

G&T Training Services  
Safe Use of GEITH Auto Coupler  
QUICK HITCH



Operator Information for:  
Installation, Checking, Using,  
Removing and Maintenance  
Of a Quick Hitch Coupler

## Introduction

Only trained and competent persons should install and operate a Quick Hitch Coupler.

It is vitally important to the correct operation and safe work practices that all users/operators are familiar with and fully understand all aspects of the coupler.

All operators must be properly trained in the use of the specific model of quick hitch intending to be used.

It is the responsibility of the machine owner and employers to ensure that only competent operators use the quick coupler as well as the equipment it is attached too.

Failure to operate equipment correctly can result in serious injury or death.

This booklet forms only part of the necessary information needed to remove, install and check the attachment is fitted correctly and safe for use.

## Personal Protective Equipment

**HARD HAT:** Wear a hard hat where there is a risk of falling objects and even bumping your head

**EAR DEFENDERS:** Wear personal noise protection when working in a noisy environment.

**GLASSES:** Wear protective glasses to prevent flying debris penetrating the eyes. BS EN 166F should be adequate protection.

**DUST MASK:** If operating in a dusty environment then wear a dust mask (Min FFP3 rating)

**GLOVES:** Wear protective gloves made of resistant materials to protect against skin diseases and cuts or abrasions.

**SAFETY BOOTS:** Wear safety boots with steel toe protection and non-slip soles.

**Hi Visibility Clothing:** To reduce the risk of accidents



**THIS PROTECTIVE EQUIPMENT  
MUST BE WORN  
IN THIS AREA**

## Recommendation for Safe Use

The Geith range of Hydraulic Excavator Quick Couplers is designed for use with all makes of Excavators, combined with a wide range of attachments, to suit a wide range of work applications.

It is the responsibility of the owner and operators of the quick coupler to ensure that it is used and maintained in a safe and appropriate manner.

It is the responsibility of the owner and operators to use it in a manner that will not cause damage to the equipment or make it unsafe in any way.

When people work with or around the equipment it is the operator who is responsible for ensuring their safety at all times.

Pin grabber couplers are primarily designed to withstand loading situations that direct and transmit the working forces of the excavator and attachment through key loading points on the quick hitch coupler.

## Recommendation for SAFE USE

Failure to follow the recommendations and to ensure only competent operators are using the equipment correctly may result in premature wear and tear of the coupler; leading to failure of the equipment and expensive repair costs.

Operations that are compatible with quick hitch couplers are general excavating tasks such as digging, fork attachment, grabs and grapples, crushing and breaker equipment.

Rock breakers are approved if you follow the manufacturers recommendations. On no account should a breaker be used as a leveringing tool.

Leveraging will lead to damage being sustained by the breaker and the quick hitch coupler.

**THINK  
SAFETY  
FIRST!**

## Recommendation for SAFE USE

Where sustained use of a breaker attachment is likely and minimal changes occur then it is recommended that the quick hitch coupler be removed temporarily.

This will prolong the life of the attachment and also reduce the wear and tear and maintenance time and costs. It may also lead to improved performance and productivity of the attachment.

The more severe the task placed on the quick hitch coupler the greater wear and tear will be experienced leading to more maintenance and possibly reduced life expectancy.

If the equipment is checked, lubricated and cleaned used correctly by the operator then productive working will be achieved with minimal failure of the product.

Malicious Use of a breaker would be the operator driving it through a surface and then operating the jib forwards and backwards. This places excess loading on the pins and all associated metal work that could lead to fractures and pin failure.

## Recommendation for SAFE USE

All attachments that are connected to the Quick Hitch Coupler must be connected using the 2 attachment pins. On no account must any attachment be connected using only one pin.

Where this may occur is when using some piling hammers and material handlers. If this is the case then the correct adapter bracket must be used.

To increase the life span of the quick hitch the operator should grease regularly.

It is the responsibility of the owner or operator to assess each task and determine the safest procedure to be followed taking into account the equipment and personnel to be used.



## Safe Working Load (SWL)

Check the capacity plate and make yourself aware of the safe working load that can be placed on the lifting eye.

Before carrying out any lifting activity using the lifting eye you must remove any attachment that is connected to the coupler.

The lift eye must only be used for lifting activities if the excavator is rated and equipped for lifting activities.

You must be aware of the lifting capacity of the machine being used and take into account the working envelope of movement about to be undertaken.

The rated capacity of the quick hitch coupler may be less than that of the excavator or vice versa. You must go by the lower of the two values.

Lifting Operations & Lifting Equipment Regs (LOLER)



## Safe Working Load (SWL)

If necessary you must make allowances for the weight of the coupler fitted. Details of this will be found on the capacity plate, or in the operator manual.

You must make sure that all personnel and unnecessary equipment is moved clear of the operational area and that you cordon off a safe zone to prevent unauthorised access during the lifting activity.

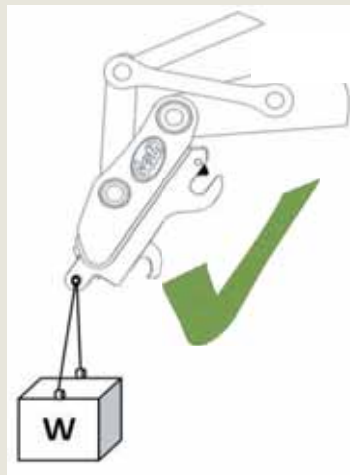
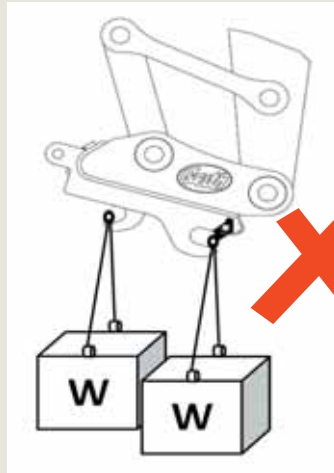
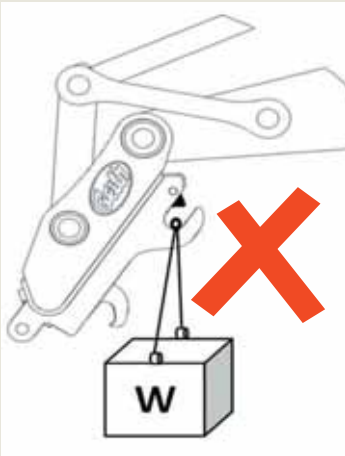
Use only the specified lifting eye for any slung loads and never use the attachments hooks for lifting.

When lifting ensure the coupler is vertical so that the load and lifting accessories hang free without contact to any part of the coupler.

**SWL 1 TONNE**

## Safe Working Load (SWL)

Failure to follow the previously mentioned steps to ensure safety may result in loss of loads or failure of equipment.



## Installation

Should only be carried out by suitable trained and qualified personnel. Failure of this simple request could result in a risk to safety.

Only use the installation kit that is supplied with the Quick Hitch to ensure that it operates as intended and in a safe manner.

Always wear the appropriate PPE and any equipment used for the installation should be fit for purpose and in good repair.

When installing the Quick Coupler you must only use suitable approved and certified lifting equipment.



## Installation (if trained and competent)

Exercise extreme caution when carrying out any maintenance procedures on the Quick Hitch Coupler, particularly when working with pressurized fluids and hydraulic oil.

Before you commence any examination or maintenance you must:

Always ensure the coupler and attachment is supported in a stable position.

All power to the coupler and machine is cut and that the key is removed in order to prevent any accidental movement.

Be aware of residual oil pressure in the hydraulic system when loosening or removing any hose or pipe connections.

Always depressurize the system before any maintenance work is carried out on the coupler.

Never look for oil leaks with bare hands as the pressure of the oil can penetrate the skin and cause serious health risk.

## Installation (if trained and competent)

There is a potential for great risk to safety while operating machinery and equipment.

Care must always be taken when operating near any ground workers. Remove all personnel from the operating radius of the machine and never pass any of the attachments over the heads of people.

When working with hydraulic oil it can spill on the ground or equipment. Oil can seep into drains and waterways through run off systems or soak away.

Oil spills on equipment can lead to slips that could then lead to a serious injury or worse.

Use collection vessels to collect and retain any oil being released by the works.



## Installation (if trained and competent)



Installation of the Geith Auto Lock coupler should be carried out by suitable trained and qualified personnel only.

Failure to comply may result in a risk to safety of you and others.

Only use the installation kit supplied with the Quick Coupler to ensure operation is as intended and safe.



Fitting a quick coupler with a non Geith control system then it must operate as Geith recommendations.

Always wear the correct PPE and Clothing when working with any hydraulic equipment.

When installing the quick coupler ensure that only the suitably approved and certified lifting equipment is used.

Check CE marker plate for the weight on each model.

## Installation (if trained and competent)

The maintenance of quick couplers is critical to the on going safe operation of the equipment and should be carried out by competent persons only.

Inspections should be carried out on a scheduled basis to assist early identification of issues that may develop in to more serious problems.

Equipment that is needed when carrying out any essential maintenance:

Hat, Boots, Hi Viss, Gloves, Glasses

Collection Vessels

Spill Kits: Granuals,

Waste Oil storage tanks

Warning signs for slips and spills



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## Connecting an Attachment (Hydraulic Coupler)



On the Quick Coupler operation control panel press the system 'ON' (**0** denotes **OFF** and **I** denotes 'ON') button and then press **A** note: button **A** must be pressed in 5 seconds of pressing the ON button or the system will not operate.

If this does occur the press the 'ON/OFF' to the 'OFF' position in order to reset, then press start and repeat the sequence again.

When button 'A' is pressed out stroke the bucket ram fully to crowd the quick coupler and this will enable the auto lock to open fully.

When the auto lock is open, crowd the coupler to the open digging position and lower the coupler hooks down on to the front pin.

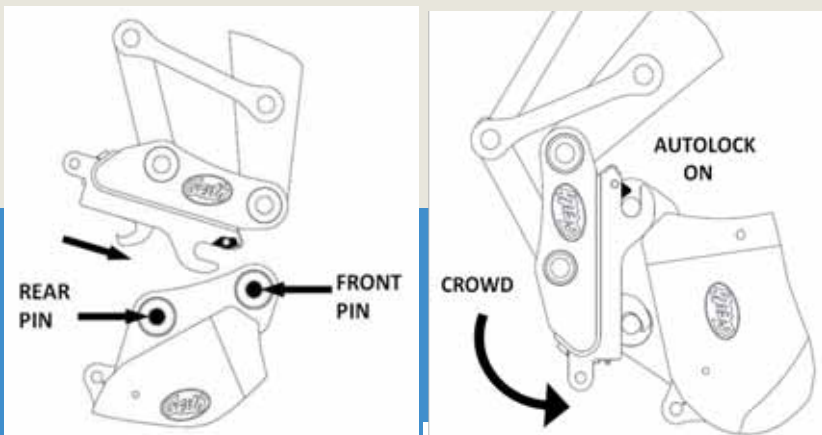


## Connecting an Attachment (Hydraulic Coupler)

Crowd the coupler around until the coupler contacts the buckets back pin, raise the bucket off the ground whilst continuing to crowd the coupler fully inwards to the closed position.

With the coupler crowded fully inwards press the **'ON/OFF'** button on the control panel to the **'OFF'** position whilst continuing to crowd the coupler inwards.

The Auto lock will close around the attachment pin (this will be visible by the operator in the cab) the rear pin wedge will lock the back pin into position.



## Connecting an Attachment (Hydraulic Coupler)

If the pin is not in front then you should switch off the excavator and the Quick Hitch should be examined for signs of damage.

If you find problems with the equipment then contact the supplier or Geith immediately for assistance.

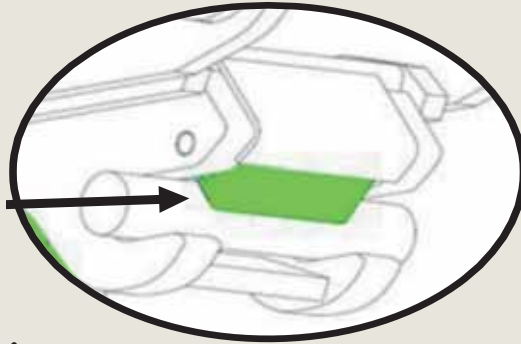
If the Auto Lock is engaged and the attachment is secured safely to the coupler it is safe to operate the attachment to carry out the intended work.

Once you are sure that the jaws are located around the pins and the auto lock is in position crowd out and shake vigorously, place on the ground and make sure the bucket does not become detached.

If the Auto lock is not visibly in position in front of the attachment pin the Quick Coupler must not be used for the purpose of works.

Switch off the Excavator and inspect the Quick Coupler for signs of damage. If any doubt exists then contact the supplier or Geith direct.

## Connecting an Attachment (Hydraulic Coupler)



To be used by  
trained & authorised  
personnel only

## Releasing the Attachment

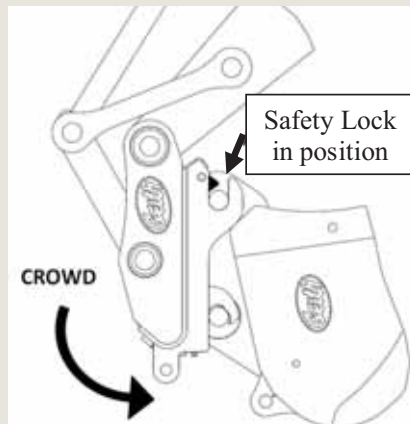
With the quick coupler and attachment at ground level, position the attachment in a curled position with the hooks pointing upwards with the pressure built up in the machine buckets digging and crowd cylinder.

Ensure that all personnel are standing clear of the quick hitch and machine swing radius.

Crowd the Quick Coupler fully inwards in order that pressure builds up in the hydraulic system.

When fully crowded press the **'ON/OFF'** switch to **'ON'**. Press the button **'A'** while you continue to crowd the Quick Coupler.

Don't forget that button **'A'** must have been pressed within 5 seconds of pressing the **'ON'** button or it will not operate. Turn **'Off'** reset and restart the sequence.

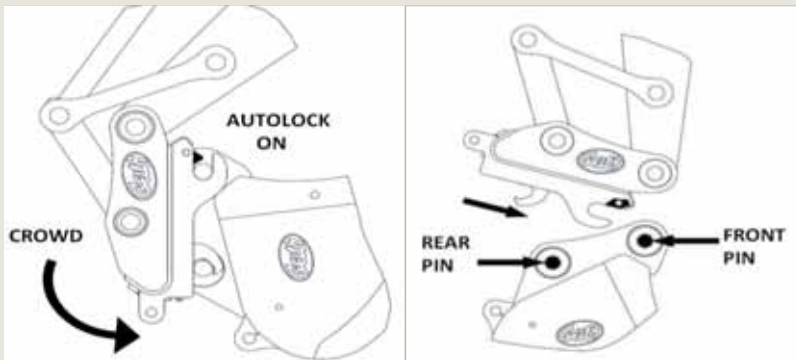


## Releasing the Attachment

Continue to crowd the Quick Coupler inwards until the Auto Lock has fully opened.

Lower the attachment to the ground and release it from the Quick Coupler by crowding out and away from the pin on the attachment.

You should now be able to raise up the Quick Coupler and be free to slew around and pick up another attachment.



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and authorised  
personnel only**

## Connecting an Attachment ( Manual Coupler)

### **Connecting an Attachment:**

When the Auto Lock is open crowd the Quick Coupler to the open digging position and lower the hooks of the Quick Coupler down on to the front pin.

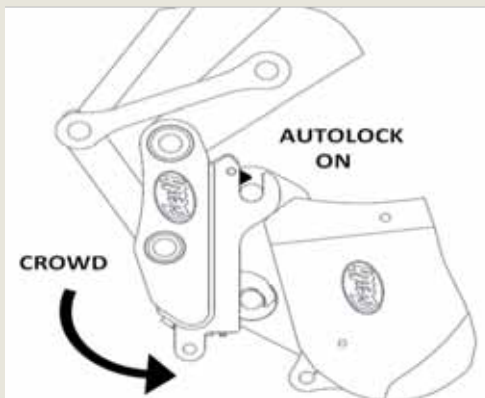
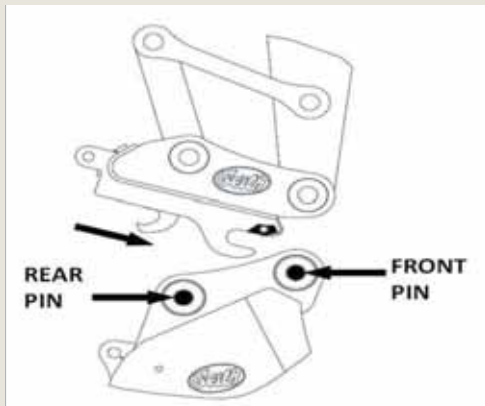
Crowd the Quick Coupler around until the coupler contacts the buckets back pin and raise the bucket off the ground while continuing to crowd the coupler fully inwards to the closed position.

Attach the drive bar supplied with the Manual Auto Lock quick coupler to the cylinder drive shaft at the back engaging plate and proceed to tighten.

At the initial tightening the Auto Lock clasp will close over the front pin, which will secure the attachment to the Quick Coupler.

Continuous tightening of the bar will engage the link pin engaging plate under the attachment link pin.

## Connecting an Attachment ( Manual Coupler)



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## Connecting an Attachment ( Manual Coupler)

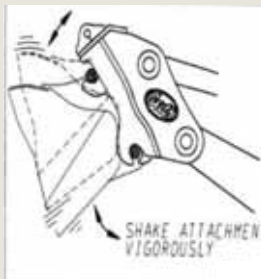
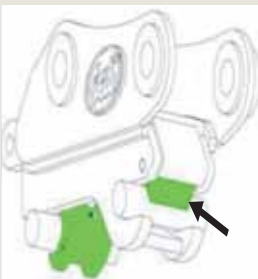
Continue to tighten the drive bar until no further tightening is possible.

Do not extend the drive bar by adding extra leverage as over tightening may result in difficulty releasing the attachment or even damage to the mechanism.

Remove the drive bar and store it back in the cab of the excavator for prevention of loss.

Crowd out the Quick Coupler and shake vigorously and/or carry out a bump test on the ground to ensure security of the attachment.

If the Auto Lock is not visibly in position in front of the attachment pin then the Quick Coupler must not be operated to carry out work.





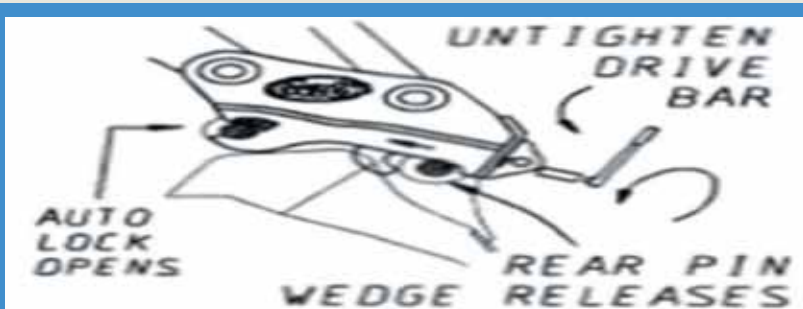
## Releasing an Attachment ( Manual Coupler)

With the Quick Coupler and attachment at ground level position the attachment in a slightly curled position with the hooks pointing upwards to prevent the attachment from sliding out of the Quick Hitch when released.

Ensure all personnel are standing clear of the area within the swing radius.

Obtain the bar supplied with the manual Auto lock Quick Coupler and connect it too the cylinder drive shaft at the rear of the engaging plate.

Turn the bar anti clockwise to release the attachment. With the initial loosening the rear pin wedge will release the attachment back pin.

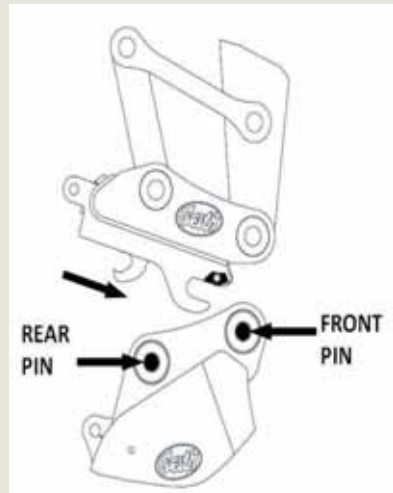
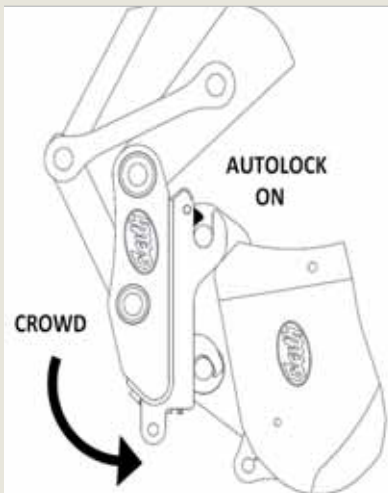


## Releasing an Attachment ( Manual Coupler)

Continue to loosen and the front lock will open releasing the front pin. Remove the bar and the attachment can now be released from the Quick Hitch.

Lower the attachment to the ground and release it from the Quick Hitch by crowding the coupler outwards away from the pin.

You should now be free to raise the Quick Coupler up and clear of the attachment ready to pick up other attachment as necessary.



## Health & Safety Control Measures

**LEV:** Local Exhaust Ventilation. Dust/Fume extraction can carry away airborne contaminants before they can be breathed in.

**RPE:** Respiratory Protective Equipment. Is a particular type of personal protective equipment (PPE) designed to protect the wearer from breathing in harmful substances or from oxygen-deficient atmospheres when other controls are either not possible or insufficient on their own

**PPE:** Personal Protective Equipment. Should be used when all other measures are inadequate to control exposure. It protects only the wearer, while being worn if it fails PPE offers no protection at all.

**Collective Measures:** Collective control measures should always take priority over personal control measures. Collective measures protect more than one person at any one time.



## Daily Operator Checks

Before the shift starts the operator should carry out a thorough visual inspection of the Quick Coupler.

Remove any dirt and debris from the coupler especially around the internal mechanisms, hydraulic cylinder linkage and spring mechanism.

Check the coupler pin pick up hooks to ensure there is no build up of dirt.



## Daily Operator Checks

Check the Coupler structure for signs of damage, especially the load bearing hooks and hydraulic cylinder.

Check all fixing points including bolts, nuts, clips, pins for signs of wear or damage.

Check all hydraulic hoses and connections for evidence of oil leaks.



If any faults are found you should report them and get them repaired, do not operate until all issues or concerns are repaired.



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and authorised  
personnel only**

## Training Notes on the Installation, Connecting & Releasing of Manual and Hydraulic Quick Couplers and Operator Checks.

These notes have been produced in the interest of Health & Safety and are intended as an aid to the professional operators for the safe operation, fitting or removal of quick coupler systems using the Geith system.

These notes are in Accordance with the requirements of the Provision & Use of Work Equipment Regulations 1998, Personal Protective Equipment Regulations 1998 the Lifting Operations & Lifting Equipment Regulations 1998 and other relevant legislation.

Due to the wide range of applications involved no liability can be accepted for any errors or omissions in these notes. Not all parts of these notes will apply to, or necessarily be correct for all types of quick coupler systems

These notes must be read and used in conjunction with the manufacturers operating manuals for the specific quick coupler in use by the employee to ensure safe practice

Guidance notes and Codes of Practice issued by the Health & Safety Executive can be found by visiting their web site at <http://www.hse.gov.uk>



# Health & Safety Law

**More Information can be found on the HSE web site**

The Health & Safety at Work Act 1974

The Provision & Use Work Equipment Regulation 1998

The Lifting Operations & Lifting Equipment Regulation 1998

The Personal Protective Equipment Regulation 1992

Control of Substances Hazardous to Health Regulation  
1999

Reporting Injuries Diseases & Dangerous Occurrences  
Regulation 2013

The Manual Handling Operations Regulations 1992

The Management of Health and Safety at Work Regulations  
1992

The Health & Safety Executive is often accused of placing too many Laws, Regulations and Controls on Business making work too expensive to make profit. In fact they advise on how to make the job safe and reduce the likelihood of an accident.



## National Plant Operators Registration Scheme Training Provider.

G&T Training Services is a registered training provider with this scheme.

If you require any information regarding this scheme please go to [www.npors.com](http://www.npors.com) or call them on 01606 351240



Information supplied in this book is taken from the following sources of information.

The Manufacturers Manual

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