

# Review on Design and Manufacturing of Gear Box Mounted Blower for Agricultural Application

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**Abstract:-** In our nation cultivating is finished by conventional way, other than that there is substantial advancement of modern and administration division when contrasted with that of agribusiness. The splashing is generally done by work conveying knapsack compose sprayer which requires more human exertion. A pesticide sprayer must be convenient and with an expanded tank limit and should result in cost decrease, work and showering time. Keeping in mind the end goal to lessen these issues, there are various sprayer presented in the market, however these gadgets don't meet the above issues or requests of the ranchers. The regular sprayer having the troubles, for example, it needs parcel of exertion to drive the liver here and there keeping in mind the end goal to make the strain to shower.

**Key Words:** Reciprocating pump, Spraying time, Tank capacity, Accumulator, nozzle.

## 1. INTRODUCTION

two-stage gearboxes are used in the entire drive technology. Notwithstanding an adequate load limit and a high effectiveness of the gearbox. In this blower we replace the belt and pulley drive into the gear box. The horticulture division is confronting issues with limit issues contracting incomes, and worker deficiencies and expanding purchaser requests.

In addition, most formers are desperately seeking different ways to improve the equipment quality while diminishing the immediate overhead costs (work) and capital.

### 1.1 Blower



(fig.1.1.1 model of blower)

As show in the above figure gear box mounted blower. This machine contain the 12 no.of nozzle to spared out the medicine to 180°(both side of the blower)and equally distribute the medicine. In this we use the valve to control the pressure and regulate the medicine since we want only one side nozzle start and another side nozzle has been stop with the help of flow control valve.

### 1.2 Blower blade

The blower blade is use to spared out the medicine at high speed and equally distributed the figure is show in below. In blower 12 number of blade is use.



(figure 1.2.1 blower blade)

### 1.3 Gear box and pump



Gear boxes are used to get variable output torque as per requirement. Lower gear for higher torque and higher gear for lower torque (higher rpm), The torque is increased by transferring power from a smaller gear to a larger gear and torque is decreased (rpm is increased) and vice versa.

## 2. OBJECTIVE

The gear box mounted blower has use different type of part to assemble the blower this instrument list show in below the table

**Table -1**

Sr.no.	Name of part	Quantity
1	Tank	1
2	Nozzles	12
3	Hose Pipe	4
4	Valve	2
5	Gear box	1
6	Blower	1
7	pump	1
8	Shaft	2

## 3. CONCLUSIONS

- 1) It can work in extreme temperature and high load
- 2) Efficiency is high compare to belt drive
- 3) No sleeping ,true rotation . requires less to no maintenance what so ever (needs to be oiled frequently)

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