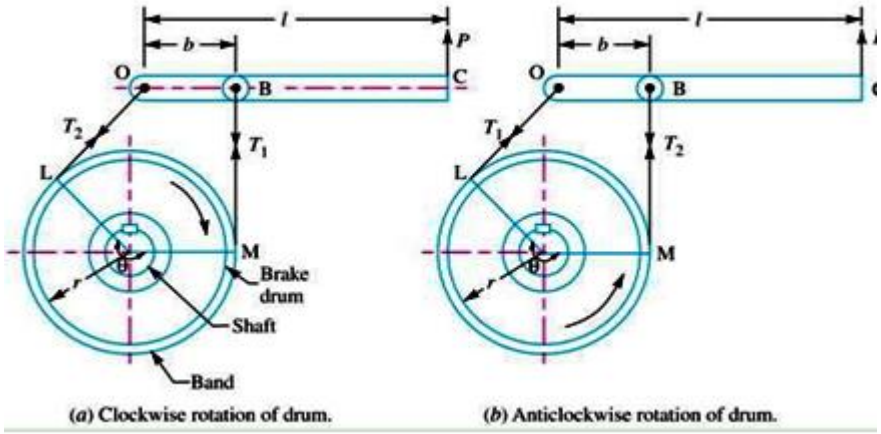
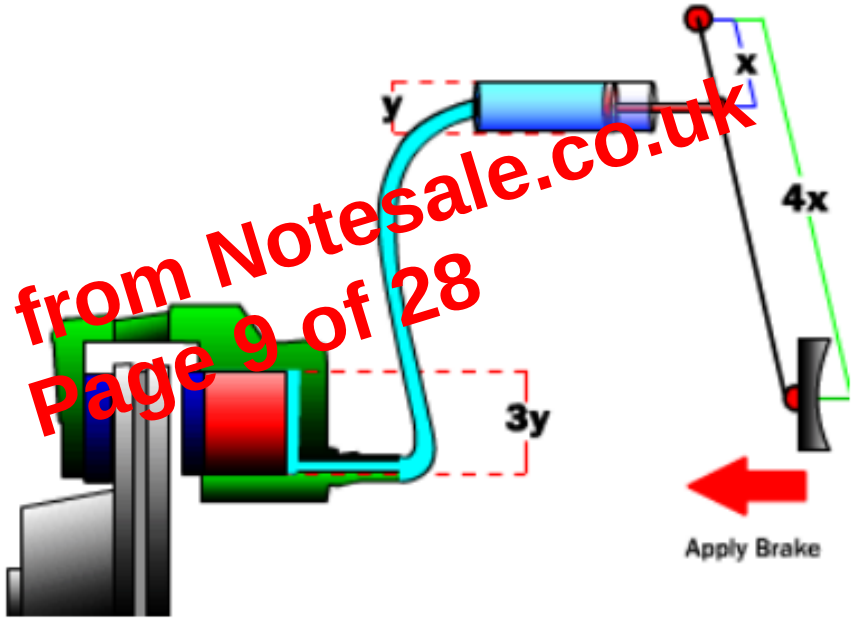
BAND BRAKE

- A band brake consists of a flexible steel band lined with friction material, which wraps on the brake drum. When an upward force is applied to the lever end, the lever turns about the fulcrum pin and tightens the band on the drum and hence the brakes are applied.
- The friction between the band and the drum provides the braking force.
- This type of brake is used in civil construction equipment and also in automobiles as hand brake. The rope brake is example of band brake. Applications; Merry go round, Giant wheel



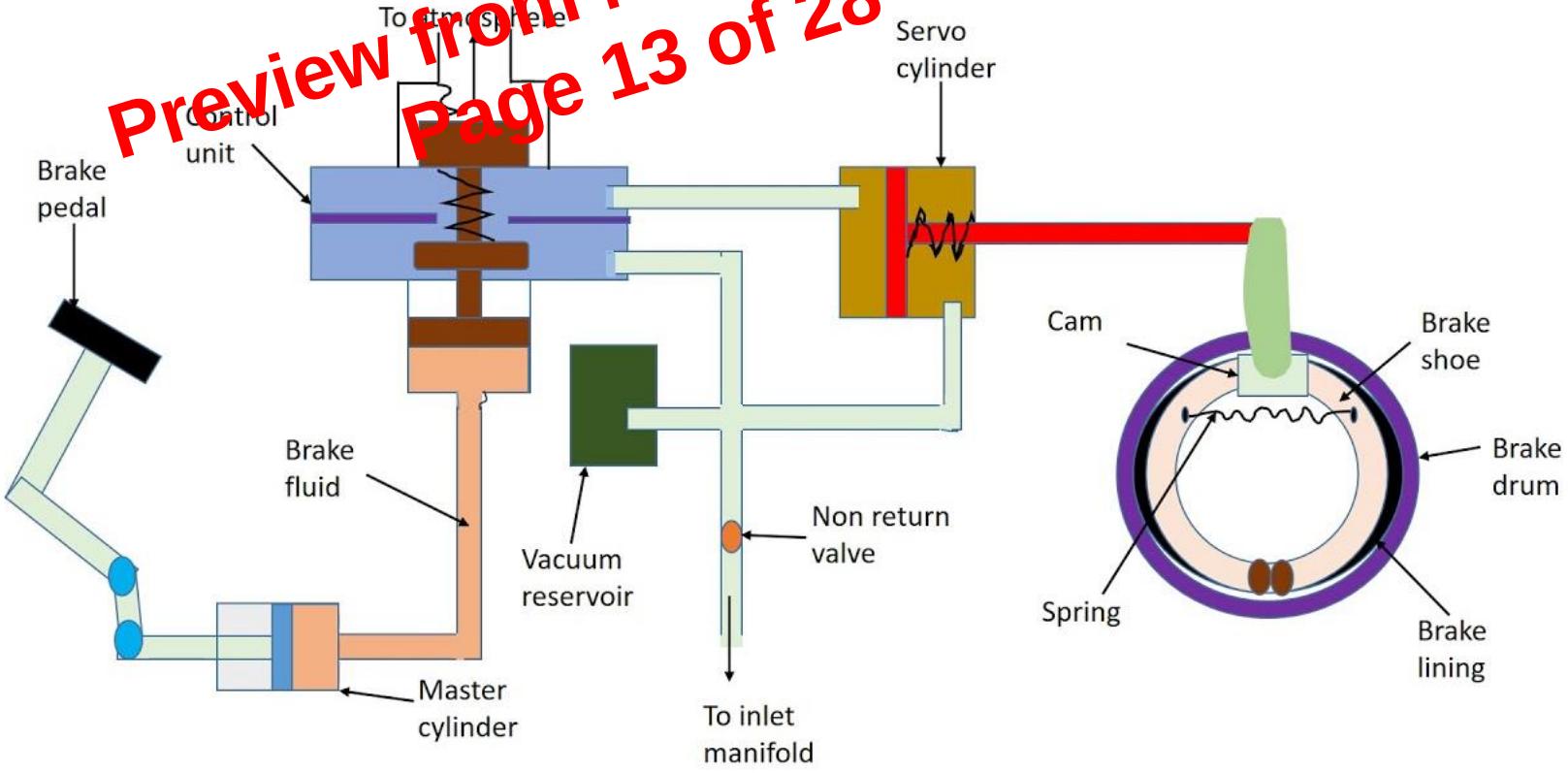
https://www.youtube.com/watch?v=MAuVDB-G-HQ



Then it is easy to understand a simple brake system as shown above. It can be seen that the distance from the pedal to the pivot is 4 times the distance from the cylinder to the pivot, so that the force at the pedal will be increased by a factor of 4 before it is transmitted to the cylinder.

And the diameter of the brake cylinder is 3 times the diameter of the pedal cylinder. It means the fore is further multiplied by 9. In total, the system increases the force from your foot by a factor of 36.
Specifically, when you put 1 ponds force on the pedal, 36 pounds (about 16.2 kg) will be generated at the wheel squeezing the brake pads.

Vacuum Braking System



Construction and Working

brakes

The design or capacity of a brake depends upon the following factors :

1. The unit pressure between the braking surfaces,

2. The coefficient of friction between the braking surfaces,

3. The peripheral velocity of the brake drum,

4. The projected area of the friction surfaces.

5. The ability of the brake to dissipate heat equivalent to the energy being absorbed.

The major functional difference between a clutch and a brake is that a clutch is used to keep the driving and driven member moving together, whereas brakes are used to stop a moving member or to control its speed.