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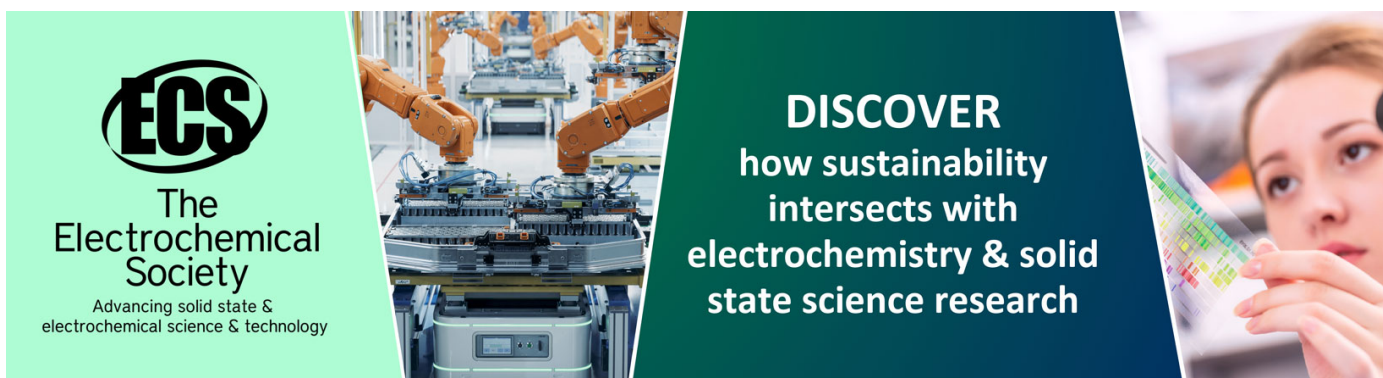
Research on Vehicle Preventive Maintenance Equipment

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Research on Vehicle Preventive Maintenance Equipment

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Abstract. "Fire-fighting" post-maintenance is the existing vehicle maintenance service mode. When the vehicle maintenance and other faults, from the demand report to the successful maintenance of service personnel needs a long time, and in the period of receiving the task, time is to grab the "lifeline". Temporary stop-trade union causes great losses to the strategic deployment of troops, so preventive maintenance of vehicles is an important guarantee system for vehicle maintenance management. Its role is not limited to compensating the physical wear of machinery to avoid the occurrence of major faults, to ensure the normal operation of vehicles, reduce maintenance costs and improve the use of economy. At the same time, useful information can be fed back to production and maintenance units to improve the quality of products and maintenance. Therefore, the performance, quality and actual use economy of some preventive maintenance equipment are very important for mechanical equipment. This paper will study and design a kind of preventive maintenance equipment, which aims to solve the problem that most preventive maintenance equipment on the market cannot control the amount of oil when adding lubricating oil to automobile engine and other mechanical parts, and it is easy to scatter the lubricating oil and contaminate other areas.

1. Research Background and Purpose

According to the research on military logistics support and automobile maintenance market, it is found that most of the preventive maintenance equipment in the military and social market cannot control the amount of oil when adding lubricating oil to mechanical parts, and it is easy to scatter lubricating oil and defile other areas, so it is very inconvenient to use [1]-[3].

For example, in the process of adding lubricating oil to general diesel oil, it is often through the experience of maintenance technicians to grasp the hand force for filling, so that sometimes often a little careless and easy to spill the lubricating oil on the mechanical surface and some auxiliary equipment belt, the consequences are quite serious.

In view of the above phenomenon and the shortage of the existing technology, the author through contact the actual work, combining with related to vehicle maintenance books and materials, designed a relevant preventive maintenance equipment, thought to resolve the to add lubricating oil of engine and other mechanical parts difficult to control the oil amount and easy to make the problems in other areas of the lubricating oil and defiled scattered and [4]-[5].

2. Research Programmer

To achieve the above objectives, the following equipment technical scheme is designed (as shown in Figure 1-2) :

A preventive maintenance equipment, including oil storage tank, as described in the top of the oil storage box fixed connection with a handle, described in the oil storage box at the top of the right to open a feed port, as described in the surface of the feeding port threaded connections to have close



over, described on the surface of the oil storage box on the left side of the fixed link at the bottom of the discharging mouth, as described in the surface of the discharging mouth threaded cap connection, described the connection cap from discharging mouth on one side of the fixed connection hoses, and the internal connection cap and throughout the interior of the hoses, described hoses from one end of the connecting cap socket with carrying handle and described with the handle of a side runs holding groove, described in the handheld handle positive opening hole,

Internal activities described hole plug has the control, and internal control button located at the end of the holding handle, described the control button in the bowels of the carrying handle one end fixed connection limited slice, limit piece away from control new side fixed connection with spring, described carrying handle away from oil hose end fixed connection with drip nozzle.

The top of the left side of the oil storage tank is fixedly connected with a suspension hook, and the side of the handheld handle is fixedly connected with a finite bit ring.

The inside of the oil drop nozzle is connected with the inside of the oil transfer hose, and the oil drop nozzle is made of polypropylene material.

One end of the spring away from the limit plate is fixedly connected with the inner wall of the hand handle.

The number of the springs is two.

The length of the drip tip is 8 cm.

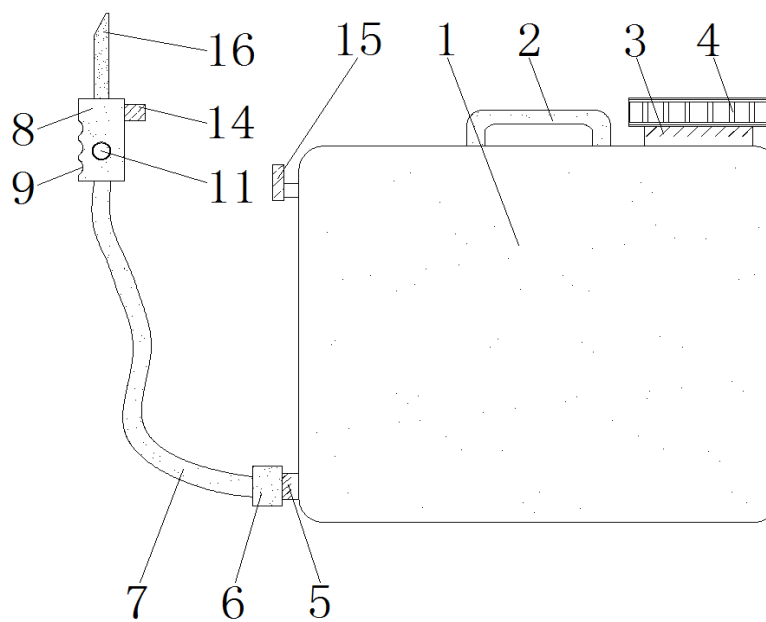


Figure 1. Elevation diagram of equipment structure

1 Oil storage tank, 2 Handle, 3 Feeding port, 4 Sealing cap, 5 Discharge port, 6 Connecting cap, 7 Oil transfer hose, 8 Handle, 9 Holding groove, 10 Through hole, 11 Control button, 12 Limit plate, 13 Spring, 14 Limit ring, 15 Hanging hook, 16 Drop nozzle.

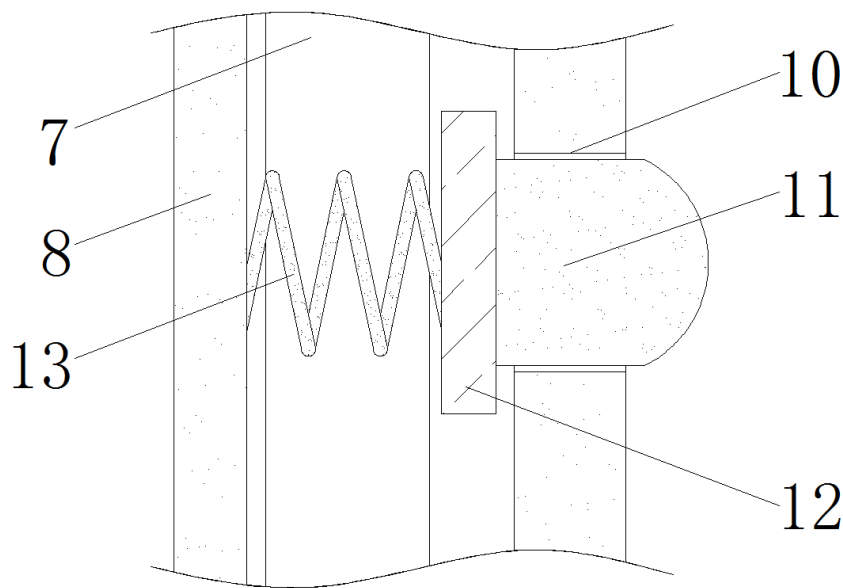


Figure 2. Side profile of control button structure

1 Oil storage tank, 2 Handle, 3 Feeding port, 4 Sealing cap, 5 Discharge port, 6 Connecting cap, 7 Oil transfer hose, 8 Handle, 9 Holding groove, 10 Through hole, 11 Control button, 12 Limit plate, 13 Spring, 14 Limit ring, 15 Hanging hook, 16 Drop nozzle.

The following is a clear and complete description of the technical scheme in the design of the equipment combined with the above figure. Obviously, the described embodiments are only part of the embodiments of the design scheme, rather than all of them.

Please see figure 1 and 2, a preventive maintenance equipment, including storage box 1, oil storage tank with a handle at the top of the fixed connection 1 2, 1 at the top of the oil storage box on the right side open inlet 3, the surface of the feeding port 3 threaded connection block 4, on the surface of the oil storage box 1 on the left side of the fixed link at the bottom of the discharging mouth 5, the surface of the discharging mouth may have connection cap 6 threaded connection, connection cap 6 from discharging port 7, 5 on one side of the fixed connection with hoses and the internal connection cap 6 and 7 throughout the internal oil hose, oil hose 7 from one end of the connecting cap 6 socket have carrying handle 8, 8 a carrying handle side runs holding tank 9,

Carrying handle positive open hole is 10, 8 of 10 plug have control activities within the new 11, and control the new 11 in holding a handle at the end of the 8, 8 internal control new 11 in carrying handle fixed connection limited slice 12, at the end of the limit of 12 away from the control of new 11 a side fixed connection with spring 13, spring 13 away from the limit of one end of the 12 with carrying handle 8 wall fixed connection, the number of spring 13 for two, holding one end of the handle 7 8 from hoses fixed connection with drip nozzle 16, drip nozzle 16 internal 7 with hoses connected,

And drip nozzle 16 using polypropylene material, drip nozzle 16 for the length of the eight centimeters, by setting the hoses 7, 8, holding the handle control new 11, limit 12 13 by spring and drip nozzle 16, when add lubricating oil of mechanical components, simply press the control button 11, make the limit 7 pieces of 12 press spring 13 and hoses, shrink spring 13, 7 extrusion, make hoses to drip nozzle 16 out of the oil to get adjustment, so as to achieve the effect of the flexible control of fuel quantity, implements the avoid scattered and defiled goals in other areas of the lubricating oil, which is more convenient to use,

The top of the left side of oil storage tank 1 is fixedly connected with suspension hook 15, and the side of holding handle 8 is fixedly connected with finite bit ring 14.

To sum up, the preventive maintenance of equipment, by setting the hoses 7, 8, holding the handle control new 11, limit 12 13 by spring and drip nozzle 16, when add lubricating oil of mechanical

components, simply press the control button 11, make the limit 7 pieces of 12 press spring 13 and hoses, shrink spring 13, 7 extrusion, make hoses to drip nozzle 16 out of the oil to get adjustment, finally achieved the effect of flexible control of fuel quantity, implements the avoid scattered and defiled goals in other areas of the lubricating oil, which is more convenient to use,

It solves the problem that the current preventive maintenance equipment is difficult to control the amount of oil when adding lubricating oil to mechanical parts, and it is easy to scatter the lubricating oil and stain other areas.

To be sure, in this article, such as the term "including" and "include" or any of its other variants is intended to cover a non-exclusive contain, which includes a series of elements of the process, method, item or equipment not only includes those elements, but also no clear list of other elements, or also includes objects for the process, method, or device inherent elements.

3. Study Beneficial Effects

Compared with the existing technology, design of this equipment provides a preventive maintenance equipment, has the beneficial effects: the preventive maintenance of equipment, by setting the hoses, portable handle, control button, limit, springs and drip nozzle, when add lubricating oil of mechanical parts, just press the control button and make the limit down spring and hoses, shrink spring, extrusion, make hoses so that the amount of oil drip tip get adjustment, so as to achieve the effect of the flexible control of fuel quantity, implements the avoid scattered and defiled goals in other areas of the lubricating oil, which is more convenient to use.

4. Research Conclusions

The maintenance of vehicles is an important guarantee means of transport in peacetime and wartime.

Vehicle prevention and maintenance is an important preventive countermeasure to avoid the occurrence of traffic accidents [6].

Through the design and development of a preventive maintenance equipment can not only provide a strong preventive security for the vehicle logistics staff, but also can reduce the cost of vehicle maintenance, save money, reduce the economic effect of vehicle maintenance consumables consumption.

Finally, I hope this paper can provide a reference for the army and the society to engage in the maintenance and maintenance of vehicles and mechanical equipment staff.

5. Reference

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