

**POWER TOWING CASTERS** are designed on the assumption that the power towing will take place at speeds up to 7 kph (4.35 mph) and under good working conditions. Above this call Acorn™.

**OBSTRUCTIONS, SUCH AS CURBS AND GULLIES** and even relatively small steps, can exert enormous impact loads which can destroy a caster.

**STEPS SUCH AS LIFT SILLS, DRAIN COVERS AND JOINTS** in concrete slabs present a particular problem if they are not approached squarely. An oblique approach will almost certainly result in the caster turning at right angles to the obstruction instead of turning in such a way as to climb over it. In these situations the destruction of the caster is inevitable.

Towing trailers in train compounds the problem as only one caster may have to withstand the force generated by the mass of the whole train including the tractor.

**AS POWER TOWING BECOMES MORE COMMON**, it is often desirable to tow a number of trucks or trailers one behind another.

**TURNTABLE AXLES** have often been used for this purpose, but in addition to being costly, they have two disadvantages:

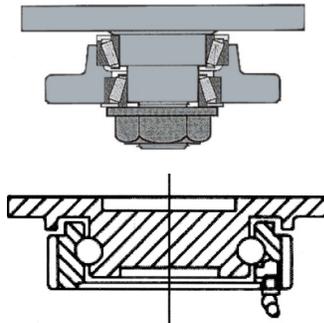
1. If the turntable is at right angles to the axis of the trucks, the stability is greatly reduced.
2. There is a risk of jack-knifing if the trailer stops on a sharp corner.

**CASTERS ARE BECOMING VERY POPULAR FOR POWER TOWING AND WORK SATISFACTORILY** provided suitable precautions are taken. It is essential to obviate “cutting-in” as this would prevent the use of the truck trains in narrow gangways.

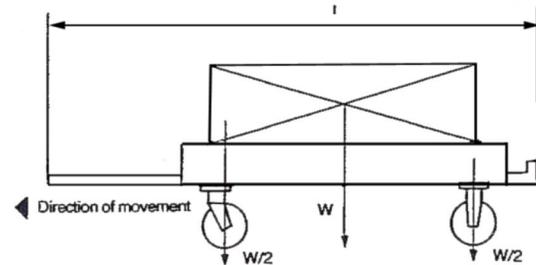
Experience has shown that if trucks are rigidly coupled together by means of pin couplings at each end they will follow the track most accurately, if the distance from the rigid caster center line to the rear coupling pin is 25%-33% of the total length of the truck from front to rear coupling pins.

This can be achieved by moving the fixed casters forward as shown in figure (ii) but this incurs a penalty in that it reduces the wheelbase of the truck and also causes the total weight to be shared disproportionately between the swivel and rigid casters. In order to distribute the weight of the truck and its contents evenly between the front and rear rigid casters, it is advisable to extend the drawbar at the rear of the truck as shown in fig (iii)

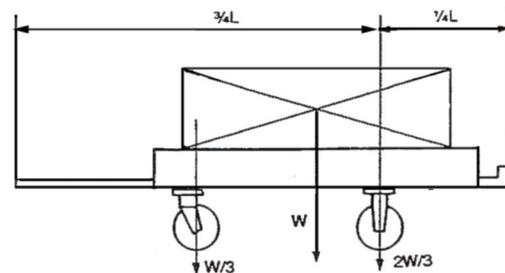
**Specifically designed power towing casters** have tapered roller bearings in both the swivel head and the wheel and will operate satisfactorily at speeds up to 7kph (4.35 mph). VULKOLLAN™ tread wheels are recommended.



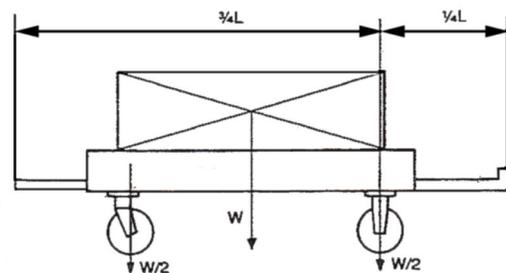
or category 10 kingpinless swivel section



(i) Poor tracking but even distribution of total weight between front swivel and rear fixed casters.



(ii) Good tracking but uneven distribution of total weight between front swivel and rear fixed casters.



(iii) Good tracking and even distribution of load between front swivel and rear fixed casters.