

# Sulfur Bottom Outlet Valve Disassembly Instructions

## 1 Preparation

These instructions are specific to the disassembly of A-522-C2-CS-SJ-SU-ST, A-522-C2-MO-SJ-SU-ST, A-522-C2-MO-SJ-SU-TF and A-522-C2-MO-SJ-SU-SMBC-ST Bottom Outlet Valve models. For more extensive maintenance instructions, please refer to Midland's Installation, Operation and Maintenance Instructions for A-520/522 ball valves.

- Exercise normal safety precautions for the commodity involved
- Discard all soft parts being replaced
- Inspect and clean all parts thoroughly per Midland's Installation, Operation and Maintenance Instructions for A-520/522

## 2 Valve Details

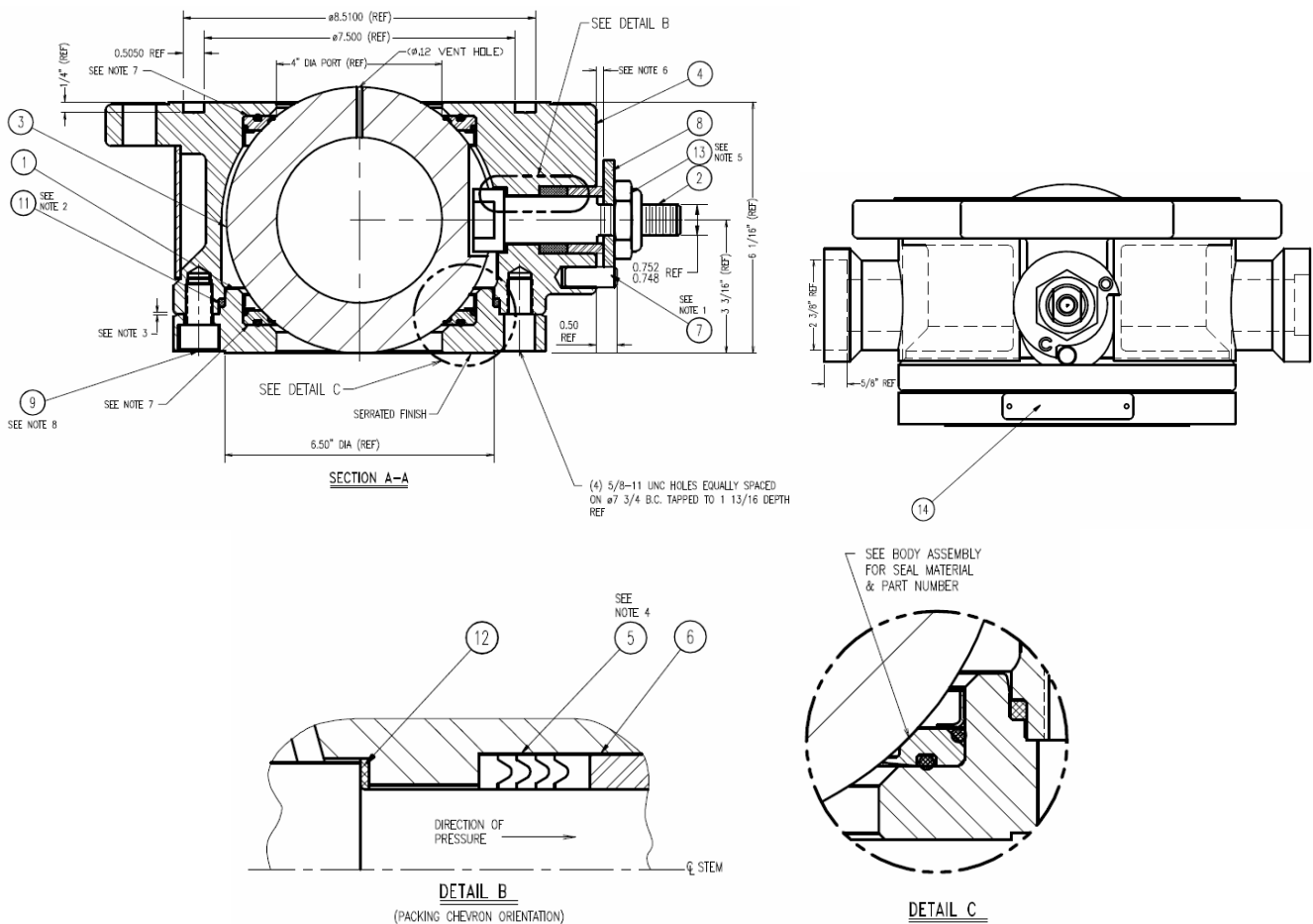


Figure 2-1 Component Identifications

ITEM	QTY	PART NAME	A-522-C2-CS-SJ-SU		A-522-C2-MO-SJ-SU	
			PART NO.	MATERIAL	PART NO.	MATERIAL
1	1	CAP ASSEMBLY	SEE TABLE	SEE TABLE	SEE TABLE	SEE TABLE
2	1	STEM	520-2-SS	STAINLESS	520-2-SS	STAINLESS
3	1	BALL	520-30-MO	STAINLESS	520-30-MO	STAINLESS
4	1	BODY ASSEMBLY	SEE TABLE	SEE TABLE	SEE TABLE	SEE TABLE
5	1	PACKING	520-5-01-TF	TEFLON	520-5-01-TF	TEFLON
6	1	SPACER	520-6-SS	STAINLESS	52D-6-SS	STAINLESS
7	1	PIN	520-7-CS	STEEL	520-7-CS	STEEL
8	1	STOP PLATE	520-8-CS	STEEL PLATED	520-8-CS	STEEL PLATED
9	8	CAPSCREW, HEX-SOC, 5/8"-11UNC-2A X 1" LG	520-9-CS	STEEL	520-9-CS	STEEL
10						
11	1	SEAL, VALVE BODY	520-11-01-TF	TEFLON	520-11-01-TF	TEFLON
12	1	WASHER, THRUST	520-12-01-TF	TEFLON	520-12-01-TF	TEFLON
13	1	LOCKNUT, HEX, THIN, 1 1/8"- 12UNF, NYLON INSERT	520-13-CS	STEEL PLATED	520-13-CS	STEEL PLATED
14	1	NAMEPLATE	522-13-88-SS	STAINLESS	522-13-86-SS	STAINLESS
15	1	HANDLE (*)	520-15-CS	STEEL	52D-15-CS	STEEL
16	1	WASHER, HANDLE (*)	520-16-CS	STEEL	520-16-CS	STEEL
17	1	BOLT, HANDLE (*)	520-17-CS	STEEL	520-17-CS	STEEL
18						
19						
20						

(\*) ITEMS 15, 16, 17 NOT SHOWN, ARE OPTIONAL

Figure 2-2 Component Parts Listing

VALVE MODEL NO.	CAP ASSEMBLY		BODY ASSEMBLY		
	PART NO.	MATERIAL	PART NO.	MATERIAL	SEAL MATERIAL
A-522-C2-CS-SJ-SU-ST	522-100-CSST	CARBON STEEL	522-430-CSST	CARBON STEEL	50% 316SS FILLED PTFE & VA
A-522-C2-CS-SJ-SU-TF	522-100-CSTF	CARBON STEEL	522-430-CSTF	CARBON STEEL	PTFE & VA
A-522-C2-MO-SJ-SU-ST	522-100-MOST	STAINLESS STEEL	522-430-MOST	STAINLESS STEEL	50% 316SS FILLED PTFE & VA
A-522-C2-MO-SJ-SU-TF	522-100-MOTF	STAINLESS STEEL	522-430-MOTF	STAINLESS STEEL	PTFE & VA

Figure 2-3 Cap, Body and Ball Seal Parts Listing

### 3 Reassembly Procedure

Refer to **Valve Details** for valve component identification during the repair kit reassembly process.

- 3.1.1 Set the valve to the closed position. This must be done to allow removal of the valve ball.



Figure 3-1 Set to Closed Position

- 3.1.2 Locate the valve on a bench (preferably on a pressure-test fixture) so it may be bolted for safety and rigidity during hardware removal. Secure it with the eight-bolt flange.



Figure 3-2 Valve Inverted

- 3.1.3 Remove the outlet cap assembly (if present).

- 3.1.4 Remove tack welds from retaining ring holding ball seal (Item 10) in place in cap (item 1). Tack weld locations noted in Figure 3-3.

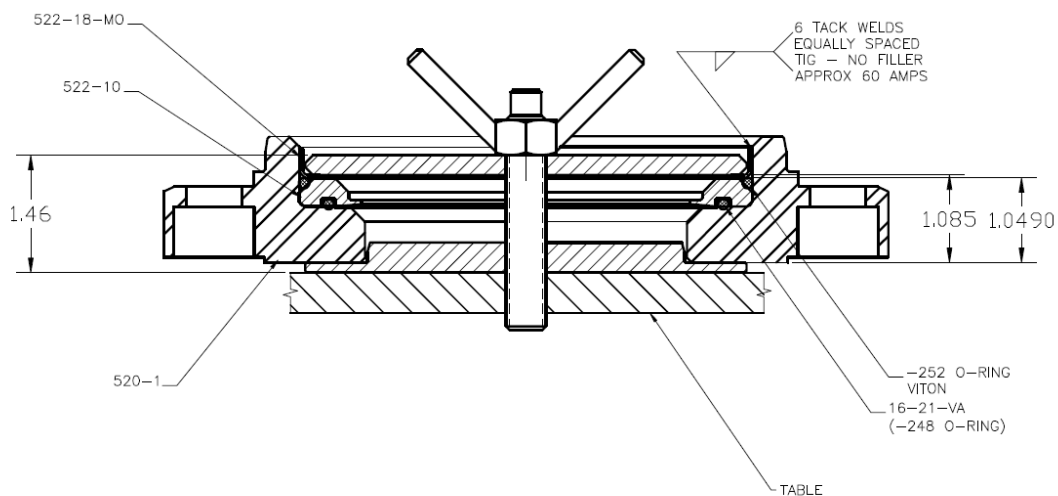


Figure 3-3 Tack Weld Positions

3.1.5 Remove retaining ring (Part Number 522-18-MOL in Figure 3-3).

3.1.6 Reach both hands into the valve body (item 4) on either side of the valve ball (item 3). Lift the ball out of the body and set it on a padded surface.



Figure 3-4 Remove Valve Ball

3.1.7 Remove the locknut (Item 13) from the valve stem (item 2) by turning it counterclockwise.



**TIP:** Use a 1-1/8" wrench.



Figure 3-5 Remove Locknut

3.1.8 Remove the stop plate (item 8) and then carefully press the valve stem (item 2) into the body (item 4) cavity and remove it.



**TIP:** The use of a brass or plastic hammer may be required to overcome the resistance of the compressed stem packing.



Figure 3-6 Remove Stop Plate and Stem

3.1.9 Remove the stainless-steel spacer collar (Item 6) from the valve-stem bore.



Figure 3-7 Remove Spacer Collar

- 3.1.10 Remove the Teflon<sup>®</sup> packing (item 5) from the valve-stem bore. Avoid scratching or gouging the interior surfaces of the valve-stem bore.



Figure 3-8 Remove Teflon<sup>®</sup> Packing

- 3.1.11 Remove ball seals (Item 10) and O-rings from body (Item 4).
- 3.1.12 Clean sealing surface for ball seals (Item 10) in both body (Item 4) and cap (Item 1).
- 3.1.13 Sealing surface should be clean and free of any imperfections per component inspections in 4.2 of A-520/522 IOM.
- 3.1.14 Wipe down one of the ball seals (Item 10) and then place it into the bottom seat of the body valve (Item 4), flat side downwards. Be very careful to avoid damaging the seat during installation.



**TIP:** For valve assemblies using SS/TF seats, apply a thin layer of grease (such as Panef Petrolatum) to the chafer portion of the seat (Item 10).

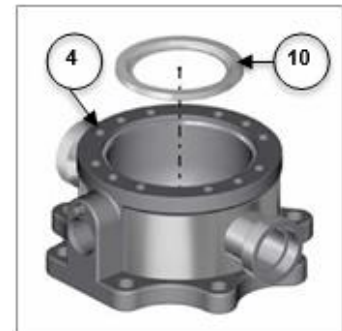


Figure 3-9 Install Ball Seal

- 3.1.15 Install retaining ring (Part Number 522-18-MOL in Figure 3-3).
- 3.1.16 Clamp retaining ring and seals to Body and Cap and tack weld retaining ring in 6 places. See 522-100-INSTR for reference.