

Hydraulic Pump Pack—StrongArm (HTG)

Several types of hydraulic pump packs are manufactured at HySecurity®. These instructions pertain to the pump packs used in the StrongArm operator. The pump pack you receive may look different than the illustration on this page, but the steps involved in assembling and installing the pump pack are the same.

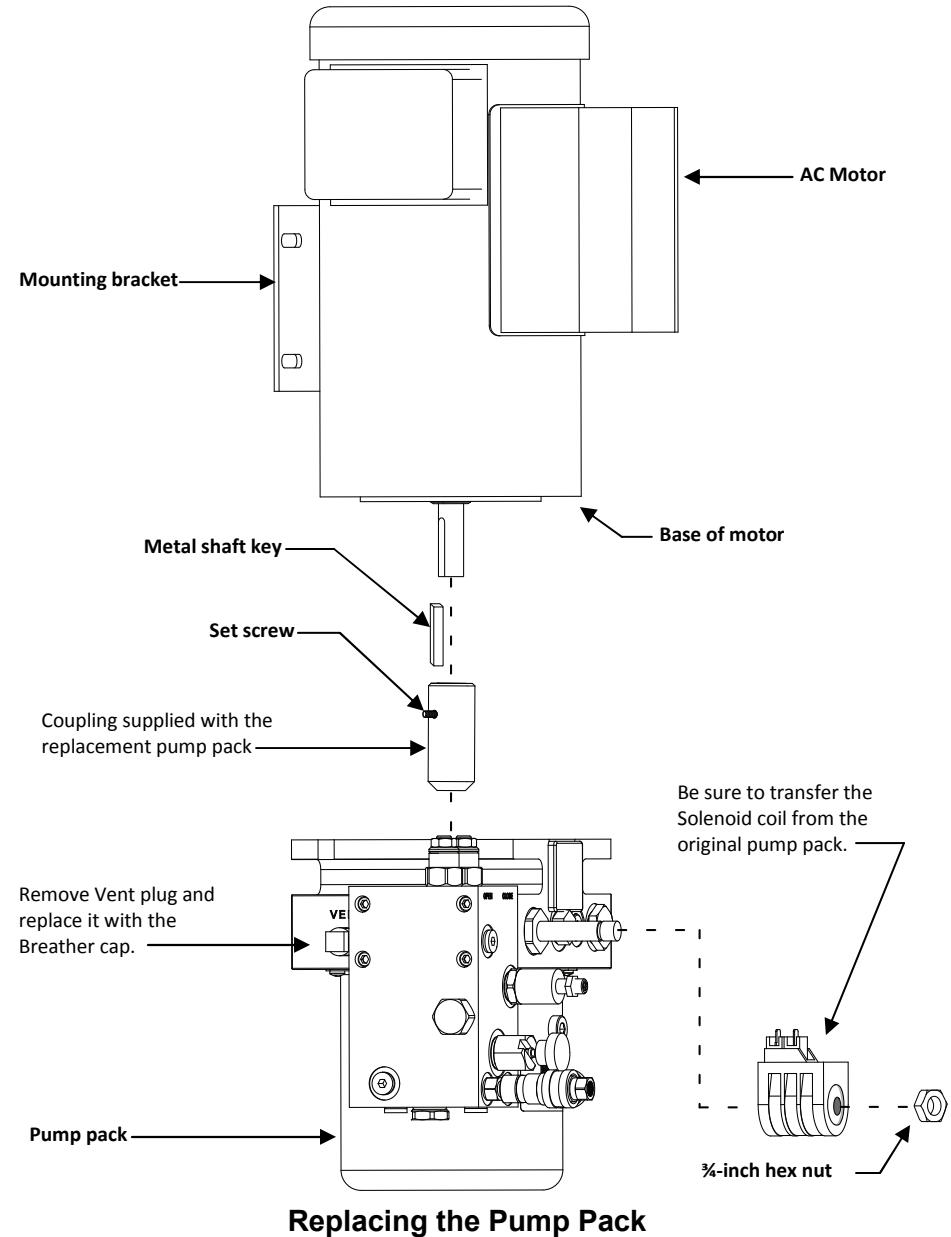
Items to note BEFORE you install the replacement pump pack include:

- The replacement pump pack assemblies cover several models including Relay and Smart Touch equipped units.
- When replacing a pump pack, it is important to check and verify that the pump pack assembly you received from HySecurity and the model being replaced are equivalent.
- The replacement pump pack shipped from HySecurity is wrapped in plastic and mounted on a board. If the replacement is under warranty, use the shipping materials to wrap the old pump pack and ship it per the RMA instructions. Damage incurred during shipping may be grounds for refusal of an RMA.

NOTE: All replacement pump packs are shipped without solenoid coils. Be sure to transfer the coils from the original to the replacement pump pack.



To avoid risk of injury or death, disconnect the gate operator from the main power source prior to performing any of the following service procedures!



Hydraulic Pump Pack Removal

IMPORTANT: All pump packs are shipped with pre-lubed pump shafts and new couplings. Do NOT remove the red dust cover until the new coupling is installed on the electric motor and you are ready to attach the pump.

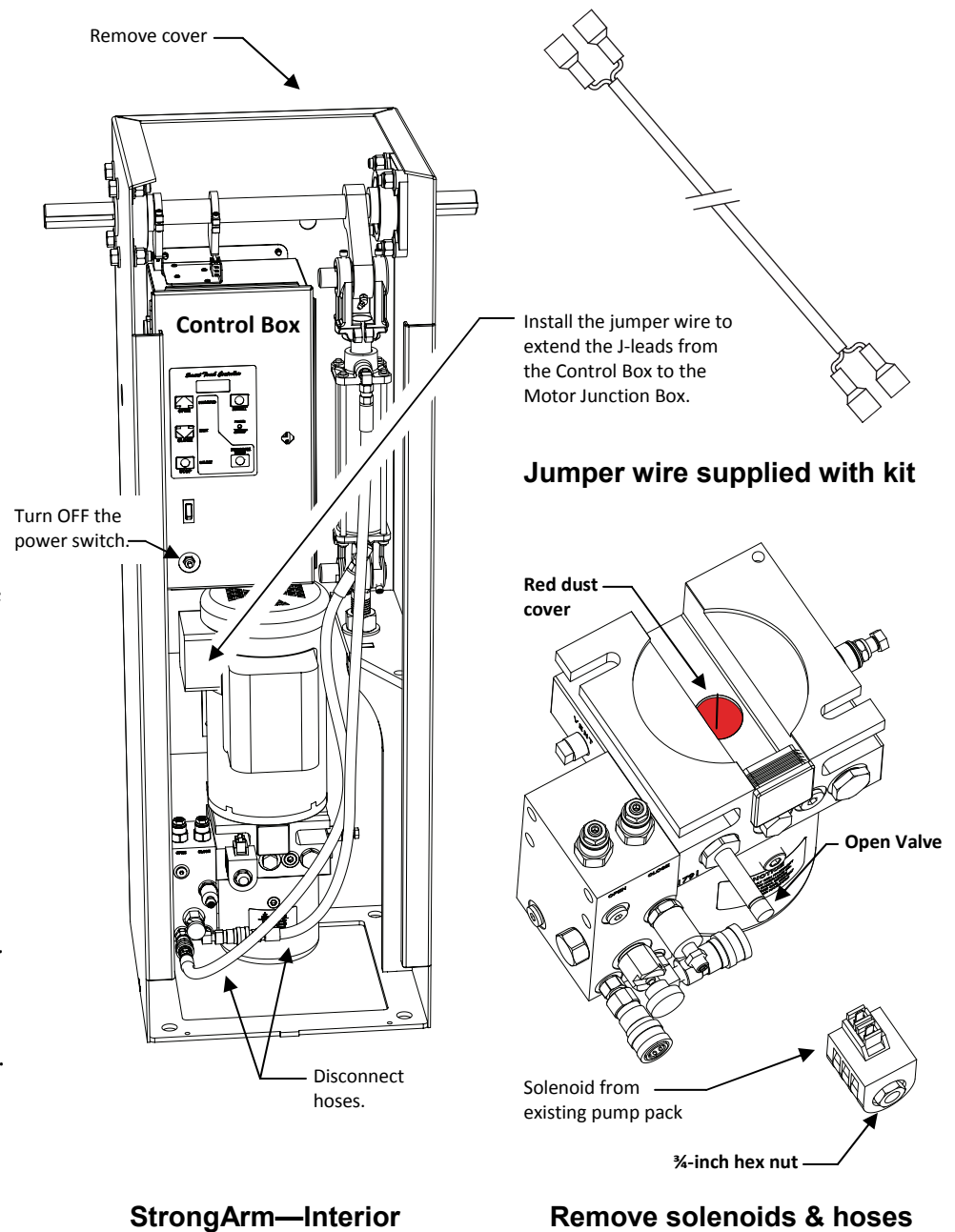
To remove the existing pump pack, take the following steps:

1. Remove the operator's front cover and set it on a level work surface.
2. Turn OFF power to the operator at the main disconnect and make sure the power toggle switch located on the Control Box is in the OFF position.
3. Check to see if the pump pack you received from HySecurity is the same as the unit you are replacing. Verify that both the old and replacement pump packs match in their brake and/or their AWOOG manifold assemblies.
4. Disconnect the two hoses from the Quick Disconnects (QD's).
NOTE: If your machine does not have QD's, unscrew the hose fittings from the pump. Keep the hose ends supported above the hydraulic cylinders, otherwise the hydraulic fluid will drain out. Have rags handy to absorb any fluid residue.
5. The entire motor/pump pack assembly can be removed from the chassis by:
 - Removing four nuts and washers.
 - Shifting the assembly off its mount and rotating it to access the Motor Junction Box.

IMPORTANT: Before removing the pump pack assembly, check the length of cable from the Control Box to the motor because you may need to open the Motor Junction Box and disconnect the wire leads to be able to set the assembly on a level work surface. Label the wires so it is easier to reconnect them during reassembly. Add the jumper wire supplied (in the pump pack kit) to extend the J-leads.

6. Remove the 3/4-inch hex nut which secures the solenoid coil onto its valve stem.
7. Slide the coil off the open valve.

NOTE: The solenoid coil and the cable will be reused! Use care when removing them since any damage incurred is not covered by the Limited Warranty.

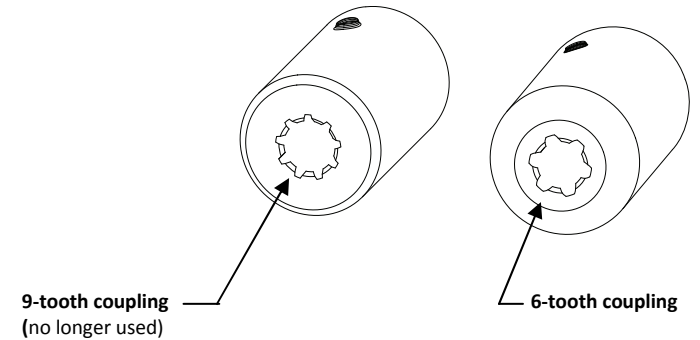


8. Separate the pump pack from the electric motor by removing the two mounting bolts using a 9/16-inch wrench. The bolts are factory-installed with blue thread lock (Loctite® 545), so it will require a bit of torque to remove them. Gently, rock the pump pack to disengage the coupling and to pull the motor and pump pack apart.



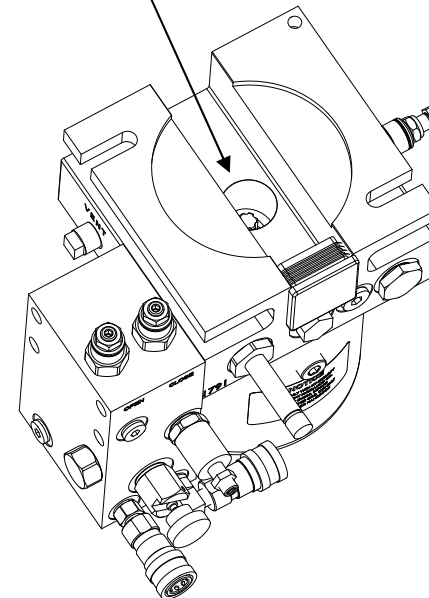
Do not use a pry bar or a screwdriver to separate the pump pack from the electric motor as damage may occur to the motor's shaft.

9. Remove the motor coupling by loosening the set screw. Slide the coupling and the metal key off the motor's shaft. See the illustration on page 1.
10. Discard the coupling and metal key. A new coupling and metal key are supplied with the replacement pump pack.



Old and new versions of couplings

Match the 6-tooth coupling to the 6-tooth spline in the pump pack.



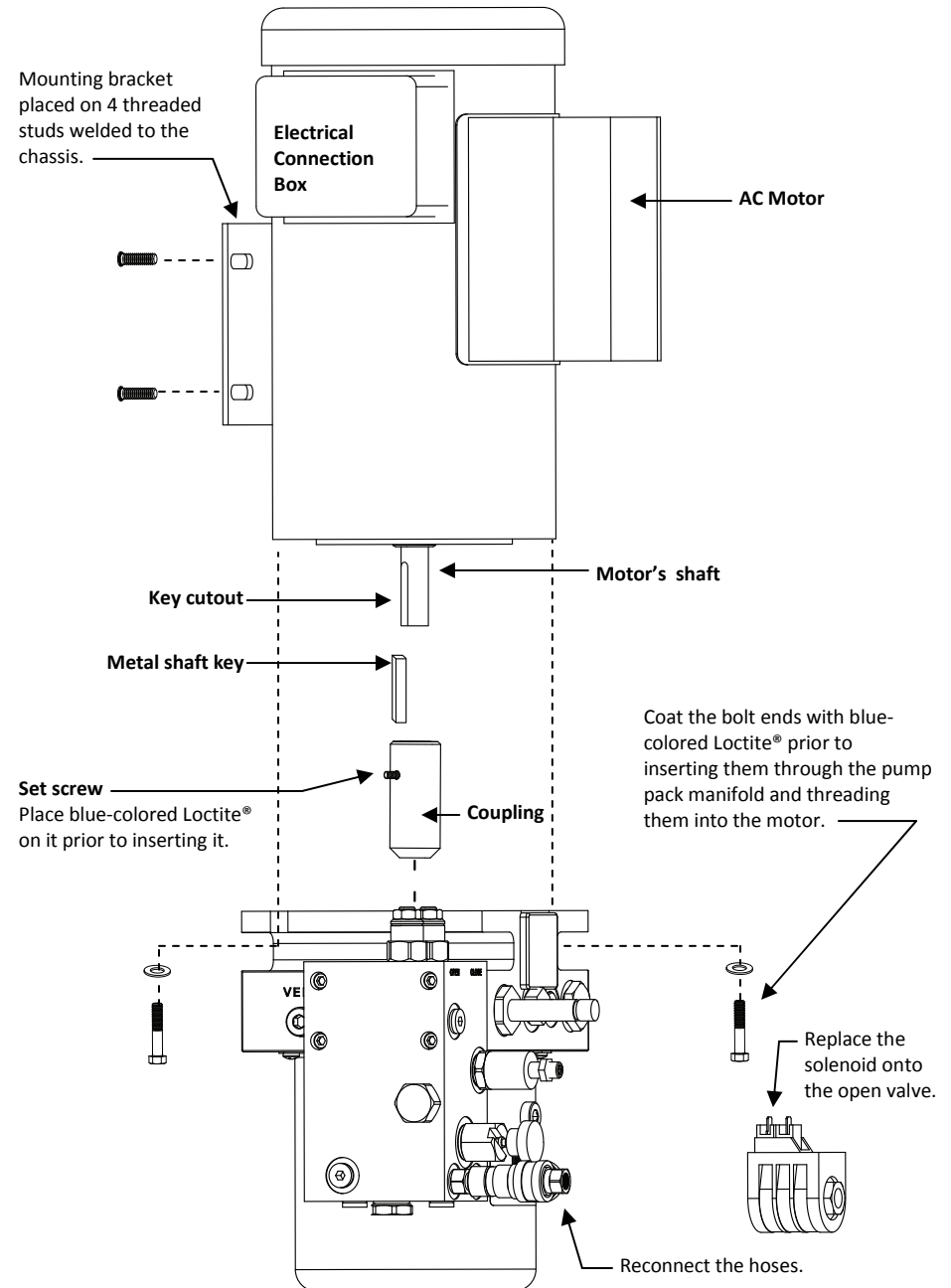
Match Coupling to Pump Pack

Hydraulic Pump Pack Replacement

To replace the existing pump pack, take the following steps:

1. Prepare the replacement pump pack for installation by removing any accessories (such as the breather cap) that may be tie-wrapped to the pump pack kit.
2. Locate the motor coupling shipped with the replacement pump pack.
3. Loosen the set screw on the coupling.
4. Place the metal shaft key securely in the motor's shaft.
5. Align the coupling with the metal shaft key and slide the coupling onto the motor's shaft as far as it will go. Tap the coupling lightly with a plastic or rubber mallet to be sure it is situated completely on the motor's shaft.
6. Place blue-colored Loctite® onto the coupling set screw and tighten it securely.
7. Remove the red dust cover from the pump pack's manifold.
8. Look inside the shaft to verify that the pump shaft is coated with "anti-seize" (grease). If grease has not been applied, call Technical Support.
9. Orient the motor and pump pack assembly as shown in the illustration.
10. Carefully, slide the motor and coupling into the pump pack. Make sure that the sleeves in the coupling interlock with the teeth on the pump's shaft. Continue until the pump pack and the base of the motor are touching.
11. Coat the end of both mounting bolts with blue-colored Loctite®. Insert both bolts and alternately tighten each bolt so there is even closure between the motor and pump pack. No torque setting is required, but make sure to tighten the bolts securely.
12. Carefully, slide the motor and pump pack assembly onto the wall bracket inside the chassis.
13. Reconnect the two hoses into their original fittings.

NOTE: On pump packs without Quick Disconnects. Place blue Loctite® on the threads of the hose fittings. Insert them into the ports in the manifold and tighten. DO NOT use Teflon tape or you may void the Limited Warranty.



8. To verify that the electric motor is turning counterclockwise, briefly start and stop the operator. If the motor is not turning counterclockwise (as viewed from the top), rewire it for proper rotation.

NOTE: In DC motors, swap the cables. In 3-phase AC motors, you need to choose two main power wires in the motor's Electrical Connection Box and switch them.

9. Adjust the pressure relief valves per the instructions found in the operator's installation manual.
10. Prevent rust or corrosion by touching-up any damage to the paint on the chassis.

Relay Operators

If you are working on a relay-controlled operator, follow the steps that pertain to your operator.

Relay-controlled operators with only one valve and one 24VAC coil

Place the old coil on the front (Open) valve and lightly tighten the nut. The rear valve is unused. (This rear valve is the "Quick Stop" valve used on later relay operators). Should you wish to incorporate this function, there are instructions and a list of additional required parts available through Technical Support.)

Relay-controlled operators with two valves and two 24VAC coils

Place the old large coil on the front (Open) valve and lightly tighten the hex nut. Place the smaller coil on the rear (Quick Stop) valve and lightly tighten the hex nut.

Bleeding the AWOG:

To bleed the AWOG, take the following steps:

NOTE: To bleed the upward facing AWOG, you will need 5/8-inch open-end wrench and an 11/16-inch socket wrench attached to a ratchet. You do not need to bleed a downward facing AWOG.

1. Use the wrench to hold the hose fitting on the top of the AWOG in place while you use the 11/16-inch socket wrench and ratchet, to loosen (but DO NOT remove) the cap on top of it.
2. Run the operator in either the open or close direction. As soon as you see fluid coming from under the cap, *while the motor is running*, tighten the cap quickly.

Maintenance

For Maintenance or Troubleshooting issues, refer to the operator's installation manual. If you do not have a copy of the manual, it is available on the HySecurity website.

Technical Support

- For technical support, call your installer or authorized HySecurity distributor. Obtain the serial number of your operator before calling. For the name of a distributor near you, call HySecurity at 800-321-9947.
- For information about HySecurity training for installers, maintenance personnel and end users, refer to www.hysecurity.com or call 800-321-9947.