Can the generator still generate electricity if the fan blade is broken

How does accident affect a generator?
Visual inspections were taken on the generator parts especially on the fan blades and the effect of accident on them was studied. Three kinds of blades were found in the turbine casing after the accident: fractured blades, cracked blades and un-cracked blades.

What is the failure analysis of a generator rotor fan blade?
The failure analysis of a generator rotor fan blade was investigated by mechanical analysis and metallurgical examination of fracture surface. Fracture took place at the airfoil root,surface examination showed that the blade had cracked by a high cycle fatigue mechanism. However,there was no evidence of material defect.

Can a cooling fan blade be fractured?
Since fracture in cooling fan blades has been occurred five timesin our case study,in this research,the emphasis has been placed on failure analysis and preventing methods from the fracture in this generator's fan blades.

How long did a generator rotor fan last?
The failed fan consisting of 11 blades was mounted on the generator-rotor at the turbine end,and had a total service life of about 41000 hoursprior to the failure. The fan rotational speed was 3000 revolutions per minute (rpm) and the maximum operating temperature of the blades was 90°C. Figure 1.

Are gas turbine fan blades broken?
Failure report for gas turbine fan blades,1997]. Metallurgical and structural analyses on the failed blades have not shown any microstructure degradation. Studies on the ruptured surfaces using scanning electron microscope (SEM) have shown that fracture has been happenedas a results of high cycle fatigue (hcf).

What happens if a rotating fan fails in a generator?
Failure of a rotating fan inside a generator will cause extensive damage. The stored rotational energy in a fan that lets loose will typically destroy the stator winding,sometimes damage the stator core and cause damage to other rotor components such as retaining rings,the rotor winding and possibly even the rotor forging (Moore,2002).

You can generate electricity using magnets by moving them near a closed loop of wire, harnessing electromagnetic induction. This method offers efficiency comparable to ...

I was wondering if it was possible to grab a car radiator fan (which has a 12V DC motor), face it into the wind, and turn the motor into a generator. All well and good in ...

--Fans are the most used items in India despite the widespread availability of Cooler"s and air conditioners.

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Since the initial capital cost of solar systems is still quite high, when it comes to ...

Since fracture in cooling fan blades has been occurred five times in our case study, in this research, the emphasis has been placed on failure analysis and preventing ...

The " CEILING FAN A POWER GENERATOR " project is for the poor and middle class family people who always have an issue of paying electricity bill of such a huge amount. The

The researcher used wind to generate power. It will continuously pass the blades of the fan causing it to rotate. The generator is mounted into a vehicle exposing the blades into turbulent ...

It is obvious that the fan blade has effective factors on the generator performance. In some cases, fracture of blades can cause short circuit between rotor and stator and consequently

Replacing Your Fan Blade Arm. Ceiling fan blades usually connect to the housing with just a few screws. Disassemble the housing and find the bracket where your blade went. If the bracket is ...

Replacing Your Fan Blade Arm. Ceiling fan blades usually connect to the housing with just a few screws. Disassemble the housing and find the bracket where your blade went. If the bracket is still in good shape, all you have to do is replace ...

In five cases the fan blades of this type of gas turbine have broken in the first 100 h of operation (after first operation and or after repair), and in some cases the broken blades have punctured through stators coils (copper conductors), ...

Wind turbine motor is used to generate electricity. Permanent magnet motor can be used as a generator for battery charging. The spinning shaft turns the electromagnets that are ...

Just add some magnets to the blades, and then build your coils. Even though you will still need to power the fan with electricity, you can still use the blades to induce current ...

Wherever your energy comes from, it"ll almost certainly be turned into electricity with the help of a generator. Only solar cells and fuel cells make electricity without using generators. Photo: A typical electricity generator. This ...

using electricity to make wind--like a fan--wind turbines use wind to make electricity. Wind turns the propeller-like blades of a turbine around a rotor, which spins a generator which create the ...

At the current moment, there are two options that I really like here: Open the stator housing, pull the rotor and clear out all of the debris from the broken fan, reassemble everything sans fan, then attach an electric fan to

the "output" end ...

The failure analysis of a generator rotor fan blade was investigated by mechanical analysis and metallurgical examination of fracture surface acture took place at the airfoil ...

A new material made from carbon nanotubes can generate electricity by scavenging energy from its environment. ... But 20-30 years in the future we could have what is essentially a pocket sized generator that never ...

to make sure you don"t do that anyways, just stick a pencil or something between the fan blades and one of the bars on the fan so the blades dont spin at all.. you can ...

A thermoelectric Peltier generator can convert heat to electricity. These modules generate electricity when both sides are exposed to a different temperature. For example, you can use fire to heat the thermoelectric generator while cooling ...

Here, like with our generators on the ground, magnets are turned around wire coils to generate electricity. Related: Finnair could have fleet of electric planes in the sky within 5 years. This ...

It is obvious that the fan blade has effective factors on the generator performance. In some cases, fracture of blades can cause short circuit between rotor and stator and consequently generator ...

The failure of a rotating axial flow fan of a 123 MW electric power generator unit is analyzed. The fan was mounted on the generator-rotor at the turbine end. Initial ...

Three kinds of blades were found in the turbine casing after the accident: fractured blades, cracked blades and un-cracked blades. The failure was at the turbine side of the generator and according to the visual ...

Re: box fan wind turbine probably not. the electric motor in it will doubtfully be able to generate electricity as only certain motors can do this to some degree. furthermore, the fan blades are ...

was at the turbine side of the generator and according to the visual inspections, the fan blades at the excitor side were not damaged. Dye penetrant non-destructive test was used for detection ...

I figured the fan controller in the first fan was dead. So I chopped the power input lead from the fan and soldered the power connections to the wires going to all 3 of the ...

A new material made from carbon nanotubes can generate electricity by scavenging energy from its environment. ... But 20-30 years in the future we could have what ...

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The mechanical analysis capable of predicating stress and dynamic characteristics of turbo generator fan blades is needed to decrease blade failures. The ...

Wind power is a key provider of clean, cheap, zero carbon electricity. We"re often asked what happens to old wind turbine blades and whether they can be recycled at the end of their operational lives, so here are ...

Wherever your energy comes from, it"ll almost certainly be turned into electricity with the help of a generator. Only solar cells and fuel cells make electricity without using ...

This current can be used to charge a battery or to power lights and other electrical appliances. In order to generate more power, a multi-transformer setup can be used. This would involve ...

The fracture location of the broken blades can be identified from Fig. 2. It can be seen that the fracture had occurred close to the transition radius between the blade airfoil ...

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