

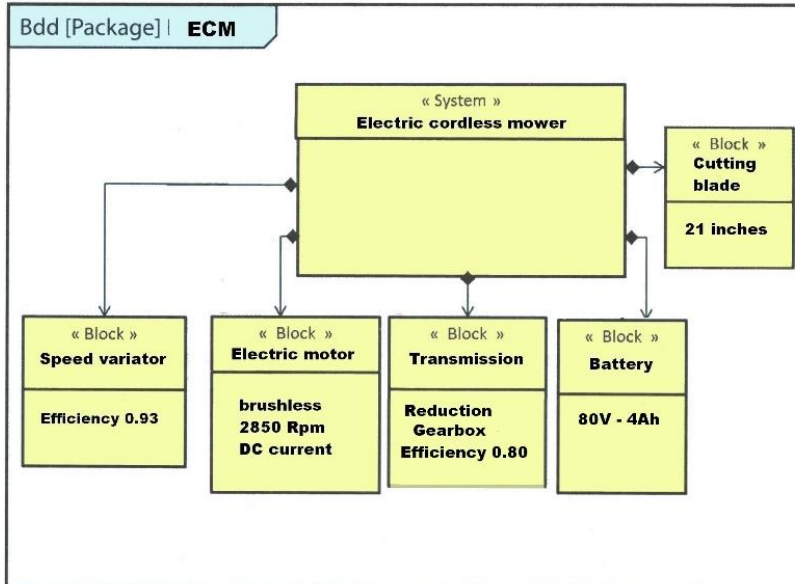
Electric cordless self-propelled lawn mower.



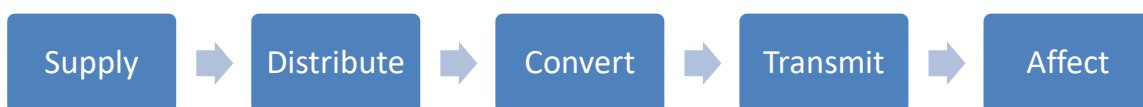
The electric mower shown here has a power of 720 watts and is autonomous in energy thanks to 2 batteries. The blocks diagram below describes its structure.



Réduction gearbox : 1/45



1. Complete the energy chain:



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Technical information:

GreenWorks Pro 80V System offers a range of commercial grade tools for the professionals and those who just want more power. This 21-inch cordless self-propelled lawn mower features a durable steel deck, large 10-inch rear wheels, and Smart Cut load sensing technology. Self-propel for less user fatigue. It has a single lever height adjustment and 3-in-1 operation for mulching, bagging, and discharging. Designed for durability and heavy duty jobs, it features a brushless motor that delivers the power and performance of a 160cc gas engine. With an extra battery on hand, you can now rip through grass in the neighbourhood without the hassle of gas. Compatible batteries currently include a 2ah (model GBA80200) and 4ah (model GBA80400) battery and rapid charger (model GCH8040). The 2ah battery charges within 30 minutes so you can get back to work and finish that job. The 4ah battery charges within 1 hour.

2. What would be the equivalent of a combustion engine?
3. What are the different types of mowing?
4. How long does it take to charge the 4Ah battery?
5. Which type of power is supplied? DC or AC
6. Calculate the torque of the cutting blade.
7. Determine the rotation speed of the driving wheels.
8. Calculate the torque of the driving wheels.
9. What is the effective output power of the electric motor.
10. The battery supplies a current of 20 amps. Calculate the input power by the motor.
Deduce the efficiency.
11. What is the speed (km/h) of the lawn mower?