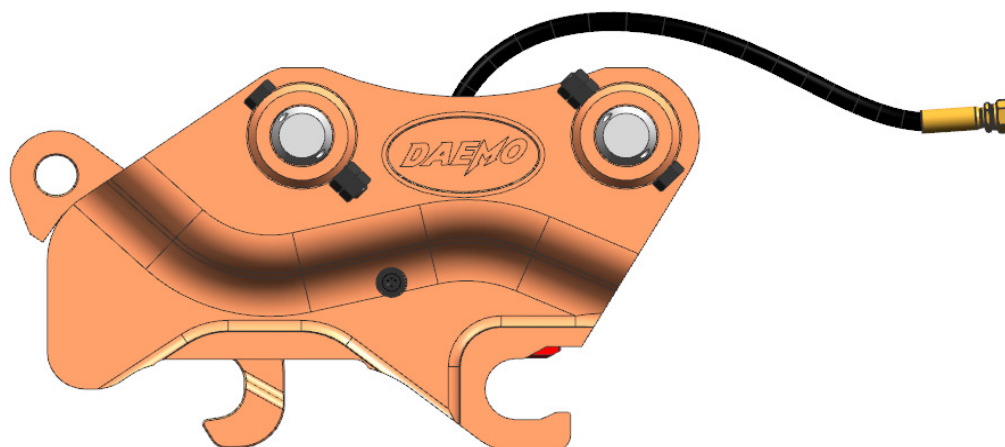


DMQ Series Triple Safety Locking Hydraulic Quick Coupler

DMQTS : DMQ140TS ~ DMQ230TS



Important Notice !

Read this manual carefully prior to installing, operating or maintaining the Quick Coupler.

Understand and follow the instructions carefully.

To avoid unnecessary injury or damage, please always observe relevant laws, regulations and safe working practices.

Revision Information !

Title	Q0003
Type	DMQTS
Month/Year of Manufacture	
0117Version	04

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* Following information can be changed without any advance notice to

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INTRODUCTION

DMQ Serie Sliding Auto

- Daemo Engineering Co., Ltd. would like to thank you for having interest in our products.
- Since 1989, Daemo engineering Co., Ltd. has developed a state-of-the-art hydraulic attachments. Our products have played a major role in quarries and various construction sites. Such as building disassembly, braking up roads, land development, sewage system, and all kinds of constructional demolition sites. Especially, the Quick Coupler has been designed for the safety of the operator and those around with the updated technology and tripled safety device.
- Daemo has manufactured various attachments with updated technology and well skilled workmanship. For example, the hydraulic Quick Coupler will provide excellent satisfaction for the user with simple structure and excellent maintenance function because it is made up of small number of parts.
- Excellent durability, reliability, and trouble-free operation. Resulting in much more profit and good performance for your job.
- Although we make our products that we can be proud of, if you do use our products properly based on our manual, there maybe unexpected accidents or malfunctions, consequently the performance and efficiency of the product will drop down sharply. So you must read this manual carefully and thoroughly to keep operating well and it needs periodical maintenance and correct operation for optimal results. We do not warranty any damages, malfunctions, and injures caused by your misuse.
- First of all, you must read and study this manual for your safety, and other around the work site. It will inform you of unexpected hazards and how to avoid them. If you have questions about the products or manual, please contact Daemo or our agents. Everytime you want to replace any of the parts, please make sure you use Daemo genuine parts.
- We wish you get more profit by purchasing and using our products, and we would like to express our many thanks again for your purchasing.

EC Declaration of Incorporation

We, DAEMO ENGINEERING CO., LTD

Of No 515, 2Ba, Siwha Industrial Complex, Jeongwang-Dong, Siheung-City,

Gyeonggi-Do, Korea

that the following described machine in our delivered version complies with the appropriate basic safety and health requirement of the EC Machinery Directive 2006/42/EC based on its design and type, as brought into circulation by us. In case of alteration of the machine, not agreed upon by us, this declaration will lost its validity.

Product : TRIPLE SAFETY SLIDING HYDRAULIC QUICK COUPLER

Model/Type : DMQ16TS, DMQ27TS, DMQ35TS, DMQ50TS, DMQ80TS, DMQ140TS, DMQ170TS, DMQ230TS, DMQ290TS, DMQ360TS, DMQ500TS, DMQ800TS

Serial Number :

to which this declaration relates is in conformity with the following standards or other normative documents;

Applicable EC Directive : EC Machinery Directive (2006/42/EC)

Applicable Harmonized Standards : EN ISO 12100:2010

: EN ISO 4413:2010

: EN 474-1:2006+A4:2013 Annex B

Date/Authorized Signature :

Title of signatory:

Form requirements :

-Authorized representative

-Fill in block letters or typescript

-Official language suitable for user's level

-Manufacturer's full address should be included.

-Legally binding fabricator's signature or a person's signature empowered to sign on behalf of the manufacturer at least

1) The name and address of the representative who is authorized in the manufacturer

2) The complete list of applied standards and technical specifications

3) Provided that not corresponding harmonized standards are available yet.

1

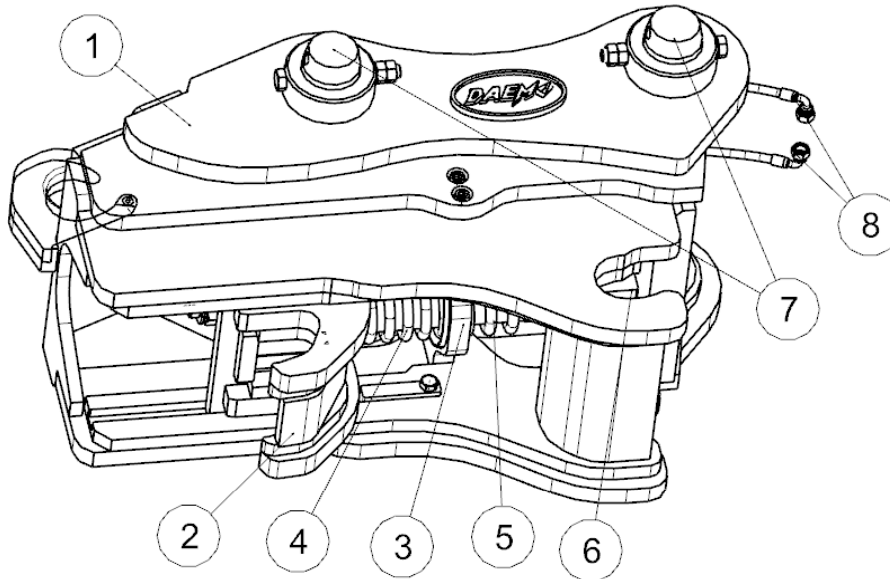
PRODUCT & STRUCTURE

1.1 DMQ Triple Safety Locking Hydraulic Quick Coupler

1-1) Product(Closed Hook Type, SLIDING TYPE)

DMQ16TS, DMQ27TS, DMQ35TS, DMQ50TS, DMQ80TS, DMQ140TS,
DMQ170TS, DMQ230TS

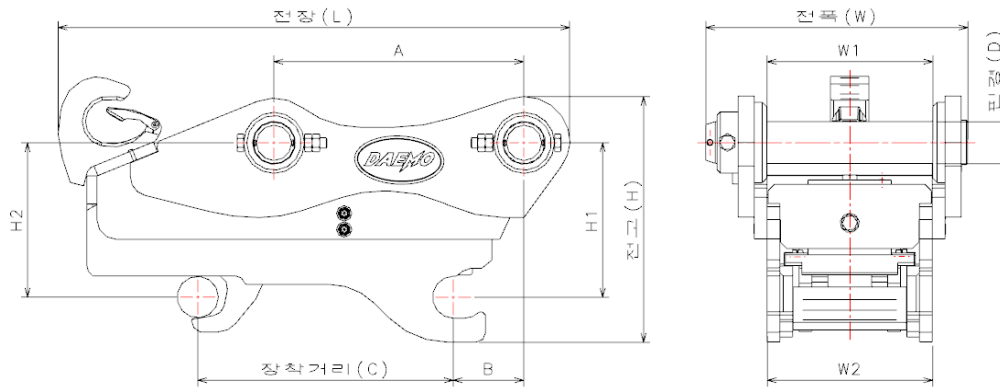
1-2) Main parts Composition



NO	Parts Name	NO	Parts Name
1	Body	5	Spring
2	Hitch	6	Hook Safety
3	Cylinder	7	Bracket Pin
4	Spring	8	Hydraulic Hose

2.1 Specification & Suitable Equipment

- DMQ16TS, DMQ27TS, DMQ35TS, DMQ50TS (CAST STEEL)
► DMQ50TS, DMQ80TS, DMQ140TS, DMQ170TS, DMQ230TS (WELDING)



Sliding type Triple Safety Locking Hydraulic Quick Coupler specification

Description	단 위	DMQ 16TS	DMQ 27TS	DMQ 35TS	DMQ 50TS		DMQ 80TS	DMQ 140TS	DMQ 170TS	DMQ 230TS
Manufacturing Type	-	CAST STEEL	CAST STEEL	CAST STEEL	CAST STEEL	WELDING				
전 장 (L)	mm	410	446	469	609	605	656	799	906	887
전 고 (H)	mm	235	255	263.5	294	300	331	412	475	492
전 폭 (W)	mm	218	236	248	280.5	280.5	326	409	492	515
중 량	kg	31	44	47	74	69	92	170	255	300
내 폭 (W1)	mm	119	135	135	164	164	194	259	307	330
외 폭 (W2)	mm	118	134	133	164	164	191	258	304	328
핀간 거리 (A)	mm	140	185	210	285	285	290	390	415	470
핀간 거리 (C)	mm	140 ~ 160	175 ~ 210	200 ~ 225	265 ~ 325	258 ~ 325	275 ~ 355	355 ~ 475	380 ~ 510	380~ 500
Pin Diameter(mm)	mm	Ø30	Ø35	Ø40	Ø45		Ø55	Ø65	Ø70	Ø80
핀간 높이 (H1,2)	mm	155	170	175	185	190	210	240	290	295
사용 압력	kg/cm²	40~210					40~320	40~380		
사용 유량	l/min	10~20								

3.1 General Information

CAUTION

Do not insert hands into excavator's arm, pinhole of link and the inside of Quick Coupler during the alignment of excavator's pinhole and Quick Coupler.

(1) Triple Safety Locking Hydraulic Quick Coupler

Before operation, please carefully review the information shown below.

Quick Coupler is recommended to put on flat ground surface, and operator is recommended to wear proper working uniform.

In order to prevent any unexpected hazards, operator is recommended to inspect the quick coupler periodically and make necessary steps, if any.

1) Hitch & Hook

Function of hitch & hook is to connect the attachments pin tight.

2) Cylinder

Makes the pin to be installed or released that is done by spinning the hitch through hydraulic pressure coming from excavator when the switch is turned on. And it keeps the connection of attachment not to be released during the operation.

3) Safety Springs

Front pin and rear pin are securely locked by using two different safety springs.

Red compressed spring (on the hitch side) prevents the backward movement of hitch, and Yellow compressed spring (on the hook side) is designed to prevent the backward movement of safety bar.

4) Safety Valve

Safety valve is installed in the cylinder to prevent cylinder from moving to reverse direction and also prevent attachments from detaching from the arm during the operation.



5) Hook Safety Plate

Fixed with bucket pin and connected with safety bar to prevent heavy things from falling apart.

6) Bracket Pin

Function of bracket pin is to connect various spinning parts of the quick coupler.

(2) Important operational signs

No.	Meaning of lable	Image content	Image example
1	Refer to the manual for proper service procedure	Technical manual	
2	Inject the grease with grease gun periodically	Grease gun	

(3) Safety Information

Read the following contents carefully before operation. And please be surely aware of safety information described in this manual before installation.

- The safety system of DMQ-TS can be installed & dismantled from the operator's position.
- Inspect the body damage, connecting hose, loose parts, cracks and other noticed changes of the quick coupler.
- Hitch cylinder of Quick coupler has to be located on backward when the fixed hook is fastened on bucket (Attachment) arm pin after fasten it. Please let hitch cylinder forward fasten after the bucket(Attachment) is fully folded up toward cabin to prevent releasing after connecting fixed hook.
- Very important to inspect that hitch is lock onto the pin tightly when move Quick Coupler toward and also need to inspect any possible crack on the arm of excavator.
- Once the installation is completed, insert the safety pin tightly to prevent the attachment from falling in spite that the cylinder moves to reverse direction during the operation.
- Operation must be stopped when there is any movement or vibration of bucket or attachment and connection of the pin should be inspected.

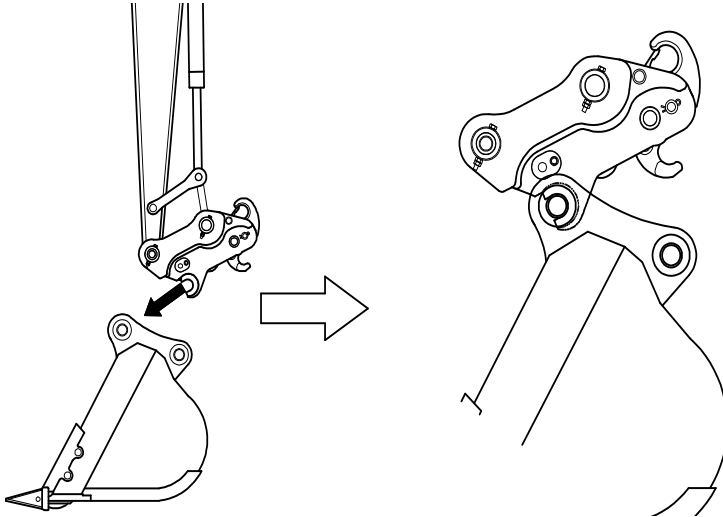
4.1 Installation

(1) Installation of Triple Safety Hydraulic Quick Coupler

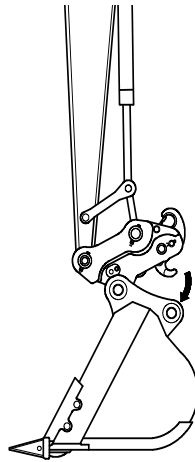
- Set excavator and quick coupler on flat ground and then release Arm pin and Link pin on excavator
- Slowly operate the excavator and align the excavator's arm and link hole with quick coupler's pin hole and then insert the bracket pins.
- Depending on the excavator model, spacers and o-rings are required to be installed onto the arm & link part of excavator.
- Assemble the bolt and nut to lock pins tightly. So the pin will stay in place.
- When connecting the hydraulic hose, make sure that the “install” and “release” line is not mixed up with one another. From the excavator driver's point of view the right side is “install” and the left is “release”.
- The hose must not be twisted or bent. Make sure to prevent any dirt, dust, or any impurities from entering the hose at all times. It may cause damage to the machine.
- Operate the switch repeatedly to make sure that quick coupler's hitch is operating properly.
- If all pre-installation is completed then please inspect the following before installing the attachment.
 - ① Interference between excavator and quick coupler
 - ② Twisted hoses
 - ③ Noise coming from quick coupler
 - ④ Leakage between cylinder and connected hose
 - ⑤ Connection of each bolt and pin
 - ⑥ Inspect for deformation & cracks
 - ⑦ Connection of bracket pin
 - ⑧ Snap ring connection (Hitch, Frame Pin)

(2) Triple Safety Locking Hydraulic Quick Coupler Installation Instructions

- 1) Operate the switch to “Release” position and the Quick Coupler will start to work.
- 2) Connect quick coupler hook to the bucket pin on the arm side.



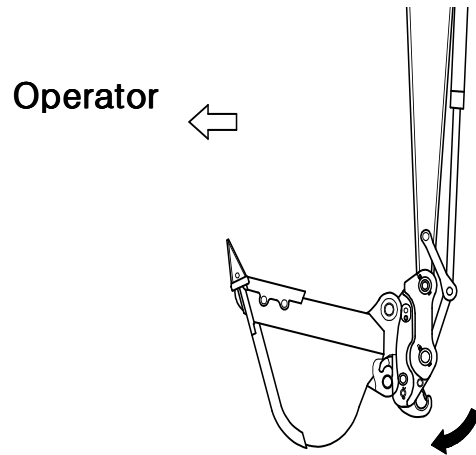
- 3) Slowly move the link portion of the Quick Coupler towards the bucket pin to connect.



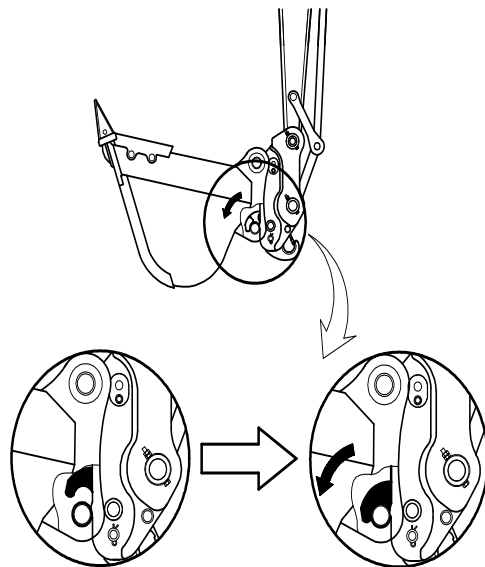
4

INSTALLATION

- 4) The operator must fold the bucket inward toward the excavator cabin to (Operator) the maximum (As shown in picture below).



- 5) Operate the switch to “Install” position and point the hitch towards the pin of the link side.



- 6) Hitch will move forward to complete the installation process and by doing so, automatic safety device' s assemble will be completed from the operator's position.

WARNING

**Important message to know before operating the quick coupler.
Make sure to insert the Sliding Auto Safety Locking before the operation.**

Triple Safety Locking can be connected according to pin-to-pin distance.

Pin-to-pin distance per models as follows.

DMQ16TS

Applicable distance between pins : 140 ~ 160mm

Compatible excavator : HCE, R16-9, R17Z-9A

DMQ27TS

Applicable distance between pins : 175 ~ 210mm

Compatible excavator : HCE, R27Z-9 ,R27Z-9AK ,R25Z-9AK

DMQ35TS

Applicable distance between pins : 195 ~ 205mm

Compatible excavator : HCE, R35Z-9 ,R35Z-9A

DMQ50TS (CASTSTEEL) *실변예정

Applicable distance between pins : 265 ~ 325mm

Compatible excavator : HCE, R55-9/9A, R55W-9/9A, R60CR-9/9A, R60-7S, R60W-9S

DMQ50TS (WELDING)

Applicable distance between pins : 285~328mm (without stopper plate : 258~328mm)

Compatible excavator : HCE, R55-9/9A, R55W-9/9A, R60CR-9/9A, R60-7S, R60W-9S

DMQ80TS

Applicable distance between pins : 290~355mm (without stopper plate : 275~355mm)

Compatible excavator : HCE, R80CR-9, R80CR-9A

DMQ140TS

Applicable distance between pins : 390 ~ 475mm (without stopper plate : 355~475mm)

Compatible excavator

-STOPPE RING위치 LH : HX110-F,HX140LC-F,HX140W-F,HX145CR-F

-STOPPE RING위치 RH : R110-9,R140LC-9,R140W-9,R145CR-9

DMQ170TS

Applicable distance between pins : 410 ~ 500mm (without stopper plate : 380 ~ 510mm)

Compatible excavator

—STOPPE RING워치 LH : HCE , HX160L ,HX180L ,HW160 ,HW180

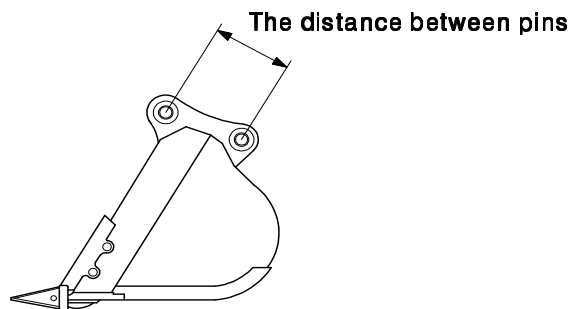
DMQ230TS

Applicable distance between pins : 460 ~ 500mm (without stopper plate : 380 ~ 500mm)

Compatible excavator : HCE,R210NLC-9,R210W-9,R210LC-9,R235LC-9

※ **Notice : The distance between pins is same as the distance between holes of the bracket pin in each attachments(Bucket, Breaker, Crusher, Shear).**

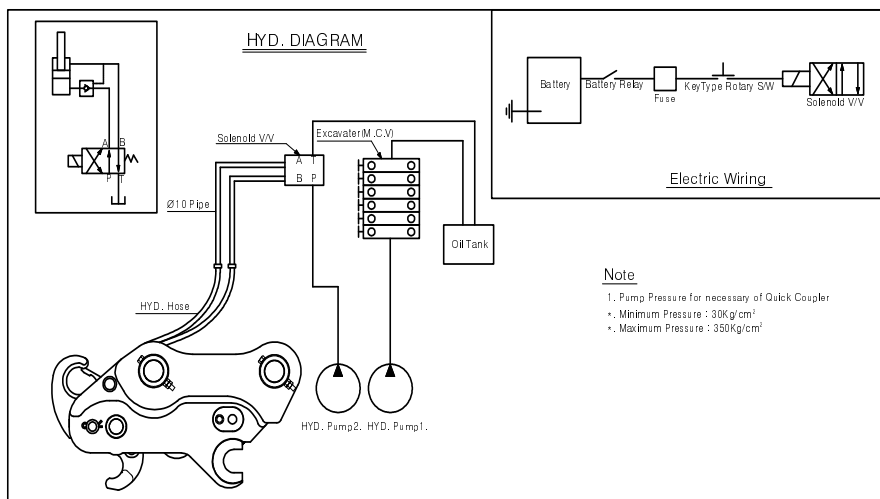
※ The distance between pins



(3) Piping Installation

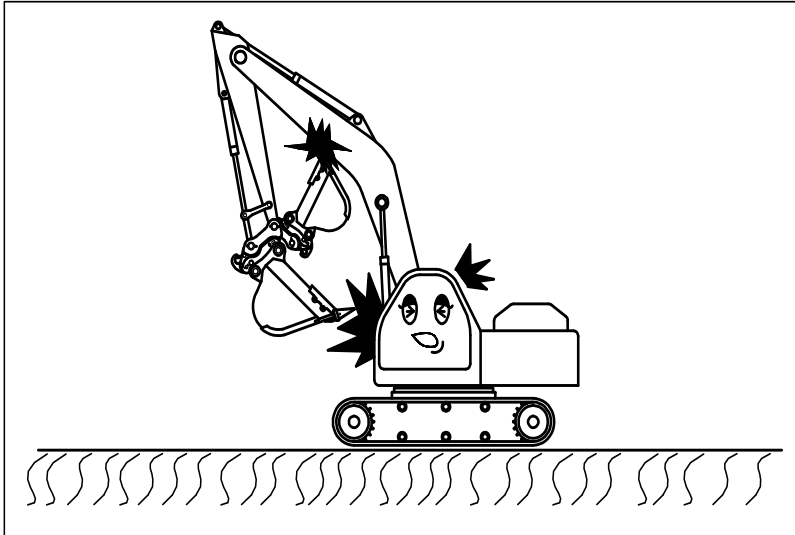
- 1) Improper installation of piping may cause short life span of the excavator and attachment, therefore please refer to service center for installation of the piping.
- 2) Pipe, hose, solenoid valve & other parts must be able to resist the maximum pressure allowed by the pump. Strongly recommend the use of original parts offered by the manufacturer.
- 3) Any dust and impurities in the hose should be cleaned, for proper maintenance.
- 4) Supply line of quick coupler must be connected to the excavator pump that is above the minimum pressure allowed to operated the quick coupler.
- 5) Direction of the piping is decided based from the driver' s side of the excavator, right side is "install(forward)" and the left side is "release(backward)" .
- 6) Operating voltage of solenoid valve has to be same as excavator battery voltage.
Careful with +/– connection of the wires, in general negative (–) side is connect to the body part of the excavator.
- 7) Switch wire must be connected with battery relayed from the excavator. Direct connection from the battery may cause damage to the parts and the machine.

※ Hyd. Diagram

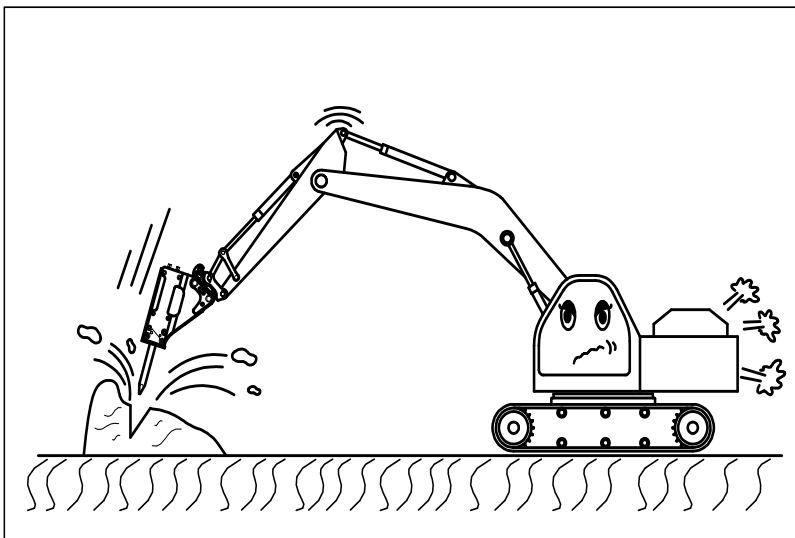


5.1 Important reminders during the operation

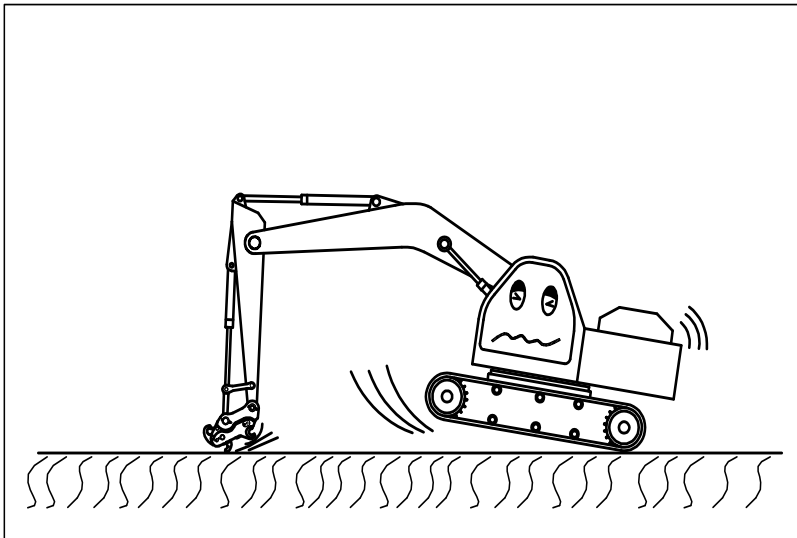
- (1) Once the quick coupler is installed, operating (Spinning) distance increases, therefore be careful with operating the bucket or attachment to prevent any collision with the crane. □



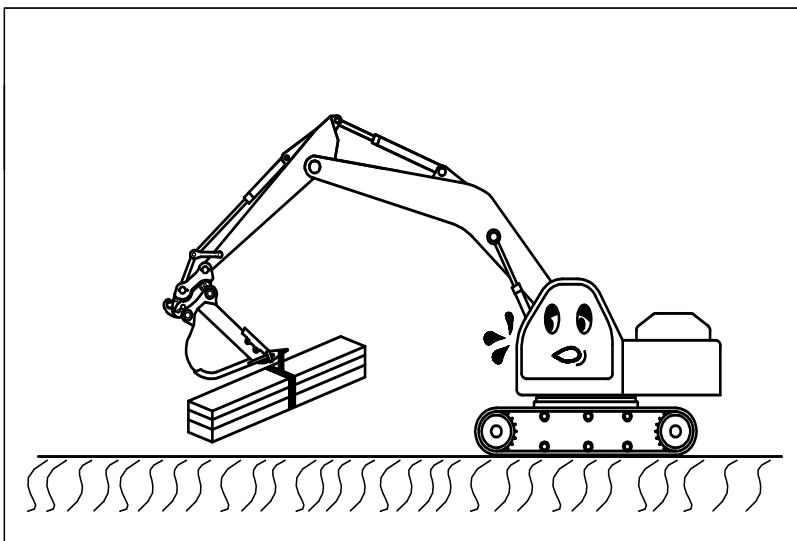
- (2) Overload operation may cause a short life span of quick coupler, attachment and the crane.



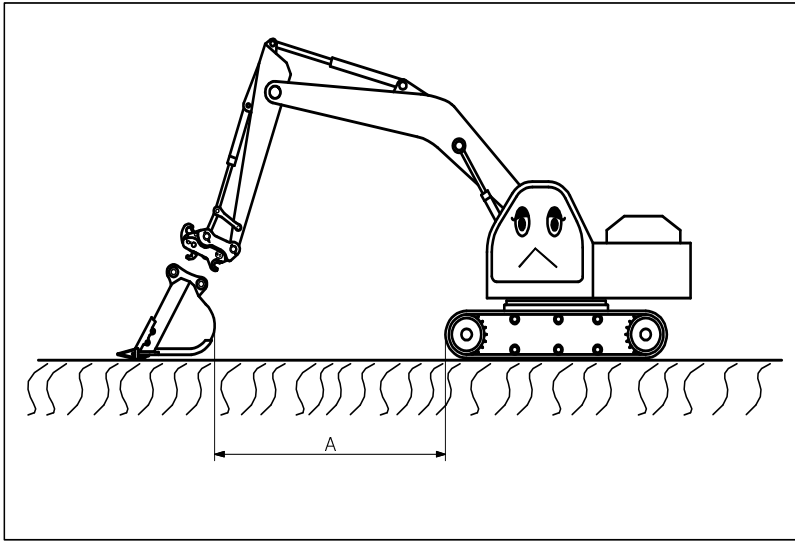
(3) Quick coupler may not be operated without the installation of a bucket or attachment.



(4) Lifting of heavy object through quick coupler is very dangerous and may cause the short life span of the quick coupler.



- (5) In case of installation a bucket or attachment in reverse direction(face position), high attention is required to keep enough distance(A) to allow entering angle on hook.
Please keep this enough distance(A) for correct linkage.



- (6) You must install the safety pin before starting operations, for your safety it is essential to obey this rule. If you do not obey this rule, we will not be held responsible if a problem occurs.

WARNING

For maximum life span and efficient operation of the quick coupler, periodic inspection is required.

Following are inspection and maintenance information.

6.1 Inspection & Maintenance

- 1) Please keep hands away from the moving parts or inner body part during the operation of the Quick Coupler. It may cause serious injury.
- 2) Moisture or impurities must be kept away during the cleaning or assembly of the cylinder.
- 3) When replacing or installing parts, we strongly recommend using genuine Daemo parts. When not using genuine Daemo parts, we will not be responsible for any problems that may occur.
- 4) Before polishing, any dirt or dust from the quick coupler, it must be cleaned. Apply grease every fifth time that attachment is changed and on the fifth changing apply grease 3 times into the grease nipple.
 - ※ Apply grease onto the hitch part twice a day.
- 5) It is easy for cylinder rod and pin to become dirty, therefore must be clean after using. Manufacturer is not responsible and reliable for any cylinder problem caused due to not following instructions.

(1) Important issue on repair inspection

- 1) Cylinder : Inspection must be done every 120 operating hours, to check for any potential problem with the cylinder.
- 2) Piping : Piping is required to connect Quick Coupler to the excavator. Must be inspected every 120 operating hours for any leakage or damage to the pipe or connecting pipes.
- 3) Bolt & Nut : Prevent possible accidents by inspecting for loose bolts and nuts every 120 operating hours.
- 4) Cylinder rod must be kept clean and maintained without any damage to prevent leakage.

2) Reason for break down & repair method

Problem		Cause	How to fix
When Quick coupler is not working	Disconnected electric voltage	Broken fuse	Replace fuse
		Disconnected wires	Operating switch and the solenoid valve's wires, must be inspected if disconnected reconnect the wire.
	Voltage in solenoid is flowing, but there is no pressure in the hose.	Solenoid failure	Solenoid valves electric connector must be changed.
		Solenoid valve failure	Disassemble the solenoid block and clean the insides and reassemble.
		Oil leak from hose, or hose failure	Tighten the hose nut, and if still leaking replace the hose
	Pressure is in the hose, but cylinder is not working.	Relief valve is not working	Disassemble the relief valve, and inspect the valve. If still not working must be replace.
		Cylinder has remaining high pressure	Slowly turn the plug on the cylinder to release the high pressure.
		Cylinder is not working	Ask a Daemo service center Personnel.
	Cylinder is pushed back when operating.	Relief valve is not working	Relief valve must be checked often, or replaced.
During operations Quick Coupler sounds abnormal.		Lack of polishing of pin rotator	Apply grease to pin.
Oil leak for cylinder		Damage to cylinder O-ring	Ask a Daemo service center Personnel.
		Damage to load packing	Ask a Daemo service center Personnel.
Oil leaks from hose		Damaged hose	Replace hose.

6

INSPECTION & MAINTENANCE

3) Proper torque

Description	Model	Torque (Kg · m)	Remarks
Safety valve	ALL	4~5	Apply exclusive tools
Connecting hose	ALL	5	
Cylinder rod cover	DMQ50TS	55~60	
	DMQ140TS		
	DMQ170TS	75~80	
	DMQ230TS		

4) Designated tools

Model	Tool	Size	Quantity	Remarks
DMQ50TS	Spanner	19mm	1pc/each	Connecting clamp hose
DMQ140TS				
DMQ170TS		19mm	1pc/each	Connecting hose
DMQ230TS				

5) How restraint to be free

Bracket pin the set bolt that optimal length of Bolt the top cylinder after signing on
Turn off the bucket by checking whether a safety device was removed.