



# JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

## PORTABLE SPOT WELDER DIE

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### SUBMITTED BY

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### I. INTRODUCTION

This innovation came about when the team could not find a suitable welding equipment to use in home. The normal, conventional welding machine can easily burn and damage the metal electrodes due to the intense heat produces the affecting large area. The conventional welding machine is not suitable for home uses and big in size and also expensive. Hence, a spot welder was built for home user, using components commonly available in good electronic labs.

### II. SCOPE OF PROJECT

Weld the two parts of metal very quick and effectively. This machine reduces the effort required for welding.

The overall cost of this portable spot welding machine is very cheap.

No requirement of any welding rods.

Such type of machine can operate by unskilled labours.

It is very simple in construction.

Spot welding is typically used when welding particular type of sheet metal.

It is used for welding sheets ranges from 0.5 to 3mm.

### III. OBJECTIVE

1. To develop a small and portable welding set.
2. To develop a fast and accurate welding set.
3. To develop an inexpensive welding set.
4. To develop a welding set that suitable for heat sensitive item.
5. To build a spot welder for home user.
6. To build a light duty spot welder

### IV. METHODOLOGY

#### A. Problem Identification:

The idea to make the project 'Portable and Cheapest Spot Welding Machine' obtained when problem arise when using the conventional spot welder equipment. The difficulty of spot welding machine commonly larger and heavier, it annoys people to move the machine from one place to another place. Conventional spot welding machine also requires a large space to do welding work. Among other problem is the cost to buy a conventional spot welder is expensive equipment. Additionally, conventional spot welder id quite complicated to use, and this caused problems. The conventional spot welder also doesn't build for a home use. A decision was made to overcome the following problems by creating "Portable Spot Welder Die" more efficient, cheaper, portable, light duty, for home use and easy to use and smaller than the other.

#### B. Problem Identification:

Portable spot welding is produced right is for the home user to facilitate the work.

This spot welder user are like screwing sides of the plate into one. These goods we produce more benefits than the old stuff because we produce goods with a small simple design to facilitate the work. Portable spot welding we are many advantages compared to other spot welder. This is because the small size makes our goods save electricity. When compared with the old stuff, it's very much used electricity for its very large size and use a lot of space. Apart from that also more efficient than the conventional ways. There are



**XI. OBSERVATION**

- From our project we observed that work pieces are held together under pressure exerted by electrodes.
- Typically the sheets are in the 0.5-3mm thickness range.
- The process uses to sheet copper electrode to concentrate welding current into small “spot” and to simultaneously clamp the sheets together.
- Forcing a large current through the spot will melt the metal and form the weld.
- The attractive feature of spot welding is that a lot of energy can be delivered to the spot in a very short time.

**XII. ADVANTAGES**

1. Spot welding is quick and easy
2. High welding rates
3. Low fumes
4. Cost effectiveness
5. Easy to handle
6. No filler materials are required
7. Low distortions
8. Skilled/unskilled operator required
9. Less space required

**XIII. DISADVANTAGES**

1. Low strength of discontinuous welds
2. Thickness of welded sheet is limited
3. The metal may also become less resistance to corrosion
4. The size and shapes of the electrodes will be determined the size and strength of the weld.

**XIV. APPLICATION**

1. Spot welding is typically used when welding particular type of sheet metal welded wire mesh or wire mesh.
2. It is used for welding sheets ranges from 0.5 to 3 mm.
3. It is used for small scale industry.
4. It is used for household application such as metal buckets.

**XV. CONCLUSION**

Portable spot welding is produced right is for the home user to facilitate the work. This spot welder uses are like screwing sides of the plate into one. This portable spot welding are many advantages compare to other spot welder. This is because small size makes our machine save electricity. Hence, this portable spot welder is very cost effective and easy to be adopted in home.

**XVI. REFERENCES**

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