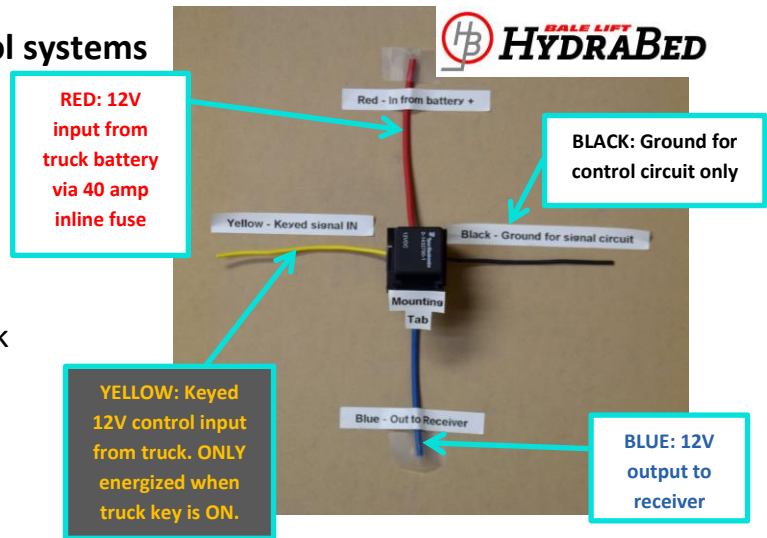


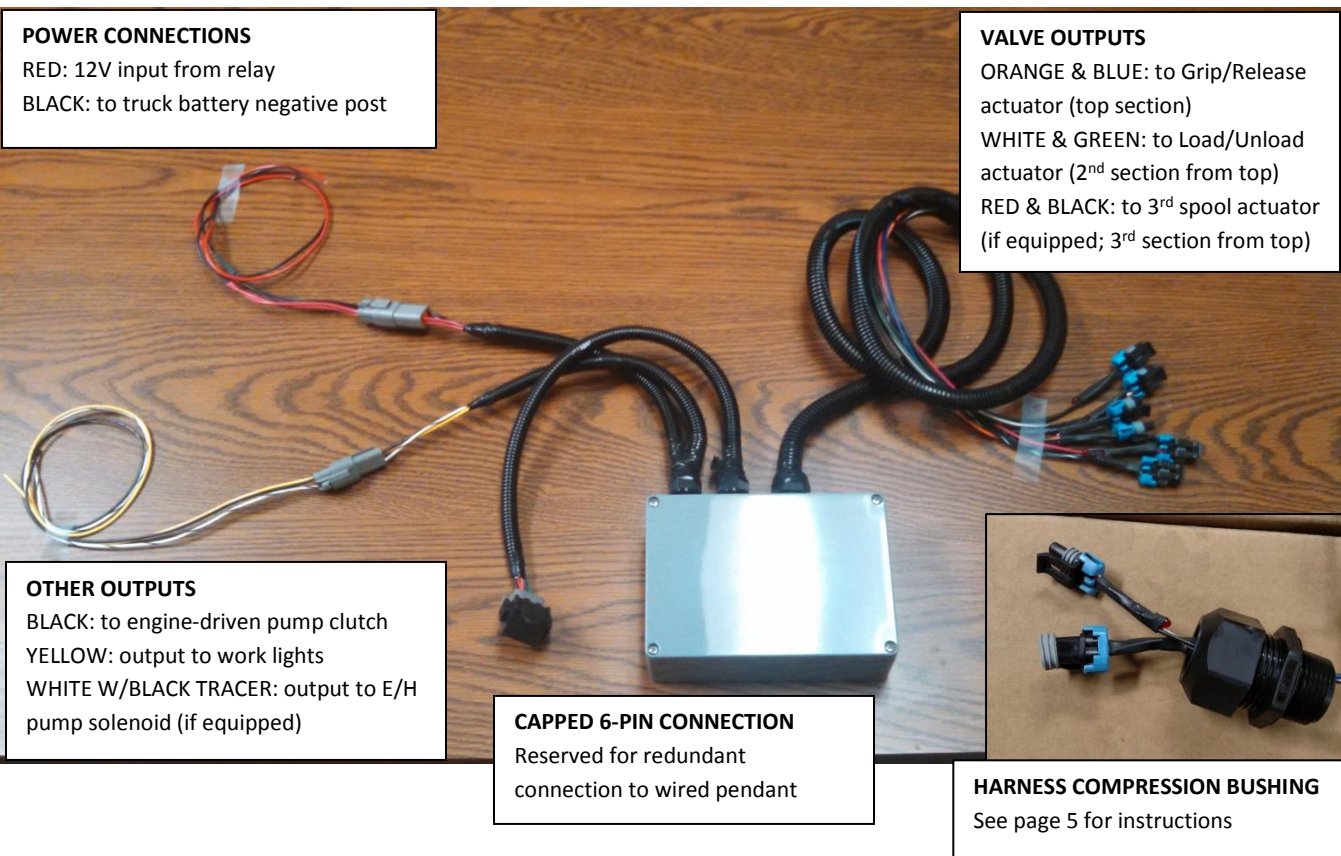
Hydra Bed Husco Valve Electric Control systems

BEFORE YOU BEGIN: All Hydra Bed Husco valve electric control systems obtain their input electrical power via a relay connected to the truck battery. It is essential that this relay be wired properly so it is NOT relaying power when the truck key is OFF!

Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#); [COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#); [PAIRING](#); [OTHER OUTPUTS](#)



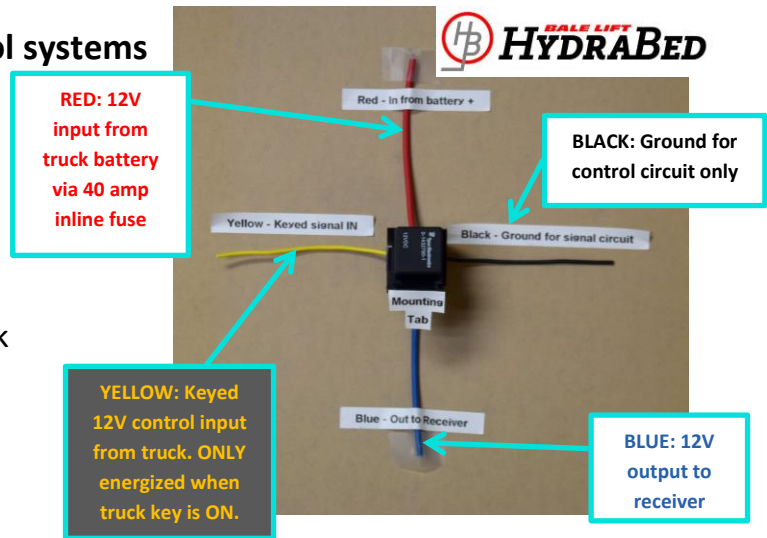
WIRELESS control only: (Click to jump to [REDUNDANT](#) or [PENDANT](#) systems)



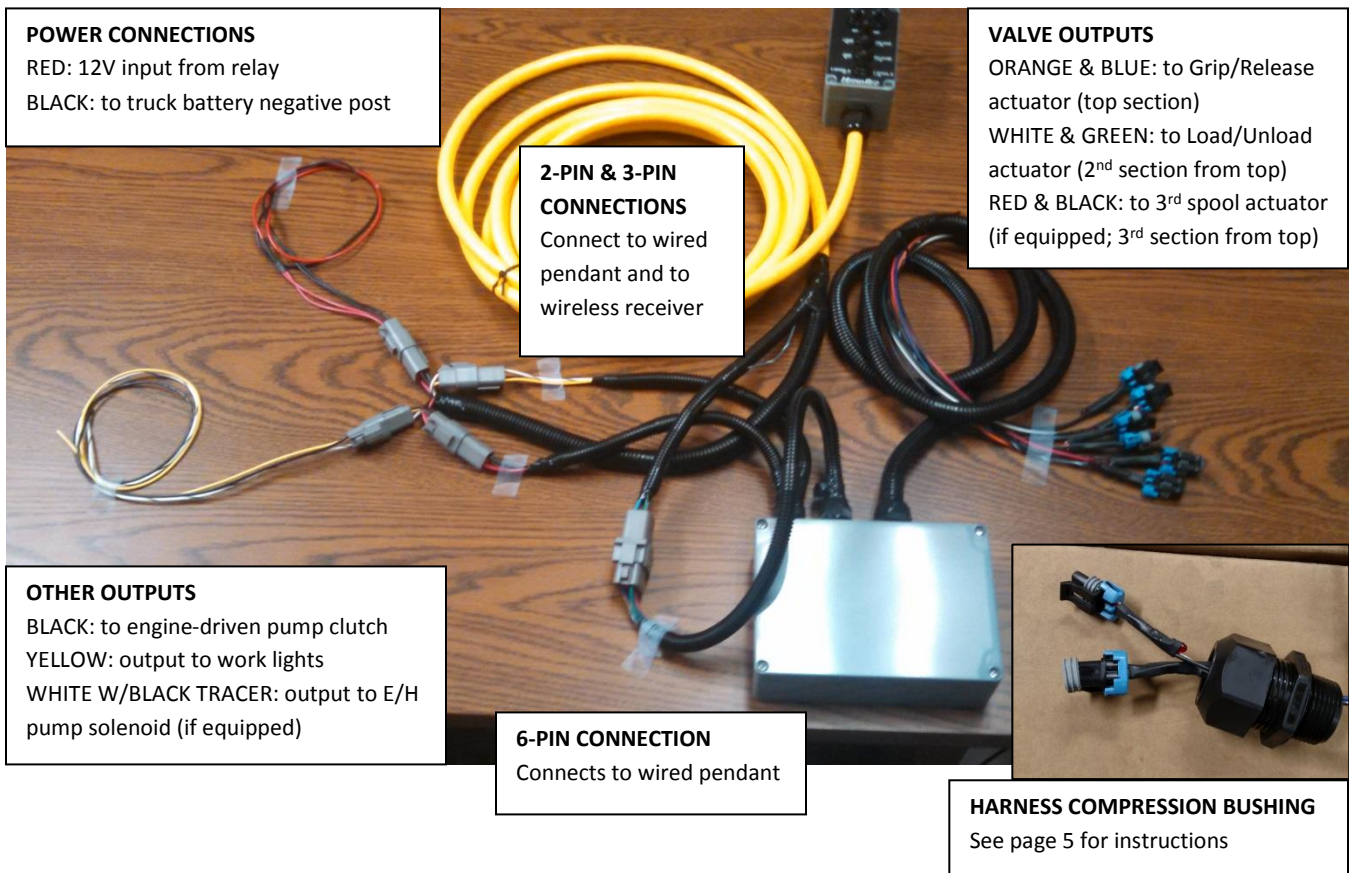
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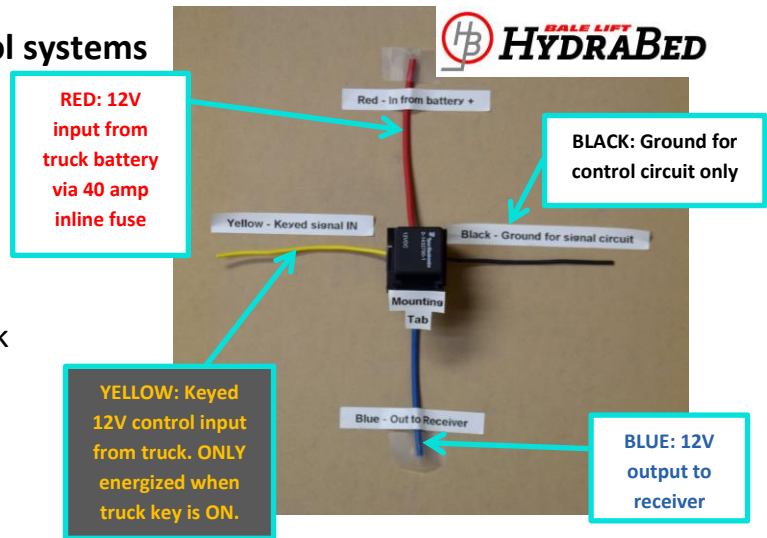
REDUNDANT control only: (Click to jump to [WIRELESS](#) or [PENDANT](#) systems)



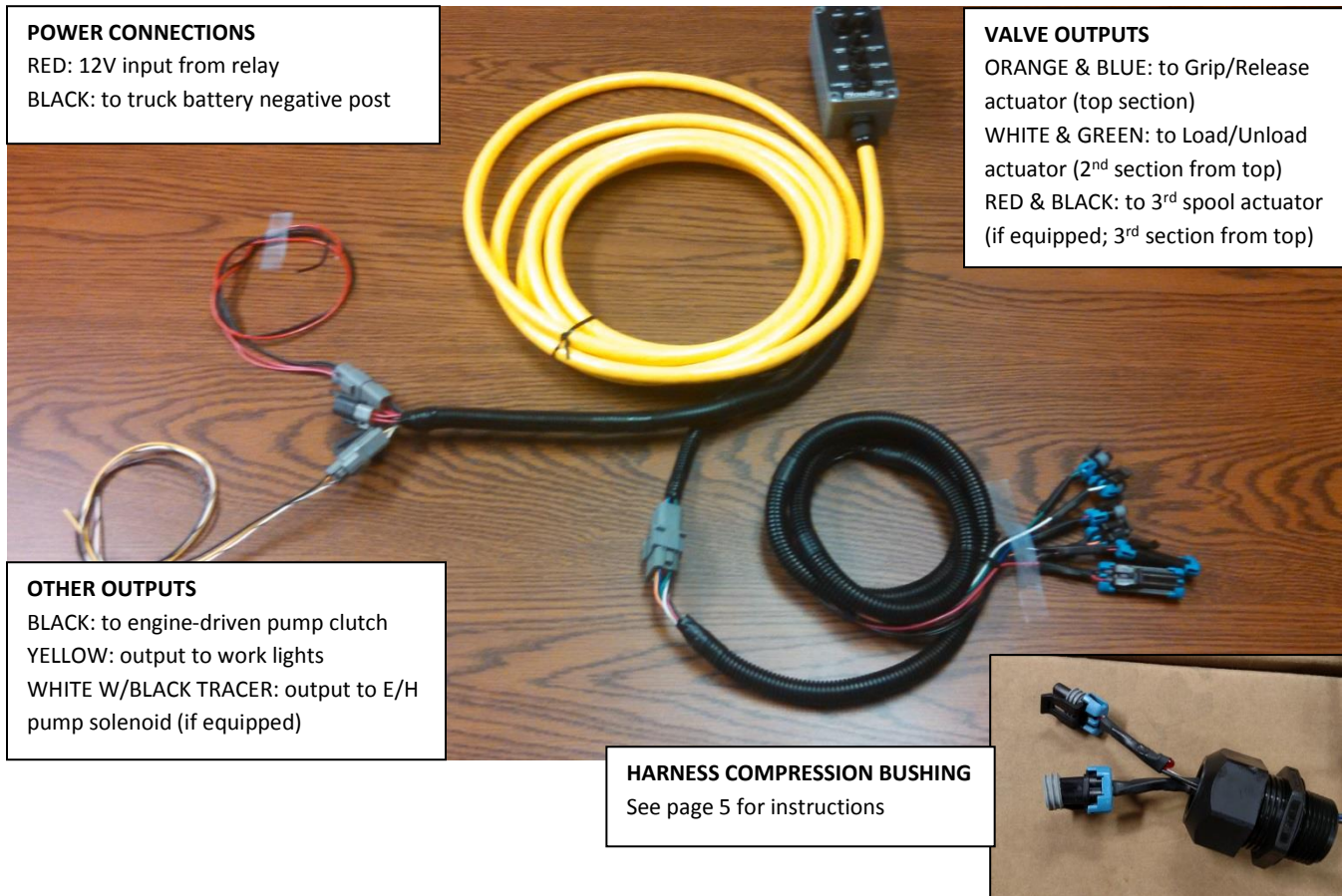
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Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#); [COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#); [PAIRING](#); [OTHER OUTPUTS](#)



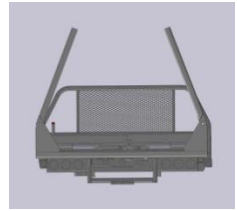
PENDANT control only: (Click to jump to [WIRELESS](#) or [REDUNDANT](#) systems)



For efficiency, rephasing the grip cylinders and burnishing the pump clutch can be completed in an individual process. The following steps will guide you through this process:

PREPARATION:

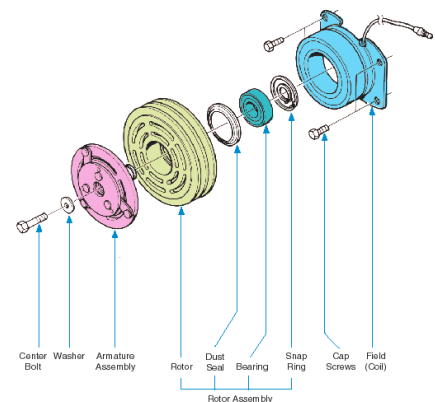
- For 7' wide "100 Series" Hydra Bed models HB3100, HB3200, HB3300, HB-100, HB-200, HB-300, HB-305 & HB-500, activate the LOAD/UNLOAD control to position the arms in a vertical (upward) position



- For 7'8" wide "50 Series" Hydra Bed models HB3250, HB3350, HB3550, HB250, HB350, HB355, HB550 & HB-555, activate the LOAD/UNLOAD control to position the arms in their fully rearward (down) position



1. With the truck engine idling, fully load the pump clutch by activating the GRIP function until the arms bottom out (grip cylinders fully extended) - continue to hold
 - a. For an electrically controlled Hydrabed – manually shifting the valve handle by hand is required
 - b. By orientating the arms correctly according to the preparation above and GRIPPING the arms - you are fully extending the cylinders which in turn activates the internal rephasing ports.
 - c. This process achieves the synchronization of the HydraBed arms.
2. While continuing to hold the GRIP function, cycle the system ON and OFF approximately 25 times
 - a. Repeat this step @ 1000 engine RPM
 - b. Repeat this step @ 1250 engine RPM
 - c. By activating the pump clutch with the pump fully loaded you are burnishing the clutch. Burnishing the clutch is a healthy procedure that helps prevent clutch slippage.
3. Process complete. The grip cylinders have been rephased and clutch has been burnished.



Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

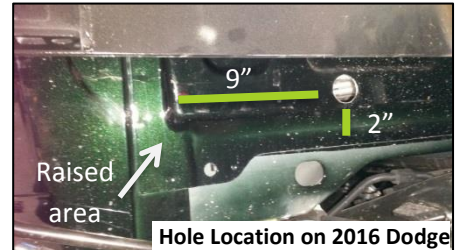
Harness Compression Bushing Installation Instructions

1. In order for best placement, make sure the hole is accessible from both cab and bed sides. On Ford models, there is usually a plugged hole already in the back of the cab for access (as pictured). For Dodge and Chevy Models, the hole locations will vary, and a hole may need to be drilled by the installer.



Ford Cab & Chassis

- * On a 2016 Dodge, the optimal hole location was approximately 9.00" horizontally from the edge of the raised area and 2.00" vertically from the bottom of the cab.



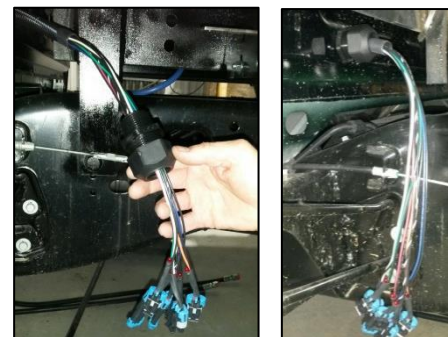
2. The hole needs to be located in order that the connector does not interfere with the bed.
3. The hole to be drilled needs a clearance of 1-5/16." Recommended tool to use is a step bit (pictured).
4. Clear the hole of all debris and burrs.



Step Bit



5. Route valve actuator connectors and wires through the white locknut provided.
6. Route harness wiring through the drilled hole, with the locknut staying inside the cab.
7. Route wires, one at a time, through the compression bushing.
8. Insert the compression bushing into the back of the cab through the drilled hole.



Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

9. Tighten the locknut inside the cab while holding the compression bushing on the outside.



10. Route the 12-2 (gray), pump (black), and work light (yellow) wires through the compression bushing.
Note: For E/H option, there will also be a white with black tracer for the E/H pump relay.

11. Thread all conductors and connectors through the black compression nut. Snug the nut to compress the gland in order for it to seal the entry point.



Husco Valve Actuator Installation Instructions

1. Disconnect manual control cables from valve handles.
2. Remove original valve control bar handles from valve.
3. Unbolt Hydra Bed control valve from valve mounting plate.
4. Carefully clean all debris from valve, especially from valve spool cap area (rear area of valve adjacent to Hydra Bed frame) and from valve spool actuator end (outer area of valve adjacent to Hydra Bed outer edge).
5. Spool spring replacement (repeat for each valve spool)
 - a. Using 3/16" Allen wrench, remove (2) cap screws that retain valve spool cap.
 - b. Using 3/16" Allen wrench, remove cap screw that secures spring retaining cup to rear end of valve spool.
 - c. Replace original valve centering spring with supplied spring and re-install spring retaining cup with original cap screw torqued to 7 ft/lbs.
 - d. Inspect spring/spool assembly, removing all dirt and debris, then re-install valve spool caps using original cap screws torqued to 7 ft/lbs.
6. Re-install valve to Hydra Bed valve mounting plate.

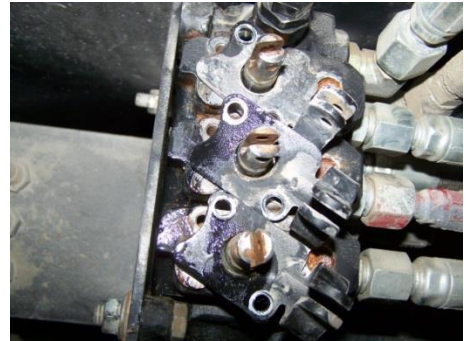


Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

7. Using 3/16" Allen wrench, loosen and remove (2) cap screws that retain each valve handle pivot bracket to face of valve – DO NOT REMOVE PIVOT BRACKETS.



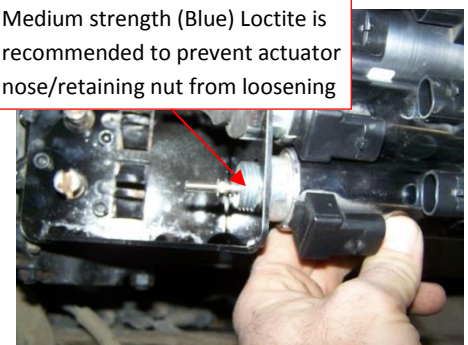
8. Install supplied actuator mounting bracket over spool ends carefully aligning original valve pivot brackets with corresponding holes in supplied bracket. Torque cap screws to 7 ft/lbs.



9. Actuator installation (repeat for each valve spool)
 - a. Remove actuator retaining nut/rubber boot assembly.
 - b. Insert actuator threaded nose into bracket hole and re-install retaining nut/rubber boot assembly until it contacts bracket. *****Medium strength (Blue) Loctite is recommended to prevent actuator retaining nut from loosening from actuator nose.***
 - c. Carefully stretch small end of rubber boot over and past retention groove pre-installed on actuator push rod.
 - d. Using a thin 1-1/8" open end wrench on the provided actuator nose wrench flats, prevent actuator rotation while carefully tightening the actuator retaining nut to 7 ft/lbs. with a thin 1-5/16" open end wrench or water pump pliers.



Medium strength (Blue) Loctite is recommended to prevent actuator nose/retaining nut from loosening



Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

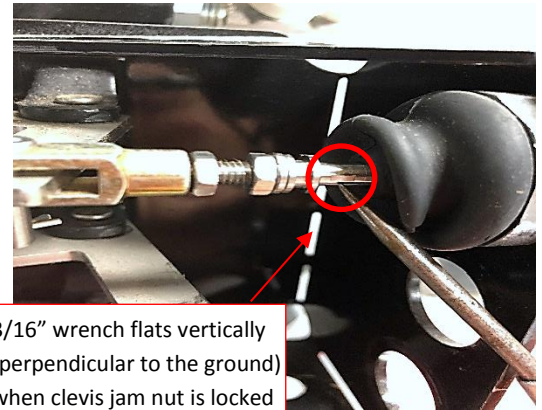
- e. Install supplied actuator clevis on actuator push rod but **DO NOT** tighten lock nut at this time.
- f. Install supplied valve manual override handles to valve spools and pivot brackets with handles pointing to front of vehicle.

*****It is essential that actuator clevis adjustment provides equal valve handle travel both directions from center.***

- g. Screw clevis in or out on actuator push rod to accomplish equal stroke both directions

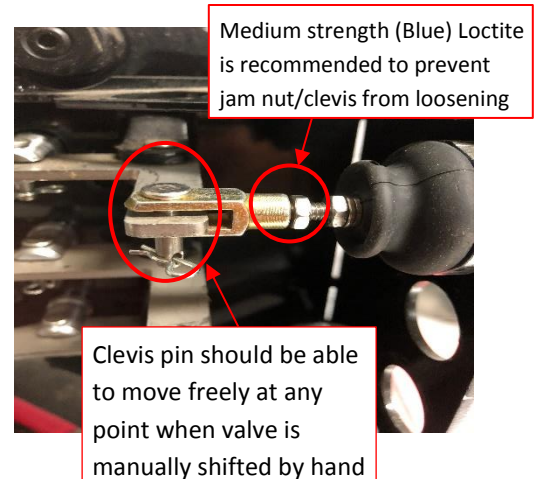
****NOTE:** *Clevis pin should be able to move freely at any point when valve is manually shifted by hand. If clevis pin becomes tight at any point while shifting valve the pin is preventing the valve from fully shifting and the clevis needs threaded on or off the actuator rod for proper adjustment.*

- h. Rotate the push rod to orient the push rod's 3/16" wrench flats vertically



*****Medium strength (Blue) Loctite is recommended to prevent actuator clevis/jam nut from loosening***

- i. Using a 5/16" open end wrench, lock the properly adjusted clevis in place using one of the jam nuts supplied
- j. Recheck the push rod clevis for equal stroke adjustment by confirming the clevis pin moves freely when fully shifting valve handles in both directions manually by hand.

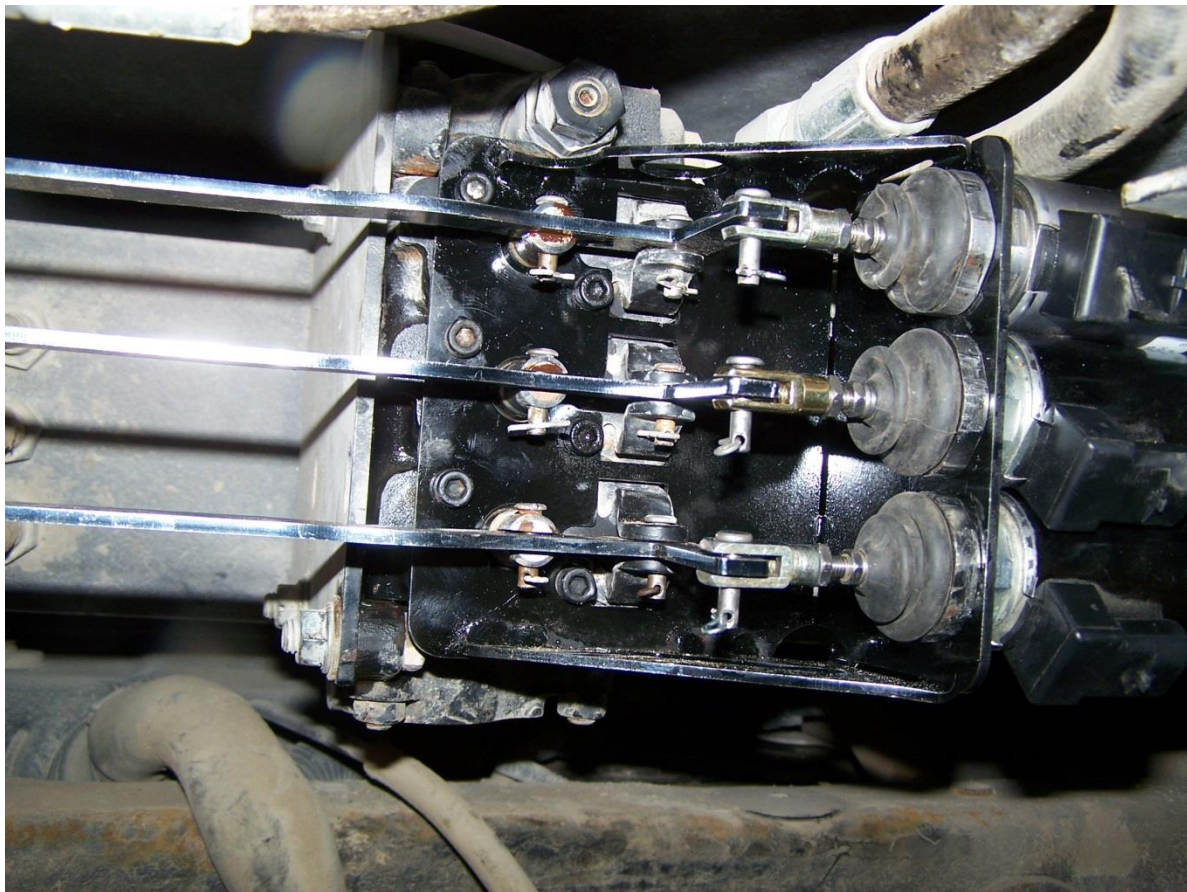


Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

- k. Carefully stretch small end of rubber boot over and into retention groove pre-installed on actuator push rod and lock in place using the remaining jam nut supplied



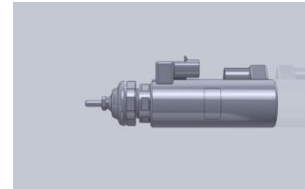
Actuator installation shown below completed and ready for wiring connections.



10. Connect Hydra Bed Wireless Valve Control output leads to actuators as follows:

Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

- a. Upper actuator
 - i. Connector at rear (capped) end – BLUE (RELEASE)
 - ii. Connector at working (push rod) end – ORANGE (GRIP)
- b. Second (from top) actuator
 - i. Connector at rear (capped) end – GREEN (UNLOAD)
 - ii. Connector at working (push rod) end – WHITE (LOAD)
- c. Third (from top, if equipped) actuator
 - i. Connector at rear (capped) end – BLACK (3-SPOOL “B”)
 - ii.** Connector at working (push rod) end – RED (3-SPOOL “A”)



Links: [WIRELESS](#); [REDUNDANT](#); [PENDANT](#);
[COMPRESSION BUSHING](#); [ACTUATORS](#); [BURNISHING](#);
[PAIRING](#); [OTHER OUTPUTS](#)

Hydra Bed Husco Valve Wireless Controls System Pairing

Receiver/transmitter systems are shipped already paired. Should it become necessary to re-pair a transmitter to a receiver, follow these steps.

Preparation:

- Turn the hand-held transmitter OFF.
- Using Phillips screwdriver, remove the receiver cover (gray enclosure).

Removable
Cover



1. Turn truck key ON to power the receiver – red LED inside receiver will light for ½ second confirming power is present.

2. Press the blue button inside the receiver until red LED lights then release.



3. **Immediately** press hand-held transmitter Work Light button briefly until receiver red LED blinks once, then release. The receiver red LED will blink rapidly, then it will turn off.

4. Turn hand-held transmitter Work Light button OFF.

5. Turn hand-held transmitter System ON.

6. Receiver red LED will light indicating successful pairing.

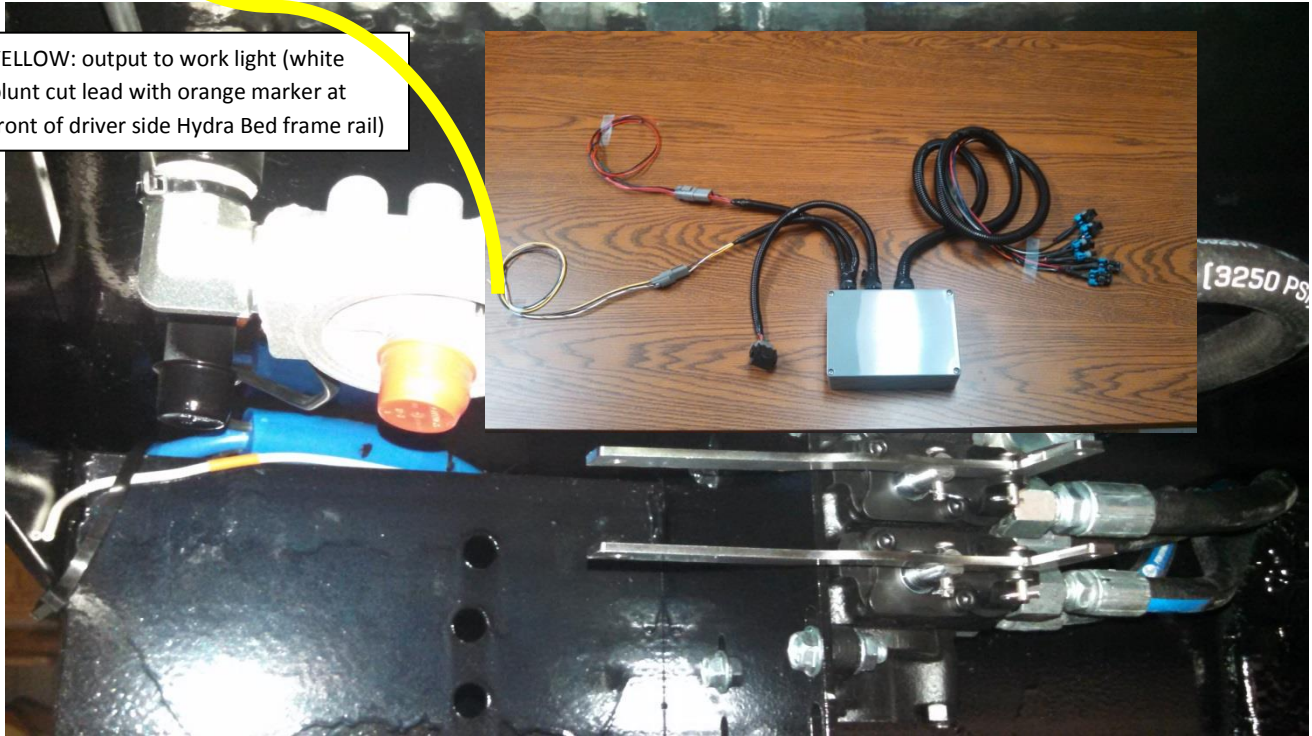
7. Confirm all hand-held transmitter functions.



Lines: WIRELESS; REDUNDANT; PENDANT;
COMPRESSION BUSHING; ACTUATORS; BURNISHING;
PAIRING; OTHER OUTPUTS

Other Output Wiring

YELLOW: output to work light (white blunt cut lead with orange marker at front of driver side Hydra Bed frame rail)



BLACK: to engine-driven pump clutch

WHITE W/BLACK TRACER: output to E/H pump solenoid (if equipped)

