

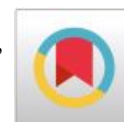


EXPERIMENTAL STUDY AND ANALYSIS OF WOUNDED TYPE D.C. MOTOR WITH VARIABLE POWER SUPPLY

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Abstract:

In this paper we are observed about maximum R.P.M. , in this way we are used the Wounded type D.C. Motor with Variable Voltage Power Supply and 1Amp.,2Amp., 3Amp. For the purpose of the finding of the variable voltages we are used the voltages regulator. The Wounded type D.C. Motor are used in various industrial application.

Keywords: Word- Experimental Process; D.C. Power Supply; Wounded Type D.C. Motor.

Cite This Article: Prof. G.R.Kumrey, and Dr. S. K. Mahobia. (2017). “EXPERIMENTAL STUDY AND ANALYSIS OF WOUNDED TYPE D.C. MOTOR WITH VARIABLE POWER SUPPLY.” *International Journal of Engineering Technologies and Management Research*, 4(10), 141-144. DOI: <https://doi.org/10.29121/ijetmr.v4.i10.2017.116>.

1. Introduction

Wounded type D.C. Motor are consisting with various parts such as armature, field winding, carbon bush and supporting structure. Armature is having the core, copper winding, slip ring. Armature is moving parts. The stator is stationary parts, which has metallic strip and winding.

2. Variable Voltage Power Supply

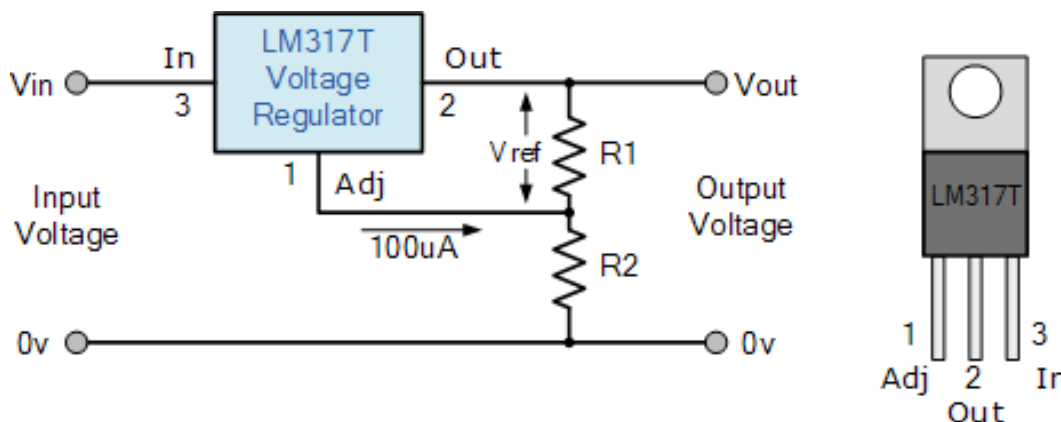


Figure 1: Power Supply

3. Wound Stators

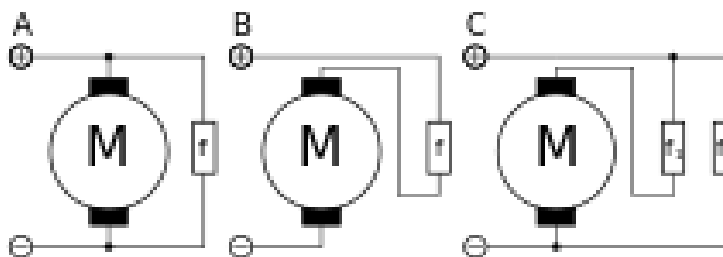


Figure 2: Field coil are connected in shunt, in series, or in compound

Table 1: List of component

| Sr. No. | component | specification |
|---------|---|-------------------------|
| 1 | Wounded type Motor | D.C. power supply based |
| 2 | Connection Wire | 2.5 mm |
| 3 | Power Supply | DC type |
| 4 | Load | D C type |
| 5 | Multimeter | Digital type |
| 6 | R.P. M. measurement device (Tachometer) | Digital Type |

4. Performance Testing

4.1. Permanent Magnet Type D.C. Motor

12V D.C., 9V D.C., 6V. D.C. obtained by regulator
Current = 1 Amp.

Table 2: Voltage and R.P.M. using of Wounded type D.C. Motor

| Sr. No. | Apply the Voltages in D.C. | R.P.M. measured by Tachometer |
|---------|----------------------------|-------------------------------|
| 1 | 12 | 750 |
| 2 | 9 | 650 |
| 3 | 6 | 550 |

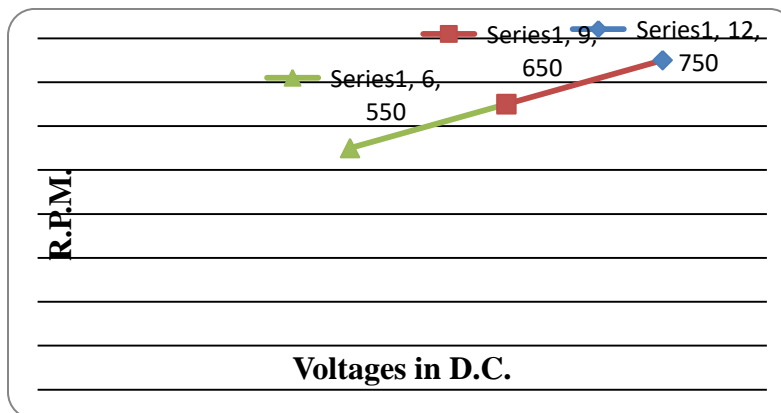


Figure 3: Voltage and R.P.M. using of Wounded type D.C. Motor

4.2. Permanent Magnet Type D.C. Motor

12V D.C., 9V D.C., 6V. D.C. obtained by regulator
Current = 2 Amp.

Table 3: Voltage and R.P.M. using of Wounded type D.C. Motor

| Sr. No. | Apply the Voltages in D.C. | R.P.M. measured by Tachometer |
|---------|----------------------------|-------------------------------|
| 1 | 12 | 1100 |
| 2 | 9 | 900 |
| 3 | 6 | 700 |

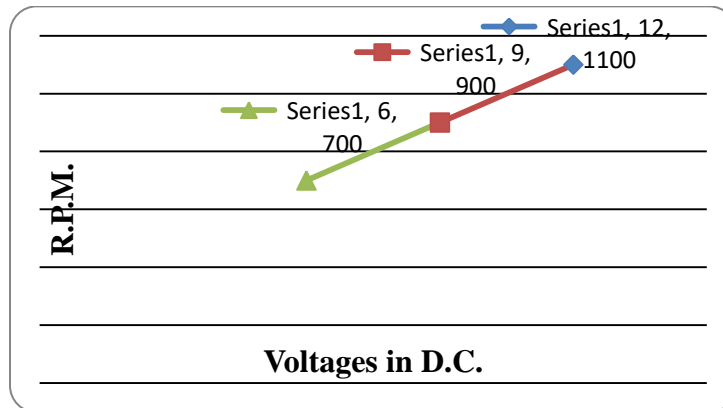


Figure 4: Voltage and R.P.M. using of Wounded type D.C. Motor

4.3. Permanent Magnet Type D.C. Motor

12V D.C., 9V D.C., 6V. D.C. obtained by regulator
Current = 3 Amp.

Table 4: Voltage and R.P.M. using of Wounded type D.C. Motor

| Sr. No. | Apply the Voltages in D.C. | R.P.M. measured by Tachometer |
|---------|----------------------------|-------------------------------|
| 1 | 12 | 1700 |
| 2 | 9 | 1500 |
| 3 | 6 | 1300 |

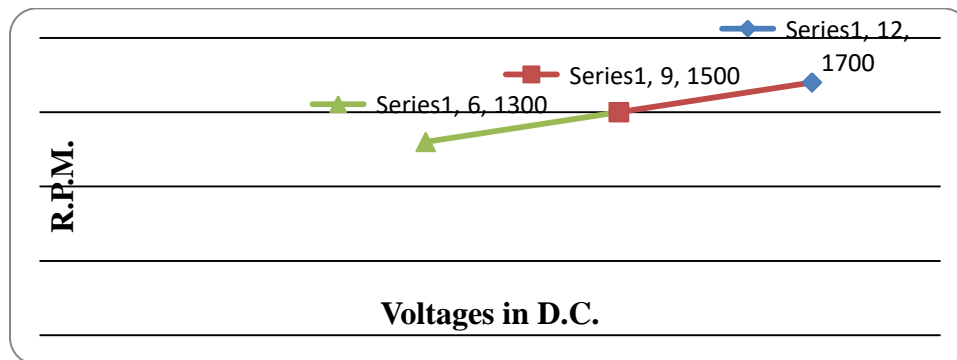


Figure 5: Voltage and R.P.M. using of Wounded type D.C. Motor

5. Conclusion

In this study we are achieving the maximum R.P.M. by Wounded type D.C. Motor. The maximum R.P.M. are 1700 R.P.M. and applied voltage are 12 Voltages D.C., which are shown in table.4, R.P.M. are measured by digital tachometer. The types of D.C, motor are very useful in industrial application.

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