



CUSTOMER INFORMATION SHEET – NO. 12

GENERAL MAINTENANCE

Cruisemaster™ suspensions and axle systems have been designed to give a trouble free life with minimum maintenance. However, to ensure the safety and reliable operation of your suspension system the following routine maintenance must be carried out. The service periods recommended below are based on normal road usage. For off-road and abnormal conditions maintenance intervals will need to be more frequent and daily visual inspections are recommended. Maintenance should be carried out by a competent person.

The suspension fitted has been selected according to the vehicle manufacturers recommended Aggregate Trailer Mass (ATM) which can be found on the vehicles compliance plate. It is important that these figures are not exceeded.

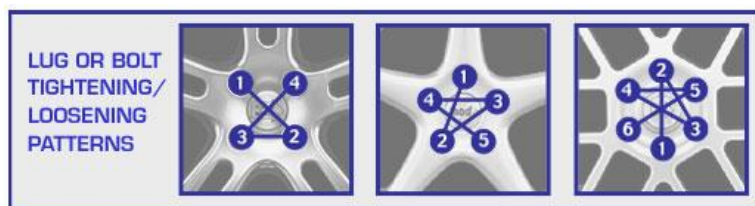
	INITIAL CHECKS, at			SERVICE INTERVALS, every		
	1st 100km	1st 300km	1st 1,000km	5,000km	10,000km	20,000km
Wheel Nuts Tightened	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Torque Suspension & Shock Mounting Bolts		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Grease Hinge Bushes			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Inspect Bushes						<input checked="" type="checkbox"/>
Shock Absorbers Visual Inspection					<input checked="" type="checkbox"/>	
Wheel Bearings Check			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Wheel Bearing Service					<input checked="" type="checkbox"/>	
Check Brake Mounting Bolts for tightness			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Brake Adjustment & Check		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Brake Service					<input checked="" type="checkbox"/>	
Wheel Alignment			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Bolt-on Stub Axle Bolts			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	

1 TIGHTNESS OF WHEEL NUTS

When a wheel is first fitted or removed there is an immediate settling in period where the wheels nuts will need retightening. Trailers tend to experience higher wheel loads than cars especially in tandem configuration and so extra effort should be taken to ensure wheel nuts remain tight. Proceed as follows:

1. Make sure the wheel and hub mating surfaces, as well as the wheel studs and nuts, are free of oil and all foreign material. Do not lubricate wheel studs.
2. Install the wheel and hand-tighten the wheel nuts.

3. Using a wheel or air wrench, lightly tighten all the wheel nuts, in a criss-cross pattern, until they are snug.
4. Lower the vehicle to the ground
5. Using a torque wrench, tighten the wheel nuts in a criss-cross pattern to the vehicle manufacturer's torque specification. If no specification is available, use wheel nut torque figures given in Table 3: Recommended Wheel Stud Torque Settings.



2 BRAKES

Brake Adjustment & Check: Adjust brakes (for Electric Brakes refer Customer Information Sheet No 1). Adjust hand brake cable ensuring sufficient slack to accommodate suspension travel.

At recommended intervals, inspect brake linings, check operation, clean and adjust. Replace pads or shoes if necessary. (Electric Brakes refer Customer Information Sheet No 1). On hydraulic systems check condition of brake lines & hoses and check for signs of leaks on calipers and connection points. Check tightness of brake mounting bolts. When replacing brake pads on disc brakes, clean bolt threads, apply high strength Loctite on threads prior to reassembly and torque as specified. 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.

3 SUSPENSION & SHOCK ABSORBER MOUNTING BOLTS

Using a torque wrench check all bolts for tightness. Independent A-Frame mounting/hinge bolts, U-Bolts and shock absorber mounting bolts. Required torque settings given in Table 1 and Table 2 below.

45mm Wide Springs - All bolts should be tightened until locked and then backed off until suspension is free to move but not loose.

4 GREASE HINGE BOLTS

Using grease gun, pump grease through grease nipples until it comes out around the bushes.

5 INSPECTION OF SUSPENSION BUSHES

Remove bushes, bolts, pins and spindles and inspect. Any parts showing signs of wear should be replaced. Smear a small amount of grease on bushes and outside of pins and spindles prior to reassembly. Torque all bolts in accordance with specifications below, ensuring that new Nylon Insert nuts are fitted where used.

6 SHOCK ABSORBERS

Visually inspect for leaks, if found shock absorbers must be replaced in pairs. Check mounting bolts for tightness. Correct torque is critical for proper installations and trouble free service – see Table 1

and Table 2 below. When vehicle is rocked movement should stop within 3-4 applications. Slight misting of oil on the exterior of the shock absorber is normal and does not indicate a fault.

7 WHEEL BEARINGS

After first 1,000km: Check for excessive bearing play and adjust if necessary.

Every 6 months or 10,000km: Wheel bearings should be dismantled and inspected. Lubricate with Castrol LMX grease or equivalent and replace bearings if necessary.

8 WHEEL ALIGNMENT

Visually inspect tyres for abnormal wear. The suspension system is designed to have a small amount of negative camber at full load. Cruisemaster™ independent suspension toe and camber adjustment can be made with the cam mechanisms provided. Adjustment figures will vary depending on vehicle and tyres fitted, please see vehicle manufacture for recommended settings. Generally, front or single axle has slight toe-in, rear axle is straight ahead, and all wheels have 0° to 0.5° negative camber.

9 BOLT-ON STUB AXLES

Using a torque wrench check all bolt-on stub axle flange bolts for tightness. Required torque settings given in Table 1 below. Inspect general condition of bolts and flanges.

10 RECOMMENDED ASSEMBLY TORQUE

The torque figures quoted are approximate and are applicable to fasteners in a clean and unlubricated condition, free from rust or corrosion. Correct pre-loading of the bolt resists the effects of fatigue. Providing that the bolt pre-load is greater than the applied load, the fatigue life of the bolt will be infinite.

Always remember that the best method for retaining a nut on a bolt is by proper tightening.

Technical Data Sheet, Ajax Spurway Fasteners

Table 1: Cruisemaster™ Torque Settings

Cruisemaster™ Independent Suspension		
Bolt/Nut Size	Application	Torque (N.m)
M12 Bolts & Nylon Insert Nuts	Shock Absorbers	90
M16 Bolts & Nylon Insert Nuts	A-Frame Hinges	190
3/8" UNC Flanged Nut	Airbag Mounting Nut	25
3/8" UNC Flanged Bolt	Airbag Mounting Bolt	25
1/2" U-Bolts & Nylon Insert Nuts	Cruisemaster 1/2" U-Bolts	60

M16 Bolts & Nylon Insert Nuts	Cruisemaster M16 U-Bolts	90
9/16" Bolts & Nylon Insert Nuts	Leaf Suspension - Shackles & Hangers	100
3/4" Bolts & Nylon Insert Nuts	Leaf Suspension - Rocker Centre	200
M12 Bolts GR10.9	Bolt-on stub axle	120
M11x1.5 Bolt	Disc Brake Caliper Mounting Bolt	75

Table 2: Ridemaster Torque Settings

Ridemaster Beam Axle Suspension		
Bolt/Nut Size	Application	Torque (N.m)
M12 Bolts & Nylon Insert Nuts	Shock Absorbers (where fitted)	90
1/2" U-Bolts & Nylon Insert Nuts	Ridemaster 1/2" U-Bolts	85
M16 U-Bolts & Nylon Insert Nuts	Ridemaster M16 U-Bolts	140
9/16" Bolts & Nylon Insert Nuts	Shackles, Hangers & Fabricated Rocker Centre Bolt	100
3/4" Bolts & Nylon Insert Nuts	Leaf Suspension - Rocker Centre	200

Table 3: Maximum Recommended Hub/Drum Stud Torque

Torque figures given here are the maximum allowable for the hub/drum studs supplied by Vehicle Components.

Stud Size	Grade	Maximum Stud Torque (N.m)
7/16" UNF	SAE Grade 8	120
1/2" UNF	SAE Grade 8	200
9/16" UNF	SAE Grade 8	270
5/8" UNF	SAE Grade 8	375
M12x1.5	Class 10.9	155
M14x1.5	Class 10.9	245

Source: Cold Forged Products

- **IMPORTANT: Torque settings will need to be reduced depending on wheel rim design and type. Please consult manufacturer or wheel supplier for recommended specifications to suit the wheels supplied with your trailer.**
- Maximum torque is based on 80% of stud yield strength.
- Wheel nuts should be torqued using a calibrated torque wrench and checked at regular intervals as recommended above.
- Wheel nuts should be tightened in a diagonal (criss-cross) sequence as shown above.