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Overhoul Mesin Motor Supra Fit New 2006

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ABSTRACT

The overhaul of the 2006 Honda supra fit new motorcycle engine is overhaul, inspection, and assembly of engine components. In this overhaul, visual inspection and observation of each component is carried out, to compare the standard size of each component with the results of the measurements made. This overhaul process includes transmission inspection, crankcase bearing inspection, cylinder block wear, piston diameter, cylinder head flatness, spring valve outer and spring valve inner, valve, rod kit gap, piston pin, rocker arm and wear, and valve spring seat inspection. As a result of the overhaul carried out, there are components that have exceeded the standard specification limit of the component, so it is necessary to replace the components that have exceeded the standard limit with components that meet the standard, so that the engine can return to the specification standard and can drive the Honda supra fit new motorcycle.

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INTRODUCTION

Overhaul is a part of preventive maintenance that is carried out when a machine or equipment has been used for a certain period of time or reaches a certain number of operating hours and includes larger repairs such as replacing components or repairing systems. Overhaul is the process of overhauling an engine or other problematic parts to be examined more thoroughly. Replacement of problematic engine components is also carried out in the overhaul process. Overhaul is a heavy service that is carried out on the vehicle engine if it is damaged due to prolonged use. Based on the meaning of the overhaul, it can be concluded that this heavy service is necessary if the inside of the engine is damaged. In carrying out an overhaul, there are several things that must be considered. First, what must be done is to disassemble and repair the components on the damaged machine. Second, replacing and reinstalling components properly is also mandatory in overhaul.

THEORETICAL FOUNDATIONS

Overhaul Mesin

Engine overhaul is an extensive maintenance process on a vehicle's engine that involves disassembling, inspecting, repairing, and replacing worn or damaged components. This process is carried out with the aim of returning the engine to optimal condition and extending the life of the vehicle. But don't mistake overhaul as a periodic service that you need to do regularly.

If the engine is often overhauled, it means that your vehicle has problems that need to be dealt with immediately. Car engine overhaul is usually often carried out on vehicle engines that have reached a certain age or have traveled a fairly high mileage.

As mentioned earlier, the overhaul process or known as engine downtime is carried out with the aim of restoring vehicle engine performance to the best condition. However, the word restoring the condition of the vehicle cannot be interpreted simply. The reason is that there are many functions that are brought when the overhaul process is carried out. Try to pay attention to the full explanation below.

1. Improving Engine Performance

One of the main functions of an engine overhaul is to improve the engine performance of your vehicle. When the engine has been used for a long time to drive, the components can wear out, causing a decrease in power and acceleration. In the overhaul process, these components will be replaced so that the engine can run with better performance like when the engine was new.

2. Reducing Oil and Fuel Consumption

Engines that have been used for a long time tend to be more wasteful in oil and fuel consumption. That's why engine overhauls are done to help with oil and fuel consumption efficiency. This is done by replacing parts that have worn out or even those that are no longer efficiently used. After overhauling, you will not only save on vehicle operating costs, but also make cars and motorcycles more environmentally friendly.

3. Improves Machine Efficiency

During the overhaul process, technicians will perform adjustments and readjustments to the engine components. This aims to increase the efficiency of machine work so that it produces more optimal power with less effort.

4. Reducing Exhaust Emissions

Engine overhaul also has a positive impact on the environment. An engine that is in optimal condition will definitely produce cleaner and more efficient fuel combustion. In the end, the exhaust gas emissions produced become less and more environmentally friendly.

Features of Overhaul Needing Machine

You may be wondering, How do I know that a vehicle needs an overhaul?. Don't worry because the following are available characteristics that you can recognize from vehicles that need overhaul.

1. High Oil Consumption

If your vehicle's engine often experiences a drop in oil level even though there are no signs of leaking, this can be a sign that the engine needs to be overhauled. High oil consumption can be caused by damage to engine components such as piston rings or worn valves.

2. Decreased Performance

If your vehicle's engine starts to lose power and the acceleration power decreases, this can be a sign that the engine needs to be checked and needs to go through the overhaul process. Components such as pistons, piston rings, or valves that are worn out can have a negative impact on the overall performance of the engine.

3. Dark or Smelly Smoke Color

The color of white smoke from the exhaust that turns dark or smells is a sign of inefficient combustion. This can happen due to worn engine components or damage to the combustion system. If you notice any of these signs, immediately have your vehicle checked by a trusted repair shop to see if the engine needs an overhaul.

4. Abnormal Engine Noise

Abnormal engine sounds such as knocks or bangs can be an indication that there is a problem with the engine components. Damage to the pistons, piston handlebars, or crankpads can cause abnormal noises that you hear.

5. Increased Fuel Consumption

If you feel that the vehicle has become more wasteful in fuel consumption without any changes to driving habits then it is likely that the engine needs more maintenance. You can take the car to the workshop for an overhaul so that the engine can return to optimal fuel use.

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6. Reduced Radiator Water

A rapid drop in moisture content in the radiators is also an indication that your vehicle's engine needs a thorough overhaul. Therefore, it is best to immediately take the vehicle to an authorized repair shop for a thorough inspection, especially on the radiator components.

7. Oily Radiator Water

The presence of oil in the radiator water also indicates that the car engine needs to be overhauled. The presence of oil in radiator water is generally caused by oil penetration into the radiator water line or water entering the vehicle's compression chamber. Therefore, immediately process the engine overhaul to overcome it.

8. Spark plug heads get wet due to oil

The condition of the spark plug head that is exposed to oil is another indicator to undergo the overhaul process. A spark plug head that is exposed to oil indicates that the oil has entered the compression chamber, so it can increase the risk of fire. In addition, the head of the vehicle's spark plug will also change color to black.

To give you an idea of how engine overhaul takes place, this time complete information about how it works is available. When you take the vehicle to the workshop, the technician will usually perform the following steps.

1. Initial Examination

The overhaul process begins with an initial inspection to assess the overall condition of the machine. The technician will later begin to identify the temporary components that need to be replaced or repaired.

2. Dismantling the Machine

After the identification is carried out, the next step is to disassemble the machine. Later the components that need to be replaced will be lifted from the engine so that they can be replaced with new ones.

3. Cleaning and Repair

Components that have been disassembled will be further inspected and cleaned of dirt or scale. Then the technician will assess whether the component is still efficiently used or not. If it only requires minimal cleaning or repair, the component will be separated from the damaged one.

4. Component Replacement

Components that are worn or damaged will be replaced with new ones. The use of quality parts is essential to ensure the engine is working properly after an overhaul. Therefore, make sure you choose the best parts recommended by the manufacturer to restore optimal engine performance.

5. Reinstallation

After all components have been repaired or replaced, the technician will reinstall the components into the machine. The process, which requires a lot of precision, should be left to the technician. Avoid self-disassembly so you don't create bigger problems.

6. Testing

Once all is done, the machine will be tested to ensure its performance is up to the expected standards. Testing includes checking engine power, fuel consumption, and exhaust gas emissions.

The ideal time to undergo the overhaul process can vary for each vehicle, depending on the level of maintenance provided by you. If the vehicle is properly maintained on a regular basis, the overhaul process can be delayed for a long period of time.

Another factor that affects this timing is the extent to which the vehicle is used. Therefore, if the symptoms mentioned above begin to appear, you should immediately carry out the overhaul process.

Thus complete information about engine overhaul, starting from its definition, functions, to how it works. If your vehicle shows the signs mentioned above, then immediately check it with a trusted repair shop and ask for advice from the best quality and has passed certain standards.

RESEARCH METHOD

The method in this study is to use an experimental method, namely: Collecting data on the results of motorcycle engine overhaul on pistons, carburetor repair kits, and timing chains Collecting data on maintenance data carried out on motorcycle engines that are overhauling on the engine by measuring the looseness of the cylinder liner and piston.

Tools and Materials

Table 1. Tools and Materials

No	Tool Name	Information
1	Combination Pliers	To clamp or hold objects
2	Hammer	To Hit the Getok Screwdriver
3	Ring Lock	To Unscrew the Exhaust Bolt and *Bustep* Bolt (Step On)
4	Trecker Magnet	To Pull Out the Magnet on the Motor Engine
5	Shock Lock 17	To unscrew the magnetic bolt on the motor engine
6	Lock Stel Valve	To adjust the valve/ Rocker Arm
7	Feeler Gauge	To adjust the rocker arm
8	Tap Screwdriver	To open the Timing Chain lid
9	Spark Plug Lock	To open the Spark Plug
10	Tang Cirlip	To grab snaprings or cirlips
11	Crown Lock	To unscrew the bolt of the Coupling housing
12	Washbasin	For a place to put the
13	Valve Lid Lock	To open the valve lid
14	Compressor	To clean dust in air pilter
15	Paintbrush	To clean the appliance
16	Wire Brush	To descale the machine
17	Amril	To clean the Valve
18	Petrol	To clean the machine
19	T Lock	To open the engine block
20	Wooden Beams	For the position of the machine
21	Dry Cloth	To wipe/clean on the machine
22	Screwdriver (-+)	To tighten and loosen the bolt with the same head as the tip.

Testing

Testing the overhaul process is carried out on engines that lack power and the age of the motorcycle engine that has aged can cause less than perfect oil lubrication so that it emits white smoke on the exhaust, the accumulation of carbon dirt on the piston walls which makes the piston rings looser. The first process carried out is to diagnose the overhaul and then carry out an initial inspection and cleaning of spare parts that have been damaged or are not suitable. After the damage to the spare parts is known, replace the spare parts and repair the spare parts on the problematic motorcycle engine after everything is installed, then conduct a test test on the motorcycle engine whether it is normal in excellent condition.

Based on the results of analysis and research on 500 watt capacity solar PV, it can be concluded that this solar power plant produces an open voltage with an average of 18.66 Volt DC. Based on voltage measurement data, the AC voltage value that can be produced is relatively stable with an average of 218.4 VAC 50 Hz and is able to withstand a load of 313 watts for 2 hours and 15 minutes. This solar power plant can charge the battery from empty to full for 16 hours, the battery charging time is 35 Ah long because this solar power plant uses 30 Wp solar panels.

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RESULTS AND DISCUSSION

Causes of Overhaul

Before overhaul, we need to know the correct sequence of work steps so that at the time of overhaul can get maximum results before repairing an engine. First we recognize the initial condition of the engine before overhaul. This can be done by heating the engine and testing it with a compression test, so that the symptoms of damage can be known. It is necessary to pay attention to the condition of an engine, including the messin sound, the color of the exhaust gases and the compression of the engine. Please note that overhaul is only carried out if the engine has problems such as lack of power in the engine, carburetor error, noise on the left crankshaft, discoloration of exhaust gases, white smoke in the exhaust, and lack of compression when doing a compression test.

Identify the Cause of Overhaul

Start by opening all the necessary parts including removing the body, fuel tank, and other components that are blocking engine access. Then remove the wheels and front suspension if needed to get better access, and don't forget to dispose of the oil in the engine. Furthermore, the initial examination which includes:

1. Check the general condition of the machine to identify obvious damage and wear on the machine.
2. Measure the compression pressure to evaluate the condition of the cylinder.
3. Check vital parts such as pistons, piston rings, and crankshafts for damage.

Proses Overhaul

Before overhaul, we need to know the correct sequence of work steps. In order to get maximum results during overhaul Before repairing an engine, we first recognize the initial condition of the engine before disassembling. This can be done by heating the engine and testing it with a compression test, so that the symptoms of damage can be known. It is necessary to pay attention to the condition of an engine, including engine noise, exhaust gas color and engine compression.

Comparison of engine test results after overhaul with standard specifications of Honda supra fit new motorcycle engines. By doing an overhaul,

1. then the engine power of the new supra fit motorcycle increased by 32% where the standard power of the new Honda supra fit engine was 7.29 PS/8000 rpm while after overhaul it became 9.67 PS/8000 rpm.
2. It can be concluded according to the inspection, component replacement and testing carried out when overhauling the Supra Fit New motorcycle engine can return to work optimally.

Before testing the supra fit nuw motorcycle engine, make sure the installation of the engine is in accordance with the standard. To carry out routine services carried out at 1000 kilometers are as follows:

1. Engine oil change according to the standard
2. Standard valve adjustment
3. Piston Ring and Piston Replacement as standard

CONCLUSION

Overhaul on the Honda Supra Fit New 2006 engine is a process of disassembling, inspecting, and repairing engine components to restore its optimal performance. This process is necessary when the engine experiences a decrease in power, wasteful fuel consumption, or a rough engine sound. From the results of overhaul, main components such as pistons, piston rings, valves, clamp chains, and engine packing often need to be replaced so that the engine can work efficiently.

Suggestion

1. Use Original Parts – To maintain the quality and durability of the machine, it is recommended to use original parts
2. Honda or those that have good quality standards.
3. Periodic Maintenance – Perform regular servicing such as oil changes, spark plug checks, and valve adjustments to keep the engine in top condition after overhaul.
4. Quality Fuel Usage – Use fuel with the appropriate octane to avoid the formation of excess carbon crust in the combustion chamber.
5. Work by Experienced Technicians – Ensure that the overhaul is carried out by an experienced mechanic so that the installation and adjustment of machine components is carried out with precision.
6. Test After Overhaul – Before normal use, perform a test run and warm up the engine to ensure all components are working properly and there are no oil leaks or other disturbances.

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