



CUSTOMER INFORMATION SHEET – NO. 28

VENTILATED DISC BRAKES

Disc Brakes have been around for many years. They don't make you go faster, look cooler or sound better, but few things are less enjoyable than pulling a trailer with inadequate brakes. Not only can it be stressful and unnecessary hard work, but it can also be dangerous. Good brakes improve your towing experience by allowing much better control of the trailer at all times.

Cruisemaster™ offer a premium 12" electrically activated hydraulic disc brake with floating caliper and ventilated rotor.

There are a number of reasons why quality disc brakes are superior to drums:

- Better cooling - less likely to overheat and fade
- Less susceptible to contamination from mud and water
- Fewer moving parts
- Less maintenance
- Lighter than drum brakes
- More pad-to-rotor contact area



FEATURES	
12" Ventilated disc rotor	<input checked="" type="checkbox"/>
CRUISEMASTER® AIR or COIL	<input checked="" type="checkbox"/>
VT bearing	<input checked="" type="checkbox"/>
Tested to SAEJ2681	<input checked="" type="checkbox"/>
MAXX coated floating caliper	<input checked="" type="checkbox"/>
Larger piston diameter	<input checked="" type="checkbox"/>
Increased brake torque	<input checked="" type="checkbox"/>
Reverse mount, slip-over rotor	<input checked="" type="checkbox"/>
SA5 plated hubs	<input checked="" type="checkbox"/>
1600 psi actuator (SGL=2.5T, TDM=4.5T)	<input checked="" type="checkbox"/>
1200 psi actuator (SGL=2.1T, TDM=4.2T)	<input checked="" type="checkbox"/>
Min. Chassis to Face = 180mm	<input checked="" type="checkbox"/>

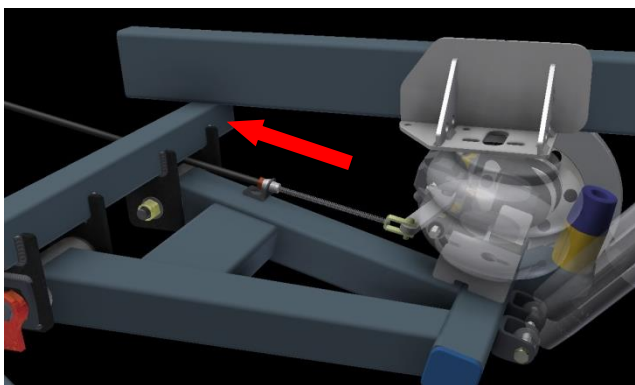
Brakes are available to suit a number of wheel stud patterns as well as popular centre boss (wheel spigot) sizes. Contact our sales department for further details.

1 INSTALLATION

The brake caliper and disc/hub assembly is pre-fitted as an option on Cruisemaster™ Independent Air and Coil suspensions. A flexible stainless steel braided hydraulic hose kit including T-piece and P-clips is supplied to run from the caliper via the suspension A-Frame onto the vehicle chassis. Optional hoses are available to connect from the T-piece to the hydraulic power unit.

Installers should note the following:

- The caliper *clearance diameter* is approximately **365mm**. Ensure that the nominated wheel has sufficient inner clearance not to foul on the caliper.
- Air suspension handbrake incorporates a *forward-pull* lever, while the coil suspension lever is of the *cross-pull* type, as pictured below. Cables should be suitably routed and secured to ensure efficient handbrake operation.
- Fit handbrake cable with coil spring end towards caliper.
- Adjust handbrake cable until excess movement in handbrake lever has been taken up. **Ensure that the wheel is free to rotate in all positions of suspension travel.**
- All flexible hydraulic brake hoses must be fitted to the vehicle in a way that will prevent chafing, kinking or other mechanical damage under normal motion of the parts to which they are attached. (VSB1 Rev 5, par 15.2)



Cruisemaster™ AIR with forward-pull handbrake cable

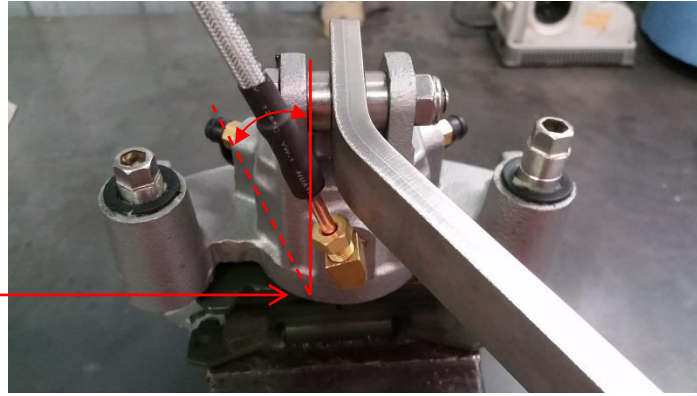


Cruisemaster™ COIL with cross-pull handbrake cable

When using the cross pull lever on the Cruisemaster™ coil it may be necessary to slightly modify the direction of the brass fitting so to avoid interference between the lever and brake line. As standard, the brass fitting will be facing directly perpendicular to the rotor surface. It is possible to adjust this slightly in either direction to ensure appropriate clearance of the cross pull lever. The fitting should be angle toward the direction of the arm for brake cable routing.

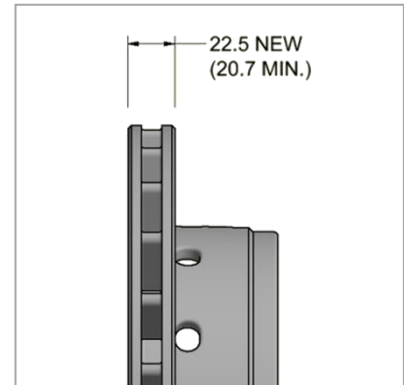
The image below displays the standard fitting direction as the solid line and the recommended adjustment angles as a dashed line.

Turn brass fitting as required
(Cruisemaster™ Coil Only)



2 MAINTENANCE

- Check condition of brake lines & hoses and check for signs of leaks on calipers and connection points.
- Check tightness of brake mounting bolts.
- Check condition of brake pads and replace if necessary.
- If replacing brake pads, clean mounting bolt threads, apply high strength Loctite on threads prior to reassembly and torque to **75Nm**.
- Check condition of disc rotor surfaces. If machining of the disc rotor is required, machine equal amounts off either side. The minimum disc rotor thickness is **20.7mm** (pictured).
- If caliper was fitted with lock wire, insert new wire through holes in bolt heads and twist. Ensure wire wraps clockwise around bolts to resist movement in the loosening direction, as pictured below.



See Cruisemaster™ *CIS 12 – General Maintenance* for service intervals, general maintenance requirements and torque settings.

3 TROUBLE SHOOTING

PROBLEM	CAUSE
Excessive Surge Actuator movement or slow response (delay) from Electric/Hydraulic Actuator	Air in hydraulic system
	Hose swelling / Deteriorated flex hoses
	Fluid boil
	Badly worn pads
	Uneven pad wear
	Old or contaminated brake fluid
	Faulty master cylinder
	Master Cylinder mounting loose
	Clogged reservoir cap vent hole
	Soft or swollen caliper seals
Front or Rear Axle brakes locking prematurely Front or Rear Axle brakes locking prematurely	Too much front or rear brake bias
	Failure in opposite system
	Excessive wear in opposite system
	Worn tires
	Tire pressure too high
	Defective master cylinder
	Defective caliper
One brake locking / trailer pulls to one side	Caliper piston seizing
	Defective, damaged, or oil-contaminated brake pad on one side
	Defective caliper
	Scored or out-of-round rotor
	Bad caliper O-ring
	Loose caliper mount
	Mismatched rotors and pads
	Incorrect tire pressures
	Bad axle-end alignment
	Mismatched tires / load
	Damaged or crimped brake line/hose
	Loose suspension parts
	Loose caliper mounting bolts
	Incorrect wheel bearing adjustment
Vibrating Trailer while stopping	Excessive rotor run out or thickness variation
	Wheel bearing damaged, worn, or out of adjustment
	Cracked rotor
	Bent axle
	Caliper not sliding properly
No BRAKES!	Air in hydraulic system
	Leak in hydraulic system
	Tapered pad wear
	Lack of fluid in reservoir
Brakes grab	Contaminated pad linings
	Brakes wet
	Contaminated pad linings

Brakes not releasing / Brake drag	Brakes wet
Brakes squeal	Worn pads
	Brakes wet
	Glazed or contaminated pads
	Dirty or scored rotor
	Bent caliper bracket
Taper wear on pads	
Rapid pad wear	Brakes not releasing
	Bad surface finish on rotor
	Pads too soft
	Pad fade (inadequate cooling)
	Cracked/damaged/contaminated rotor