

## ASSEMBLY AND OPERATING INSTRUCTIONS FOR AL-KO AKS 3004 STABILISER



**PLEASE ENSURE YOU READ THESE INSTRUCTIONS CAREFULLY,  
BEFORE COMMENCING ASSEMBLY OR OPERATION.**

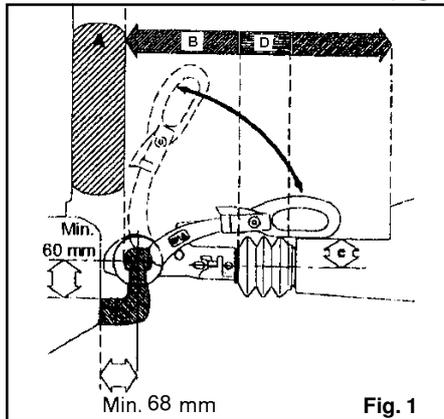
### REGULATIONS:

- 1) The AKS 3004 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 (and tandem axle) caravan/trailers, with a minimum weight of 200 Kg and a maximum permissible weight of 3000 Kg.
- 3) EC design approval has been given to the AL-KO AKS 3004 coupling under permit No. e1\*94/20\*0930\*00.

### RESTRICTIONS OF USE:

- 1) The trailer coupling may only be connected to towing vehicles where the clearances for the stabiliser can be observed, in accordance with EC Directive 94/20 (DIN 74058). If these clearances are infringed by special attachments, then the use must be checked separately.

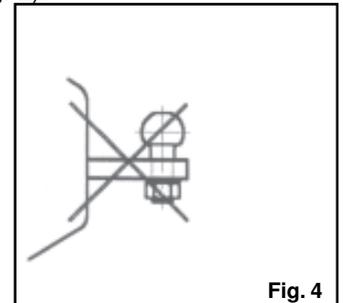
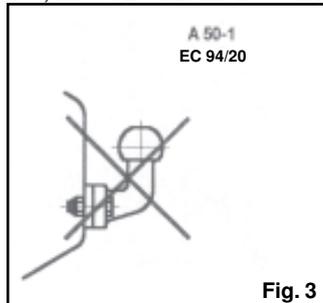
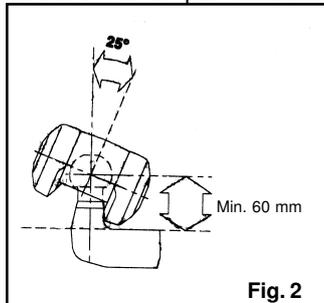
#### Clearances for Stabiliser Handle (Fig. 1):



- The area above the towball of the vehicle must be free from vehicle components or attachments (A) (eg spare wheels, platforms etc.)
- The clearance for the stabiliser handle must be at least 330 mm (B) + the stroke movement (D) (85mm-100mm), which equates to 440 mm when used in conjunction with an AL-KO overrun.
- Max. 50 mm (C) clearance between the centre of the towball and top of the overrun assembly or fairing, to ensure both coupling handle and stabiliser handle do not foul on operation.
- Maintain the same clearances for other manufacturers' overrun assemblies.

#### 2) Not suitable for use with overrun devices which can revolve above 25° (Fig. 2) or BPW overruns with gas strut handbrakes from 2001 model year onwards.

- 3) Swan Neck towbars (fixed or detachable) are suitable for use with the AKS 3004 providing they comply to EC Directive 94/20 and have the required minimum 60 mm clearance, measured from the centre of the towball (Fig. 2).



### SAFETY WARNINGS:

- 1) In accordance with EC Directive 94/20, couplings of type A 50-1 cannot be used (see Fig. 3), your warranty will be invalid if this type of towball is used.
- 2) For UK use, please use the extended neck towball (type A50-X) provided with this kit (e1\*94/20\*1118\*00).
- 3) A bolted-in type ball coupling (Fig. 4) is only permissible if the thread is locked or welded.
- 4) The AKS 3004 cannot be used with a laterally attached reversing lever, on the left side, when facing direction of traffic.
- 5) The towball must be free from grease and other residue. **Towballs coated (with paint or similar) must have this surface completely removed (use 100 or 120 grain emery paper).** If this is not done, increased towball wear will occur and may cause damage to the AKS 3004 components or reduce the efficiency of the stabiliser.
- 6) If friction pads become contaminated with grease, they should be replaced.
- 7) The AKS 3004 should only be operated by one person, when opening or closing the handle, to reduce injury risks.

### REPLACEMENT PARTS:

- 1) Spare parts are safety critical parts! For this reason when fitting spare parts in our products we recommend the use of original AL-KO parts or those parts that we have explicitly approved. The reliability, safety and suitability of parts designed especially for our products, has been determined using a special test procedure. In spite of constantly monitoring the market we are unable to assess or vouch for other products
- 2) Repairs should only be carried out by trained and qualified workshop personnel. A list of AL-KO Approved Service Centres is available upon request.
- 3) Always quote the ETI number printed on this product, when enquiring about spare parts.

## Assembly Instructions:

Please note that on most overrun assemblies, the damper is secured by the retaining bolt and telescopes out independently.

1) Release gaiter from coupling head and loosen and remove self-locking nuts (Fig. 5/Item 1&2). Remove front bolt only (Fig. 5/Item 1).

2) Using the 10 mm dia. retaining pin provided, knock through rear bolt and leave the pin in the shaft to secure the damper (Fig. 6/Items 1&2).

3) Remove coupling head.

4) The AKS 3004 is designed for 50mm draw shafts. For smaller dia. shafts, spacers must be used (Fig. 7a/b/c). These are provided with your stabiliser kit.

### Shaft Diam. Requirements

50 mm	No spacers required
40 mm	Use 5 mm spacer (a)
35 mm	7.5 mm spacer (Use a (5mm) & c (2.5mm))
45 mm	Use 2.5 mm spacer (c)

5) It may also be necessary to replace the gaiter according to the different diam. draw shafts, see table below for details (refers to AL-KO overruns only).

### Shaft Diam. Gaiter Amendments

35, 40	No amendments necessary, use existing gaiter. Fit smaller diameter of gaiter flush to end of stabiliser and secure larger diameter of gaiter with the retaining ring included with this kit.
50	Gaiters as per Fig. 7a, this is secured immediately after the coupling and can therefore be used again. Gaiters as per Fig. 7b/c, these cannot be used again. Replace with gaiter included with this kit.

6) Place AKS 3004 (plus spacers if required) onto draw shaft, ensuring fixing holes 1 & 2 line up (Fig. 8).

6a) For two horizontal bolt fixing insert front Allen Bolt (M12x75 - Fig. 8/Item 1) through washer (Item 5), overrun shaft and internal spacer (where used).

NB: Always insert bolts from right hand side (when facing caravan), to ensure correct clearances are allowed if fitting AL-KO Security Device (not included in kit).

Take second M12 Allen Bolt and use it to knock through the 10 mm retaining pin used at step 2) - knock it all the way through (Fig. 9a). Finally fit the two hexagonal self-locking nuts and torque to 120 Nm.

6b) For one horizontal and one vertical bolt fixing (for non AL-KO overruns), insert front Allen Bolt (M12x75 - Fig. 8/Item 1) through washer (Item 5), overrun shaft and internal spacer (where used). Finally fit hexagonal self-locking nut and torque to 120 Nm.

Take Mushroom Headed Coachbolt and insert from top (Fig. 9), fit original curved washer (from your overrun) (Fig. 9/Item 5) and hexagonal self-locking nut and torque to 86 Nm.

### For your own Safety please check:

- To ensure in both cases that the damper is threaded-on, push the drawshaft in and out - you will feel resistance when the damper is correctly located.
- Self-locking nuts must only be used once - if removed replaced with new ones.

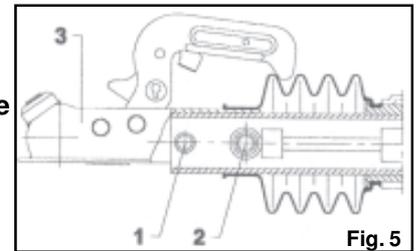


Fig. 5

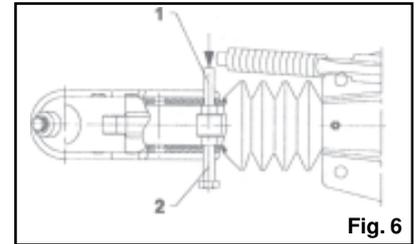


Fig. 6

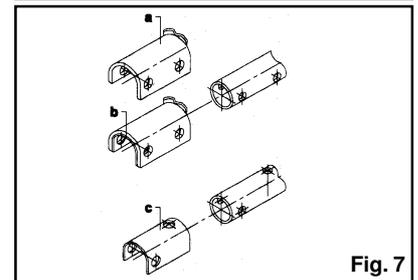


Fig. 7

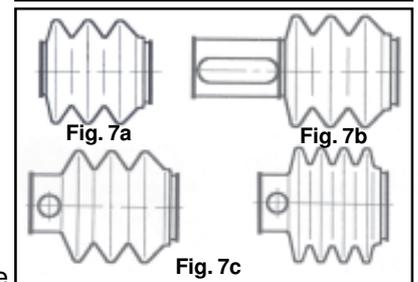


Fig. 7a

Fig. 7b

Fig. 7c

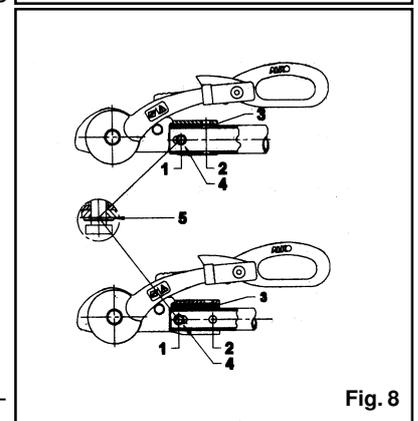


Fig. 8

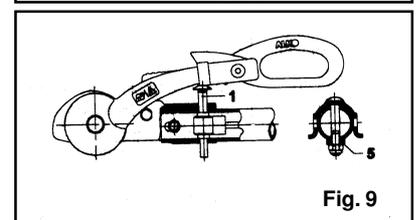


Fig. 9

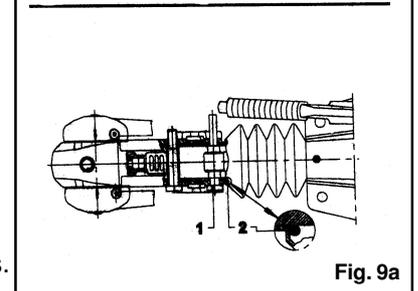


Fig. 9a

## Assembly Instructions:

### AKS 3004 Delivery Specifications:

Coupling handle (Fig. 10/Item 1), Stabiliser Lever (Fig. 10/Item 2)

### Preparation for coupling/uncoupling:

The Stabiliser lever (Fig. 11/Item 2) must be in the uppermost position (open).

### Coupling:

1) Pull the coupling handle (Fig. 12/Item 1) up in the direction of arrow. The coupling mechanism has an open position ie. as long as the AKS 3004 is not placed on the ball, the handle will remain open. Put the opened coupling onto the clean towball. The handle must now make an audible click and return to the flat position.

**Warning:** The coupling is correctly engaged when the green edge of the safety indicator button is visible (Fig. 13/Item 3).

### Stabiliser Unit:

2) To operate the Stabiliser (once coupled to the towball), simple press the stabiliser lever down as far as it will go (Fig. 13/Item 2).

### Uncoupling:

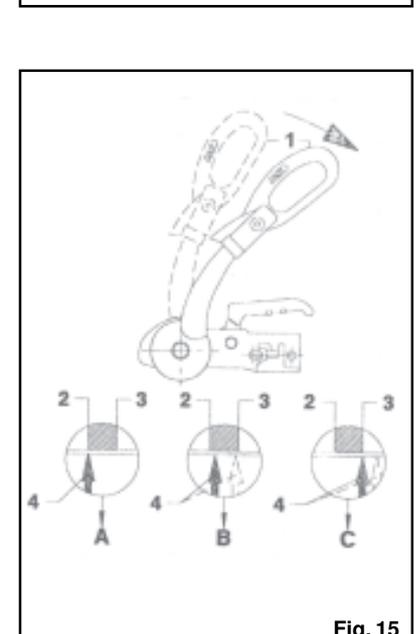
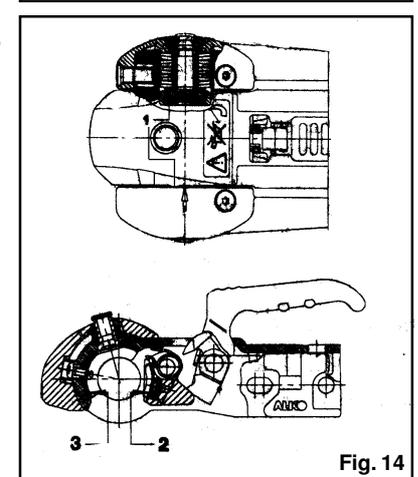
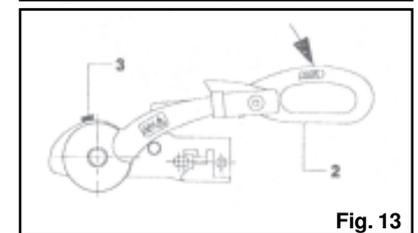
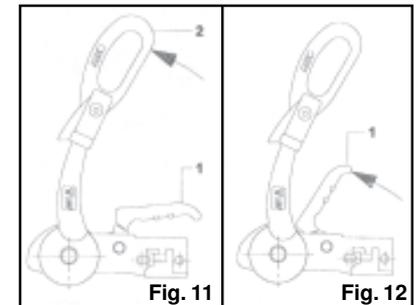
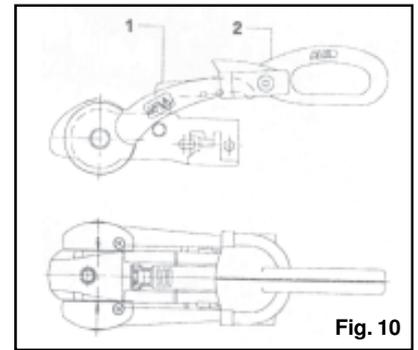
1) Pull the stabiliser lever handle up as far as it will go, open the coupling handle and lift the AKS 3004 from the towball. With larger nose loads, coupling and uncoupling can be made easier by using the jockey wheel to assist lifting.

**Please Note:** The friction pads (Fig. 14/1,2,3) are pressed against the towball and hence generate a stabilising/damping force. These pads are therefore subject to wear over time, however they will have a long service life (circa. 30,000 Miles), provided they are well maintained and kept free of grease/dirt.

### Checking the efficiency of the left/right friction pads:

- 1) Couple up AKS 3004.
- 2) Open Stabiliser lever (Fig. 15/Item 1).
- 3) Close Stabiliser lever until resistance is felt (ie friction pads are in contact with the ball but not yet under pressure).
- 4) If the arrow on the arm (Fig. 15/Item 4) is before or on the marked area (Fig. 15/Item 2) the friction pads are still as new (See A)
- 5) The arrow on the arm should lie between the marked area on the soft dock (See B)
- 6) If the arrow on the plate reaches or passes the marked area on the soft dock then the friction pads need replacing (See C).

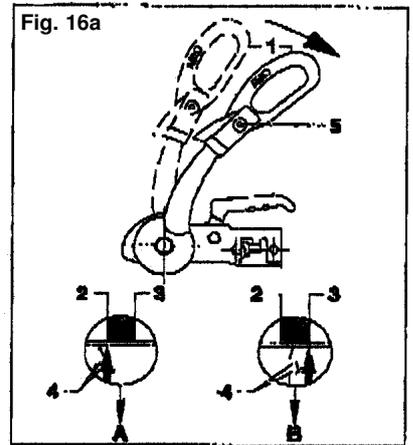
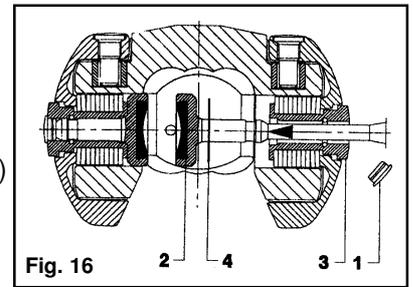
Please Note: It is not necessary to adjust the friction pads



## Servicing and Cleaning:

### Changing the Friction Pads and Adjusting the Stabiliser Device (please replace one at a time);-

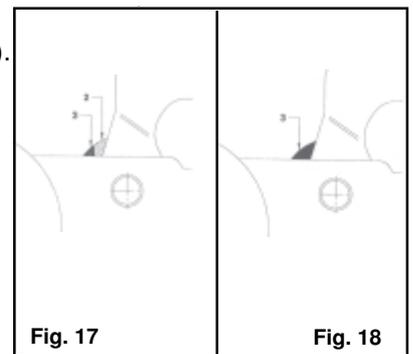
- 1) Remove old friction pads & washers by removing protective caps (Fig. 16/ Item 1) with the aid of a small screwdriver. Press worn out pad inwards.
- 2) Adjusting the stabiliser with new friction pads:
  - a) remove screw from top part of stabiliser handle (Fig.16a/Item 5)
  - b) fit new friction pads
  - c) locate AKS 3004 onto the towball
  - d) lower RH stabiliser handle until resistance is felt. If the arrow on the stabiliser lever is in line with the front section on the red soft dock (Fig. 16a/Item 4 Point A) then adjustment is not required.
  - e) If the arrow on the stabiliser lever is in the centre or at the rear of the section of the red soft dock (Fig.16a/Item 3 Point B) then adjustment is necessary. Remove friction pad and fit washer (or washers) to the friction pad spindle, replace friction pad and re-check until arrow is in line with front section (Fig. 16a /Item 4 Point A).
  - f) repeat same procedure for LH Stabiliser arm.
  - g) replace screw in stabiliser handle (Fig.16a/Item 5).



### Checking the efficiency of the front/rear friction pads:

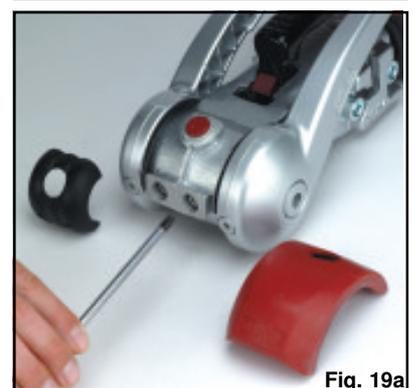
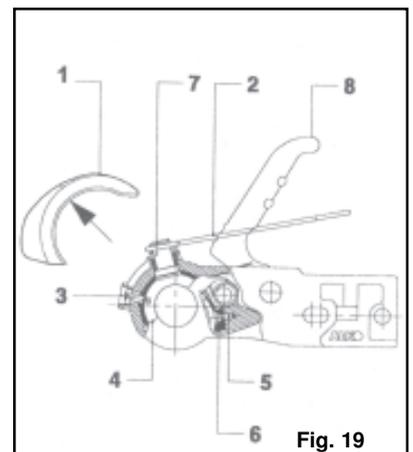
- 1) Couple the AKS 3004 to the towball but do not activate the stabiliser.
- 2) If a green indicator is visible (on the handle), then the AKS 3004 is in a new condition or the pads and towball are within the permissible limits (Fig. 17/Item 2).
- 3) If only a red indicator is visible (Fig. 18/Item 3), then this may have the following causes:
  - a) AKS 3004 is okay but the towball has reached the lowest limit of 49 mm
  - b) AKS 3004 shows signs of wear
  - c) Towball is in a new condition (50 mm) but the front/rear friction pads show a high degree of wear.

Establish the diameter of the towball so that conclusions may be drawn as to the wear of the friction pads (ball diameter must not be less than 49 mm)



### Friction Pad Replacement (Front/Rear only):

- 1) Uncouple the AKS 3004
- 2) Remove the rubber soft dock (pull up and off) Fig. 19/Item 1 & Fig 19a.
- 3) Press the safety indicator outwards and secure with SW14 hex. spanner (not included), (Fig. 19/Item 2).
- 4) Remove cheese-head screws (Fig. 19/item 3 & Fig 19a), using special torx tool.
- 5) Press friction lining recess (Fig. 19/Item 4) inwards and pull down and out.
- 6) Open coupling handle (Fig. 19/Item 8).
- 7) Remove countersunk head cap screw using special torx tool (Fig. 19/Item 5 & Fig. 16b).
- 8) Press friction pad inwards with a screwdriver and remove from ball cup.
- 9) Fitment of new linings takes place in reverse. Tighten screws 3/5 to 5 Nm.
- 10) Replace rubber soft dock, insert top section first then bottom.



## Important Maintenance and Cleaning Advice:

- 1) The towball should be cleaned regularly to remove grease or other residue, the use of Thinners, White Spirit or Brake Cleaner is recommended - otherwise the stabilising effect will be severely reduced.
- 2) If friction pads are contaminated, they should not be cleaned but replaced.
- 3) The surface of the towball must be free of grooves, rust or seizing marks.
- 4) Towballs coated (with paint or similar) must have this surface completely removed (use 100 or 120 grain emery paper).** If this is not done, increased towball wear will occur and may cause damage to the AKS 3004 components.
- 5) In Winter, carefully spray only the visual indicator with de-icer.

## Lubrication:

Should lubrication of the stabiliser parts become necessary, then the following must be observed.

- a) clean all parts thoroughly.
- b) Areas may only be covered with a thin film of grease (Fig. 20).
- c) Use multipurpose grease DIN 51825 KTA 3K.

**Warning:** When lubricating, ensure none gets into the friction pad or towball holding area

## Operation:

### Manoeuvring:

For easier manoeuvring (on campsites etc), pull the stabiliser lever to the 'up' position.

Please do not use the stabiliser lever as an manoeuvring handle. Please use the handles on the Caravan or fit the AL-KO manoeuvring handle to your jockey wheel (available separately).

- 1) During opening or closing, the AKS must only be operated by one person.
- 2) Press stabiliser lever down by hand force only DO NOT use your foot or an extension bar, this will damage the components (Fig. 21).
- 3) When opening or closing the stabiliser lever, please ensure your hand does not touch the coupling handle - you may accidentally trap your fingers! (Fig. 21).

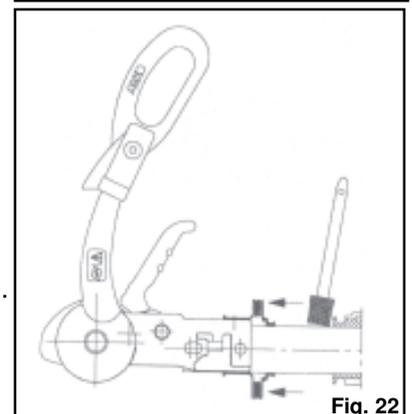
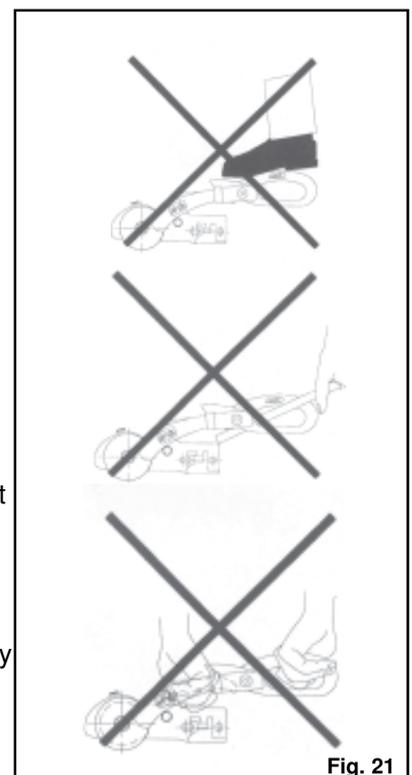
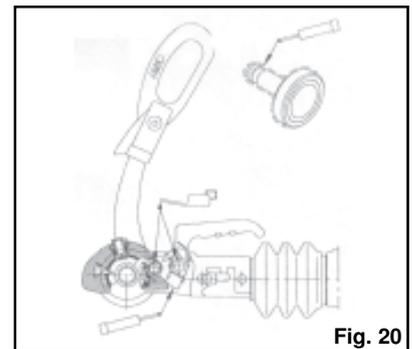
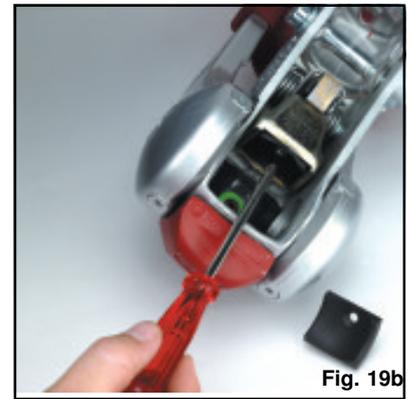
### Noises whilst driving:

As a rule, the friction pads of the AKS 3004 do not make a noise during driving. Any clicking, creaking or squeaking noises that do arise may be due to the following:

- a) Foreign bodies or dirt between the friction pad and tow ball.
- b) Dry operation of the drawshaft inside the overrun device.
- c) A detachable towball which has too much play in the locking mechanism.

### Remedial Action:

- a) Clean the tow ball and friction pads by lightly rubbing the surface (100-120 grit emery paper).
- b) Lubricate the drawshaft sleeve via the grease nipples. In addition, push the gaiter forward and grease (DIN 51 825 KTA 3K) the exposed part of the shaft (Fig. 22).
- c) Visit a specialist workshop to have the ball holding area checked for damage and the locking mechanism for function. If necessary, change the towball.



## Available Accessories:

### AL-KO Security Device:

The AKS 3004 can be retrofitted with the AL-KO Security Device (Part No. 1385810). This security device has full TUV & Sold Secure Product Approval and is designed to provide protection against theft of the caravan and stabiliser device (Fig. 23).

This device can also remain fitted to the caravan whilst the caravan and car are hitched together. This alleviates the need to stow the device when travelling as it remains fitted to the stabiliser and it ensures that stops e.g at motorway service areas, are less stressful, allowing you to enjoy your stop without the need to 'guard' your caravan.

### Operation of AL-KO Security Device:

- 1) Pull stabiliser lever to the 'up' position (Fig. 24).
- 2) Place the AL-KO Security Device over the coupling handle and lower into bracket sections (you may then need to push the device forward slightly).
- 3) Place the key into the lock and turn to the left and push in (Fig. 25).
- 4) Remove key and swing the dust cover over the lock to protect against dirt.
- 5) Push stabiliser lever to 'down' position - the device is now operational.
- 6) Removal takes place in reverse order and by turning the key to the right.

### AL-KO Safety Ball:

AL-KO also recommends fitment of the AL-KO Safety Ball, this simple plastic ball fits inside the coupling head (whilst unhitched from the towball). Used in conjunction with the AL-KO Security Device, the Safety Ball is locked into the coupling area, ensuring the thief cannot hitch your caravan to a smaller diameter towball or hook (Fig. 26).

The combined use of the AL-KO Security and Safety Ball also acts as a very visual theft deterrent.



Fig. 23



Fig. 24



Fig. 25



Fig. 26



AL-KO Kober Ltd  
South Warwickshire Business Park  
Kineton Road  
Southam  
Warwickshire, CV47 0AL  
01926 818500 01926 818562  
www.al-ko.co.uk