HYDRAULICS INCORPORATED

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www.ktihydraulicsinc.com

Installation Instructions:
For 12 VDC, Hydraulic Power Units, Single-Acting (Power UP / Gravity DOWN)

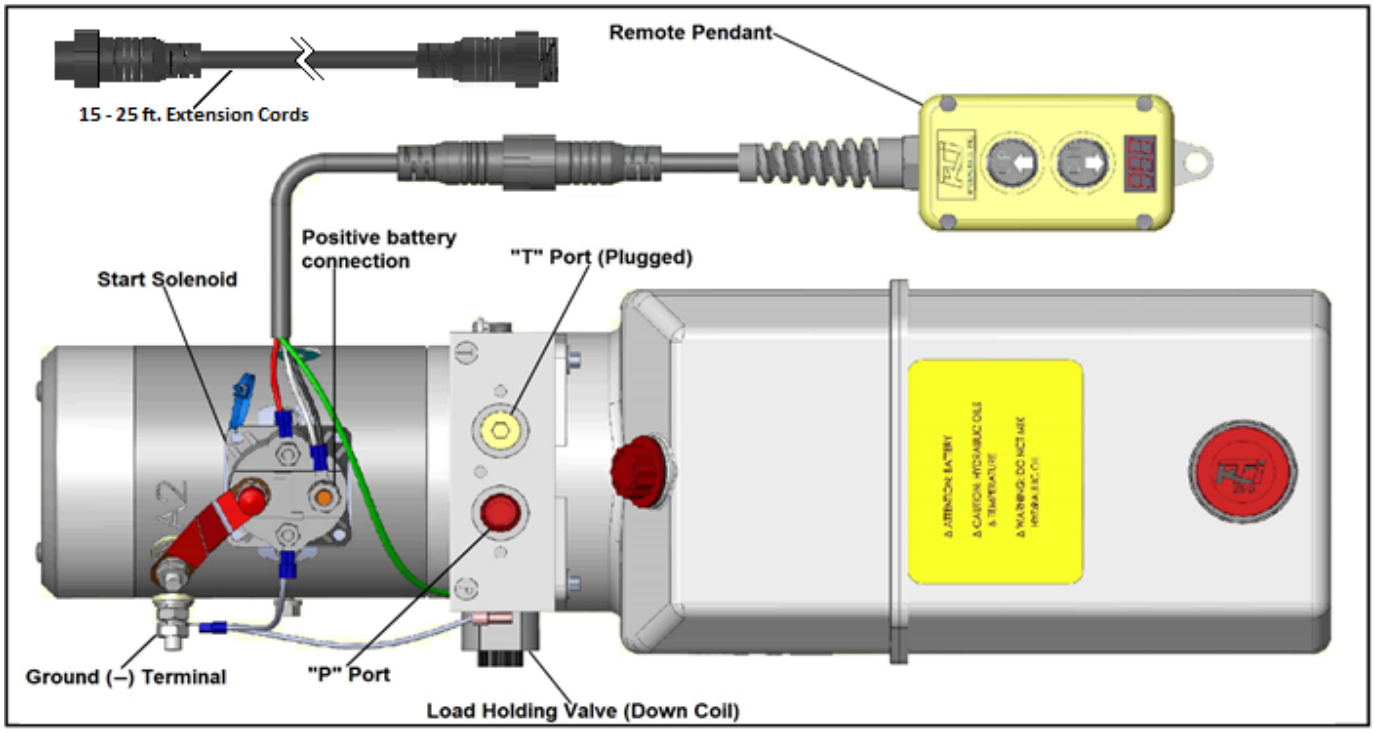

Diagram A-1

1. When stowing your three piece remote pendant, it is recommended that you store the remote switch box portion in your vehicle. This will help preserve the new condition of the remote control and prevent theft.
2. Remove the two-button pendant from the power unit at the quick disconnect.
3. Mount the Power Unit using two, 3/8-16 UNC mounting bolts (*Diagram A-2*).
4. Install 9/16-18 SAE ORB, SAE #6, hydraulic fitting into "P" port. Torque to 18 ft.-lbs.
5. Connect the Hydraulic Line from the base of the cylinder to port "P". Check the torque specification of the hose fittings *(Diagram A-4).*
6. With the cylinder fully retracted, remove the Filler/Breather Cap and fill the reservoir with hydraulic fluid to "Full Line," ***(see fluid recommendations on page 2)***.
7. Connect the battery ***Ground*** cable to the ***Ground*** terminal of the DC Motor (*Diagram A-3).*
8. Connect the ***Positive*** cable from the battery to the start solenoid *(Diagram A-5).*
   (Please see Battery Cable Gauge table for proper gauge for your length of cables.)
9. Use a wrench to hold the bottom nut in place, to torque the upper nut (to 3 ft.-lbs.) to fasten the battery connections.
10. Reconnect the two-button remote pendant at the quick disconnect.
11. Fill the reservoir tank with the recommended hydraulic fluid (page 2), to the "Full Line" labeled on the side of the reservoir.
    a. Extend the cylinder fully and then fully retract.
    b. Do this a few times to insure all the air is purged from the system.
12. Replace the filler/breather cap.

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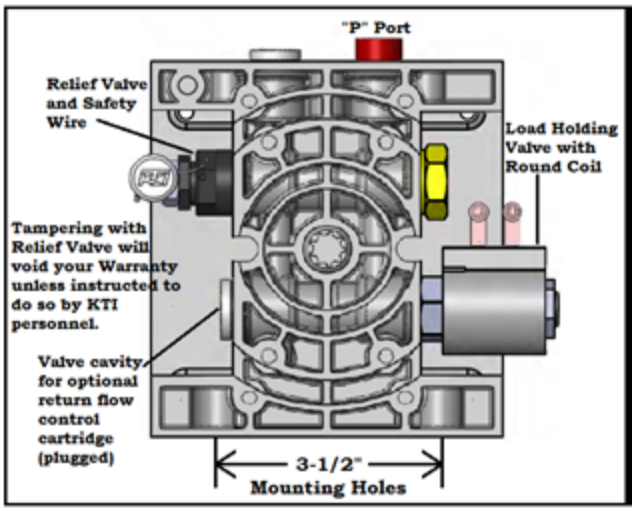

Diagram A-2

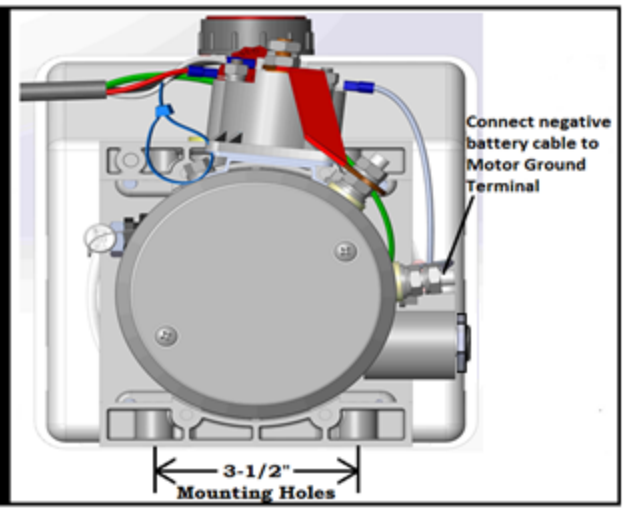

Diagram A-3

Fluid Recommendations

Do Not Mix Hydraulic Fluids.

KTI recommends using a premium hydraulic oil to ensure optimum performance and system life. Select oil that has anti-wear properties, rust and oxidation inhibitors, foam inhibitors and good stability. Examples of premium grade hydraulic oils: **Chevron Rando HDZ**, **Mobil DTE 10**, **DTE 20 series**, **AMSOIL**, and **Shell Tellus**.
Automotive Transmission Fluid (DEXTRON III) are acceptable under normal conditions.
Aviation Oils such as **Valvoline ROYCO series** or **Mobil Aero HF** or **HFA** may be used in **prolonged, extreme cold** environments.

Do Not Use Biodegradable Hydraulic Fluid with Buna seal, Biodegradable Hydraulic Fluid is compatible with Viton seals (optional).

Ambient Temperature Range	ISO Viscosity Grade
- 20°F to + 32°F (- 29°C to + 0°C)	15
+ 14°F to + 120°F (- 10°C to + 49°C)	22, 32, ATF (Dexron III)

Battery Cables

To minimize voltage drop, increase the gauge size of the battery cables as the length of the positive and ground cables increase. Low voltage will cause the motor to run higher amps causing damage to other electrical components.

Cable Length	Wire Gauge	Nominal OD (in.)
1 to 2 feet	4 gauge	0.43
3 to 4 feet	2 gauge	0.49
5 to 7 feet	1 gauge	0.56
8 to 9 feet	1/0 gauge	0.61
10 to 12 feet	2/0 gauge	0.66
13 to 15 feet	3/0 gauge	0.72
16 to 19 feet	4/0 gauge	0.78

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Hydraulic Schematic

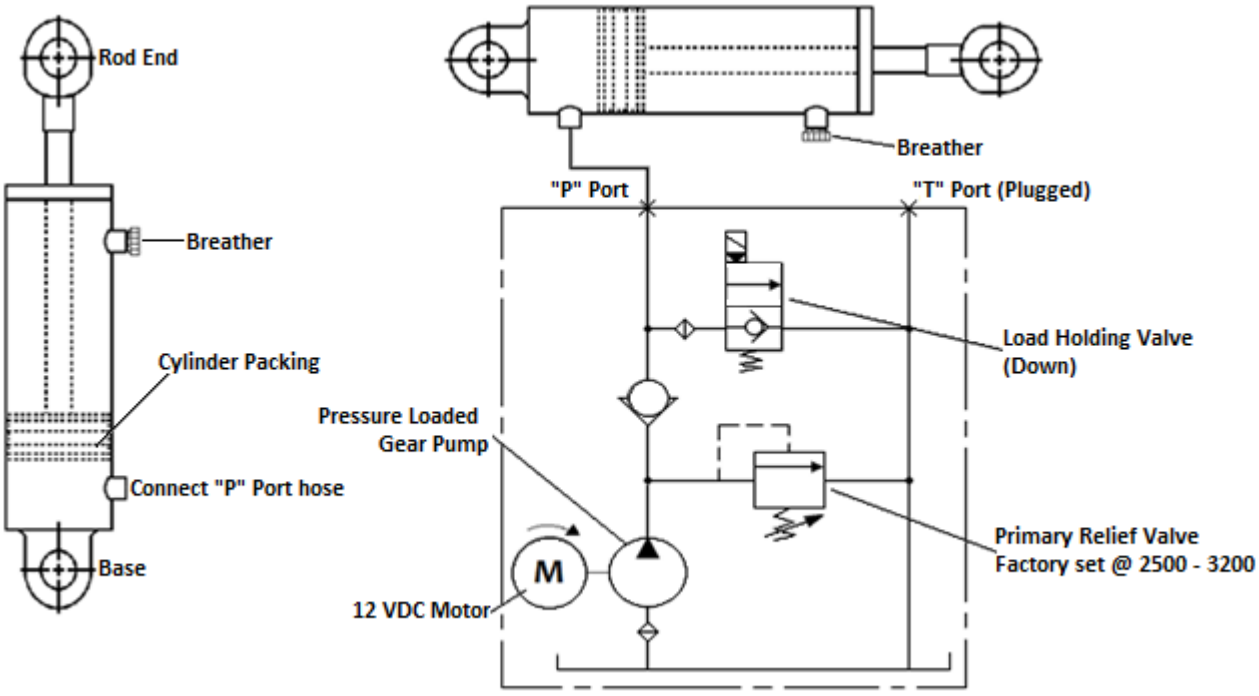

Diagram A-4

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Wiring Diagram

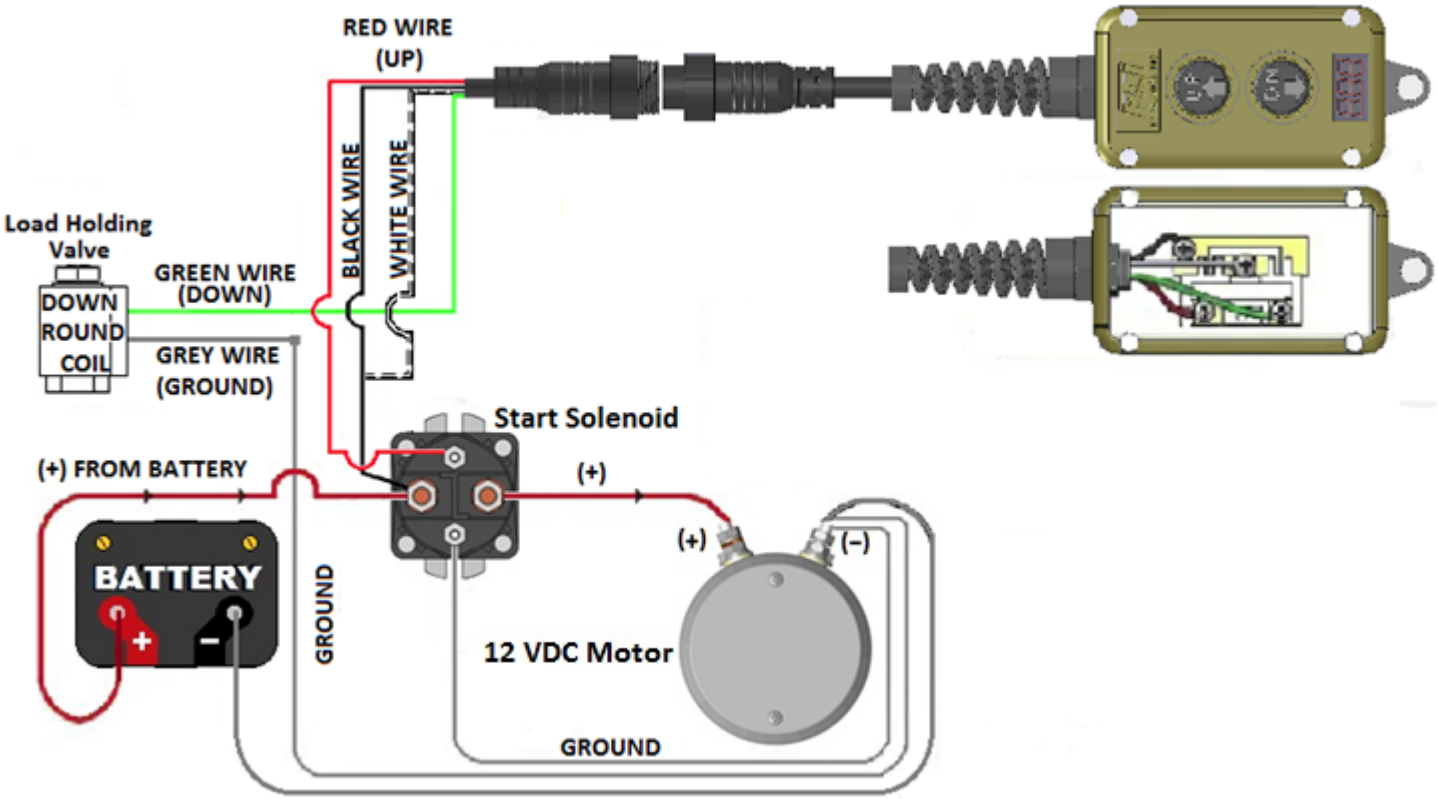

Diagram A-5