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SERIES 34 SECTIONAL DIRECTIONAL CONTROL VALVES INSTALLATION & USER GUIDE

SAFETY PRECAUTIONS:

- It is the purchaser's responsibility to determine the suitability of any Brand Hydraulics Co. product for an intended application, and to ensure that it is installed in accordance with all federal, state, local, private safety and health regulations, codes and standards. Due to the unlimited variety of machines, vehicles and equipment on which our products can be used, it is impossible for Brand Hydraulics Co. to offer expert advice on the suitability of a product for a specific application. It is our customer's responsibility to undertake the appropriate precautions, testing and evaluation to prevent injury to the end-user.
- Overpressure may cause sudden and unexpected failure of a component in the hydraulic system, resulting in serious personal injury or death. Always use a gauge when adjusting a relief valve.

SPECIFICATIONS:

- Rated for 0-12 gpm (0 – 45.4 lpm).
- Rated for 3500 psi (241bar)
- Std. port sizes (consult factory for others).
 - #10 SAE (7/8-14) Inlet/Outlet.
 - #8 SAE (3/4-16) Work Ports (12 sections max)
- 400 psi (27 bar) max tank back-pressure
- Weights:
 - Inlet/outlet: 6 lbs (2.7 kg).
 - Low spool section: 4lbs (1.8 kg).
 - High spool section: 6lbs (2.7 kg).
- 10-Micron filtration recommended.
- 85 inch-lbs tie-rod torque

MOUNTING, ADJUSTMENT & ASSEMBLY INSTRUCTIONS:

Mounting – Valve can be mounted in any orientation. Valve must be mounted on a flat surface. Special attention should be paid to not bend or twist the casting when mounting. Doing so may cause the valve to fail.

Relief Adjustment – Relief setting is factory preset to 2000 psi, unless otherwise noted within model code. Relief valve can be set anywhere within the range of 200 psi to 3400 psi by switching out the relief spring to one of the following:

- **Inlets with “B” style relief**
 - **200-800 psi (14 - 55 bar)** – Use spring P/N: B505LP (Round Wire).
 - **600-3500 psi (41 - 241 bar)** – Use spring P/N: B505 (Square Wire, Standard Option).

To adjust relief pressure: First, remove the 7/8” hex cap with a 7/8” wrench. Using a 5/16” allen wrench on the relief adjustment screw, one full turn clockwise will increase pressure by 200 psi. Factory relief setting will be stamped on the end cap.

- **Inlets with “C” style relief**
 - **300-700 psi (21 - 48 bar)** – Use spring P/N: DC7594 (Yellow, .090” wire [2.29mm]).
 - **700-1400 psi (48 - 97 bar)** – Use spring P/N: P1270-360 (Orange).
 - **1400-2500 psi (97 - 172 bar)** – Use spring P/N: P1207 (Yellow, .119” wire [3.02mm]).
 - **2400-3000 psi (166 - 207 bar)** – Use spring P/N: P1279 (White).

To adjust relief pressure: First, loosen the black 1” hex jam nut with a 1” wrench. Using a 5/16” allen wrench on the relief adjustment screw one full turn clockwise will increase pressure by 200 psi. Factory relief setting will be stamped on the end cap.

Handle Assembly – The majority of the handle(s) will be assembled to the valve section(s) out of the box.

- **“AA, AB, AC & AD” i.e. Joystick:** Thread the jam nut onto the handle, if not done at the factory. Thread the handle onto the joystick assembly. Using a 9/16” wrench, tighten the handle jam nut to lock in place.
- **“B” Style Handle:** The clevis will already be attached to the valve section. The handle attaches with the supplied pins and pin clips. Standard position for the handle is for the handle knob to be facing above and away from the valve. “B” handles are offered Bent, Straight, or Bent to 90°.



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- **“G” Style Handle:** The clevis will already be attached to the valve section. The linkage bracket attaches with the supplied pins and pin clips. Standard position for the linkage bracket is with the slotted hole attached to the spool. Standard position for the handle is for the handle knob to be facing above and away from the valve.
- **“Y” Style Handle:** The adjustable handle bracket will already be attached to the valve section. Screw the handle rod assembly to the handle bracket and tighten with a 1/2" wrench. Loosen nut on handle bracket with a 1/2" wrench to adjust handle angle to preferred position.
- **“L” Style Handle:** The enclosed handle cap will already be attached to the valve section. Screw the handle rod assembly to the handle adapter on the valve section. Note: Handle rod can be attached for vertical or horizontal positioning.

FREQUENTLY ASKED QUESTIONS (FAQ):

Q: Can I plumb another valve downstream from this valve, using the outlet of this valve?

A: No. The outlet of this valve should be plumbed back to tank. If the valve is equipped with power beyond, a separate port will be available, on the outlet section, for downstream functions.

FREQUENTLY ASKED QUESTIONS cont'd:

Q: Can I convert my valve to utilize “Power Beyond”?

A: Yes, if you have a field convertible outlet section (type “A” or “D”). Remove the side port plug using a 1” wrench. The o-ring must be placed in the casting first. Install the 34AGPB cartridge using a 1-1/8” wrench. The tip of the cartridge will seal against the o-ring. Plumb either the Top or End port back to tank as the low pressure return. See Figure 1 for port information.

Q: Can I convert my valve to operate in a “Closed” system?

A: Yes, all outlet sections can be converted to operate the valve in a closed center system. Type “A” outlets can be converted by installing the P1156 closed center plug. Type “B” outlets can be converted using the P1156 closed center plug, but will block power beyond flow. Type “C” outlets have the P1156 closed center plug installed. Type “D” outlets can be converted by screwing in the adjustment screw on the outlet section using a 5/32” allen wrench.

To install the P1156 closed center plug, use two 1/2” wrenches to remove the three tie-rod nuts and washers on the outlet side. Keeping track of the three thin washer shims between the work section and outlet section, slide the end section off the tie-rods. Insert the P1156 plug in the center counter-bore. (Tip: use a small dab of grease to hold the plug in place during assembly.) Reassemble the valve following the “Stack Valve Assembly Guide” on the next page.

Q: Can I paint my valve?

A: Painting valves is acceptable as long as the following precautions are taken:

- 1- All ports must be plugged
- 2- Spool must be masked or taped off completely.

Any paint on the spool will cause leakage when it chips off. Warranty is void if any valve is returned with paint on the spool.

Q: What is the correct torque for the tie rod nuts?

A: The correct torque spec on the tie rod nuts is 85 inch pounds [9.6Nm]. Using a 1/2” socket and wrench, both nuts on each rod should be tightened at the same time to prevent bind in the section.

Q: Can I rotate my handle(s)?

A: The following handle options can be rotated:

- **34HAA & 34HAB:** These joystick options are convertible by rotating the LV22 retaining plate. Reference the assembly breakdown drawings below for each joystick option. These options cannot be converted to the 34HAC or 34HAD joystick configurations without replacing the LV22 retaining plate with the LV60 retaining plate.
- **34HAC & 34HAD:** These joystick options are convertible by rotating the LV60 retaining plate. Reference the assembly breakdown drawings below for each joystick option. These options cannot be converted to the 34HAA or 34HAB joystick configurations without replacing the LV60 retaining plate with the LV22 retaining plate.
- **34HB:** Remove the two small hitch pins and remove the pivot pins. Flip the handle upside down and reinstall the pins.
- **34HG:** Loosen the jam nut using a 9/16” wrench and screw the handle out from the linkage. Flip the handle upside down and thread the handle into the bottom side of the linkage. Tighten the jam nut.



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- **34HL:** Remove the two socket head retaining screws using a 3/16” allen wrench. Pivot the handle away from the valve and slide the handle end-cap assembly up and away from the valve. Rotate the spool in the valve 180°. With the handle pointing down, pivot the handle away from the valve and slide the ball end into the hole in the spool. Reinstall the retaining screws.
- **34HY:** Loosen the handle angle locking nut and bolt using two 9/16” wrenches. Pivot the handle down and tighten the locking nut and bolt.

Q: How do I convert my Inlet & Outlet section porting?

A: Field convertible Inlets & Outlets will have two -10 SAE plugs in them. To convert them, remove the plug from the desired Inlet/Outlet with a 1” wrench and reinstall it the undesired Inlet/Outlet port.

Q: How does my joystick control my functions?

A: Reference the assembly breakdown drawings for each joystick option’s functional control.

STACK VALVE ASSEMBLY GUIDE:

Inlet Section:

Check the machined mounting surfaces of the sections, the section washers and o-rings are clean of contaminates. Install one split washer and 5/16” nut to each of the three tie rods. Install one mounting foot bracket to the bottom two tie rods. Install the three tie rods into the mating holes in the Inlet valve section with the washers and nuts on the outside end of the Inlet section.

Work Sections:

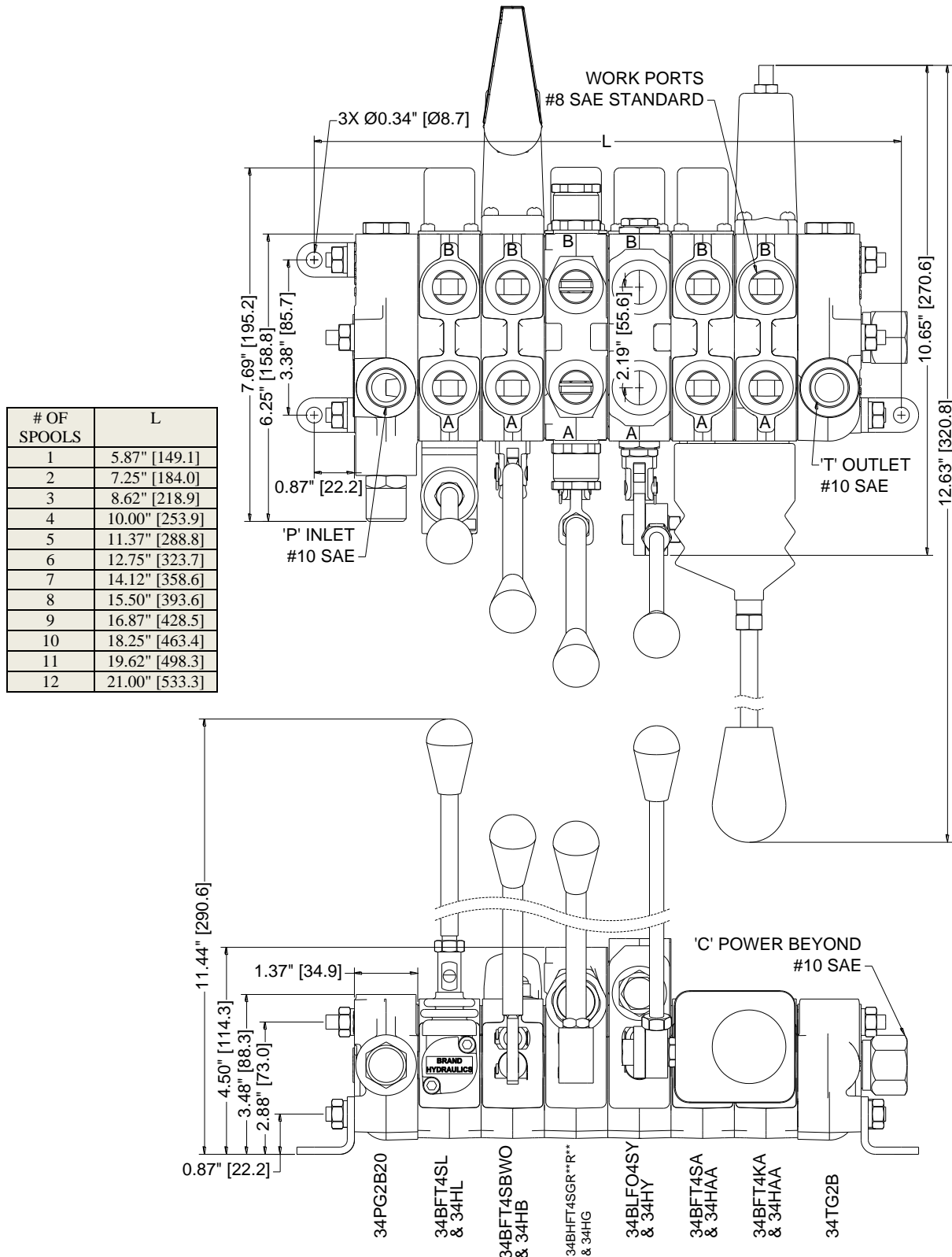
Install the three thin washers [shims] packaged with the Work Section, on to the tie rods. Slide these shims against the machined side of the Inlet section. Check the work section o-rings are clean and free of contamination and installed into the Work Section. Slide the entire Work Section down the tie rods with the o-rings facing the machined side of the Inlet section. Repeat for the remaining Work Sections.

Outlet Sections:

Install the Outlet section following the same procedure as the Work Sections. Install one mounting foot bracket to the front bottom tie rod. Install the remaining split washers and nuts, then hand tighten.

Tighten the tie rod nuts to the correct torque setting: see “[What is the correct torque for the tie rod nuts?](#)” in the FAQ section. Be sure the mounting foot brackets are flat against the table while the nuts are tightened to the torque setting.

DIMENSIONAL DATA: inches & [millimeters]



**Figure 1: Dimensional data for various Series 34 valve sections in inches & [millimeters].
 Handles shown in standard position.**