

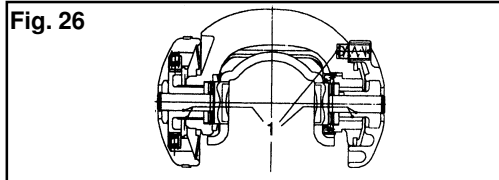
## Stabilising Unit:

Should lubrication of the stabiliser unit parts become necessary then the following must be observed:

- 1) Clean all parts thoroughly.
- 2) Areas may only be covered with a thin film of grease (see Fig. 25).
- 3) Use multi-purpose grease to DIN 51825 KTA 3 K (or local equivalent)
- 4) See also 4.4.1

**Warning:** When lubricating - no oil or grease should be allowed to come into contact with the friction pads or onto the ball holding area.

If friction pads are contaminated with grease, they should not be cleaned as this will have a reduced stabilising effect. Therefore friction pads should be replaced.



## 5. GENERAL INFORMATION

### Manoeuvring by hand:

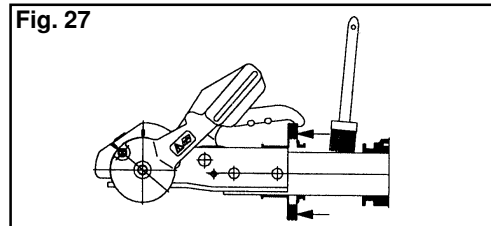
Stabilising lever may not be used as a manoeuvring handle. Please use the handles on your caravan or the AL-KO manoeuvring handle which can be purchased separately to attach to your jockey wheel.

Failure to comply results in danger of overloading component parts.

### Noises when driving:

As a rule the friction linings DO NOT MAKE A NOISE when driving! Any clicking, creaking, or squeaking noise arising, could have the following causes:

- 1) Foreign bodies or dirt between the friction pad and towball.  
**Remedial action:**  
Clean the towball and clean friction pads by lightly rubbing over the pad with sandpaper (100-200 grain).
- 2) Dry operation of the towball shaft in the sleeve of the overrun equipment.  
**Remedial action:**  
Lubrication of the sleeves through the grease nipples (use multi-purpose grease DIN 51825 KTA 3K), additionally pull the gaiter off the overrun, towards the front and grease all of the exposed drive shaft (see Fig. 27).
- 3) The towball on the towing vehicle has too much play in the locking mechanism (if detachable).  
**Remedial action:**  
Go to specialist workshop. Have the towball checked for damage. If necessary change towball or if permissible re-lubricate locking mechanism.



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# ASSEMBLY AND OPERATING INSTRUCTIONS FOR AL-KO AKS 1300 STABILISER

**AL-KO**  
Vehicle Technology

**PLEASE ENSURE YOU READ THESE INSTRUCTIONS CAREFULLY, BEFORE COMMENCING TO OPERATE THIS PRODUCT.**

### REGULATIONS:

- 1) The AKS 1300 must be used in conjunction with 50 mm dia. towballs which conform to EC Directive 94/20 (DIN 74058 or local equivalent).
- 2) Suitable for attachment to drawbars or approved overrun braking equipment for single axle (and some tandem axle) trailers, with a minimum weight of 180 Kg and a maximum permissible weight of 1360 Kg.
- 3) EC design approval has been given to the AL-KO AKS 1300 coupling under permit No. e1\*94/20\*0030\*00.
- 4) This design approval has been recognised by all EC member states and must be implemented with effect from 01.12.95.

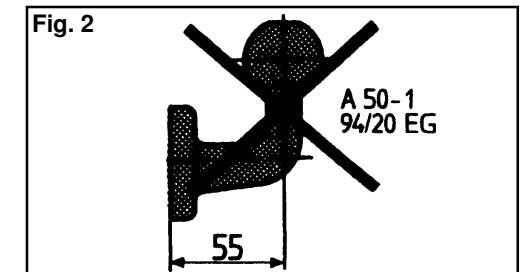
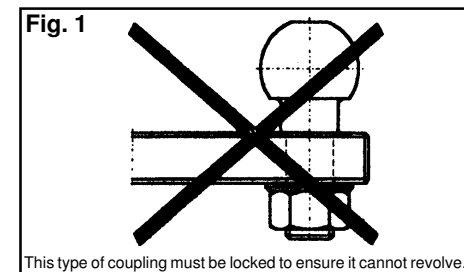
### RESTRICTIONS OF USE:

Spare wheels fitted to rear door of vehicle, or vehicle with platforms etc:

- 1) the AKS 1300 Stabiliser is based on the latest regulations. This means the new DIN 74070 (dimensions of couplings) are also adhered to.
- 2) The trailer coupling may only be connected to towing vehicles where the clearance for the stabiliser can be observed, in accordance with Directive 94/20 EC (DIN 74058). If these clearances are infringed by special attachments, then the use must be checked separately.
- 3) Not suitable for use with overrun devices which revolve above 25°.
- 4) For Swan Neck towbars (fixed or detachable), refer to clearances on page 1.

### WARNINGS:

- 1) In accordance with EC Directive 94/20, couplings type A 50-1 cannot be used (see Fig. 2).
- 2) A bolted-in type ball coupling (Fig. 1) is only permissible if the thread is locked.
- 3) The AKS 1300 cannot be used with a laterally attached reversing lever, on the left side, when facing direction of traffic.

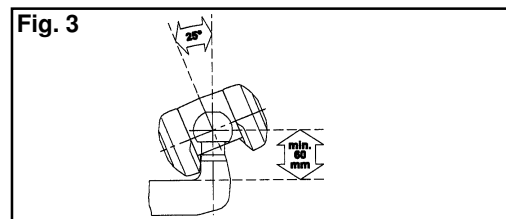


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**1. PLEASE CHECK THE CONDITIONS FOR ATTACHMENT BY FOLLOWING THE STEPS LISTED BELOW.**

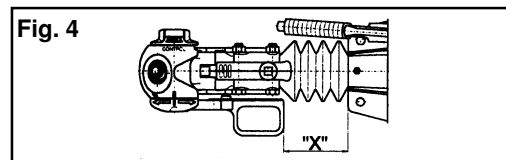
**Towing vehicle with towball attachment:**

The equipment may only be used for connecting to towballs to (DIN 74058 or local equivalent), where the clearance below the ball, measured from the centre of the coupling point, is at least 60 mm (Fig. 3). According to British Standards the prescribed rotation of  $\pm 25^\circ$  will thus be achieved.

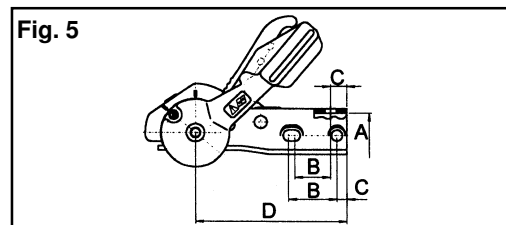


**Stabiliser Lever Clearances (Fig. 4):**

No component parts are allowed in the space marked X. The measurement of X should correspond at least to the travel of the overrun equipment (as a rule 80 - 100 mm according to type). Measurement is taken with a fully extended drawbar. AL-KO overrun equipment fulfils this requirement.



Coupling to Trailer Measurements (attachment hole dimensions B horizontal or cross) Please check dimensions of your coupling (Fig. 5) on your overrun equipment and also refer to table 1 for dimensional information.



**Table 1**

Min Mass Kg	Total Permissible Weight Kg	Nose Weight Kg	Weight Kg	
180	1360	100	3.5	
Hole Type	Shaft Dia. (mm)	Distance Between Holes		Length D
		A	B C	
Horiz	35, 40,50	50-54	12	168
Cross	45&50	40	18	168

**All EC Countries:**

The installation is to be examined in conformity to the stipulations in Appendix 1, No.5.10, according to the demands of Appendix VII of Directive EC 94/20. These installation and operating instructions are to be included with the caravan/trailer papers.

**GB** - Installation only possible with special tow ball attached to towing vehicle. Towball label will appear as follows:



(see regulations and restrictions of use on page 1).

**2. ASSEMBLY INSTRUCTIONS**

**Removal of existing coupling head:**

Before you begin dismantling the coupling head, please note the following: The shock absorber (damper) on most overrun equipment is suspended on the rear fixing bolt (Fig. 6/Item 2).

**Attention:**

The shock absorber moves out independently and for this reason, you will find a retaining pin in the box, to facilitate coupling head removal.

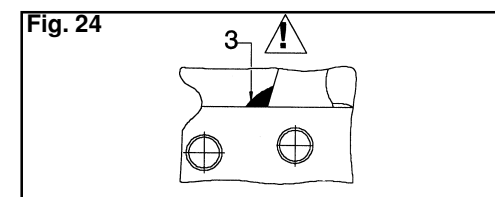
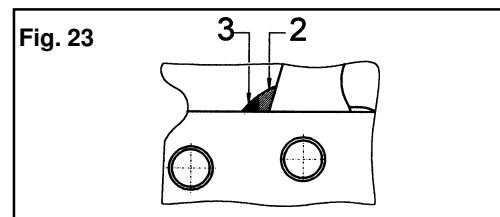
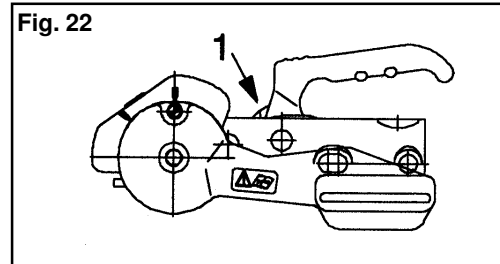
Coupling mechanism and towball wear control button.

As with normal couplings, the AKS 1300 is subject to a certain degree of mechanical wear, given a high mileage rate over the years. To give the user a visual indicator of the wear limits, the AKS has a control gauge as standard. (Fig. 22/Item 1)

If the green indicator is visible on the coupling handle (Fig. 23/Item 2), then the AKS 1300 is in a new condition or the wear of the ball and AKS 1300 is within permissible limits.

If the green indicator on the coupling handle is covered over completely and only the red indicator is visible (Fig. 24/Item 3), this could be due to the following reasons;

1. No wear on the AKS but the towball has reached lowest limit of wear.
2. AKS and towball show wear.
3. Towball is in new condition (50 mm) and AKS shows a high degree of wear.



**Warning:** The AKS 1300 can disengage and the caravan could uncouple from the towing vehicle. Check AKS and towball immediately!

**Warning:** Exchange the worn out part immediately. The diameter of the towball should be ascertained first of all, so that conclusions may be drawn as to the wear of the coupling mechanism (minimum dia. 49.61 mm).

**Spare Parts/Attachment Parts:**

**Warning:**

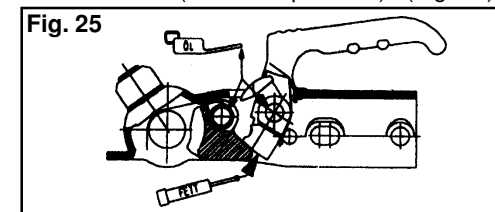
- 1) Only original AL-KO spare parts may be used.
- 2) All attachments and accessories must be approved by AL-KO.

FAILURE TO COMPLY WITH THIS DEMAND WILL RELEASE THE MANUFACTURER OF AKS 1300 FROM ALL GUARANTEE OBLIGATIONS.

**Lubrication:**

**Coupling Mechanism:**

In order to maintain the easy action of the coupling mechanism and to achieve a longer life for the AKS, the coupling mechanism must be lubricated at regular intervals (at least once a year). Use general purpose grease to DIN 51825 KTA 3K (or local equivalent). (Fig. 24).



See (Fig. 18) for details contained on stabiliser lever.

#### Anti-Theft Devices:

The AKS 1300 can be retro-fitted with two different types of security devices (not included). The AL-KO Safety or AL-KO pin lock are effective against connection or uncoupling of caravan and theft of the AKS 1300.

Fig. 18	Connect and stabiliser unit „ON“		Sequence of Operation		Stabiliser Unit „OFF“ and uncouple
	ON	OFF	ON	OFF	
Put AKS 1300 on the towball of the towing vehicle and connect (see 5.3.1)			1		Pull stabilising lever up (see 5.4)
Close handwheel until it ratchets clearly (turn to right, see 5.3.2)			2		Open handwheel completely (turn to left, see 5.4)
Press stabilising lever down (see 5.3.2)			3		Uncouple AKS 1300 and remove from ball of towing vehicle (see 5.4)

#### 4. CONTROL AND SERVICE HINTS

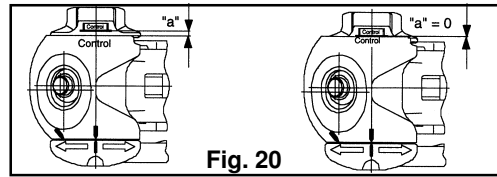
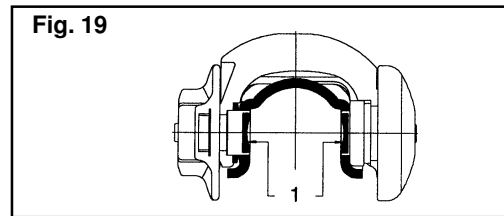
##### Friction Pad Wear Indicator:

The friction pads (Fig. 19/Item 1) press onto the towball to create the stabiliser effect. Although highly durable, the friction pads are subject to wear.

Checking Procedure: Connect AKS 1300. Close handwheel until it ratchets (turn to the right). Measure space 'a' (Fig. 20) and check as follows:

Space a > 0 (Fig. 20) = degree of wear is within permissible limit.

Space a < 0, ie the markings line-up (Fig. 20), check friction pads and change as necessary.



**Warning:** With older towing vehicles, the towball can possibly show signs of wear at space a = 0. Please check regularly. Minimum diameter of towball must be 49.61 mm (BSI Standard or local equivalent).

##### Control Formula:

$$\frac{50 \text{ mm} - \text{ball diameter}}{2}$$

eg. a = 0, Ball diam = 49.7 (measured)

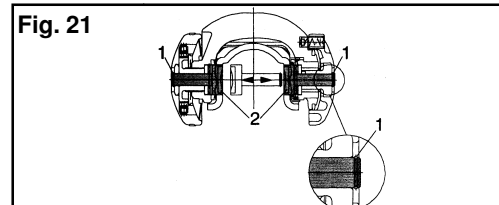
$$\frac{50 \text{ mm} - 49.7 \text{ mm}}{2} = 0.15 \text{ mm}$$

Wear reserve of 0.15 mm is still available per pad.

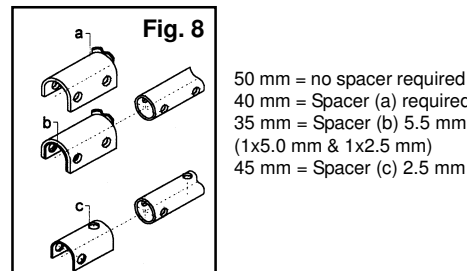
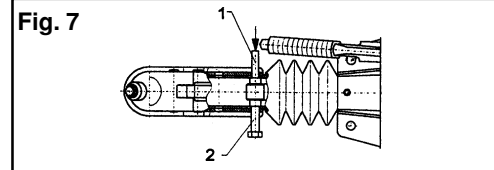
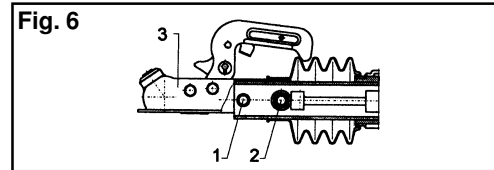
**Warning:** When the surface of the ball varies (ie grooves and scratches) then the degree of wear can also vary. If this occurs then you must replace the ball

##### Replacing Friction Pads:

Loosen retaining ring (Fig. 21/Item 1) with pointed object. Push out friction pad (Fig. 21/Item 2) from outwards to inwards. Please only replace one pad at a time. Fit new pad, replace ball race and secure with a new retaining ring. Proceed in the same way on the other side. Remember, if any washers come away with the pad, please replace on the new pad.



Remove gaiter from coupling head. Loosen and remove hexagon nuts (Fig. 6/Item 1&2). Pull or push out hexagon bolt (Fig. 6/Item 1). Knock through hexagon bolt (Fig. 7/Item 2) with retaining pin (Fig. 7/Item 1) and leave in retaining pin to secure shock absorber (damper) in the drawbar.  
2.1.5 The AKS 1300 is designed for drawshaft tubes up to 50 mm dia. For small diameters, spacer brackets are enclosed (Fig. 8).



50 mm = no spacer required  
40 mm = Spacer (a) required  
35 mm = Spacer (b) 5.5 mm (1x5.0 mm & 1x2.5 mm)  
45 mm = Spacer (c) 2.5 mm

##### Assembly of the AKS 1300 Stabiliser:

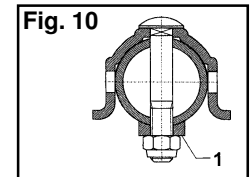
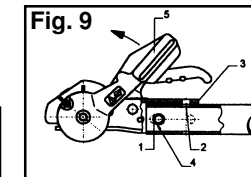
Place AKS (and spacers - if required) (Fig. 9/Item 3) onto the drawshaft, aligning mounting holes 1&2 and spacer sleeve (Fig. 9/Item 4).

2.2.2 Insert hexagon bolt M12x80/75 (Fig. 9/Item 1) and take up spacer sleeve (if used).

#### Warnings:

Always insert horizontal bolts from stabiliser lever side, as this allows correct clearances.

Always insert vertical bolt from top to bottom and re-use original shim used on the overrun. (Fig. 10/Item 1 - not supplied).



Knock through retaining pin with hexagon bolt M12x80/75 (Fig. 11/Item 2). Shock absorber (damper) will remain in place.

#### For your own safety please check:

To ensure shock absorber (damper) is retained in place, push drawshaft in and out. If resistance is felt when pulling the drawshaft out, then the shock absorber (damper) is in place.

Place the lock-nut (use the new nuts enclosed) onto the bolt and torque to the correct torque settings (Table 2).

**Table 2. (Torques (Bolt grade 8.8))**

Overrun Device Type	Torque
AL-KO 30S	60 Nm
AL-KO 60 S-60 S/2	60 Nm
AL-KO 90 S-90 S/3	70 Nm
All other overrun devices with M12-8.8 bolts	86 Nm

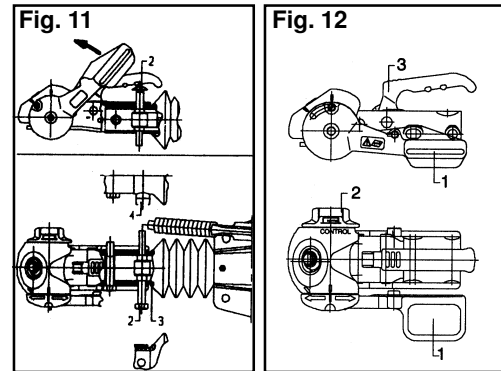
**Warning:** Self-locking nuts may only be used once.

There are various types of gaiters for AL-KO overruns with a 50 mm dia. shaft. The lateral stabiliser lever can come into conflict with one particular gaiter design, where the bolt head cover of the gaiter is raised.

Remedy: Carefully cut off raised bolt head cover. Removing this section has no effect on the function or service life of the overrun assembly. Alternatively, please order suitable gaiter with shorter bolt-head cover- Part No. 366356.

Depending on design the gaiter may either be:

- put over coupling
- linked into space bracket
- fixed over retaining ring (Fig. 11/Item 3)



### 3. OPERATING INSTRUCTIONS

#### AKS 1300 Delivery Specifications:

Fig. 12/Item 1: Stabilising Lever

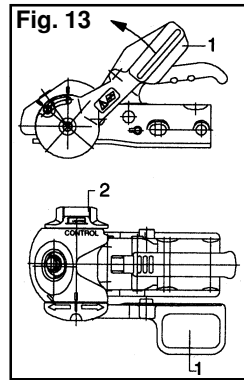
Fig. 12/Item 2: Handwheel

Fig. 12/Item 3: Coupling Handle

#### Coupling/Uncoupling:

**Please Note:** When coupling or uncoupling, the stabiliser lever must be in the up position (open) and the handwheel (2) must be as far open as possible (Fig 13).

**Attention:** Do not turn the handwheel against the stop by force.



#### Coupling Up:

#### Coupling Head

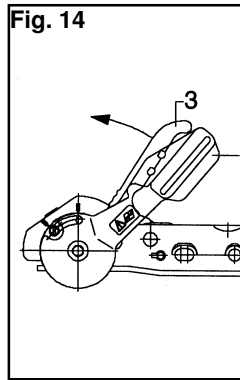
Open coupling handle - to do this, pull the coupling handle (Fig. 14/Item 3) in the direction of arrow. The coupling mechanism has an open position, i.e. as long as the AKS 1300 is not placed on the ball, the coupling handle will remain open. Place the open coupling onto the towball. The coupling handle should audibly click back into starting position.

**Safety Warning:** If the stabiliser is correctly coupled to the towball, then the green edge of the safety indicator is visible. The coupling mechanism is correctly positioned when the hand lever can no longer be pressed down even by hand.

**If the AKS 1300 is not correctly coupled to the towball, then the trailer/caravan can become disconnected from the towing vehicle!**

#### Stabiliser Unit:

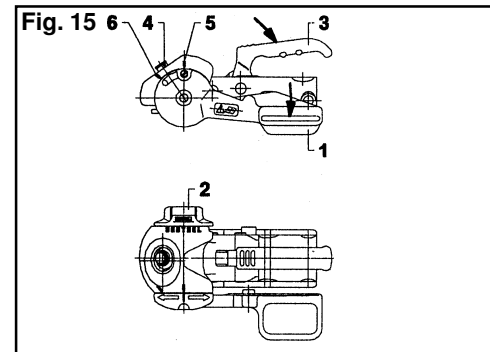
Starting Position: The AKS 1300 is connected to the towball. Turn the handwheel to the right (clockwise) (Fig. 15/Item 2), until the torque limit can be heard and felt to ratchet. Press the stabilising lever (Fig. 15/Item 1) down. The AKS 1300 is now functional.



#### Uncoupling:

Uncoupling of the trailer from the towing vehicle takes place in reverse order. Pull the stabiliser lever (Fig. 15/Item 6) matches the marking on the stabiliser cover (top end position of the stabilising lever). Turn the hand wheel in an anti-clockwise direction (left) until it will not go any further. Open coupling handle and lift AKS 1300 from the towball of the towing vehicle.

Coupling and uncoupling can be made easier by use of the jockey wheel.



#### Safety Tips:

The AKS 1300 should only be operated by one person when coupling or uncoupling.

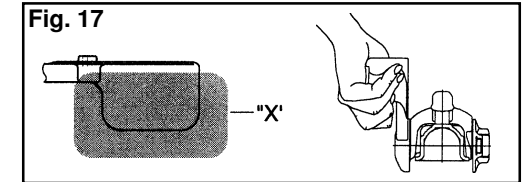
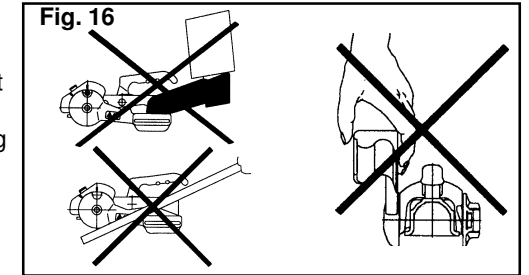
**Warning:** Never operate with foot or extension bar! The components will be overloaded and damaged. (Fig. 16).

When opening or closing the stabilising lever, care should be taken not to trap fingers between the lever and the coupling handle (Fig. 16). See grip areas (Fig. 17). When applying the stabiliser lever some resistance should be experienced. Should this not be the case, then the handwheel may possibly be jammed.

#### IF NO STABILISING EFFECT IS FELT

Cause: The handwheel has been turned forcibly against the end top on opening.

Remedy: Contact AL-KO Service Station.



#### Important Operating Factors:

The towball should be completely free of grease and other residue. Clean thoroughly with Thinners, White Spirit or Brake Cleaning fluid.

**Hints:** The surface of the towball must be free of grooving, rust and scratch marks. Otherwise increased wear and tear will occur. If pads are contaminated by paint or if they are glazed, they can be cleaned with 100-200 grain sandpaper,

Painted towballs or similar coatings: In the event of the ball being coated, this must be thoroughly removed (with 100-200 grain sandpaper). Otherwise reduced stabilising effect, increased wear and damage to AKS 1300 components may occur.

During winter use, spray a tiny amount of de-icer onto the indicator button. Ensure that this fluid does not come into contact with the friction pads.