



MKT V-5E_{sc} INSTALLATION GUIDE WITH POWER UNIT

Please read through the instructions thoroughly before performing any of the steps.

MKT V-5Esc OPERATING, MAINTENANCE AND SERVICE MANUAL



Prior to the use of this equipment everyone that will be or will assist in the operation of this equipment must read and understand the MKT V-5Esc Operating, Maintenance and Service Manual. Failure to read and understand the MKT V-5Esc Operating, Maintenance and Service Manual will result in property damage, severe injury or death.

SAFETY INSTRUCTIONS

The following signal words will be found in this guide and may also be found in the MKT V-5Esc Operation, Maintenance and Service Manual. These words are intended to alert the operator(s) to a hazard and the degree of severity of the hazard.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor injury or moderate injury.



Indicates a property damage message.

EXCAVATOR STICK PREPARATION

The bucket will need to be removed prior to vibratory hammer installation.

Maximum Stick Width 16.5 inches

Minimum Pin Diameter 80mm

Maximum Pin Diameter 100mm

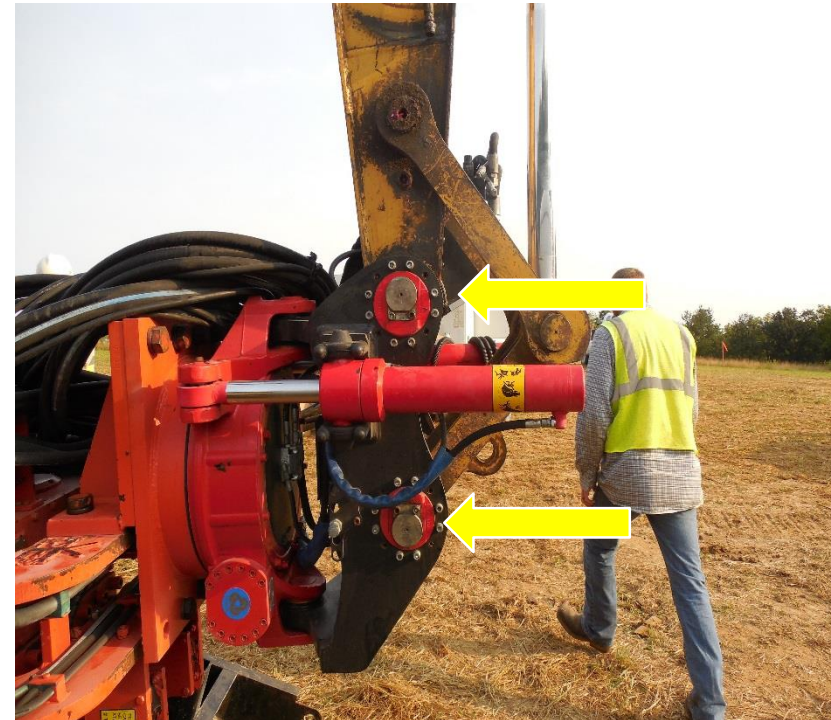


HAMMER TO STICK ALIGNMENT

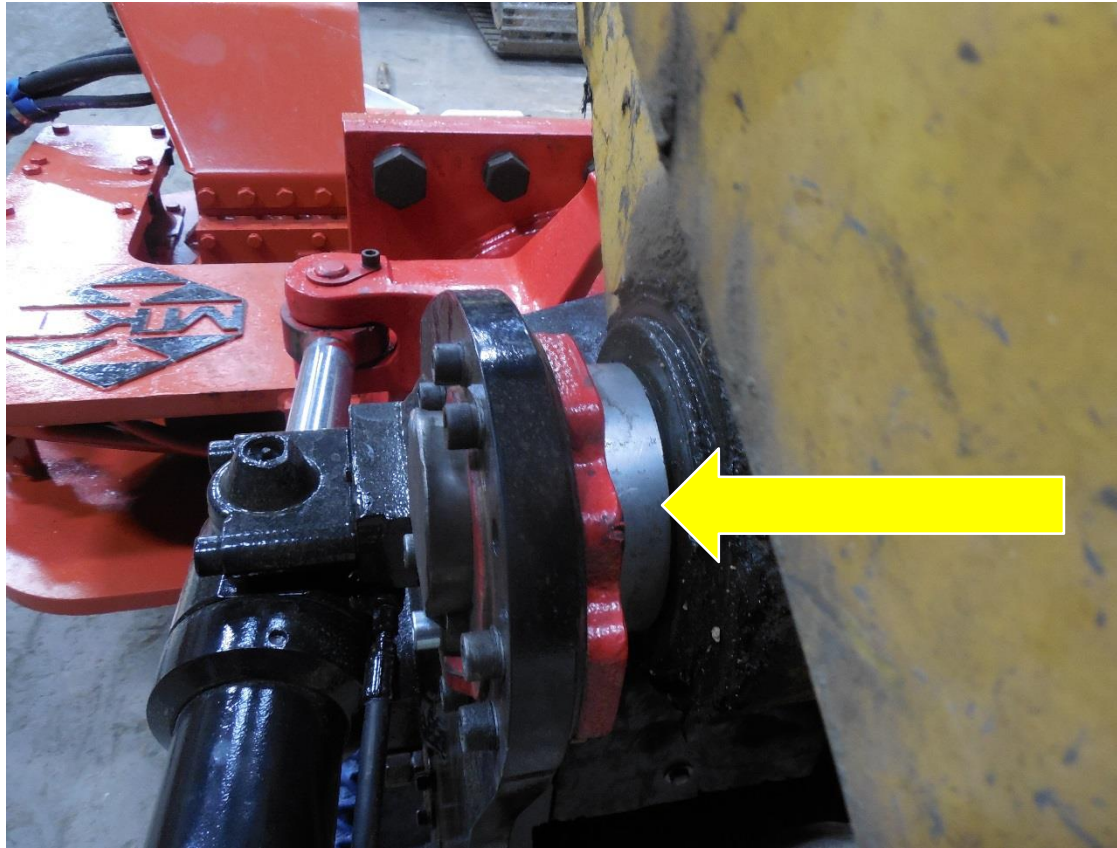
Place hammer with the manifold on the right of the stick facing the machine.



The stick pin will go to the top and the H-link pin will go to the bottom



ADD SPACERS TO THE PINS AS
NEEDED



PLACE ELECTRICAL STAND ON THE EXCAVATOR

The electrical stand comes with magnetic feet. You will need to place the stand on a flat metal surface.



RUN THE 3 ELECTRICAL CORDS DOWN THE BOOM

The three cords that go down the boom
are the green and yellow cord and the Ten
pin rotofilt control cable



POWER SUPPLY

Red cable is for 24v supply. White is positive, black is negative and needs to be connected to a 24v power supply

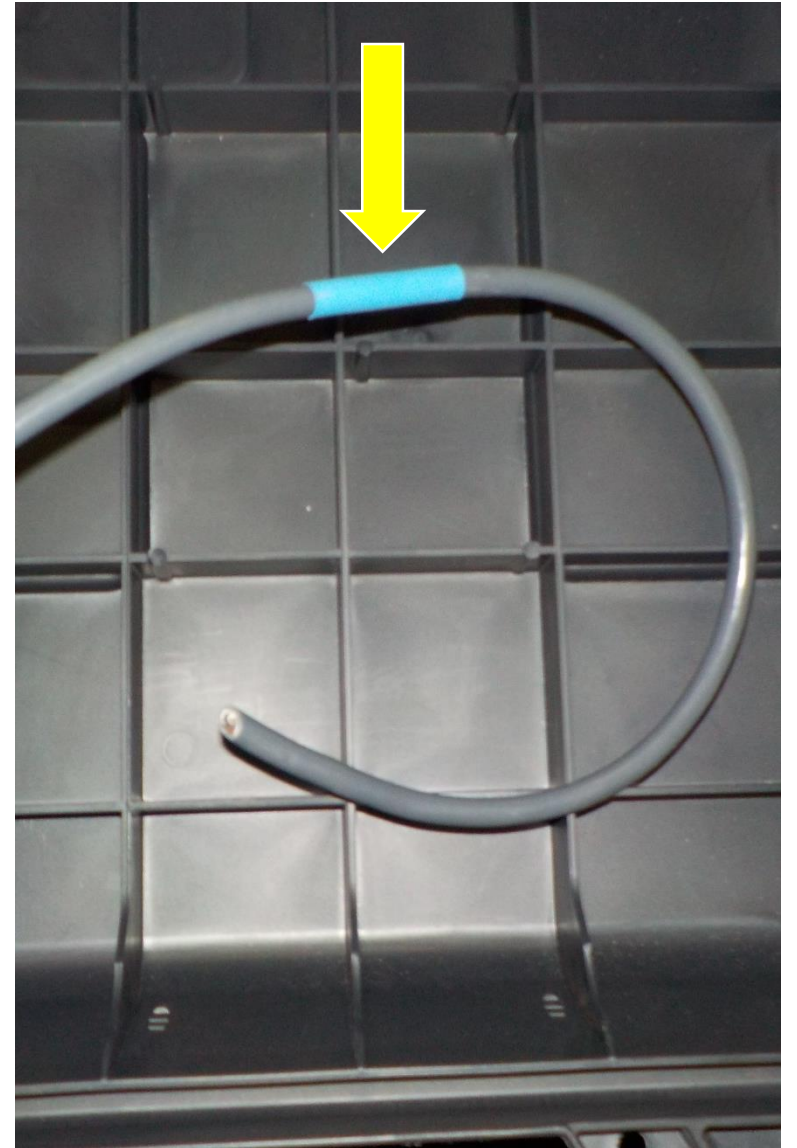


AUXILIARY CONTROL CIRCUIT

The Blue Auxiliary control wire will NOT be use when operating the V-5Esc with a Power Unit. The Blue cable is to be used to control the auxiliary circuit on the excavator.

NOTICE

If you have any questions please contact your local MKT representative.



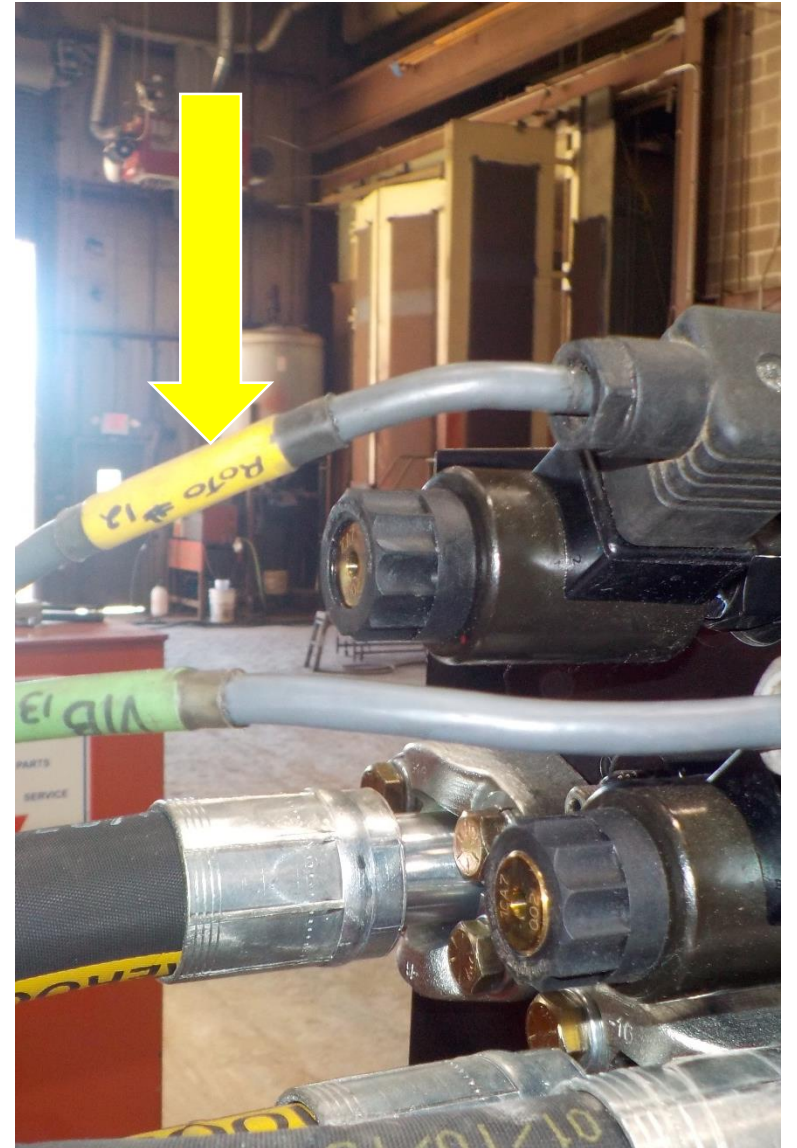
GREEN CORD #13

Connect the Green cable with the grey electrical connector labeled "A" to the solenoid stamped #13 on the manifold block.



YELLOW CORD #12

Connect the yellow cord with the black connector labeled "B" to the solenoid labeled #12 on the manifold



ROTOTILT CONTROL CABLE

Connect the boom cable to the rototilt control cable, these cables both have the 10 pin connector.



UNROLLING THE HOSE BUNDLE

The V-5esc comes with a 100 ft. hydraulic hose bundle for use with the MKT HP-185t3 Power Unit. When unrolling the hose bundle make sure you use a strap rated for the hose bundle's rated capacity full of oil (830 LBS.).

While you are unrolling the hose bundle and laying it out flat across the ground take care not to kink the hoses or allow loops to form in the hose bundle. The large 1 1/4 inch hose has a bend radius of 16 1/2 inches

NOTICE

Do not use chains or wire rope to handle the hose bundle. Chains or wire rope can and will damage the hose bundle.



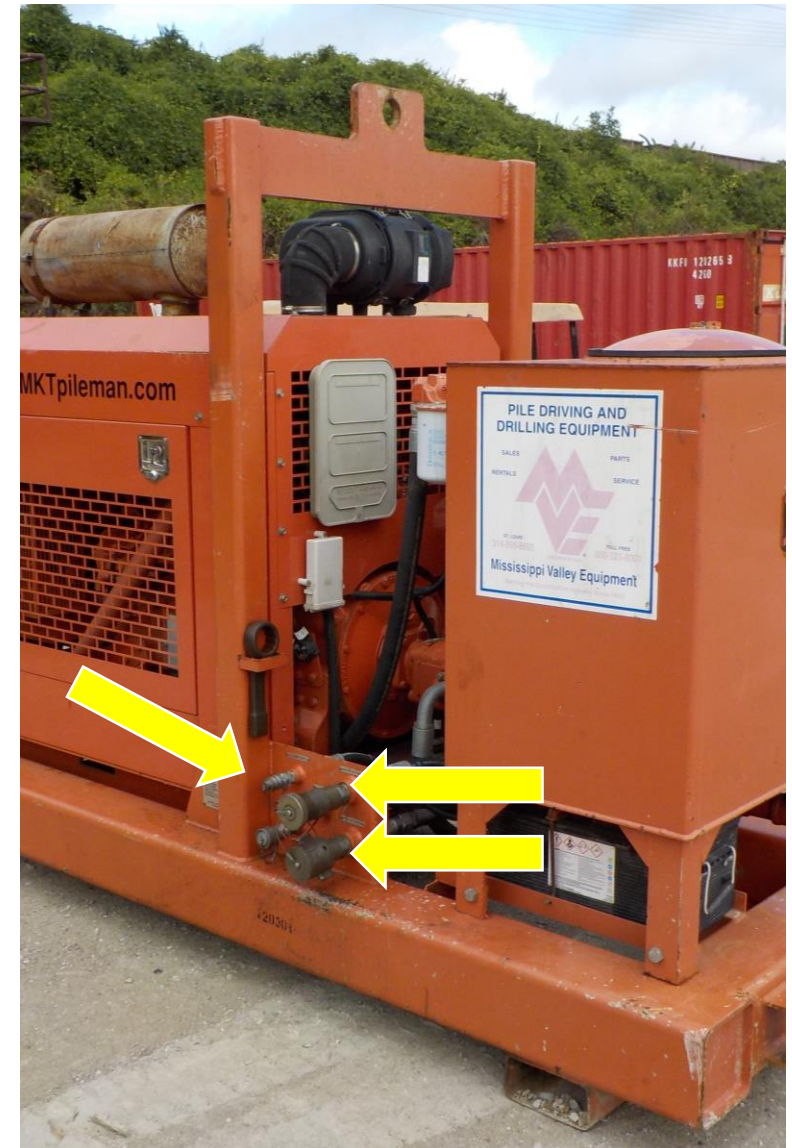
HYDRAULIC CONNECTIONS

Once the hose bundle has been unrolled you can proceed with making the hydraulic connections as follows.

- Connect the Pressure to motor Quick Disconnect on the power unit to the corresponding Quick Disconnect on the hose bundle.
- Connect the Motor Return Quick Disconnect on the power unit to the corresponding Quick Disconnect on the hose bundle.
- Connect the Case drain line Quick Disconnect on the power unit to the corresponding Quick Disconnect on the hose bundle.

NOTICE

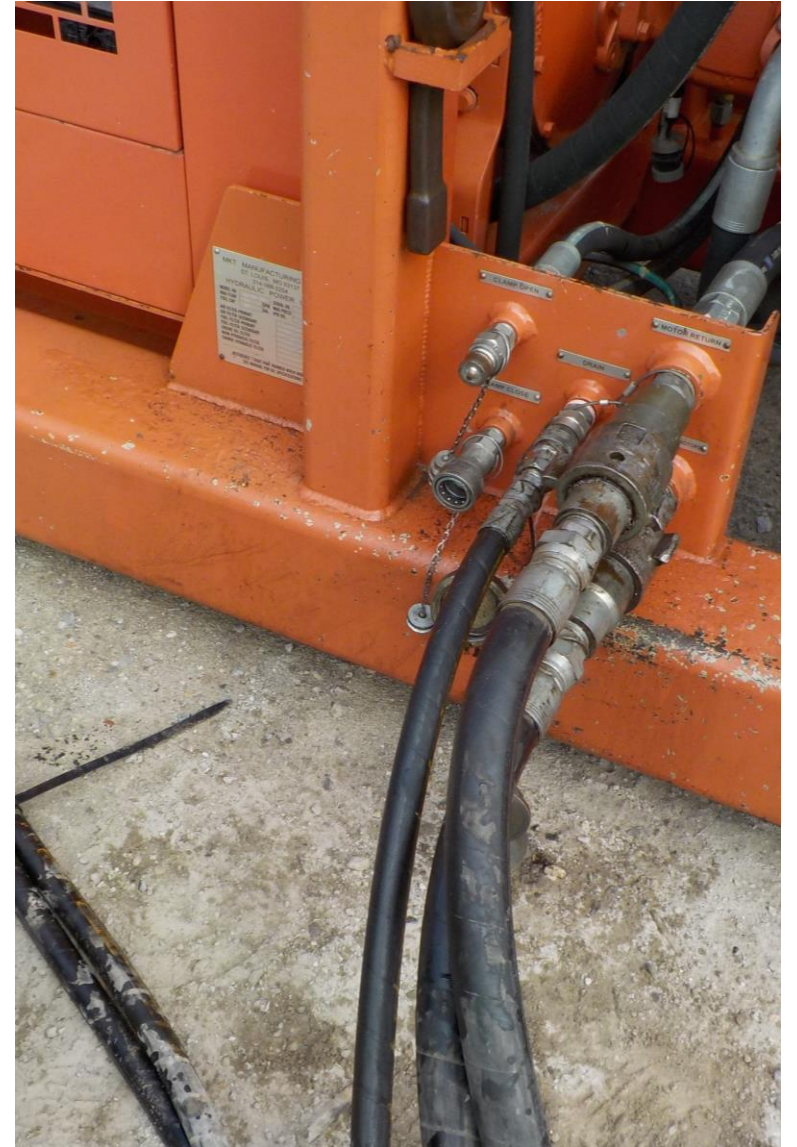
The two clamp circuit hoses on the hose bundle are not used in this application.



HYDRAULIC CONNECTIONS

Your hydraulic connections should look like the picture to the right.

- **NOTICE** Failure to connect the Drain line to the hydraulic reservoir will cause damage to the internal components of the manifold and cause the vibratory motor to have a seal failure.



HOSE BUNDLE ROUTING

When routing the hose bundle you will need to use rigging with a rated capacity sufficient enough to support the hose bundle.

Leave a loop in the hoses to allow the hammer to be curled under or curled out.

NOTICE

Without enough slack in the hose bundle loop damage can and will occur to the Manifold Block or the hose bundle.



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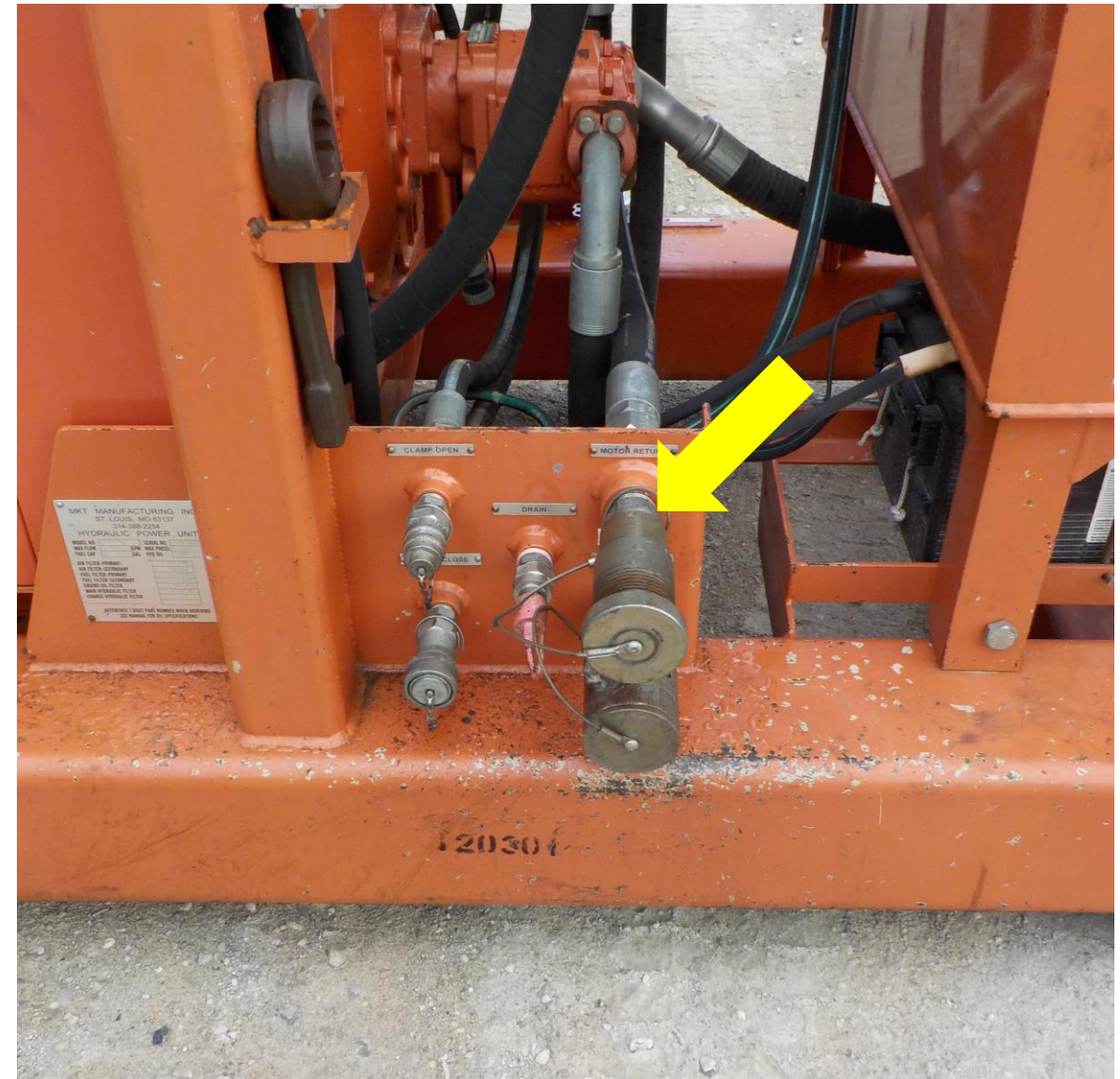
HP-185T3 POWER UNIT

Place the power unit on flat level ground. Make sure that the MKT V-5Esc Vibratory hammer will reach where the pile is being driven with 100 ft. of hose bundle.



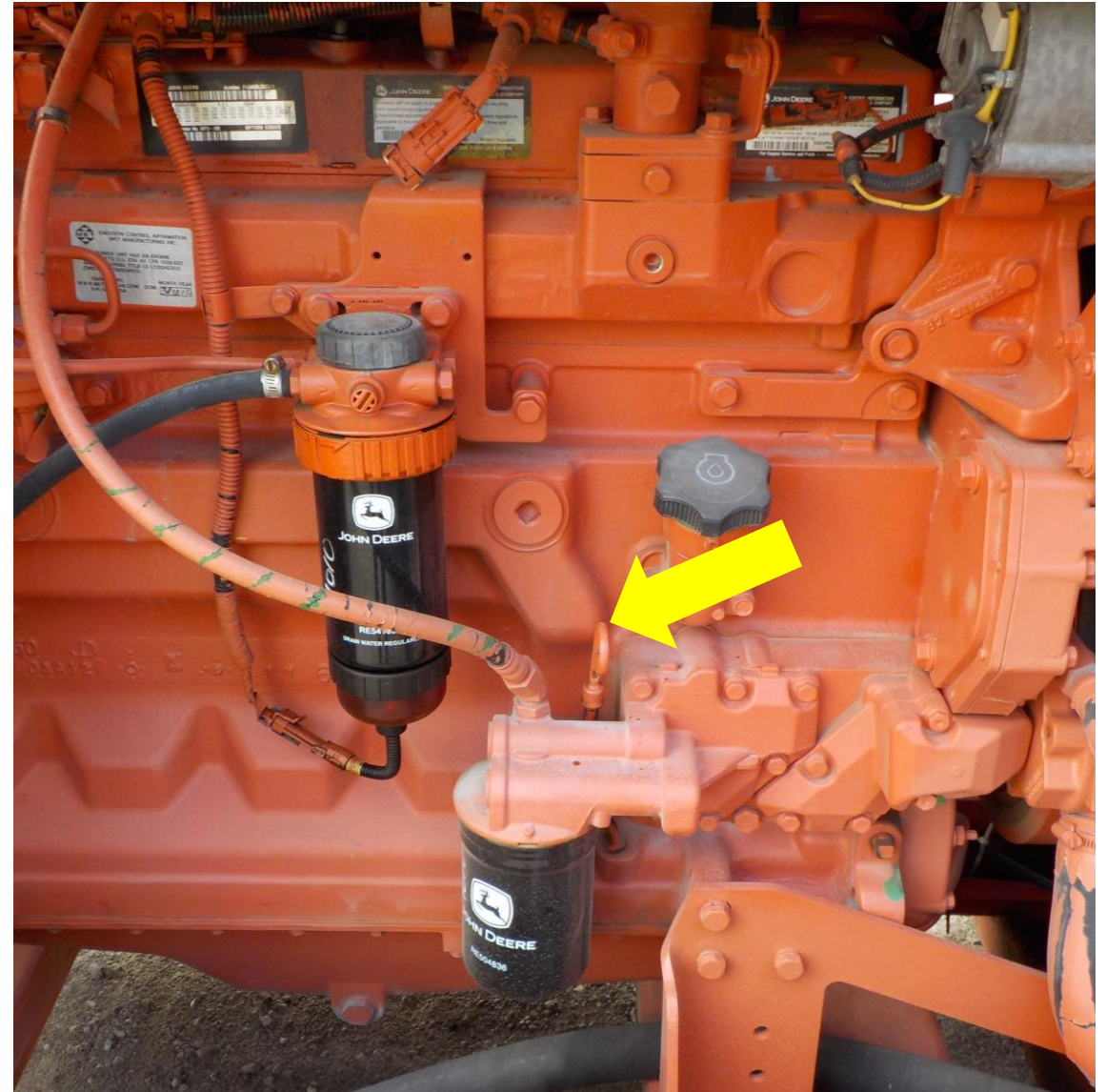
DOOR KEYS

All power units are locked before transport. Keys to unlock the doors can be found wired to the Quick Disconnects.



START UP PROCEDURES

- Check all fluid levels in the engine
- If the engine oil is low, fill with Shell Rotella T triple Protection 15w-40



START UP PROCEDURES

- Check all fluid levels in the engine
- Make sure to check the Engine coolant to ensure the mixture is correct for your location.
- If the engine Coolant is low, fill with John Deere Cool-Gard II Engine Coolant/Antifreeze.

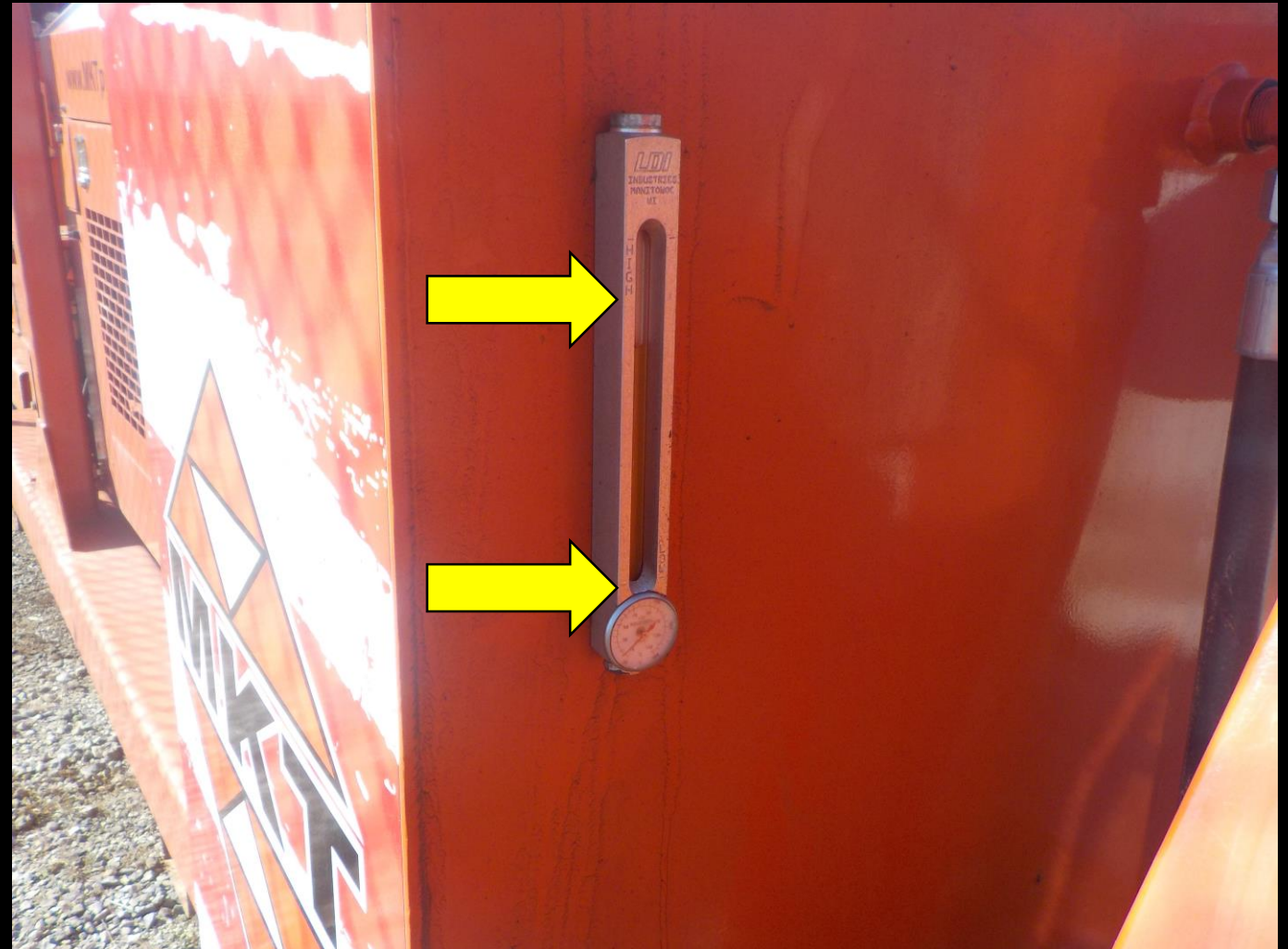


STARTUP PROCEDURES

- Check the level of the Hydraulic fluid on the gauge on the side of the tank.
- If the hydraulic fluid is low, fill the tank with Phillips 66 Ecoterra ISO 32.

NOTICE

If the hydraulic oil is below the site glass do not start the diesel engine. Fill hydraulic tank with recommended hydraulic fluid before start up of diesel engine. Severe damage to the main hydraulic pump, and contamination of the entire hydraulic system could occur.



STARTUP PROCEDURES

- Once you have the hose bundle laid out on the ground you can begin to make the connection to the power unit.
- Clean all Quick Disconnects with diesel fuel and wipe clean before making each connection.

NOTICE

Do not use any type of harsh chemical to clean Quick Disconnect. An example is brake cleaner or paint thinner, these types of cleaner will damage the o'ring in the Quick Disconnect that creates the seal and prevents it from leaking.



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⚠ DANGER CLEAR THE AREA

Verify all personnel are clear of the vibratory hammer before proceeding to the next step.





DANGER

WHEN STARTING THE
DIESEL ENGINE DO NOT USE
ETHER.

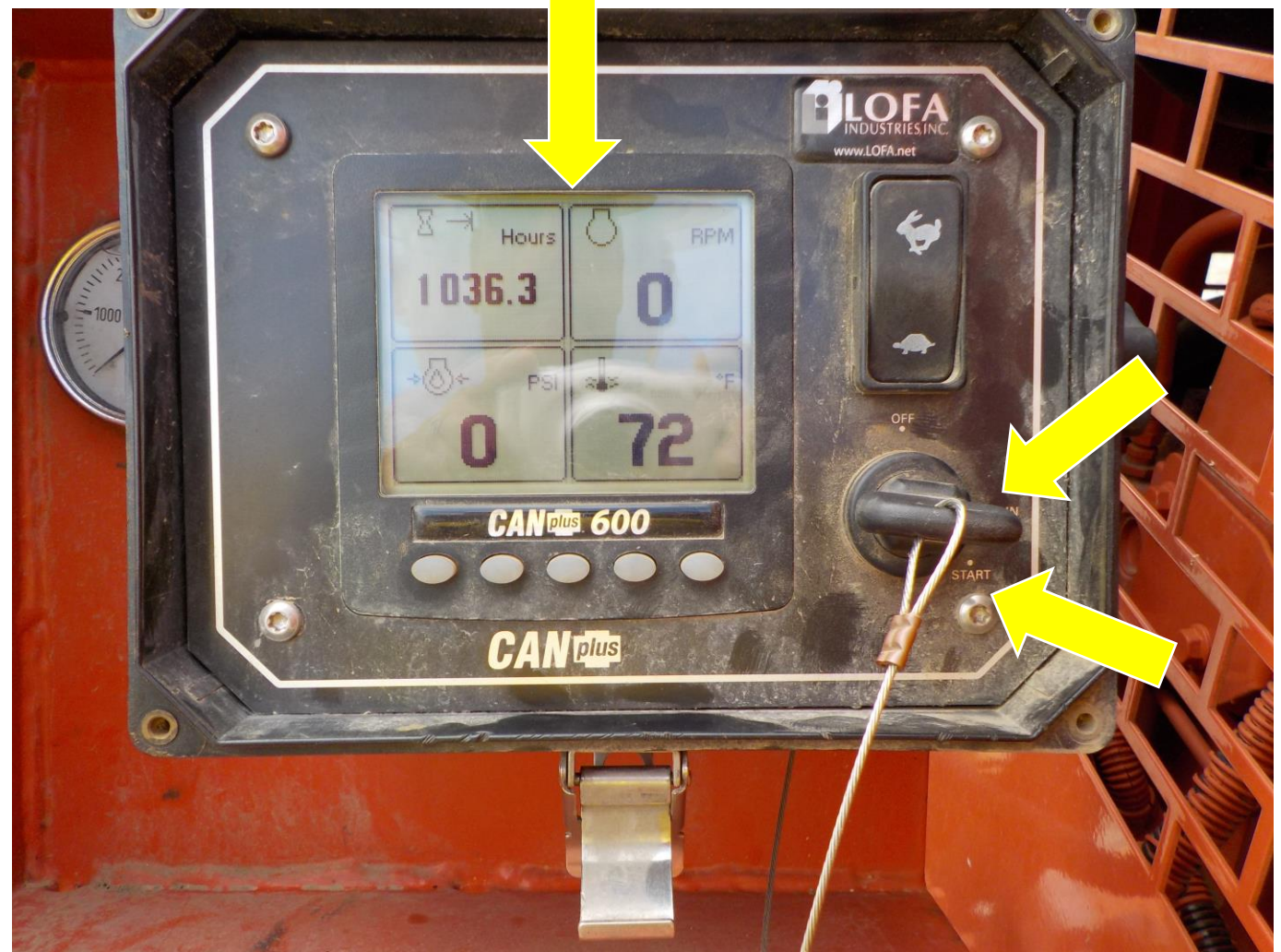
The engine is equipped with an electric heater starting aid and the use of ether may cause severe injury.

STARTUP PROCEDURES

- To start the diesel engine turn the key to the on position.
- Wait until the operating screen is displayed before starting the engine.
- Once the operating screen is displayed turn the key to the start position and hold until the engine starts.

NOTICE

If engine fails to start in 10 seconds turn the Key to the off position and repeat the above steps.

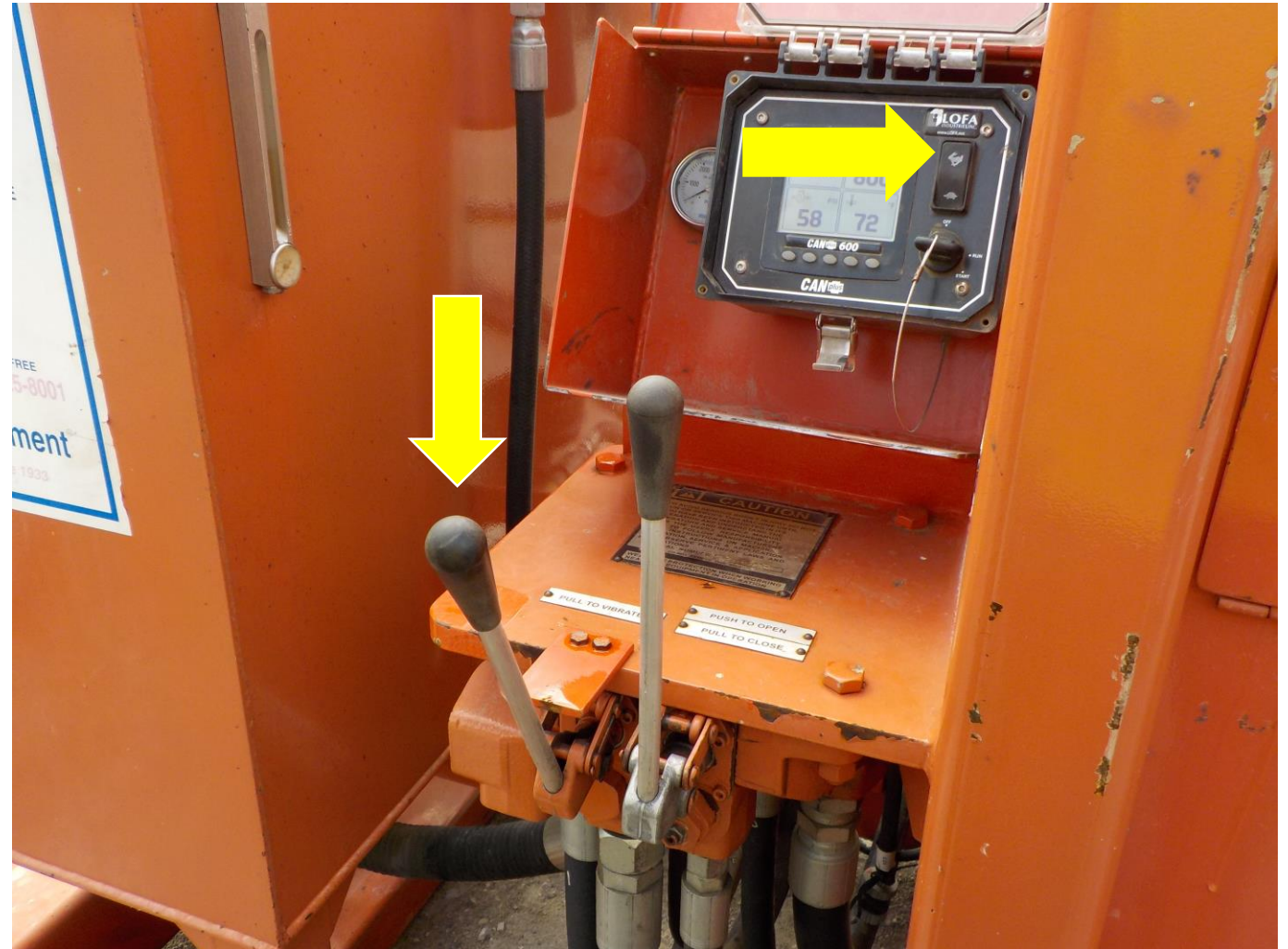


STARTUP PROCEDURES

- With the engine running, pull the Vibrate lever all the way back to the detent position .
- You now have hydraulic oil flowing out to the manifold on the hammer.
- Make sure you have the engine at maximum RPM by pushing the throttle button to the rabbit.

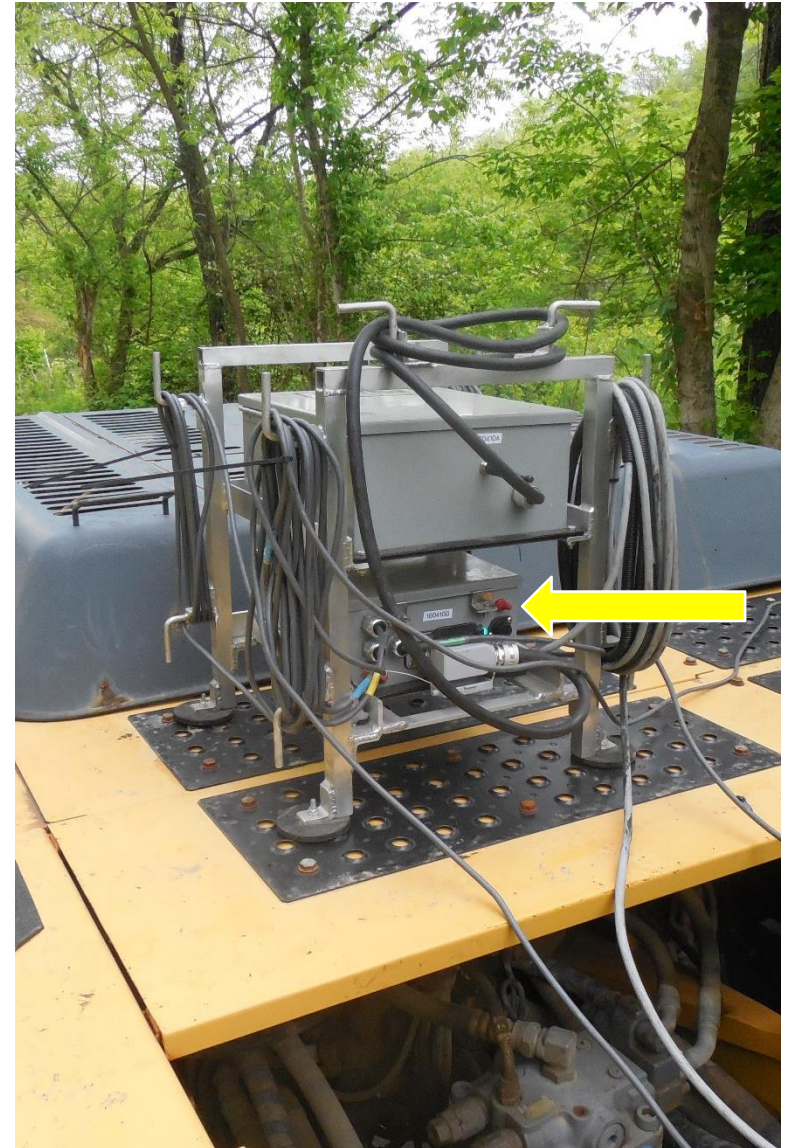
NOTICE

If engine is not at maximum RPM damage could occur to the Vibratory hammer on start up.



POWERING UP THE CONTROLS

With the power unit running turn the power switch on the junction box to the ON position.



POWERING UP THE REMOTE

Once you have the junction box powered up you can push the on button in the upper left corner of the remote.

The power to the junction box has to be turned on before you can turn on the remote. **If you turn the remote on first the system will not recognize the remote.**

The remote has a timer built into it and if unused for 10 minutes it will shut off to save battery power.



OPERATION OF UNIT

Once you have followed the proper power up process you are now ready to start controlling the unit.

TILT function is controlled by pushing down on the top of the button to tilt left and the bottom of the button to tilt right.

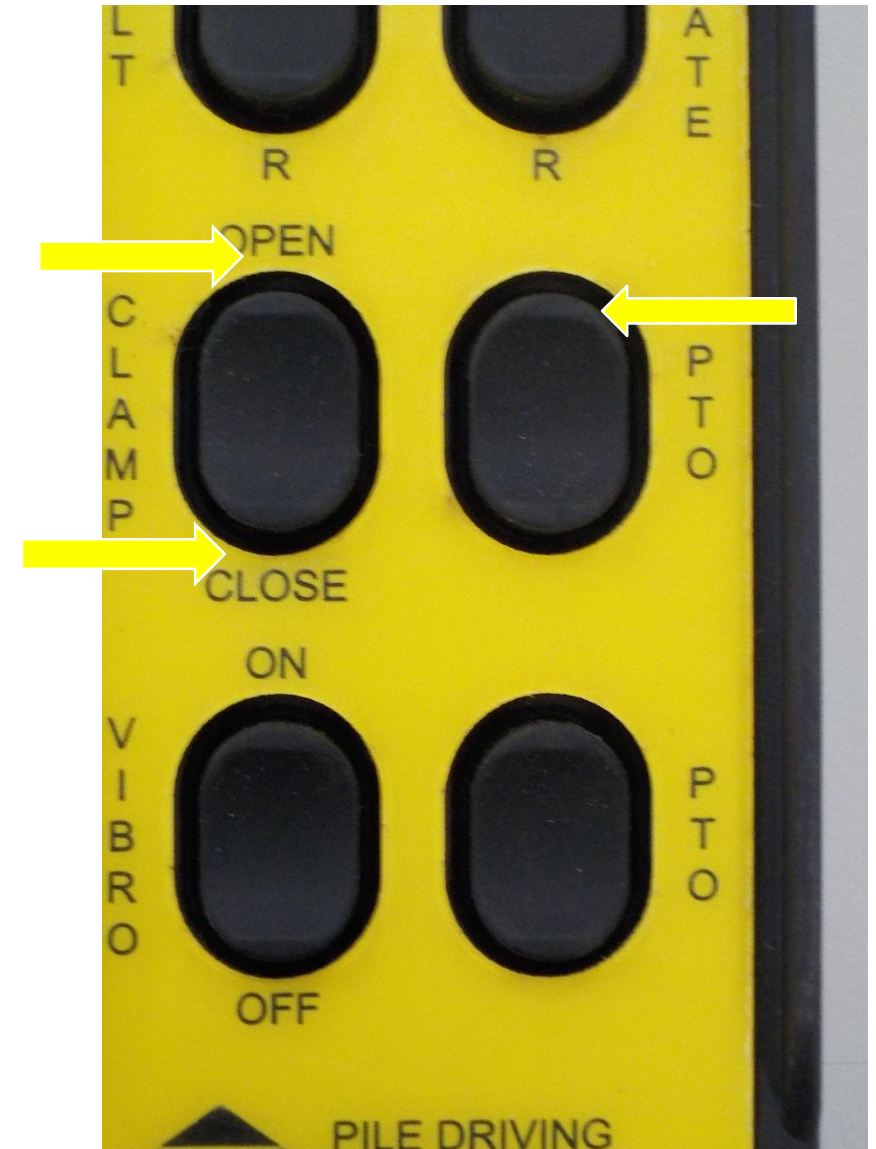
Rotate function is controlled by pushing down on the top of the button to rotate left and the bottom of the button to rotate right.



OPERATION OF UNIT

Clamp function is controlled by first holding the button up or down on the PTO switch that is located directly to the right of the clamp function switch.

Once you have the PTO switch held you can now operate the clamp by pushing up on the clamp function button to open the clamps or down on the clamp function button to close the clamp.

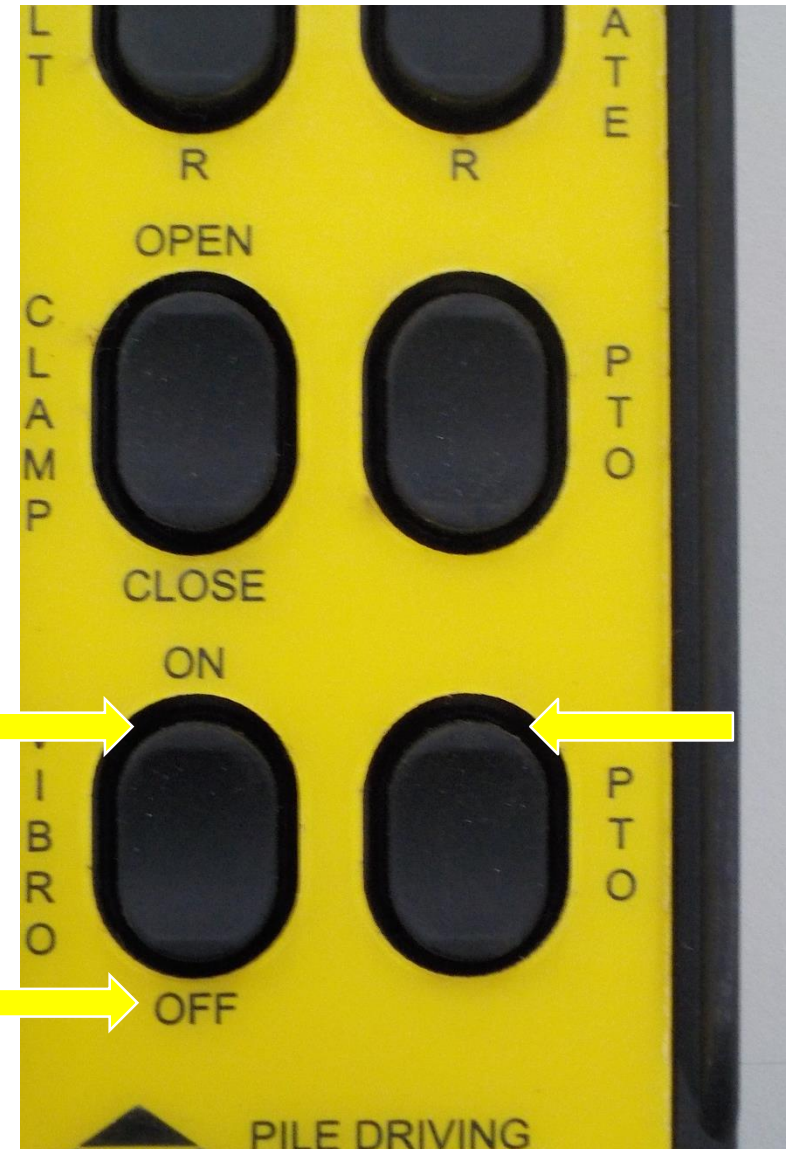


OPERATION OF UNIT

The vibratory function is controlled by first holding the button up or down on the PTO switch that is located directly to the right of the vibro function switch.

While you have the PTO held down you will need to push the Vibro switch up to the on position. The vibratory will continue to vibrate without holding the buttons until you push the vibro function button down to the off position.

While turning the vibratory hammer off you will NOT need to push the PTO button



BLEEDING THE CLAMP CIRCUIT

NOTICE

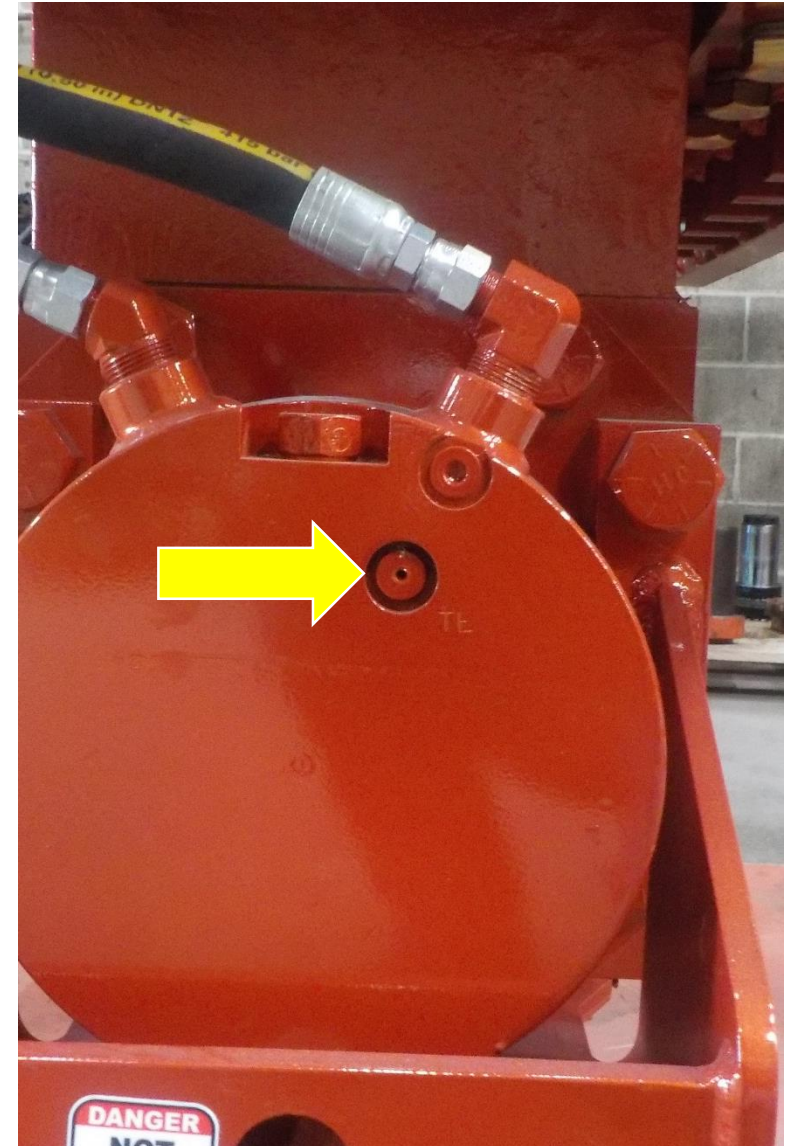
Whenever the hydraulic lines of the MKT V-5Esc system have been reconnected and or when hydraulic repairs have been made, the clamp cylinders must be bled of entrained air.

This procedure must be done with the hammer hanging vertical.

WARNING

Contents of hydraulic components may be under pressure extreme care should be taken when opening the components.

- Following the instructions in the previous slide to operate the clamp functions. Close the jaws and hold the clamp close function while you open the bleeder on the back of the bottom clamp . **Do not back vent screw all the way out!**
- Allow oil to vent approximately 30 seconds or until an air free stream of oil comes from each vent screw.



BLEEDING THE CLAMP CIRCUIT

NOTICE

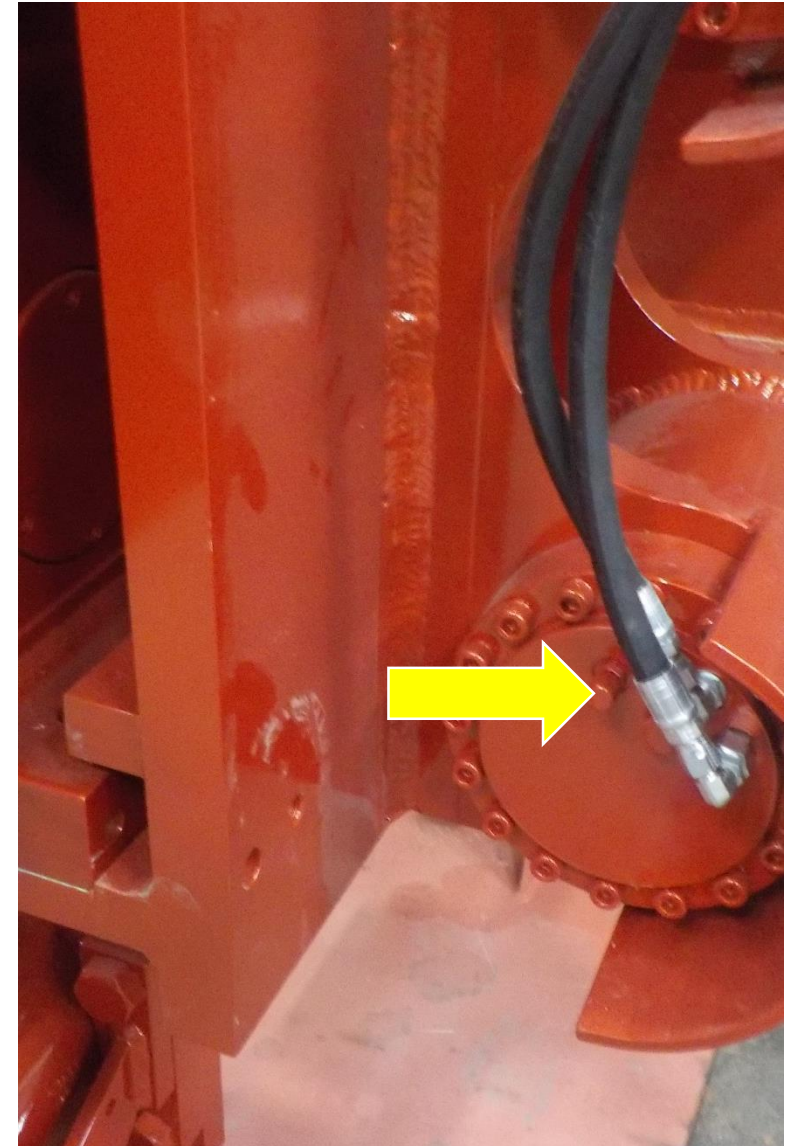
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This procedure must be done with the hammer hanging vertical.

WARNING

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- Following the instructions in the previous slide to operate the clamp functions. Close the jaws and hold the clamp close function while you open the bleeder on the back of the bottom side clamp . **Do not back vent cap all the way out!**
- Allow oil to vent approximately 30 seconds or until an air free stream of oil comes from each vent screw.



BLEEDING THE CLAMP CIRCUIT

NOTICE

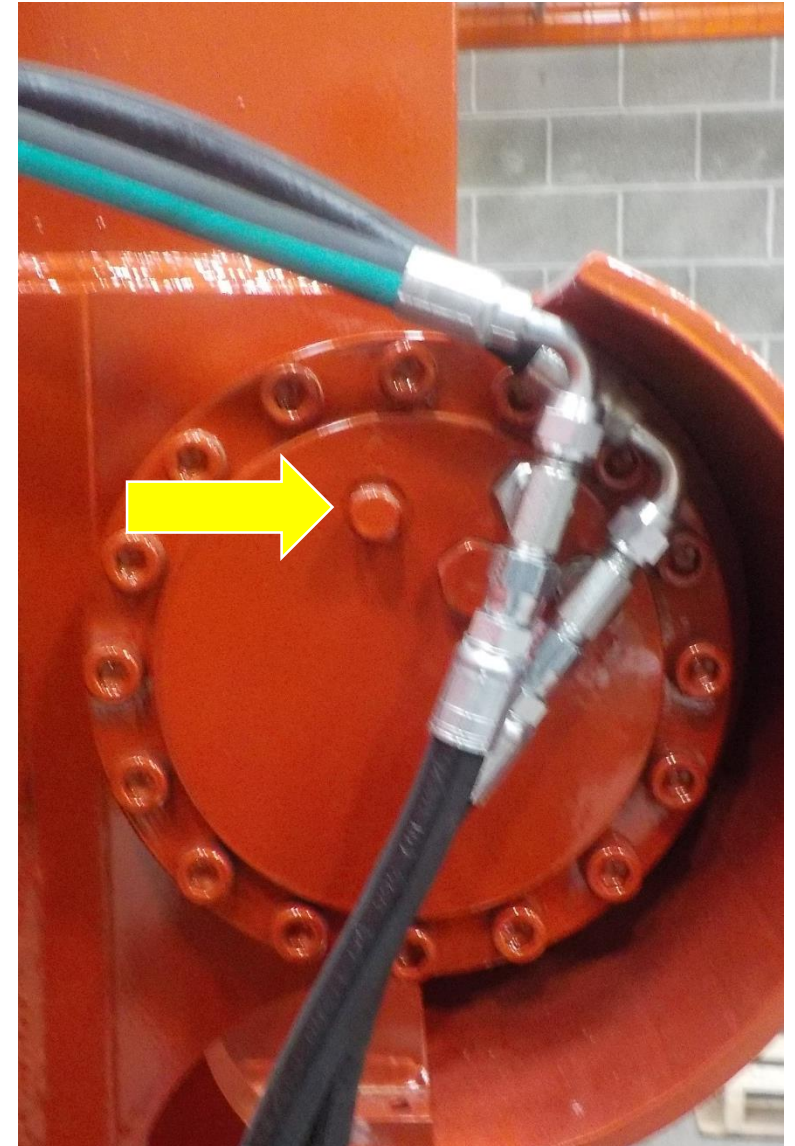
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This procedure must be done with the hammer hanging vertical.

WARNING

Contents of hydraulic components may be under pressure extreme care should be taken when opening the components.

- Following the instructions in the previous slide to operate the clamp functions. Close the jaws and hold the clamp close function while you open the bleeder on the back of the top side clamp . **Do not back vent cap all the way out!**
- Allow oil to vent approximately 30 seconds or until an air free stream of oil comes from each vent screw.



SETTING THE CYCLES OF THE MKT V-5E_{sc} VIBRATORY HAMMER

You will need a photo-tachometer like the one in the photo below



Hold the laser or light beam from the photo-Tachometer on the bottom edge of the exciter case while the vibratory hammer is vibrating



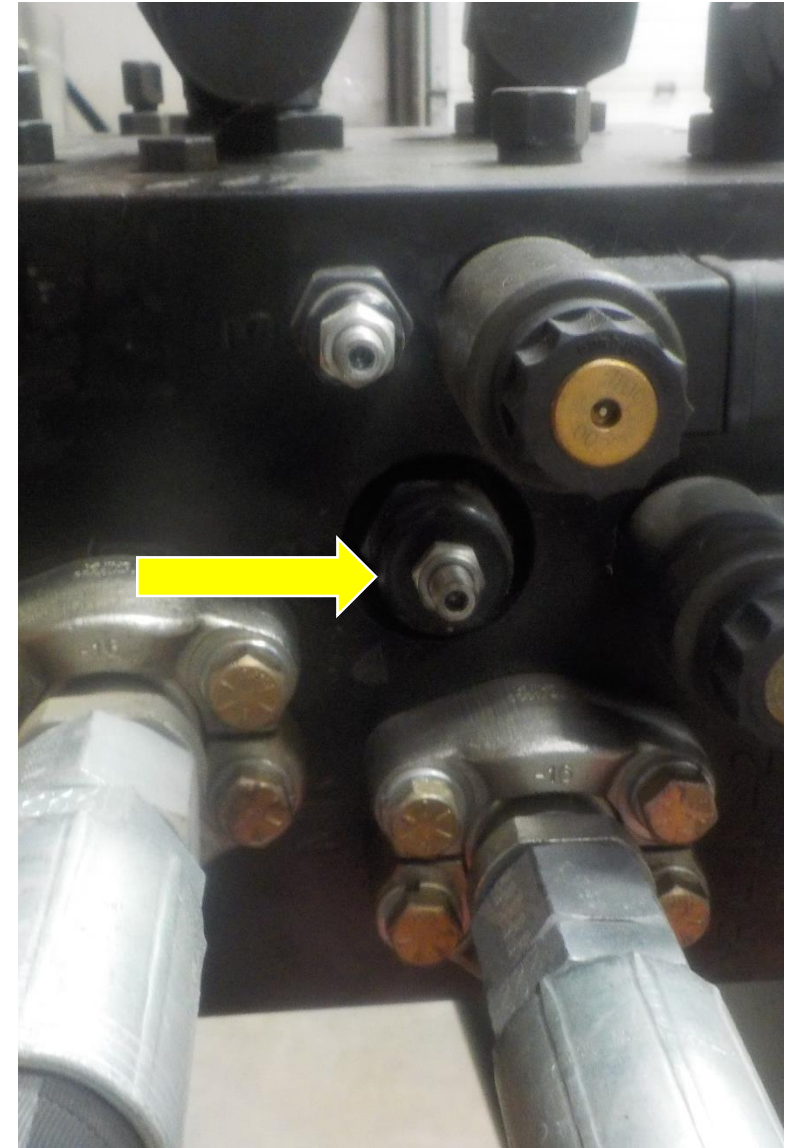
ADJUSTING CYCLES



WARNING

To make following adjustments safely you will need to adjust the flow control cartridge on the manifold labeled #8 with the MKT V-5Esc not vibrating.

- Turning the set screw in will slow down the vibratory hammer.
- Turning the set screw out will speed up the vibratory hammer.
- When you have made the necessary adjustments, start the vibratory hammer and check the cycles as explained in the previous slide.
- Repeat the above steps until you obtain a speed between 1625 to 1675 cycles.



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INSTALLATION IS COMPLETE

You are now ready to put the MKT V-5Esc vibratory hammer to work. Please click the link to view an animation of the MKT V-8Esc in action <https://www.youtube.com/watch?v=nt2KZI4YErk>

. If you have any questions please click on www.mktopileman.com for your nearest MKT representative