Read and understand this pamphlet before attempting installation, operation, maintenance, or repair.

Inspect the battery cables for possible shorts to the vehicle. Reroute the cable as necessary to eliminate any shorts.

Popular Bucher Hyd. Models are shown. Use a similar representation as a guide, and wire accordingly, or contact the factory at (616) 458-1306.

A 15 amp fuse is recommended for use in the black power wire.

PLEASE REMOVE ALL RINGS, WATCHES AND JEWELRY PRIOR TO DOING ANY ELECTRICAL WORK

This Pamphlet Is To Remain With Vehicle After Pump Unit Is Installed.
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Control Box Wiring

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Battery Cable Guide
M-301

Attach Battery Cable To Manual Start Switch Post

Valve Top Solenoid Wire Goes To Post Only

M-310

Attach Valve Control Wire To Motor Start Solenoid Switch Control Post Insulated Style

Valve Top Solenoid Wire Goes To Post Only

See Reverse Side For Proper Solenoid Switch Style Wiring
M-310
Cam Style

Attach Battery Cable To Large Post

M-500
3 Way, 4 Way

Attach Battery Cable To This Large Post
Attach Valve Control Wire To Motor Start Solenoid Switch Control Post Insulated Style
See Reverse Side For Proper Solenoid Switch Style Wiring
M-3541
(M-342, M-3542, & M-3554 Are Similar)

- Attach To Control Box To Start Motor In Both Directions Of Movement (White)
- Attach To Control Box To Lowering Switch (Green)
- Ground Second Lead If So Equipped
- Attach Battery Cable To This Large Post
- Attach Control Box "Power" Wire Here (Black)

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

See Control Box Wiring On Reverse Side
M-683
(M-682, & M-693 Are Similar)

See Reverse Side For Proper Solenoid Switch Style Wiring
Grounded Style

See Control Box Wiring On Reverse Side

Attach Control Cord (Blue) Wire To "C" Coil for Raise

Attach Control Cord (Red) Wire To "A" Coil for Angle

Attach Control Cord (Green) Wire To "D" Coil for Angle

Attach Control Cord (Yellow) Wire To "B" Coil for Lowering

Attach Battery Cable To This Large Post
Attach Control Box "Power" Wire Here (Black)

Attach To Control Box To Start Motor (Brown)
Attach Control Cord (Yellow) Wire To "B" Coil for Lowering

Attach Control Cord (Green) Wire To "D" Coil for Angle

Attach Control Cord (Red) Wire To "A" Coil for Angle

Attach Control Cord (Blue) Wire To "C" Coil for Raise

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

Attach Battery Cable To This Large Post
Attach Control Box "Power" Wire Here (Black)

See Control Box Wiring On Reverse Side

Attach Control Box To Start Motor (Brown)
M-644

See Control Box Wiring On Reverse Side

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

Attach Control Cord (Green) Wire To Coils "B" & "C"

Attach Control Cord (Red) Wire To Coils "A" & "D"

Attach Battery Cable To This Large Post Attach Control Box "Power" Wire Here (Black)

Attach To Control Box To Start Motor (White)

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M-258/259

See Reverse Side For Proper Solenoid Switch Style Wiring Insulated Style

Attach To Control Box To Raise Switch (White)

Ground Second Control Post To Ground Note: This Lead Must Be Connected To A Known Ground

Attach Battery Cable To This Large Post Attach Control Box "Power" Wire Here (Black)

Attach To Control Box To Lowering Switch (Green)

Ground Second Lead If So Equipped

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M-303
(M-314, M-323, M-503, & M-603 Are Similar)

- Attach to Control Box to Lowering Switch (Green)
- Fill Terminal Connector with Silicone Sealant before crimping to eliminate oil weeping

M-319
(M-719 & M-3519 Are Similar)

- See Reverse Side for Proper Solenoid Switch Style Wiring
- Grounded Style
- See Control Box Wiring On Reverse Side
- Attach Battery Cable to This Large Post
- Attach Control Box "Power" Wire Here (Black)
- Attach Control Box to Lowering Switch (Green)
- Ground Second Lead if so equipped

See Control Box Wiring On Reverse Side

Grounded Style

See Reverse Side For Proper Solenoid Switch Style Wiring

Attach Battery Cable To This Large Post
Attach Control Box "Power" Wire Here (Black)

See Control Box Wiring On Reverse Side

Ground Second Lead if so equipped

Attach To Control Box To Lowering Switch (Green)
M-3547

Attach Battery Cable To Large Post On Solenoid Switch Attach Control Box "Power" Wire Here Also (Black)

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

See Control Box Wiring On Reverse Side

Attach The (Brown) Wire To The Small Post On The Solenoid Switch

This Motor Is Rotated So Motor Post And Solenoid Do Not Show Here

Attach Control Cord (Yellow) Wire Here

Attach Control Cord (Red) Wire Here

Attach Control Cord (Green) Wire Here

Attach Control Cord (Blue) Wire Here
M-3515
(M-615 is Similar)

See Control Box Wiring On Reverse Side

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

Attach One Of The Two Coil Wires From Each Coil To Either The (Red) Or (Green) Wires In The Control Cord. The Remaining Wires (One From Each Coil) Will Be Grounded To Valve Body.

Note: If The Direction Of The Actuator Needs To Be Reversed, Either Switch The Red And Green Wires Or Switch The Hose.

Attach Battery Cable To This Large Post

Attach To Control Box To Start Motor In Both Directions Of Movement (White)
M-642

See Control Box Wiring On Reverse Side

Attach Control Cord (Green) Wire To "B" Coil

Attach Battery Cable To This Large Post
Attach Control Box To Start Motor (White)

Attach Control Cord (Red) Wire To "A" Coil

See Reverse Side For Proper Solenoid Switch Style Wiring
Grounded Style

M-3551
(M-352 is Similar)

See Reverse Side For Proper Solenoid Switch Style Wiring
Grounded Style

Attach Control Cord (Red) Wire Here
Attach Control Cord (Green) Wire Here

Attach Battery Cable To This Large Post
Attach Control Box "Power" Wire Here (Black)

Attach To Control Box To Start Motor In Both Directions Of Movement (White)
M-3528
(M-628 is Similar)

Attach One Of The Two Coil Wires From Each Coin To Either The (Red) Or (Green) Wires In The Control Cord. The Remaining Wires (One From Each Coil) Will Be Grounded To Valve Body.

Note: If The Direction Of The Actuator Needs To Be Reversed, Either Switch The Red And Green Wires Or Switch The Hose.

See Reverse Side For Proper Solenoid Switch Style Wiring Grounded Style

Attach Battery Cable To This Large Post
Attach Control Box "Power" Wire Here (Black)

See Control Box Wiring On Reverse Side

Attach One Of The Two Coil Wires From Each Coin To Either The (Blue) Or (Yellow) Wires In The Control Cord. The Remaining Wires (One From Each Coil) Will Be Grounded To Valve Body.

Note: If The Direction Of The Actuator Needs To Be Reversed, Either Switch The Red And Green Wires Or Switch The Hose.
Dual Push Button Control Box
03317 and 03404

Toggle Control Boxes
03409 and 03487
**Dual Toggle Control Box**

- 03197 (Detented)
- 03201 (Non-Detented)

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**Dual Toggle Control Box**

- 03451
Dual Push Button Control Box
03317 and 03404
4 - Wire Cord (4 Way)
Terminal Connections
(M-352)(M-3551)(M-3552)
(M-642)(M-644)
3 - Wire Cord (3 Way)
Terminal Connections
(M-258)(M-259)(M-303)(M-314)
(M-319)(M-323)(M-3519)
(M-503)
3 - Wire Cord (4 Way)
Terminal Connections

(M-342)(M-3541)
(M-3542)
3 - Wire Cord (3 Way) Terminal Connections (M-603)
Toggle Control Boxes
03409 and 03487
4-Wire Cord (4 Way) Terminal Connections
(M-352)(M-3551)(M-3552)
(M-642)(M-644)
3 - Wire Cord (3 Way) Terminal Connections
(M-258)(M-259)(M-303)(M-314)
(M-319)(M-323)(M-3519)
(M-503)
Black
Green
White

3 - Wire Cord (4 Way) Terminal Connections (M-342)(M-3541) (M-3542)
Dual Push Button Control Box
03240
4 - Wire Cord (4 Way) Terminal Connections
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(M-3551)
3 - Wire Cord (3 Way) Terminal Connections
(M-258)(M-259)(M-303)(M-314)(M-319)
(M-323)(M-3519)(M-503)(M-719)(M-723)
3 - Wire Cord (4 Way) Terminal Connections
(M-342)
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(M-3542)
Dual Push Button Control Box
07995
3 - Wire Cord (3 Way) Terminal Connections
(M-258)(M-259)(M-303)
(M-319)(M-3519)
4 - Wire Cord (4 Way) Terminal Connections
(M-352)(M-642)
(M-3551)(M-3552)
3 - Wire Cord (4 Way) Terminal Connections
(M-342)(M-3541)
(M-3542)(M-3554)
Dual Toggle Control Box
03197 (Detented)
03201 (Non-Detented)
6 - Wire Cord Terminal Connections
(M-683 thru M-688)
(M-693)(M-3593)

6 - Wire Cord Terminal Connections
(M-682)
Dual Toggle Control Box
03451
Green
Brown
Blue
Black
Red
Yellow

6 - Wire Cord Terminal Connections
(M-3528)
(M-628)
**Insulated Motor Start Switch**

**Grounded Motor Start Switch**

**Insulated Ground Motor Start Switch Wired to Operate Like Grounded Start Switch**
Insulated Ground Motor
Start Switch Wired to Operate Like
Insulated Motor Start Switch
Insulated Motor Start Switch

Control Post

"Bat" Post (Marked Post)

Motor Post

12 VDC  03336   24 VDC  03343

White (Control Wire To Start Motor)

Purple Or Red (Attach To "Bat" Cable Post) (Common "Hot" Signal For Solenoid Valves Only)

Black (Ground)
(Common Ground Wire To Complete Circuit To Ground For Motor Start Switch And Solenoid Valves When Used, Not Required For Manual Valves)
Grounded Motor Start Switch

12 VDC 03427  24 VDC 03467
White (Control Wire To Start Motor)

Bat. Post

Black (Common "Hot" Wire)
(An Inline Fuse Should Be Installed Here)
Insulated Ground Motor Start Switch
Wired to Operate Like Grounded Start Switch
Jumper To Ground

Bat. Post

White (Control Wire To Start Motor)

Black (Common "Hot" Wire) (An Inline Fuse Should Be Installed Here)
Insulated Ground Motor Start Switch
Wired to Operate Like Insulated Motor Start Switch
White (Control Wire To Start Motor) Either
Jumper To Battery Post Either
Attach To "Bat" Cable Post (Common "Hot" Signal For Solenoid Valves Only)
Black (Ground)
(Common Ground Wire To Complete Circuit To Ground For Motor Start Switch And Solenoid Valves When Used, Not Required)
Jumper To Bat. Post

Bat. Post

White (Control Wire To Start Motor)

Black (Ground) (Common Ground Wire To Complete Circuit To Ground For Motor Start Switch And Solenoid Valves When Used.)
Permanent Magnet
Motor w/2 Terminals

Either Can Be
Hot Or Ground

1 Terminal Motor

Ground Path
Thru Motor Case
2 Terminal Motor

NOTE:
All ground connections must be made to 2nd terminal.
For best results, Monarch would recommend that you increase 1 or 2 cable sizes above the minimum shown above. Select cable size so that your cable length and maximum amp draw falls below and to the left of curve.

- Curve describes a 1 volt loss in the battery cable itself.
- Total length of battery cable(s) including all ground cables.

Example: With maximum current draw of 200 amps and total cable length of 28 ft (7.82m), Select #1 gauge (.28 in/7.1mm) or larger.