

VEHICLE MANUAL FOR VEHICLES ON AL-KO CHASSIS



AL-KO AMC (2-/3-axle) Fiat

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From Schwaben into the world

AL-KO's success story starts back in 1931, as Alois Kober founds a small metalworking shop in the Bavaria-Swabian town of Kötz. By 1952, handbrake levers are being produced in series.

AL-KO manufactures the first tested overrun brake facility in Germany. As of 1961, the company had founded international subsidiaries to closer to the market and better serve the customers in their

respective countries. After Austria, Italy, England, France, Switzerland and Spain follow. In 1983, AL-KO founds a company in the USA and several years later in Australia, Asia, and finally in Africa.

Index

A	L	S	W
Accessory parts 22	Lifting 20	Snow chains 17	Warranty 5
Axle loading 12	Lubricating 8	Spare wheel 18, 19	Weights. 12
		Suspension. 21	Wheels and tyres 12, 15, 16, 17
			Wheel change 18, 19
			Wheel chocks. 18
			Workshop jack 20
B	M	T	
Brakes 21	Maintenance 8	Tool kit 18	
	Maintenance instructions. 8	Total weight. 12	
		Towing 22	
		Towing capacity 12	
		Towing hitch 13, 14	
		Trailer operation 13	
		Type overview 12	
		Type plate. 9	
		Tyre pressure. 15, 17	
C	O		
Car jack. 19, 20	Operating instructions 9		
Characteristics 9			
Conversion description. 10, 11			
F	R		
Filling pressures 15	Rear axle 8, 21		
Front axle load 12	Rear axle load 12		
Front suspension. 21	Rear suspension 21		
	Repairs 9		

Dear Customer,

Your vehicle is equipped with a high-quality AMC CHASSIS from the company ALOIS KOBER GmbH. This results in certain changes to the base vehicle.

These instructions will familiarise you with your vehicle.

Read through the AL-KO vehicle manual carefully. In addition to the regular care and maintenance, the manual will help you treat your vehicle properly to maintain its condition and value and is in many cases a requirement for warranty claims.

May you always have a safe journey.

Your ALOIS KOBER GMBH

Warranty conditions

The operating instructions and the maintenance requirements of the basic vehicle manufacturer continue to apply.

Only original replacement parts comply with the conditions specified by the base vehicle manufacturer.

Possibly necessary maintenance work to the _AL-KO rear axle (See page 8 for a more detailed description):

- I Relubricate every 20,000 km
- I however, at least every 12 months (whichever occurs first)

You must document the compliance with the maintenance intervals in the vehicle manual for warranty claims.

Important: Country-specific regulations must be taken into account!

AL-KO AMC (2-/3-axle)

Kilometres	Date	Workshop stamp	Signature

Kilometres	Date	Workshop stamp	Signature

Maintenance (see page 5)

The regulations and instructions in the base vehicle operating instructions continue to apply, as well as the maintenance manual.

Additional maintenance work on the AL-KO rear axle:

- Relubricate every 20,000 km
- however, at least every 12 months

The lubricating nipples are located on the bottom side of the axle tube (see sketch). Use the following grease for lubricating the bearings on the axle tube: KLUBER – Stabutherm GH 461, Fa. CONDA – Cardex 3746 SP resp. a lubricating grease approved by AL-KO.

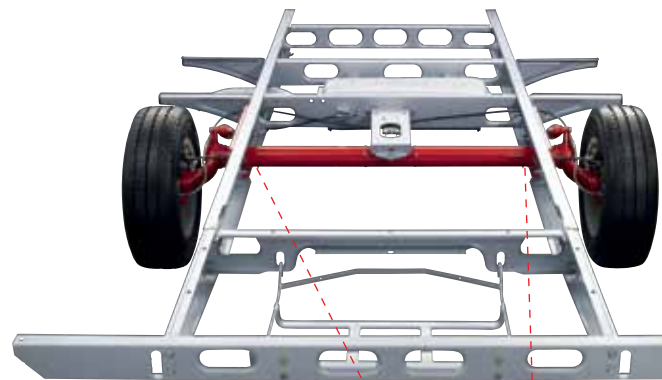
Note

Vehicles equipped from the factory with an AL-KO Air Premium X2 or Air Premium X4 air suspensions resp. the AL-KO Level Controller (ALC) are equipped standard with a maintenance-free rear axle. For vehicles without the air suspension listed above, a maintenance-free torsion bar spring axle can also be installed; in this case, there are no lubricating nipples. Maintenance-free axles can be identified by the AL-KO axle type plate (on the right-hand axle housing) and have the "CA" designation.

Important:

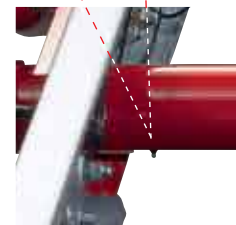
Lubricating must be done with the rear axle unburdened!

You can find specific air spring data and information in the operating instructions for the AMC air suspension (2 and 3 axle).



Rear axle lubricating nipple (if fitted)

▲ Driving direction



Characteristics

Type plate

The vehicle is labelled with an AL-KO type plate, on the front engine compartment crossbeam.

This type plate carries the following data:

AL-KO Kober AG		AL-KO
A		
Stufe 2		
B		
C		kg
D		kg
1-	E	kg
2-	F	kg
3-	G	kg
Typ	H	



- A – AMC RVD Approval Code
- B – Base vehicle identification number (17-digit)
- C – Permitted overall mass of the vehicle
- D – Permitted overall mass of the vehicle combination
- E – Permitted front axle load
- F – Permitted rear axle load (axle 2)
- G – Permitted rear axle load (axle 3)
- H – AMC Type

Note

Refer to the vehicle papers for the permitted towing capacity resp. the permitted total weight.

Repairs

Repairs to the AL-KO AMC CHASSIS and the AL-KO axles may only be performed by qualified workshops!

See the repair and maintenance instructions for the base vehicle manufacturer

www.technicalinformation.fiat

Accessory parts

When attaching accessory parts (such as load carriers, supports, towing hitch) to AL-KO AMC CHASSIS, we recommend using Original AL-KO parts or suitable parts that have been expressly approved by AL-KO for attachment. The reliability, safety, and suitability for these accessory parts has been determined in a special inspection procedure specifically for the AL-KO AMC CHASSIS. We are not able to judge, nor do we advocate the use of other products, despite continuous market observations.

Please take into account that all specifications contained in these operating instructions are reference values.

Changes to construction, equipment, and accessories can be possible at any time due to further development. All specifications, figures, and descriptions in these operating instructions cannot be used for any types of claims.

www.al-ko.com

AL-KO AMC (2-/3-axle)

Fiat

AL-KO AMC

2-axle



Conversion description

The original rear frame is replaced by a high-quality, galvanised AL-KO lightweight construction chassis. This chassis is bolted together to the cab body by means of a conical seat connection.

The original rear axle with leaf spring suspension is

replaced by an AL-KO torsion bar spring axle or AL-KO air spring axle, which is installed in the frame rail by means of conical seat connections and is a structural member of the chassis.

AL-KO AMC Fiat

AL-KO AMC
3-axle



Conversion description

The original rear frame is replaced by a high-quality, galvanised AL-KO lightweight construction chassis. This chassis is bolted together to the cab body by means of a conical seat connection.

The original rear axle with leaf spring suspension

is replaced by two AL-KO torsion bar spring axles or AL-KO air spring axles, which are installed in the frame rail by means of conical seat connection and is a structural member of the chassis.

Type overview

Type	Vehicle class *	Permitted total weight (kg)	Permitted front axle load (kg)	Permitted rear axle load (kg)	Permitted towing capacity (kg)	Permitted total weight (kg)	Tyre-wheel combination
AMC 45H	N2	4500	2100/2300 ³⁾	2500	1500	6000	225/75 R16 C
AMC 50HS	N2	5000	2100/2300 ³⁾	1600/1600	1500	6000	225/75 R16 CP ²⁾ 215/75 R16C

¹⁾ Observe the D value of the towing hitch as well as the permitted total weight

²⁾ For CP tyres with a filling pressure of 5.5 bar, the use of metal valves is required

* depending on the assembly manufacturer, the vehicle class M1 is also permitted with special purpose use

³⁾ Front axle capacity is increased to 2300Kg if ACS is fitted

AL-KO AMC (2-/3-axle) Fiat

Driving with trailer

General information

Vehicles with AL-KO automobile chassis are approved for trailer towing.

Technical requirements

If the vehicle was delivered from the factory with a towing hitch, all technical and legal necessities for trailer operation have already been accounted for. For retrofitting a towing hitch, the installation of a frame reinforcement is, however, mandatory depending on the technical design of the rear-side frame structure!



If the vehicle frame has the safety symbol engraved on it, the frame reinforcement must be mounted.

You can obtain information about this from your AL-KO AMC Service Partner or in our AL-KO Service Centre.

When ordering a towing hitch subsequently, please always specify the vehicle type and vehicle identification number!

Attention! Do not exceed the maximum permitted towing capacity listed in the vehicle papers as well as the maximum permitted total weight (see also from Pages 12 +13)!



We recommend having all installation work performed by competent expert workshops or at our AL-KO service centres.

The payload of the towing vehicle is reduced by the vertical loading, which has an effect on the towing hitch.

On downhill gradients, select a lower gear instead of continuously using the brakes.

The towing of a trailer reduces the maximum climbing capability and the braking distance increases.

Ensure rear visibility by using suitable rear-view mirrors. Comply with national regulations!

Driver information

Please observe the information in the operating instructions for the base vehicle.

Attachment of tow hitches

General information

- | Use only the couplings approved by AL-KO as tow hitch. The attachment points are already present in the side members.
- | For subsequent attachment, an inspection and approval by certified expert is generally not required (e.g. TÜV).
Exception: Express instruction to do so in the installation and operating instructions of the towing hitch!
- | The permitted total weight and the permitted towing capacity is specified in the type overview and in the vehicle papers.
- | For subsequent attachment of the tow hitch, take the regulations of the respective country into account (DIN 74058 resp. ECE-R55).

Technical requirements

- | The actual weight of the towing capacity must be less than that of the towing vehicle.
- | The maximum permitted vertical loading amounts to 4% of the maximum permitted towing capacity (80 / 100 kg).
- | For lowered rear frame extensions, in conjunction with a tow hitch, suitable diagonal braces must be installed (figure 4)
- | The specified clearances must be taken into account for the construction design according to DIN 74058 resp ECE-R55.

- | For large construction overhang (over 2500 mm) or for special overhangs, AL-KO must expressly approve the design of a towing hitch (fig. 1, fig. 2, and fig. 3).
- | Mount the necessary diagonal braces, mounting plates, and reinforcements (fig. 1 and fig. 2).
- | The installation of the electroset is prepared at the factory (fig. 5 and fig. 6).
- | If the attachments deviate from figures 1 -3, you can find the required specifications in the attachment manufacturer handbook.



Due to the number of variants, please always provide the vehicle identification number when ordering

You can obtain tow hitches as special design or for retrofitting at:

AL-KO International Pty Ltd

67-91 Nathan Road,
Dandenong South, VIC 3175
Ph: 03 9767 3700
Fx: 03 9792 0877

Wheels and tyres

Filling pressures for cold tyres (bar) tubless tyres

Type	Tyres	2-axle		3-axle	
		Front	Rear	Front	Rear
AMC 45H	215/75 R16C	4.5 (65)	5.0 (72.5)		
	225/75 R16 C	4.5 (65)	5.0 (72.5)		
	225/75 R16 CP ²⁾	5.5 (80)	5.5 (80)		
AMC 50HS	215/75 R16 C			4.5 (65)	3.8 (55)
	225/75 R16C			4.5 (65)	3.8 (55)
	225/75 R16 CP ²⁾			5.5 (80)	3.8 (55)

Bar (psi)

²⁾ For CP tyres with a filling pressure of 5.5 bar, the use of metal valves is required

Notes

- I Always check tyre pressure when tyres are cold.
Do not forget the spare tyre (if present)!
- I Do not replace the tyres diagonally.
- I On vehicles with tandem axle, increased tyre wear may occur.
- I Observe the max. permitted total weight, the max. permitted towing capacity, resp. the permitted total weight (information on pages 12 + 13).
Severe damage to the vehicle, wheels, and tyres can occur if this is not observed and complied with!
(see vehicle papers)

Wheels and tyres

Not only the driving comfort but also the tyre lifespan, and most importantly the driving safety depend on compliance with the specified tyre filling pressure. Incorrect tyre pressure largely influences the roadholding characteristics of the vehicle.

The pressure of each tyre, including the spare wheel, must be checked regularly, particularly before setting out on longer journeys.

An incorrect filling pressure causes irregular wear of the tyres, see figure.

The profile depth should not be less than 3 mm although the law states a minimum profile depth of 1.6 mm. Wear mark indicators in the tyre (arrow) indicate at 1.6 mm profile depth that the valid Europe-wide legally permitted wear limit has been reached. Below 3 mm profile depth, there is significant risk of hydroplaning at high speeds even with only low water heights.

Snow chains

The snow chains may only be mounted on the tyres of the front wheels (drive wheels).

Please also observe the information in the operating instructions of the base vehicle and the attachment manufacturer.

A - Correct tyre pressure:

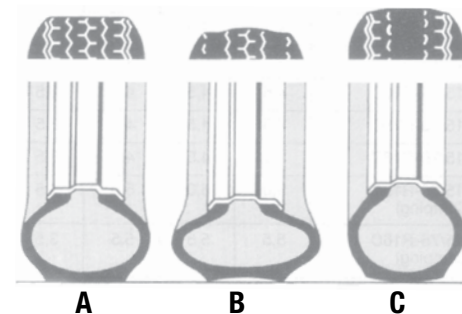
Even tyre wear

B - Insufficient tyre pressure:

Increased shoulder wear

C - Excessive tyre pressure:

Increased wear of profile centre



AL-KO AMC (2-/3-axle)

Fiat

Wheel change

Important:

Do not use the car jack for loads that are greater than the load specified on the car jack type plate.

Park the vehicle on as solid a ground as possible. If the ground is soft, lay a large-area, stable underlayment under the car jack base.

Front axle:

Engage the first gear or reverse gear or set the transmission to "P" for automatic transmissions. Pull the hand brake and secure the opposite wheel with wheel chocks.

Rear axle:

Engage the first gear or reverse gear or set the transmission to "P" for automatic transmissions. Do not pull the hand brake and secure the opposite wheel with wheel chocks.

If the ground is soft, lay a stable underlayment under the car jack.
After replacing the wheel: Tighten the wheel nuts in a cross-wise pattern!

Tightening torques:

Steel rims

	16 " wheel
Ducato Heavy	180 Nm



Check the tyre pressure!

The tool kit and wheel chocks are located in the driver's cab.
In special cases, they can also be stored in other locations.

The spare wheel (special equipment) is located in the rear of the chassis underneath the vehicle floor.

In special cases, the spare wheel can also be stored in storage locations.



* Please read the operating instructions of the attachment manufacturer or the rim manufacturer

Remove the spare wheel (special equipment)

Unscrew the two bolts of the spare wheel holder (if present) using 14mm socket and ratchet provided under passenger seat.

On the left side of the spare wheel holder, insert the crank into the seat provided, unmount the wheel holder and lower the spare wheel down to the ground. Remove the spare wheel. The use of the crank facilitates mounting and unmounting the holder.

Secure the replaced wheel to the spare wheel holder.

Then mount the holder again and secure it accordingly.

The car jack in the tool kit can now be stowed again.



ATTENTION:

Jack should be used on firm level ground wherever possible.

It is recommended that the Wheels of the vehicle be chocked, and that no person should remain in a vehicle that is being jacked.

No person should place any portion of their body under a vehicle that is supported by a jack.

Changing the wheel:

1. Slacken wheel nuts by approximately one revolution
2. Position the jack in the hole provided as shown on the adjacent images.
3. If the ground is soft, position the jack on a solid support.
4. After changing the wheel retighten the wheel nuts in a crosswise pattern as shown 16" Tyres = 180nm
5. Install the removed wheel into the spare wheel carrier.
6. Engage the spare wheel carrier with the brace and raise carrier into driving position.
7. Tighten spare wheel carrier securely into place.
8. Now stow the jack and the tool set back under the passenger seat.
9. Check tyre pressures (see pages 15-17).

*For tandem rear axle vehicles always use jacking point between the two rear wheels, and ensure air suspension is OFF or STOPPED, damage to airbags is possible otherwise.

** If jack is not positioned where indicated, then this may lead to vehicle damage.

Car jack position points on the vehicle

Front:

Jacking point is directly behind the front wheel as shown.



Rear:

Low Frame chassis jacking points are located on the axle bracket in front of the axle on the left and right, alternatively on high frame chassis the jacking point is a bracket directly behind the wheel.



AL-KO AMC (2-/3-axle)

Fiat

Lifting

The car jack is only used for the wheel replacement. It may not be used for repair work underneath the vehicle.

Workshop jack/lifting platform

The vehicle may only be raised at provided side positions using the workshop jack or the lifting platform.

To prevent damage, use a suitable rubber intermediate layer!

When working underneath the vehicle, the vehicle must be supported by suitable safety stands.

Important:

- I Never raise the vehicle at the rear axle, the front axle, engine oil pan or transmission.
- I When working on the loaded vehicle, use a suitable vehicle lifting platform or the working trench.
- I Please observe the centre of gravity point of the vehicle.
- I When driving onto lifting equipment pay attention to the lower parts of the vehicle.

Towing

The vehicle has a receptacle for installing the supplied towing eye on the front in the right bumper.



Only a towing rope or towing rod may be attached to this eye.

Front-wheel suspension

Information on this in the operating instructions of the base vehicle.

Optional AL-KO air spring suspension (information about this in separate operating instructions).

Optional - AL-KO Comfort Suspension (ACS)

Rear-wheel suspension

Single-wheel suspension:

AL-KO trailing arm torsion bar spring axle, telescopic shock absorber.

Optional AL-KO air spring suspension (information about this in separate operating instructions).

AL-KO Level Controller (ALC)

Brake system

Hydraulic dual-circuit brake system with ABS.

Front: Disc brakes

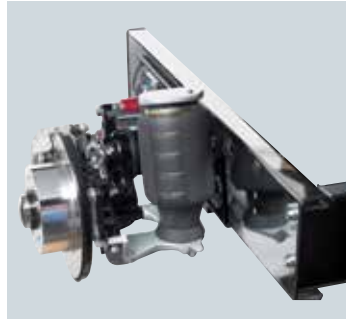
Rear: Disc brakes

Mechanical handbrake for rear wheels.

AL-KO original accessories / special equipment



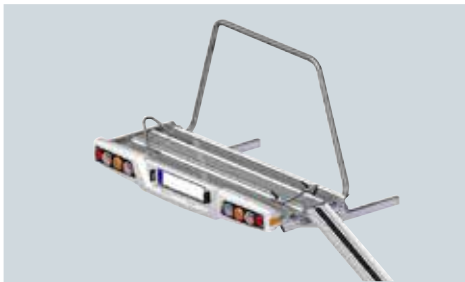
AL-KO COMFORT SUSPENSION (ACS)



AL-KO full air suspension
Air Premium X2 (rear axle)
Air Premium X4 (front and rear axle)



ALC – AL-KO Level Controller



AL-KO BACKPACK 150



AL-KO supporting jack ClickFix mechanical

AL-KO International Pty Ltd

67-91 Nathan Road,
Dandenong South, VIC 3175

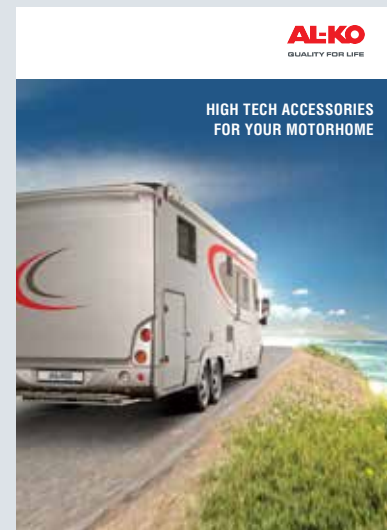
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