

Electric car “Thracian”

Our Thracian car project provides an electric vehicle, includes the automobile body, installs the wheel on the automobile body and install electrical apparatus system in the automobile body. The automobile body includes the chassis and with the fixed car skeleton together in chassis, the chassis hangs after arm -type including lying in pulling of automobile body rear. The wheel is including installing two rear wheels at automobile body rear and installing two two back wheel hub in the rear wheel, two back wheel hub install pull the both ends that hang after arm -type, the electrical apparatus system is including locating two interior two wheel hub motors of back wheel hub. So set up for electric vehicle's chassis is lower, has promoted and has taken the space in the electric vehicle.

The problem on which the invention is based is to provide an individual wheel drive with a rear-mounted planetary gear which, as a result of the drive unit being fitted offset relative to the wheel axle, makes an optimal use of the interior of the vehicle possible and in which said axle offset is compensated in the planetary gear.

According to the project, the individual wheel drive for a vehicle comprises at least one planetary gear with one sun gear, one ring gear and one planet carrier. The ring gear drives a wheel hub on which is fastened single or dual wheels. Wheel bearings rotatably support said wheel hub. The individual wheel drive, according to the invention, in addition comprises one brake, one brake caliper and one brake-actuating device. A prime mover or a bunched up input of several engines produces the input power. The shaft of the prime mover or of the bunched up input by several engines is offset with respect to the wheel axle in order to design optimally the whole space required by the input and the brake-actuating device so that the wheel well affects the interior of the vehicle as little as possible.

In an advantageous development of the invention, planetary wheels of different diameters grip the sun gear and the ring gear. An offset between the axles of sun gear and the ring gear and planet carrier respectively thereby results. Said planetary gear can have, for example, two planetary wheels of different diameters. In another embodiment, it contains three planetary wheels of different diameters. From a technically logical point of view, said embodiment is, of course, possible only for a small axle offset. At the same time, in a symmetrical arrangement, two of the three planetary wheels can have the same diameter.

In this individual wheel drive the input is preferably electric. A possible use is in driven rear wheels combined with rigid axle systems for dual or single tires.

In an advantageous embodiment of the invention, the input power of a large electromotor is distributed over several smaller ones. Their respective input power is concentrated by a spur-gear collective drive. The individual, smaller electro motors are axially short so that the whole driving unit projects less in the direction of the interior of the bus. The through width of the interior of the vehicle is thus increased to the height of the wheels with the same total width of the vehicle. The adaptation to the required wheel torque and the wheel speed is effected by the rear-mounted planetary gear. The spur gear of the spur-gear collective drive on the output side is preferably connected with the sun gear of the planetary gear by a gear intermediate shaft. The wheel bearing, which rotatably supports the wheel hub, is advantageously situated between the spur-gear collective drive and the planetary gear. The rims are secured to the wheel hub.

In an advantageous design of the invention, an input from several engines can be separately controlled. This makes possible a greater effectiveness in the intermediate load area in comparison with a one-engine individual wheel drive. The distribution of the input power of the individual wheel drive over several engines of less power which are made shorter than engines of stronger power offers, together with the reduction of the total length of the individual wheel drive, still other advantages: in the case of failure of a prime mover in the wheel head, operation via the remaining engines is still possible. In addition, advantages in cost result by using engines which are in the performance class of prime movers of passenger cars and can thereby be mass produced.

In an advantageous development of the invention, the brake of the individual wheel drive is designed as a pneumatically or hydraulically actuated disc brake and, in the same manner, acts as a service, and parking, emergency or auxiliary brake.

See video at: <https://www.youtube.com/watch?v=f2OLXuuHOVg>