Product/Service Information

ALL TRAILER SPARES (AUST) PTY LTD
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BUILDING

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All Trailer Spares (Aust) Pty Ltd

ALL TRAILER SPARES

General Information

?? Trailers need to be structurally sound and solid, with some weight being exerted downward on the towball of the towing vehicle. The amount of weight required is dependant on the trailer's size and mass and the towing vehicle's specifications.

?? Any trailer cannot be more than 2.5 metres overall in width on the road.

?? Length cannot exceed 11 metres.

?? New trailers require a Vin Identification Plate which can be obtained from transport authorities. The following information must be stamped or engraved on it.

a) The Vin number supplied by the transport authority.

b) Date of manufacture.

c) The tare weight of the trailer, (unladen weight). A certificate can be obtained from any public weigh bridge and must accompany the registration paper.

d) ATM or Aggregate Trailer Mass, which is the tare weight plus the load capacity of the trailer. E.g. If the tare or unladen weight of the trailer is 300 kg, you add the load you expect to carry in the trailer (having regard to the capacity of the axles and springs), say 450 kg to arrive at the ATM of 750 kg.

e) Tyre size, capacity and pressure.

f) Axle or suspension group capacity. This figure should always equal or exceed the ATM by a comfortable margin. E.g. In our example 900 kg to 1200 kg.

?? Trailers with an ATM exceeding 750 kg are required to have brakes fitted, either mechanical or hydraulic override (Drum or Disk) or electric.

?? Trailers exceeding an ATM of 2000 kg are required to have brakes fitted on all wheels and a breakaway system that will apply the brakes for 15 minutes, if the trailer becomes separated from the towing vehicle.

Axles

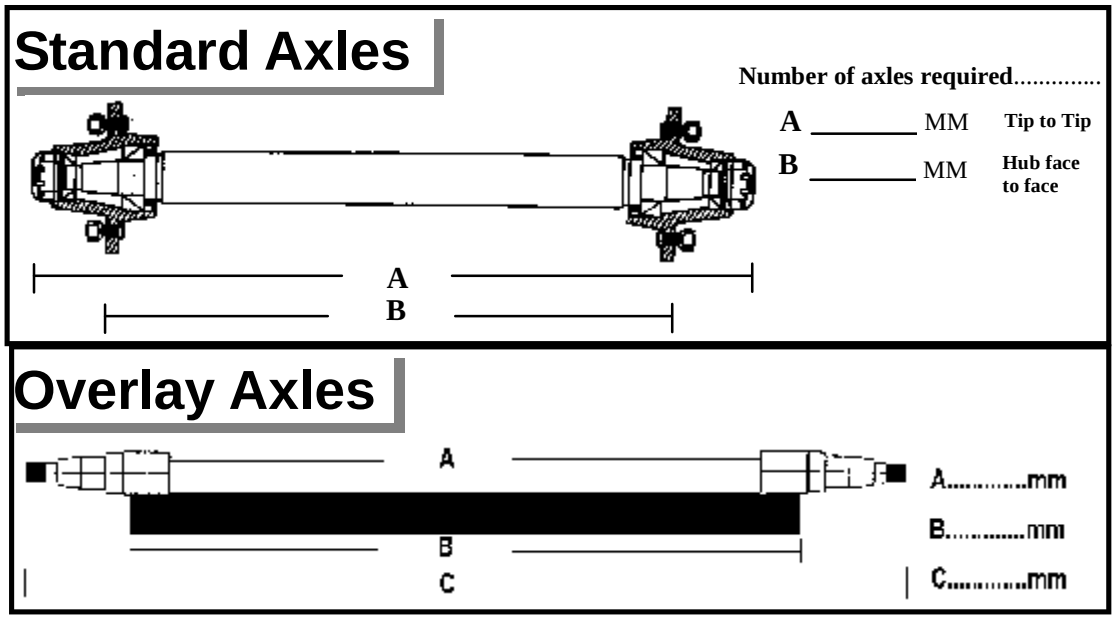
Select an axle to suit your application.

1. There are basically two bearing types used in small trailers up to approximately three tonne.

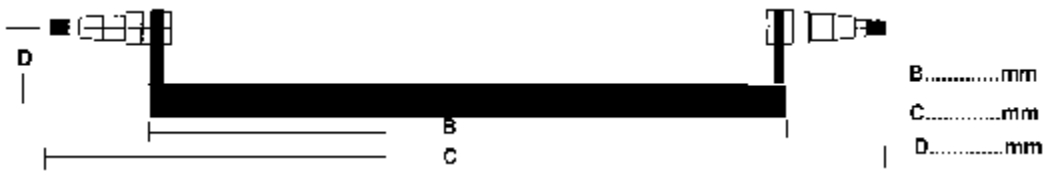
LM (or Holden Bearings)	750 kg on a 39 Round Axle
LM (or Holden Bearings)	750 kg on a 40 Square Axle
SL (or Ford Bearings)	1500 kg on a 45 Round Axle
SL (or Ford Bearings)	1500 kg on a 45 Square Axle

2. Axles are usually one piece solid steel, or can be made from stub axles welded in pipe, or welded on top of a solid bar (called an overlay axle), or using a drop arm (called a drop axle). This axle can raise or lower the trailer as required.

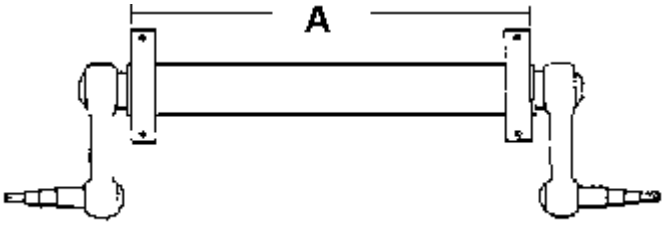
Rubber suspension axles are also available in different capacities and sizes, as well as half axles.



Drop Axles



Rubber Suspension Axles



A= Chassis Width **LM**

A.....mm **SL**

Weight rating required

Types of Standard Axles

Note: Ratings done with 14” Wheel sizes. When using larger wheels eg: 16” the capacity of the axle is reduced by 250Kg

39 Round axle with LM bearings	= 750 kg capacity
40 Square axle with LM bearings	= 1000 kg capacity
45 Round axle with SL bearings	= 1500 kg capacity
45 Square axle with SL bearings	= 1500 kg capacity

Stub axles of the same specifications have the same capacities depending on construction.

Axle Length Formula:-

To calculate the length of a standard axle required use this formula.

Frame size + Gap between wheel and frame + Offset of rims including tyre + 55mm

HUBS

Select the right hub set to suit your axle.

1. Hubs to fit the axles described come in many wheel stud patterns: 5 Stud Holden HT and HQ (Commodore), Ford, 4 Stud Toyota or Datsun and Mini etc, 6 Stud Landcruiser and 5 Stud F100 are the common ones.
   Hubs can be drilled and studded for most wheels.
   When using 16" wheels on axles, you must be aware that the capacity of the axle is reduced by approximately 25%.

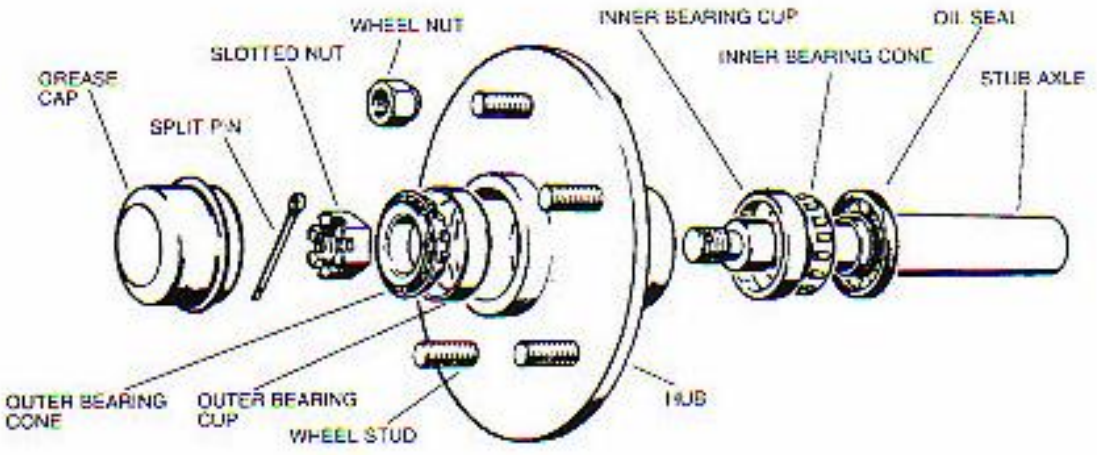
2. The bearing sets, either LM or SL must be in the hub set to fit the axle chosen. Axles determine the bearing sizes. Both bearing sets fit all the standard hubs as the outside diameter is the same for both.

   Bearing Numbers:
   LM (Holden) = LM 11949/10 Outer and LM 67048/10 Inner

   SL (Ford) = LM 12749/10 Outer and L 68149/10 Inner

3. The seals likewise are also LM or SL.
   Seal Numbers Standard:
   LM 28550 and SL 28600 for 39 Round or 40 Square Axles
   Seal Numbers Marine:
   LM PR6641 and SL 82120 for 45 Round or 45 Square Axles

If greater capacity is required then larger hubs and bearings are necessary. E.g. 2 Tonne per axle = 6 stud, (four wheel drive type).



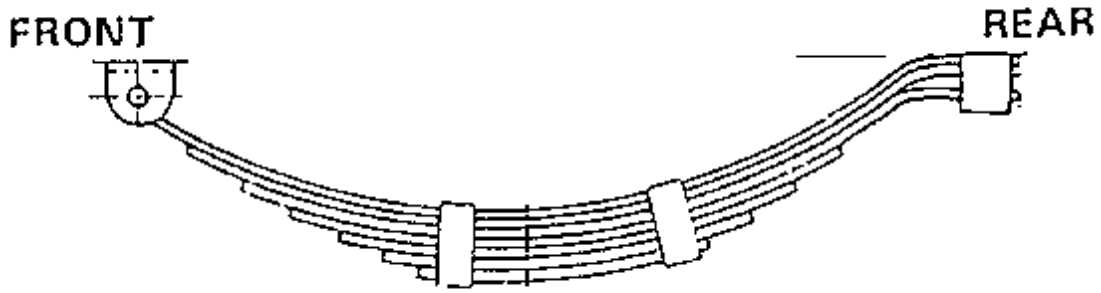
Hub and Bearing Diagram

SPRINGS

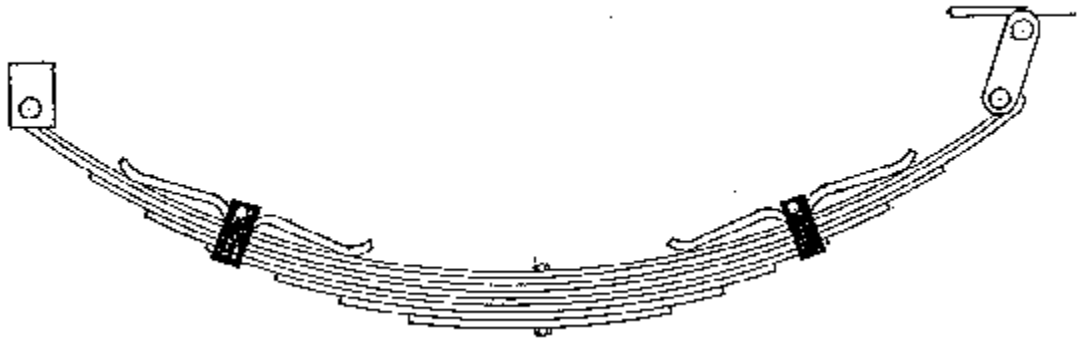
Select the best springs to suit your trailer.

1. Springs come in two basic types.

* Slipper Springs



* Shackle Springs



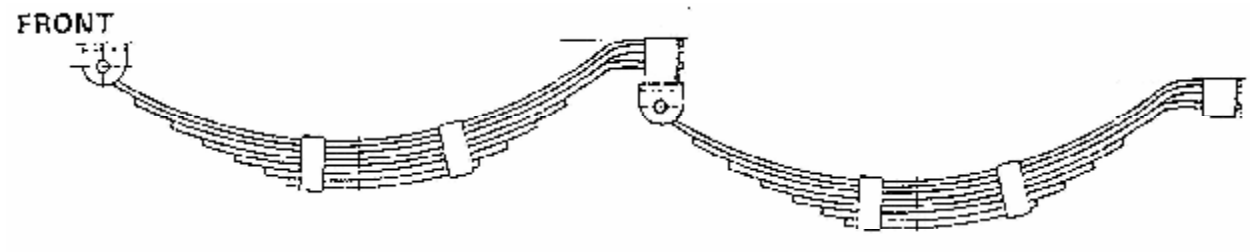
Then in each of these types of springs the bush sizes can be ordered and the number of leaves and the thickness of each leaf will give the different capacities of the springs. The length of the spring types will vary depending on the manufacturer. Springs can be measured from the centre of the eye at the front to the centre of the eye or end of the springs in a straight line across the spring. The capacities are always quoted as Kilos per pair.

Slipper and Shackle Spring Capacities

No of Leaf	Capacity 6.5mm	Capacity 6mm	Capacity 8mm
3 Leaf	750 Kg	600Kg	850Kg
4 Leaf	900Kg	750Kg	1100Kg
5 Leaf	1000Kg	900Kg	1300Kg
6 Leaf	1200Kg	1100KG	1500Kg

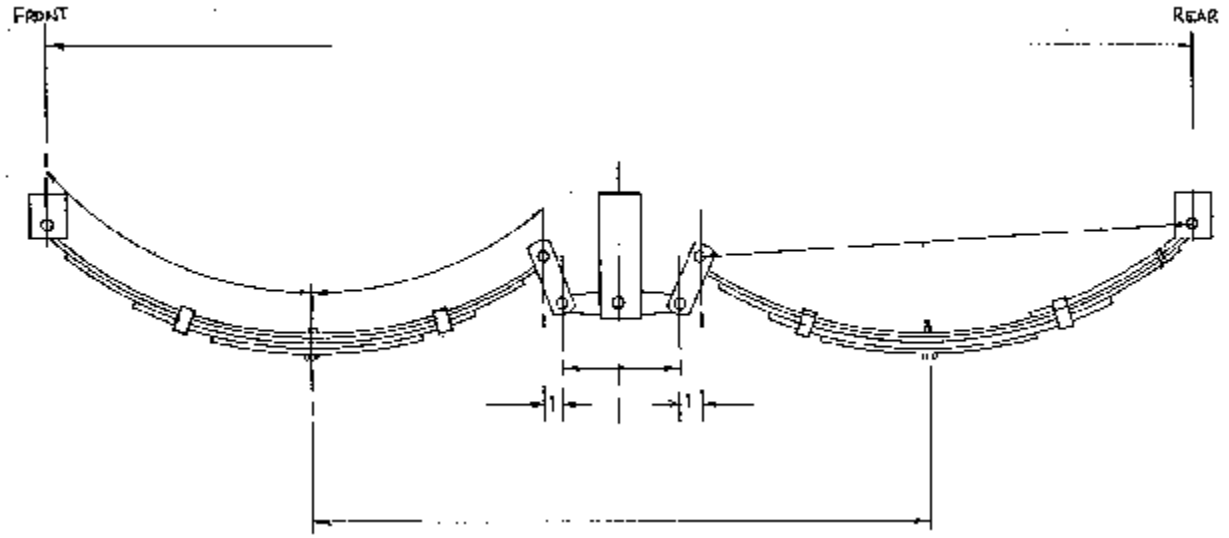
The Springs can be used in different combinations such as double slipper or rocker system.

A. Double Slipper



While on a level surface the trailer could hold a greater load. When on an uneven surface the weight maybe all on one axle. Therefore it can only be registered to the capacity of one axle.

B. Rocker System. Can be supplied for 2 tonne to 6 tonne capacity.



The rocker systems come complete with all the hangers, rockers arms, shackle plates, springs and bolts etc. for one trailer. Instructions on setup are also available.

It is always wise to select suspension components that would carry a greater weight than required, as the weight of a trailer and load going down when it hits a bump is significantly increased.

One other kit is required for a rocker system. Once the axles have been selected, a tandem axle fitting kit is required to attached them to the rocker system.
This kit includes U bolts, Fish plates and Axle pads to suit the axles selected.

C. Single Slipper fitting kit.
Slipper fitting kit you need to specify the shape of the U Bolts to suit the axle selected.

D. Shackle Spring fitting kit.
The Shackle fitting kit – you need to specify the shape of the U Bolts to suit the axle selected.

Brakes

There are several options for trailer brakes.

A. Mechanical overide drum brakes.

B. Mechanical overide disk brakes (with or without Galvanised Calipers).

C. Mechanical overide Hydraulic brakes either Drum or Disk.

D. Electric Brakes.

All except the electrical and Hydraulic brakes require an overide coupling and handbrake plate and a cable kit to be operated. They rely on the towing vehicle braking and the trailer weight pushing on the towing vehicle to operate the brakes via a cable. With the Hydraulic Brakes the cable kit is replaced with Hydraulic lines, but the principle is the same.

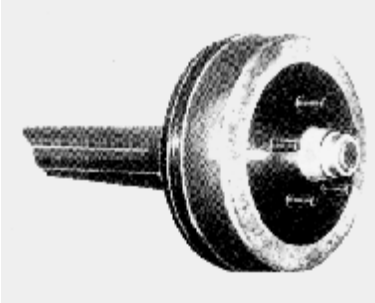
This type of braking system is suitable for trailers up to 2000Kg.

Electric brakes operate via a controller either in the Vehicle or on the trailer. If the Controller is in the Vehicle, then only that Vehicle with a Controller can tow that trailer. However if the Controller is mounted on the trailer then any Vehicle can tow that trailer and the brakes will operate via the brake lights.

Electric Brakes can be fitted to any size trailer and if necessary a breakaway system can be fitted simply. A breakaway system is required for any trailers with an ATM (Aggregate Trailer Mass) exceeding 2000Kg.

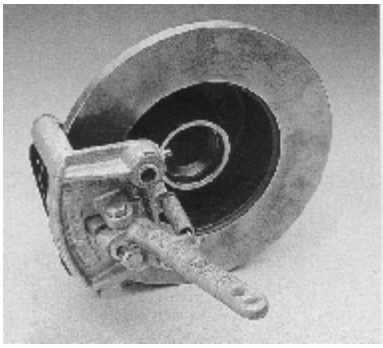
Mechanical Drum Brakes

9” mechanical Drum Brakes
Cable operated.



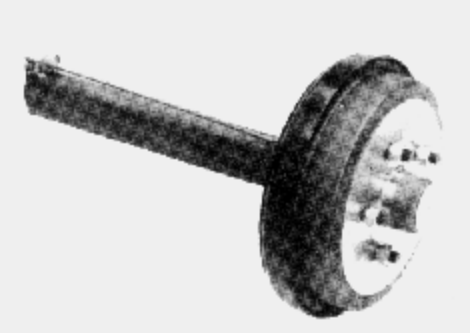
Mechanical Disk Brakes

10” Mechanical Disc either Galv
Or Standard. Cable operated.



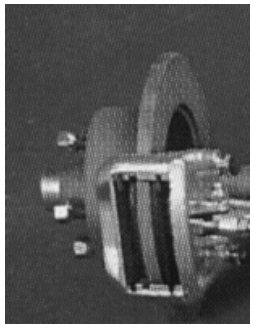
Mechanical Hydraulic Drum Brakes

9” Mechanical Hydraulic Drums



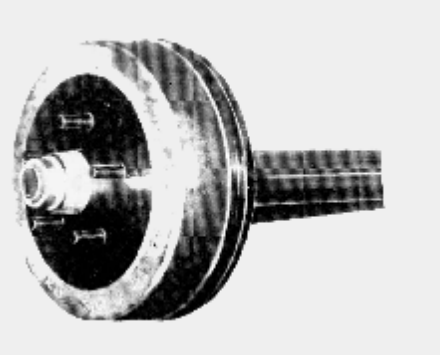
Mechanical Hydraulic Disc Brakes

10” Hydraulic Disc Brakes



Electric Brakes

10” Electric Drum Brakes



Kits are supplied for each of the above breaking systems, and you must specify the stud pattern for the wheels and the bearings required for the axle selected.

For Example:

Contains the discs,bearings, seals, dust caps, wheel nuts, galvanised capliers, stainless steel sliders, brake pads, anchor plates,overide coupling, marine hand brake plate and cable kit. The parts needed to fit disc brakes to a boat trailer up to two tonne.

This same brake kit can be used on any trailer for braking purposes up to two tonne.

There is a kit for each of the different types of brakes listed.