

The aim is to design and develop an air brake system based on exhaust gas to reduce the workloads of the engine drive to operate the air compressor. In this project, the compressor is not operated by the engine drive. Instead, a turbine is placed in the path of the exhaust from the engine. The turbine is connected to a dynamo by means of coupling, which is used to generate power. Depending upon the airflow the turbine starts rotating, and then the dynamo also starts to rotate and converts kinetic energy into electrical energy. The generated power can be stored in the battery and can be used to load the D.C compressor. The air compressor compresses the atmospheric air and stores it in the air tank, which has a pressure relief valve to control the pressure in the tank. The air tank supplies the compressed pneumatic power to the pneumatic actuator through solenoid valve to apply brake. The pneumatic actuator is a double acting cylinder which converts hydraulic energy into linear motion.



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AIR BRAKE SYSTEM USING EXHAUST GAS

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