



AL-KO ENDURO

Independent Trailing Arm Suspension

User Manual



AL-KO Enduro Independent Trailing Arm Suspension.

Engineered for Adventure:

Designed and engineered in Australia by AL-KO, all Enduro suspension systems are tested for Australian conditions and made to the quality standards demanded by the global leader in caravan, motorhome and trailer chassis technology.

AL-KO Enduro Outback is an Independent Trailing Arm Suspension designed for comfort, control and durability across any terrain including extreme off road and outback roads.

It provides you with the ability to conquer challenging terrain while delivering comfort and handling when you need it most.

AL-KO Enduro Cross Country is an Independent Trailing Arm Suspension designed for comfort, control and durability on bitumen and graded dirt roads. It is also suitable for use on corrugated roads for short distances.

AL-KO Enduro Touring is an Independent Trailing Arm Suspension designed for comfort, control and durability on bitumen roads.

It is also suitable for use on graded dirt roads.

Benefits of Independent trailing arm suspension

- Keeps the tyres in contact with the ground as much as possible.
- The low unsprung weight of Independent Suspension has less inertia and allows to follow road undulations easily, putting less loads into the chassis.
- It increases ground clearance in the centre of the vehicle and will allow for the fitting of ancillaries such as water tanks.

✓ ENGINEERED AND BUILT IN AUSTRALIA FOR AUSTRALIAN CONDITIONS

Designed, manufactured and rigorously tested for durability, control, comfort and choice of terrain.

✓ SUBJECTED TO AN EXTREME TESTING PROGRAM

Extensive testing has been undertaken at dedicated research and development facilities.

✓ FITTED WITH AL-KO PREMIUM HEAVY DUTY SHOCK ABSORBERS

Heavy duty shock absorbers - designed and pressure tested to optimise performance.

✓ HIGH QUALITY 4X4 COIL SPRINGS

Coil springs manufactured with high quality, high stress spring steel that is up to 30% lighter compared standard grade steel alternatives.

✓ MAINTENANCE FREE BUSHES

High quality maintenance free polyurethane suspension bushes require no additional grease after their initial installation.

✓ NO-COMPROMISE APPROACH

AL-KO is proud of its uncompromising approach. Each component within the AL-KO Enduro™ independent trailing arm suspension system is tested to ensure it meets the highest quality standards and to ensure compatibility with the latest caravan safety features, such as electronic stability control (ESC), an AL-KO world breakthrough.

✓ DESIGNED BY THE GLOBAL MARKET LEADER

AL-KO is the global market leader in caravan suspension technology

✓ AUSTRALIA WIDE RECOMMENDED SERVICE NETWORK

AL-KO has the most extensive service network in Australia, providing peace of mind that parts, service back-up and expert advice are never far away.

For a full list of AL-KO Recommended Service Centres visit www.alko.com.au

AL-KO Enduro Outback – General Maintenance

Regular Servicing of your premium quality AL-KO Enduro Suspension and braking system will ensure you continue to have the peace of mind that any of our products offer.

AL-KO recommends that you service your caravan at regular intervals and that as a minimum you service your suspension as per the recommended maintenance schedule.

Check	Function Required	Daily checks	Initial checks	Periodic Maintenance	
				Every 5000 km or 6 months	Every 10000 km or 12 months
Trailer Brakes	Test that they are braking effectively	✓			✓
Tyre pressure	Inflate tyres to manufacturer's specifications	✓			
Wheel Nuts	Tight to proper torque specifications		Every 100kms for the first 400kms	✓	
Wheel Rims	Inspect for dents, damage or out of round			✓	
Wheel bearings & cups	Inspect for wear or damage and lubricate				✓
Brake adjustment	De-Dust. Inspect for lining wear and adjust.		After first 300km to 1000 km (Electric Drum)		✓
Suspension mounting bolts M16	Check torque specifications		After first 300km to 1000 km		✓
Shock absorber mounting bolts M12	Check torque specifications		After first 300km to 1000 km		✓
Shock absorber visual check	Visual check for leaks				✓
Suspension bush	Periodic visual checks for impact damage				✓
Wheel alignment	Visual check for uneven tyre wear		After first 1000 km		✓
Bump Stop	Visual Check				✓

Note:

The maintenance frequency mentioned above are applicable for normal road usage. If the vehicle undergoes extreme/abnormal usage, then periodic maintenance should be more frequent and frequent visual inspection of parts are recommended.

Tyre pressure

Ensure tyre pressures are set correctly for prolonged tyre life.

Wheel Nuts

Whenever wheels are removed and refitted the wheel nut torque should be checked. Fit wheel nuts by hand to ensure correct fitment, prior to tightening to the torque specified by the wheel supplier.

Wheel bearings & cups

Every time the wheel hub is removed, the wheel bearings must be checked and adjusted.

Brake adjustment

Adjust park cable where fitted to allow sufficient slack to accommodate full suspension travel.

Suspension mounting bolts M16 (190 Nm)

Whenever suspensions are removed and refitted the bolt torque should be checked. Always use a calibrated torque wrench. Ensure new nyloc nuts are used for every installation.

Shock absorber mounting bolts M12 (77 Nm)

Whenever suspensions are removed and refitted the bolt torque should be checked. Always use calibrated torque wrench. Ensure new nyloc nuts are used for every installation.

Shock absorber visual check

Sweating, or just a small amount of fluid around the fluid filled tube is normal and not a fault. Replacement shock absorbers must always be replaced in pairs on the same arm (where twin shocks are fitted). Ensure correct tightening torque of mounting bolts. Ensure new nyloc nuts are used for every installation.

Suspension bush

AL-KO Enduro Suspension bushes are lubricated by the initial suspension installer and are thereafter maintenance free. Re greasing at periodic maintenance inspection is OK but not mandatory.

Wheel alignment

Ensure recommended toe & camber values are set for prolonged tyre life. Adjustment of toe in or camber should be done by suitably qualified technician.

Axle Pivot Suspension Bushes

Lubrication is performed during assembly and should not be required on an ongoing basis.

Bushings can be subject to damage from external sources, so should be periodically visually checked for impact damage.

Regreasing or internal inspection of the bushes would only be deemed necessary if noises or free play were evident.

Bump Stops

Are one of the hardest working components in the suspension system, and should be visually inspected at every 12 month/10,000km service.

Bump stops should be visually inspected for:

- Deformation or compression
- Cracking around the contact area
- Splitting in the body of the bump stop
- Alignment to ensure correct contact angles

If any of these conditions exist it is recommended the bump stops be replaced on both sides.

Wheel Alignment Toe & Camber

The Enduro Suspension fitted to your RV or trailer will have had the appropriate “zero load” toe in and camber set during manufacture of the RV or trailer. Incorrect adjustment of either toe in or camber can affect tyre wear and should you experience any irregularities we would suggest, prior to contacting an AL-KO Recommended Service Centre, that at least the parameters below be checked:

- 1) RV or Trailer GTM and ATM (Must not exceed compliance plate rating)
- 2) Correct tyre inflation pressure for the vehicle load
- 3) Correct tyre capacity for the load being carried
- 4) Wheels are balanced and rims are not buckled
- 5) Tyre condition
- 6) Wheel bearing adjustment

If you continue to experience tyre wear, please visit www.alko.com.au for a list of AL-KO Recommended Service Centres for AL-KO Enduro.

Recommended assembly torque

Please consult your AL-KO Recommended Service Centre for any questions regarding assembly torque settings.

Please visit www.alko.com.au for a list of AL-KO Recommended Service Centres for AL-KO Enduro.

Servicing your AL-KO Enduro Suspension

AL-KO recommends that you service your RV or Trailer at regular intervals and that as a minimum you service the suspension at the suggested intervals as follows

Initial Checks & Wheel Alignment inspection 100 – 1000km

1st Service 5,000km

2nd Service 10,000km

Thereafter we recommend your suspension be serviced at a minimum of once every 10,000km

Date: Km: Authorised Service Agent:	Date: Km: Authorised Service Agent:	Date: Km: Authorised Service Agent:
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Warranty

AL-KO INTERNATIONAL PTY LTD

AL-KO ENDURO PRODUCT WARRANTY

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

AL-KO International Pty Ltd (ABN 96 003 066 813) ("AL-KO") provides the following warranty in relation to its AL-KO Enduro product ("Product").

The benefits of this warranty are in addition to any rights and remedies imposed by Australian State and Federal legislation that cannot be excluded. Nothing in this warranty is to be interpreted as excluding, restricting or modifying any State or Federal legislation applicable to the supply of goods and services which cannot be excluded, restricted or modified.

WARRANTY

AL-KO warrants that, subject to the exclusions and limitations below, the Product will be free from defects in materials and workmanship for a period of 36 months from date of purchase. AL-KO may, at its discretion, offer a longer warranty term on certain products.

This warranty is not transferable to a subsequent person if the Product is sold by the original purchaser during the warranty period.

If a defect appears in the Product before the end of the warranty period and AL-KO finds the Product to be defective in materials or workmanship, AL-KO will, in its sole discretion, either:

replace or repair the Product or the defective part of the Product free of charge; or

b) cause the Product or the defective part of the Product to be replaced or repaired by a qualified repairer free of charge.

AL-KO reserves the right to replace defective parts of the Product with parts and components of similar quality, grade and composition where an identical part or component is not available.

Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired.

Refurbished parts may be used to repair the goods.

WARRANTY PROCESS

1. If a fault covered by warranty occurs, the customer must within 7 days contact the dealer from which the Product was purchased, or AL-KO at the contact address listed below.
2. Any warranty claim must be accompanied by:
 - a. proof of purchase;

- b. full details of the alleged defect; and
 - c. any relevant documentation (such as maintenance records).
3. The customer must make the Product available to AL-KO or its authorised repair agent for inspection and testing within 14 days of contacting AL-KO or the dealer in accordance with this warranty claims procedure. If inspection and testing finds no defect in the Product, the customer must pay AL-KO's costs of service work and testing.
4. The cost of transportation to or from AL-KO or the authorised repair agent is to be paid by the customer.

EXCLUSIONS

The warranty will not apply where:

1. the Product has been repaired, altered or modified by someone other than AL-KO or an authorised repair agent;
2. the Product was improperly installed or used;
3. AL-KO cannot establish any fault in the Product after testing and inspection;
4. the Product has been used other than for the purpose for which it was designed;
5. the defect in the Product has arisen due to the customer's failure to properly use and maintain the Product in accordance with AL-KO's instructions, recommendations and specifications (including maintenance);
6. the Product has been subject to abnormal conditions, including environment, temperature, water, fire, humidity, pressure, stress or similar;
7. the defect has arisen due to abuse, misuse, neglect or accident;
8. the defect has arisen due to a power surge or other fault in the supply of electricity; or
9. unauthorised parts or accessories have been used on or in relation to the Product;
10. the defect is a deterioration of the appearance of the Product;
11. the defect is a result of wear & tear.

LIMITATIONS

AL-KO makes no express warranties or representations other than set out in this warranty.

The repair or replacement of the Product or part of the Product is the absolute limit of AL-KO's liability under this express warranty.

CONTACT

AL-KO International Pty Ltd
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Phone: (03) 9767 3700
Email: info@alko.com.au

Visit
www.alko.com.au
for more information

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Phone (03) 9767 3700

Fax (03) 9792 0877

NSW: 26 Hallstrom Place, Wetherill Park, 2164

Phone (02) 8784 9400

Fax (02) 9725 4557

QLD: 13 Union Circuit, Yatala, 4207

Phone (07) 3386 6300

Fax (07) 3386 6399

NZ: 1 Airpark Drive, Airport Oaks, Mangere, Auckland

Phone (09) 255 5611

Fax (09) 255 5612