### **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!

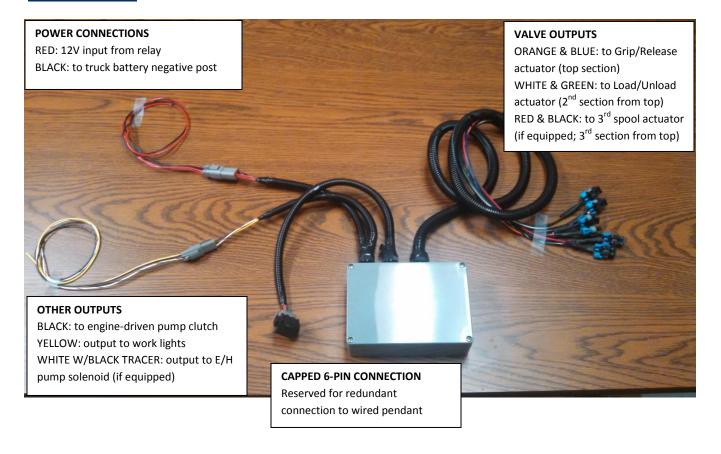
Links: WIRELESS; REDUNDANT; PENDANT; ACTUATORS; BURNISHING; PAIRING; OTHER OUTPUTS

RED: 12V input from truck battery via 40 amp inline fuse

YELLOW: Keyed 12V control input from truck. ONLY energized when truck key is ON.

PAGE 12V Red - In from Battery + BLACK: Ground for control circuit only control circuit only and signal in the signal in the signal circuit only and signal in the signal circuit only and signal in the signal circuit only and signal circuit only and signal in the signal circuit only output to receiver truck key is ON.

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



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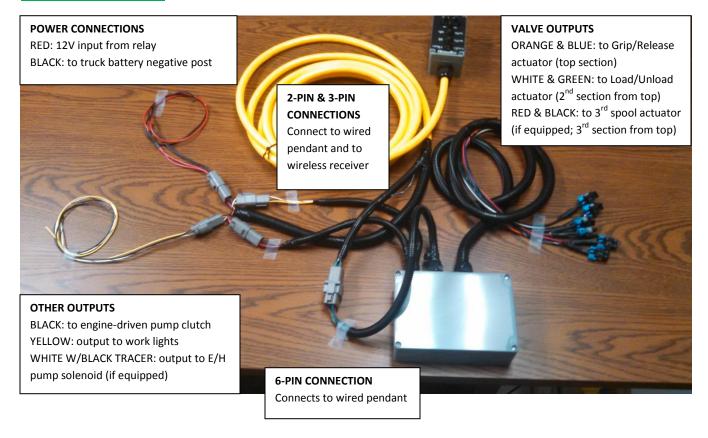
HYDRABED

BLACK: Ground for control circuit only

BLACK: Ground for control circuit only

BLUE: 12V output to receiver

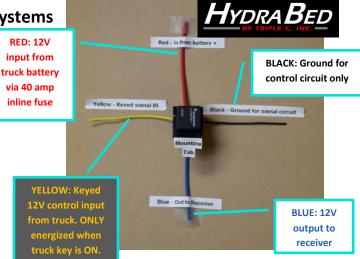
# **REDUNDANT** control only: (Click to jump to <u>WIRELESS</u> or <u>PENDANT</u> systems)



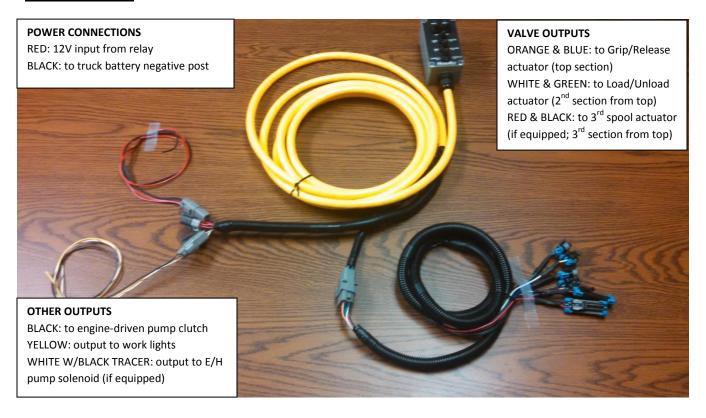
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# **PENDANT** control only: (Click to jump to <u>WIRELESS</u> or <u>REDUNDANT</u> systems)



ACTUATORS: BURNISHING; PAIRING; OTHER OUTPUTS

# To burnish the electric clutch on the engine-driven hydraulic pump when the Hydra Bed is equipped with electric valve control:

#### PREPARATION:

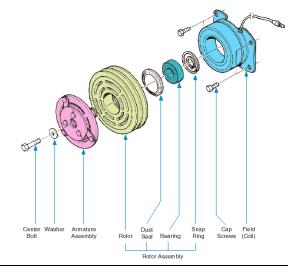
 For 7' wide "100 Series" Hydra Bed models HB3100, HB3200, HB3300, HB-100, HB-200, HB-300, HB-305 & HB-500, activate the LOAD/UNLOAD control to position the arms in a vertical (upward) position



• 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

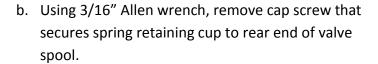


- 1. With the truck engine idling and no valve functions activated, use the pendant (if equipped) or wireless control switch to turn the System ON and OFF 5 times on 15 second intervals.
- 2. With the truck engine idling and an assistant holding the GRIP/RELEASE upper manual override fully in toward the center of the truck, turn the System ON. The arms will move together and bottom out, hydraulically loading the pump. Continue to hold the GRIP manual override and turn the System ON and OFF 5 times on 15 second intervals.
  - a. Repeat this step at 1,000 engine RPM.
  - b. Repeat this step at 1,500 engine RPM.
- 3. Clutch is now burnished. Repeat this process if hydraulic output declines due to excessive clutch slippage.



### **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.









- 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: <u>WIRELESS</u>; <u>REDUNDANT</u>; <u>PENDANT</u>; ACTUATORS; <u>BURNISHING</u>; <u>PAIRING</u>; 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.

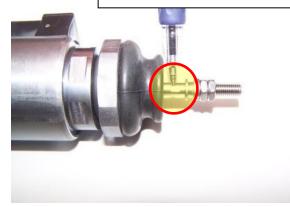


- 9. Actuator installation (repeat for each valve spool)
  - a. Remove actuator retaining nut/rubber boot assembly.
  - Insert actuator threaded nose into bracket hole and re-install retaining nut/rubber boot assembly until it contacts bracket.
  - c. Carefully stretch small end of rubber boot over and 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.
  - e. Install supplied actuator clevis on actuator push rod but DO NOT tighten lock nut.
  - f. Install supplied valve manual override handles to valve spools and pivot brackets with handles pointing to front of vehicle.

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g. It is essential that actuator clevis adjustment provides equal valve handle travel both directions from center. Screw clevis in or out on actuator push rod to accomplish equal stroke both directions. Rotate the push rod slightly to orient the push rod 3/16" wrench flats vertically, then, using 5/16" open end wrench, lock clevis in place with supplied jam nut (Medium strength (blue) Loctite is recommended to prevent jam nut/clevis from loosening).

3/16" Wrench Flats oriented vertically (perpendicular to the ground) when clevis jam nut is locked.



 Recheck push rod clevis for equal stroke adjustment, then secure clevis to valve handle using original 3/16" stainless pin and retainer.



 Carefully stretch small end of rubber boot over and into retention groove sleeve pre-installed on actuator push rod.



Links: WIRELESS; REDUNDANT; PENDANT; ACTUATORS; BURNISHING; PAIRING; OTHER OUTPUTS

Actuator installation shown below completed and ready for wiring connections.



- 11. Connect Hydra Bed Wireless Valve Control output leads to actuators as follows:
  - 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;

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## **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).





- 1. Turn truck key ON to power the receiver red LED inside receiver will light for ½ second confirming power is present.
- Press the blue button inside the receiver until red LED lights then release.

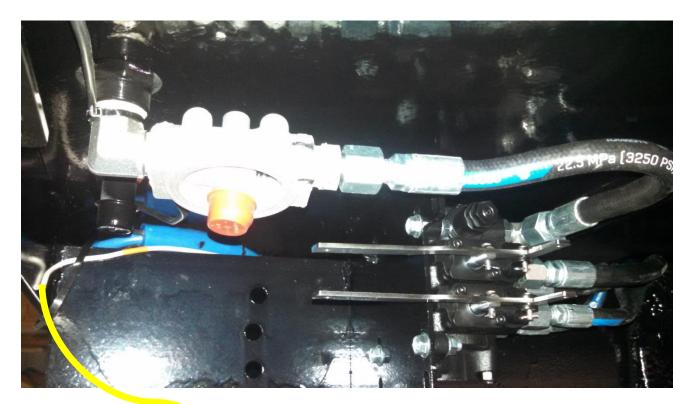


- Immediately press hand-held transmitter Work Light button briefly until receiver red LED blinks once, then release. The receiver red LED will blink rapidly, then it will turn off.
- 4. Turn hand-held transmitter Work Light button OFF.
- 5. Turn hand-held transmitter System ON.
- 6. Receiver red LED will light indicating successful pairing.
- 7. Confirm all hand-held transmitter functions.

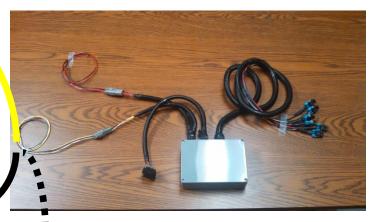


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### Other Output Wiring



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)

