the fuel tank in a predetermined safety performance test, since the diffusion of the lead storage tank to reduce fuel quality.

3.1 General requirements

3.1.1

The fuel tank and the adjacent part of the design should not produce any static charge spark that occurs between the fuel tank and the frame, so as not to point Ranran Mixture of oil and air.

3.1.2

rated capacity should not exceed the maximum liquid fuel tank capacity of 95%. Above rated capacity 95L fuel tank shall be equipped with safety Valve means.

3.1.3

safety valve device may be attached to the fuel tank can also be provided in the attachment system to prevent fuel tank due to internal pressure increases cause me Rupture.

3.1.4

is applied to the fuel tank is equipped with a pressure relief valve means, so that the inside pressure was slowly raised, safety valve opening pressure should be 35kPa ~ 50kPa. After the safety valve opens, the pressure in the fuel tank should not be higher than the valve opening pressure 5kPa.

3.1.5

The fuel tank should be resistant to corrosion.

3.1.6

shall have adequate means (vents, safety valves, etc.) to automatically release any additional pressure or working pressure exceeds the pressure. ventilation Holes shall be designed to rule out any potential fire hazards.

3.1.7

Fuel evaporative emission system is equipped with fuel tank should have a vent, the fuel tank is filled this vent should remain in the oil surface side, to ensure that the evaporative emission can always discharge the fuel tank.

3.2 Fuel tank leakage - sealing performance requirements

There should be no bubbles within 1min after tightness test, the fuel tank reaches a predetermined pressure - 4.1 by the method of leakage.

3.3 Fuel tank cap sealing performance requirements

After sealing performance test method as described in 4.2 of the gas cap, gas cap leakage should not exceed 30g/min.

3.4 Fuel tank vibration durability requirements

After completion method as described in 4.3 fuel tank vibration test, according to the method of inspection 4.1 sealing fuel tank, fuel tank there should be no leakage phenomenon.

3.5 Performance Requirements metal fuel tank pressure

After completion of the pressure test method by 4.4, 4.1 according to the method to check the fuel tank, there should be no leakage, cracking phenomenon.

3.6.1 Performance requirements penetration

4.5.1 press carried the fuel tank permeability test, the fuel tank of fuel mass loss should not exceed 20g/24h.

If the mass loss of more than 20g/24h, should be at $21\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ ambient temperature test again, all other conditions remain Variable (including pre-trial storage of 28d at $40\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ ambient temperature), at the ambient temperature measured fuel mass loss should not exceed 10g/24h.

3.6.2 Impact Performance Requirements

4.5.2 The method according to the fuel tank impact test, a test for any selected point on the fuel tank once after impact, should not occur Liquid leakage.

3.6.3 Mechanical strength performance requirements

Press method 4.5.3 fuel tank mechanical strength test, the fuel tank should not have any deformation may make it impossible to use (such as fuel the tank should not produce leakage, cracking, perforation and so on). In assessing the deformation of the fuel tank, taking into account specific installation conditions.

3.6.4 Fuel resistant performance requirements

The method according to 4.5.4 after the fuel tank fuel resistant performance test, the average value before and after the two tests should not be a difference of 25%.

3.6.5 Fire performance requirements

Tank material in the test set forth in Appendix A flame burning rate should be less than 0.64mm/s.

3.6.6 High temperature performance requirements

4.5.5 Complete press the fuel tank temperature test, the fuel tank should not be noticeable plastic deformation or leakage. After the test is completed Fuel tank should be able to fully meet the requirements.

3.7.1 Fuel Tank

Design, manufacture and installation of the fuel tank attachment system in all driving conditions should be able to perform its functions.

Fuel tank filler and vent the exhaust pipe should not be facing the outlet, and should be away from the outlet end of the exhaust pipe of 300mm or more, otherwise it should be set Effective home insulation. Fuel tank filler and vent should be away from exposed electrical connectors may produce sparks and external electrical switch 200mm or more.

Fuel tank filler and vent should be provided in the occupant compartment.

3.7.2 Fuel supply system

Effective protection portion of the vehicle body frame or engine fuel system components shall be subject, in order to avoid obstacles on the ground by the impact. If the above section Although member located beneath the vehicle, but between it and the ground is greater than the distance between the front of the frame or body and the ground, you do not need it Species protection.

Fuel supply system in the design, manufacture and installation, should be able to withstand any corrosion from contact with internal and external. Vehicle architecture, Twisting, bending and vibration of the engine and driveline not make the fuel system components by friction or extra stress occurs.

4.1 Fuel tank leakage - sealing performance test method

Empty the fuel tank cap fuel tank cap and install all accessories, sealing all imports and exports. Into the tank, the fuel tank is completely submerged in water. The fuel tank is pressurized to a relatively smooth double the working pressure (absolute pressure of not less than 130kPa), the pressure reaches a predetermined value when the timing and observe the leakage.

4.2 Test method for sealing fuel tank cap

Rated capacity added in the fuel tank of water, cover the fuel tank cap. Closed all other import and export. Flip to the fuel tank filler neck portion the center line perpendicular to the ground, to be stable fuel tank 15s, with a stopwatch, then the amount of leakage from the fuel tank cap cup out of the water, weighed 1min the leakage.