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ABSTRACT

Light utility vehicles are becoming very popular means of independent transportation for short distances. Cost and pollution with petrol and diesel are leading vehicle manufacturers to develop vehicles fueled by alternative energies. Engineers are directing their efforts to make use of air as an energy source to run the light utility vehicles. The use of compressed air for storing energy is a method that is not only efficient and clean, but also economical. The major problem with compressed air cars was the lack of torque produced by the "engines" and the cost of compressing the air. Recently several companies have started to develop compressed air vehicles with many advantages and still many serious bottlenecks to tackle. This paper briefly summarize the principle of technology, latest developments, advantages and problems in using compressed air as a source of energy to run vehicles.

INTRODUCTION

We are living in a very mobile society so light utility vehicles (LUV) like bikes and cars are becoming very popular means of independent transportation for short distances. Petrol and diesel which have been the main sources of fuel in the history of transportation, are becoming more expensive and impractical (especially from an environmental standpoint). Such factors are leading vehicle manufacturers to develop vehicles fueled by alternative energies. When at present level of technological development fuel-less flying (like birds) i.e., flying based on the use of bio-energy and air power in the atmosphere seems to be almost impossible for human beings then engineers are fascinated at least with the enormous power associated with the human friendly as well as tested source of energy (i.e., air) to make **air-powered vehicles** as one possible alternative. Engineers are directing their sincere efforts to make use of air as an energy source to run the LUVs which will make future bikes and light/small cars running with air power for daily routine distances and the travel will be free from pollution and cost effective.

The aim of this work is to design and construct a air bricking machine that will use a less effort motor power to produce uniform wheel torque, metals, and as the same time serve as an exercising machine for fitness. It is also done to show the performance difference between hand driven and pedal driven motors.

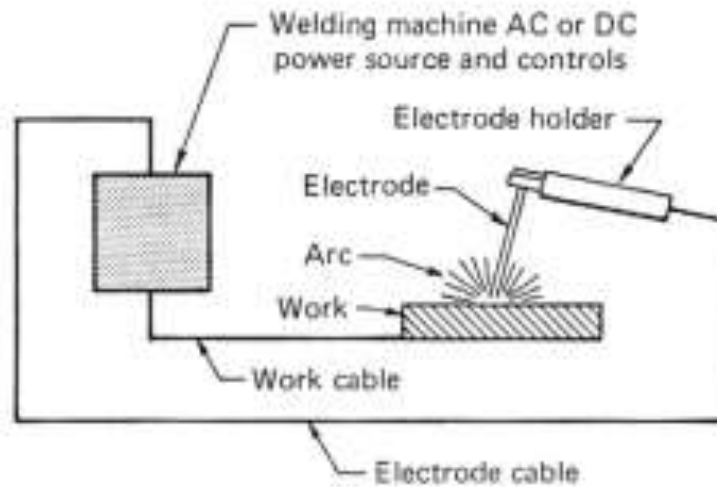
WORKING

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Arc welding is one of several fusion processes for joining metals. By applying intense heat, metal at the joint between two parts is melted and caused to intermix - directly, or more commonly, with an intermediate molten filler metal. Upon cooling and solidification, a metallurgical bond is

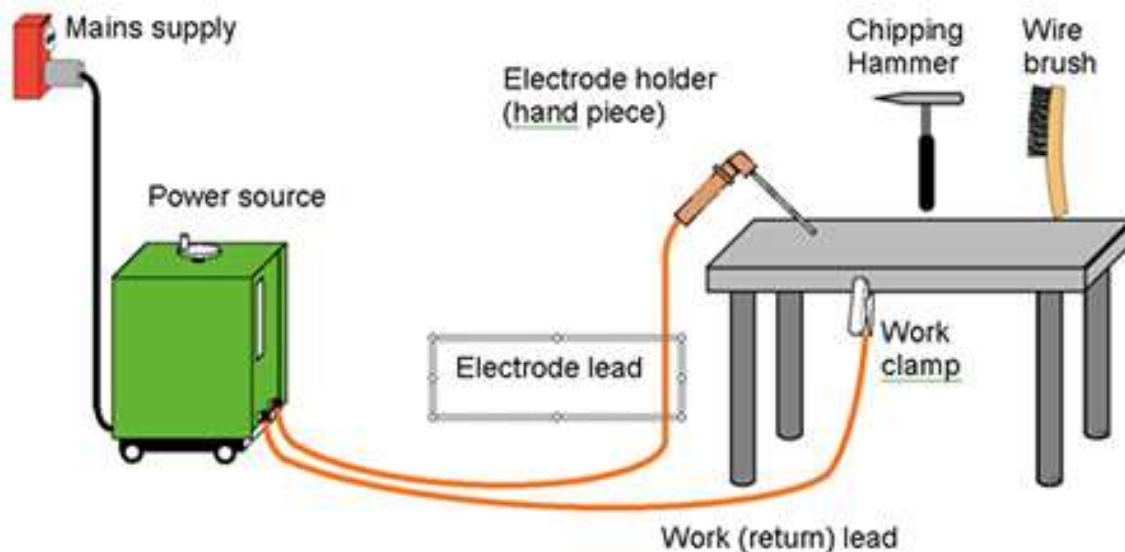


created. Since the joining is an intermixture of metals, the final element potentially has the same strength properties as the metal of the parts. This is in sharp contrast to non-fusion processes of joining (i.e. soldering, brazing etc.) in which the mechanical and physical properties of the base materials cannot be duplicated at the joint.



Equipment

The equipment for the shielded metal arc welding process consists of a power source, welding leads, electrode holder, and work clamp or attachment. A diagram of the equipment is shown below.



COMPONENT OF SYSTEM

Technical specification

1. Selection of the cylinder system.
2. Selection of the moving system.



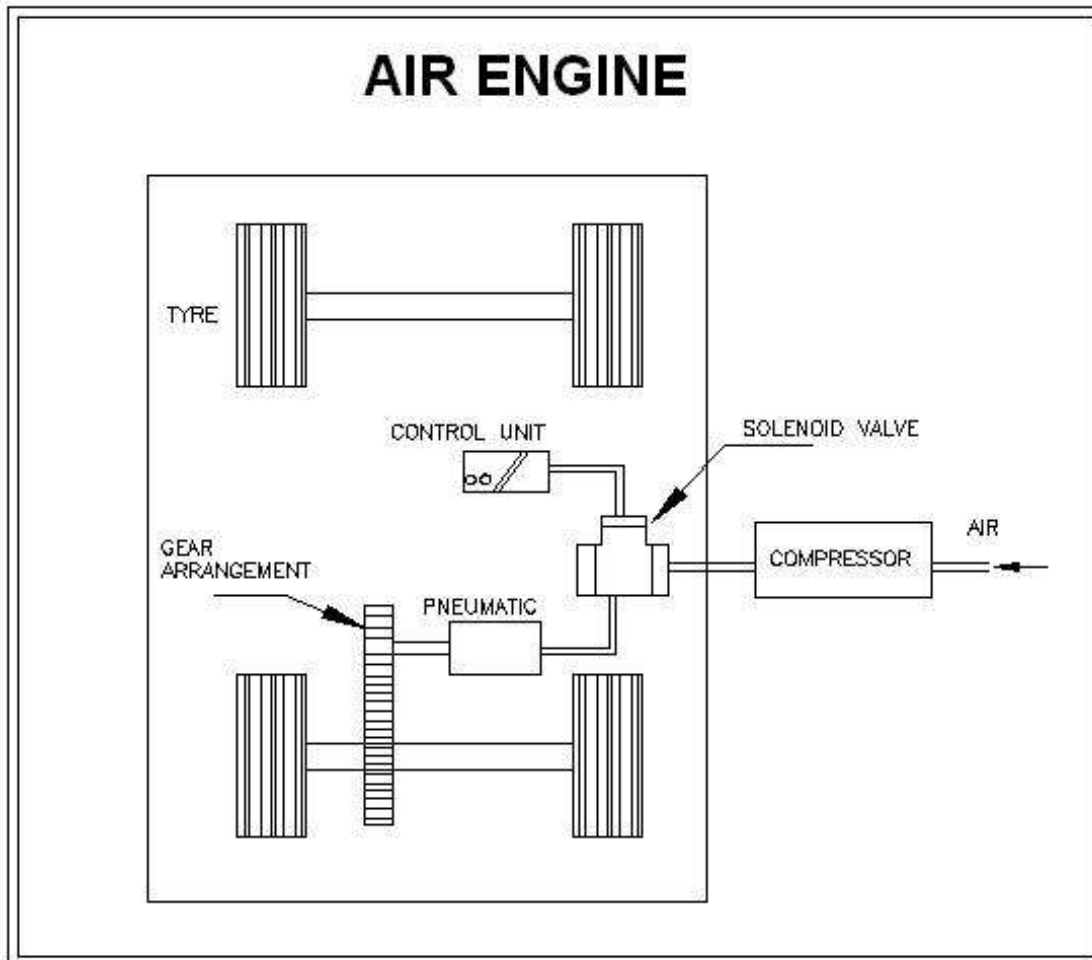
3. Selection of the bevel gear arrangement.
4. Selection of the compressor system.

Machine required for completion of above project

1. ARC Welding Machine,
2. Drilling Machine, Grinder,

Parts lists

1. Freewheel gear = 1
2. Air tube = 1
3. Power supply = 1
4. Pneumatic cylinder = 2
5. Operator switches = 2
6. Mounting Fabrication = 1



OBJECTIVES

1. In educational organization.



- 2) In industries purpose.
- 3) Can be used to agriculture.
- 4) It is used in domestic purpose.
- 5) In any industries Production line work uses.

CONCLUSION

This knowledge of project will definitely be helpful in our future. So we must maintain that this final year project was an essential part of our engineering education enhancing our technical knowledge and practical skill.

Our aim was to lift the maximum weight in minimum power consumption as to reduce the solar panel and motor cost. Hence we are provided our aim by design a suitable gear to get maximum mechanical advantages .due to gear the maximum torque required to lift the load is not coming directly on the motor shaft as we had seen it in the gear chain design the load. Hence motor is revolving with min. load over its shaft with minimum capacity.

The technology of compressed air vehicles is not new. In fact, it has been around for years. Compressed air technology allows for engines that are both nonpolluting and economical. After ten years of research and development, the compressed air vehicle will be introduced worldwide. Unlike electric or hydrogen powered vehicles, compressed air vehicles are not expensive and do not have a limited driving range. Compressed air vehicles are affordable and have a performance rate that stands up to current standards. To sum it up, they are non-expensive cars that do not pollute and are easy to get around in cities. The emission benefits of introducing this zero emission technology are obvious.

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