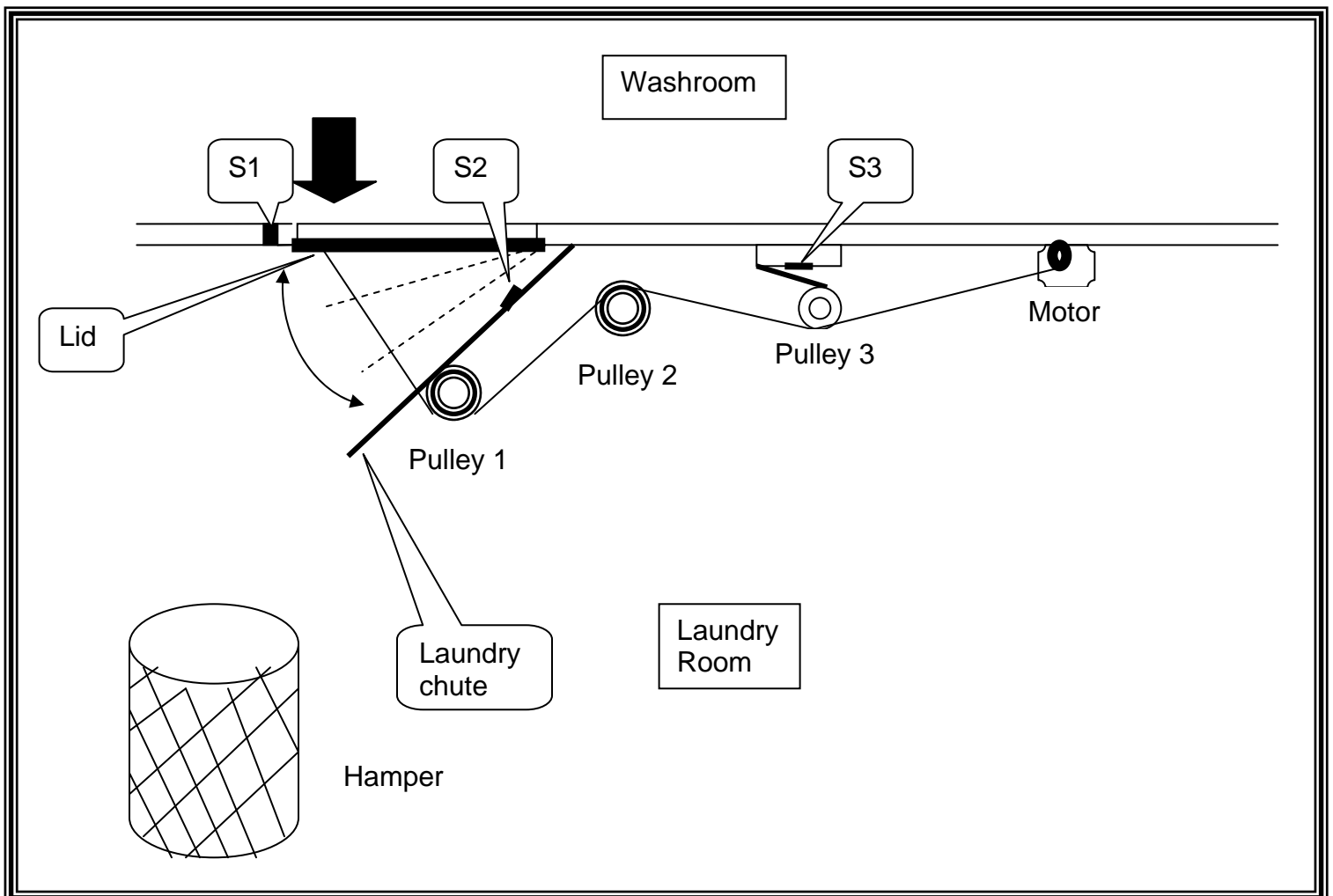


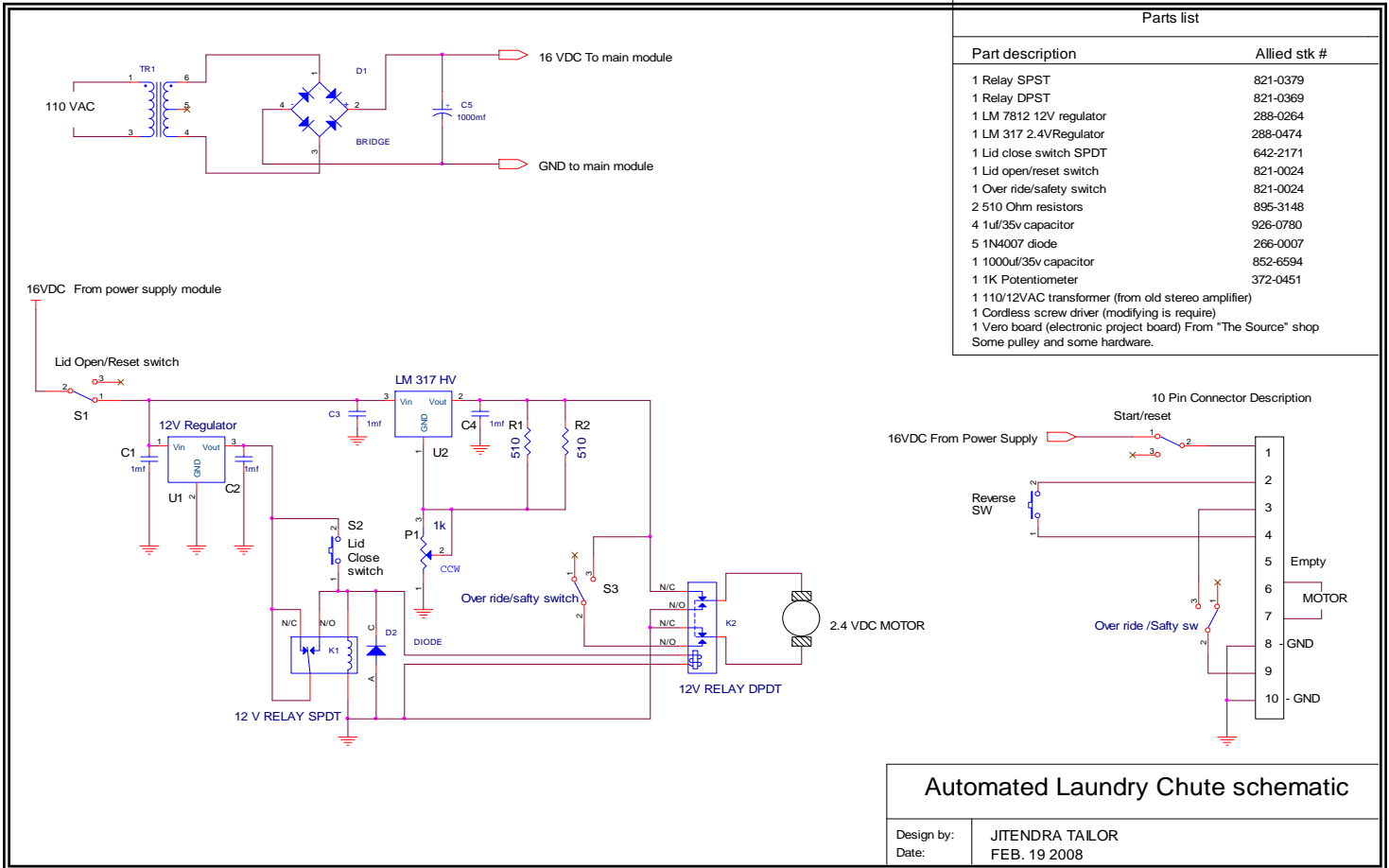
## The full function of the Automated Laundry Chute System

**Note:** In the normal laundry Chute operation (without automated function control) the lid is pushing upwards from the bottom due to the spring hinges attached to the lid. So if you have to throw clothes from the washroom, you have to push the lid downwards. As soon as you release the lid it will come back to a closed position.

### Automated Laundry Chute mechanism layout



## Schematic:



## Automated Laundry Chute operation description:

- As you can see in the layout and schematic diagram at the top, the S1 is in the open contact mode due to the lid pushing the S1 switch upwards. When you throw the clothes in the laundry chute from the washroom, the weight of the clothes makes the lid open downwards and makes switch S1 (N/C) to close contact and remain closed because the motor starts winding the string to open the lid.
- Since the S1 is N/C contact, the 16V DC applied to the U1 12V regulator and U2 2.4V regulator. This 2.4V DC will apply to the 2.4V motor (part of the 2.4V cordless screw driver) through the K2 relay contacts.
- Now the motor is running in one direction and pulling the lid to open by winding the string on the motor shaft via Pulley 1, 2 and 3.
- When the lid opens about 45°, it pushes the S2 (reverse switch) momentarily, which was in open contact, becomes closed contact.
- As soon as the S2 is pushed and comes in closed contact momentarily, both relays, K1 and K2, energize and stayed energized because of the K1 N/O contact. ( see the diagram)
- K1 holds both relays energized with its own (N/O) contact even though the S2 has been pressed momentarily. Now the 12V DC current is flowing through K1 N/O contact, which is now in closed contact (when the relay was energized for a moment through the S2) finishing the circuit through K1 relay coil and ground.

7. Now the motor is running in the other direction because the K2 relay was energized and changed the direction of the relay connection because the 2.4V DC voltage changed the polarity.
8. When the lid is returning back to the close position and closed completely, it will push the S1 switch. When the switch comes to open contact, the current will stop flowing through S1 and K1 coil and that will cause the K1 and K2 to disengage. Now it will be back to the beginning where it started.

### **Over ride/safety switch Operation:**

This function prevents the motor to keep running in one direction and prevents the lid or it's mechanism from damaging, when a part of the cloth get caught in between the lid and the opening of the laundry Chute.

1. If in any case a part of clothing gets stuck, the motor will simply stop running. Or if you want to throw more than one clothe, you simply hold the lid down, and that will also stop the motor from running because of the S3 and Pulley 3 mechanism.
2. S3 is an N/O contact switch. The way the string is running through Pulley 3 (as shown in the layout), it is always pushing the S3 switch upwards to close contact, causing the currents flow through the K2 reverse polarity connection relay contact.
3. When a part of the clothing gets stuck or you push the lid down, the string gets loose and cause pulley 3 not to hold the mechanism upwards and causing S3 to open contact. As soon as the S3 opens, the current stops flowing through K2 reverse's connection contact and stops the motor from running in that direction.
4. When you remove any clothing that got caught or when you released the lid, the string becomes tight enough to pull Pulley 3 upwards and causes S3 to come back to closed contact. This way the lid will start coming back to close position and make the S1 to open contact.