



Installation Instructions

Cascade Two Function Valve Kits

Cascade Two Function Hydraulic Valve Kits provide auxiliary pressure and flow control to attachments. They are designed for use with trucks rated 3.5 ton and higher. The Valve Kits eliminate performance problems associated with excessive pressure and/or flow. The standard hydraulic circuit on trucks coming from the factory can deliver up to 3,400 PSI and 40 GPM. Cascade attachment requirements specify 2,300-2,600 PSI and 10-20 GPM. The Valve Kits adjust the hydraulic pressure and flow from the truck down to Cascade attachment operating levels (see the valve kit listing for a specific GPM flow to match your attachment flow requirements).

Problems associated with excessive pressure and flow include:

- Increased engine wear and tear
- Increased attachment wear and tear
- Engine and transmission overheating
- Hydraulic system overheating
- Poor fuel economy
- Adds up to higher maintenance and production costs

Valves limited to maximum input of 35 GPM.

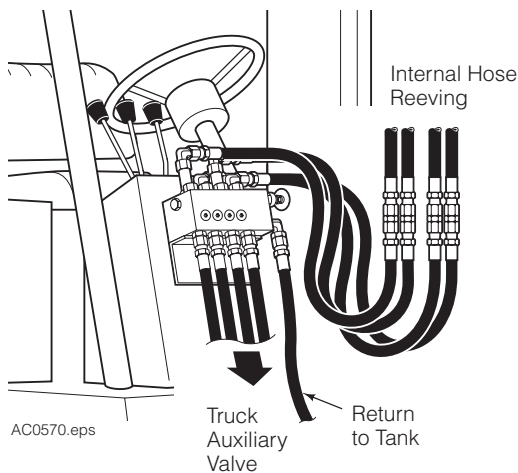
Recommended with No. 8 Internal Hose Reaving or Hose Reels and Low Pressure Tank Line kits Part No. 214062 (.75 in. ID), 211745 (1.00 in ID), 214066 (1.25 in. ID) or 6037507 (1.50 in. ID). **The Low Pressure Tank Line Kits are not included in the Valve kits.**

Two Function Valve Kits

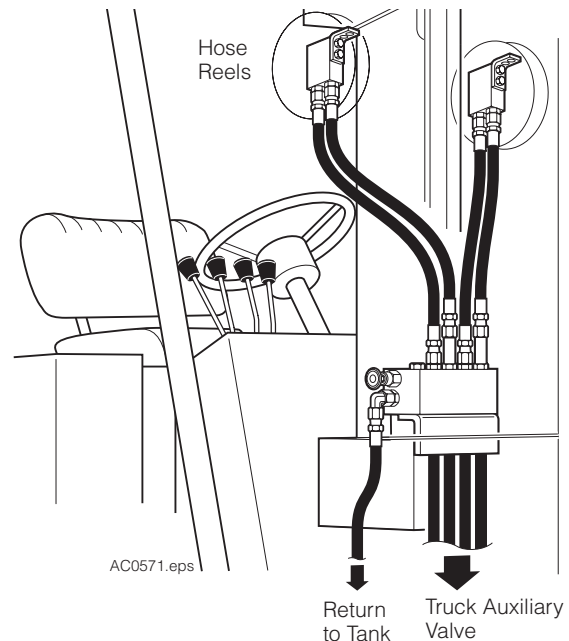
Attachment Flow Requirements Function 1 ①	Function 2 ②	Valve Kit Part No.
10 GPM	10 GPM	233339
12 GPM	12 GPM	233340
15 GPM	15 GPM	233095
20 GPM	20 GPM	233342

① Output ports 1 & 2

② Output ports 3 & 4



Valve Kit mounted on truck cowl with Internal Reaving



Valve Kit mounted on mast crossmember with Hose Reels

NOTE: The valve kits do not include hoses and fittings.

cascade[®] corporation

For Technical Support . . .

Call: 1-800-227-2233 Fax: 1-888-329-8207
Internet: www.cascorp.com
Write: Cascade Corporation, PO Box 20187, Portland, OR 97294

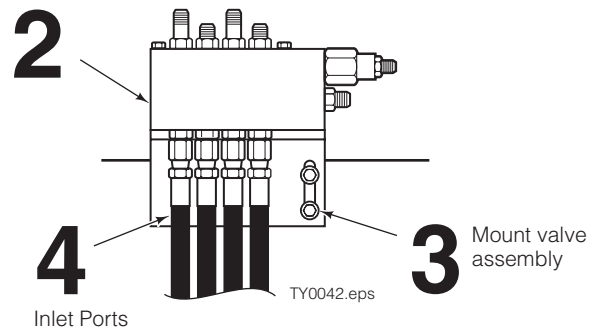
To Order Parts . . .

Call: 1-888-227-2233 Fax: 1-888-329-0234
Internet: www.cascorp.com
Write: Cascade Corporation, 2501 Sheridan Ave., Springfield, OH 45505

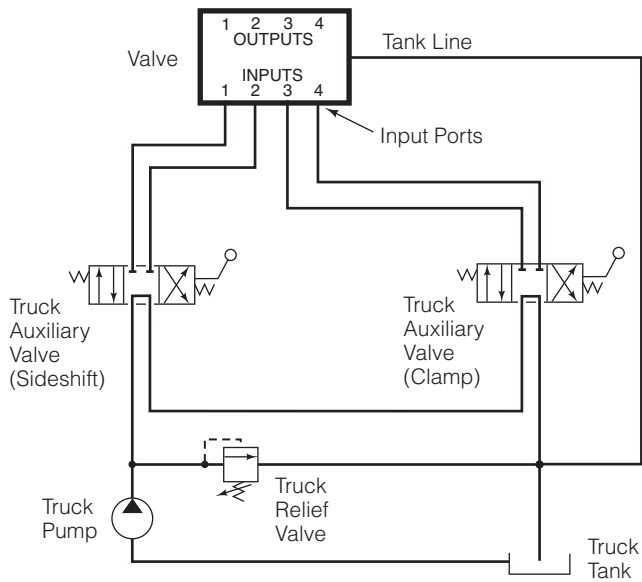
- 1 Determine an appropriate mounting location for the valve and bracket on the truck cowl or mast center crossmember. The bracket can be welded or bolted in place. The valve must not extend outside the width of the cowl or interfere with the truck or mast when tilted back.
- 2 Assemble the valve, bracket and No. 8 fittings (user supplied). Position the valve in place noting any clearance problems.
- 3 Mark a mounting location. Mount the valve assembly using capscrews or welding.
- 4 Measure and assemble two No. 8 hoses (user supplied) to run from the valve **Input 1** and **2** ports to the truck auxiliary valve sideshift or rotate ports. Install the hoses.

Measure and assemble two No. 8 hoses (user supplied) to run from the valve **Input 3** and **4** ports to the truck auxiliary valve clamp ports. Install the hoses.

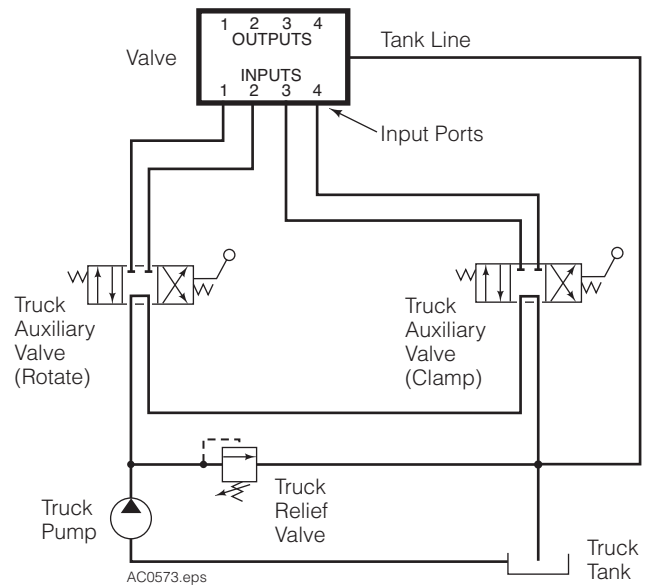
Assemble valve, bracket and fittings



Non-Revolving Attachment



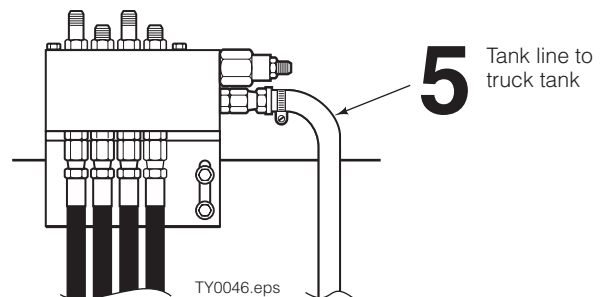
Revolving Attachment



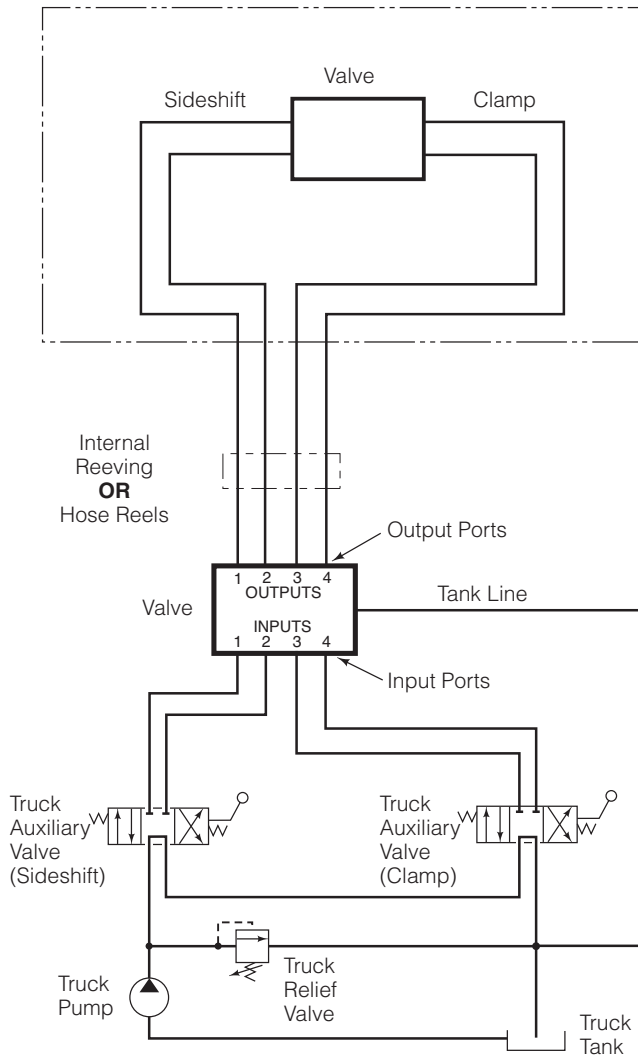
- 5 Install a tank return hose using one of the Cascade Tank Line kits listed below. Install the barbed push fitting to the valve **Tank** port fitting. Measure and install the hose to run from the valve **Tank** port fitting to tee into the truck tank return hose.

Low Pressure Tank Line Kits

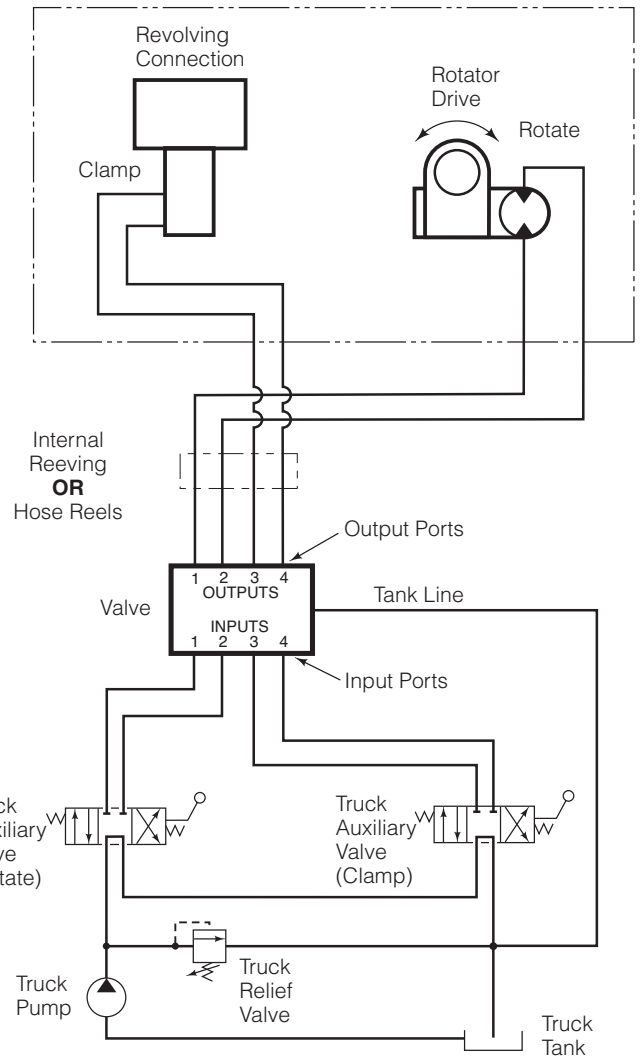
Truck Tank Return Hose ID	Kit Part No.
.75 in. (19 mm)	214062
1.00 in. (25 mm)	211745
1.25 in. (31 mm)	214066
1.50 in. (38 mm)	6037507



Non-Revolving Attachment



Revolving Attachment



6 Non-Revolving Clamps – Measure and assemble hoses (user supplied) to run from the valve **Output 1** and **2** ports to the LH hose reel or internal reeving supply. Install hoses.

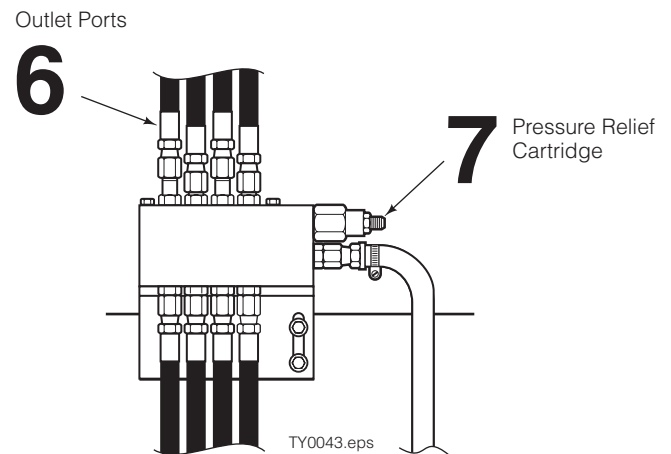
Measure and assemble hoses (user supplied) to run from the valve **Output 3** and **4** ports to the RH hose reel or internal reeving supply. Install hoses.

Revolving Clamps – Measure and assemble hoses (user supplied) to run from the valve **Output 1** and **2** ports to the RH hose reel or internal reeving supply. Install hoses.

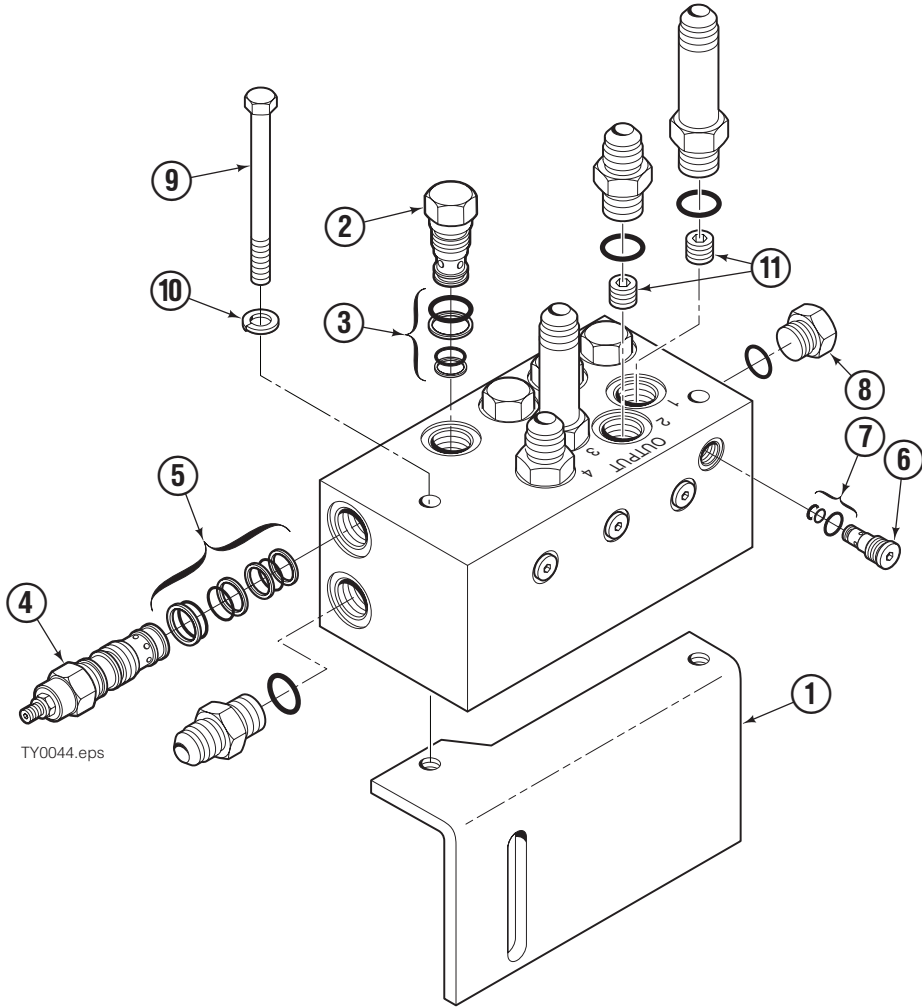
Measure and assemble hoses (user supplied) to run from the valve **Output 3** and **4** ports to the LH hose reel or internal reeving supply. Install hoses.

7 The pressure relief cartridge on the side of the valve is adjustable from 1000 to 3000 psi. Install a pressure gauge to the attachment valve gauge port or in the clamp supply line near the attachment valve. Adjust the cartridge to achieve a specific operating pressure for the attachment. Loosen the locking nut and turn the adjustment screw **CCW** to decrease pressure or **CW** to increase pressure.

8 Before returning the truck/attachment to service operation, test all functions to assure they perform properly.



Two Function Valve Assembly



REF	QTY	PART NO.	DESCRIPTION
		233339	Valve Kit-10 ⁽¹⁾ /10 ⁽²⁾ GPM
		233340	Valve Kit-12 ⁽¹⁾ /12 ⁽²⁾ GPM
		233095	Valve Kit-15 ⁽¹⁾ /15 ⁽²⁾ GPM
		233342	Valve Kit-20 ⁽¹⁾ /20 ⁽²⁾ GPM
1	1	233036	Mounting Bracket
2	4	6018226	Check Valve
3	4	667510	Service Kit
4	1	6048960	Relief Valve
5	1	6024964	Service Kit
6	4	220869	Check Valve
7	4	6025595	Service Kit
8	1	14594	Plug, 6
9	2	233034	Capscrew, M8 x 100
10	2	787389	Lockwasher, M8
11	4	233328	Orifice-10 GPM
	4	233336	Orifice-12 GPM
	4	233337	Orifice-15 GPM
	4	233338	Orifice-20 GPM

① Output ports 1 & 2.

② Output ports 3 & 4.