



AUTOGUIDE EQUIPMENT



CRANE MOUNTED POLE GRAB

MANUAL SPARE PARTS

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These instructions give safety and operations information regarding the use of a Crane Mounted Auger Powerhead, Quick Hitch and Hydraulic Fold-Up bracket supplied by Autoguide Equipment. They contain the relevant information for products:

Product Code	Description	Maximum Pole Weight (Kg)
49705	Crane Mounted Pole Grab	1000

		Part Number
Boom Clamp Plates	<i>Left</i>	
	<i>Right</i>	
Stowage Bracket		
Stowage Frame		

To ensure optimum results when operating this equipment it is very important to read this manual carefully, the information will prepare you to do a better, safer job.

Before operating the machine you should familiarise yourself with the instructions in this manual. Incorrect use can lead to damage which is not covered by the Warranty Conditions. This may create a dangerous situation or lead to unsatisfactory results.

These operating instructions **MUST** always be made available to the person or persons operating this equipment.

To assist in the ordering of spares, or other communications with our company, the serial number of the relevant equipment supplied, has been recorded below for your information.

Model No:-

Serial No:-

Date of Delivery:-

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INFORMATION

Your Crane Mounted Pole Grab has been individually built with great emphasis on quality, strength and simplicity of design and with routine care will give many years of trouble free operation.

The following instructions have been written to cover the use and maintenance of the machine. Care should be taken to ensure that you are referring to the correct section of your machine before carrying out any adjustments, or when ordering spare parts.

Like all mechanical products, regular cleaning, lubrication and maintenance will ensure a longer trouble free life. These instructions make no attempt to go beyond routine maintenance, and it is strongly advised that you contact your dealer should any major repairs become necessary.

Use only genuine service parts; non genuine parts may not meet standards required for safe and satisfactory operation.

Safety Instructions

1. Read and understand this operator's manual prior to operating the machine and keep it in a convenient place for future reference.
2. Keep untrained personnel away from the machine whilst it is in operation.
3. Keep all guards and safety devices in place.
4. Do not operate machine with guards removed.
5. Beware, pressured hydraulic oil can be very dangerous and can penetrate the skin - TAKE THE UTMOST CARE.
6. Keep hands, feet and loose clothing away from moving parts.
7. Always switch off the machine before making any adjustments or when carrying out lubrication and servicing.
8. Keep all nuts, bolts and fasteners tightened.
9. Check machine regularly for damaged or worn parts.
10. If the machine is left unattended ensure that it is locked or disabled to prevent use by untrained personnel.

Daily Check Items

1. Check the unit is properly and securely attached to the crane/excavator unit.
2. Check that all nuts and bolts are secure, mounting pins are properly retained, and all safety shields are in place. (All nuts and bolts should be checked after the first 10 hours of operation.)
3. Check the condition and security of any auger or anchor driver attachment.
4. Lubricate all grease nipples.

SPECIFICATIONS

The pole grab has been designed to install utility poles. It comprises of a jaw assembly that will grip the pole, a rotator for manipulating the angle of the pole and a catcher assembly which includes a ram to stand the pole upright.

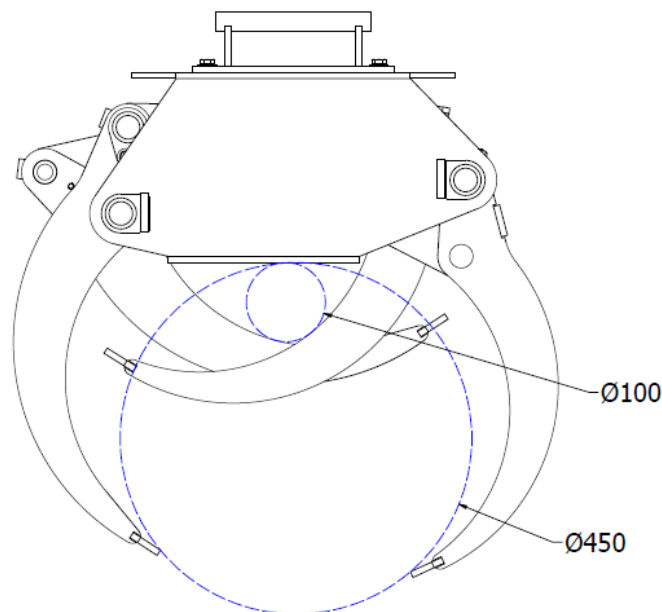
The catcher assembly includes a latch that attaches to the jaws during the erecting of the pole. This prevents the jaws from free swinging, locks the rotation and prevents the pole from swinging out of control.

The catcher is only designed to raise the pole when it is in line with the crane boom. When out of alignment, the catcher will not interact with the jaw assembly and the pole not be erected. This is due to the safe working practise of the crane, and to utilise the lifting capacity of the crane for the pole erection.

Jaws

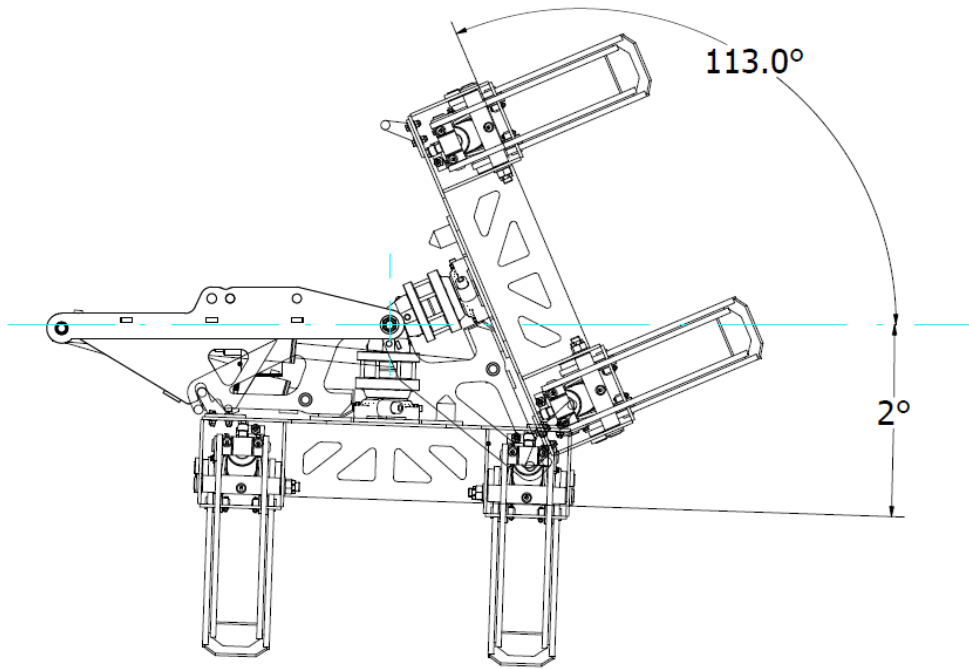
The jaw assembly is fitted with a set of claws that work in tandem to grip the pole. They can hold poles ranging in diameter from 4" to 18".

Each jaw produces 900kg of clamping force and is rated lifting 800kg. The ram is protected via a valve and accumulator to prevent unwanted opening or creeping.

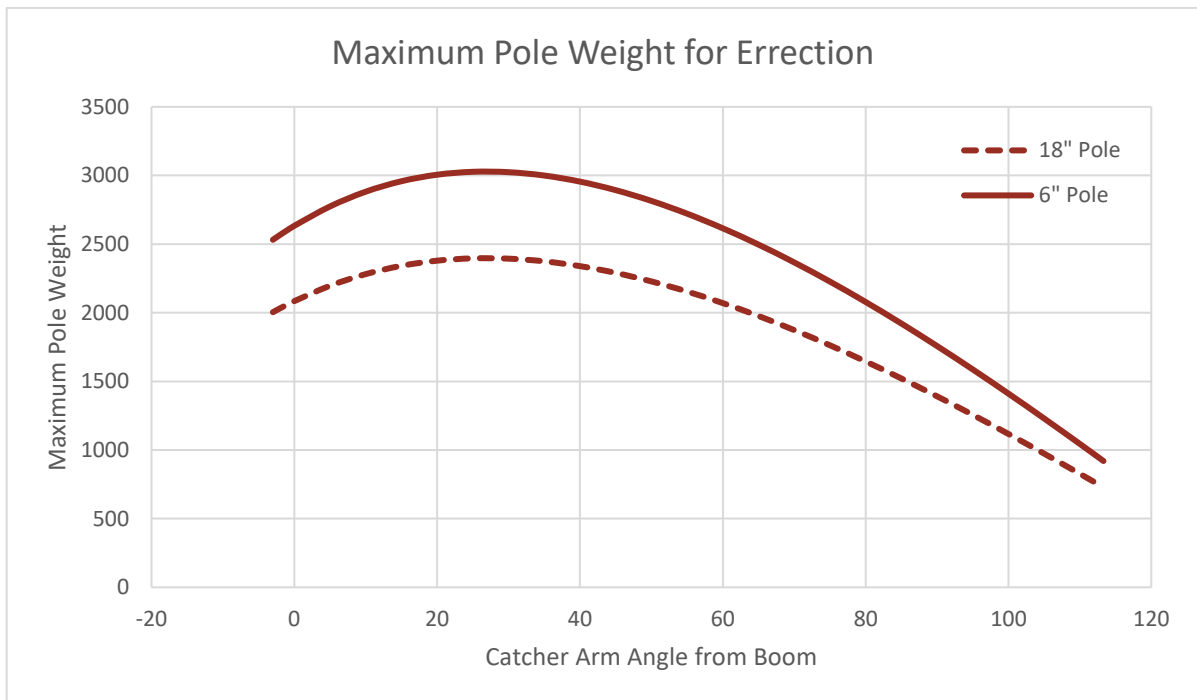


Pole Erecting Specifications

The pole erection function is used to rotate the pole from horizontal through to vertical. The design allows the jaws to rotate through 115 ° of motion to enable the crane to install a pole vertically with a jib at a negative angle of up to 20 ° from the horizontal.



The catcher arm and ram that powers the erection function provide a minimum of 5.3kNm of torque, capable of rotating an 18" diameter pole weighing 700kg.



POLE GRAB INSTALLATION

The safe operation of this equipment is the responsibility of the operator, who should be familiar with the lifting process, the power unit and all safety practices before starting operations.

The Autoguide 'Quick Hitch' has been designed to enable 'attachments' for lorry-mounted cranes to be fitted or changed more easily utilising hydraulic power from the base unit.

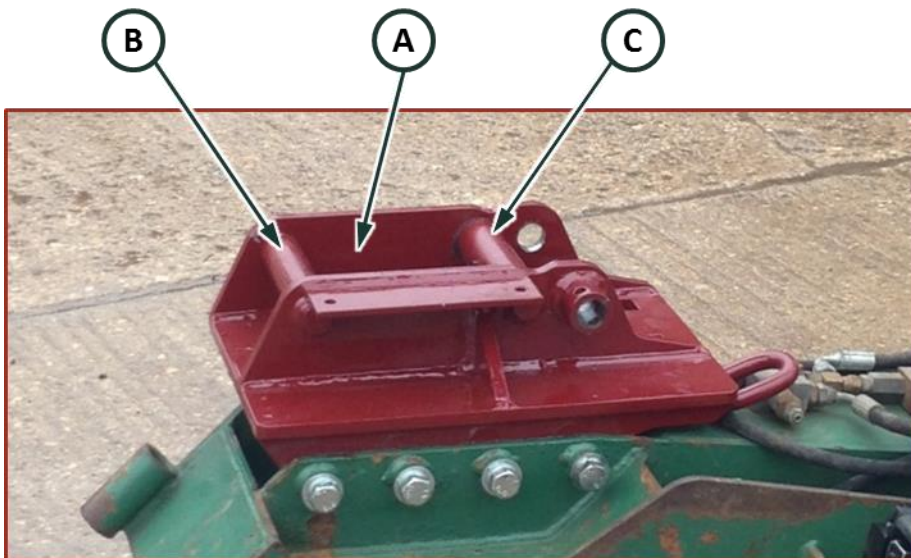
SAFETY: Never place any part of your body where it could get trapped, crushed or injured. This quick hitch is designed to make attachment of accessories to cranes safer than existing methods, utilising hydraulic power where manual intervention was previously necessary. Careful operation and a common sense approach will ensure you achieve these objectives.

IMPORTANT: The 'Quick Hitch' unit is a welded construction and therefore cannot be dismantled for servicing. In the unlikely event that a problem arises, the unit must be returned to Autoguide Equipment Ltd for any repair or service work.

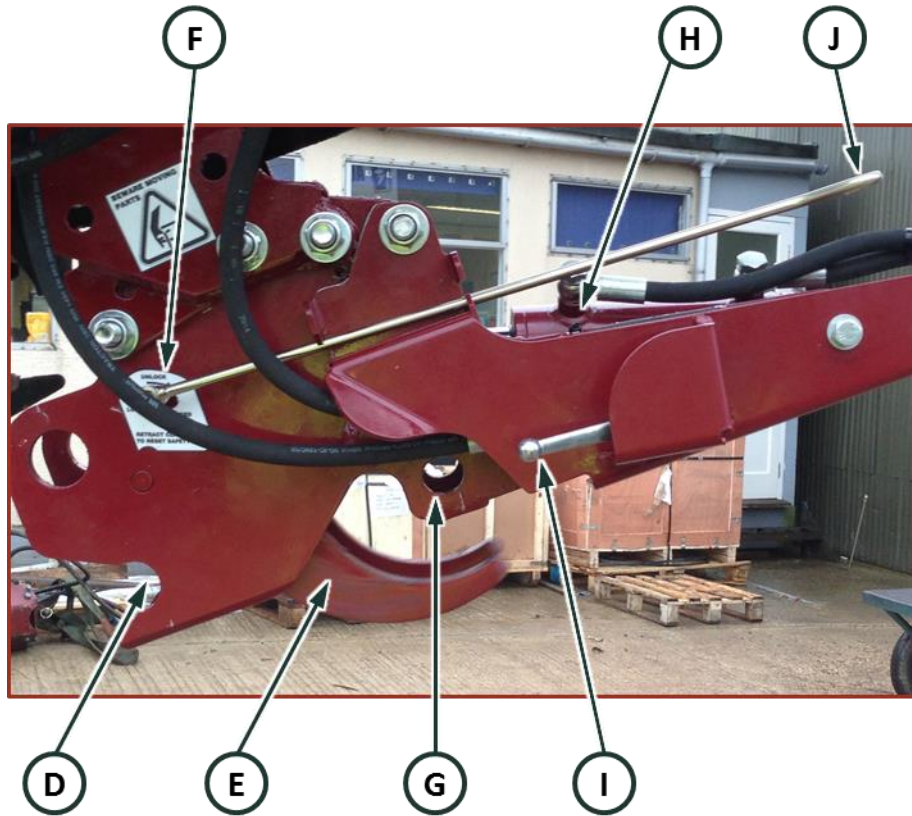
Principle of Operation

The Hitch comprises two separate assemblies, one of which is bolted to the 'attachment' (Assembly 1), the other to the crane boom (Assembly 2).

Assembly 1 consists of two side plates **A** supporting two fixed cross bars **B**, one of which has a free rotating outer sleeve **C**.



Assembly 2 comprises a fixed jaw **D**, a rotating claw **E**, a safety catch **F**, a safety pin **G**, a hydraulic cylinder **H**, locking/isolator valve **I**, and handle **J**.



Note: The hitch may only be operated with the hydraulic/electrical (Faster) coupler disconnected

Mounting the Pole Grab

1. The pole grab must be positioned on a suitable flat surface and aligned such that its mounting plate is presented at a suitable angle to the crane boom.

IMPORTANT: Do not at this stage connect the 3-way hydraulic coupler.

2. Set the lock valve **I** to OPEN (Handle horizontal).

3. If the rotating claws **E** are closed, unlock the safety latch **F** by pulling the handle **J** out. It may be necessary to 'pressurise' the claws into the closed position first, then rotate the claws to the fully open position.



4. Move the crane so that the fixed jaws **D** capture the attachment pin **B**.



5. Operate the hydraulics to close the claws around the second shaft **C**, lifting the crane boom slightly to aid the movement of the claws. This process is not visible but a claw rotates to secure the second shaft.



6. Once the claws are fully engaged the safety catch will click into the locked position.



7. Fit the safety pin **G** and close the lock valve **I**.



8. Connect the hydraulic/electrical 3-way connector ('Faster Coupler') to supply power to the attachment.



9. Press and hold the switch on the remote to activate the jaws. Using the auxiliary circuit open the jaws to release the stowage pallet. Release the switch.

10. Raise the pole grab into the air using the crane to fully clear the stowage pallet.

11. Press and hold the switch on the remote to activate the catcher ram. Using the auxiliary circuit fully retract the catcher ram, releasing the jaw assembly to hang freely. Release the switch.



12. Using the auxiliary circuit and no switch activated, rotate the pole grab to ensure full functionality.

13. Once complete, lower the pole grab to the ground while not in use.

Pre-operation check list

1. Keep bystanders away from all rotating attachments.
2. Ensure you are aware of the environment you are working in; be aware of overhead cabling and other utilities services.

POLE GRAB OPERATION

Installing a Pole

1. Manoeuvre the crane to above the centre of gravity of the pole and rotate the jaw frame assembly so that it is in line with the pole.



2. Operate the jaws to close around the pole.



3. Gently lift the crane to ensure the pole has been grabbed in the centre of gravity and balances when lifting.



4. Manoeuvre the crane and pole so that the pole is in line with the crane boom.



NOTE: Ensure the pole is in line with the crane boom before raising using the catcher arm.

5. Operate the lift ram to rotate the catcher frame. This will lower and latch onto the grab assembly.



6. Slowly stand the pole up using the lift ram and catcher frame, while also raising the crane boom to ensure that the butt of the pole doesn't hit the floor.



7. Once the pole is upright, position it directly above the augered hole.



8. Using the crane, lower the pole into the hole keeping it upright. The lift ram and crane slew can be used to keep the pole vertical.



9. Switch off the crane while backfilling and tamping the soil around the pole.



10. Once secure, open the crane jaws slightly to check that the pole stands freely. Once satisfied open the jaws fully.



11. Slowly retract the crane boom away from the pole. The jaws will stay held in their position and not fall, preventing pushing the pole out of vertical.



TROUBLESHOOTING

Symptom	Possible Cause	Action
Jerky	Cold Oil	Allow time to warm up
	Air in Pipes	Check oil Level
	Non Compatible Quick Couplers	Use Matched pairs
	Non Compatible Quick Couplers	Replace
	Hoses too small for flow	Replace
	Wrong Model Powerhead	Select appropriate model
Slow	Pump Failing	Carry Out flow and Pressure Check
	Oil Filter Blocked	Carry Out flow and Pressure Check
	Dirt Contamination	Service Exchange Motor
	Low Speed Lock Engaged	Put Selector in Auto
Poor Torque	Low Hydraulic Pressure	Carry Out Flow and Pressure Check
	Excessive Oil Temperature	Check Pump, Check Hose Sizes, Use Correct Powerhead
	Relief Valve Blows	Use smaller Auger or Larger Powerhead
Oil leaks	Loose Fittings	Tighten Up Fittings
	Leaky Connections	Reseal or check Configuration
	Pressure Too High	Use compatible head and fittings
Leak from Relief Valve	Drain Link is Kinked	Check 2 bar max back Pressure. Replace Relief Valve.
	Non Return Valve Seizes	Remove unit and check ball is free moving. Ball can become wedged & sticky, due to high pressure (over 20 bar) or extended storage. Replace valve & relief valve

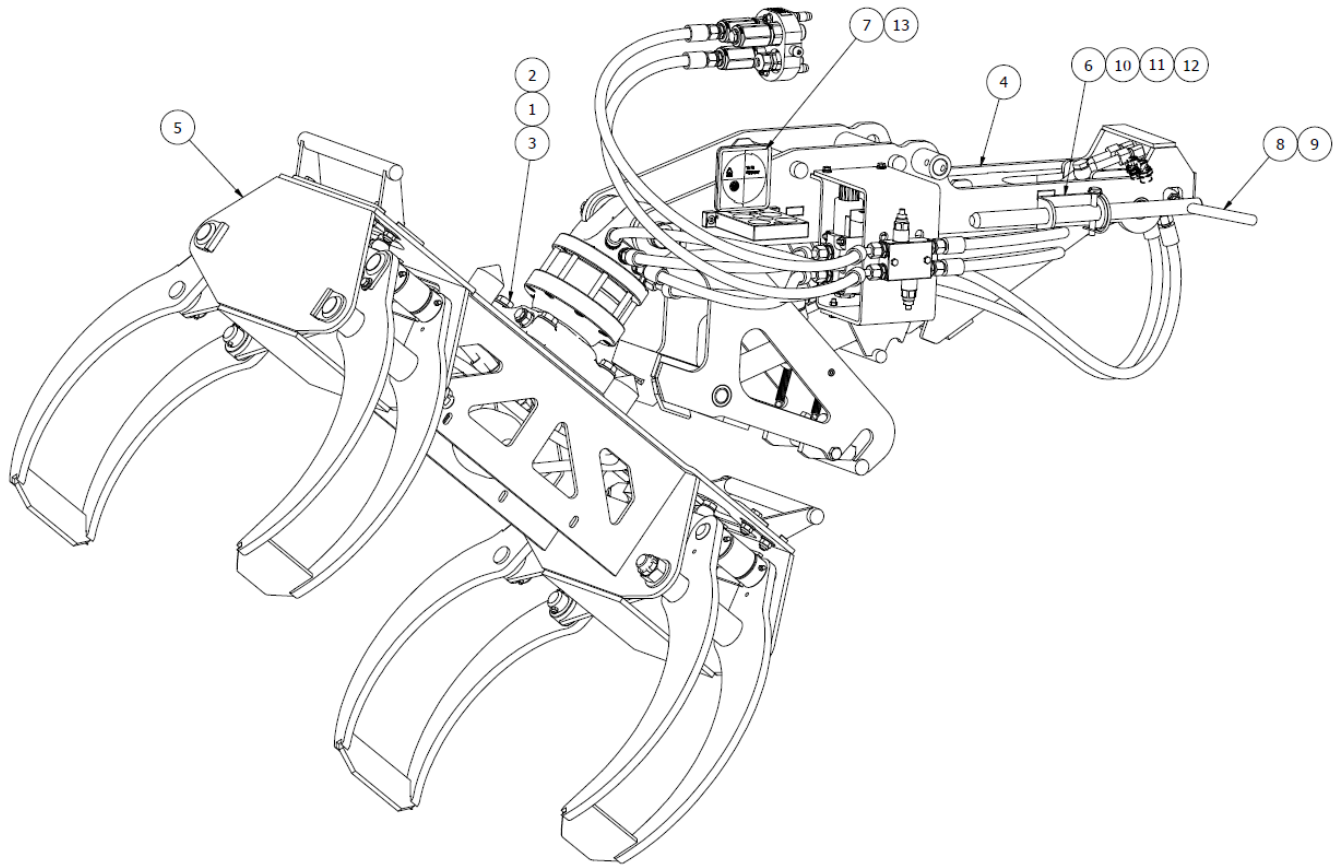
END OF LIFE

When the machine reaches the end of its useable lifetime it is important that the independent elements of the machine are reused, recycled or disposed of suitably.

Component	What to do?
Metals	All metals should be recycled with an appropriate scrap metal merchant, preferable sorted into metal type.
Electronics	All electrical components should be recycled at an appropriate facility according to the WEEE Directive and Regulations 2013
Oils	Oil waste is classed as Hazardous and therefore must be stored separately and according to legal regulations (that differ dependent on country). It must be disposed of by a suitable Waste Oil collection company.
Hydraulic Hoses	Hydraulic hoses should be drained of oil, metal ends removed and then recycled with a suitable specialist recycling company. Metal ends can be sent to metal recycling centers.
Plastics	All plastics should be sorted into recyclable and non-recyclable and then either sent to suitable recycling facilities or landfill.

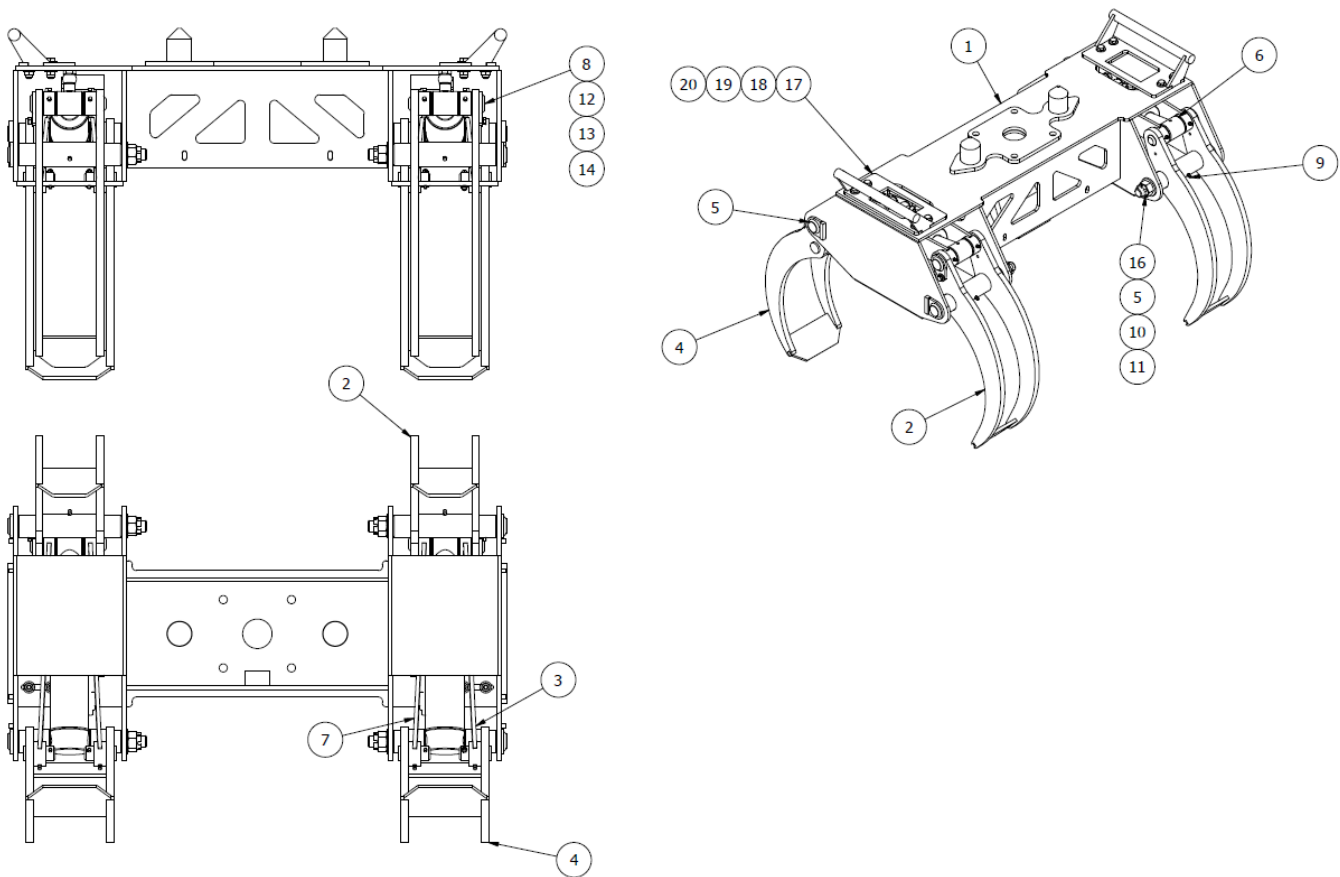
SPARE PARTS

49705 – Crane Pole Grab Assembly



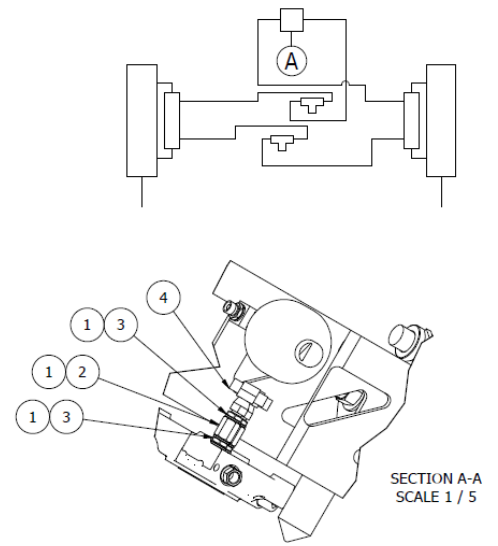
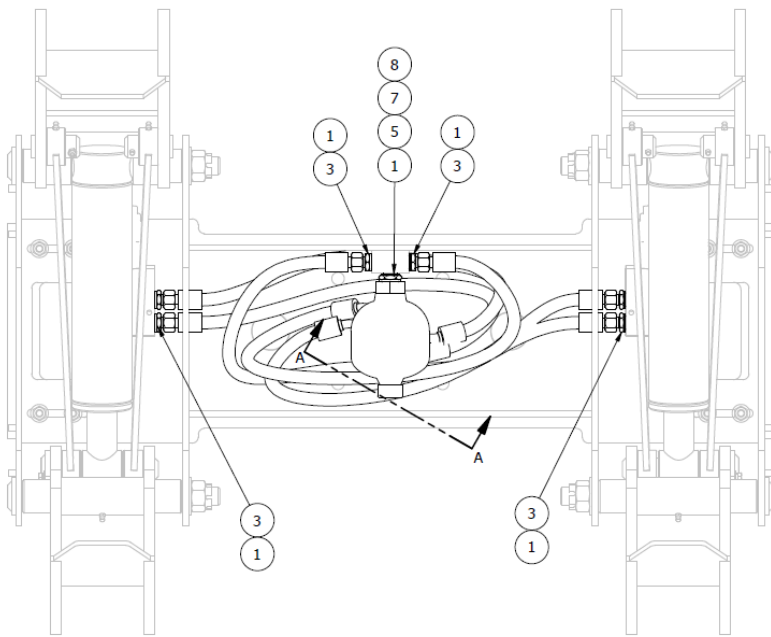
Item	Part Number	Description	Quantity
1	02104	Washer M16 (Form C)	8
2	03941	Nut Nyloc M16	4
3	12040	Bolt Hex M16 x 80	4
4	50816	Mount Frame Hydraulic Assembly	1
5	50833	Twin Crane Grab Assembly	1
6	50470	Lock Pin Stowage Bracket	1
7	04553	Multifaster Stowage Plate	1
8	50471	Locking Pin Extended WA	1
9	05591	Pin Shaft Locking 56mm X 006	1
10	02350	Washer M6 (Form C)	4
11	02513	Nut Nyloc M6	2
12	02297	Bolt Hex M6 x 35	2
13	12641	Bolt Cap M8 x 16	2

49635 – Twin Grab Assembly



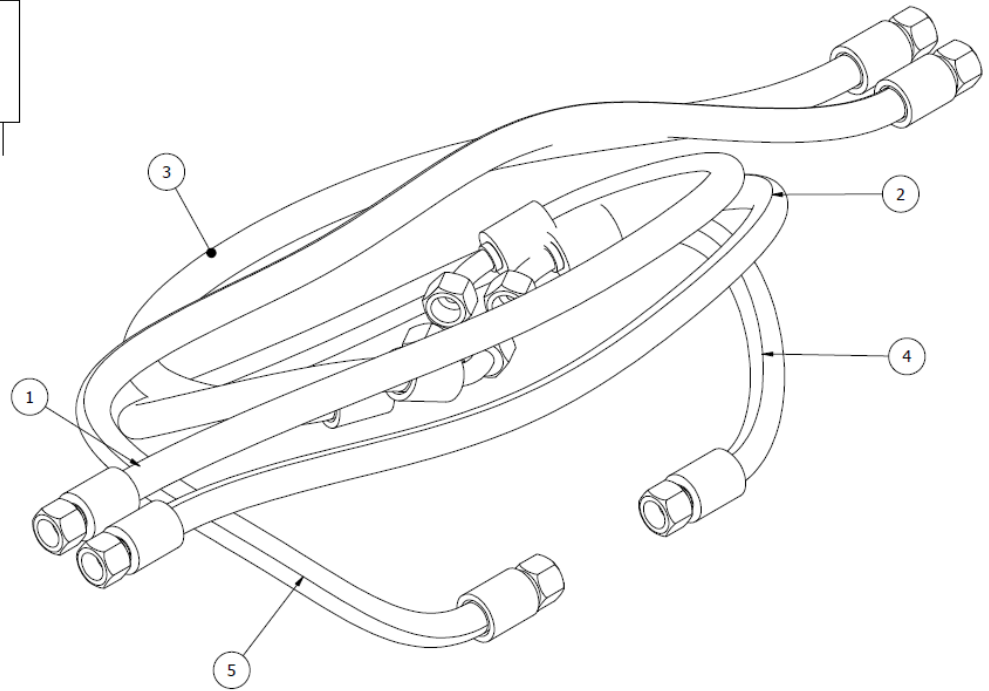
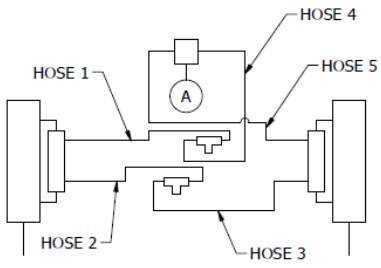
Item	Part Number	Description	Quantity
1	49636	Pole Grab Beam WA	1
2	49438	Inner Grab Arm WA	2
3	49451	Grab Linkage WA	2
4	49429	Outer Arm Left WA	2
5	49447	Grab Ram Butt Pin WA	4
6	49465	Excavator Grab Ram Assembly	2
7	49452	Grab Linkage Opposite WA	2
8	49445	Grab Rod Pin WA	2
9	02137	Nipple Grease	14
10	02297	Bolt Hex M6 x 35	4
11	02513	Nut Nyloc M6	4
12	02977	Washer M8 (Form C)	2
13	02521	Washer Spring M8	2
14	02449	Bolt Set M8 x 20	2
15	08298	Washer M24 (Form C)	4
16	12317	Nut Castellated M24	4
17	49638	Catcher Bar WA	2
18	02702	Washer M10 (Form C)	16
19	02523	Nut Nyloc M10	8
20	02997	Bolt Hex M10 x 35	8

50802 - Twin Grab Hydraulic Kit



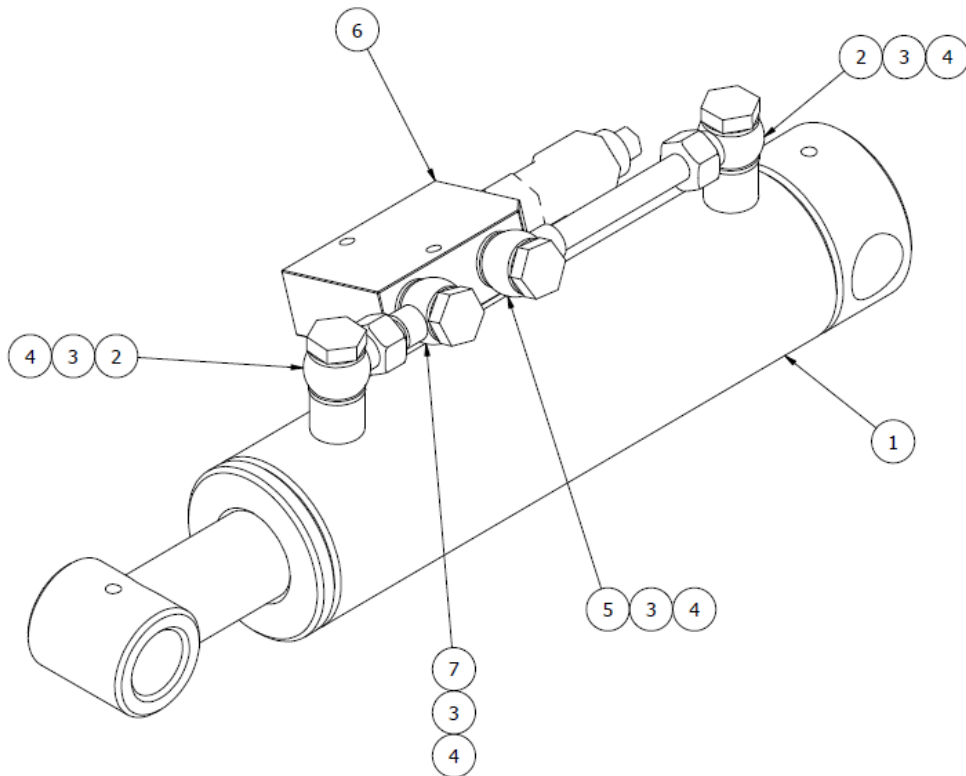
Item	Part Number	Description	Quantity
1	01812	Seal Bonded	13
2	04110	Nut Barrel	2
3	01095	MM Adaptor	10
4	01133	Tee MMF BSP	2
5	12471	Accumulator	1
6	50803	Twin Grab Hose Kit	1
7	01096	MM Adaptor	1
8	02182	Seal Bonded	1

50803 – Twin Grab Hose Kit



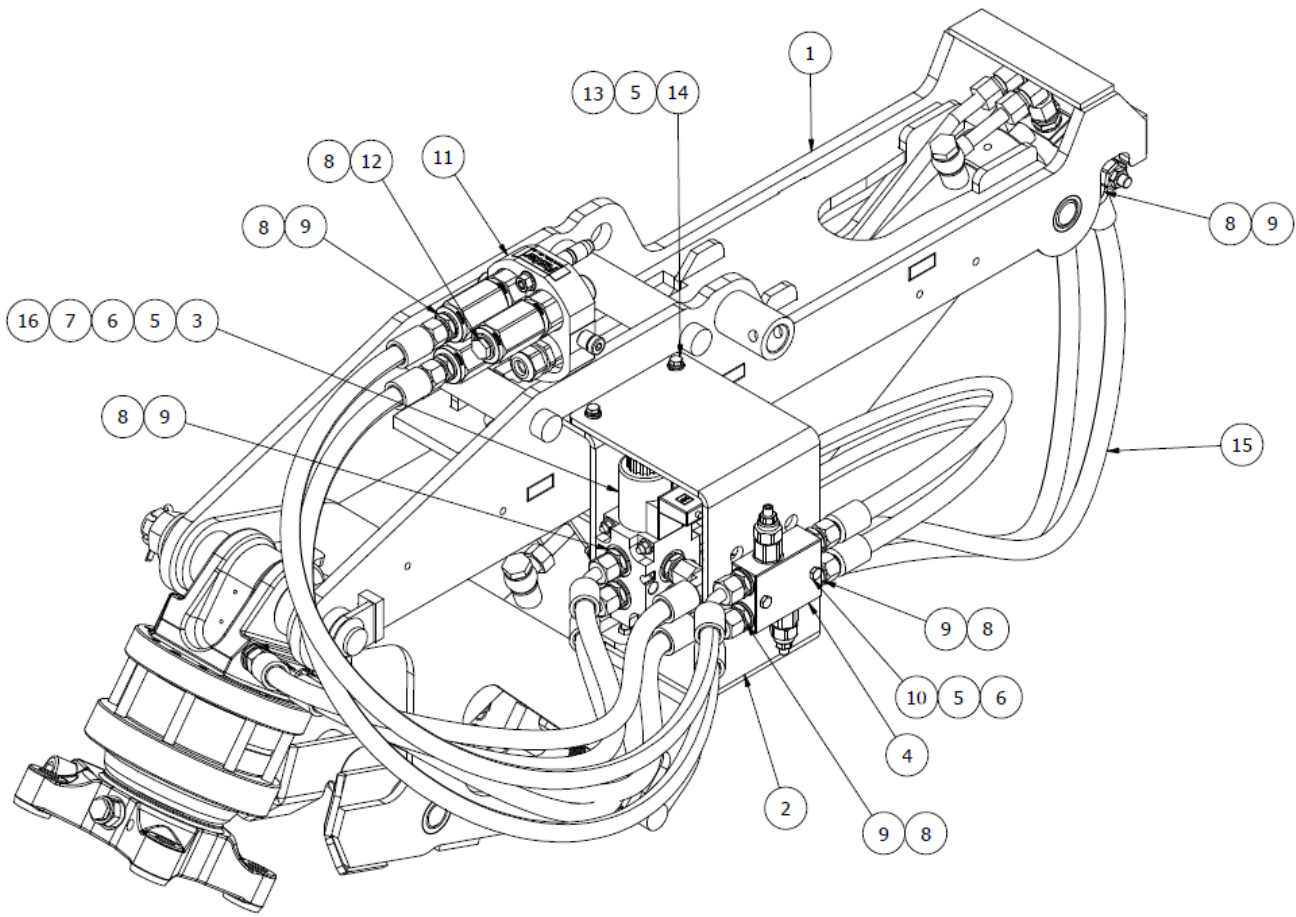
Item	Part Number	Description	Quantity
1	50804	Twin Grab Hose 1	1
2	50805	Twin Grab Hose 2	1
3	50806	Twin Grab Hose 3	1
4	50807	Twin Grab Hose 4	1
5	50808	Twin Grab Hose 5	1

49465 – Grab Ram Assembly



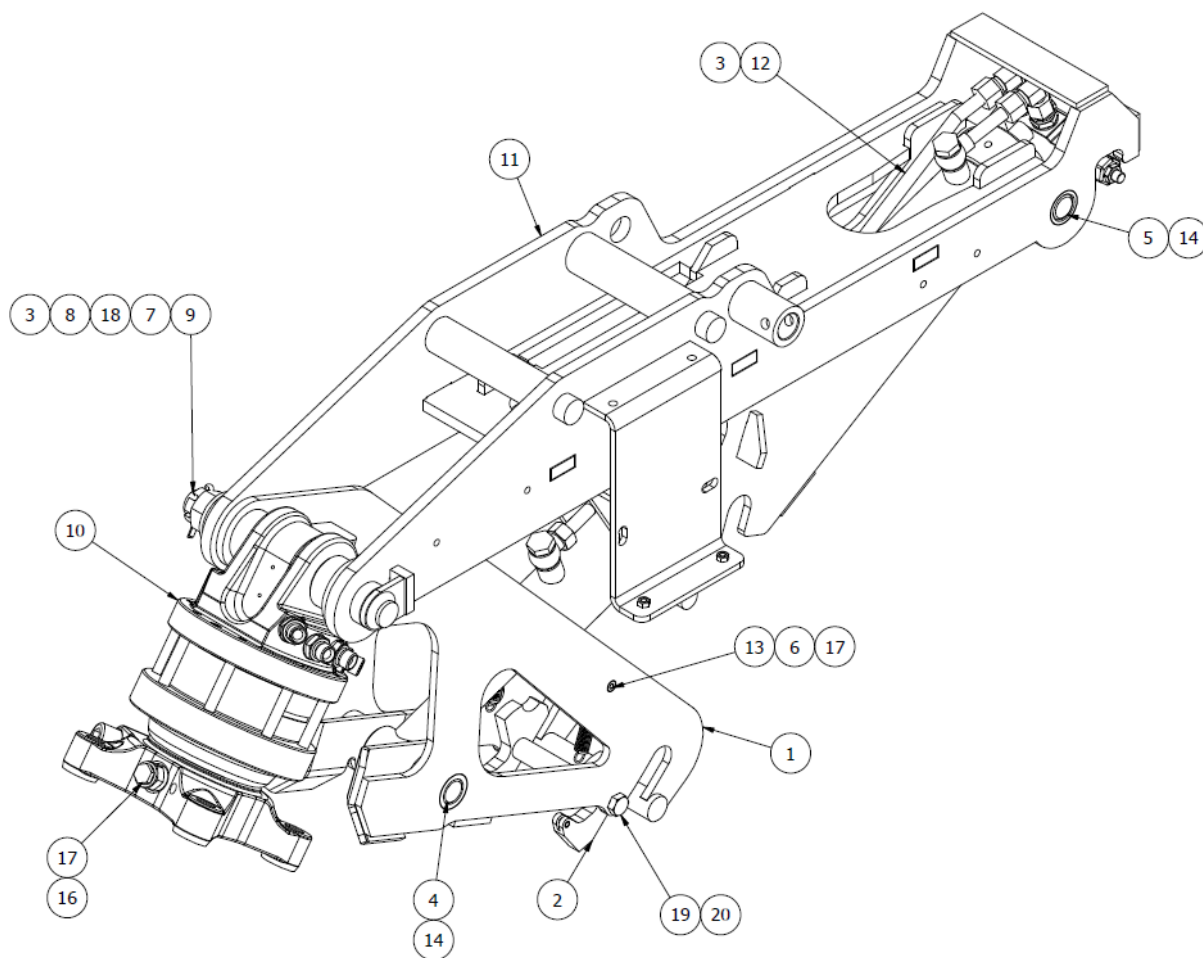
Item	Part Number	Description	Quantity
1	12465	Ram	1
2	11956	Fitting Banjo Nut Olive	2
3	05601	Fitting Banjo Bolt	4
4	01812	Seal Bonded	8
5	11954	Fitting Banjo Tube	1
6	10828	Valve	1
7	11943	Fitting Banjo Tube	1

50816 - Mount Frame Hydraulic Assembly



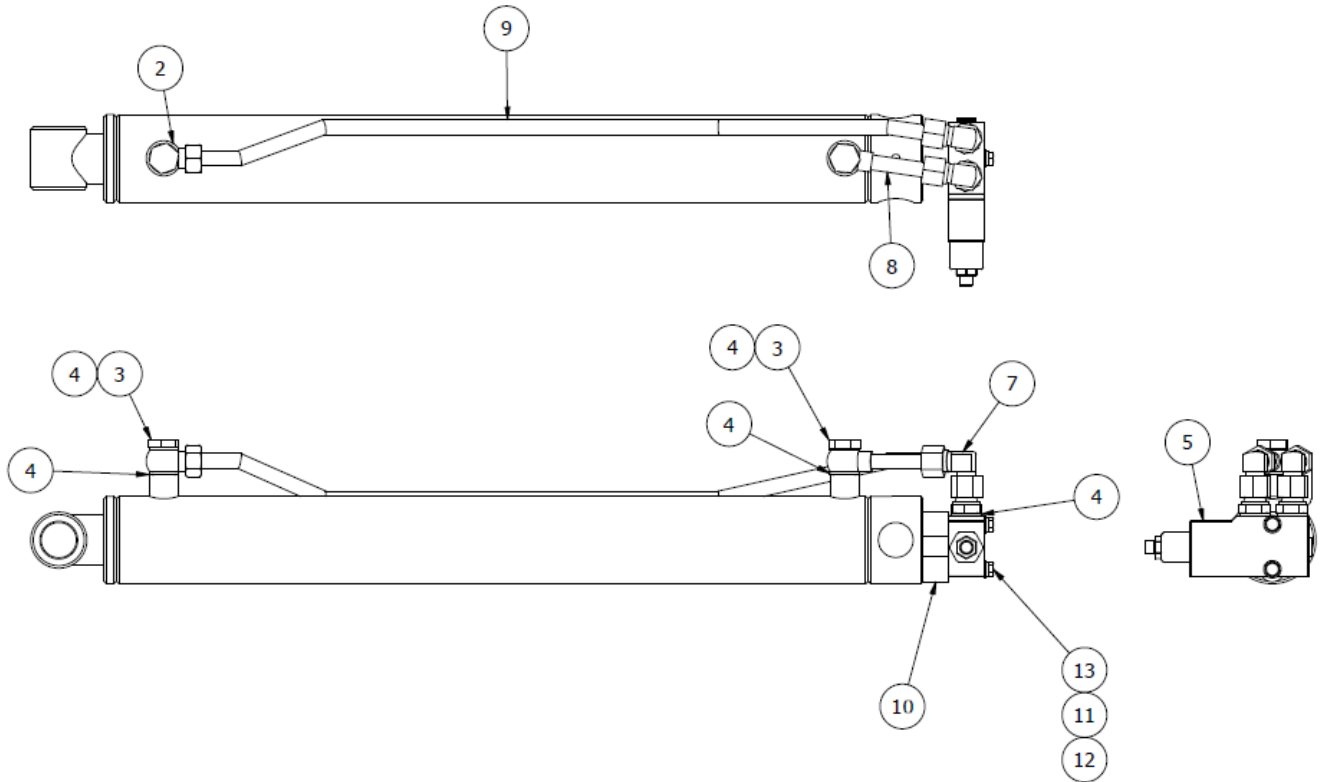
Item	Part Number	Description	Quantity
1	49709	Mount Frame Assembly	1
2	49918	Valve Cover	1
3	12504	Valve	1
4	08637	Valve	1
5	02350	Washer M6 (Form C)	8
6	02513	Nut Nyloc M6	4
7	10599	Bolt Cap M6 x 40	2
8	01812	Seal Bonded 006	17
9	01095	MM Adaptor	16
10	02322	Bolt Hex M6 x 50	2
11	04530	Multifaster Male	1
12	01677	Plug	1
13	02515	Washer Spring M6	4
14	02298	Bolt Set M6 x 25	4
15	50821	Mount Frame Hose Kit	1
16	10155	LED Indicator	2
17	07580	3/8" MM Restrictor Adaptor 0.5mm	2
18	11100	3/8" Variable Restrictor Free Flow	2

49709 – Mount Frame Assembly



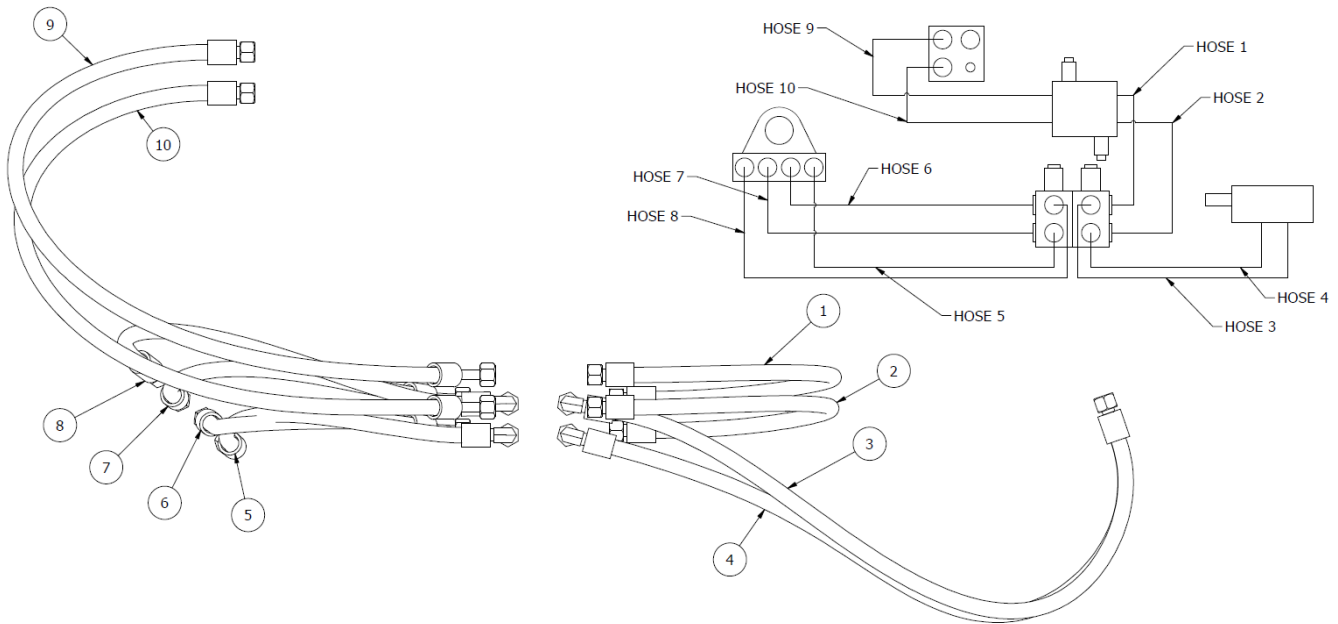
Item	Part Number	Description	Quantity
1	49689	Catcher WA	1
2	49696	Latch WA	1
3	03248	Bush	6
4	49724	Catcher Pin	1
5	49725	Frame Pin	1
6	12476	Spring	2
7	49729	Pivot Pin WA	1
8	08298	Washer M24 (Form C)	1
9	12317	Nut Castellated M24	1
10	11616	Rotator	1
11	49921	Ram Mount Frame WA Stage 2	1
12	50770	Ram Assembly	1
13	02475	Bolt Set M6 x 16	2
14	03457	Pin Roll M006 X 040	4
15	12624	Pin Roll M006 X 010	2
16	01812	Seal Bonded	2
17	01677	Plug	2
18	03428	Pin Split M005 X 050	1
19	07488	Bolt Hex M12 x 150	1
20	12517	Nut M12 Nyloc Thin	1

50770 – Ram Assembly



Item	Part Number	Description	Quantity
1	49723	Crane Pole Grab Ram	1
2	11956	Fitting Banjo Nut Olive	1
3	05601	Fitting Banjo Bolt	2
4	01812	Seal Bonded	6
5	02735	Valve	1
6	04220	Adaptor MM Com Stud	2
7	12698	Elbow Adjustable Swivel	2
8	11944	Fitting Banjo Tube	1
9	50771	Lift Ram Pipe	1
10	50773	Valve Spacer	2
11	02350	Washer M6 (Form C)	2
12	02515	Washer Spring M6	2
13	02347	Bolt Hex M6 x 60	2

50821 – Mount Frame Hose Kit



Item	Part Number	Description	Quantity
1	50822	Mount Frame Hose 1	1
2	50823	Mount Frame Hose 2	1
3	50824	Mount Frame Hose 3	1
4	50826	Mount Frame Hose 4	1
5	50827	Mount Frame Hose 5	1
6	50828	Mount Frame Hose 6	1
7	50829	Mount Frame Hose 7	1
8	50830	Mount Frame Hose 8	1
9	50831	Mount Frame Hose 9	1
10	50832	Mount Frame Hose 10	1

RISK ASSESSMENT – CRANE MOUNTED POLE GRAB

Section 1: Assessment Information

Assessment Date	07/03/2022
Activity / Item / Area	Crane Mounted Pole Grab
Person at Risk	Operator/User
Total Number of People at Risk	1+
Responsible Person	Crane Operative, Installation Operative
Assessor	Adam Sandey

Section 2: Likelihood/Severity of Injury

	Significant Risks	Likelihood	Severity	Residual Risk
1.	Injury caused by crushing	2	4	8
2.	Manual Handling	1	2	2
3.	Injury caused by rotation	2	4	8
4.	Injury caused by lifting	3	4	12
5.	Striking Utilities	2	5	10
6.	Falling Objects	3	4	12

		Severity				
		Minor	Serious	Major	Fatality	Multiple Fatalities
Likelihood		1	2	3	4	5
Rare	1	1	2	3	4	5
Unlikely	2	2	4	6	8	10
Moderate	3	3	6	9	12	15
Likely	4	4	8	12	16	20
Certain	5	5	10	15	20	25

Low Risk	Moderate Risk	Significant Risk	High Risk
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Likelihood X Severity = Residual Risk

Section 3: Control Measures

1. Appropriate PPE to be worn including Hard Hat, Eye Glasses, Gloves and High Visibility Clothing.
2. Crane operative to keep a clear line of sight with Crane Mounted Pole Grab at all points.
3. Hands will be kept away from connecting parts. Connecting parts such as pins will be maintained in good order. Safety clips and other appropriate fittings will be fitted at all times.
4. Operators will ensure that all unauthorised persons are kept away from the work area, by bounding off the area if practicable. Cranes to be operated in no such way as to “swing” the pole if applicable and any other potential hazardous process.
5. All fittings to be kept in good working orders, checked for tightness and PPE will be worn when fitting, maintaining or repairing. Any faults will be reported and a record kept.
6. All users to have appropriate training to warn of potential hazards and on maintenance and how to use the equipment in a safe and effective behaviour.
7. All users to be trained in Manual Handling due to the weight of components.
8. Installation Operatives will familiarise themselves with the layout of the work area, will avoid working in poor or incomplete excavations and report any hazardous ground conditions to the Site Manager
9. All operators to be trained in machine use and safety prior to operation.
10. All hand tools will be kept in good order and only used for their design purpose. Faulty/broken/worn items will be replaced.
11. Operators are to be in possession of, have read and understood the machine and operation instruction manual.
12. The customer (or their appointed agent) is to have identified and marked out all known services within the vicinity of the work area. Operators will not carry out any works until the locations of any known services are made clear
13. Crane Mounted Pole Grab is regularly inspected, maintained and serviced in accordance with manufacturer instructions.

Further Action Required

NO FURTHER ACTION REQUIRED

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