



**SPARTAN
EQUIPMENT®**

**Barrel Handler
Tree Hand
Pole Claw
Rotating Forklift Base
Speed Bagger**



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To the Owner/Operator: Do not use or operate this machine until this manual has been read and understood. If you require additional information, contact your Dealer or Spartan Equipment, Inc.

Foreword

Operation and Maintenance Manuals are written to give the owner/operator instructions on the safe operation and maintenance of the product. For your safety and the safety of others, you must not operate, service, inspect or otherwise handle this equipment before you have reviewed and understood the Operation and Maintenance Manual(s) pertaining to the Spartan Equipment and the prime mover (skid steer loader) manufacturer.

Throughout this manual reference may be made to the left hand (LH) or right hand (RH) side. These terms are used as viewed from the operator's seat facing front. The left hand and right hand side will be the same as your left hand and right hand.

In order to get the optimum performance and efficiency that has been designed into Spartan Equipment, read this manual thoroughly before setting-up operating, or performing maintenance procedures on the machine.

It is the responsibility of the user to read the operators manual and comply with the safety instructions, operations instructions and maintenance guidelines set forth in this manual.

The user is responsible for inspecting the machine daily and for having parts repaired or replaced when continued use of the machine causes damage, excessive wear to other parts or makes the machine unsafe for continued operation.

The signal words **CAUTION**, **WARNING** or **DANGER** are used to indicate degree of hazards and to warn against unsafe practices that may cause personal injury and are used with appropriate safety instructions. These signal words are not to be ignored; your safety is involved.

The word **NOTE** is used to convey information that is out of context with the manual text: special information such as specifications, techniques, reference information and other information of a supplementary nature.

The word **IMPORTANT**, is used in the text when immediate damage will occur to the machine due to improper technique or operation. **IMPORTANT** will apply to the same information specified by NOTE, only of an immediate and urgent nature.

Spartan Equipment, Inc. cannot anticipate every possible circumstance that might involve potential hazard. The safety messages found in this manual and on the machine are therefore not all inclusive, if an operating procedure, tool device, maintenance or work method not specifically recommended is used, you must satisfy yourself that it is safe for you and others. You must also ensure that the machine will not be damaged or made unsafe by the procedures you choose.

Safety Instructions

SAFETY IS THE OPERATOR'S RESPONSIBILITY



Always read and understand the Operation and Maintenance Manual for this attachment. These attachments are designed to give maximum safety; but no machine design can prevent operator error or carelessness.

Always read, understand and follow the loader manufacturer's Operation and Maintenance Manual for all the loader functions and safety information. Always read and follow the loader manufacturer's Operation and Maintenance Manual instructions for the correct procedure for raising and lowering the operations cab and/or the loader lift arms. Always install an approved lift arm support device when the lift arms are in the raised position for service or maintenance. Do not exceed the loader manufacturer's rated operating capacity (ROC).

Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Know the location of any underground or overhead lines. Call local utilities for locating underground lines or the TOLL FREE phone number listed below.

Check that the attachment mount levers are in the locked position and the wedges are fully engaged into the holes of the attachment.

When learning to operate the attachment, do it at a slow rate in an area clear of bystanders.

DO NOT permit personnel to be in the work area when operating the loader and attachment.

Before leaving the loader operator's seat, always lower the lift arms fully, engage the brake and stop the engine.

DO NOT make any adjustments or repairs on the loader or the attachment while the loader engine is running.



! WARNING

The operator must have instructions before running the loader and the attachment.

Untrained operators can cause injury or death.

IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the loader and/or the attachment.

! WARNING

Warnings on the loader and attachment and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

Call Before You Dig 1-888-258-0808

When you call, you will be directed to a location in your state/city for information about buried lines (internet, telephone, cable TV, water, sewer, gas, etc.)

Inspection Schedule

Inspect the attachment according to the table below.

Inspection Type	Description	Frequency	Inspection Date	Inspected by
Welds	Check all welds for cracks to insure that the integrity of the attachment isn't compromised.	Upon Arrival then Weekly		
Shaft	Check for wear in the shaft and check for cracks. Also check the stop for breakage.	Upon Arrival then Weekly		
Grease Zerks	Add grease to grease zerks to prevent moving parts from locking up.	Upon Arrival then Weekly		
Hydraulic Lines	Check for oil leaking from the lines. A loose connection could result in the loss of hydraulic pressure.	Upon Arrival then Weekly		
Rubber Bumpers	Check for wear in the bumpers in the jaws. Replace if worn.	Upon Arrival then Weekly		
Decals	Check for worn or missing decals. Replace the decals as needed.	Upon Arrival then Weekly		
Nuts and Bolts	Check the tightness of each nut and bolt and make sure it has the proper torque.	Upon Arrival then Weekly		
Chain	If equipped, check the tightness of the chain and lubricate. Not all attachments have a chain.	After first two hours of operation check chain. Then check daily. Lube and tighten chain weekly.		
Electrical	Check the electrical to insure there are no bare or loose wires coming out of the attachment.	Upon Arrival then Weekly		

LIMITED WARRANTY

Spartan Equipment products are warranted to be free of defects in materials and workmanship under normal use and service, for a period of one year from the date of purchase, when operated and maintained in accordance with the operating and maintenance instructions supplied with the unit. Warranty is limited to the repair of the product and/or replacement of parts.

This warranty is extended only to the original purchaser and is not transferable.

Repairs must be done by an authorized dealer. Products will be returned to the dealer at the customer's expense. Include the original purchase receipt with any claim.

This warranty does not cover the following:

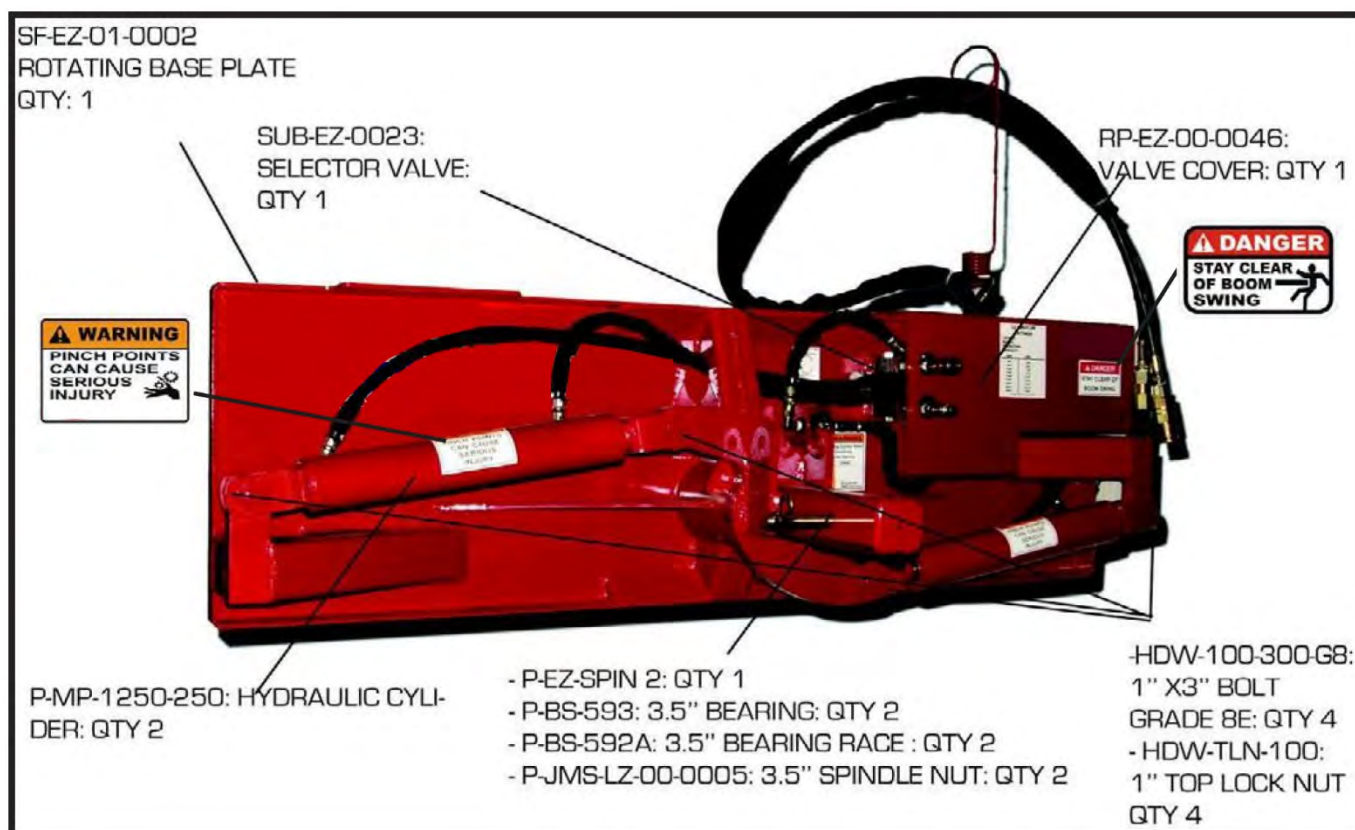
- 1) Normal maintenance or adjustments
- 2) Normal replacement of wearable and service parts
- 3) Consequential damage, indirect damage, or loss of profits
- 4) Damages resulting from:
 - Misuse, negligence, accident, theft or fire
 - Use of improper or insufficient fuel, fluids or lubricants
 - Use of parts or aftermarket accessories other than genuine Spartan Equipment parts
 - Modifications, alteration, tampering or improper repair performed by parties other than an authorized dealer
 - Any device or accessories installed by parties other than an authorized dealer
- 5) Engines. Engines are covered by the manufacturer of the engine for the warranty period they specify. For the details of your engine warranty, see your engine owner's manual. Information about engine warranty and service is also available in the FAQ section at www.spartanequipment.com

Maintenance / Service

Serial Number Location

Always use the serial number of (Item 1)
[A] when ordering parts.

Parts Identification



HYK-001D: HYDRAULIC HOSES & FITTINGS KIT: QTY 1

Hydraulic Fittings

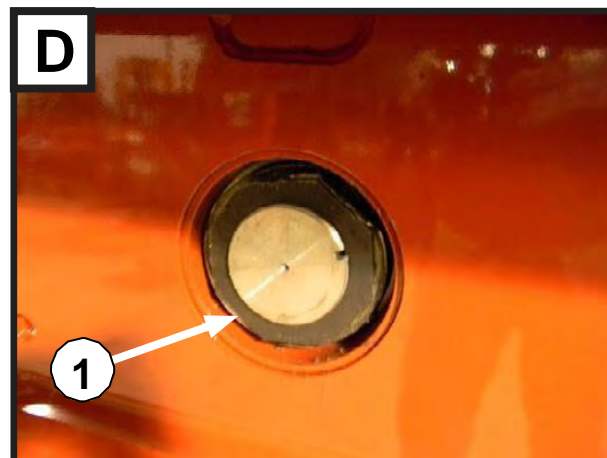
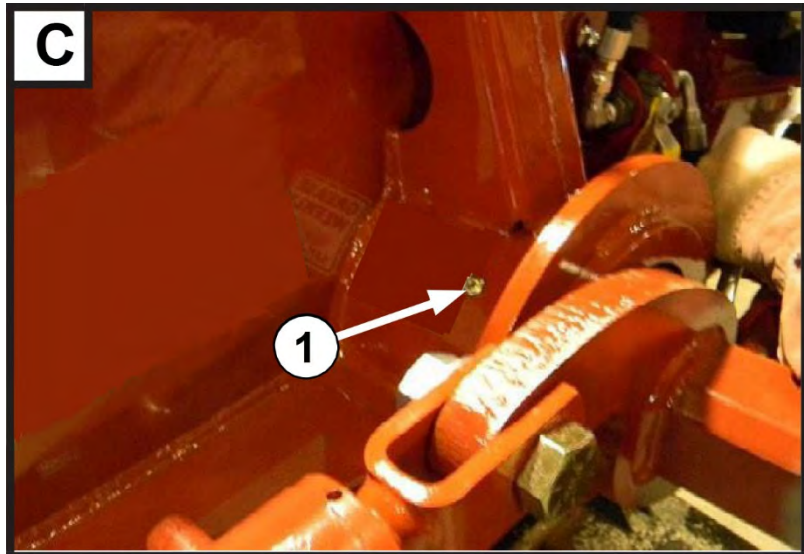
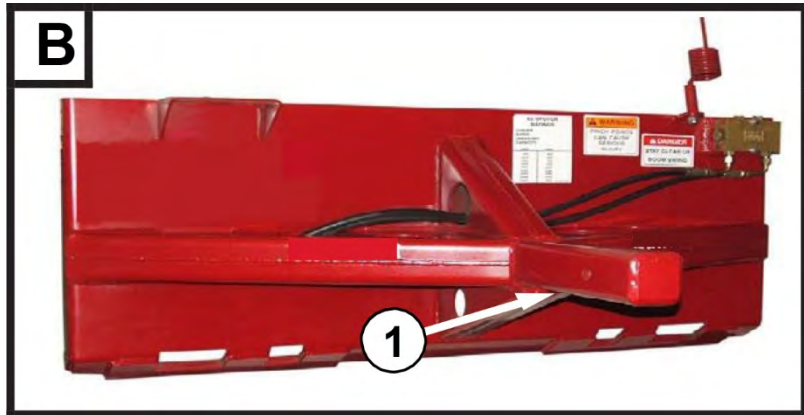
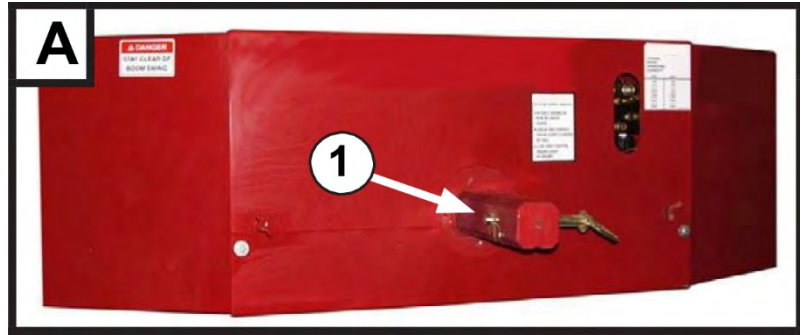
- 6MJ-6MB-90: L FITTING: QTY 3
- 6MJ-4MP: STRAIGHT FITTING: QTY 3
- 6MJ-6MB-45: 45 DEG FITTING: QTY 1
- 6MJ-4MP-90: L FITTING: QTY 1
- 4FP-4FP-4FP: T FITTING: QTY 2
- 4MP-4MP: STRAIGHT FITTING: QTY 2
- 6MJ-6MB: STRAIGHT FITTING: QTY 2
- 6MJ-6MJ-6MB: T FITTING: QTY 2
- 6MB-4MP: STRAIGHT FITTING: QTY 2
- 12MB-8FP: STRAIGHT FITTING: QTY 2
- P-FNW- 73A-101-01: BALL VALVE: QTY 1
- P-ST-805204005: FLUSH FACE COUPLER MALE QTY 1
- P-ST-801304010: FLUSH FACE COUPLER FEMALE QTY 1
- P-ST-800801000: FLUSH FACE COUPLER FEMALE QTY 1
- P-ST-800801001: FLUSH FACE COUPLER MALE QTY 1

Hydraulic Hoses

- 43-4D6-6FJX-6FJX: QTY 1
- 33-4D6-6FJX-6FJX: QTY 1
- 22-4D6-6FJX-6FJX: QTY 1
- 31-4D6-6FJX-6FJX: QTY 1
- 13-4D6-6FJX-6FJX: QTY 1
- 14-4D6-6FJX-6FJX90: QTY 1
- 80-4D6-8MP-6FJX90: QTY 2

Description

The Spartan Equipment is available with a rotating shaft (Item 1) [A] or a fixed (non-rotating) shaft (Item 1) [B]. The rotating shaft allows the attachment being used on the loader to be rotated to the left, as viewed from the operator's seat.



RATING			
LOADER RATED OPERATING CAPACITY		RATINGS	
LBS	Kg	LBS	Kg
950	432	380	173
1200	545	625	284
1300	591	725	330
1500	682	910	414
1700	773	1230	559
2100	955	1340	609
2300	1045	1440	655
2500	1136	1510	689
3000	1364	1680	764

RATED AT 36in / 910mm FROM THE BASE PLATE

Lubrication

Lubricate the grease fitting (Item 1) [C] every 50 hours of operation. Use a high quality Lithium based grease.

GREASE WEEKLY

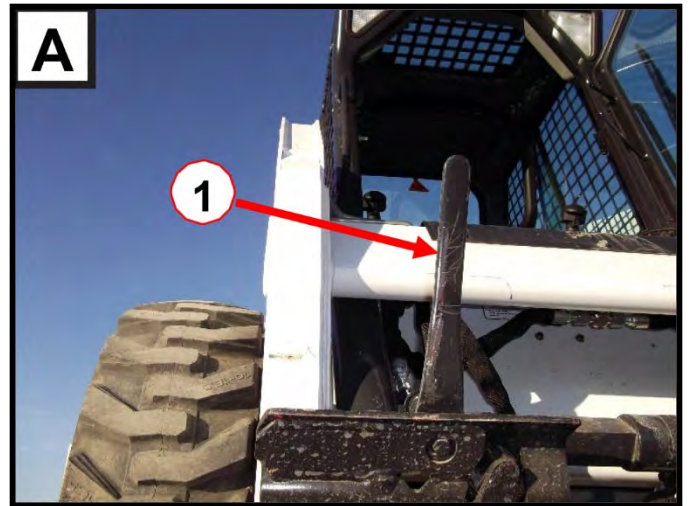
Check to make sure the main shaft jam nut (Item 1) [D] is secure.

Assembly

Installing the Spartan Equipment

Refer to the loader operation and maintenance manual as needed for details of procedures outlined below.

Pull the attachment mount lock levers (Item 1) [A] all the way up.



Enter and start the loader. (Always follow all loader Operators Manual Instructions for correct operation of the loader).

Tilt the attachment mount on the loader forward. Drive forward until the top edge of the attachment mount plate is under the top flange of the Spartan [B] while lining up the pins with the base plate lock holes at bottom of base plate.



Do not hit attachment mount lock levers on the Spartan Equipment frame.

Tilt the attachment mount plate backward until the Spartan Equipment is slightly off the ground. [C]

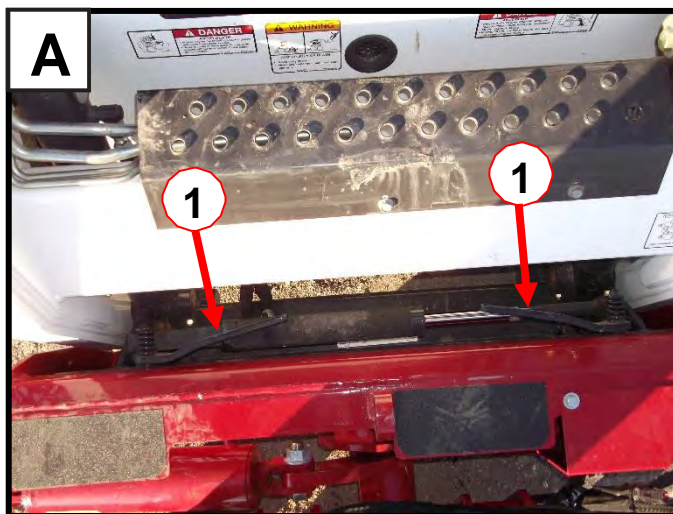


Installing the Spartan Equipment (Continued)

Stop the engine and exit the loader if the attachment is a manual lock.

Move the attachment mount lock levers (Item 1) [A] to the locked position.

If the locking mechanism is hydraulic, activate the hydraulic locks in the machine.

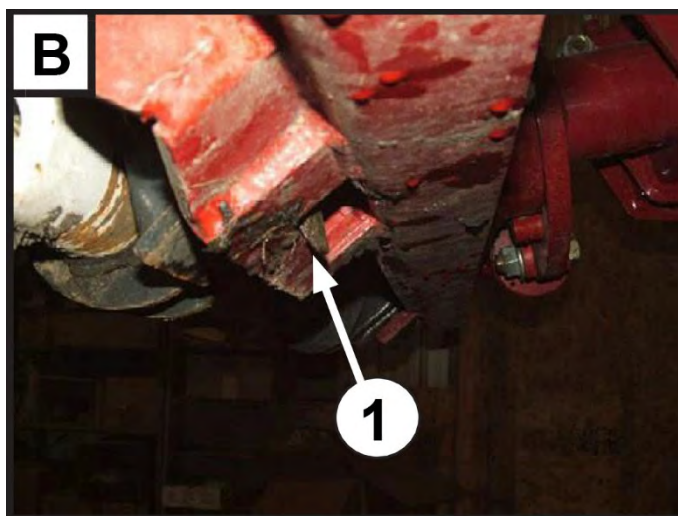


⚠ WARNING

AVOID INJURY OR DEATH

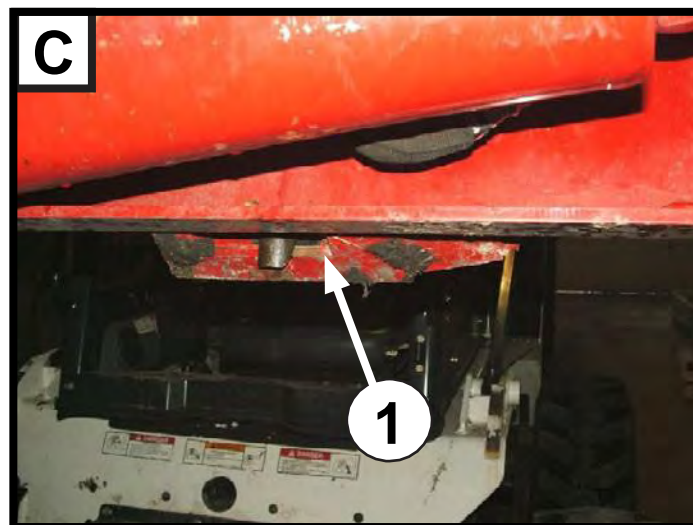
Never exit a loader with the engine running, or with the lift arms in the raised position without an approved lift arm support device installed.

Visually check that the wedges (Item 1) [B] extend through the holes (Item 1) [C] in the mounting frame of the Spartan Equipment fastening the Spartan Equipment to the attachment mount plate of the loader.



⚠ WARNING

The lock levers must be in the full locked position with the wedges extending through the Spartan Equipment frame. If the lock levers are not in the locked position, the attachment could come off the mount.



Installing the Spartan Equipment (Continued)

Insert spring hose into the spring hose holder (Item 1) [A]. Run hydraulic lines and electrical (Item 2) [A] through spring hose. Make a loop by going through the spring hose again. Manually adjust spring hose so hoses can flow freely in and out of spring hose as machine rolls forward and backward. Tighten set screw on spring hose holder (Item 1) [A].

Note: Quick couplers are supplied with the Spartan Equipment. To remove, reverse operation.

Wire Harness Installation

Refer to the loader operation and maintenance manual as needed for details of procedures outlined below.

IMPORTANT

Consult the loader manufacturers operation and maintenance manual when disconnecting or connecting the loader battery, or when raising or lowering the loader cab.

Disconnect the loader battery.

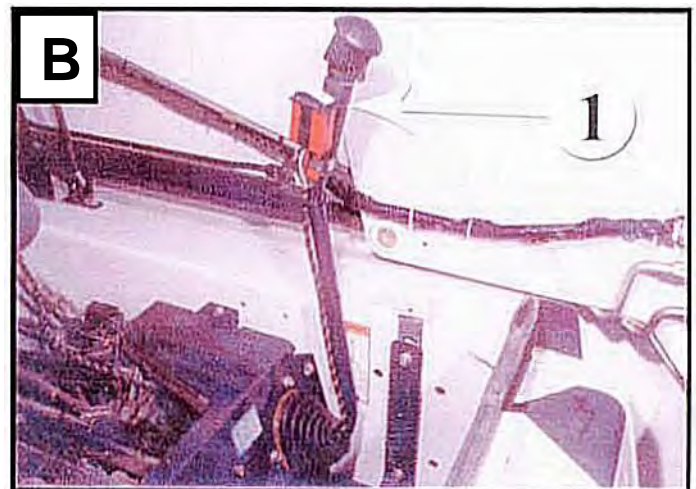
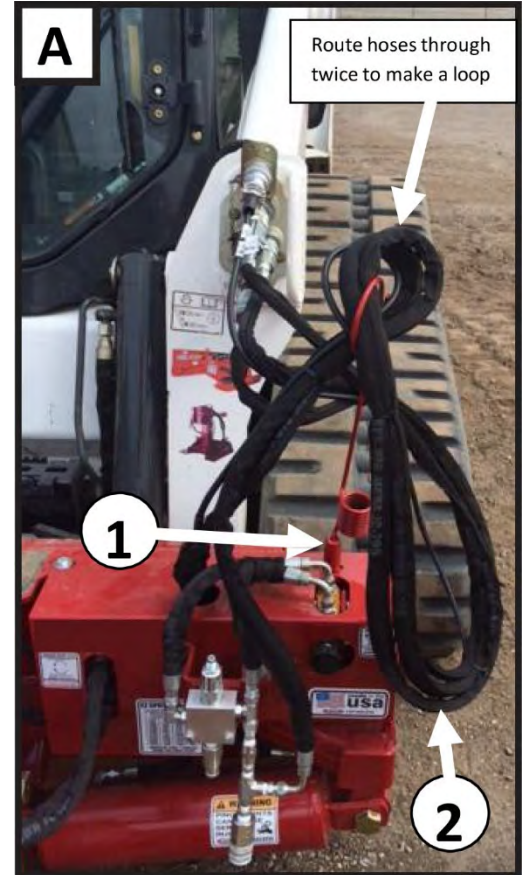
! WARNING

Always wear eye protection and rubber gloves when working on or around batteries.

Raise the operator cab.

Using the hose clamp, clamp the switch (Item 1) [B] to the inside of the left steer lever.

Route the wire harness along the steer lever. Secure the wire harness to the steer lever with cable ties.



Wire Harness Installation (Continued)

Route the harness through the loader service area, to the engine area. Secure the wire harness (Item 1) [C] with cable ties, away from hot or moving components.

WARNING

AVOID INJURY OR DEATH

Always read and follow the loader operation and maintenance manual instructions for the correct procedure to raise and lower the operator cab and/or loader lift arms. Always install an approved lift arm support device when the lift arms are left in the raised position for service or maintenance.

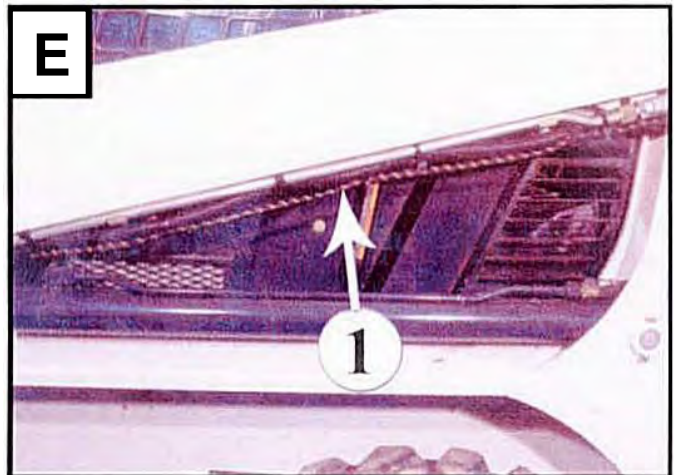
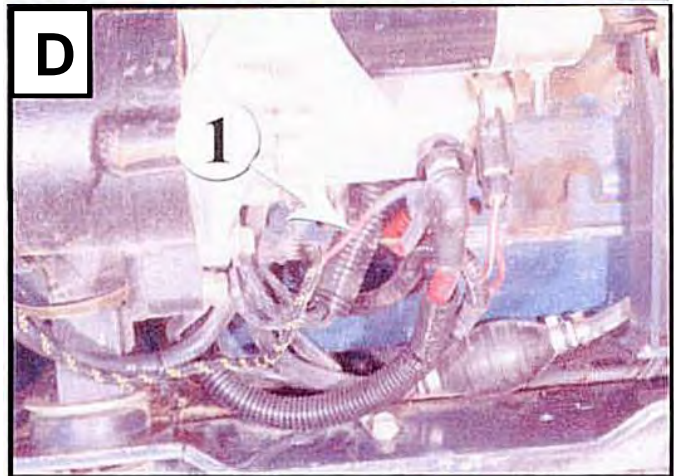
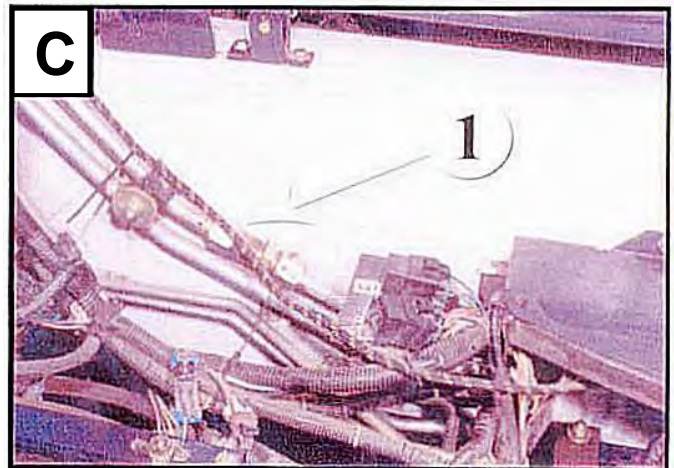
Install the orange wire (Item 1) [D] on the positive battery terminal or on the positive at the starter.

Route the wire harness (Item 1) [E] through the loader frame, and along the left loader lift arm, following existing tube lines.

Lower and fasten the operator cab.

Secure the wire harness (Item 1) [F] to the existing tube lines using cable ties.

Reconnect the loader battery.



WIRE HARNESS INSTALLATION (Continued)

14-Pin

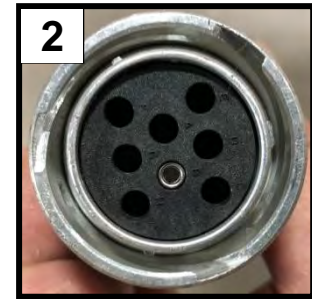
Spartan Equipment provides two electric connector options; a 14-pin electric connector **(1)** and an 8-pin electric connector **(2)** a universal wiring harness is also provided from Spartan Equipment if the machine is not equipped with an electric plug.

NOTE: The black wire is not installed in the wiring harness.

In the event where your machine's electric pins do not correspond with the location of the Spartan Equipment electric plug pin position, it may become necessary to switch the position of the white wire within the Spartan Equipment electric plug. This will become evident if you attempt to use your activator switch inside the machine to activate the clamp mechanism of the attachment and nothing happens. Below are instructions on how to switch the white wire in the Spartan Equipment plug to allow for proper usage.

Locate the electric plug **[A]** on the front of your machine.

Once you have located your machine's electric plug you will need to use an electric tester to determine which pin is used by the machine **[B]**. This portion of the process is a two-person job. While one person is outside of the machine testing each pin, another person must be inside the machine to activate the joystick switch **[C]** while the tester is on each pin. For this step, the machine's key must be in the "ON" position but the machine doesn't need to actually be running. This step may need to be repeated until the "momentary hot pin" is determined*.



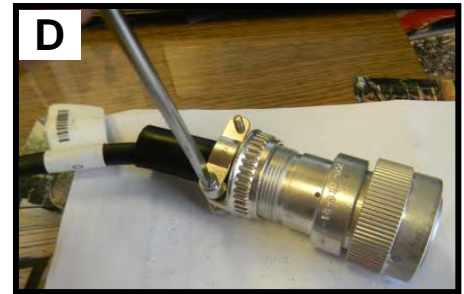
NOTE: The joystick shown **[C]** is only one example of a possible joystick; there are many other configurations which may have more buttons. It is imperative that you determine which button controls momentary power before performing this step.

* "Momentary hot pin" means when you press and hold the button, it sends power to that pin. When you release the button, no power is sent to that pin.

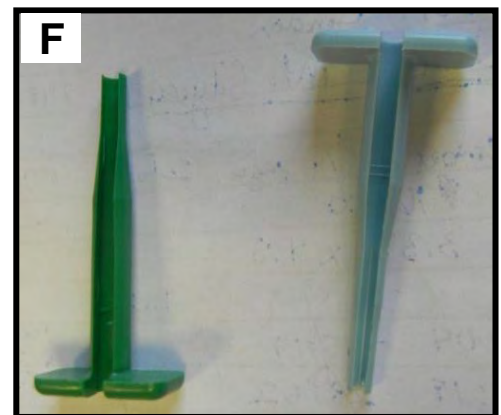
Clamping function is accomplished by activating your momentary power and hydraulics. Both must be done at the same time to work.

Once you have determined the “momentary hot pin” on your machine’s electric plug it is time to reconfigure the wires within the Spartan Equipment electric plug.

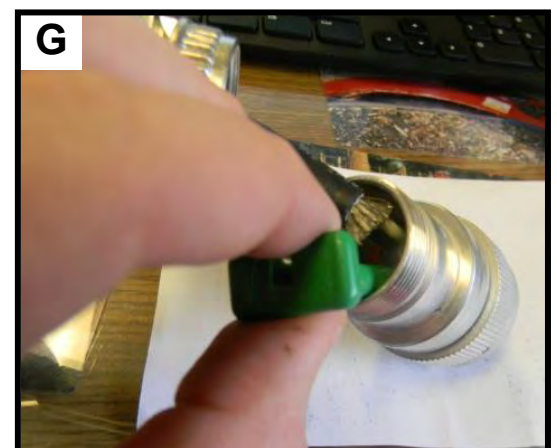
Release the clamp at the base of the wiring harness by loosening two flathead screws securing the clamp to the plug **[D]**. Unscrew the plug from the clamp by turning in counter-clockwise to expose the inside of the plug **[E]**.



Locate the plastic ‘T’ shaped tool that came with your electric plug; Green Tool for the 8-pin connector, Blue Tool for the 14-pin connector **[F]**.



With the inside of the plug exposed, slide the open end of the plastic tool along the white wire to where it connects to the plug **[G]**. Once you reach the base of the plug, push against the base. This will release the wire. Carefully pull the wire out of the plug. Replace the wire into the proper hole by threading the wire through the plastic tool and pressing the tip of the tool into the hole. When the tip of the tool is in the plug-hole remove the wire from the tool and the wire will be held in place at the base of the plug.



7-Pin

If your machine has the 7-pin connector, you will need to add an adapter [A] between the machine and the electrical harness [B].

Note: If your machine has the 14-pin, only use the 14-pin connector. Do not use the 7-pin combination.

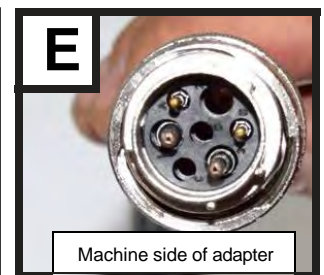
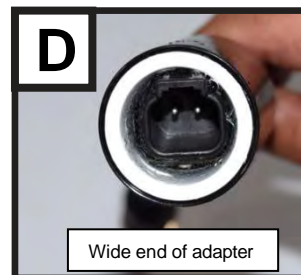
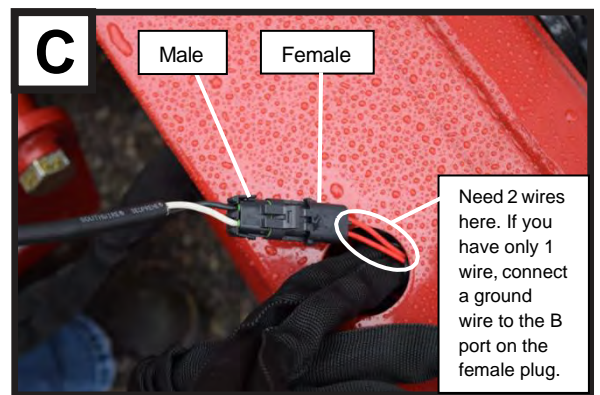
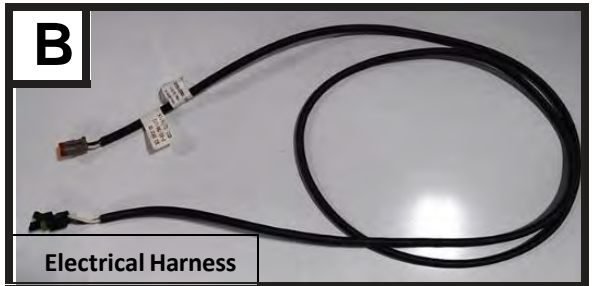
Do the following to install the adapter for a machine that has the 7-pin connector:

1. First, plug the male end of the intermediate cord into the female electrical connector on the attachment [C].

Note: If there is only 1 red wire coming out of the female connector on the attachment, you will have to connect a ground wire to the B port on the female connector coming out from the attachment.

2. Next, plug the female deutsch connector of the long cord into the wide end of the adapter. [D] shows a close up of the connector. [E] shows the close up of the 7-pin machine side of the connector.

3. Plug the 7-pin adapter into the skid steer [F].

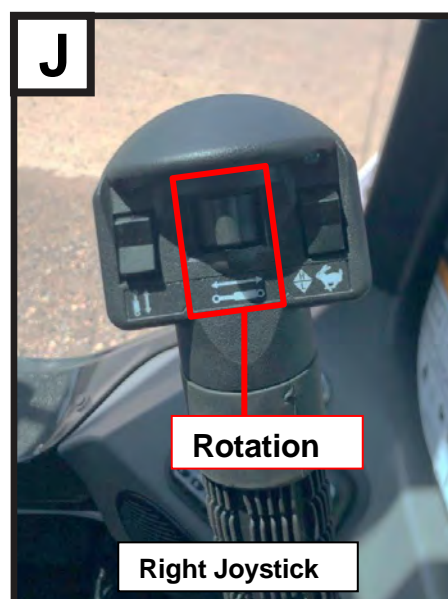
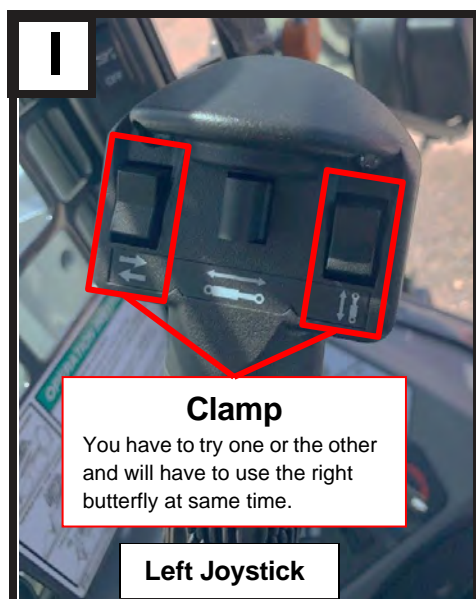
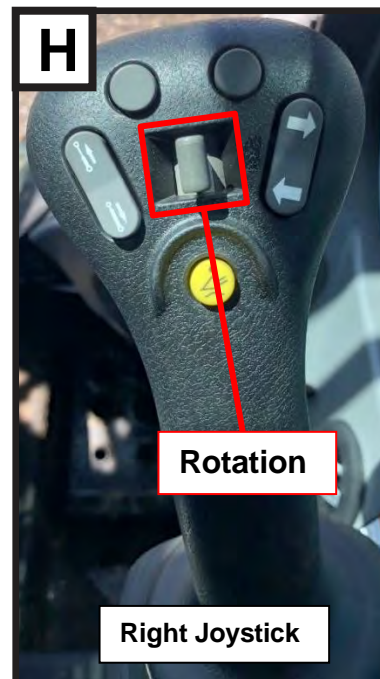
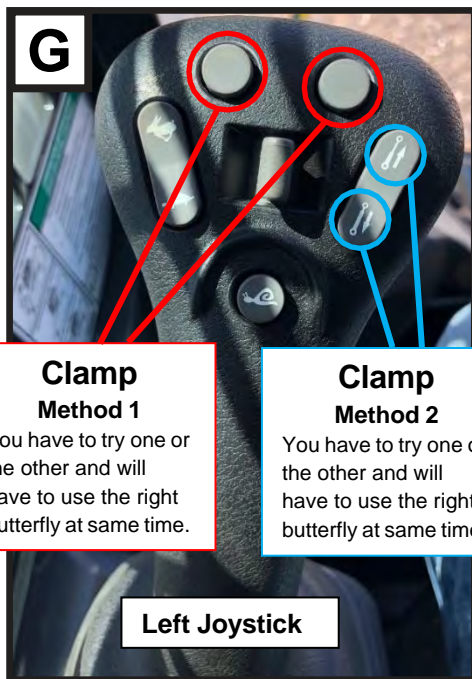


Below are pictures of three different styles of left and right joysticks.

To operate the attachment, the right butterfly switch controls the rotation. The left joystick controls the clamp.

On some machines to operate the clamp, press and hold either the left or right button on the left joystick while at the same time using the butterfly switch on the right joystick. On other machines you need to press and hold either the up or down button on the left joystick while at the same time using the butterfly switch on the right joystick.

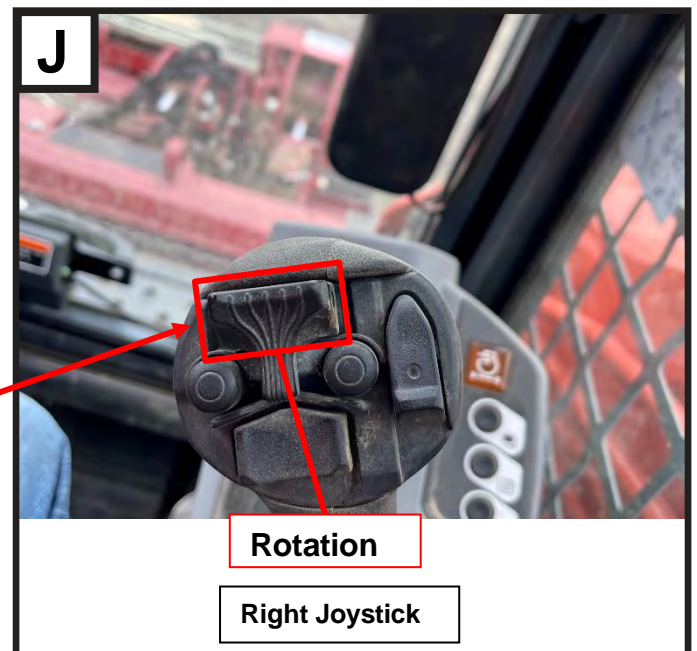
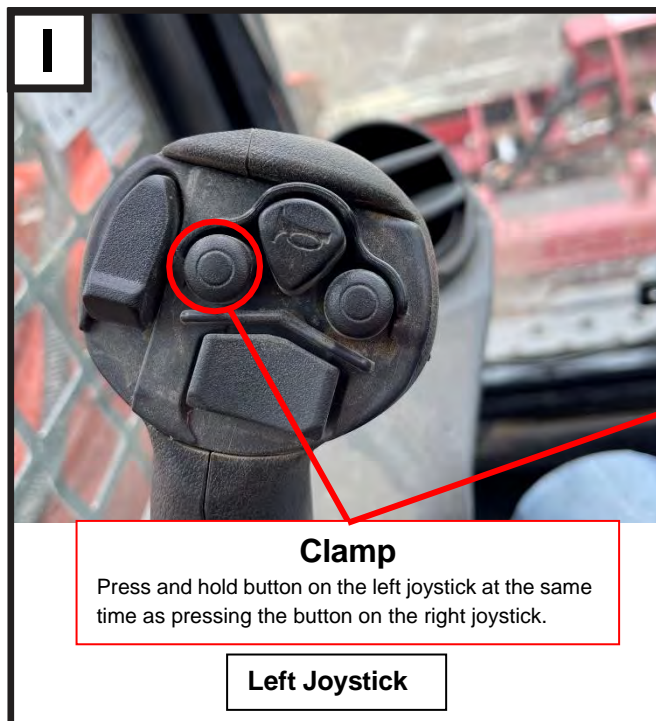
Caution: Some button/switch functions will keep power fully activated when released. You will have to press the button/switch again to turn power off. The jaws might open unintentionally if you do not do this!



Clamping function is accomplished by activating your momentary power and hydraulics. Both must be done at the same time to work.

The joysticks shown below are from a Kubota skid steer. For the rotation, the large button on the right joystick controls the rotation. For the clamp, you must use the left and right joystick. Press and hold the round button to the left of the horn button on the left joystick while at the same time pressing the button on the right joystick.

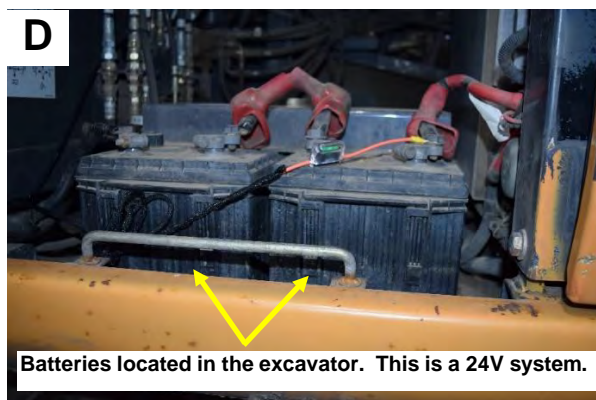
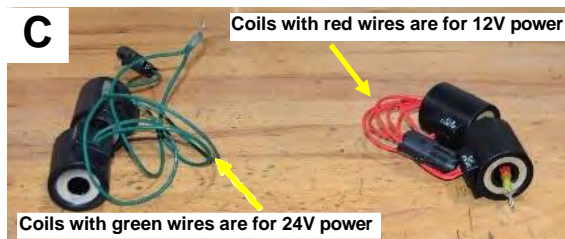
When wiring the cannon plug, the black wire doesn't go in any pin position. The white wire goes in the "C" position.



Clamping function is accomplished by activating your momentary power and hydraulics. Both must be done at the same time to work.

Wire Harness Installation on an Excavator

The following is instructions on how to install the universal wire harness on an excavator to the Spartan Equipment attachment.



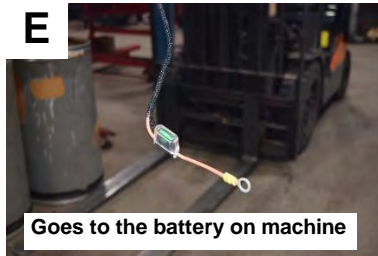
The first step for installing the universal wire harness is to determine if the attachment is a 12V or 24V system. This is done by checking the coils and the female weather pack connector coming out of the valve on the attachment.

Red wires coming out of the female weather pack connector indicate the attachment is setup for 12V power [A].

Green wires coming out of the female weather pack connector indicate the attachment is setup for 24V power [B].

The second step is determining if the machine is 12V or 24V. This is done by locating the power source on the machine [D]. If the voltage on the machine is different from the attachment, the coils on the attachment will have to be changed to match the voltage of the machine.

WIRE HARNESS INSTALLATION ON AN EXCAVATOR (continued)

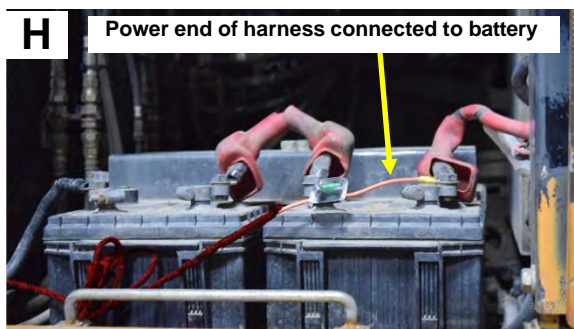


The third step is to install the wire harness. There are three ends to the universal wire harness:

The power end **[E]**

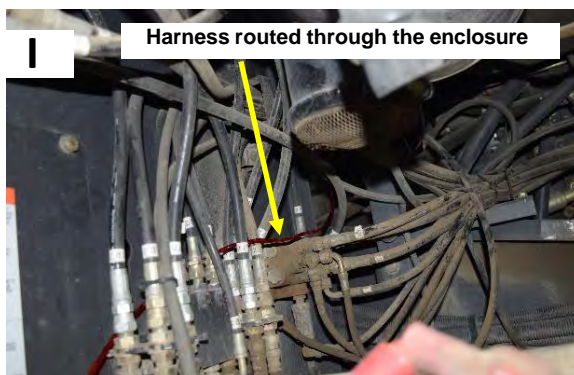
The attachment end **[F]**

The switch end **[G]**

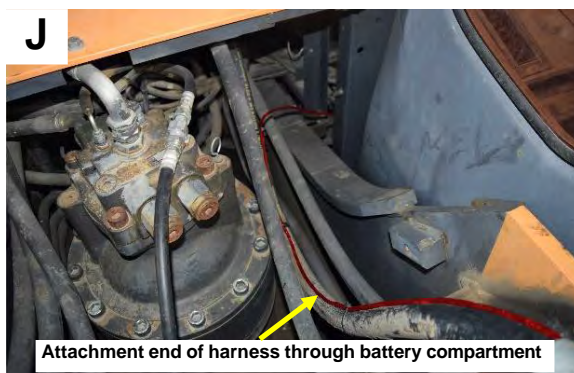


- a) Install the power end **[E]** of the harness first. Attach the connector to the positive end of the battery on the machine **[H]**.

*wire is not red. It is highlighted red to show contrast

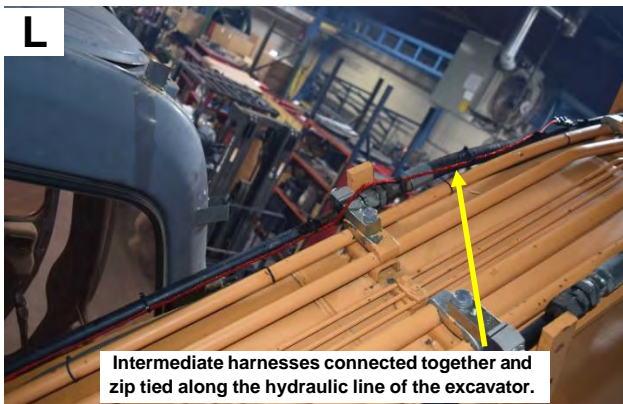


- b) Next work with the attachment end **[F]** of the harness. Fish the wire through the battery compartment up to the boom **[J]**. Use zip ties to attach the wire along the hydraulic line on the boom.



WIRE HARNESS INSTALLATION ON AN EXCAVATOR (continued)

Use intermediate harnesses along the way until you reach the attachment.



Note: One long wire can be used instead of several intermediate wires.



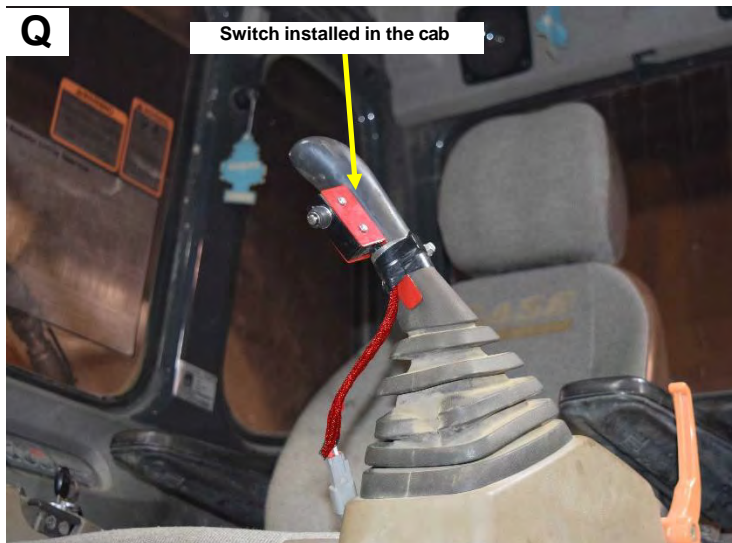
Connect the male weather pack connector on the harness to the female weather pack connector on the attachment [N].

Proceed to step (c).

WIRE HARNESS INSTALLATION ON AN EXCAVATOR (continued)



Note: For the hydraulics, a wet kit with 2-way hydraulics is needed at the end of the boom. The location may vary depending on the make and model of the machine **[P]**.

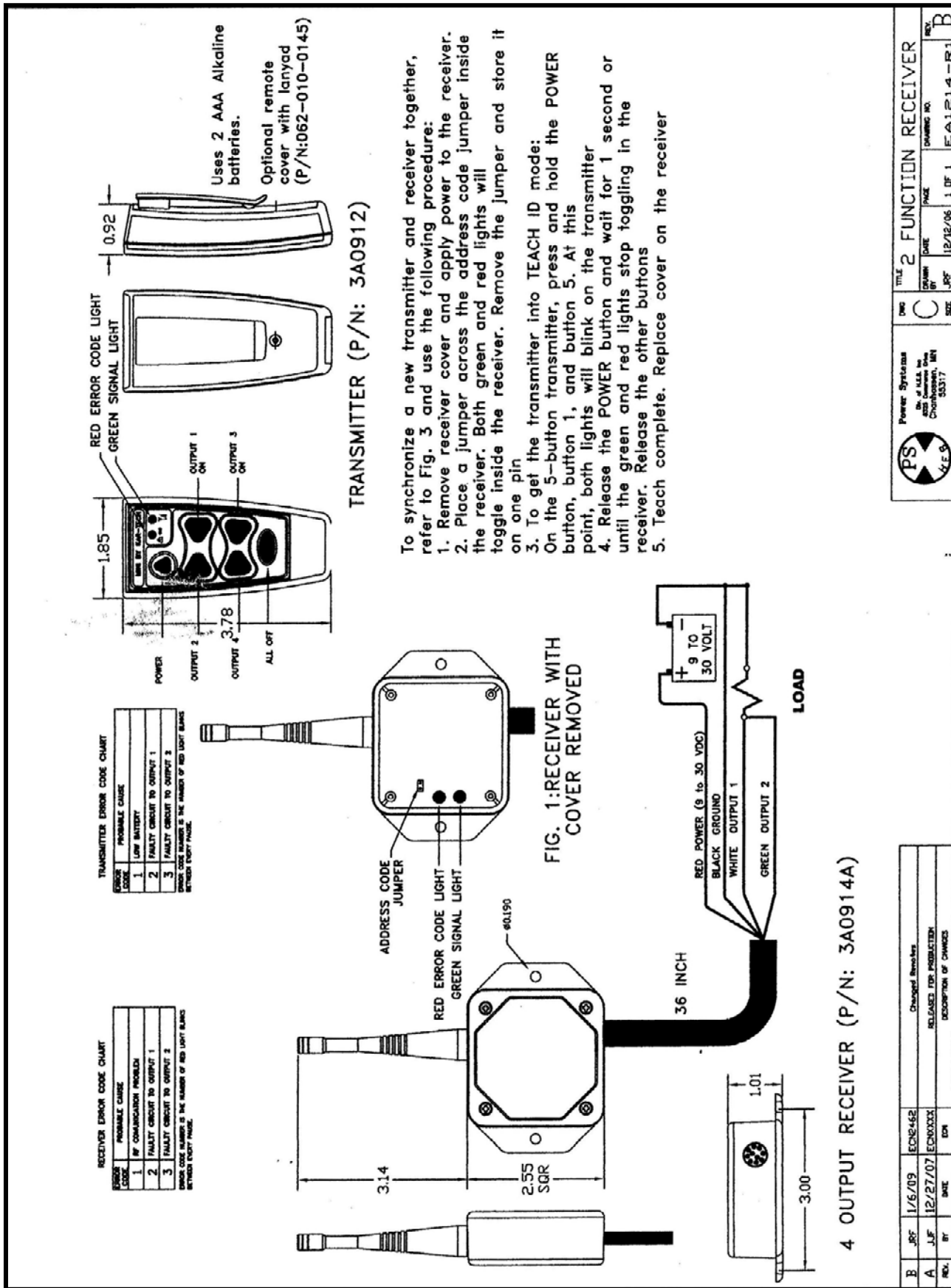


- c) Install the switch end **[G]** of the harness last. Go back to the battery compartment and fish the switch through the cab of the machine behind the seat and up to the joystick. Position it on the joystick in a place that is most convenient for the operator. Tape it or zip tie it in place **[Q]**. Zip tie the cord so it stays in place and out of the way where it won't get pinched.



Note: The switch quickly disconnects from the harness to make it easier to fish it through tight spaces **[R]**.

Transmitter Schematic with 5 Button Remote



PS
KFS

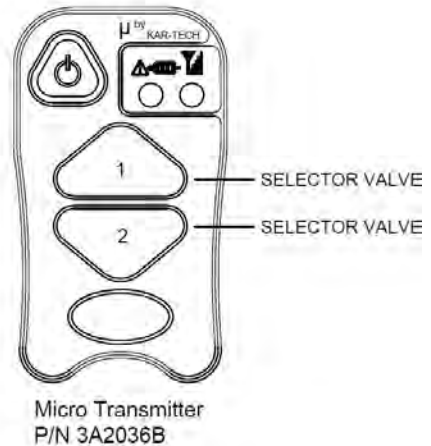
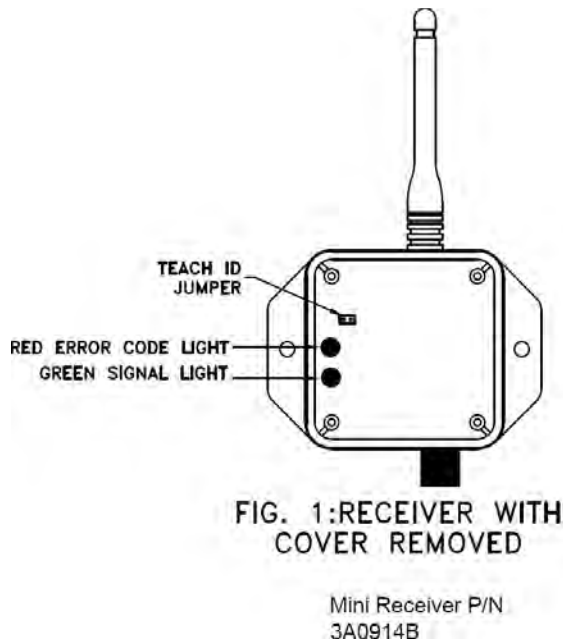
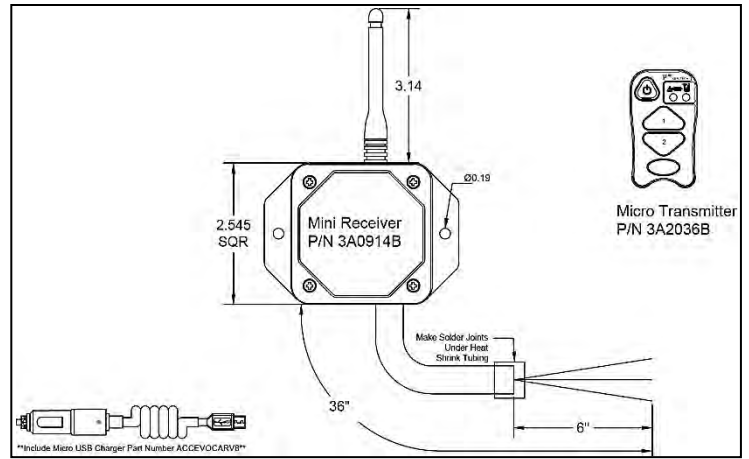
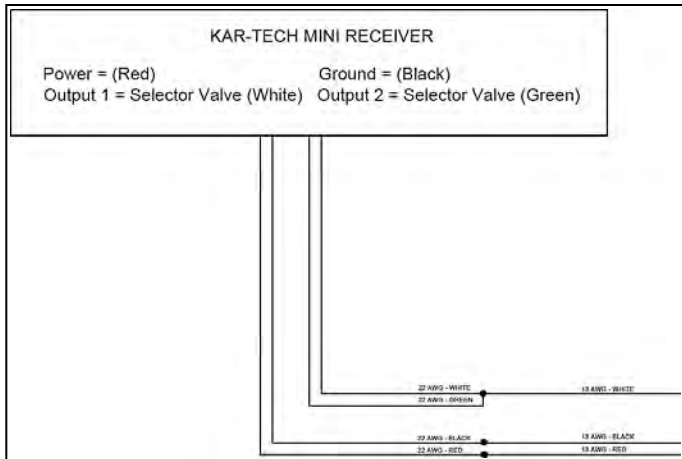
Power Systems
Div. of ILS by
Chattanooga, TN
55317

DWG. NO. C
DATE 12/12/06
BY LRF
PAGE 1 OF 1
REV. B

TITLE 2 FUNCTION RECEIVER
DRAWING NO. EA1214-R1

REV.	BY	DATE	EDN	DESCRIPTION OF CHANGES
B	JRF	1/6/09		Changed Brackets
A	J.F.	12/27/07		RELEASED FOR PRODUCTION

Transmitter Schematic with 2 Button Remote



PROGRAMMING:

To program a new transmitter and receiver, use the following procedure:

1. TEACH THE 2 BUTTON TRANSMITTER (3A2036B):

TEACH ID CODE:

To synchronize a new transmitter and receiver together, refer to Fig. 1 and use the following procedure:

1. Remove receiver cover
2. Apply power to the receiver
3. Place a jumper across the TEACH ID jumper inside the receiver. Both green and red LEDs will toggle inside the receiver. Remove the jumper and store it on one pin
4. To get the transmitter into TEACH ID mode, press and hold the POWER button until both lights turn on, continue holding for 10 seconds until transmitter's green and red LEDs toggles
5. Release the POWER button and wait for 1 second or until the green and red LEDs stop toggling in the receiver and green light starts blinking rapidly.
6. Replace the cover on the receiver

2. TEST THE UNIT:

To test a new transmitter and receiver together, use test wire harness and Kar-Tech Remote Test Box, and use the following procedure:

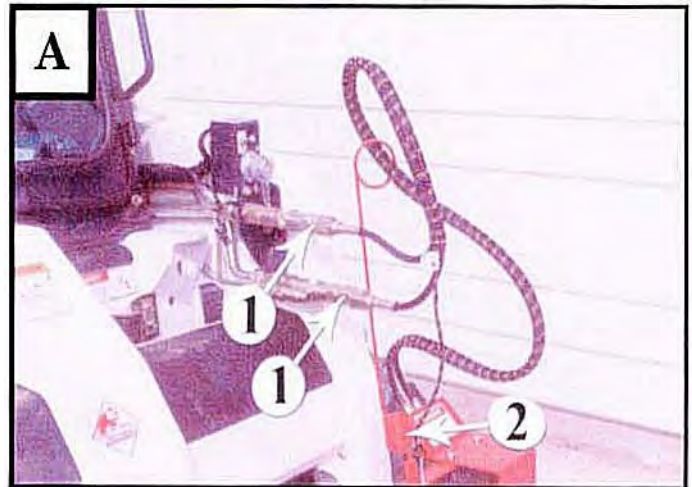
1. Connect receiver to Kar-Tech Remote Test Box
2. Press button 1, light 1 will come on. Release button 1, and light 1 will go off.
3. Press button 2, light 1 will come on. Release button 2, and light 1 will go off.

Clamping function is accomplished by activating your momentary power and hydraulics. Both must be done at the same time to work.

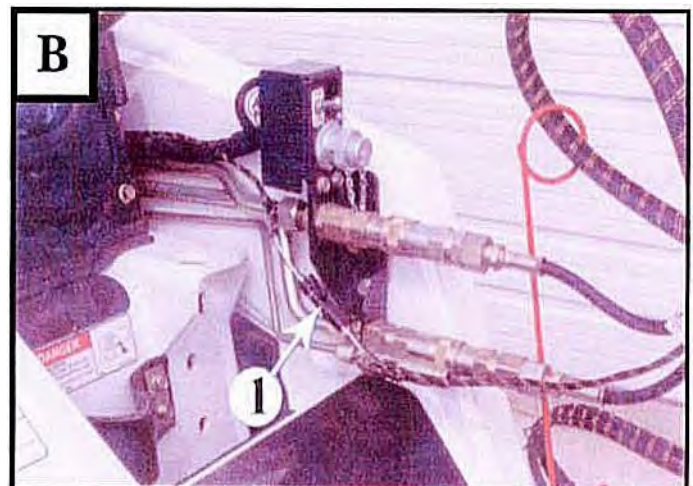
INSTALLING THE SPARTAN EQUIPMENT (Continued)

Connect the hydraulic hoses (Item 1) [A] to the loader quick couplers.

Adjust the hose guide (Item 2) [A] to prevent the hydraulic hoses and wire harness from contacting the loader tire.



Connect the wire harness (Item 1) [B] from the Spartan Equipment to the loader.



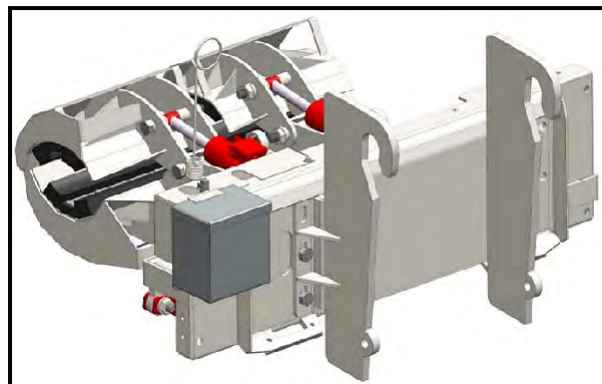
INSTALLING THE SPARTAN EQUIPMENT (Continued)

Bolt-on Mounting Brackets

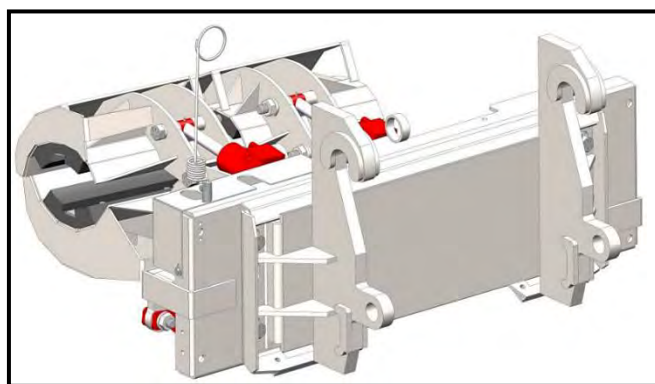
Spartan Equipment Attachments make it easy for you to turn virtually any machine into a hard working multi-tool. Even if your machine is not equipped with a universal skid steer quick tach' mounting system, it is possible to attach a Spartan Equipment attachment to your machine. Spartan Equipment can engineer machine specific bolt-on mounting brackets which allow you to attach a Spartan Equipment base to virtually any machine.

These brackets can be made for telehandlers, backhoes, wheel loaders, utility tractors and many other machine types.

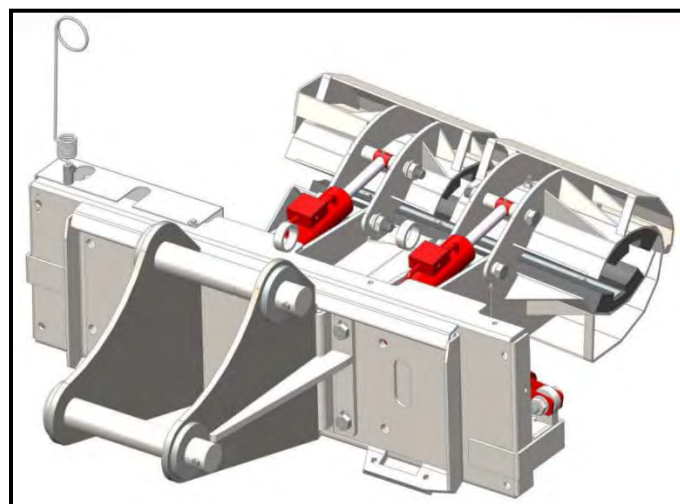
For more information about bolt-on mount options for your machine, please contact your dealer or Spartan Equipment Inc. directly.



Carelift ZB20044 Telehandler Mount with Battery Box



John Deere 444 Wheel Loader Mount



Caterpillar 325 Excavator Mount

Installing Attachments on the Interchangeable Tool Head System

The double pole claw is shown in the following procedure.

The installation and removal of other attachments available from Spartan Equipment are the same.

Slide the attachment (Item 1) **[A]** on the shaft.

Note: When installing the six-position dozer blade, rotate the attachment mount to the left so the retaining pins will be installed vertically. This will give the blade approximately 40 degrees of rotation to the left and right.

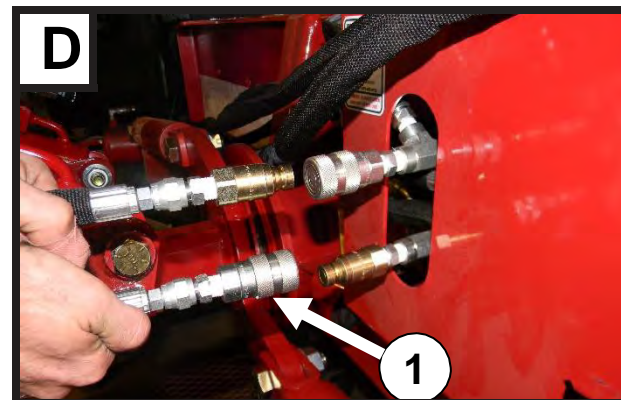
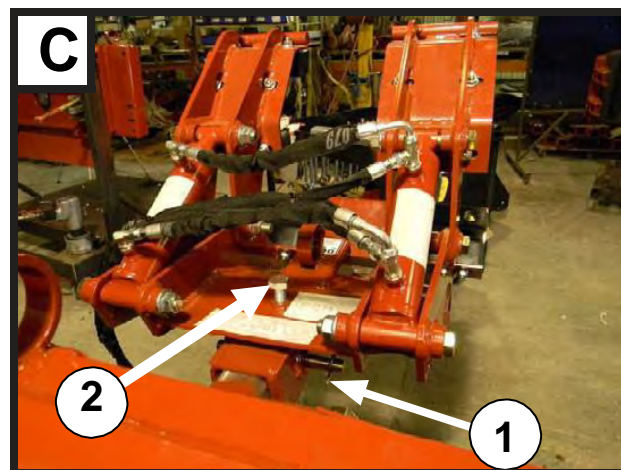
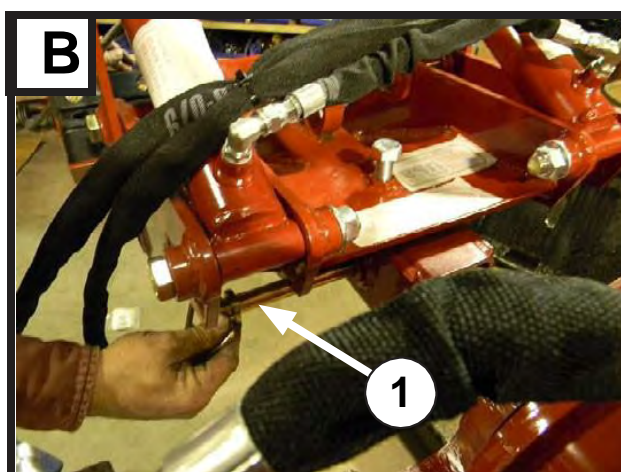
Install the retaining pins (Item 1) **[B]**.

Install the cotter pin (Item 1) **[C]**.

Tighten jam nut (Item 2) **[C]** against shaft.

Connect the ¼" hydraulic couplers to the base (Item 1) **[D]**.

Your attachment is now ready to use.



Removing Attachments off the Interchangeable Tool Head System

Relieve clamping pressure by turning the ball valve. **The ball valve is not on the stand-alone units, the chain base, or the fixed base.** If your attachment is equipped with a ball valve on the base, this allows you to relieve the double check valve that is in the clamp hydraulic circuit. For this to work properly you cannot have the cylinders on the tools fully extended or retracted. The cylinders must be slightly opened or closed.

Turn the yellow handle up to relieve the pressure [A].

Return the handle to the down position [B] to get your clamp hydraulic circuit back.

The tool will not work properly if the ball valve handle is up during operation and your two hydraulic couplers will not hook up if the ball valve handle is not up before disconnecting the couplers or if your cylinders on the tool are completely extended or retracted.



CLAMP RELIEF SYSTEM MUST NOT BE LEFT OPEN OR YOU WILL LOSE YOUR CLAMPING PRESSURE

Remove the cotter pin from previous page (Item 1) [C].

Remove the retaining pin from previous page (Item 1) [B].

Loosen jam nut from previous page (Item 2) [C].

Disconnect the ¼" hydraulic couplers from previous page (Item 1) [D].

Slide the attachment off the shaft.

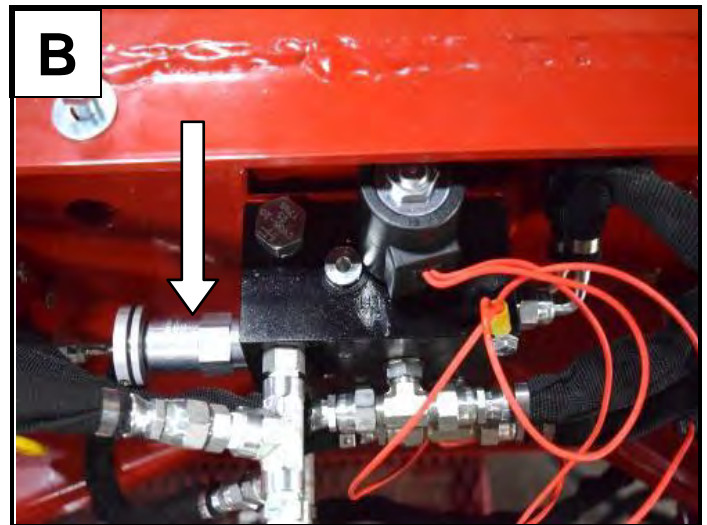
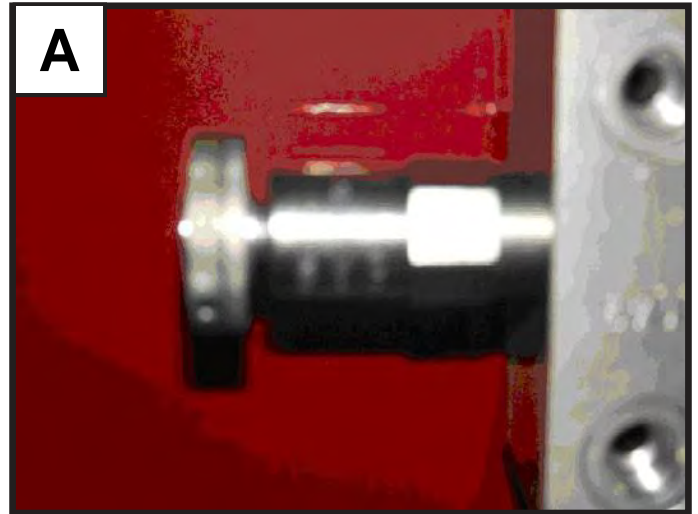


Adjusting Clamping Pressure

Pressure Relief Valve

Note: The pressure relief valve is not on all attachments. The chain base, fixed base, and mini excavator base **do not** have the P.R.V.

This valve allows the operator to control the clamping pressure of the jaws. Release the jam nut and turn out. By turning the plunger counterclockwise, you will reduce the pressure. This will bypass the hydraulics if you turn it too far. The clamp will not work at all and it will become very slow as the plunger is turned out. For full clamping pressure and regular operation, keep plunger turned in all the way with a clockwise turn. Lock jam nut after adjusting.



Connecting the Tamper Circuit

Some pole setters are equipped with a tamper circuit. This is to easily connect a tamper for use when setting poles [A].

If bought through Spartan Equipment Inc., the tamper is supplied with 3/8" hoses 6D6 X 110"-6FJX-6FJX with Cordura.

Connect the inlet port of the tamper to the male coupler on the bottom of the reducing valve. Connect the return line of the tamper to the female coupler on the bottom. If reversed, the tamper will not work because the hydraulic fluid only flows one way through it [B].

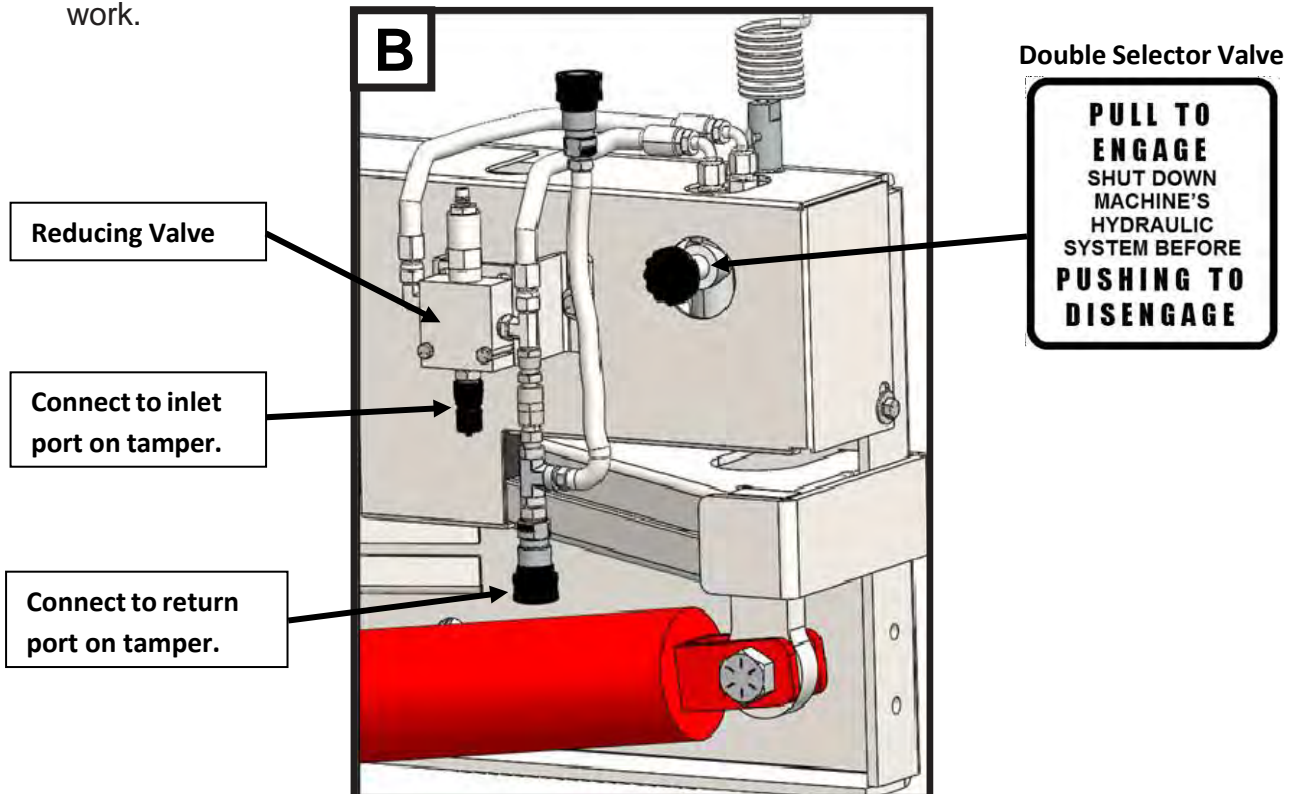
After the tamper is connected to the circuit, pull the double selector valve to divert flow from the rotation function to the tamper function. The operator must activate the hydraulics while remaining in the machine.



Warning! Do not put the machine in motor function and leave the machine! Pushing the double selector valve will activate the rotation function.

Make sure the case drain* is hooked up to the machine.

*Note: some machines might not have a case drain. If it doesn't, the tamper may or may not work.



Troubleshooting

The following are troubleshooting techniques to follow if your clamp is not working on the attachment.

Note: Not all attachments will have a ball valve **[D]** or pressure reducing valve **[E]**.

1. Check to make sure 12V power is coming down the white wire from the machine to the attachment. This can be checked using a multimeter.

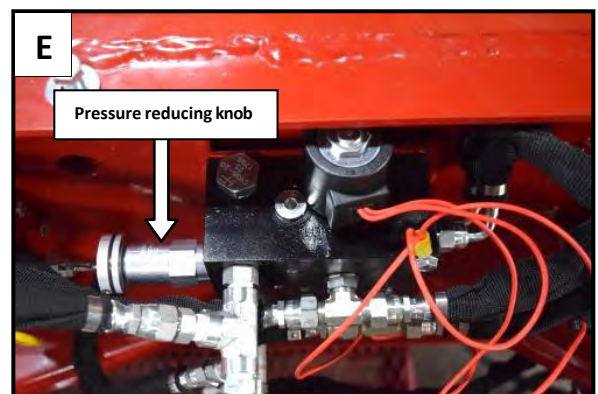
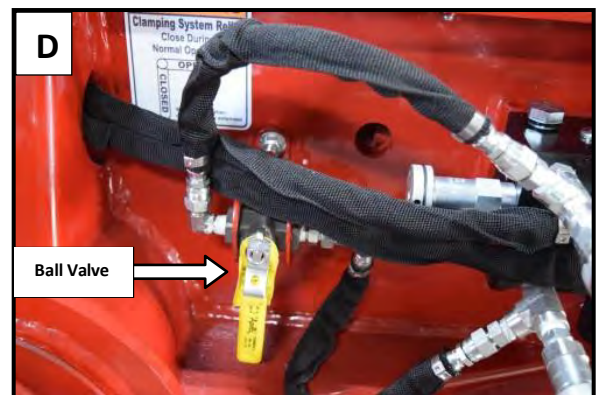
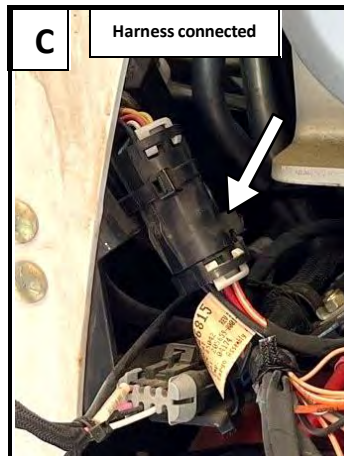
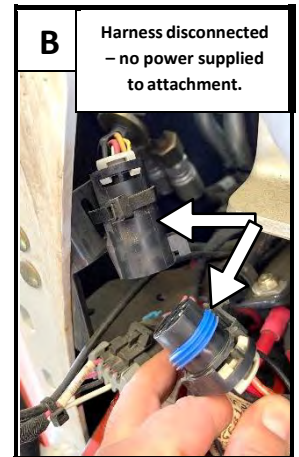
If no power is being supplied to the attachment, check the fuses on your machine.

Also, check to make sure the harness is connected in the rear left side of the engine compartment **[A]** & **[C]**. If it is not connected, power will not be supplied to the attachment **[B]**.

If you have power, continue to step 2.

2. Make sure the ball valve **[D]** located on the base is in the closed position. Clamping will not happen if the ball valve is open. Ignore this step if no ball valve is present.
3. Check that the pressure reducing valve knob is tight **[E]**. Ignore this step if now pressure reducing knob is present.

(Troubleshooting continued on next page)



- Next, the piston in the valve may be the problem. Clean the piston by first removing the cavity plugs **[F]** with a 7/8" wrench on the top and bottom of the valve.

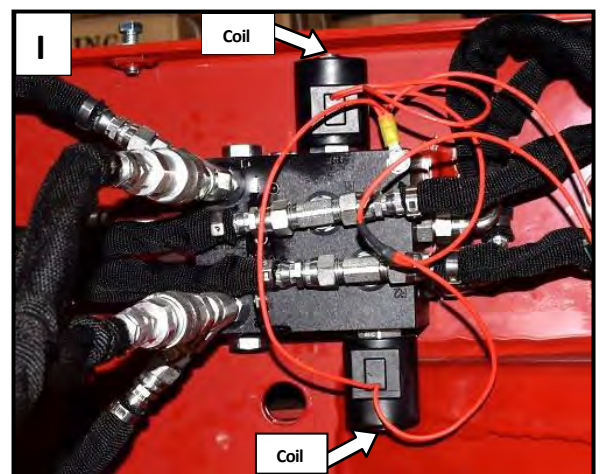
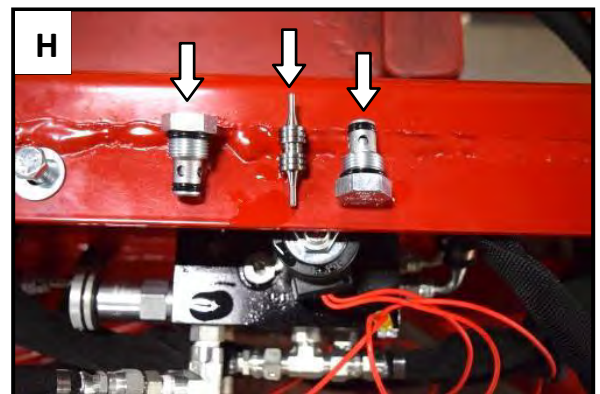
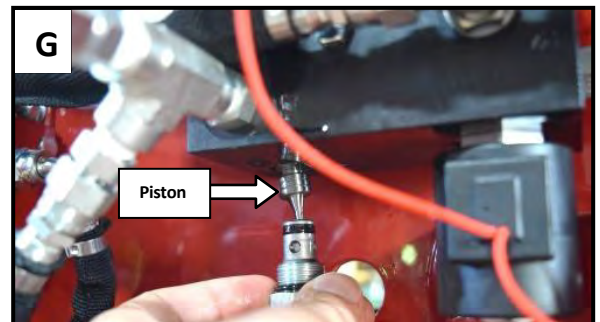
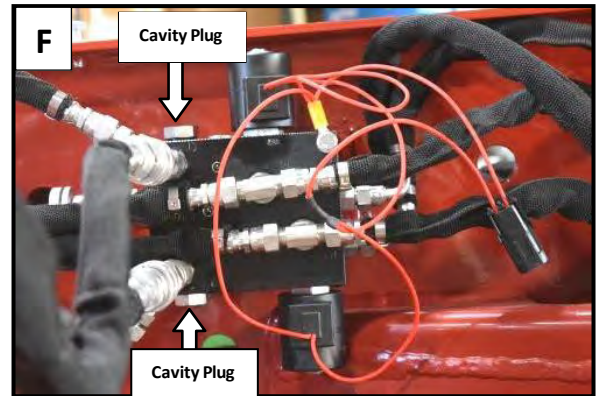
CAUTION - Oil will leak out! Make sure to place a drain pan under the valve.

When the bottom cavity plug is removed, the piston will slide out with it **[G]**. The piston can sometimes accumulate gunk which can negatively affect the performance of the clamp. Clean the piston and the cavity by spraying WD40 or any high pressure lubricant on them until they are clean. Image **[H]** shows the cavity plugs and the piston after they are cleaned.

Re-assemble the piston in the reverse order you took it out and check to see if you have proper clamping function.

- Check the coils if you still don't have proper clamping function. Your machine should be turned on. First, loosen the nut on the coils located on the top and bottom of the valve **[I]**. The arrows on **[I]** are pointing to the nut on the coil. If the coil is good, it will hold against the block magnetically. You will feel resistance as you try to pull the coil away when you activate the momentary power switch or button. The coil is bad if no resistance is felt when pulling it away from the block. It will need to be replaced.

- If you still have clamping troubles, the next step is to check the couplers.
- Finally, you may need to replace the old valve with a new one.



Installing Inserts

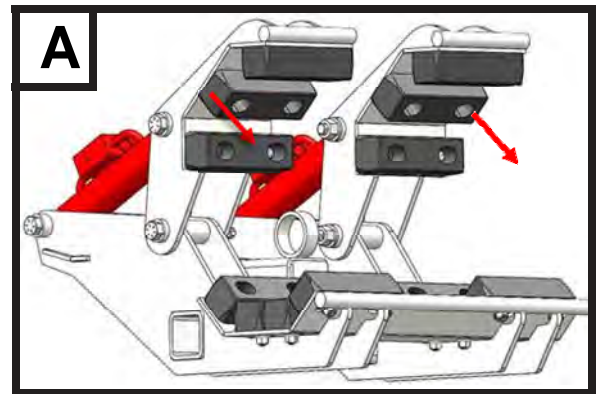
Inserts are available to make the opening of the jaws smaller for handling objects that wouldn't otherwise be clamped tightly. Inserts are available for the Double Pole Claw, Heavy Duty Pole Setter, and the Extreme Pole Setter.

Inserts are also available for the 3 Finger Tree Hand and the 5 Finger Tree Hand for handling rocks, for extending the finger tips on the arms, and for handling B&B trees (5 Finger Tree Hand only).

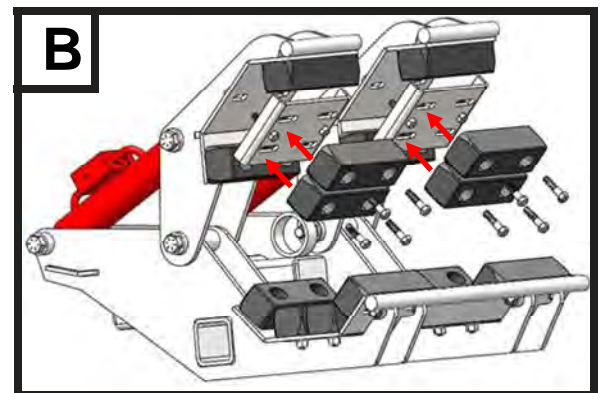
Double Pole Claw

Inserts for the double pole claw are available if you need to handle objects 3.5 inches in diameter or smaller. The following are the steps to install the inserts:

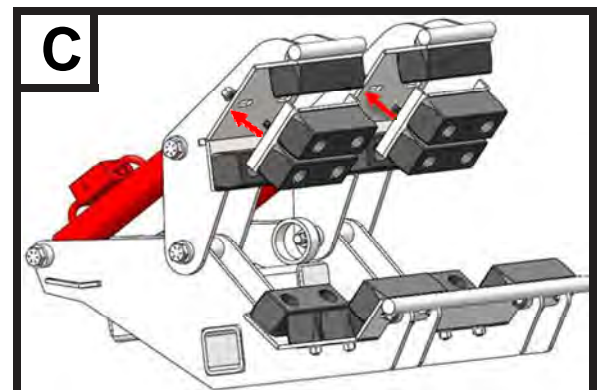
With the jaws open, remove the middle upper jaw rubber bumpers **[A]**. The rubber bumpers are held in by 7/16" x 1-3/4" bolts.



Next, install two rubber bumpers onto each bracket **[B]**. Use two 7/16" x 1-3/4" bolts for each bumper.



Finally, bolt in the steel bracket of the insert in the middle of the upper jaw in place of the rubber bumpers removed in 1st step **[C]**.



Your attachment is now ready to use.

Heavy Duty Pole Setter

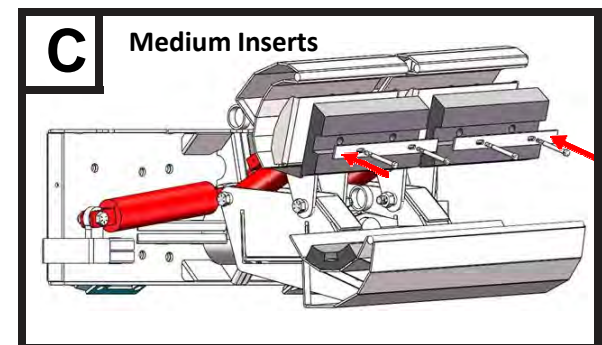
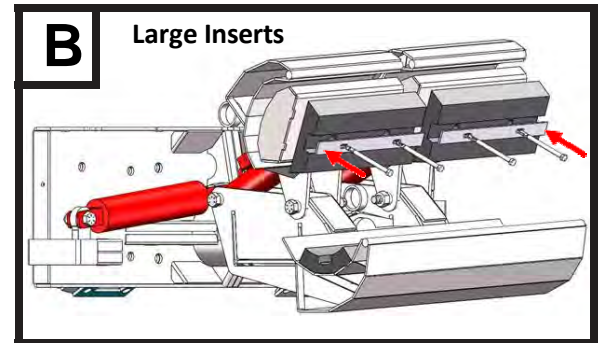
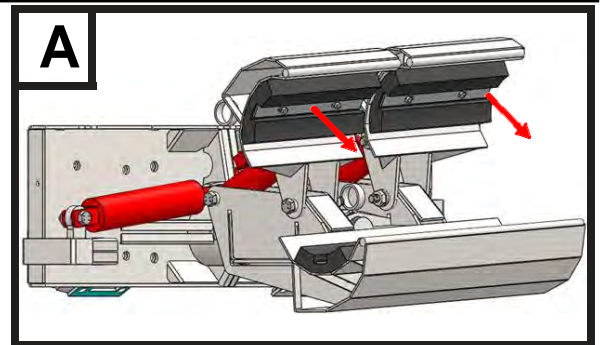
For the heavy duty pole setter, large and medium inserts are available if you need to handle objects 4 inches in diameter or smaller. Be sure to choose the correct size insert for what you are handling, or it might crush the object. The large inserts will make the jaws close to zero.

The following are the steps to install the inserts:

With the jaws open, remove the upper jaw rubber bumpers and steel bolt strip **[A]**.

Next, install the insert, rubber bumper, and bolt strip into each upper jaw **[B]** and **[C]**. Use two $\frac{1}{2}$ " x $7\frac{1}{2}$ " bolts for each large insert. Use two $\frac{1}{2}$ " x 5" bolts for each medium insert.

Your attachment is now ready to use.



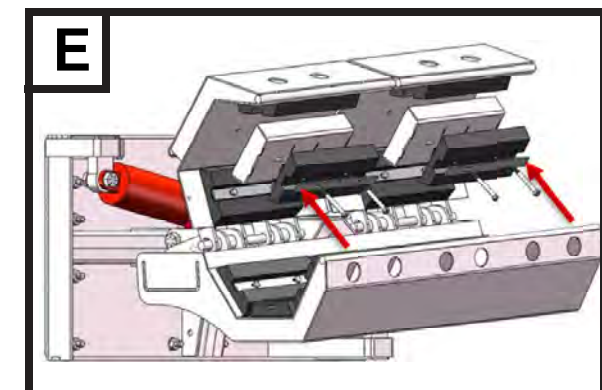
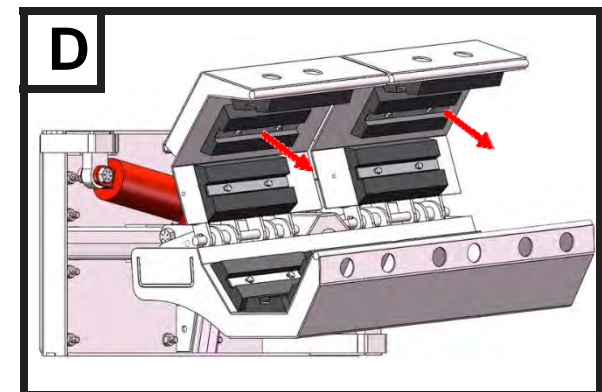
Extreme Pole Setter

For the extreme pole setter, inserts are available if you need to handle objects as small as 11 inches in diameter. The following are the steps to install the inserts:

With the jaws open, remove the middle upper jaw rubber bumpers and steel bolt strip **[D]**.

Next, install the insert, rubber bumper, and bolt strip into each upper jaw in place of the rubber bumpers removed in 1st step **[E]**. Use two $\frac{5}{8}$ " x 6" bolts for each insert.

Your attachment is now ready to use.



3 Finger Tree Hand

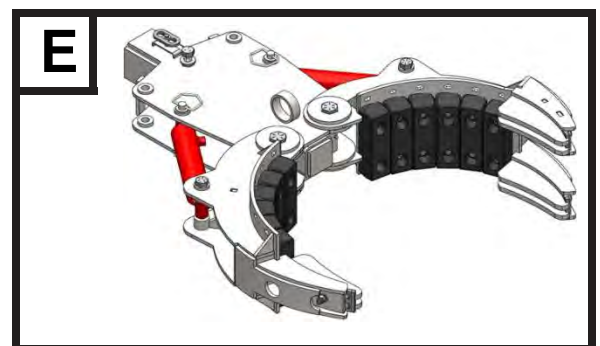
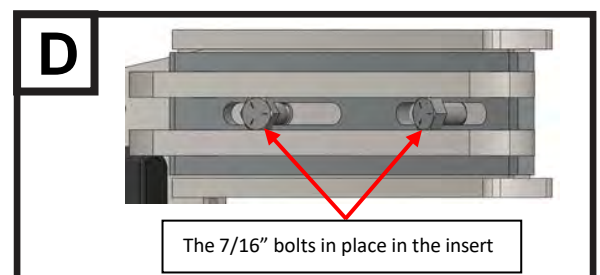
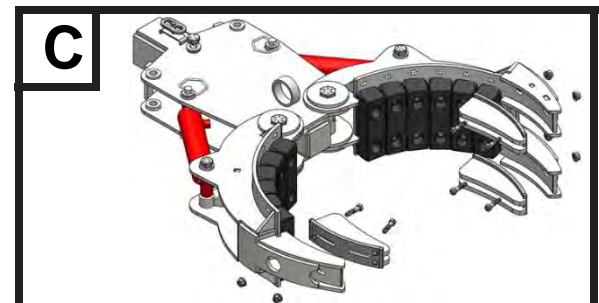
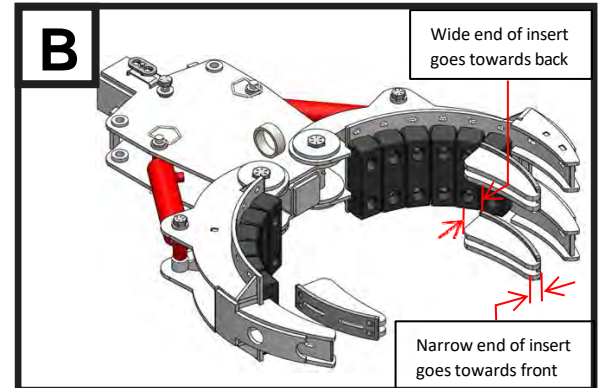
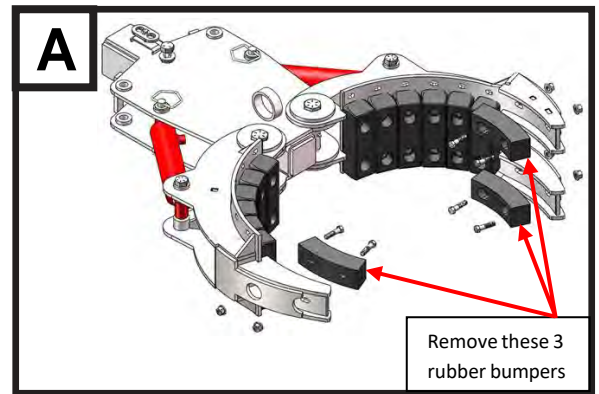
Inserts are available for handling rocks and for extending the tips on the arms.

Rock Inserts

Rock inserts are a durable alternative to the rubber bumpers in the tips of the arms of the rock and tree hand. To install the rock inserts, do the following:

1. Remove the rubber bumpers from the tips of the arms [A].
2. Line up the bolt slots on the rock insert with the slots on the tree hand arms. The narrow end of the insert goes towards the front of the attachment [B].
3. Install the 7/16"-14 x 1-3/4" bolts [C]. The bolt head fits in between the two metal plates of the insert [D].

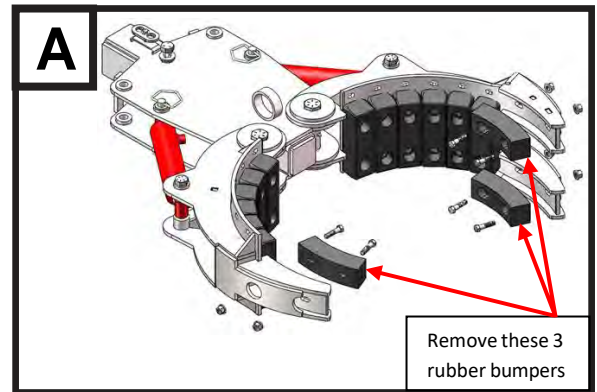
4. The attachment is now ready to use [E].



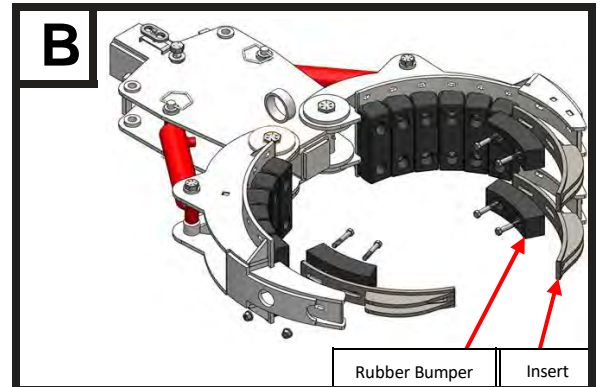
Fingertip Extensions

The fingertip extensions are used for more contact around a large diameter tree, rock, or pole. To install the fingertip extensions, do the following:

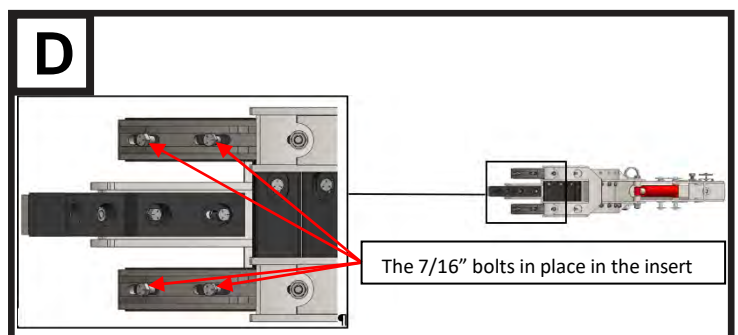
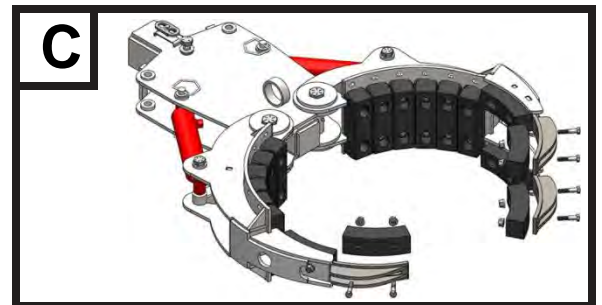
1. Remove the rubber bumpers from the tips of the arms **[A]**.



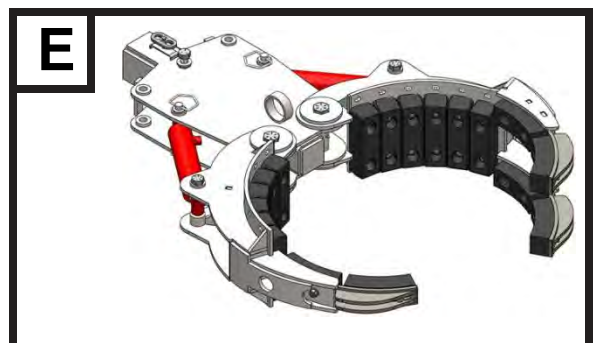
2. Line up the bolt slots on the fingertip extensions with the slots on the tree hand arms **[B]**. Also line up the slots on the rubber bumper to the slots on the back of the insert. Tighten the bolts. The bolt size is 7/16"-14 x 2-1/2".



3. Next, install the rubber bumper onto the front of the insert **[C]**. Use 7/16"-14 x 2" bolts. The bolt head fits between the two plates on the insert **[D]**.



4. The attachment is now ready to use **[E]**.



5 Finger Tree Hand

The following inserts are available for the 5 Finger Rock and Tree Hand:

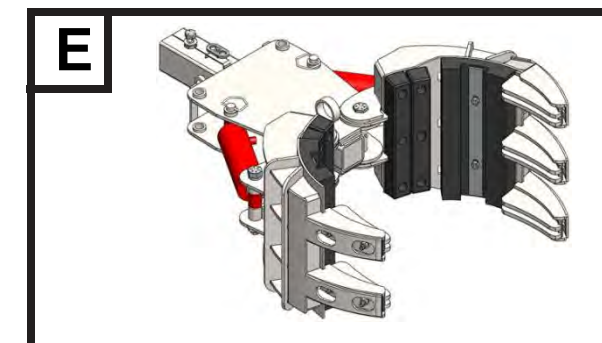
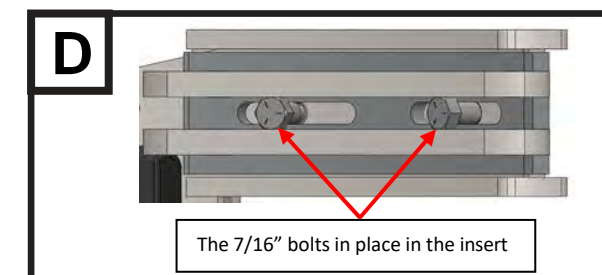
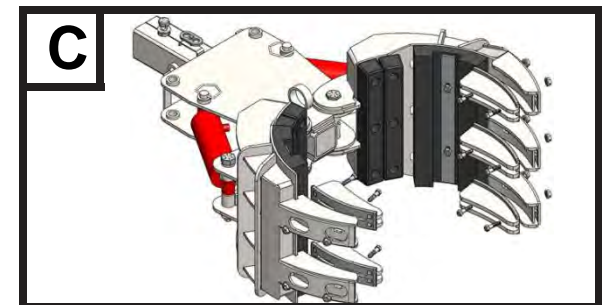
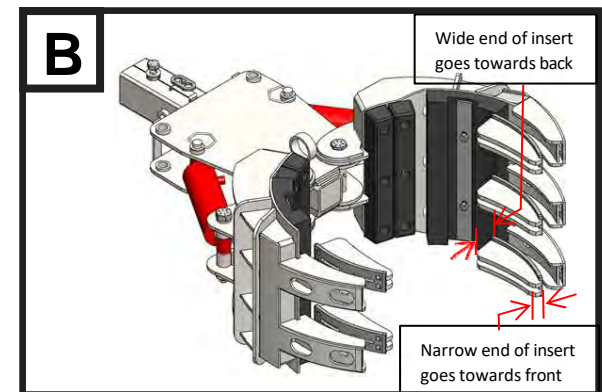
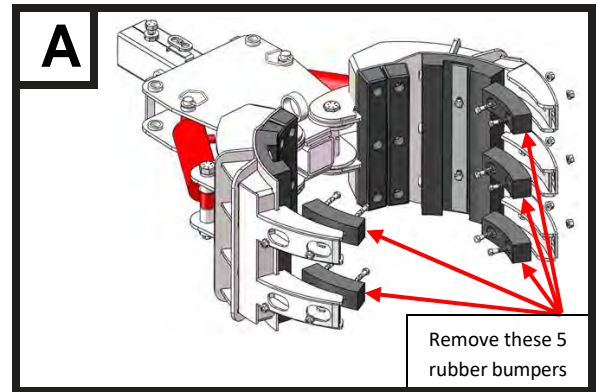
- Rock inserts for handling rocks
- Fingertip extensions for better contact around a large diameter object
- B&B inserts for handling B&B trees

Rock Inserts

Rock inserts are a durable alternative to the rubber bumpers in the tips of the arms of the rock and tree hand. To install the rock inserts, do the following:

4. Remove the rubber bumpers from the tips of the arms **[A]**. Each bumper is held in by two 7/16" bolts.
5. Line up the bolt slots on the rock insert with the slots on the tree hand arms. The narrow end of the insert goes towards the front of the attachment **[B]**.
6. Install the 7/16"-14 x 1-3/4" bolts **[C]**. The bolt head fits in between the two metal plates of the insert **[D]**.

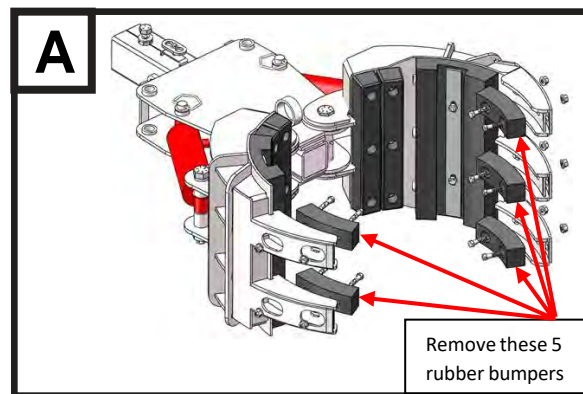
7. The attachment is now ready to use **[E]**.



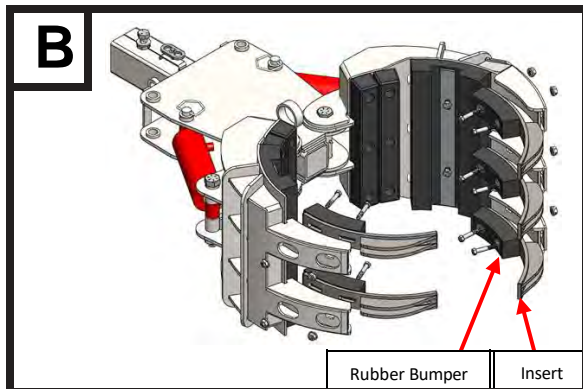
Fingertip Extensions

The fingertip extensions are used for more contact around a large diameter tree, rock, or pole. To install the fingertip extensions, do the following:

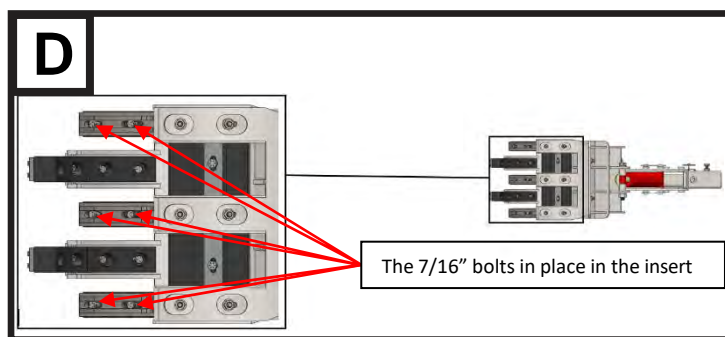
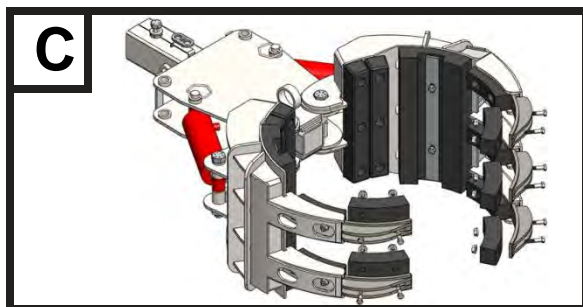
1. Remove the rubber bumpers from the tips of the arms **[A]**.



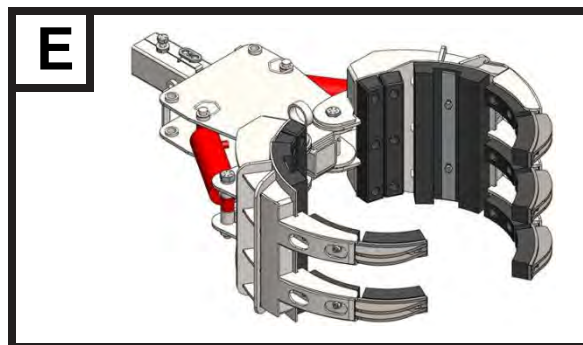
2. Line up the bolt slots on the fingertip extensions with the slots on the tree hand arms **[B]**. Also line up the slots on the rubber bumper to the slots on the back of the insert. Tighten the bolts. The bolt size is 7/16"-14 x 2-1/2".



3. Next, install the rubber bumper onto the front of the insert **[C]**. Use 7/16"-14 x 2" bolts. The bolt head fits between the two plates on the insert **[D]**.



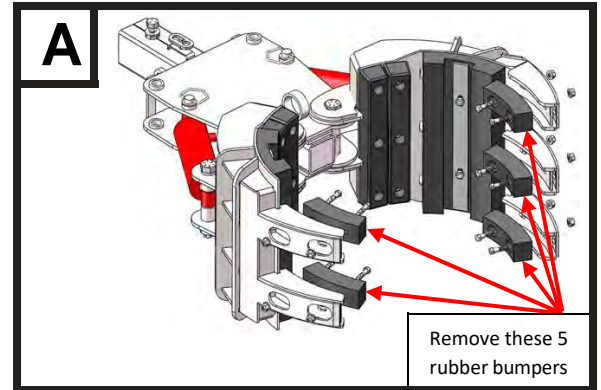
4. The attachment is now ready to use **[E]**.



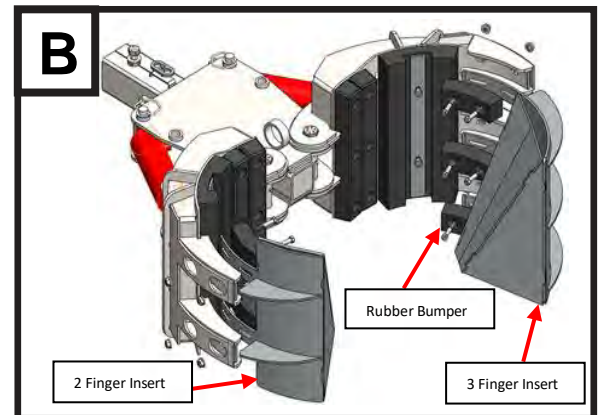
B&B Inserts

The B&B inserts are specially designed for handling B&B (ball & burlap) trees. The inserts are angled to handle the delicate root system of the trees. The following are steps to install the B&B inserts:

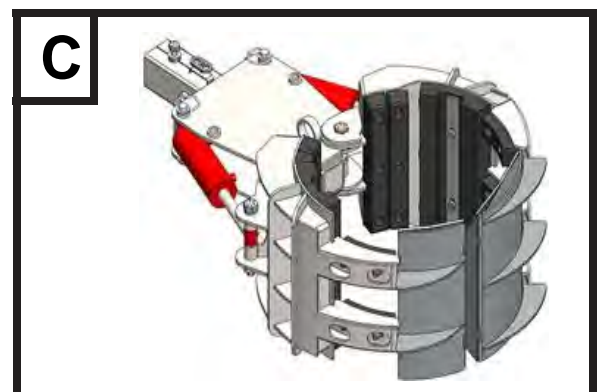
1. Remove the rubber bumpers from the tips of the arms **[A]**.



2. Line up the bolt slots on the inserts with the slots on the tree hand arms **[B]**. Also line up the slots on the rubber bumper to the slots on the back of the insert. Tighten the bolts. The bolt size is 7/16"-14 x 2-1/2".

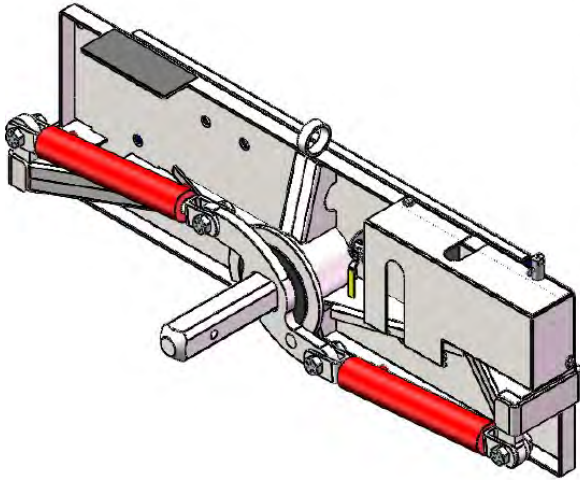


3. The attachment is now ready to use **[C]**.

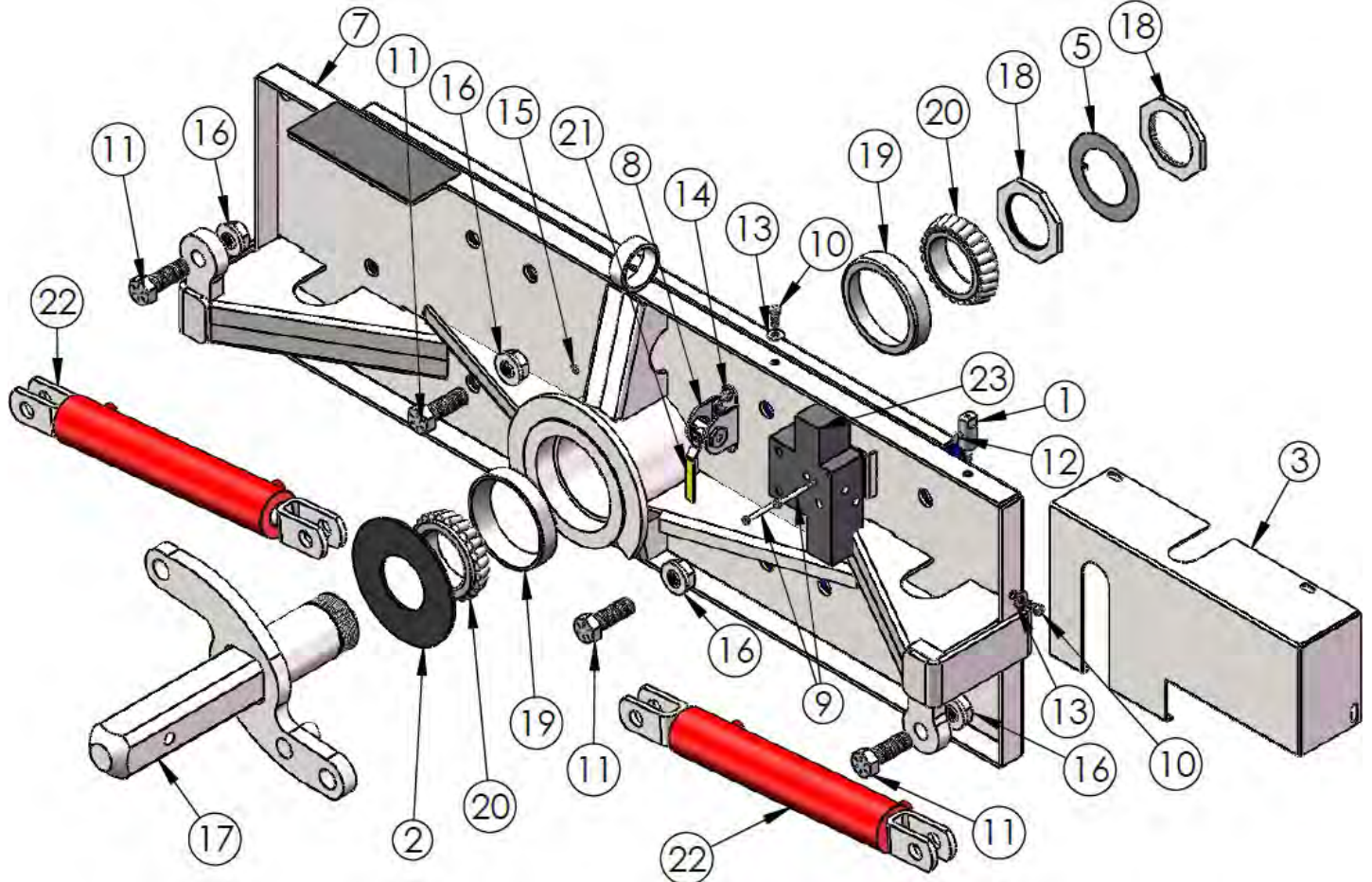


Parts Breakdown

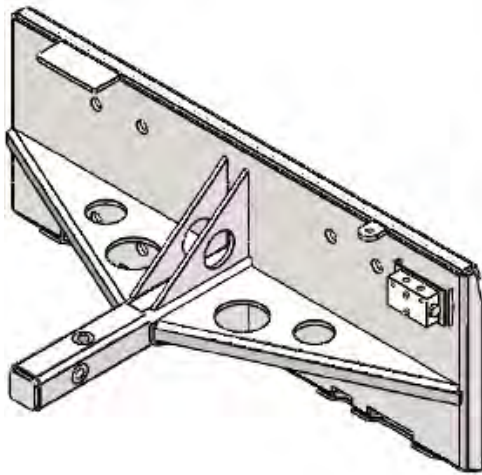
Standard Rotating Base



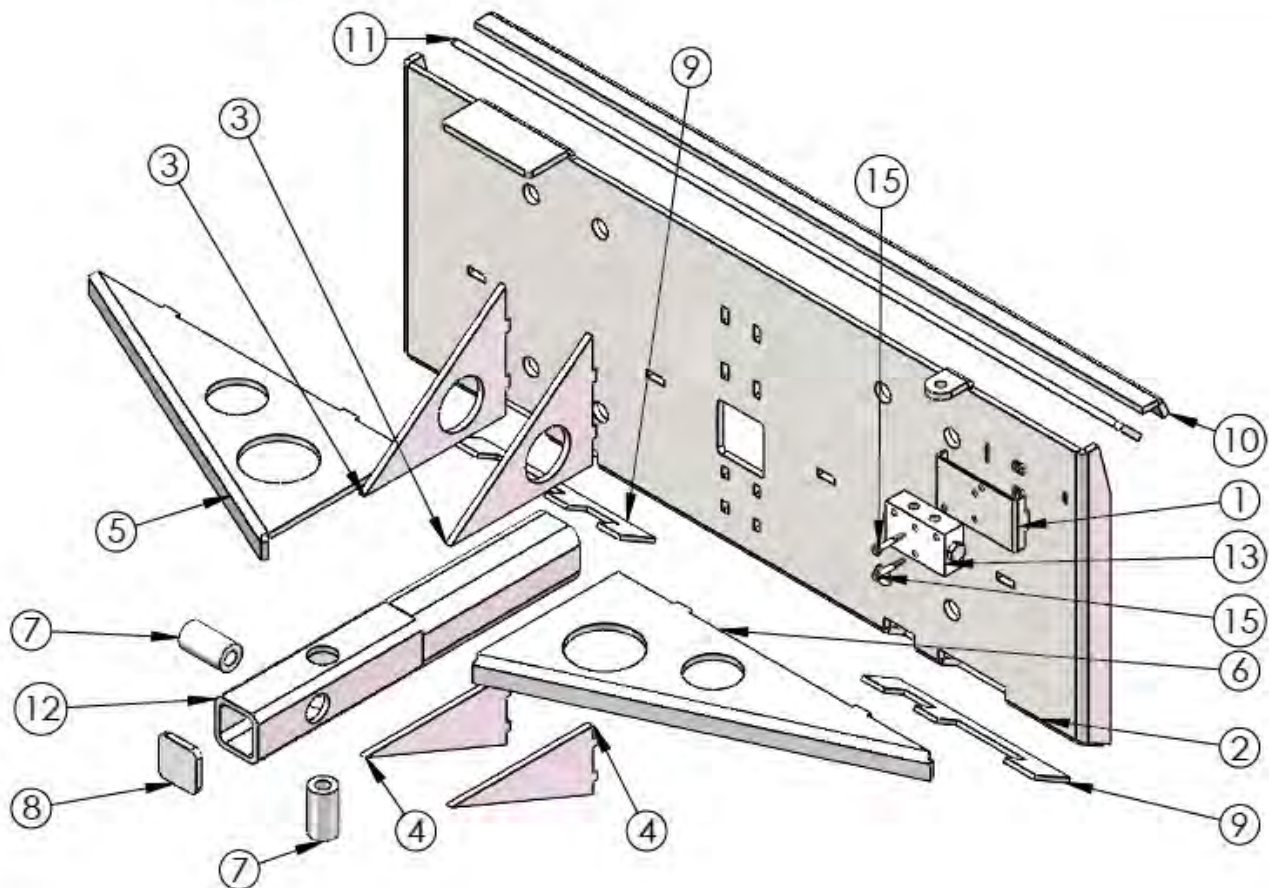
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CDB-01-0013	SPUD WELDMENT	1
2	CRG-316-3.5ID	NEOPRENE RUBBER GASKET	1
3	EZ-00-0046	VALVE COVER	1
4	EZ-00-0060	STOP, SPINDLE	1
5	EZ-00-0070	NUT LOCK	1
6	EZ-00-0079	TAPE, NON-SKID	1
7	EZ-01-0003	WELDMENT, DOUBLE CYLINDER ROTATING BASE	1
8	EZ-01-0025	BALL VALVE BRACKET ASSEMBLY	1
9	FA13015	1/4"-20 x 3" GRADE 5 ZINC HEX CAP SCREW	2
10	FA13105	3/8"-16 x 1" GRADE 5 ZINC HEX CAP SCREW	2
11	FA15465	1"-8 x 3" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
12	FA32777	1/4"-20 x 1/2" TYPE B REGULAR THUMB SCREW	1
13	FA33008	3/8" x 1.000" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	2
14	FA37024	3/8"-16 GRADE 2 ZINC FINISH NE STEEL NYLON INSERT LOCK NUT	2
15	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	1
16	FA0166995	1"-8 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	4
17	LZ-00-0004	SHAFT, SPINDLE	1
18	LZ-00-0005	NUT, SPINDLE	2
19	P-BS-592A	TAPERED ROLLER BEARING RACE 592A	2
20	P-BS-593	TAPERED ROLLER BEARING 593	2
21	P-F-NW-73A-101-01	BALL VALVE	1
22	P-MP-CYL-250-1250	2.5" x 12.5" x 1.25" CYLINDER	2
23	P-PS-VA-0860-03-1	MAIN SELECTOR VALVE	1
24	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
25	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1
26	PD-00-0003	SPINDLE, 127°	1



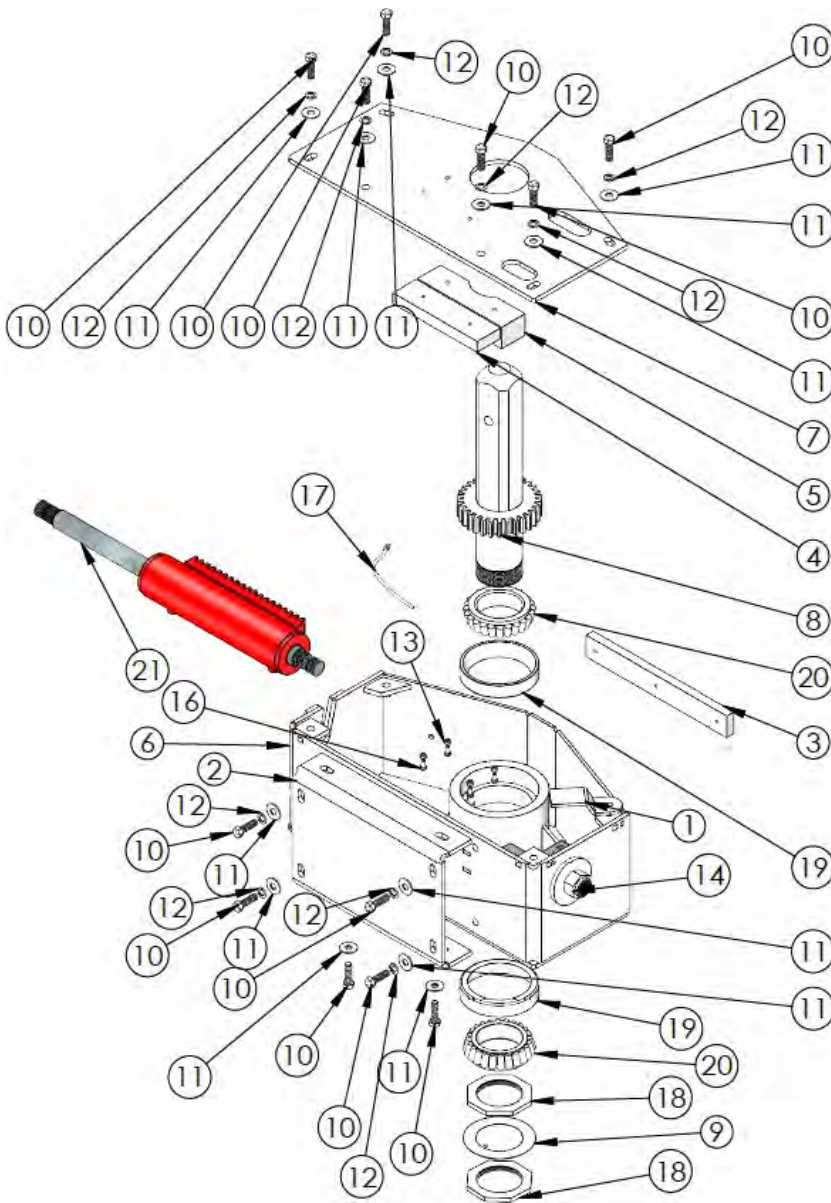
Fixed Base



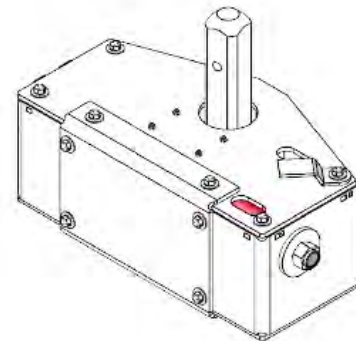
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	EZ-00-0045	BAR, CHECK VALVE MOUNT	1
2	FB-00-0001	PLATE, FIXED BACK	1
3	FB-00-0002	UPPER GUSSET	2
4	FB-00-0003	LOWER GUSSET	2
5	FB-00-0004-L	LEFT SIDE GUSSET	1
6	FB-00-0004-R	RIGHT SIDE GUSSET	1
7	FB-00-0006	INNER TUBE FOR MAIN TUBE	2
8	FB-00-0007	TUBE END CAP	1
9	FB-00-0008	E DOUBLER	2
10	FB-00-0011	ANGLE BRACKET	1
11	FB-00-0014	BAR, UPPER QUICK TACH STOP	1
12	FB-00-0016	TUBE, RECEIVER	1
13	P-PS-DCV08-6T-NS	DOUBLE CHECK VALVE	1
14	FA38137	1/4"-20 4X PROJECTION WELD NUT	2
15	FA110120307	1/4"-20 X 1-3/4" GRADE 5 ZINC HEX CAP SCREW	2



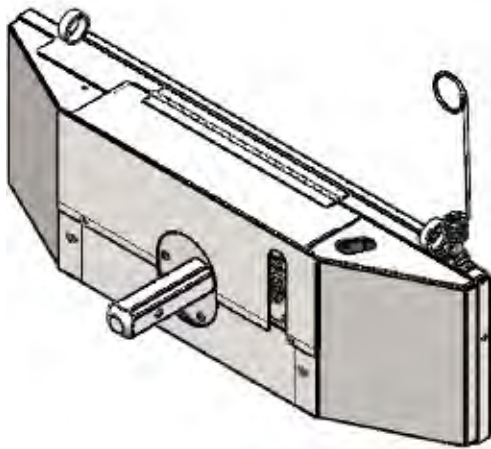
Excavator Rotating Base



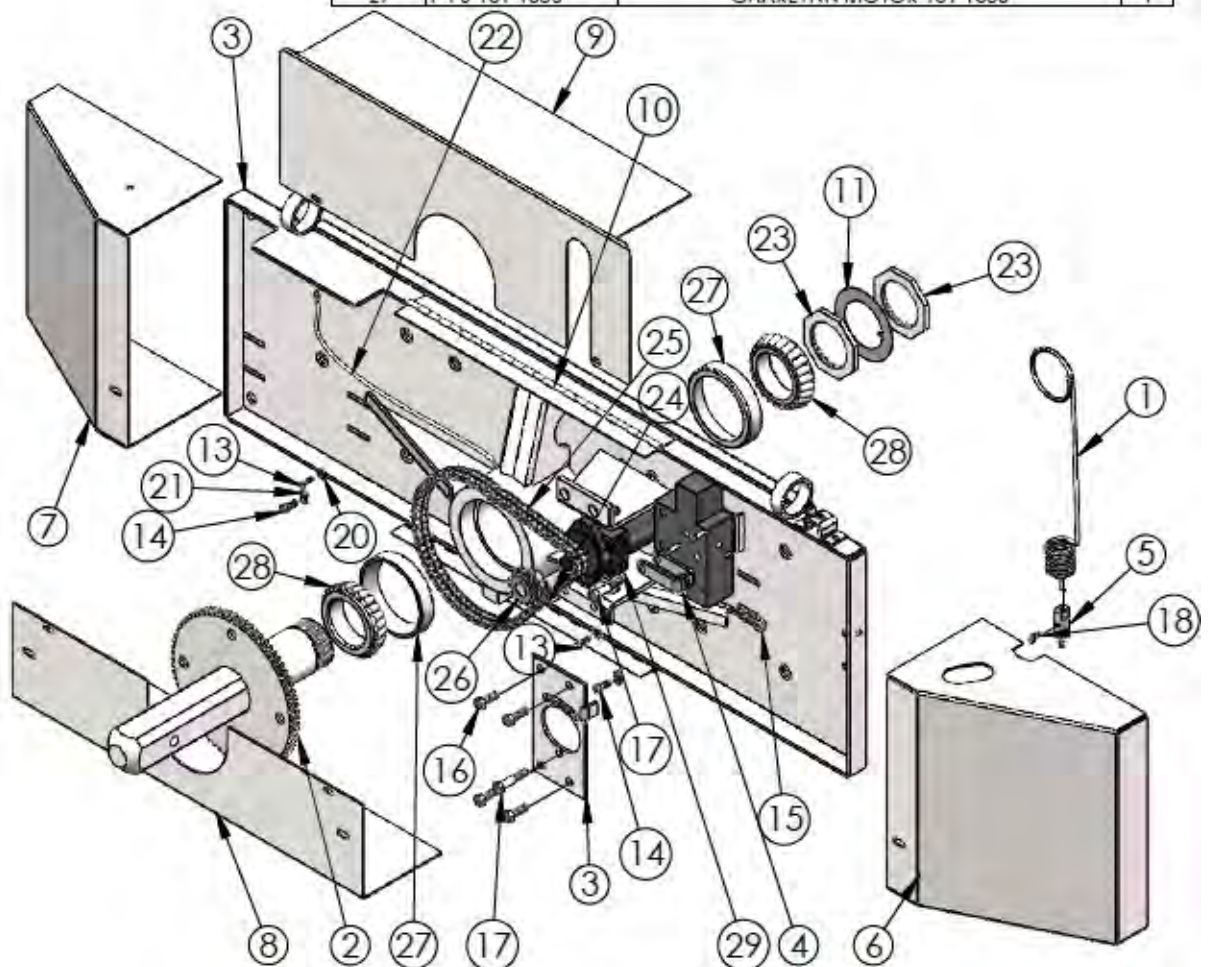
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	EXC-00-0011	HOSE CLAMP	1
2	EXC-00-0026	BOLT ATTACH PLATE	1
3	EXC-00-0034	C-CHANNEL SUPPORT	1
4	EXC-00-0035	COVER SUPPORT	1
5	EXC-00-0051	CYLINDER SUPPORT	1
6	EXC-01-0006	MAIN WELDMENT	1
7	EXC-01-0008	COVER WELDMENT	1
8	EXC-01-0010	SHAFT & GEAR WELDMENT	1
9	EZ-00-0070	NUT LOCK	1
10	FA13210	1/2"-13 x 1-3/4" GRADE 5 ZINC HEX CAP SCREW	12
11	FA33012	1/2" X 1.375" OD USS GENERAL PURPOSE FLAT WASHER	12
12	FA33626	1/2" ZINC FINISH MEDIUM SPLIT LOCK WASHER	12
13	FA36102	1/4"-20 ZINC FINISH GRADE A FINISHED HEX NUT	6
14	FA37322	1-1/4"-12 GRADE C ZINC FINISH STEEL COLLAR STYLE LOCK NUT	2
15	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	1
16	FA110120305	1/4"-20 x 1-1/4" GRADE 5 ZINC HEX CAP SCREW	7
17	FH-21-GREASE LINE	21" GREASE LINE WITH GREASE ZERK - 2HLB x 21.25" 2MP 2PVW w/zerk installed	1
18	LZ-00-0005	NUT, SPINDLE	2
19	P-BS-592A	TAPERED ROLLER BEARING RACE 592A	2
20	P-BS-593	TAPERED ROLLER BEARING 593	2
21	P-MP-CYL-EZS0005	3" x 9.5" x 1.5" CYLINDER WITH RACK	1
22	P-PS-VA-0860-03-1	MAIN SELECTOR VALVE	1



Chain Base

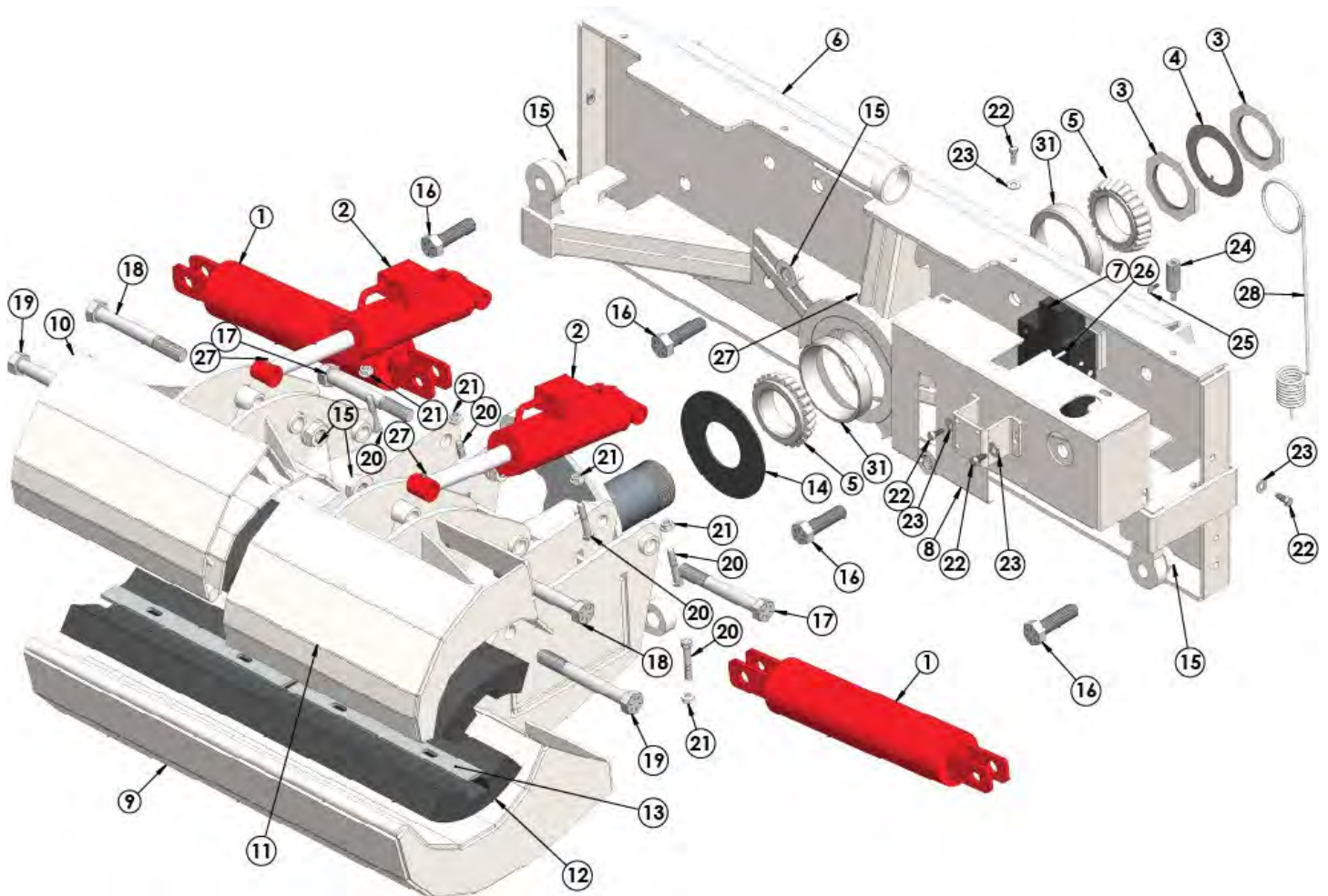
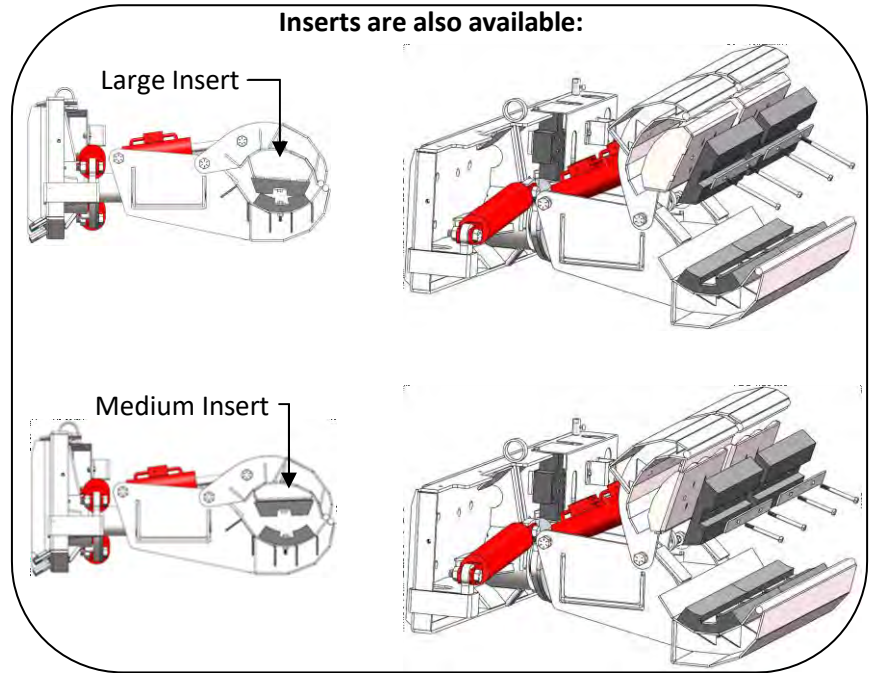


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CDB-00-0012	SPRING FOR SPRING HOSE KIT	1
2	CDB-01-0002	CHAIN BASE SPROCKET	1
3	CDB-01-0003	CHAIN BASE	1
4	CDB-01-0004	MOTOR TENSION BRACKET	1
5	CDB-01-0013	SPUD WELDMENT	1
6	CDC-00-0001	RIGHT COVER	1
7	CDC-00-0002	COVER, LEFT	1
8	CDC-00-0003	LOWER COVER	1
9	CDC-00-0004	COVER, UPPER	1
10	CDC-00-0005	PIANO HINGE - 3" OVERALL WIDTH; 17" LONG & 0.394" DIAMETER KNUCKLE	2
11	EZ-00-0070	NUT LOCK	1
12	FA0166990	1/2"-13 GRADE F ZINC FLANGE TOP LOCK NUT	6
13	FA110120304	1/4"-20 x 1" GRADE 5 ZINC HEX CAP SCREW	2
14	FA13105	3/8"-16 x 1" GRADE 5 ZINC HEX CAP SCREW	2
15	FA13210	1/2"-13 x 1-3/4" GRADE 5 ZINC HEX CAP SCREW	1
16	FA15209	1/2"-13 x 1-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
17	FA15213	1/2"-13 x 2-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
18	FA32777	1/4"-20 x 1/2" TYPE B REGULAR THUMB SCREW	1
19	FA33626	1/2" ZINC FINISH MEDIUM SPLIT LOCK WASHER	6
20	FA38137	1/4"-20 4X PROJECTION WELD NUT	2
21	FA38139	3/8"-16 4X PROJECTION WELD NUT	2
22	FH-21-GREASE LINE	21" GREASE LINE WITH GREASE ZERK - 2HLB x 21.25" 2MP 2PVW w/zerk installed	1
23	LZ-00-0005	NUT, SPINDLE	2
24	P-BS-40-2-CL	DOUBLE 40 CHAIN LINK	1
25	P-BS-40-2-DRC	DOUBLE 40 CHAIN	1
26	P-BS-40A72-SB	MOTOR SPROCKET	1
27	P-BS-592A	TAPERED ROLLER BEARING RACE 592A	2
28	P-BS-593	TAPERED ROLLER BEARING 593	2
29	P-PS-101-1036	CHARLYNN MOTOR 101-1036	1



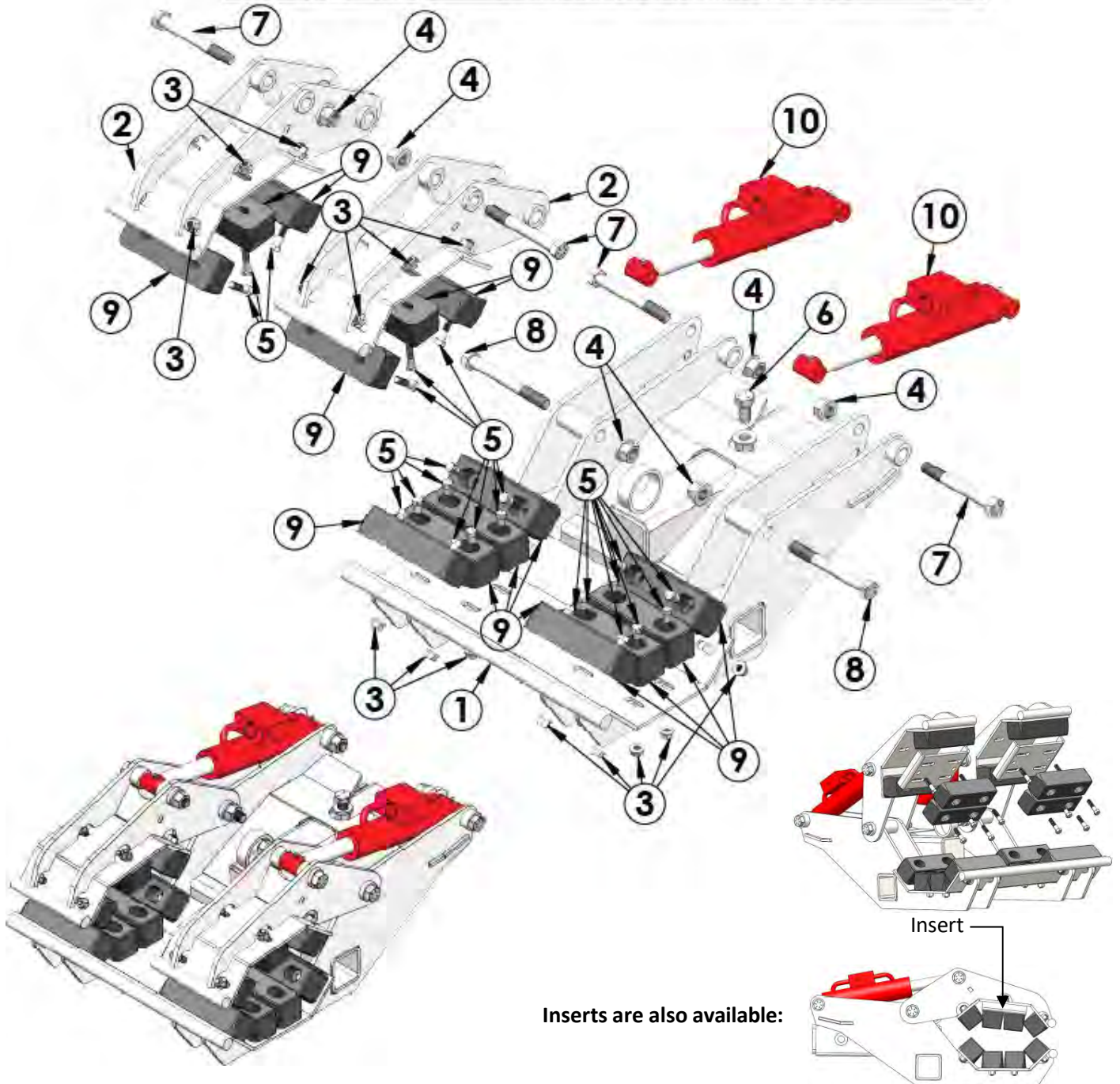
Heavy Duty Pole Setter

Item No.	Part	Description	Qty.
1	P-MP-EZS0011	4" x 12.5" x 1.75" Rotation Cylinder	2
2	P-MP-EZS0022	3" x 6" x 1.25" Clamp Cylinder	2
3	LZ-00-0005	Nut to tighten shaft	2
4	EZ-00-0070	Lock washer to keep nut tight	1
5	P-BS-593	Tapered roller bearing 593	2
6	HDPB-01-0003	Heavy duty base	1
7	P-PS-VA-0860-03-1	Main selector valve	1
8	EZ-00-0080	Valve cover	1
9	HDPC-01-0003	Heavy duty lower jaw	1
10	HDPC-01-0002-R	Heavy duty right upper jaw	1
11	HDPC-01-0002-L	Heavy duty left upper jaw	1
12	FA91000820	18" x 9" x 2" M-Shaped Bumper	4
13	RS-00-0001	Rubber bumper bolt strip	4
14	CRG-3/16-3.5ID	Neoprene rubber gasket	1
15	FA0166995	1"-8 Grade F zinc finish steel flange top lock nut	10
16	FA15467	1"-8 x 3.5" Grade 8 yellow zinc hex cap screw for rotation cylinder	4
17	FA15478	1"-8 x 7.5" Grade 8 yellow zinc hex cap screw for clamp cylinder back	2
18	FA15479	1"-8 x 8" Grade 8 yellow zinc hex cap screw for clamp cylinder front	2
19	FA15480	1"-8 x 8.5" Grade 8 yellow zinc hex cap screw for upper jaws	2
20	FA15214	1/2"-13 x 2.75" Grade 8 yellow zinc hex cap screw for rubber bumpers	8
21	FA0166990	1/2"-13 Grade F zinc flange top lock nut	8
22	FA13105	3/8"-16 x 1" Grade 5 zinc hex cap screw for valve cover & tamper circuit	4
23	FA33008	3/8" x 1.000" od low carbon zinc flat washer	4
24	CDB-01-0013	Spud for spring hose holder	1
25	FA32777	1/4"-20 x 1/2" Type B regular thumb screw	1
26	FA13015	1/4"-20 x 3" Grade 5 zinc hex cap screw for hydraulic valve	2
27	FA58771	DynaFlow[REG] 1/4"-28 straight steel grease fitting with ball check	5
28	CDB-00-0012	Spring hose holder keeps hydraulic hoses from getting pinched	1
29	P-ST-801304010	3/4" Flush face coupler female	1
30	P-ST-805204005	3/4" Flush face coupler male	1
31	P-BS-592A	Race 592A for tapered roller bearing	2

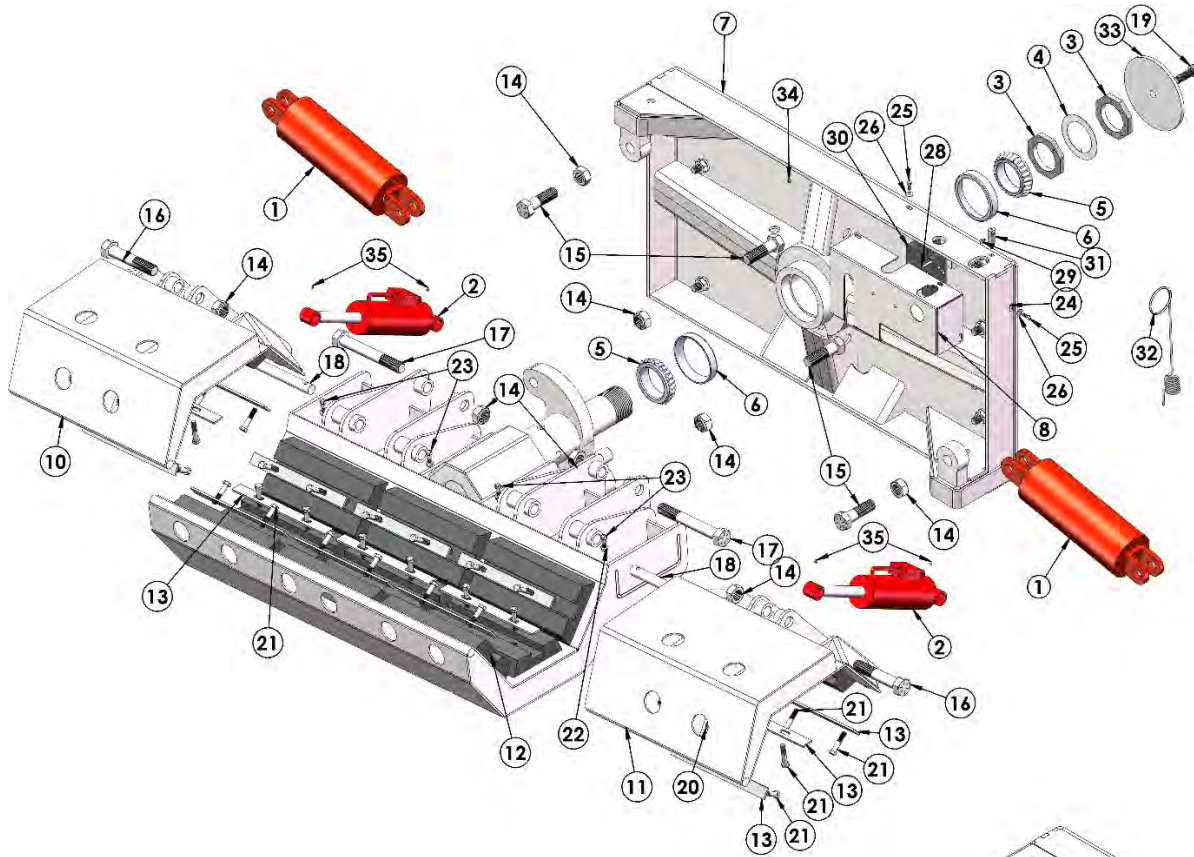


Double Pole Claw

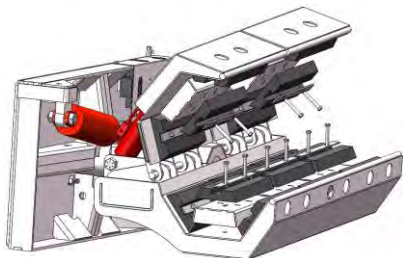
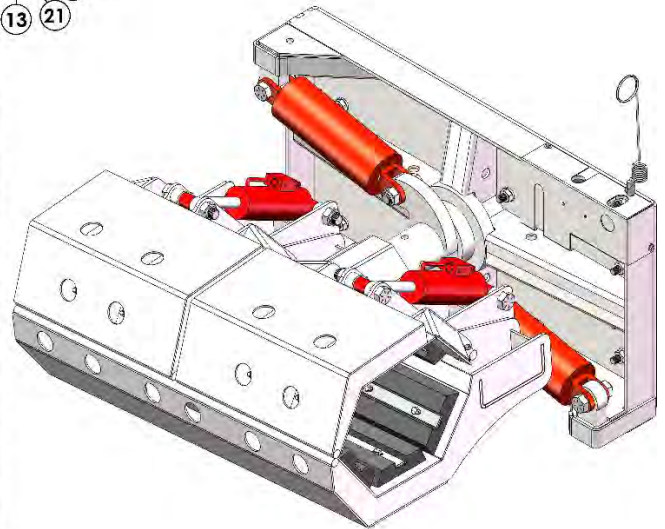
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2W-01-0001	WELDMENT, LOWER CLAMP JAW	1
2	2W-01-0002	WELDMENT, UPPER JAW	2
3	FA0166989	7/16"-14 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	28
4	FA0166993	3/4"-10 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	6
5	FA13160	7/16"-14 x 1-3/4" GRADE 5 ZINC FINISH HEX CAP SCREW	28
6	FA13359	3/4"-10 x 1-1/2" GRADE 5 ZINC FINISH HEX CAP SCREW	1
7	FA15375	3/4"-10 x 6" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
8	FA15376	3/4"-10 x 6-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
9	FA99829230	7-1/2"L x 2-1/2"W x 2"H, 2 HOLE 700 DUROMETER NATURAL RUBBER TRAILER/DOCK BUMPER	14
10	P-MP-EZS0026	2" x 6" x 1.25" CYLINDER WITH CHECK VALVE	2



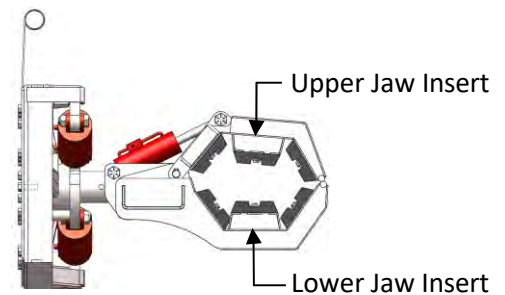
Extreme Pole Setter



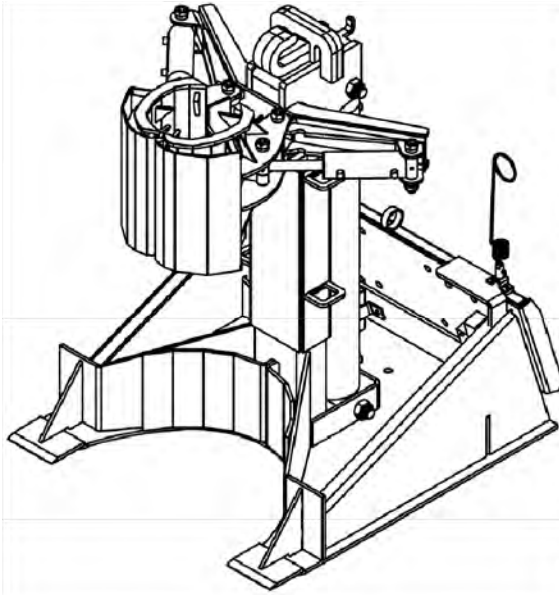
Item No.	Part	Description	Qty.
1	P-MP-EZS0024	6" x 12.5" x 2.5" Cylinder	2
2	P-MP-EZS0030	4" x 8" x 1.5" Cylinder with check valve	2
3	HD-00-124	Spindle Nut	2
4	HD-00-125	Lock Washer	1
5	P-BS-64450	Tapered Roller Bearing 64450	2
6	P-BS-64700	Race 64700 for Tapered Roller Bearing	2
7	HD-02-007	Base Weldment	1
8	FZ-00-0080	Valve Cover	1
9	HD-02-001	Lower Jaw Weldment	1
10	HD-01-002-R	Right Upper Jaw Weldment	1
11	HD-01-002-L	Left Upper Jaw Weldment	1
12	FA91000820	18" x 9" x 2" M-Shaped Rubber Bumper	15
13	RS-00-0002	Metal bolt strip for rubber bumpers	15
14	FA37286	1-1/2" - 5 Grade C zinc finish steel collar style top lock nut	8
15	FA14673	1-1/2" - 6 x 5" Grade 8 plain finish hex cap screw for the rotation cylinders	4
16	FA14679	1-1/2" - 6 x 8" Grade 8 plain finish hex cap screw for clamp cylinder front	2
17	FA14685	1-1/2" - 6 x 11" Grade 8 plain finish hex cap screw for clamp cylinder back	2
18	HD-00-152	1-3/8" 4140 Pin for upper jaw pivot point	2
19	FA17983	1" - 14 x 3" Grade 8 yellow zinc hex cap screw for the shaft reinforcement plate	1
20	FA0166992	5/8" - 11 Grade F zinc steel flanged top lock nut	30
21	FA13315	5/8" - 11 x 3" Grade 5 zinc hex cap screw for rubber bumpers	30
22	FA0166990	1/2" - 13 Grade F zinc flange top lock nut	4
23	FA15211	1/2" - 13 x 2" Grade 8 yellow zinc hex cap screw for upper jaw pins	4
24	FA38139	3/8" - 16 4X Projection weld nut for valve cover	3
25	FA13105	3/8" - 16 x 1" Grade 5 zinc hex cap screw for valve cover	2
26	FA33008	3/8" x 1.000" OD Low carbon zinc finish steel USS general purpose flat washer	2
27	FA38137	1/4" - 20 4X Projection weld nut for hydraulic valve	2
28	FA13015	1/4" - 20 x 3" Grade 5 zinc hex cap screw for hydraulic valve	2
29	FA32777	1/4" - 20 x 1/2" Type B regular thumb screw	1
30	P-PS-VX-0860-03-1	Main selector valve	1
31	CDB-01-0013	Spring Hose Holder Weldment	1
32	CDB-00-0012	Spring Hose Holder	1
33	HD-00-146	Steel plate for end of the shaft	1
34	FA60102	DynaFlo[REG] 1/8" - 27 strait steel zinc grease fitting with ball check	1
35	FA58771	DynaFlo[REG] 1/4" - 28 strait steel zinc grease fitting with ball check	4



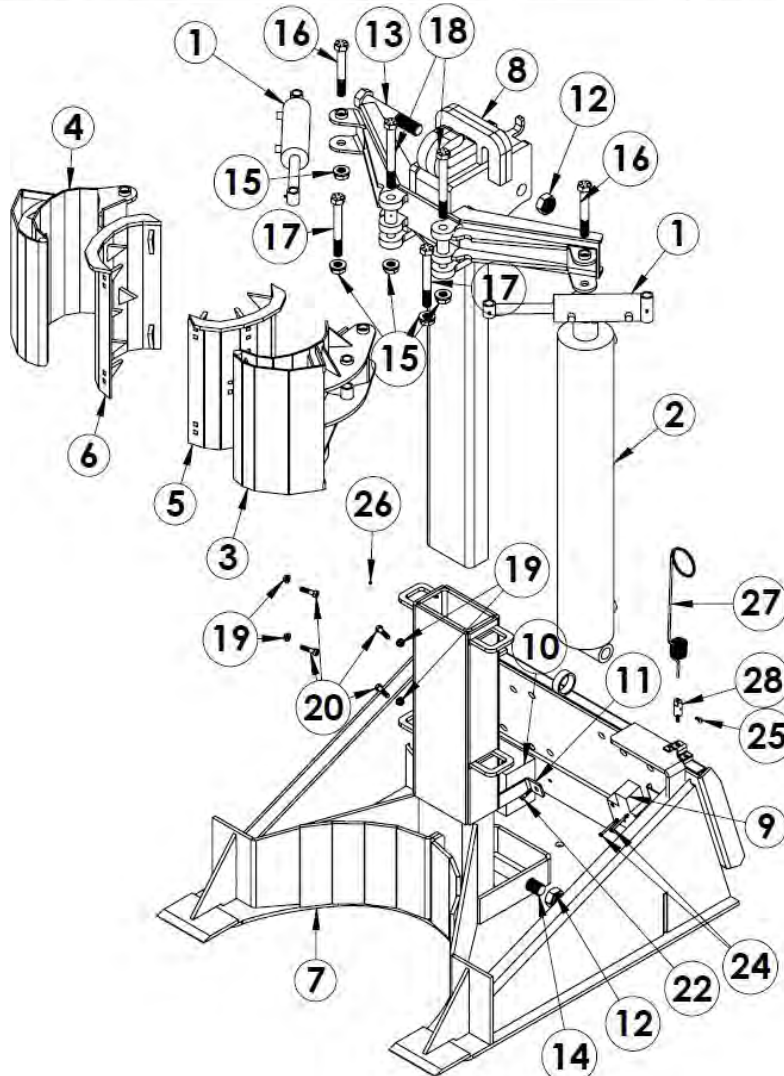
Inserts are also available for the upper and lower jaws:



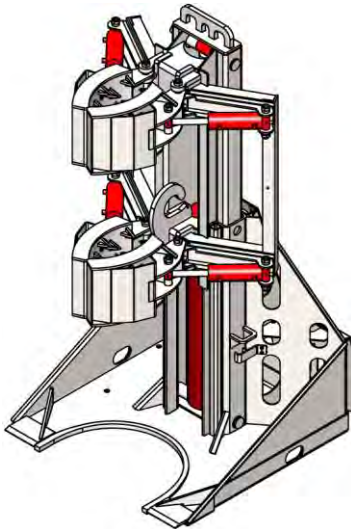
Pole Jack



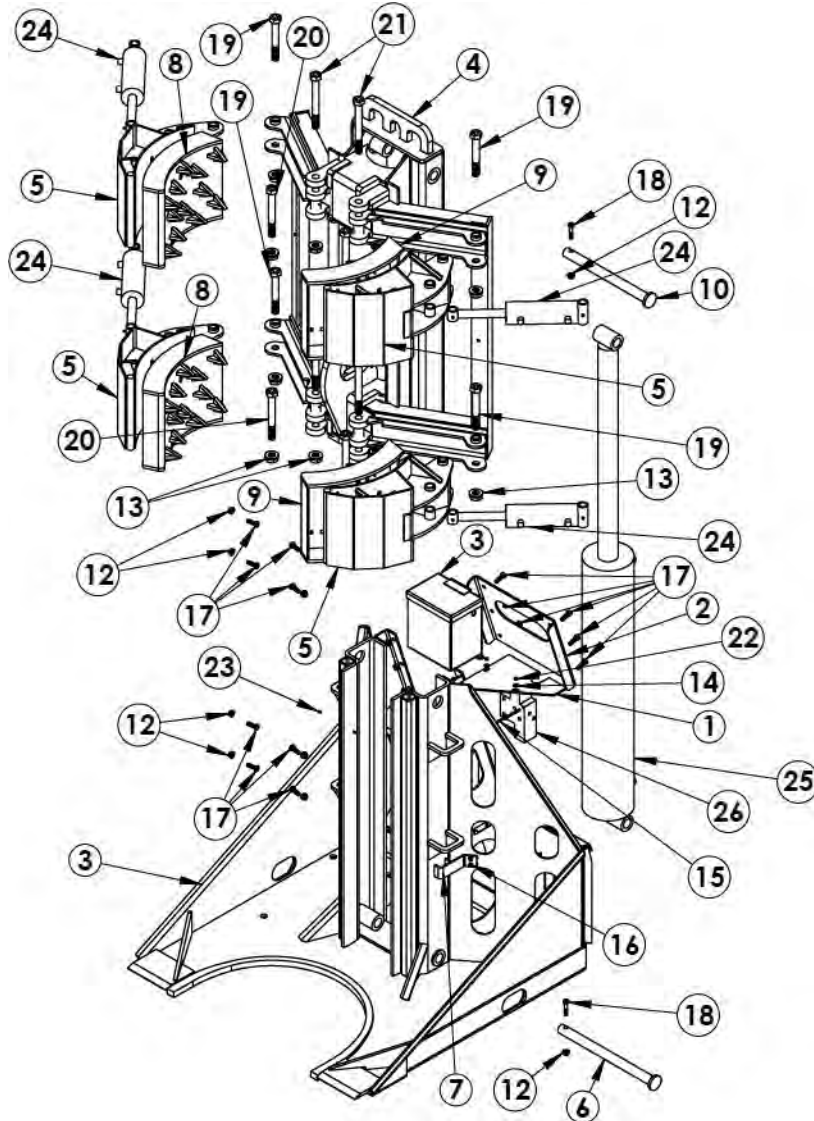
ITEM NO.	Part	Description	Qty.
1	P-MP-CYL-300-600	3" x 6" x 1.25" Cylinder	2
2	P-MP-EZ50023	6" x 36" x 3" Cylinder	1
3	PJ-01-009	Left pole jack jaw	1
4	PJ-01-0010	Right pole jack jaw	1
5	PJ-01-0015-L	Left pole jack insert	1
6	PJ-01-0015-R	Right pole jack insert	1
7	PJ-01-0013	Pole jack base weldment	1
8	PJ-01-0014	Pole jack head weldment	1
9	P-PS-VA-0860-03-1	Main Selector Valve	1
10	Battery	Brite Start GT12 12V Battery	1
11	PJ-00-0079	Battery Bracket	1
12	FA37286	1 1/2"-6 Grade C zinc finish steel collar style top lock nut	2
13	FA14681	1 1/2"-6 x 9" Grade 8 plain finish hex cap screw for top of lift cylinder	1
14	FA14686	1 1/2"-6 x 12" Grade 8 plain finish hex cap screw for bottom of lift cylinder	1
15	FA0166995	1"-8 Grade F zinc finish steel flange top lock nut	6
16	FA15477	1"-8 x 7" Grade 8 yellow zinc hex cap screw for rear of clamp cylinder	2
17	FA15479	1"-8 x 8" Grade 8 yellow zinc hex cap screw for front of clamp cylinder	2
18	FA15481	1"-8 x 9" Grade 8 yellow zinc hex cap screw for jaw pivot point	2
19	FA0166990	1 1/2"-13 Grade F zinc flange top lock nut	4
20	FA15211	1 1/2"-13 x 2" Grade 8 yellow zinc hex cap screw for inserts	4
21	FA0166988	1 1/2"-16 Grade F zinc finish steel flange top lock nut	2
22	FA13109	1 1/2"-16 x 1 1/2" Grade 5 zinc hex cap screw for battery bracket	2
23	FA110120307	1 1/2"-20 4X Projection weld nut	2
24	FA13015	1 1/2"-20 x 3" Grade 5 zinc hex cap screw for valve	2
25	FA32777	1 1/2"-20 x 1/2" Type B regular thumb screw	1
26	FA58771	DynaFlo[REG] 1 1/2"-28 Straight steel zinc grease fitting with ball check	8
27	CDB-00-0012	Spring for spring hose kit	1
28	EZ-00-0056	Spud for spring mount	1
29	P-ST-801304010	3/4" Flush face coupler female	1
30	P-ST-805204005	3/4" Flush face coupler male	1



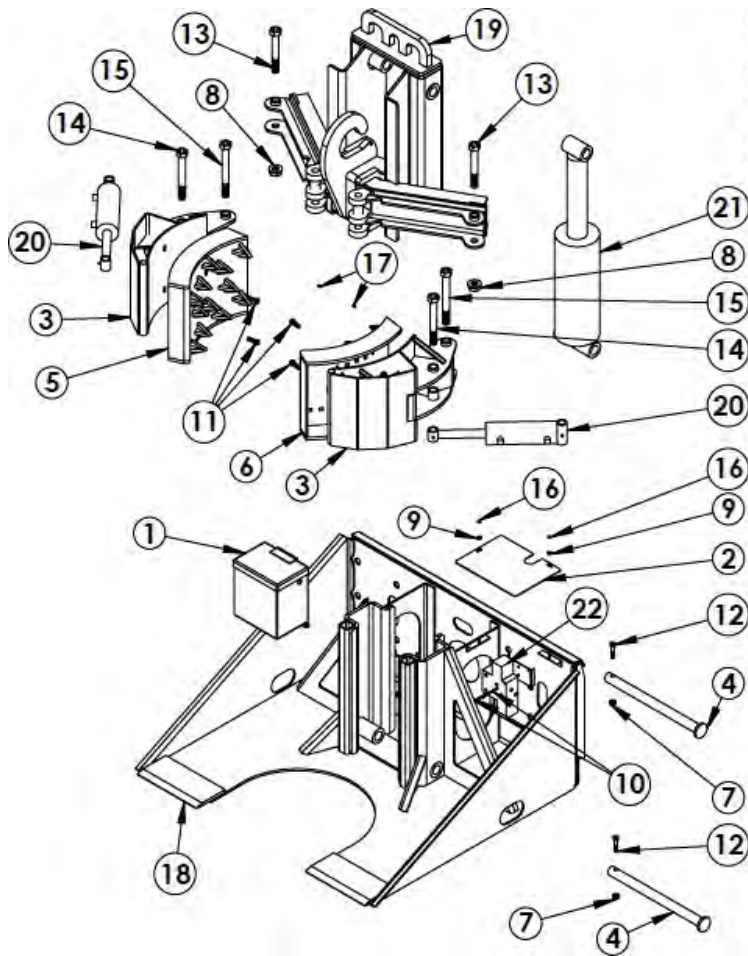
Double Clamp Pole Jack



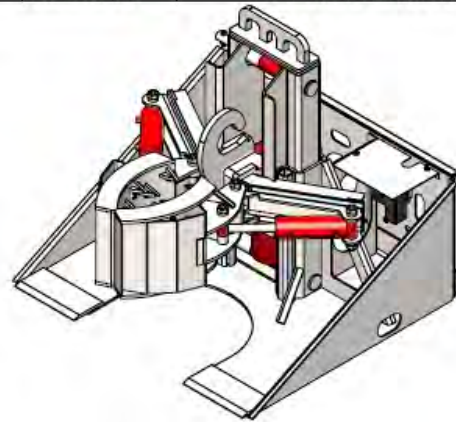
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DCPJ-00-052	DOUBLE POLE JACK VALVE COVER	1
2	DCPJ-00-079	BOLT ON SPACER PLATE	1
3	DCPJ-01-004	DOUBLE POLE JACK BASE	1
4	DCPJ-01-005	DOUBLE POLE JACK HEAD WELDMENT WITH SLIDERS	1
5	DCPJ-01-007	WELDMENT, POLE JACK JAW	4
6	DCPJ-01-009	PIN WELDMENT	1
7	DCPJ-01-012	HOSE BRACKET WELDMENT	2
8	DCPJ-01-013-L	LEFT WELDMENT, DOUBLE POLE JACK INSERT	2
9	DCPJ-01-013-R	RIGHT WELDMENT, DOUBLE POLE JACK INSERT	2
10	DCPJ-01-016	TOP EXTRACTION CYLINDER PIN WELDMENT	1
11	FA0166988	3/8"-16 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	4
12	FA0166990	1/2"-13 GRADE F ZINC FLANGE TOP LOCK NUT	16
13	FA0166995	1"-8 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	12
14	FA1133004	1/4" x 0.734" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	4
15	FA13015	1/4"-20 x 3" GRADE 5 ZINC HEX CAP SCREW	2
16	FA13105	3/8"-16 x 1" GRADE 5 ZINC HEX CAP SCREW	4
17	FA15209	1/2"-13 x 1-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	14
18	FA15212	1/2"-13 x 2-1/4" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
19	FA15477	1"-8 x 7" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
20	FA15479	1"-8 x 8" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
21	FA15481	1"-8 x 9" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
22	FA36102	1/4"-20 ZINC FINISH GRADE A FINISHED HEX NUT	4
23	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	4
24	P-MP-CYL-300-600	3" x 6" x 1.25" CYLINDER WITHOUT PILOT CHECK VALVE	4
25	P-MP-EZ50027	7" BORE X 36" STROKE X 3" ROD	1
26	P-PS-VA-0860-03-1	MAIN SELECTOR VALVE	1
27	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
28	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1



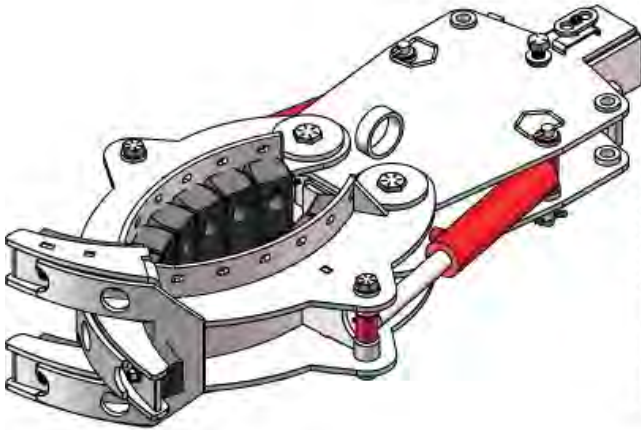
Mini Pole Jack



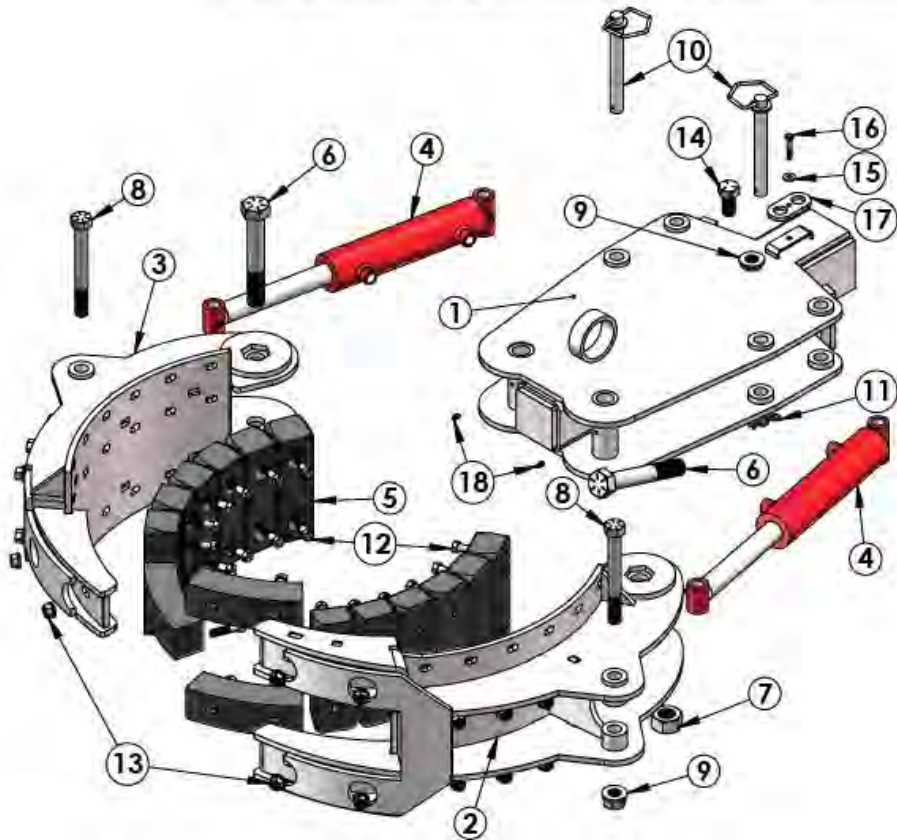
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	BB-01-0002 MINI POLE JACK	ASSY, BATTERY BOX	1
2	DCPJ-00-047	MINI POLE JACK VALVE COVER	1
3	DCPJ-01-007	WELDMENT, POLE JACK JAW	2
4	DCPJ-01-009	PIN WELDMENT	2
5	DCPJ-01-013-L	LEFT WELDMENT, DOUBLE POLE JACK INSERT	1
6	DCPJ-01-013-R	RIGHT WELDMENT, DOUBLE POLE JACK INSERT	1
7	FA0166990	1/2"-13 GRADE F ZINC FLANGE TOP LOCK NUT	6
8	FA0166995	1"-8 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	6
9	FA1133004	1/4" x 0.734" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	4
10	FA13015	1/4"-20 x 3" GRADE 5 ZINC HEX CAP SCREW	2
11	FA15209	1/2"-13 x 1-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
12	FA15212	1/2"-13 x 2-1/4" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
13	FA15477	1"-8 x 7" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
14	FA15479	1"-8 x 8" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
15	FA15481	1"-8 x 9" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
16	FA36102	1/4"-20 ZINC FINISH GRADE A FINISHED HEX NUT	4
17	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	2
18	MPJ-01-001	MINI POLE JACK BASE	1
19	MPJ-01-002	MINI POLE JACK HEAD WELDMENT WITH SLIDERS	1
20	P-MP-CYL-300-600	3" x 6" x 1.25" CYLINDER WITHOUT PILOT CHECK VALVE	2
21	P-MP-EZS0013	6" X 12" X 3" CYLINDER	1
22	P-PS-VA-0860-03-1	MAIN SELECTOR VALVE	1
23	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
24	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1



3 Finger Tree Hand

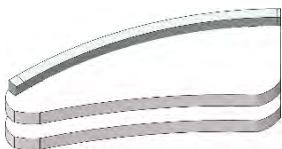


Item No.	Part	Description	Qty.
1	TH-01-3005	3 FINGER TREE HAND HEAD	1
2	TH-01-3007	2 FINGER ARM	1
3	TH-01-3006	1 FINGER ARM	1
4	P-MP-CYL-200-600	2" x 6" x 1.25" CYLINDER	2
5	FA99829230	7-1/2"L x 2-1/2"W x 2"H, 2 HOLE 700-DUROMETER NATURAL RUBBER TRAILER/DOCK BUMPER	15
6	FA15476	1"-8 x 6-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
7	FA36420	1"-8 YELLOW ZINC FINISH GRADE 8 HEX NUT	2
8	FA15376	3/4"-10 x 6-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
9	FA0166993	3/4"-10 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	3
10	FA11197-01206	3/4" DIA 6-1/4" L STEEL HITCH PIN	2
11	HDW-00-0035	COTTER PIN	2
12	FA13160	7/16"-14 x 1-3/4" GRADE 5 ZINC FINISH HEX CAP SCREW	30
13	FA0166989	7/16"-14 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	30
14	FA13359	3/4"-10 x 1-1/2" GRADE 5 ZINC FINISH HEX CAP SCREW	1
15	FA1133004	1/4" x 0.734" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	1
16	FA110120306	1/4"-20 x 1-1/2" GRADE 5 ZINC HEX CAP SCREW	1
17	RP-200-00-0025	HOSE SUPPORT	1
18	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	6

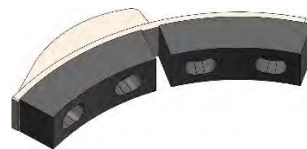


The following inserts are also available for the 3 finger tree hand in place of the rubber bumpers in the finger tips:

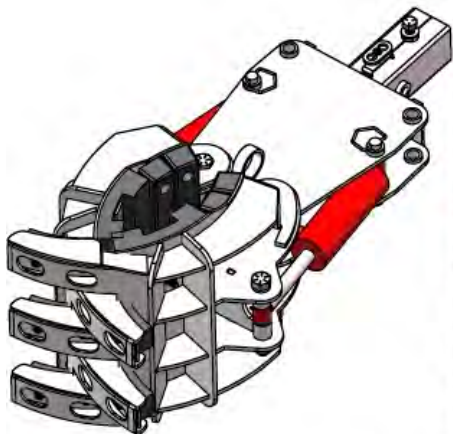
Rock Inserts



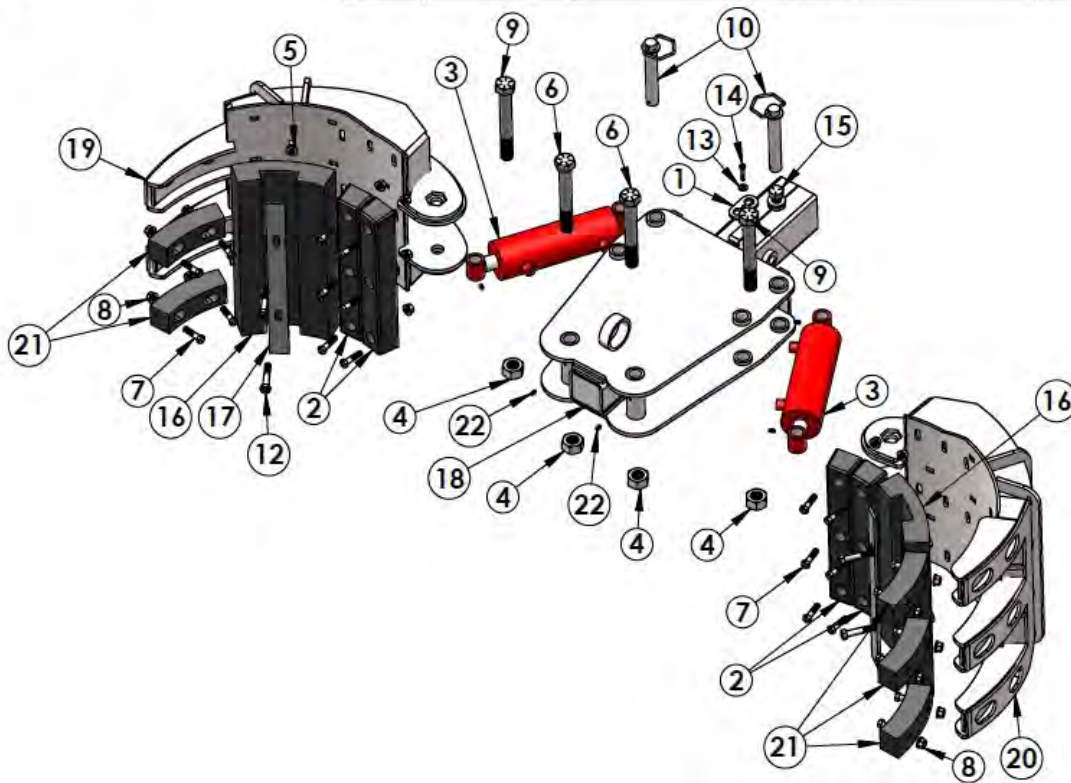
Fingertip Extensions



5 Finger Tree Hand



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RP-200-00-0025	HOSE SUPPORT	1
2	FA11197-01375	16"L x 2-1/2"W x 2H RUBBER BUMPER	4
3	P-MP-CYL-300-600	3" x 6" x 1.25" CYLINDER WITHOUT PILOT CHECK VALVE	2
4	FA36420	1"-8 GRADE 8 YELLOW ZINC HEX NUT	4
5	FA0166990	1/2"-13 GRADE F ZINC FLANGE TOP LOCK NUT	4
6	FA15478	1"-8 x 7.5" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
7	FA13160	7/16"-14 x 1-3/4" GRADE 5 ZINC FINISH HEX CAP SCREW	22
8	FA0166989	7/16"-14 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	22
9	FA15479	1"-8 x 8" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
10	FA11197-01207	1" DIA 6"L STEEL HITCH PIN	2
11	HDW-00-0117	COTTER PIN	2
12	FA15214	1/2"-13 x 2-3/4" GRADE 8 YELLOW ZINC HEX CAP SCREW	4
13	FA1133004	1/4" x 0.734" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	1
14	FA110120306	1/4"-20 x 1-1/2" GRADE 5 ZINC HEX CAP SCREW	1
15	FA13359	3/4"-10 x 1-1/2" GRADE 5 ZINC FINISH HEX CAP SCREW	1
16	FA91000820[B]	18" x 9" x 2" M-SHAPED BUMPER	2
17	RS-00-0001 rubber strip	BOLT STRIP FOR RUBBER BUMPERS	2
18	TG-01-HD01	WELDMENT, 5 FINGER ROCK & TREE HAND HEAD	1
19	TH-01-0001	WELDMENT, ARM 1	1
20	TH-01-0002	WELDMENT, ARM 2	1
21	FA99829230[B]	7-1/2"L x 2-1/2"W x 2"H, 2 HOLE 700 DUROMETER NATURAL RUBBER TRAILER/DOCK BUMPER	5
22	FA58771	DynaFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	2

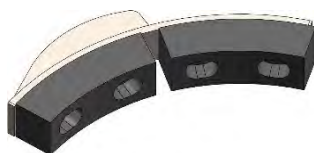


The following inserts are also available for the 5 finger tree hand in place of the rubber bumpers (21) in the finger tips:

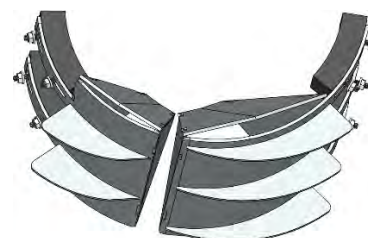
Rock Inserts



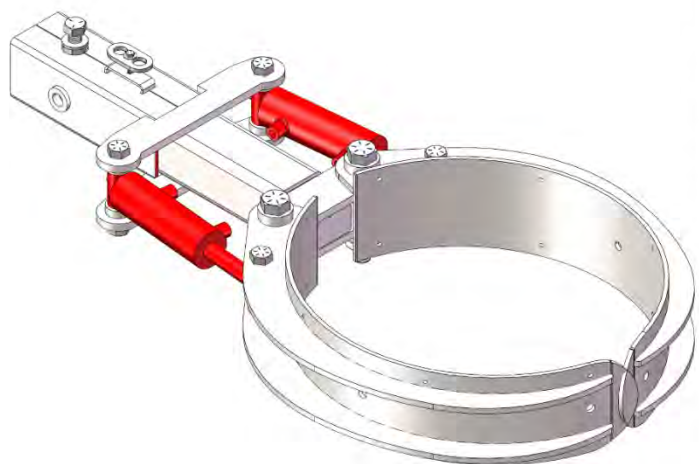
Fingertip Extensions



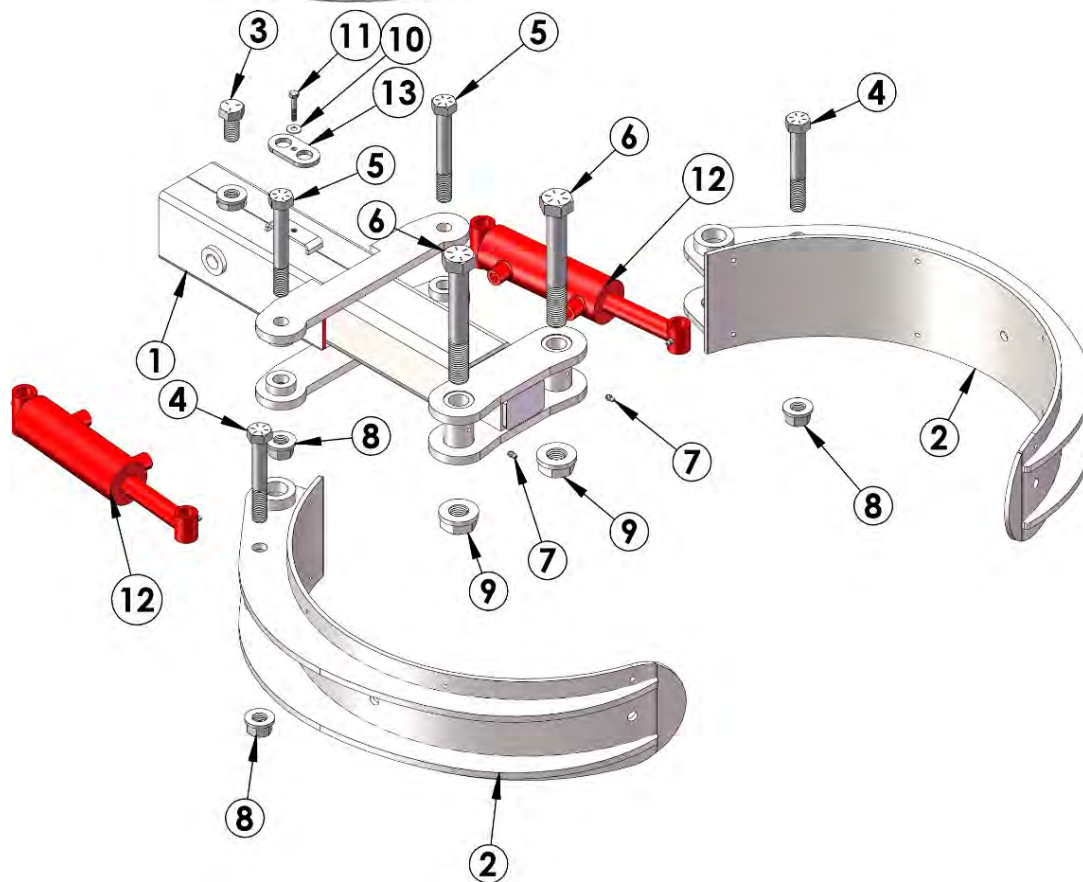
B&B Inserts



Barrel Handler



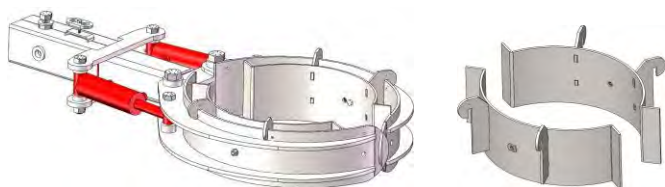
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CS-01-0001	BARREL HANDLER HEAD	1
2	CS-01-0002	55 GALLON BARREL HANDLER ARM	2
3	FA13359	3/4"-10 x 1-1/2" GRADE 5 ZINC FINISH HEX CAP SCREW	1
4	FA15373	3/4"-10 x 5" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
5	FA15374	3/4"-10 x 5-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
6	FA15477	1"-8 x 7" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
7	FA58771	DynoFlo[REG] 1/4"-28 STRAIGHT STEEL ZINC GREASE FITTING WITH BALL CHECK	2
8	FA0166993	3/4"-10 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	4
9	FA0166995	1"-8 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	2
10	FA1133004	1/4" x 0.734" OD LOW CARBON ZINC FINISH STEEL USS GENERAL PURPOSE FLAT WASHER	1
11	FA110120306	1/4"-20 x 1-1/2" GRADE 5 ZINC HEX CAP SCREW	1
12	P-MP-CYL-200X350	2" x 3.5" x 1" CYLINDER	2
13	RP-200-00-0025	HOSE SUPPORT	1



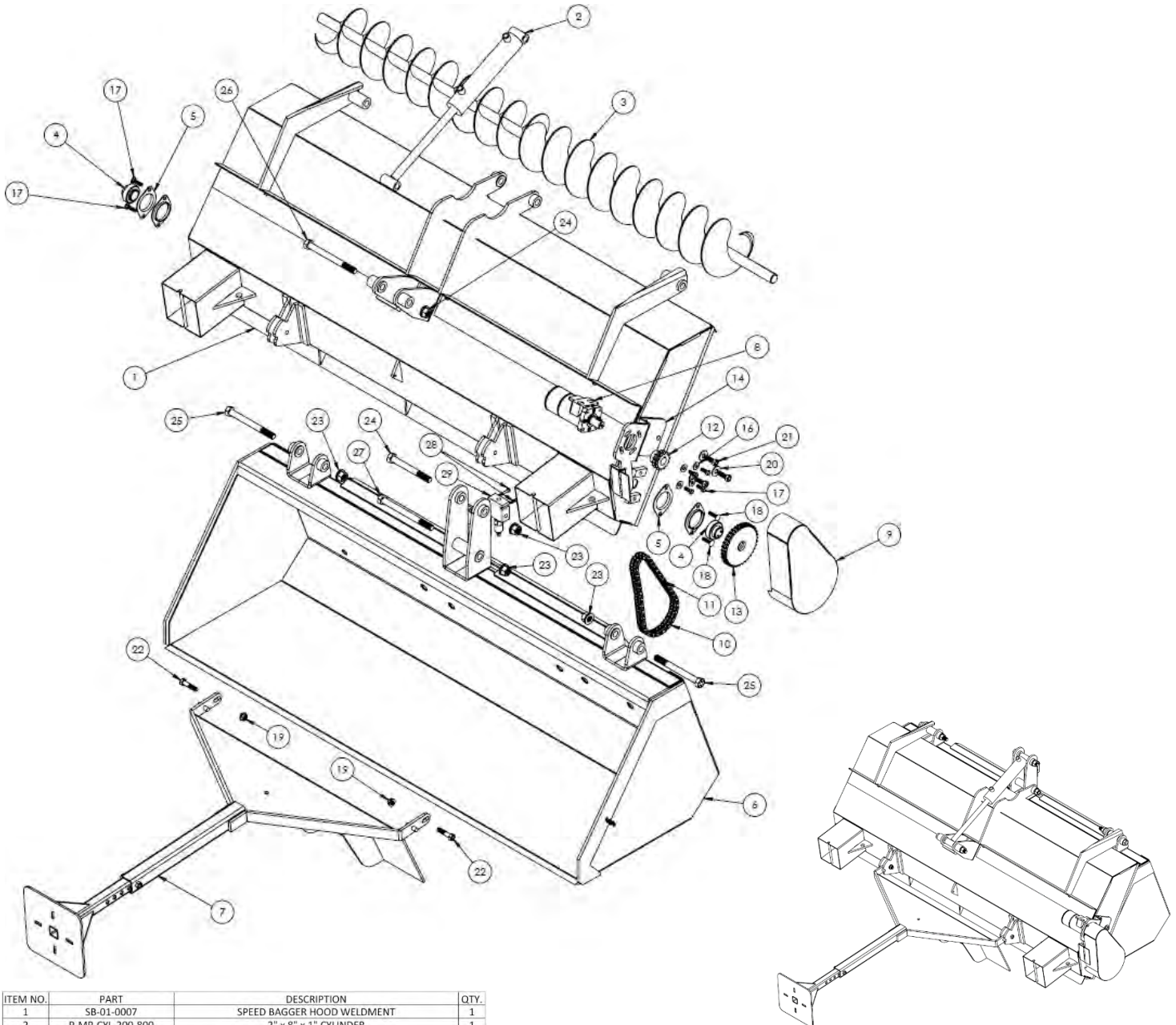
The following are also available for the barrel handler:

30 Gallon Inserts for handling 30 gallon barrels

Barrel Handler Shoe for handling plastic barrels



Speed Bagger



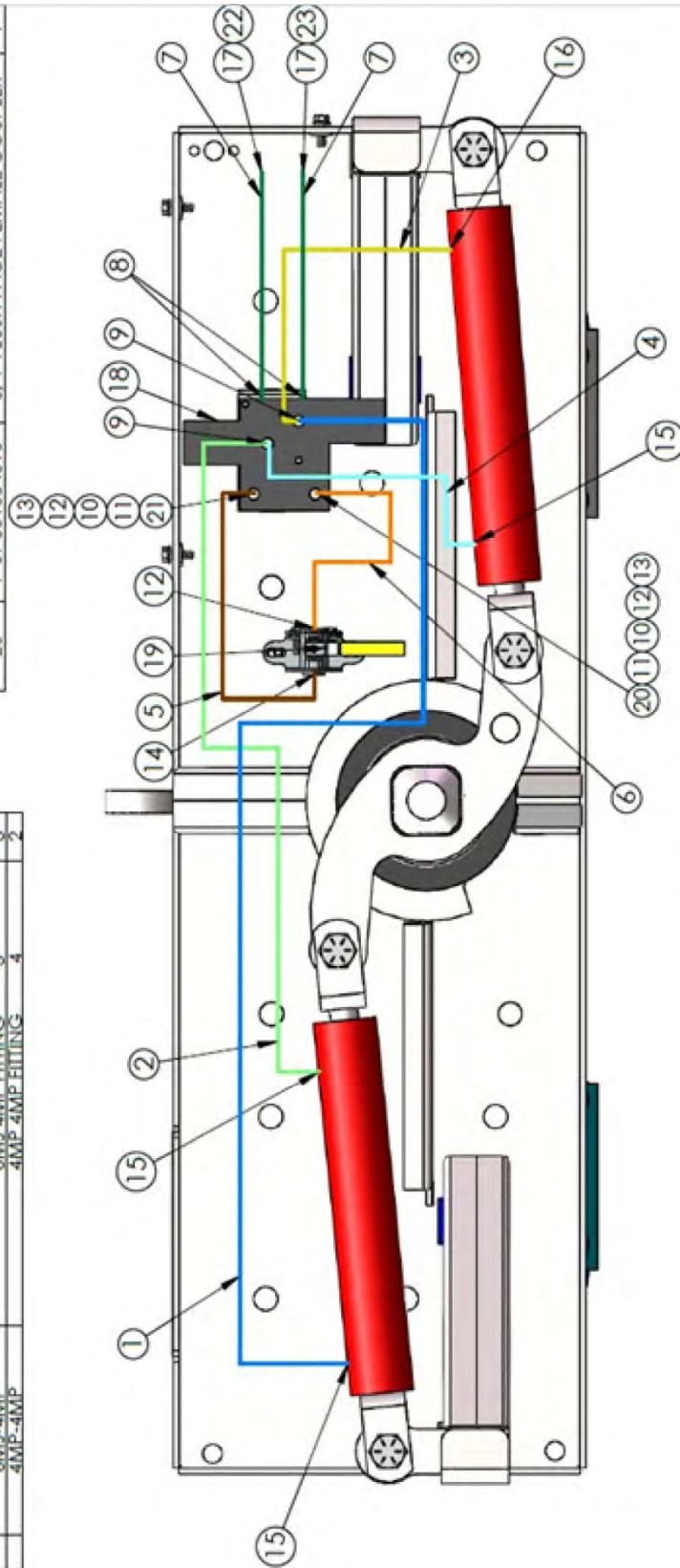
ITEM NO.	PART	DESCRIPTION	QTY.
1	SB-01-0007	SPEED BAGGER HOOD WELDMENT	1
2	P-MP-CYL-200-800	2" x 8" x 1" CYLINDER	1
3	SB-01-0024	7" AUGER WELDMENT	1
4	UC206-20	1-1/4" BEARING FOR AUGER SHAFT	2
5	62M-R FLANGE	BEARING FLANGE	4
6	SB-01-0001	SPEED BAGGER BUCKET WELDMENT	1
7	SB-01-0006	SUPPORT STAND	1
8	P-PS-101-1012-009	CHARL-LYNN MOTOR 101-1012-009	1
9	SB-01-0005	CHAIN GUARD	1
10	P-BS-40-2-DRC	DOUBLE 40 CHAIN	1
11	P-BS-40-2-CL	DOUBLE 40 CHAIN LINK	1
12	P-BS-40A72-SB	CHAIN SPROCKET FOR MOTOR	1
13	HD40B36 F1-1/4"	CHAIN SPROCKET FOR AUGER	1
14	SB-00-0105	BRACKET FOR MOTOR	1
15	FA0166988	3/8"-16 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	4
16	FA33008	3/8" x 1" OD ZINC FINISH STEEL FLAT WASHER	4
17	FA13105	3/8"-16 x 1" GRADE 5 ZINC HEX CAP SCREW	4
18	FA21359	3/8"-16 x 1-1/2" ZINC GRADE A ROUND HEAD CARRIAGE BOLT	4
19	FA0166990	1/2"-13 GRADE F ZINC FLANGE TOP LOCK NUT	2
20	FA33012	1/2" x 1.375" OD FLAT WASHER	3
21	FA15209	1/2"-13 x 1-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	3
22	FA15212	1/2"-13 x 2-1/4" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
23	FA0166993	3/4"-10 GRADE F ZINC FINISH STEEL FLANGE TOP LOCK NUT	5
24	FA15376	3/4"-10 x 6-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	1
25	FA15378	3/4"-10 x 7-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	2
26	FA15379	3/4"-10 x 8" GRADE 8 YELLOW ZINC HEX CAP SCREW	1
27	FA15380	3/4"-10 x 8-1/2" GRADE 8 YELLOW ZINC HEX CAP SCREW	1
28	FA110120307	1/4"-20x1-3/4" GRADE 5 ZINC HEX CAP SCREW	2
29	P-PS-PS10-34A-8T-N-17/08	SEQUENCING VALVE	1

Hydraulic Schematics

Standard Rotating Base

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
14	6MJ-4MP-90	6MJ 4MP90 FITTING	1
15	6MJ-6MB-90	6MJ-6MB 90 FITTING	3
16	6MJ-6MB-45	6MJ-6MB 45 FITTING	1
17	12MB-6MJ	12MB-6MJ FITTING	2
18	P-PS-VA-0860-03	SELECTOR VALVE	1
19	P-FNW-73A-101-01	BALL VALVE	1
20	P-ST-800801001	1/4" NPT FLAT QUICK COUPLER MALE	1
21	P-ST-800801000	1/4" NPT FLAT QUICK COUPLER FEMALE	1
22	P-ST-805204005	3/4" FLUSH FACE MALE COUPLER	1
23	P-ST-801304010	3/4" FLUSH FACE FEMALE COUPLER	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	43-4D6-6FX-6FX	43" HOSE 4D6-6FX-6FX WITH CORD	1
2	33-4D6-6FX-6FX	33" HOSE 4D6-6FX-6FX WITH CORD	1
3	22-4D6-6FX-6FX	22" HOSE 4D6-6FX-6FX WITH CORD	1
4	31-4D6-6FX-6FX	31" HOSE 4D6-6FX-6FX WITH CORD	1
5	13-4D6-6FX-6FX	13-4D6-6FX-6FX-HU - 13" HOSE HU WITH CORD	1
6	14-4D6-6FX-6FX	14-4D6-6FX-6FX-90 - 14" HOSE - 90 WITH CORD	1
7	110-4D6-6FX-6FX	110-4D6-6FX-6FX-90 - 110" HOSE 90 WITH CORD	2
8	6MJ-6MB	6MJ 6MB FITTING	2
9	6MJ-6MJ	6MJ 6MJ FITTINGS	2
10	4FP-4FP	4FP 4FP FITTING	2
1	6MB-4MP	6MB 4MP FITTING	2
2	6MJ-4MP	6MJ 4MP FITTING	3
3	4MP-4MP	4MP 4MP FITTING	4



REV.	DESCRIPTION	DATE	APPROVED
A	UPDATED THE SUPPLY LINES FROM 106" TO 110"	5/22/2020	BEVAN

REVISIONS	NAME	DATE
	BEVAN	4/8/2015

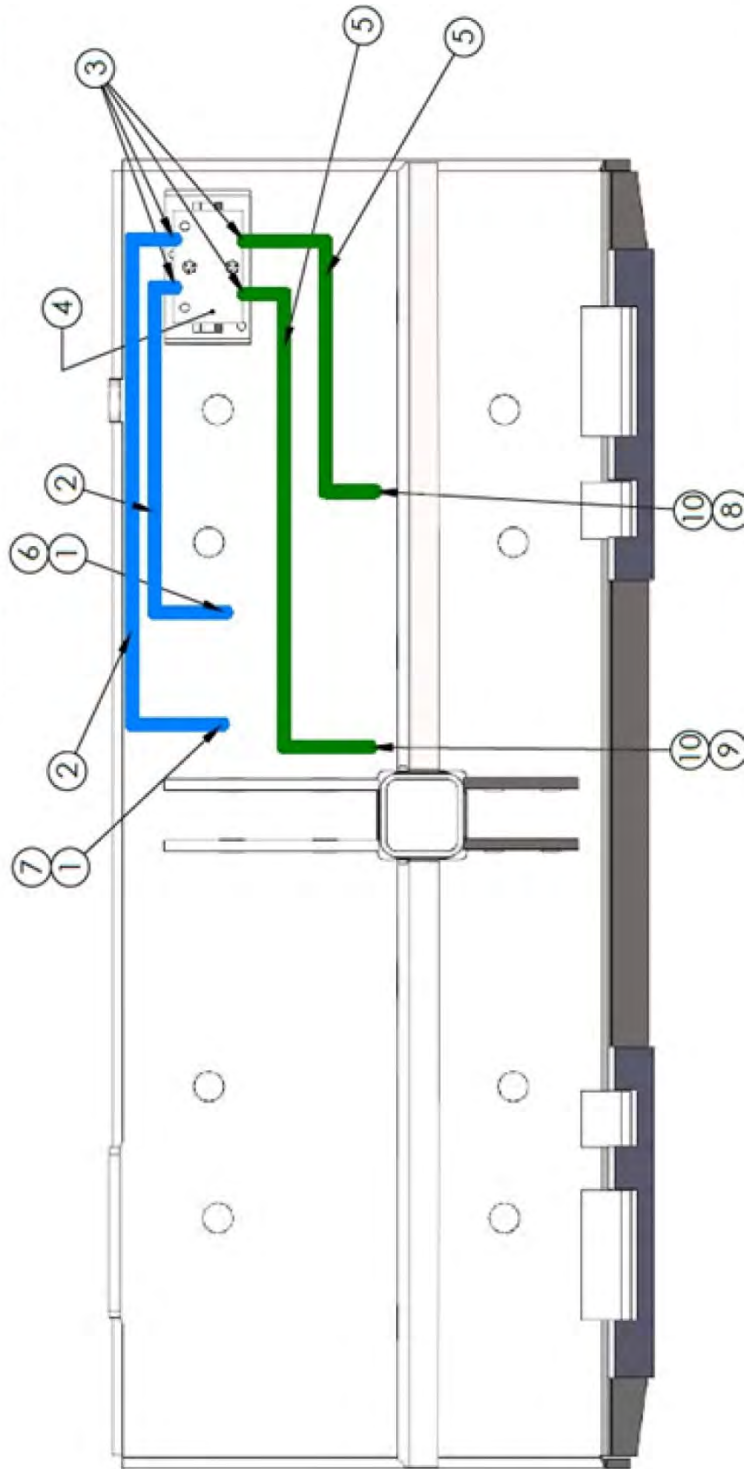
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TOLERANCES:	
FRACTIONALS:	
DECIMALS:	
ANGULARS:	MACHS BEND ±
TWO PLACE DECIMAL:	±
THREE PLACE DECIMAL:	±
INTERPRET GEOMETRIC TOLERANCING PER:	
MATERIAL:	
FINISH:	
DO NOT SCALE DRAWING	

TITLE:	STANDARD BASE HYDRAULIC SCHEMATIC
SIZE	DWG. NO. STANDARD BASE HYDRAULIC SCHEMATIC
REV	A
SCALE:	1:7 WEIGHT: 427.02 SHEET 1 OF 1

Fixed Base

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	12MB-6MJ	12MB-6MJ FITTING	2
2	86-4D6-6FJX-8MP-WC	86-4D6-6FJX-8MP - 86" HOSE WITH CORD	2
3	6MB-6MJ	6MB-6MJ FITTING	4
4	P-PS-DCV08-6T-NS	DOUBLE CHECK VALVE	1
5	43-4D6-6FJX-6T-NS	43" HOSE 6FJX 6T 90 WITH CORD	2
6	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
7	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1
8	P-ST-800801000	1/4" NPT FLAT QUICK COUPLER FEMALE	1
9	P-ST-800801001	1/4" NPT FLAT QUICK COUPLER MALE	1
10	4MP-6MJ	4MP-6MJ FITTING	2



REV.	DESCRIPTION	DATE	APPROVED
A	ADDED THE 3/4" AND 1/4" COUPLERS	4/5/2019	BEVAN

REVISIONS	NAME	DATE
	BEVAN	12-27-11

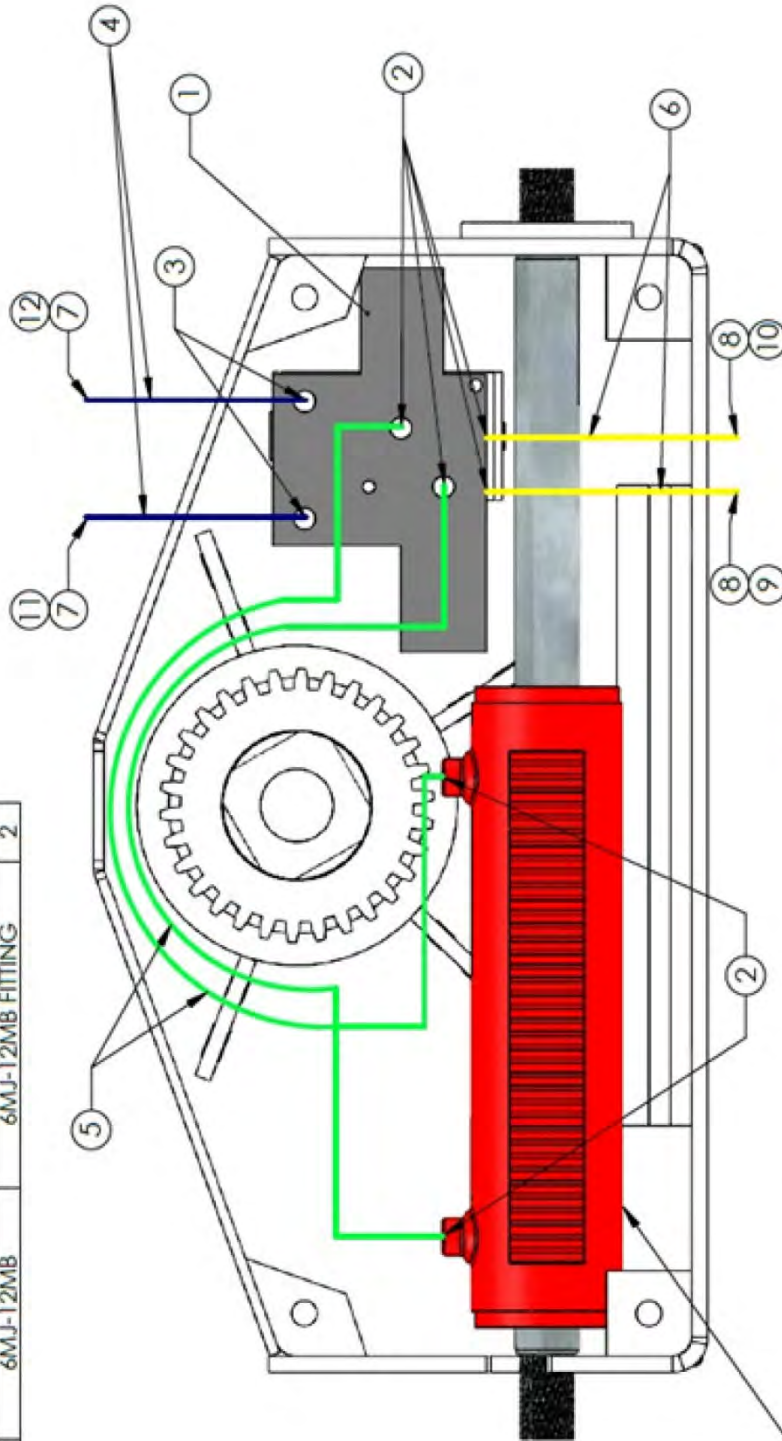
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TOLERANCES:						
FRACTIONAL ±						
ANGULAR MACH ±						
TWO PLACE DECIMAL ±						
THREE PLACE DECIMAL ±						
INTERPRET GEOMETRIC TOLERANCING PER:						
MATERIAL	SEE DETAILS					
FINISH						
HURT ASST	USED ON	APPLICATION				
		DO NOT SCALE DRAWING				

TITLE:		FIXED BASE HYDRAULIC SCHEMATIC	
SIZE	DWG. NO.	REV	
A		A	
SCALE: 1:6	SHEET 1 OF 1		

Excavator Rotating Base

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
9	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1
10	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
11	P-ST-806501003	MALE VEP 9 3/8 NPT	1
12	P-ST-806501002	FEMALE VEP 9 3/8 NPT	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P-PS-VA-0860-03	SELECTOR VALVE	1
2	6MJ-6MB-90	6MJ-6MB-90 FITTING	6
3	6MB-6MJ	6MB-6MJ FITTING	2
4	9-4D6-6FJX-6FJX	9" HOSE 4D6-6FJX-6FJX	2
5	34-4D6-6FJX-6FJX	34" HOSE 4D6-6FJX-6FJX	2
6	110-4D6-6FJX-6FJX-90	110" HOSE 4D6-6FJX-6FJX-90	2
7	6MJ-6MP	6MJ-6MP FITTING	2
8	6MJ-12MB	6MJ-12MB FITTING	2



CYLINDER IS TURNED 90° FOR VISIBILITY

REV.	DESCRIPTION	REVISIONS	DATE	APPROVED
A	UPDATED THE PART NUMBERS FOR THE COUPLERS		7/30/2019	BEVAN
B	UPDATED THE SUPPLY LINES FROM 106" TO 110"		5/22/2020	BEVAN

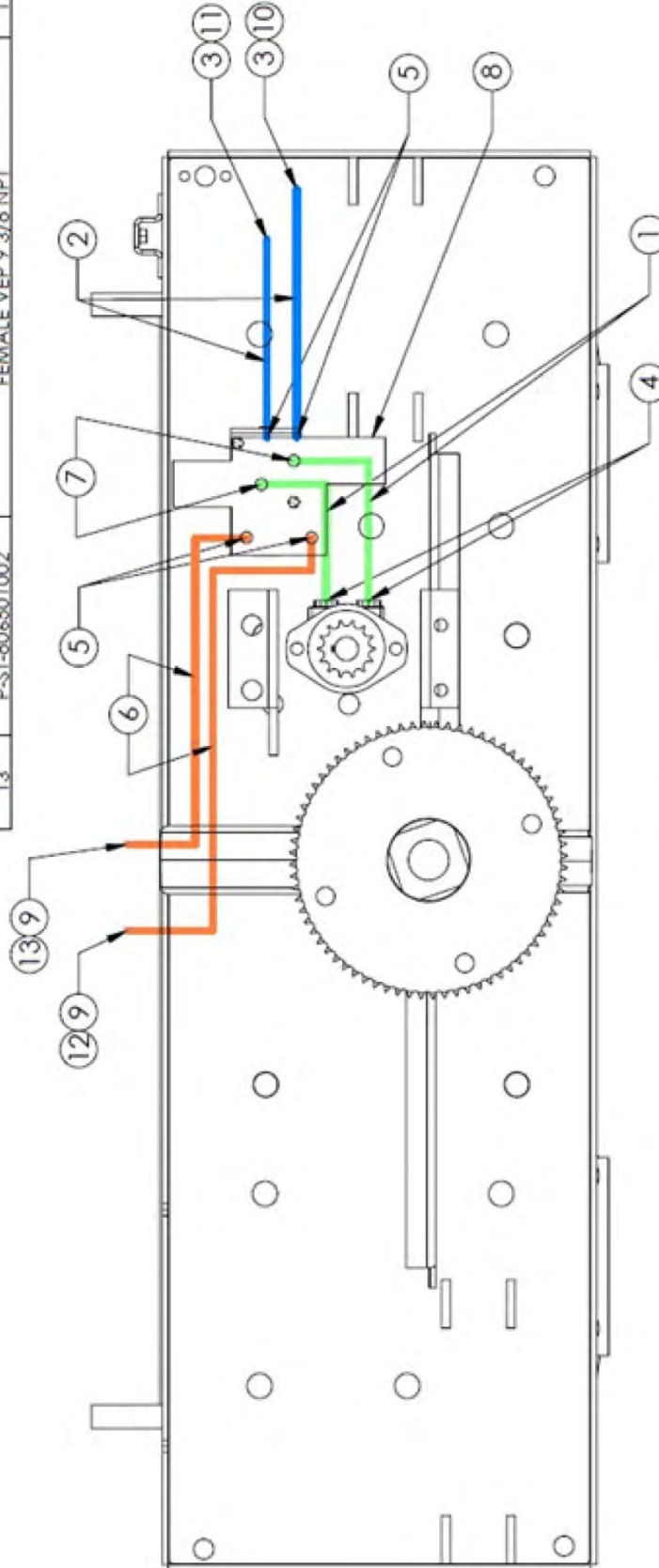
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DIMENSIONS ARE IN INCHES	BEVAN	12-28-11
TOLERANCES:	DRAWN	CHECKED
FRACTIONALS:		
ANGULARS: MACH ±		
TWO PLACE DECIMAL ±		
THREE PLACE DECIMAL ±		
INTERPRET GEOMETRIC TOLERANCING PER:		
MATERIAL:		
FINISH:		
DO NOT SCALE DRAWING		

NEXT ASSTY	USED ON
APPLICATION	

TITLE:	EXCAVATOR ROTATING BASE HYDRAULIC SCHEMATIC
SIZE	DWG. NO.
REV	B
SCALE:	1:4 WT:
	SHEET 1 OF 1

Chain Base

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	22-4D6-6FJX-6FJX	22" HOSE 4D6 6FJX WITH CORD	2
2	110-4D6-6FJX-6FJX-90	110-4D6-6FJX-6FJX-90 - 110" HOSE 90 WITH CORD	2
3	12MB-6MJ	12MB-6MJ FITTING	2
4	10MB-6MJ-R-1/32	FITTING 8MB 6MJ RESTRICTOR 1/32	2
5	6MJ-6MB	6MJ 6MB FITTING	4
6	43-4D6-6FJX-6FJX	43" HOSE 4D6 6FJX WITH CORD	2
7	6MJ-6MB-90	6MJ-6MB 90 FITTING	2
8	P-PS-VA-0860-03	SELECTOR VALVE	1
9	6MJ-6MP	6MJ-6MP FITTING	2
10	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1
11	P-ST-801304010	3/4" FLUSH FACE COUPLER FEMALE	1
12	P-ST-806501003	MALE VEP 9 3/8 NPT	1
13	P-ST-806501002	FEMALE VEP 9 3/8 NPT	1



REV.	DESCRIPTION	DATE	APPROVED
A	ADDED THE 3/4" COUPLERS AND 3/8" VEP COUPLERS	10/22/2019	BEVAN
B	UPDATED SUPPLY LINES FROM 106" TO 110"	5/22/2020	BEVAN

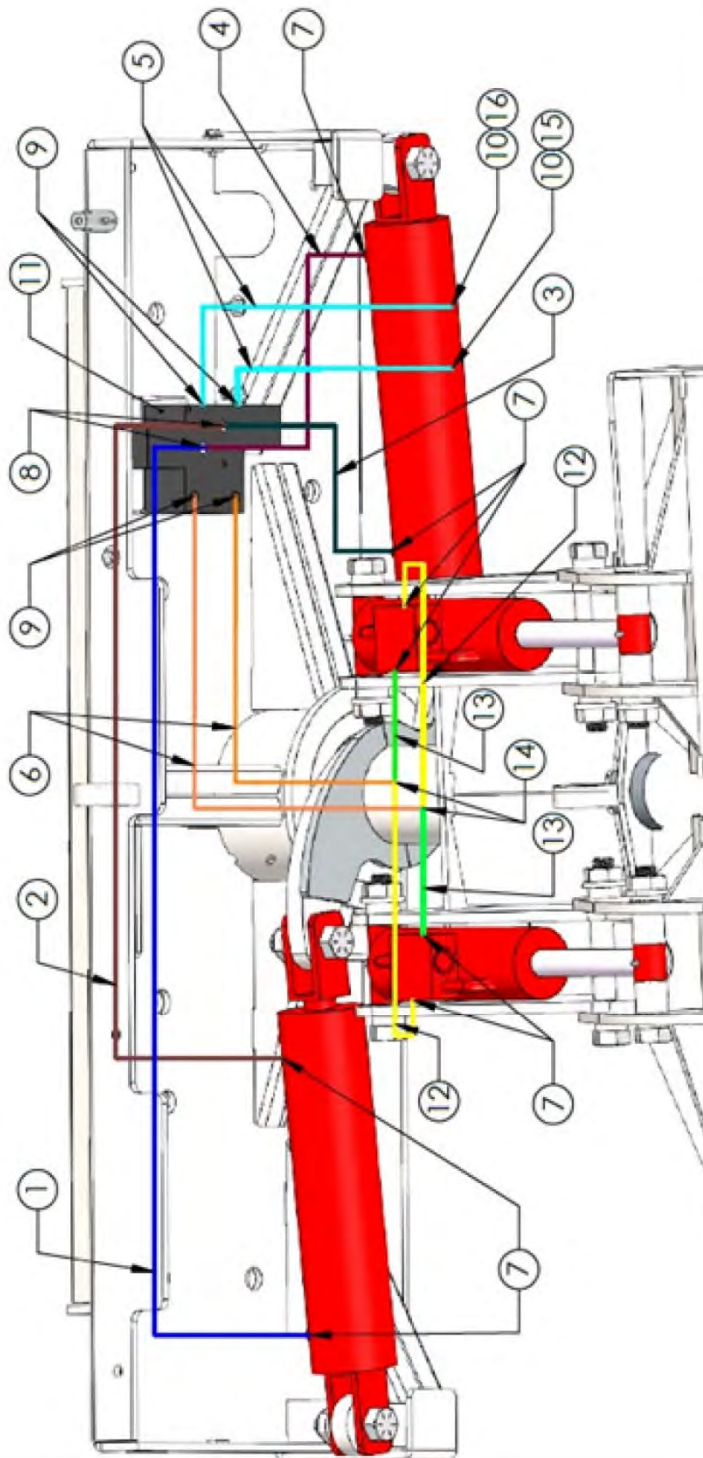
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DIMENSIONS ARE IN INCHES	BEVAN		BEVAN	12-28-11
TOLERANCES:				
FRACTIONAL ±				
ANGULAR MATCH ±				
TWO PLACE DECIMAL ±				
THREE PLACE DECIMAL ±				
INTERFERE GEOMETRIC				
TOLERANCING PER:				
MATERIAL				
FINISH				
NEXT ASSY				
USED ON				
APPLICATION				

TITLE:	
CHAIN BASE HYDRAULIC SCHEMATIC	
SIZE	DWG. NO.
A	
REV	B
SCALE: 1:7	WT:
	SHEET 1 OF 1

Heavy Duty Pole Setter without Tamper Circuit

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
9	6MJ-6MB	6MJ 6MB FITTING	4
10	12MB-6MJ	12MB-6MJ FITTING	2
11	P-PS-VA-0860-03-1	SELECTOR VALVE	1
12	9-4D6-6FJX-6FJX90	9" HOSE 4D6 6FJX 6FJX 90	2
13	6-4D6-6FJX-6FJX90	6" HOSE 4D6 6FJX 6FJX 90	2
14	6MJ-6MJ-6MJ	6MJ-6MJ-6MJ FITTING	2
15	P-ST-801304005	3/4" FLUSH FACE COUPLER FEMALE	1
16	P-ST-805204005	3/4" FLUSH FACE COUPLER MALE	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	43-4D6-6FJX-6FJX	43" HOSE 4D6 6FJX 6FJX WITH CORD	1
2	33-4D6-6FJX-6FJX	33" HOSE 4D6 6FJX 6FJX WITH CORD	1
3	31-4D6-6FJX-6FJX	31" HOSE 4D6 6FJX 6FJX WITH CORD	1
4	22-4D6-6FJX-6FJX	22" HOSE 4D6 6FJX 6FJX WITH CORD	1
5	110-4D6-6FJX-6FJX-90	110-4D6-6FJX-6FJX-90 - 106" HOSE 90 WITH CORD	2
6	36-4D6-6FJX-6FJX	36" HYDRAULIC HOSE 6FJX 6FJX WITH CORD	2
7	6MJ-6MB-90	6MJ-6MB 90 FITTING	9
8	6MJ-6MJ-6MB	6MJ 6MJ 6MB FITTING	2



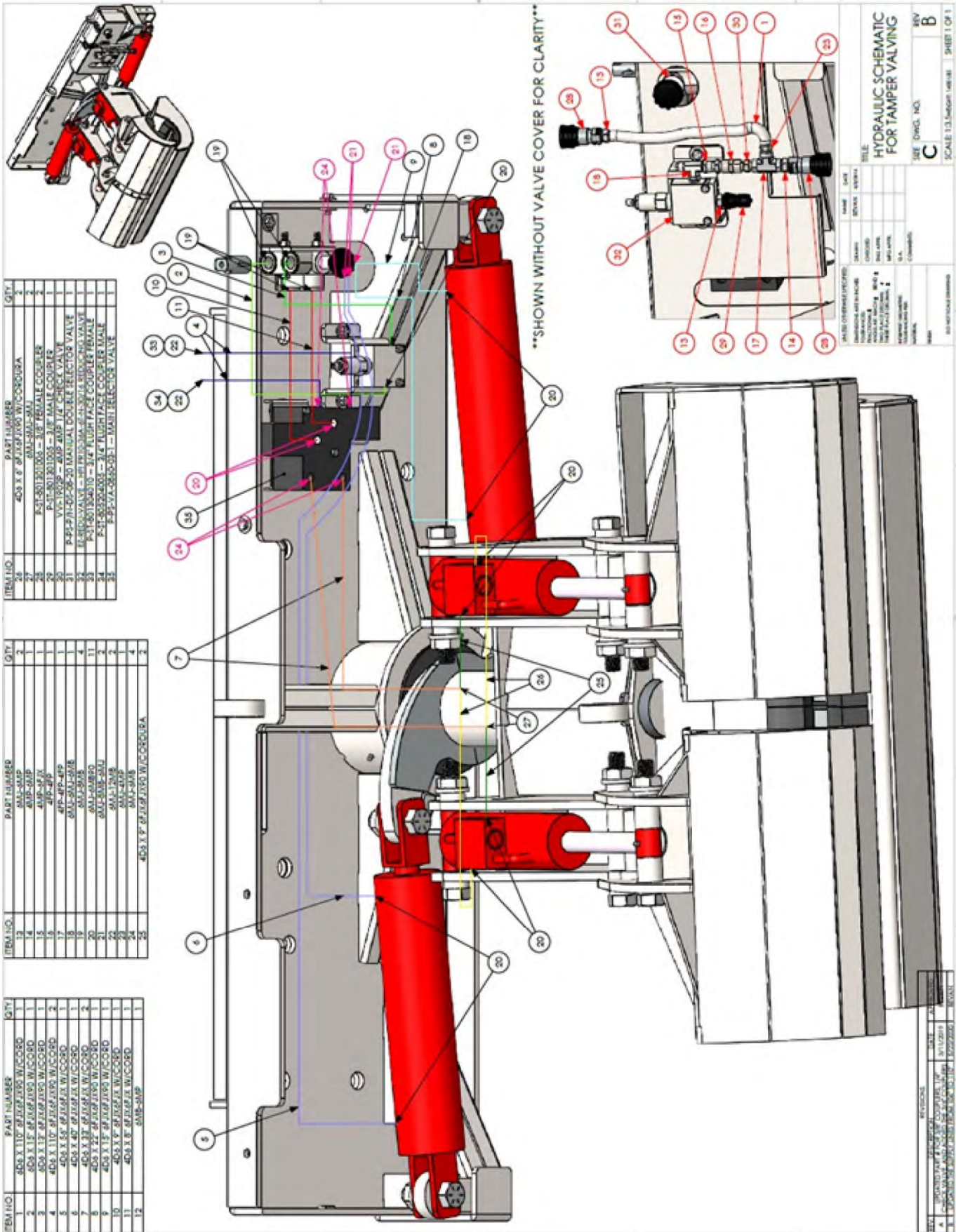
REV.	DESCRIPTION	DATE	APPROVED
A	ADDED THE PART # FOR THE 3/4" COUPLERS	3/11/2019	BEVAN
B	UPDATED THE SUPPLY LINES FROM 106" TO 110"	5/22/2020	BEVAN

NAME	DATE
BEVAN	12-28-11

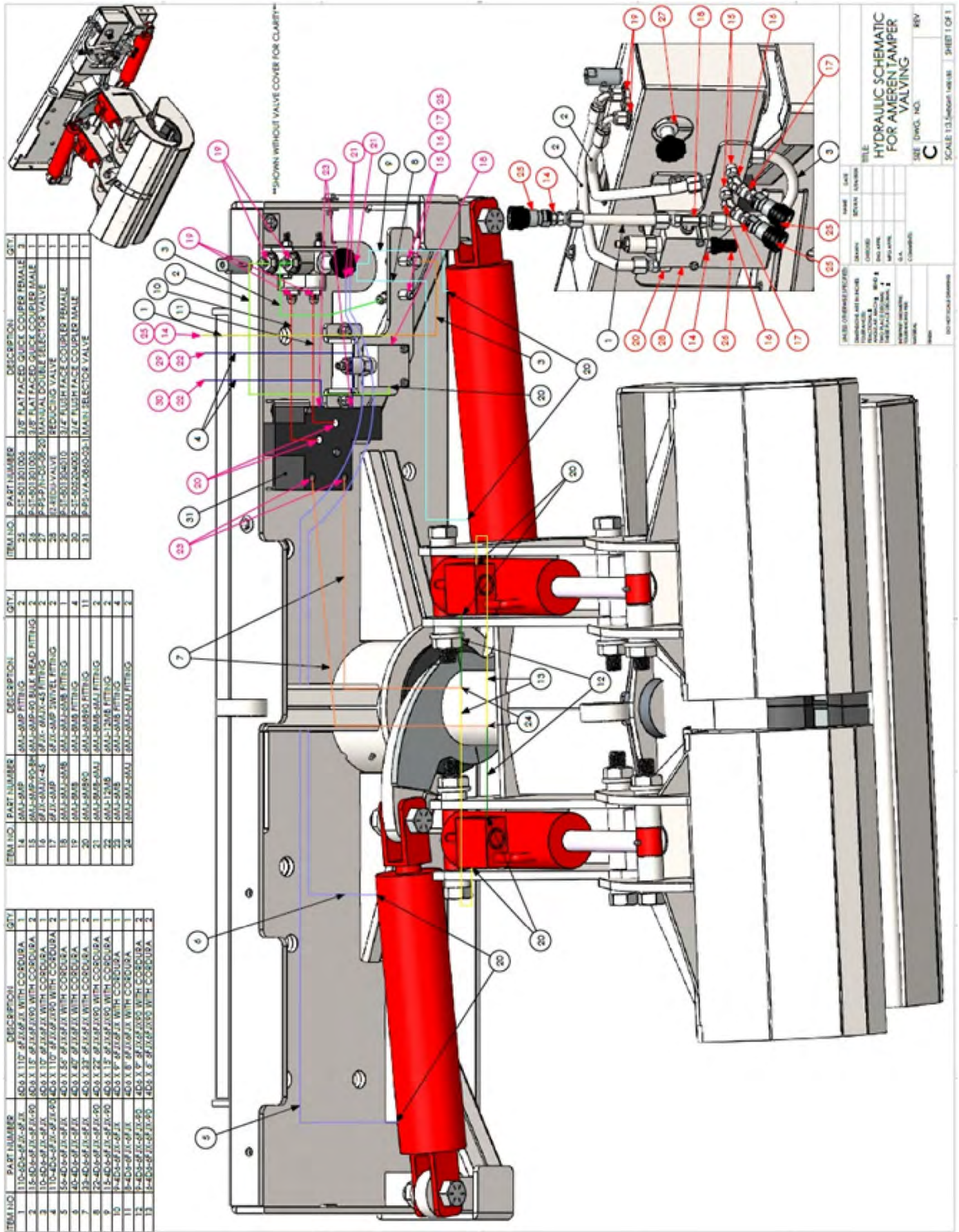
TITLE:	HEAVY DUTY DOUBLE POLE CLAW HYDRAULIC SCHEMATIC
SIZE	DWG. NO. A
REV	B
SCALE:	1:8 WT:
SHEET 1 OF 1	

UNLESS OTHERWISE SPECIFIED:	DRAWN	CHECKED
DIMENSIONS ARE IN INCHES	ANGULAR: MACH 1	BEND ±
TOLERANCES:	FRACTIONAL ±	DECIMAL ±
THREE PLACE DECIMAL ±	MFG APPR.	G.A.
OTHER PREP GEOMETRIC TOLERANCING PER:	COMMENTS:	
MATERIAL	FINISH	DO NOT SCALE DRAWING
NEXT ASSY	USED ON	APPLICATION
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SPARTAN EQUIPMENT, INC.		

Heavy Duty Pole Setter with Tamper Circuit

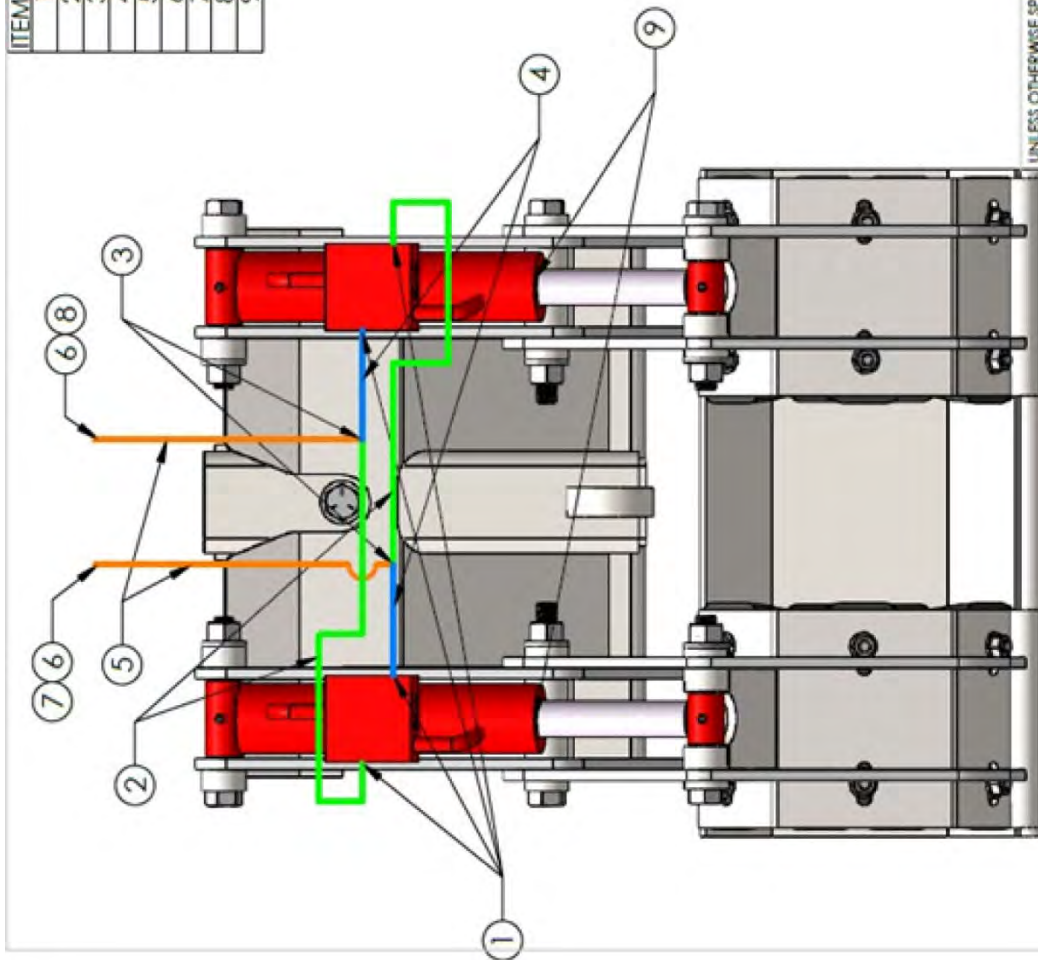


Heavy Duty Pole Setter with Ameren Modified Tamper Circuit



Double Pole Claw

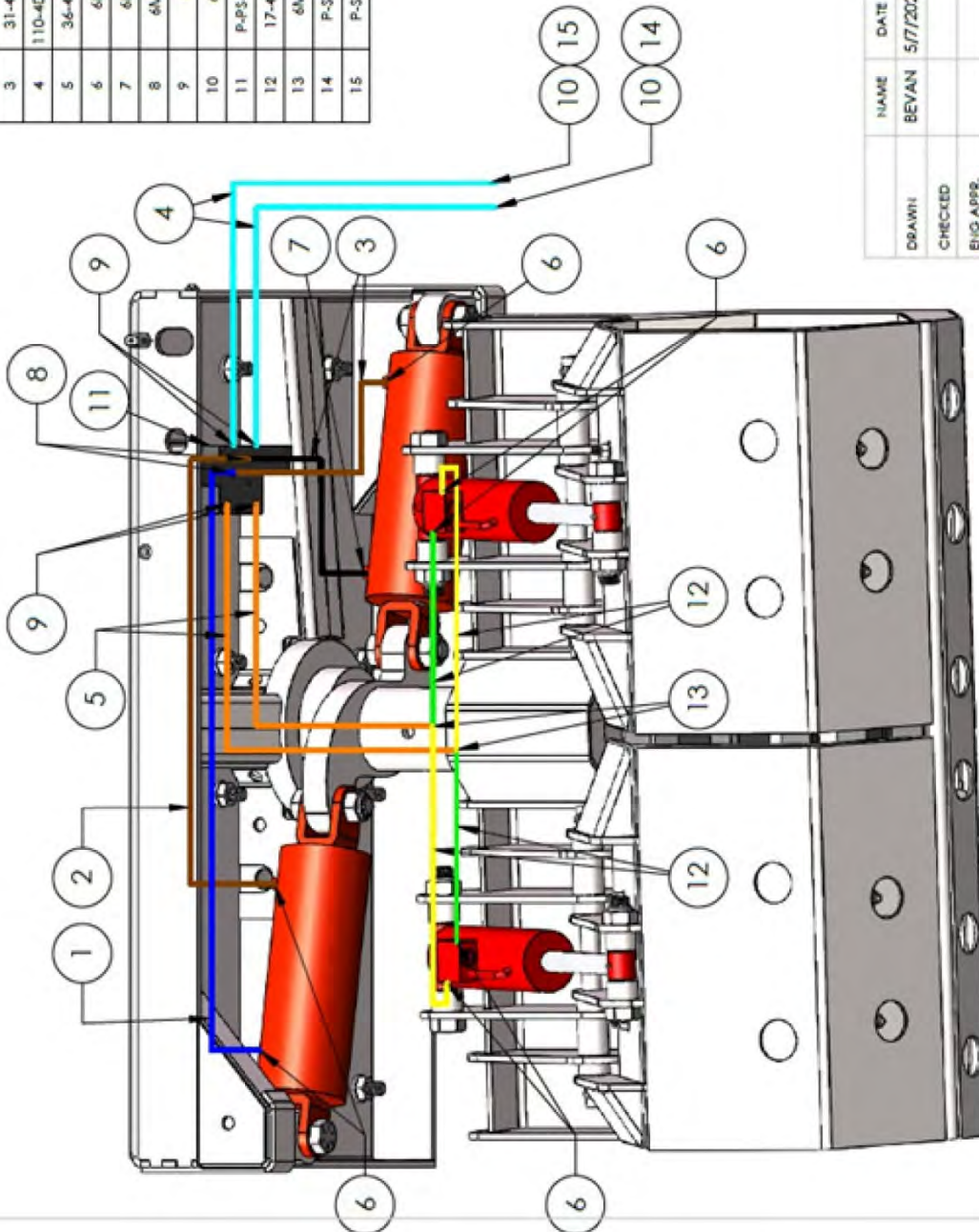
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6MJ-6MB-90	6MJ-6MB-90 FITTING	4
2	9-4D6-6FJX-6FJX90	9" HOSE 9-4D6-6FJX-6FJX90 WITH CORD	2
3	6MJ-6MJ-6MJ	6MJ-6MJ-6MJ FITTING	2
4	6-4D6-6FJX-6FJX90	6" HOSE 6-4D6-6FJX-6FJX90 WITH CORD	2
5	34-4D6-6FJX-6FJX	34" HOSE 34-4D6-6FJX-6FJX WITH CORD	2
6	6MJ-4MP	6MJ-4MP FITTING	2
7	P-ST-800801000	1/4" NPT FLAT QUICK COUPLER F	1
8	P-ST-800801001	1/4" NPT FLAT QUICK COUPLER M	1
9	P-MP-EZS0026	2" x 6" x 1.25" CYLINDER WITH CHECK VALVE	2



UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		BEVAN	4/9/2015
TOLERANCES:			
FRACTIONAL ±			
ANGULAR: MACH ±			
BEND ±			
TWO PLACE DECIMAL ±			
THREE PLACE DECIMAL ±			
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH:			
DO NOT SCALE DRAWING			
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ADDED THE P/N FOR THE QUICK COUPLERS & CYLINDERS	4/2/2019	BEVAN
NEXT ASSY		USED ON	
APPLICATION			
TITLE:		DOUBLE POLE CLAW WITH CHECK VALVES HYDRAULIC SCHEMATIC	
SIZE DWG. NO.		A	REV A
SCALE: 1:6		WEIGHT: 219.16 LBS	SHEET 1 OF 1

Extreme Pole Setter without Tamper Circuit

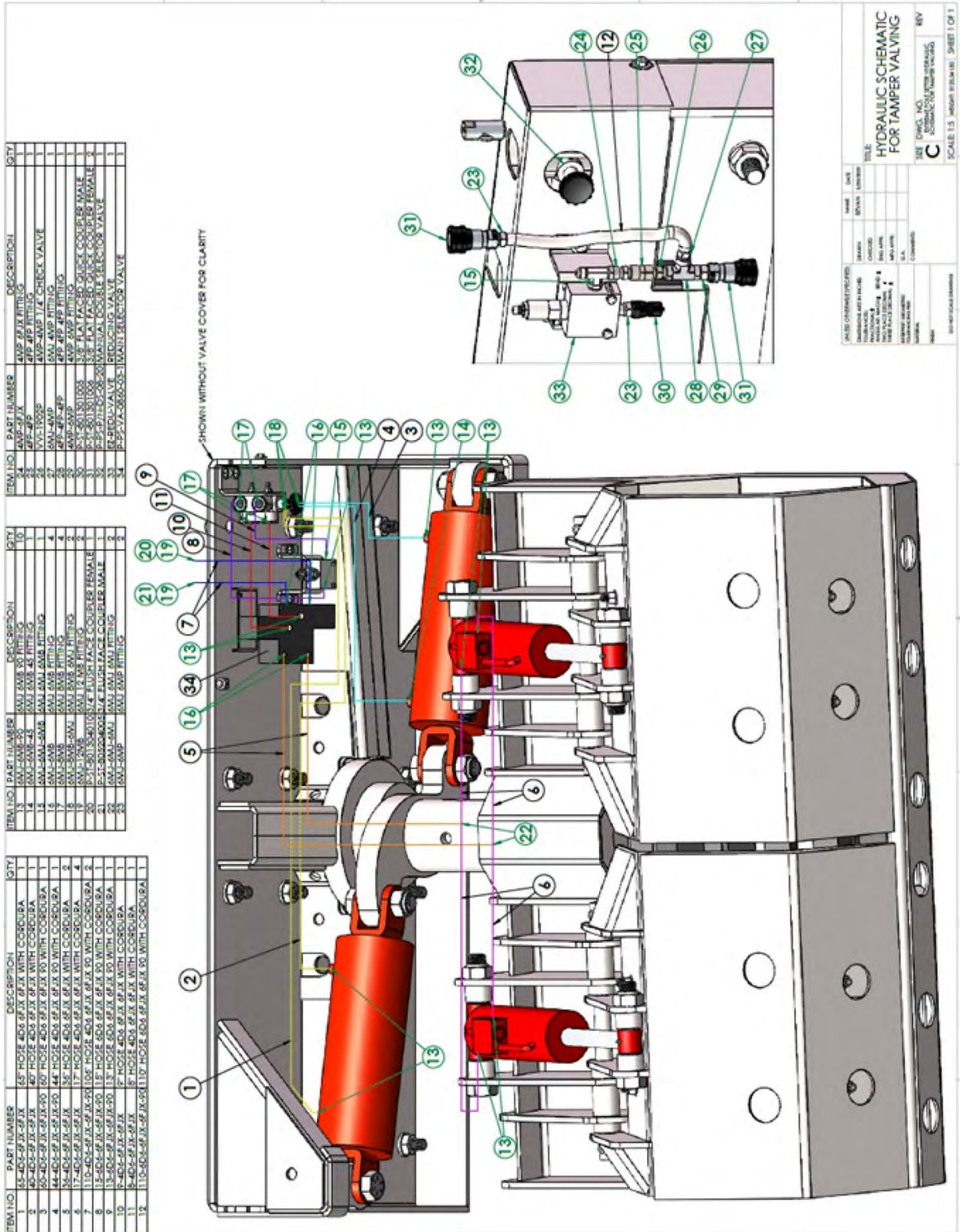
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	52-4D6-6FJX-6FJX	52" HOSE 4D6 6FJX 6FJX WITH CORD	1
2	33-4D6-6FJX-6FJX	33" HOSE 4D6 6FJX 6FJX WITH CORD	1
3	31-4D6-6FJX-6FJX	31" HOSE 4D6 6FJX 6FJX WITH CORD	2
4	110-4D6-6FJX-6FJX-90	110" HOSE 4D6 6FJX 6FJX 90 WITH CORD	2
5	36-4D6-6FJX-6FJX	36" HOSE 4D6 6FJX 6FJX WITH CORD	2
6	6MJ-6MB-90	6MJ-6MB 90 FITTING	7
7	6MJ-6MB-45	6MJ-6MB 45 FITTING	1
8	6MJ-6MJ-6MB	6MJ 6MJ 6MB FITTING	2
9	6MJ-6MB	6MJ 6MB FITTING	4
10	6MJ-12MB	6MJ-12MB FITTING	2
11	P-PS-VA-0860-03-1	MAIN SELECTOR VALVE	1
12	17-4D6-6FJX-6FJX	17" HOSE 4D6 6FJX 6FJX WITH CORD	4
13	6MJ-6MJ-6MJ	6MJ-6MJ-6MJ FITTING	2
14	P-ST-80130-4005	3/4" FLUSH FACE COUPLER FEMALE	1
15	P-ST-80520-4005	3/4" FLUSH FACE COUPLER MALE	1



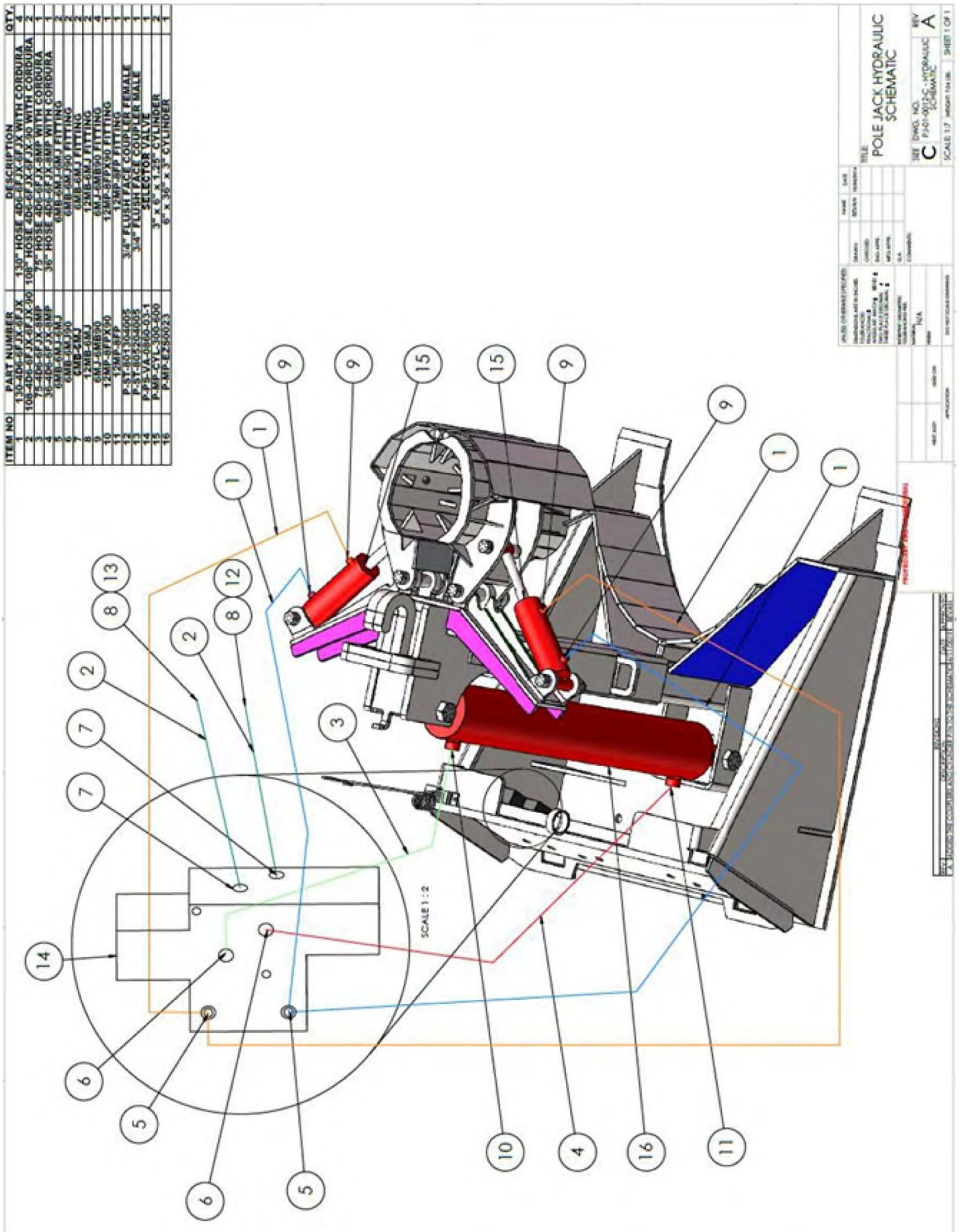
NAME	DATE	
BEVAN	5/7/2020	
TITLE:		
EXTREME POLE CLAW HYDRAULIC SCHEMATIC		
SIZE	DWG. NO.	REV
A	EXTREME POLE SETTER HYDRAULIC SCHEMATIC	
SCALE: 1:12 WEIGHT: 3123.34 LBS		SHEET 1 OF 1
DRAWN	CHECKED	
ENG APPR.		
MFG APPR.		
G.A.		
COMMENTS:		

INTERPRET GEOMETRIC TOLERANCING PER:	
MATERIAL	
FINISH	
APPLICATION	USED ON
NEXT ASSY	
DO NOT SCALE DRAWING	

Extreme Pole Setter with Tamper Circuit

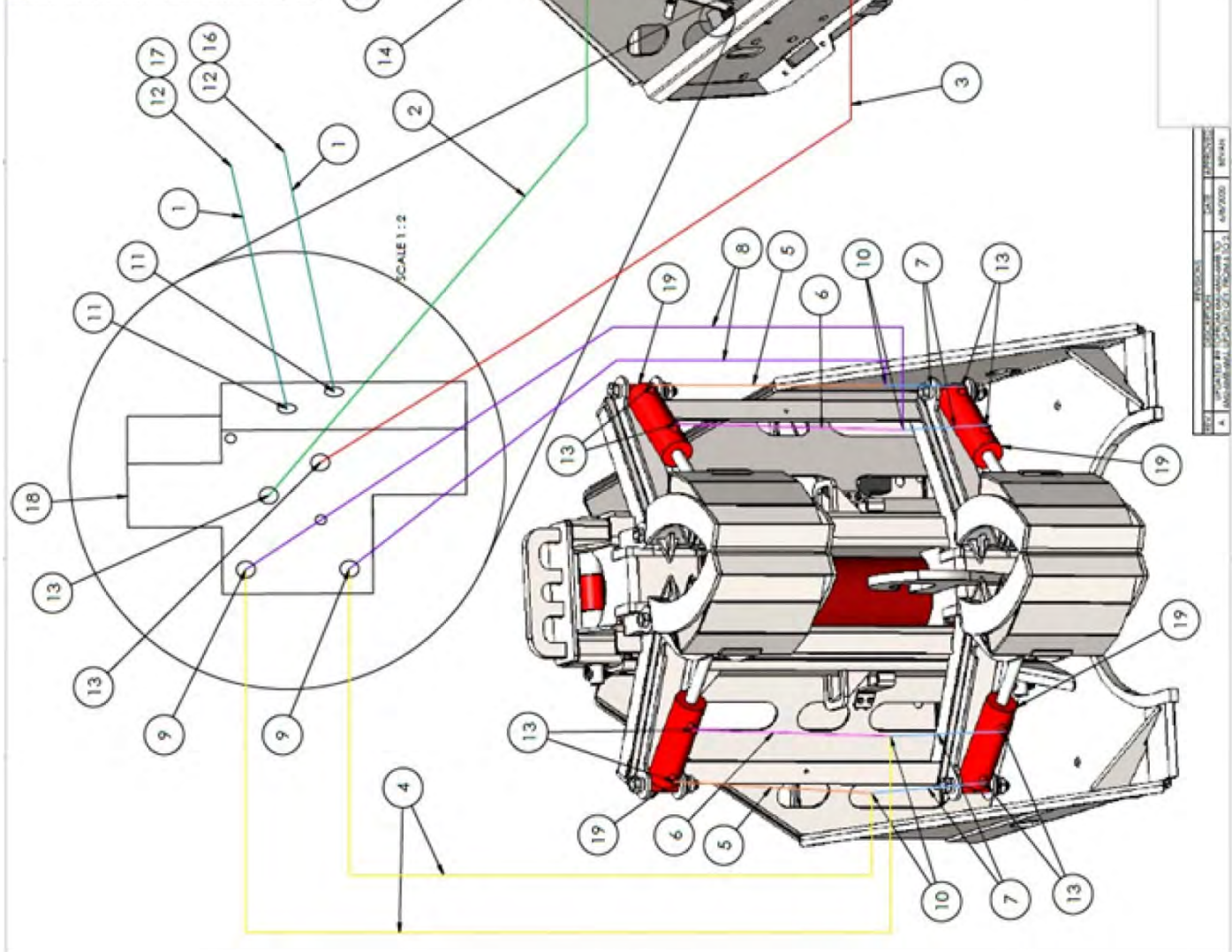


Pole Jack



Double Clamp Pole Jack

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	110-406-8F-JX-8F-JX-50	110" HOSE 406-8F-JX-8F-JX-50 WITH CORDURA	2
2	75-406-8F-JX-8MP	75" HOSE 406-8F-JX-8MP WITH CORDURA	1
3	38-406-8F-JX-8MP	38" HOSE 406-8F-JX-8MP WITH CORDURA	1
4	130-406-8F-JX-4F-JX	130" HOSE 406-8F-JX-4F-JX WITH CORDURA	2
5	17-406-8F-JX-8F-JX	17" HOSE 406-8F-JX-8F-JX WITH CORDURA	2
6	22-406-8F-JX-8F-JX	22" HOSE 406-8F-JX-8F-JX WITH CORDURA	2
7	44-406-8F-JX-8F-JX	44" HOSE 406-8F-JX-8F-JX WITH CORDURA	4
8	68-406-8F-JX-8F-JX	68" HOSE 406-8F-JX-8F-JX WITH CORDURA	2
9	6MJ-6MB-6MJ	6MJ-6MB-6MJ FITTING	2
10	6MJ-6MJ-6MJ	6MJ-6MJ-6MJ FITTING	2
11	6MJ-6MB	6MJ-6MB FITTING	2
12	6MJ-12MB	6MJ-12MB FITTING	2
13	6MJ-6MB50	6MJ-6MB50 FITTING	10
14	12MP-8FP-SW90	12MP-8FP-SW90 FITTING	1
15	12MP-8FP	12MP-8FP FITTING	1
16	P-ST-801500005	3/4" FLUSH FACE COUPLER FEMALE	1
17	P-ST-805000005	3/4" FLUSH FACE COUPLER MALE	1
18	P-PS-VA-2082-03-1	MAIN SELECTOR VALVE	1
19	P-MP-CYL-300-600	3" x 6" x 1.25" CYLINDER	4
20	P-MP-EZ50027	7" x 3/4" x 3" CYLINDER	1



DATE	BY	FILE

DOUBLE POLE JACK ASSEMBLY

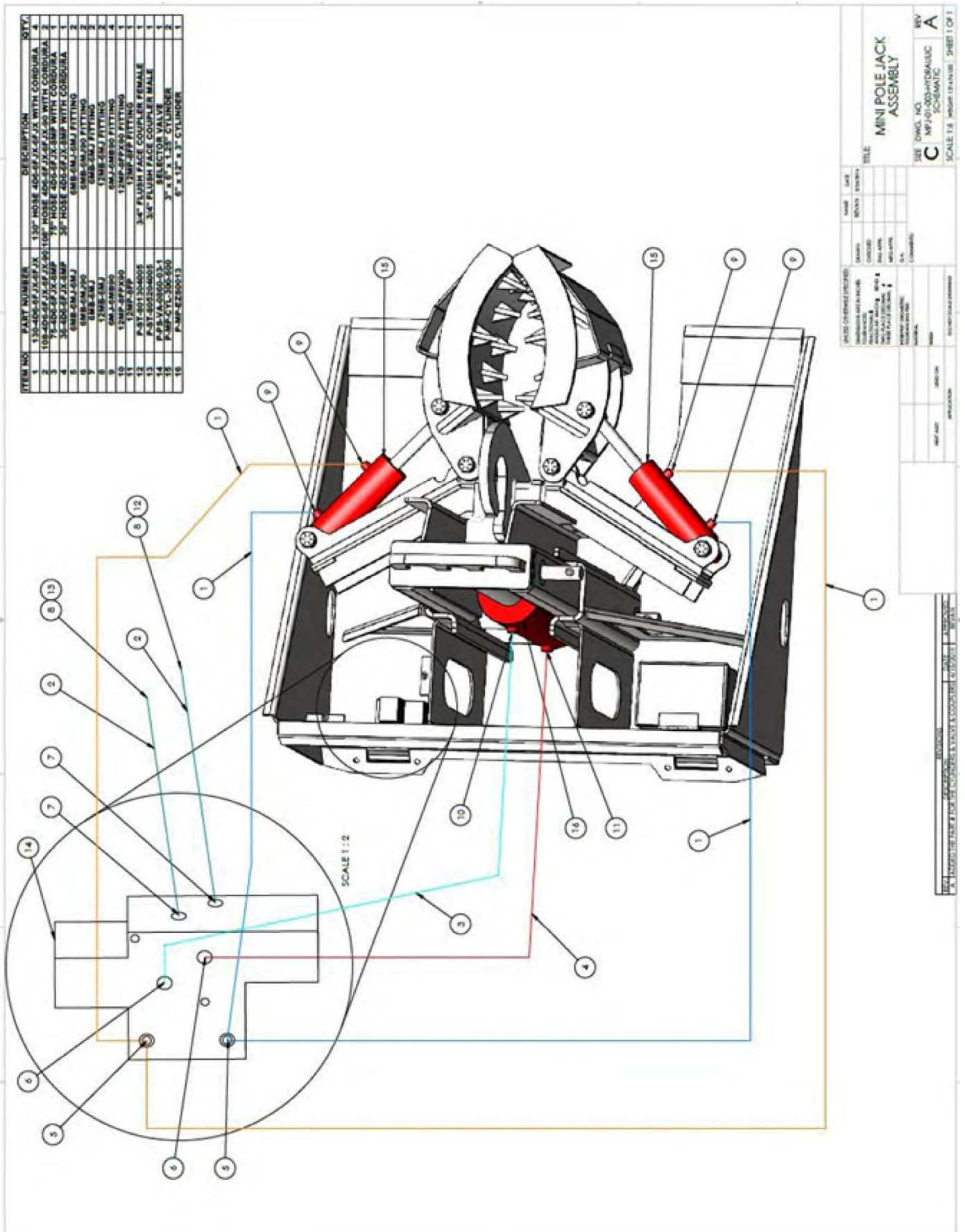
REV. NO. 006-C - HYDRAULIC SCHEMATIC

SCALE 1:2

SHEET 1 OF 1

ITEM NO.	DESCRIPTION	DATE	BY
1	REVISION		
2	REVISION		
3	REVISION		
4	REVISION		

Mini Pole Jack



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	130-406-2F-JK-2X	130" HOSE 406-2F-JK-2X WITH CONDUIT	4
2	108-406-2F-JK-2X-90	108" HOSE 406-2F-JK-2X-90 WITH CONDUIT	2
3	75-406-2F-JK-2X-90	75" HOSE 406-2F-JK-2X-90 WITH CONDUIT	1
4	35-406-2F-JK-2X-90	35" HOSE 406-2F-JK-2X-90 WITH CONDUIT	1
5	8MB-2M1-2M1-J	8MB-2M1-2M1-J	2
6	8MB-2M1-2M1-F	8MB-2M1-2M1-F	2
7	17MB-2M1-J	17MB-2M1-J	2
8	8M1-AM800	8M1-AM800	4
9	12MP-APP40	12MP-APP40	1
10	12MP-APP40	12MP-APP40	1
11	17MP-APP	17MP-APP	1
12	P-31-40130605	3/4" FLUSH FACE COUPLER FEMALE	1
13	P-31-40130605	3/4" FLUSH FACE COUPLER MALE	1
14	P-31-40130605	3/4" X 1/2" X 1/2" CYLINDER	1
15	P-31-40130605	3/4" X 1/2" X 1/2" CYLINDER	1
16	P-31-40130605	3/4" X 1/2" X 1/2" CYLINDER	1

DATE	SCALE	REV
MINI POLE JACK ASSEMBLY		
DWG. NO. C	Dwg. No. MPJ-01-008-HYDRAULIC SCHEMATIC	REV A
SCALE 1:2 W/OUT DIMENSIONS SHEET 1 OF 1		

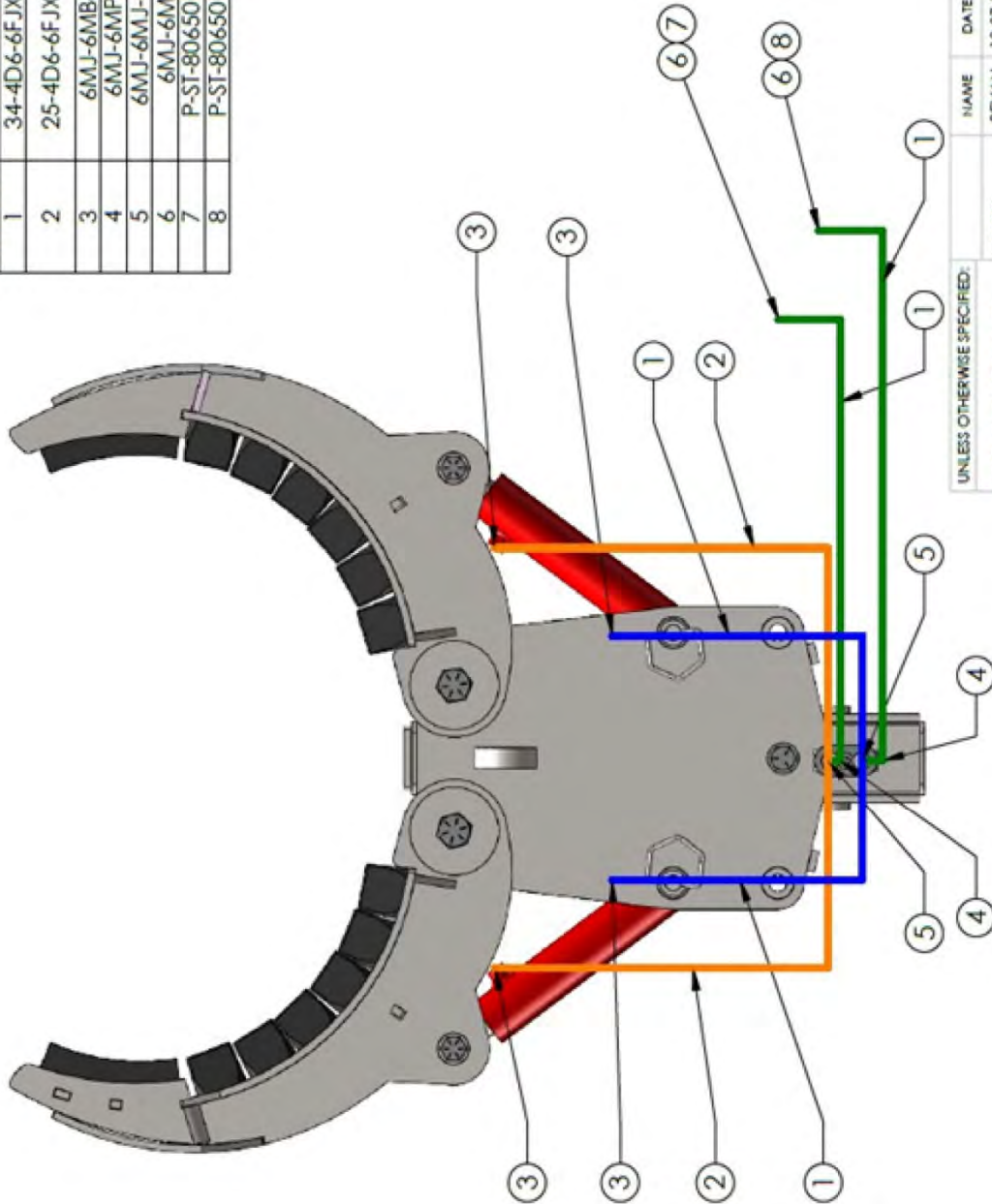
APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE
APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE

APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE
APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE

APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE
APPROVED FOR CONSTRUCTION DATE	APPROVED FOR CONSTRUCTION DATE

3 Finger Tree Hand

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	34-4D6-6FJX-6FJX	34" HOSE 4D6 6FJX 6FJX	4
2	25-4D6-6FJX-6FJX	25" HOSE 4D6 6FJX 6FJX WITH CORD	2
3	6MJ-6MB-90	6MJ-6MB 90 FITTING	4
4	6MJ-6MP45	6MJ-6MP45 FITTING	2
5	6MJ-6MJ-4FP	6MJ-6MJ-4FP FITTINGS	2
6	6MJ-6MP	6MJ 6MP FITTING	2
7	P-ST-806501003	MALE VEP 9 3/8" NPT	1
8	P-ST-806501002	FEMALE VEP 9 3/8" NPT	1



REV.	DESCRIPTION	DATE	APPROVED
A	UPDATED ITEM # 6 FROM 6MJ-6MP TO 6MJ-6MP & ADDED VEP COUPLERS	9/27/2018	BEVAN
B	UPDATED THE PART NUMBER FOR VEP COUPLERS	6/28/2019	BEVAN

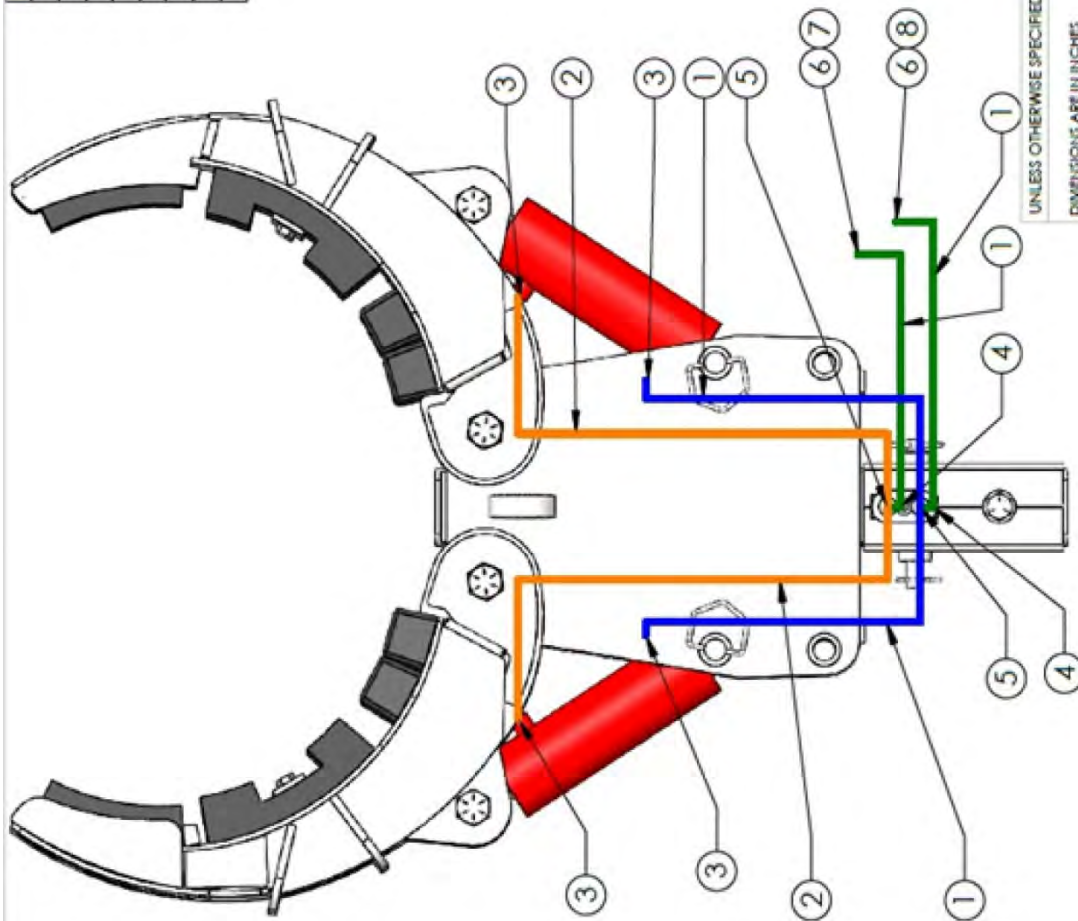
UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES	BEVAN	12-27-11
FRACTIONALS:		
ANGULARS: MACH 1		
TWO PLACE DECIMAL 1		
THREE PLACE DECIMAL 2		
INTERPRET GEOMETRIC TOLERANCING PER:		
MATERIAL:		
SEE DETAILS		
FINISH:		
DO NOT SCALE DRAWING		

DRAWN:	CHECKED:	ENG. APPR.:	MFG. APPR.:	G.A.:	COMMENTS:

TITLE:		SIZE	DWG. NO.	REV
THREE FINGER TREE HAND HYDRAULIC SCHEMATIC		A		B
		SCALE: 1:8		SHEET 1 OF 1

5 Finger Tree Hand

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	34-4D6-6FJX-6FJX	34" HOSE 4D6 6FJX 6FJX	4
2	25-4D6-6FJX-6FJX	25" HOSE 4D6 6FJX 6FJX WITH CORD	2
3	6MJ-6MB-90	6MJ-6MB 90 FITTING	4
4	6MJ-6MP45	6MJ-6MP45 FITTING	2
5	6MJ-6MJ-4FP	6MJ-6MJ-4FP FITTINGS	2
6	6MJ-4MP	6MJ-4MP FITTING	2
7	P-ST-800801001	1/4 NPT FLAT QUICK COUPLER M	1
8	P-ST-800801000	1/4 NPT FLAT QUICK COUPLER F	1



REV.	DESCRIPTION	DATE	APPROVED
A	ADDED THE COUPLERS	7/1/2019	BEVAN

DRAWN	NAME	DATE
CHECKED	BEVAN	12-27-11
ENG APPR.		
MFG APPR.		
G.A.		
COMMENTS:		

UNLESS OTHERWISE SPECIFIED:	
DIMENSIONS ARE IN INCHES	
TOLERANCES:	
FRACTIONAL ±	
ANGULAR: MACHINE BEND ±	
TWO PLACE DECIMAL ±	
THREE PLACE DECIMAL ±	
INTERPRET GEOMETRIC TOLERANCING PER:	
MATERIAL:	
FINISH:	
DO NOT SCALE DRAWING	

SIZE	DWG. NO.	REV
A		A
SCALE: 1:8		SHEET 1 OF 1

TITLE:
**FIVE FINGER TREE HAND
 HYDRAULIC SCHEMATIC**

Barrel Handler

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	14-4D6-6FJX-6FJX	14" HOSE 4D6-6FJX-6FJX WITH CORD	2
2	18-4D6-6FJX-6FJX-WC	18" HOSE 4D6 6FJ 6FJX WITH CORD	2
3	43-4D6-6FJX-6FJX	43" HOSE 4D6 6FJX 6FJX WITH CORD	2
4	6MJ-4MP	6MJ 4MP FITTING	2
5	6MJ-4MP45	6MJ-4MP45 FITTING	2
6	6MJ-6MJ-4FP	6MJ-6MJ-4FP FITTINGS	2
7	6MJ-6MB-90	6MJ-6MB 90 FITTING	4
8	P-ST-800801000	1/4 NPT FLAT QUICK COUPLER F	1
9	P-ST-800801001	1/4 NPT FLAT QUICK COUPLER M	1
10	P-MP-CYL-200X350	2" x 3.5" x 1" CYLINDER	2

UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES	BEVAN	12-27-11
TOLERANCES:		
FRACTIONAL: ±		
ANGULAR: MACHS		
TWO PLACE DECIMAL		
THREE PLACE DECIMAL		
INTERPRET GEOMETRIC TOLERANCING PER:		
MATERIAL		
FINISH		
SEE DETAILS		
DO NOT SCALE DRAWING		

TITLE:	
BARREL HANDLER HYDRAULIC SCHEMATIC	
SIZE	DWG. NO.
A	
REV	REV
A	A
SCALE: 1:8	SHEET 1 OF 1

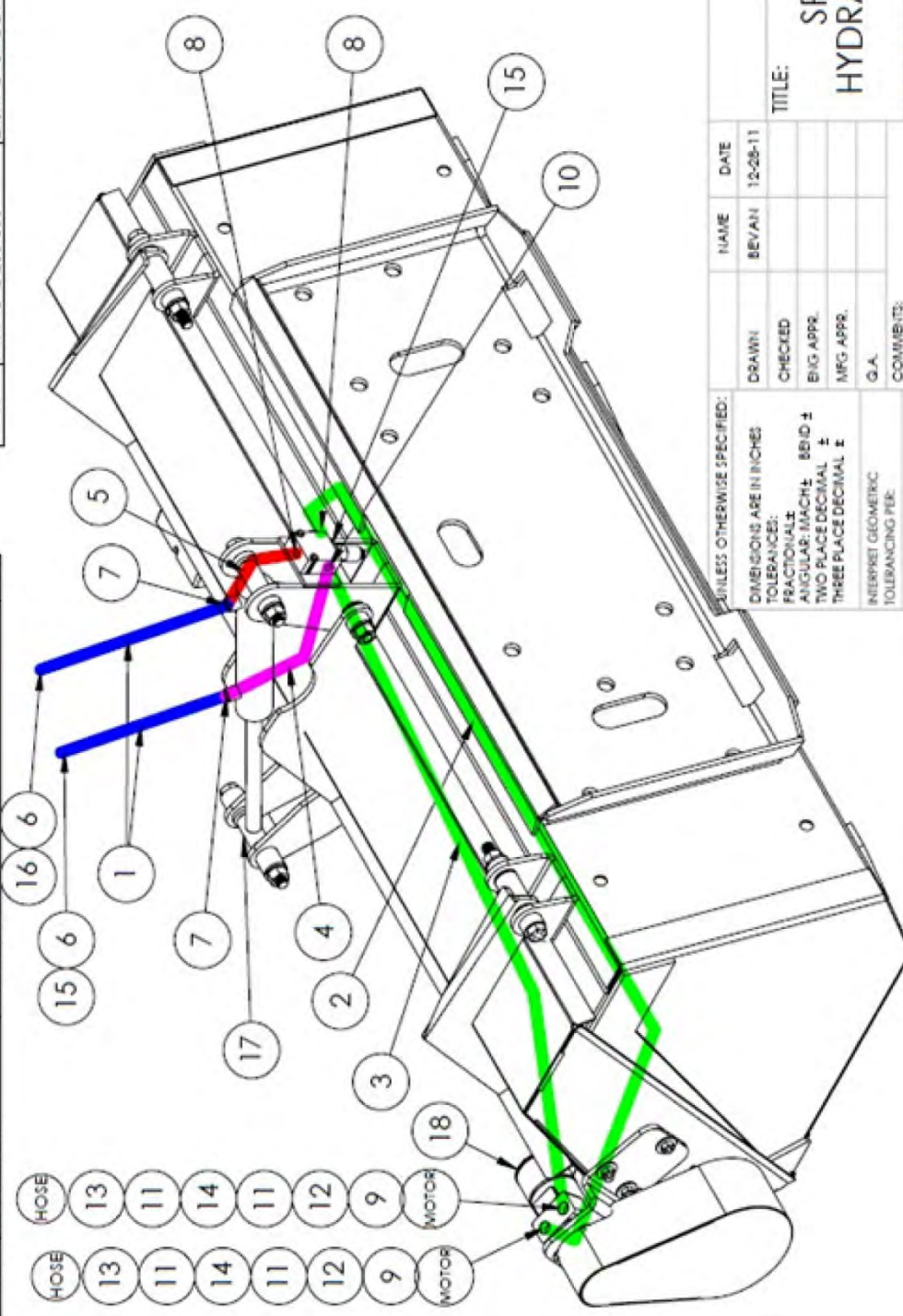
REV	DESCRIPTION	DATE	APPROVED
A	ADDED THE 1/4" COUPLERS AND THE CYLINDER	10/18/2019	BEVAN

NEXT ASSY	USED ON
APPLICATION	

Speed Bagger

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	9S-4D6R-6FJX-6FJX-S56	9S HOSE 4D6R-6FJX-6FJX-S56 WITH CORDURA	2
2	6Z-4D6R-6FJX-6FJX-90-S56	6Z HOSE 4D6R-6FJX-6FJX-90-S56 WITH CORDURA	1
3	4S-4D6R-6FJX-6FJX-90-S56	4S HOSE 4D6R-6FJX-6FJX-90-S56 WITH CORDURA	1
4	34-4D6R-6FJX-6FJX-S56	34 HOSE 4D6R-6FJX-6FJX-S56 WITH CORDURA	1
5	24-4D6R-6FJX-6FJX-S56	24 HOSE 4D6R-6FJX-6FJX-S56 WITH CORDURA	1
6	6MJ-12MB	6MJ-12MB FITTING	2
7	6MJ-6MB-6MJ	6MJ-6MB-6MJ FITTING	2
8	6MJ-8MB	6MJ-8MB FITTING	2
9	6MJ-10MB90	6MJ-10MB90 FITTING	2
10	6MJ-6MJ-8MB	6MJ-6MJ-8MB FITTING	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
11	4FP-4FP	4FP-4FP FITTING	2
12	4MP-6FJX	4MP-6FJX FITTING	1
13	6MJ-4MP	6MJ-4MP FITTING	2
14	VVI-1902P	4MP 4MP 1/4" CHECK VALVE	2
15	P-ST-80130-400S	3/4" FLUSH FACE COUPER FEMALE	1
16	P-ST-80520-400S	3/4" FLUSH FACE COUPER MALE	1
17	P-PS-PS10-34A-8T-N-17/08	SEQUENCING VALVE	1
18	P-8S-101-1012-009	CHARLYNN MOTOR 101-1012-009	1
19	P-MP-CYL-200-800	2x8x1 CYLINDER	1



NAME	DATE
BEVAN	12-28-11

DRAWN	CHECKED	ENG APPR.	MFG APPR.	G.A.	COMMENTS:

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±
ANGULAR: MACH ±
TWO PLACE DECIMAL: ±
THREE PLACE DECIMAL: ±
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL:
FINISH:

SIZE	DWG. NO.	REV
A		

SCALE:	1:10	WT:	705.58 lbs	SHEET 1 OF 1

TITLE:
SPEED BAGGER HYDRAULIC SCHEMATIC

NEXT ASSY	USED ON	APPLICATION

DO NOT SCALE DRAWING

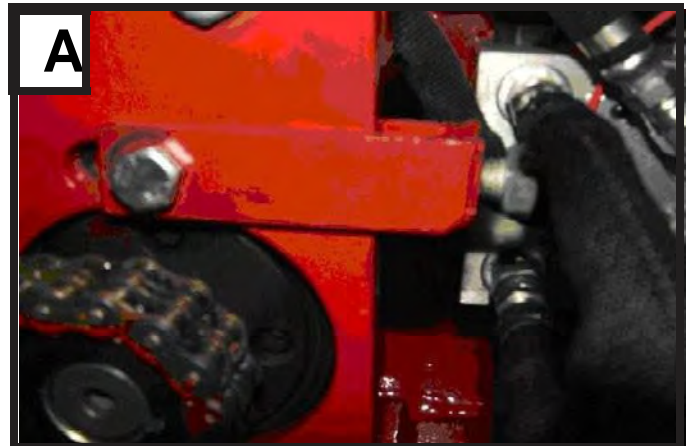
CHAIN ROTATOR BASE



CHAIN TENSIONER FOR 001C

CHAIN ROTATING BASE

The chain tensioner is designed to keep the chain on the 001C the chain rotating base tight. You can adjust the tightness by tightening or loosening the bolt on the side of the tensioner. This should be checked after eight hours of operating and then checked periodically after that.



Rotating Barrel Handler

- After 2 hours of running check chain
- Check and service chain every 8 hours of use
- Lube and tighten chain every 40 hours

300° Barrel Handler Required Maintenance Schedule

Barrel Handler

30 Gallon Insert

Line 30 gallon insert up with Barrel Handler arm.



Slide insert down on Barrel Handler Arm using the hooks to keep it in position.



Install bolt from outside of the arm and tighten into weld nut on insert. Repeat procedure on other side.



When the 30 Gallon Inserts are properly installed they will look like this.



Barrel Positioning Shoe

Barrel Handler Positioning Shoe (PD02). Used for Plastic Barrels.



Attach Positioning Shoe by using two 1" bolts at front of barrel handling tool.



When the Positioning Shoe is properly attached it will look like this.



ROTATING FORKLIFT BASE



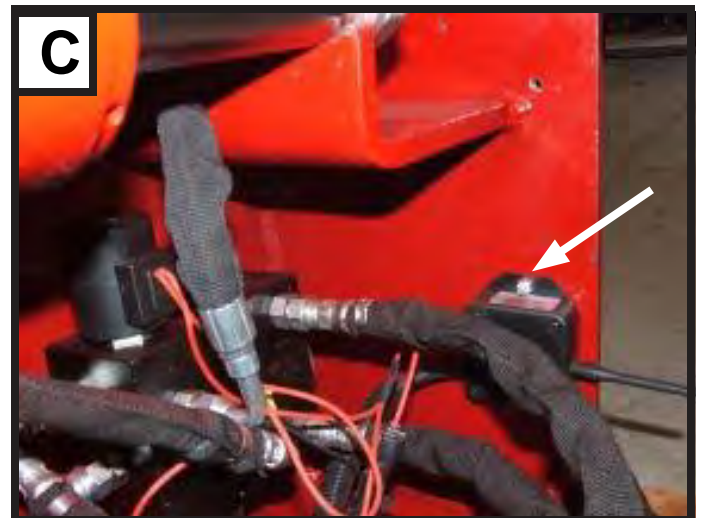
Battery must be **Disconnected** before charging or it will destroy the sending unit.



Double Selector Valve R1 & R2 Controls Rotation, C1 & C2 Controls Clamp the two main supply lines over on the side of the valve.



The Receiver for the Selector Valve Controls is on the side of the Main Box.



The main shaft rotator cylinder is mounted by two nuts with hydraulic connector on the back side 6MP x 6MB x 90 fitting.



Use the lift ring to place the Forklift Rotator onto the upper plate of forklift.



Ensure that the upper groove on the rotator mates with the forklift plate flange.



Install stop plate on side to keep unit from sliding off rail.



Secure bolts until flush with the side locking plate.



Install bottom rail plate with four bolts.
Unit can be slid onto the plate from the side.



Have two men hold the bottom rail plate in place.



Install the four bolts and secure evenly.



Tighten all four bolts until bottom rail is secure.



Properly tighten couplers to make sure they do not leak.

⚠ **WARNING**

IMPROPER CONNECTION HAZARD

<p>PROPERLY COUPLED</p> <p>SEAL AREA METAL TO METAL CONTACT</p>	<p>IMPROPERLY COUPLED</p> <p>SEAL AREA O-RING EXPOSED</p>
---	---

TO INSURE PROPER COUPLING,
 FEMALE SLEEVE AND MALE NIPPLE
MUST HAVE METAL TO METAL CONTACT.
 O-RING PARTIALLY EXPOSED INDICATES
 IMPROPER COUPLING.

SPEEDBAGGER



SERIAL NUMBER AND SAFETY DECAL LOCATIONS

Model 0013 Speed Bagger

Serial Number Location:

It is important to refer to the serial number of the Speed Bagger when making repairs or ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use different procedures in doing a specific operation.



Location:

Each end of bagger bucket assembly.



Location:

Auger chain safety shield.



Location:

Front of bucket assembly, between chute opening.



Location:

Top of right and left hand chute assemblies.



**Whenever you see this symbol, it means Attention!
Become Alert! Your Safety is involved.
Failure to obey warnings or instructions can
cause personal injury or death.**

Operating instructions must be given to everyone before operation of this machine and at least once a year thereafter in accordance with OSHA regulations.

Safety

General Safety Instructions:

- Read the operator's manual for the loader to become totally familiar with the controls and instruments. Know how to stop all equipment operation in case of emergency.
- Avoid the possibility of personal injury and/or machine damage. **NEVER** exceed the maximum recommended input power or speed specifications for the snow blower.
- Check and be sure all operating controls are in neutral before starting the engine.
- Disengage the hydraulic drive, lower the speed bagger to rest on the bottom of the bucket, stop engine, set park brake and wait for all motion to stop before leaving the operator's seat for any reason:
 - **WARNING: Before unclogging, adjusting or servicing the unit, stop the engine and relieve all hydraulic pressure by opening the control valve.**
- Keep all shields, guards and covers in place.
- Augers can crush or dismember. Stay clear of auger and keep hands out of discharge chute and fan when unit is running.
- **NEVER** make adjustments, lubricate or perform any service on the machine while it is running.
- Keep people at least 10 feet (3m) away from machine and when the machine is running and the bucket is being used.
- **NEVER** operate near embankments or terrain that is so steep that rollover could occur.
- **NEVER** allow children or untrained persons to operate.
- **DO NOT** permit riders on equipment.
- Use adequate safety warning lights and devices as required by local regulations.
- Obey all local laws and regulations regarding machine operation on public property.
- The machine is designed for sand bagging only. **NEVER** use this machine for other materials or for general purpose.
- Do not modify equipment or add attachments that are not approved by Ez Spot Ur, Inc.
- Remember, you are responsible for the safe operation and maintenance of the equipment. Most accidents can be prevented. Good safety practices not only protect you, but also the people around you.

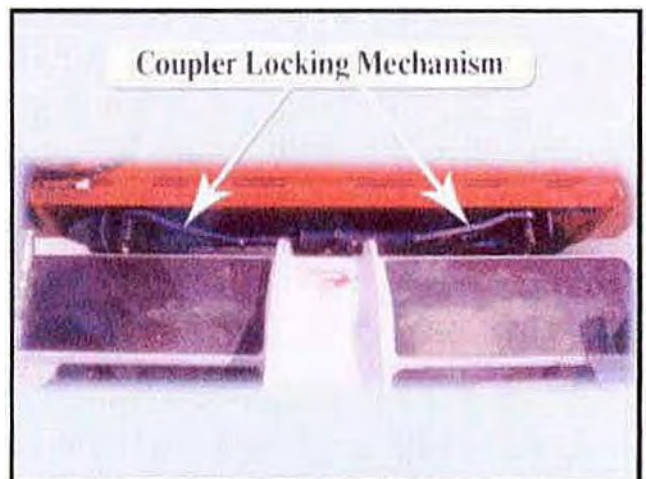
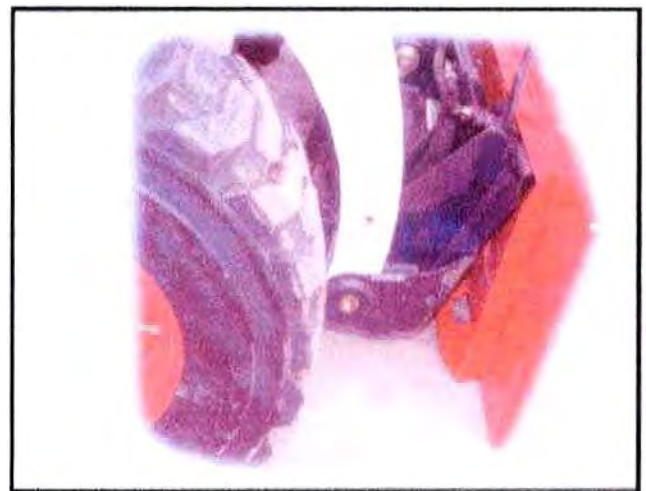


Know your work area. Avoid obstructions, whenever possible, thoroughly inspect the area where equipment is to be used and remove all debris, boards, wire, steel and other foreign objects.

Mounting the Speed Bagger

After the initial set-up assembly is completed use the following procedure to mount the speed bagger to the loader for user operation.

1. Use the step, safety treads and grab handles to get on and off the loader and Speed Bagger.
2. Sitting in the operator's seat, lower seat bar (if so equipped) and fasten the seat belt.
3. Drive the loader to the rear of the Speed Bagger. Put the loader quick attach coupler into the Speed Bagger mounting bracket.
4. Tilt the loader coupler backward a small amount until it is fully engaged in the Speed Bagger mounting bracket.
5. Stop the engine and engage the parking brake.
6. Secure the coupler locking mechanism that attaches the Speed Bagger to the loader.



WARNING: Coupler wedges or pins must extend through the holes in attachment. Levers must be fully down and locked. Failure to secure wedges or pins can allow attachment to come off and cause injury or death.

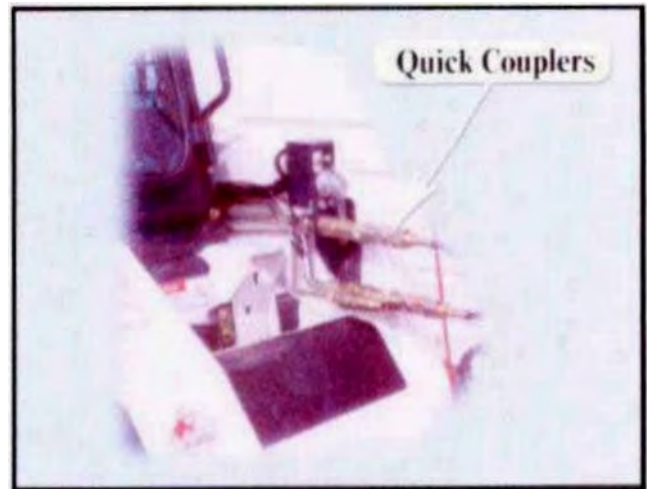
Mounting the Speed Bagger

7. Connect the hydraulic quick couplers from the Speed Bagger to the loader.

Note: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and brand. Do not force the quick couplers together.

If the quick couplers will not connect together due to thermal expansion of the fluid in the hoses, stop the engine and activate the auxiliary hydraulic control to relieve the pressure. (See Loader Operation Manual.)

8. Mounting is now complete and you are ready to bag sand. Use reverse order of above instructions to remove the Speed Bagger from loader.



Operating the Speed Bagger



WARNING: DO NOT operate from any position except seated in the operator's seat with the seat belt fastened. **DO NOT** permit riders.

1. With the operator in the seat of the loader, the seat belt fastened and the seat bar lowered (if so equipped) start the engine.
2. One hydraulic valve controls all functions. One direction opens the hood while the other direction closes the hood and with continued pressure, turns the auger.

Note: This is accomplished with a pressure sensing sequence valve which can be adjusted if the hood does not close tight enough.

3. To operate, raise the Speed Bagger hood and fill the bucket with sand.
4. Close the bucket completely and proceed to the point of sandbagging operation.
5. Once in position, raise the bucket up and tilt down until the safety stand is vertical to the ground.



CAUTION: Be sure no one is closer than 6ft. (2m) during operation.



CAUTION: To prevent damage to the safety stand, be sure to have the bucket raised high enough for the safety stand to clear the ground as you rotate it down.

6. Lower the Speed Bagger until it rests on the safety stand.
7. To fill bags, rotate auger as needed by engaging hydraulic control that shuts the hood.



Routine Speed Bagger Maintenance

It is the operator's responsibility to make daily inspections on the machine for damage, loose bolts, fluid leaks or anything else that could cause a potential service or safety problem. Preventative maintenance is the easiest and least expensive type of maintenance.



WARNING: Lower the bagger to rest on ground, shut down the engine and set parking brake before leaving the operator's seat to perform service of any kind.

LUBRICATION

Use No. 2 lithium base gun grease when lubricating the hinge pins on the speed bagger.



Use clean oil to lubricate the auger drive chain drive.



Set-Up Assembly

SAFETY STAND INSTALLATION

1. Attach the safety stand to the front of the Speed Bagger with the hinge pins that are installed in the front brackets. The stand arm with the 3/8" bolt goes to the right side hinge bracket (right side sitting in the loader). Connect the spring on the left side between the hinge bracket and safety arm.



WARNING: The safety stand must always be attached when the Speed Bagger is being used



Speed Bagger General Specifications

Bagger Model..... 0013

Auger

Diameter 7"

Type.....Solid Flighting

Width.....60"

Discharge Spouts..... 2

Shipping Weight (approx.)..... 600 lbs.

Mounting Plate Included for most Skid Steer Loaders

Inspection Schedule

Inspect the attachment according to the table below.

Inspection Type	Description	Frequency	Inspection Date	Inspected by
Welds	Check all welds for cracks to insure that the integrity of the attachment isn't compromised.	Upon Arrival then Weekly		
Shaft	Check for wear in the shaft and check for cracks. Also check the stop for breakage.	Upon Arrival then Weekly		
Grease Zerks	Add grease to grease zerks to prevent moving parts from locking up.	Upon Arrival then Weekly		
Hydraulic Lines	Check for oil leaking from the lines. A loose connection could result in the loss of hydraulic pressure.	Upon Arrival then Weekly		
Rubber Bumpers	Check for wear in the bumpers in the jaws. Replace if worn.	Upon Arrival then Weekly		
Decals	Check for worn or missing decals. Replace the decals as needed.	Upon Arrival then Weekly		
Nuts and Bolts	Check the tightness of each nut and bolt and make sure it has the proper torque.	Upon Arrival then Weekly		
Chain	If equipped, check the tightness of the chain and lubricate. Not all attachments have a chain.	After first two hours of operation check chain. Then check daily. Lube and tighten chain weekly.		
Electrical	Check the electrical to insure there are no bare or loose wires coming out of the attachment.	Upon Arrival then Weekly		



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