AL-KO

QUALITY FOR LIFE

AL-KO iQ7 ACTUATOR & CONTROL INSTALLATION & OPERATING INSTRUCTIONS

For use with Motion Sensing Brake Controllers

Save This Manual. Keep this manual for the assembly, operation and maintenance procedures. Keep this manual with the towing vehicle for future reference.

WARNING
Read this manual before using this product.
RETAIN THIS MANUAL.

2 YEARS WARRANTY

alko.com.au

This information **MUST** be distributed with the AL-KO iQ7 trailer braking system and be kept with the towing vehicle for future reference.

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please contact your purchase point immediately.

No part of this DOCUMENT may be reproduced without AL-KO's permission.
All part numbers, dimensions and specifications in this DOCUMENT are subject to change without notice.

GENERAL OPERATION

The AL-KO iQ7 has been designed to operate in all 'normal' environmental conditions and it has been left to the discretion of the installer as to the location of the actuator. Although the AL-KO iQ7 housing is partly sealed to protect the internal components from the external environment, when exposed to corrosive environments such as salt water, fertiliser, and other caustic materials, care must be taken to protect the unit at all times. Although water-resistant, the AL-KO iQ7 unit is NOT waterproof and should NEVER be submerged at any time. It is therefore suggested that the AL-KO iQ7 unit be mounted towards the front of the towed vehicle and as high as practical (i.e. the bow post if used in the marine environment. Refer Fig. 1, Page 2).

! WARNING

Never submerge the AL-KO iQ7 actuator at any time. Submerging may cause system malfunction resulting in possible serious or fatal injuries and/or property damage. Submerging will void warranty.

! WARNING

Never apply solvents or adhesives (including brake fluid) to the actuator housing as this may weaken the housing resulting in possible serious or fatal injuries and/or property damage. Brake Fluid will damage any painted surfaces.

INSTALLATION
Actuator

! IMPORTANT
Under no circumstances should any control system, other than approved AL-KO iQ7 controllers, be used in conjunction with the AL-KO iQ7 Actuator.

Mounting Bracket

The AL-KO iQ7 actuator incorporates four mounting holes on the base of the unit (Refer figure 3, below). In order to attach the unit securely to the trailer and to minimise vibration, a sturdy mounting bracket must be fabricated.

Use a 6mm or 1/4" bolt with a suitable locking nut to fix the actuator to the trailer.

It is important to ensure the mounting bolts are not over tightened during installation.

If the rubber mounting grommet appears oval shaped (Refer figure 2, below) it has become over tightened. When choosing a location for the mounting bracket, consider positioning of additional trailer accessories, such as a winch etc.

Figure 1. Mounting Position Actuator Bow post

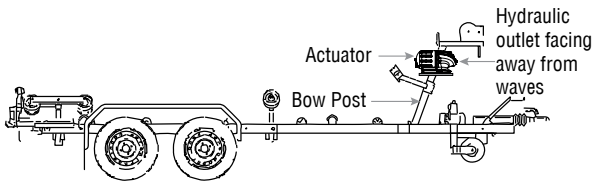


Figure 2. Mounting Bush

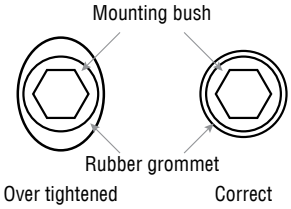


Figure 3. Mounting Bracket

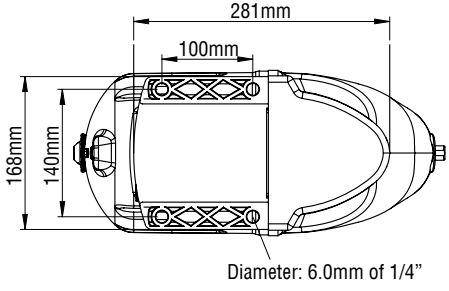
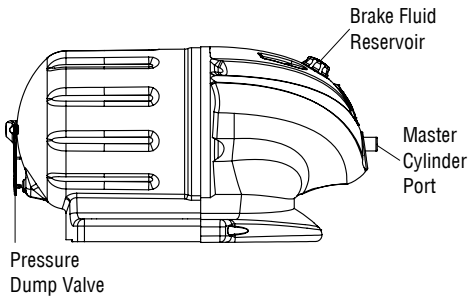


Figure 4. Actuator



HYDRAULIC CONNECTION

Connect the hydraulic brake line from the brake system on the towed vehicle to the brake port on the AL-KO iQ7 actuator unit using a 3/8" UNF Brass Long Series Tube Nut.

Carefully fill the brake fluid reservoir by removing the filler cap. Always use new brake fluid. Never attempt to reuse brake fluid. The reservoir is full when the fluid reaches the bottom of the reservoir neck (the top of the sight glass). **Do not over fill the reservoir. Be careful not to spill brake fluid between the reservoir and the front cover.** The brake fluid level must never fall below the 'minimum' line indicated on the sight glass.

BLEEDING

! WARNING
AL-KO recommend the iQ7 bleed gun is used for the bleeding process for optimum pressure (12-16psi). Use of other equipment other than the AL-KO bleed gun **must not exceed 20psi**. Failure to comply may result in damage to the product and will void product warranty.

Bleeding instructions using AL-KO iQ7 Pressure Bleed Gun

1. Fill reservoir with clean Dot 4 brake fluid to just below the top of the sight glass.
2. Place the pressure bleed gun (available from AL-KO p/n 350045) socket gently over the neck of the reservoir applying gentle pressure to locate the bleed socket O Ring in place.
3. Do not push on with excessive force or damage may be caused to the reservoir or the O ring on the pressure bleed gun socket. Rub a small amount of brake fluid around the inside of the reservoir neck to assist fitting. Screw the cap fully closed.
4. Attach the bleed gun to the actuator fluid reservoir (as shown in diagram 1.) and place the other end in a bottle of new brake fluid.

Diagram 1.

Attaching the bleed gun to the actuator

5. Open the bleed screw on the trailer brakes (start with the furthest calliper/brake) at least one full turn. Place a clear flexible hose over the bleed screw and immerse the other end into a container partially filled with brake fluid (as shown in diagram 2.).

Diagram 2.

Cathching fluid in a container

6. Squeeze the pressure bleed gun repeatedly (not too fast or cavitation may occur) ensuring that the bulk brake fluid tank and the reservoir do not run out of brake fluid or air will enter the hydraulic system. At no stage let the fluid level in the reservoir fall below the minimum fluid level indicator.
7. Continue squeezing the pressure bleed gun until the brake fluid in the flexible hose attached to the bleed screw is free of air bubbles and tighten the bleed screw.
8. Repeat the process for any other callipers/brakes on the same side of the trailer working away from the actuator.
9. Bleed the other side of the trailer starting with the closest calliper/brake to the actuator first as above.
10. Connect the trailer to the tow vehicle and start the vehicle to activate the actuator. Allow the compressor to fully charge the actuator (approx 120 seconds). Once the compressor has stopped, apply the brakes and hold on for a 5 second period and release. Repeat this 4 times.
11. Check the brake fluid level in the reservoir. It should not exceed the top of the sight glass maximum level. (see diagram 3).
12. Insert and tighten the fluid reservoir cap.

! IMPORTANT

Before removing the pressure bleed gun from the reservoir, make sure that there is no pressure in the system (pressure bleed gun has fully returned to the rest position) or brake fluid spillage will occur causing paint damage.

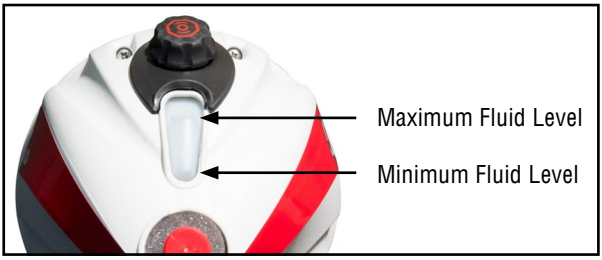


Diagram 3.

! WARNING

Correct bleeding of the actuator is critical as trapped air greatly reduces the efficiency of the brakes. When the bleeding process is complete, check all bleeder screws to ensure that they are secure and do not leak.

Failure to properly install, bleed, operate and maintain your AL-KO iQ7 braking system can cause malfunction resulting in possible serious or fatal injuries and/or property damage. The IQ7 actuator should never be used to bleed the braking system as this may damage the compressor.

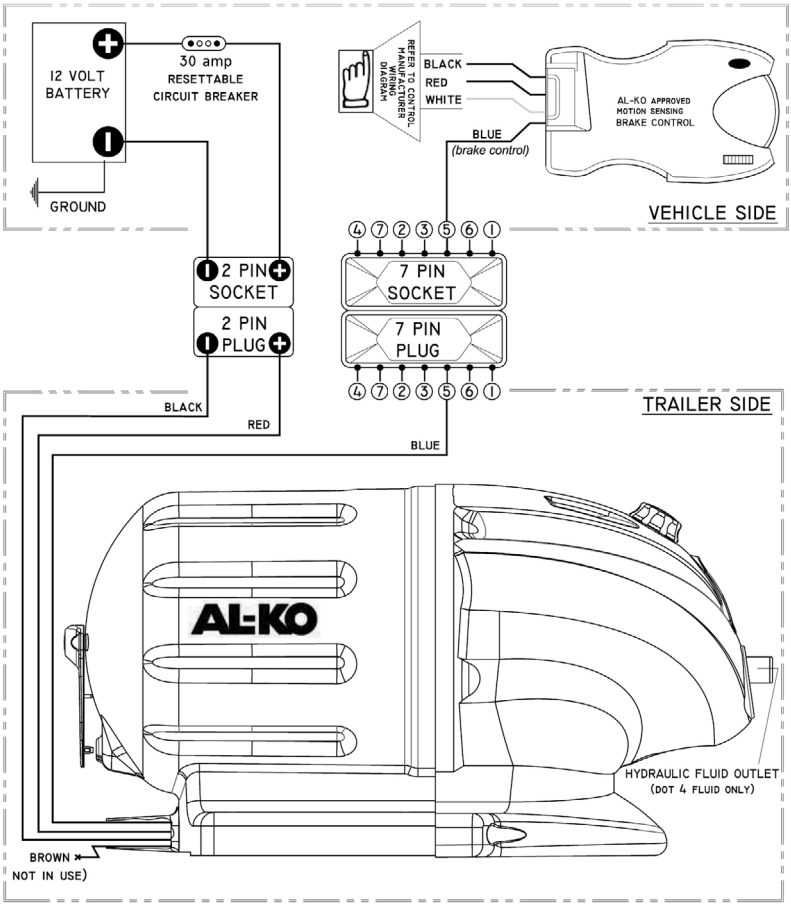
Drum Brakes

If drum brakes are being used, a residual line pressure valve (obtain from a brake specialist) must be installed in the hydraulic line. This must be located BEFORE any split in the hydraulic line immediately after or as close as practical to the master cylinder port.

Note: Monitor the brake fluid level in the reservoir so that the actuator is not run without fluid. Running the unit without fluid will ingest air into the brake system that must be removed by bleeding

Wiring Loom

The AL-KO iQ7 Wiring Loom has been designed to simplify the installation process.



TESTING

(Hydraulic AL-KO iQ7 actuator version designed for use with Motion Sensing Brake Controllers only)

After the vehicle brake controller installation has been completed, test the system set up as follows:

a. Turn on ignition. The compressor inside the AL-KO iQ7 Actuator will be heard running. Wait a least 30-40 seconds before attempting to drive or move the vehicle. This will allow for at least 50% braking power to become available.

b. Wait a further 60 seconds before undertaking brake proportionality testing. Find an appropriate stretch of road where brake testing can be undertaken without the disruption of other road users.

c. Follow the motion sensing brake controller instructions as supplied by the manufacturer to establish smooth proportional braking

APPROVED AL-KO IQ7 MOTION SENSING CONTROLLERS:

A full current list of approved controllers can be found at:
alko.com.au/product/solutions/brake-controllers-actuation/iq7/

At the time of production of this manual the below are approved motion sensing controllers for use with AL-KO iQ7 actuators.

- Hayes Energiser III
- Tekonsha Primus IQ
- Tekonsha Prodigy P2
- Tekonsha P3
- REDARC Tow-Pro Elite

iQ7 used in conjunction with a Tekonsha P3 brake controller fulfills the requirements of providing visible warning of low operating pressure or break away by flashing a red 'No Connection' display from the front of the controller. This feature is required in some Australian states.

! IMPORTANT WARNING
Please ensure trailer plug/socket is mounted in a position that does not enable water contact or pooling around terminals. The trailer plug/socket should be regularly sprayed with water dispersing agent or corrosion preventative compound.

OPERATION

! WARNING

Always ensure the towed vehicle and its load is secured. Failure to do so could result in possible serious damage or fatal injuries and/or property damage.

To ensure that the AL-KO iQ7 system is functioning correctly, the brake actuator should be tested every time the towing vehicle is reattached to the towed vehicle (Refer `Testing´ – page 6).

Air Pressure Dump Valve

The AL-KO iQ7 reservoir incorporates an air pressure dump valve. As soon as the braking system is deactivated (i.e. ignition is turned off/trailer breaks away from the vehicle) the trailer brakes are automatically activated. In order to release the trailer brakes the air pressure dump valve must be pressed.

! CAUTION

The service brake is not intended to be used as a park brake. Under no circumstances should the trailer be left detached from the vehicle with only the service brake activated. Either the wheels should be blocked or an independent park brake applied and then the actuator reservoir air dumped. Failure to do so could result in serious damage or injury.

Breakaway System

A breakaway system is often required on a braked trailer. The breakaway system must be designed to automatically apply the brakes to the towed vehicle in the event that the trailer becomes separated from the tow vehicle.

The AL-KO iQ7 does NOT require a separate power source for the activation of the breakaway system. In the event of a breakaway situation the disconnection of the power supply results in the trailer service brake being activated automatically.

In order to deactivate the brakes press the ‘air pressure dump valve’. Please check regulations in your area as to the requirements of trailer breakaway systems.

MAINTENANCE

The AL-KO iQ7 is an intelligent trailer braking system. This does not however mean that the system should not regularly be maintained. It is recommended that before each use:

1. Check the brake fluid level of the AL-KO iQ7 system.
2. Check all electrical leads and connectors for broken wires, damaged or corroded connectors etc. It is suggested that an appropriate corrosion preventive compound be periodically applied to all exposed wiring and connectors.
3. Brake fluid should be replaced annually or more frequently in heavy use.

! WARNING

When not in use over extended periods of time, please ensure the actuator is activated periodically (approximately every four weeks) to ensure moving components remain in good condition and seals remain lubricated. Failure to do so may result in incorrect product performance and could result in serious damage or injury.

Warranty Explanatory Statement

Should you have a warranty concern with your iQ7 (the goods), you must contact your installer or dealer as soon as possible. Your provider will contact AL-KO on your behalf.

For the most current warranty information applicable to your product, please visit

alko.com.au/warranties/

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for more information

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