LEVER SYSTEMS

FOR HYDRAULIC SPOOL VALVES

A SUBSIDIARY OF ADAMS RITE MANUFACTURING CO.
Operator Control Systems For Mobile Equipment

Quadrastat Corp. specializes in the design and manufacturing of manual remote control systems and components. Our commitment to customer satisfaction drives us to produce quality products that perform.

The QUADRASTAT® Product Line includes:
- QUADRASTAT® Self Locking Controls for engine throttle and variable displacement pumps and motors.
- Transmission Shift Controls for automatic, powershift and hydrostatic transmissions.
- Lever Controls, Single Axis and Joystick, for hydraulic control valves.

Our business is to provide you with reliable, well-designed products for specific control applications. We are continuously developing options, adaptations and modifications to our core components to increase their range of performance. If a standard product or its modification will not fulfill your requirements, our design team will work with you to develop a customized solution to keep you in control.

This catalog highlights our line of Lever Controls for the remote operation of Directional Control Hydraulic Spool Valves. These controls are intended for use with Push-Pull control cables and mechanical linkages. The products are:
- QUADCO® Grip
  Provides a means of adding electrical switches to the controls.
- C60 Series Joystick Controls
  Provides two-function control with one lever.
- C80 Series Lever Controls
  Provides single-function control.
- C400/C600 Series Valve Adaptors
  Provides an enclosed cable connection at the valve.

For many applications, one of our standard products will provide an excellent solution. When a new product is required, we will work with you whether it be a simple adjustment or a completely new design:

- Bend a lever, change a knob or add a color.
- Add a motion restrictor, add a detent or add a position hold feature.
- Change a centering spring force or create a special spring.
- Utilize specific cable adaptors, fittings or anchors.
- Add logos or other identification.
- Add push button switches - momentary or alternate action - to the top and/or side of a lever.
- Add rocker switches, detented or centered, to the top of a lever.
- Incorporate a potentiometer for thumb operation.
- Design a proprietary control from your specifications.
The QUADCO® Grip provides a convenient means of adding electrical features to mechanical levers.

**Standard Features**

- Super Tough Nylon 66 Body for Structural Integrity and Solid Feel
- Neoprene Cap
- Hex Anti-Rotation Block with 1/2-13 Lock Nut
- Cross Linked Polyethylene Insulated 18ga. Stranded Wire (SAE J1560 Type TXL)
- Weather Resistant Switches

**Options**

- Grip Only - No Switches
- Rocker Switch - Momentary Action
  - Detent One Side
  - Detent Both Sides
- Top Push Button - Momentary Contact
  - Alternate Action
- Side Push Button - Momentary Contact
  - Alternate Action
- Combination Top and Side Switches
- Waterproof Push Button Switches
- Enable (Safety) Switch
- Adaptors
- Your Logo or other Identification

**Shaft Dim.—Standard Grip**

- 1 1/2 x 13 x .375
- .563 (14.3) Outside Dia.
- .250 (6.4) Inside Dia.

**Adaptor Dimensions**

- 2.43 (62)
- 5.63 (143)
- 4.50 (114)

**Part No./Ordering System**

**Top Switch**

- 0 = None
- 1 = Momentary Contact (Weatherproof)
- 2 = Alternate Action (Weatherproof)
- 3 = Rocker Switch (No Detents)
- 4 = Rocker Switch (Detent One Side)
- 6 = Momentary Contact (Weatherproof)
- 7 = Alternate Action (Weatherproof)
- 8 = Rocker Switch (Detent Both Sides)

**Side Switch**

- 0 = None
- 1 = Momentary Contact (Weatherproof)
- 2 = Momentary Contact (Weatherproof)
- 3 = Alternate Action (Weatherproof)
- 4 = Alternate Action (Weatherproof)

**Wiring Harness**

- 0 = None
- 1 = Length 30 in. 18ga X-Linked Polyethylene
- 2 = Adaptor 3/8-16 with Harness
- 3 = Adaptor 10M with Harness
- 4 = Adaptor 1/2-13 with Harness
- 5 = Adaptor 12M with Harness
The C60 Series Joystick provides an integrated package for the control of two sections with one lever.

**Standard Features**

- ± 0.50 inch (± 12.7mm) Output Stroke
- Symmetrical ±30° Input Motion
- Either "+" or "X" Axis Orientation by Rotating Installation
- Centering Springs - each Output
- Working loads up to 100 lbs. (445N) on each Output
- C61 Series Push-Pull Cable, Standard 2 inch Output Stroke (42C, 32B, or 62B Types)
- C62 series intended for Rod Linkage Outputs
- Neutral Lock
  2 or 3 positions

### C61 - Push-Pull Cable

![C61 Push-Pull Cable Diagram](image)

### C62 - Rod Linkage

![C62 Rod Linkage Diagram](image)

**Dimensions**

- Inches & Millimeters
**Options**

- Grip - with electrical switches (see page 3)
- 1 inch Stroke Cable for installations having minimal cable bends and appropriately short stroke requirements
- Lock to prevent inadvertent motion of the outputs
- Input motion restrictor
- Bent input levers to place the lever in a convenient position for the vehicle operator

**Performance Data**

<table>
<thead>
<tr>
<th>Lever Position</th>
<th>Output Motion A</th>
<th>Output Motion B</th>
<th>Geometric Advantage (with 10.9° Lever)</th>
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<tr>
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<td>8.8:1</td>
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<td>6.6:1</td>
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<tr>
<td>8</td>
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</table>

**Specifications**

OUTPUT STROKE - 0 to ± 0.50 inches (12.7mm)

WORKING LOADS - Up to 100lbs. (445N) each output

INPUT MOTION - 0 to +30° All Directions

MATERIALS:
- TOP BOOT - Molded EPDM
- BODY - Nylon 901
- SLIDERS - Steel
- LEVER - Steel

**Part No./Ordering System**

**Output**
- 1 = Push-Pull Cable
- 2 = Rod Linkage

**BASIC SERIES**

**C6 122A 000**

**Connection**

- Cable Size/Style:
  - 1 = 10-32 Bulkhead
  - 2 = 1/4-28 Clamp
  - 4 = 5/16-24 Bulkhead
  - Rod Linkage: Thread Size:
    - 6 = 5/16-24
    - 7 = 3/8-24
    - 8 = 9/16-18

**Special Designations**

- Usually 000 unless Handle Style is G, then substitute the three numbers from the switch matrix on page 3. Example: G201 use 201

**Handle Style**
- A = Ball Knob
- B = Anatomic Grip (w/switch options)

**Input Lever Length**
- 1 = 6.9” Ball Knob (A)
- 2 = 10.9” Ball Knob (A)
- 3 = 10.3” Anatomic Grip
The C80 Series Remote Valve Control provides a Heavy duty Lever for stroking hydraulic spool valves, winch valves or transmission valves.

**Standard Features**

- ± 0.81 inch (± 20 mm) Output Stroke
- Maximum Working Load:
  - 1/4-28 End Rod Cable - 100 lbs (445N)
  - 5/16-24 End Rod Cable - 200 lbs (890N)
- Pre-Loaded Center Return spring
- Symmetrical Lever Action; ±30° Maximum Lever on Mounting Center Line
- Enclosed assembly, Zinc Die Cast Body
- Uses Standard Configuration, Push-Pull cable - Clamp Type, 2 inch Output Stroke, either 1/4-28 or 5/16-24 End Rod

### Centering Force Lbs. (N)

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<th>Full Travel</th>
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### C85 - In Line Control

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<td>3</td>
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<td>G*</td>
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### C84 - Right Angle Control

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<td>G*</td>
<td>9.60 (244)</td>
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OPTIONS

- Inline (C85) or Right Angle (C84) Output Stroke
- 3 Standard Lever Lengths
- Grip with Electrical Switches
- Center Position Lock with Pull-Up Knob Release
- Fore and Aft Position Lock with Pull-up Knob Release (C84 only)
- No Centering Spring:
  0 to 1.62 inch (41 mm) Output Stroke
- Biased Return Spring:
  0 to 1.62 inch (41 mm) Output Stroke - Pulling Cable (Spring pulls Cable toward zero)
- Bent Input Levers
- Stacked Control Assemblies

PART NO./ORDERING SYSTEM

LEVER POSITION

4 = 90° to Cable
5 = In Line with Cable

BASIC SERIES

C8 5 2 1 A 0 0 0

SPRING PACK

1 = None
2 = Center Return

SPECIAL DESIGNATIONS

Usually 000 unless "G" Grip assembly is specified for lever length. Refer to page 3 for specific Grip designation. Example: G301 use 301

CABLE SIZE

A = 1/4-28 Threaded
B = 5/16-24 Threaded
Rod End, Type 42C
Rod End, Type 62C

LEVER LENGTH

Refer to tables on opposite page for "A" Dimension

MULTILEVER ASSEMBLIES

DC433 Side Mounting Bracket

C84019

C85031

MULTILEVER PACKAGES

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Levers - Dash 2 for 7:5:1 Advantage, Spring Centered.
Knob Spacing - 2.00 (50 mm) between Centers,
0.5 (12.6 mm) gap. Cables - 5/6-24, 2 inch.
Valve adaptor kits provide a means of attaching the control cable to the valve. The adaptor also provides physical protection to the valve spool and cable end rod.

Adaptors are designated as Internal Clevis, External Clevis or Spring End, depending on the means of attachment to the spool.

Specifications

**CABLE**
Standard 2 inch Output Stroke Push-Pull, Clamp Type Grooved Conduit (Clamp) Cable

**HARDWARE**
Includes Clevis and all Associated Hardware

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