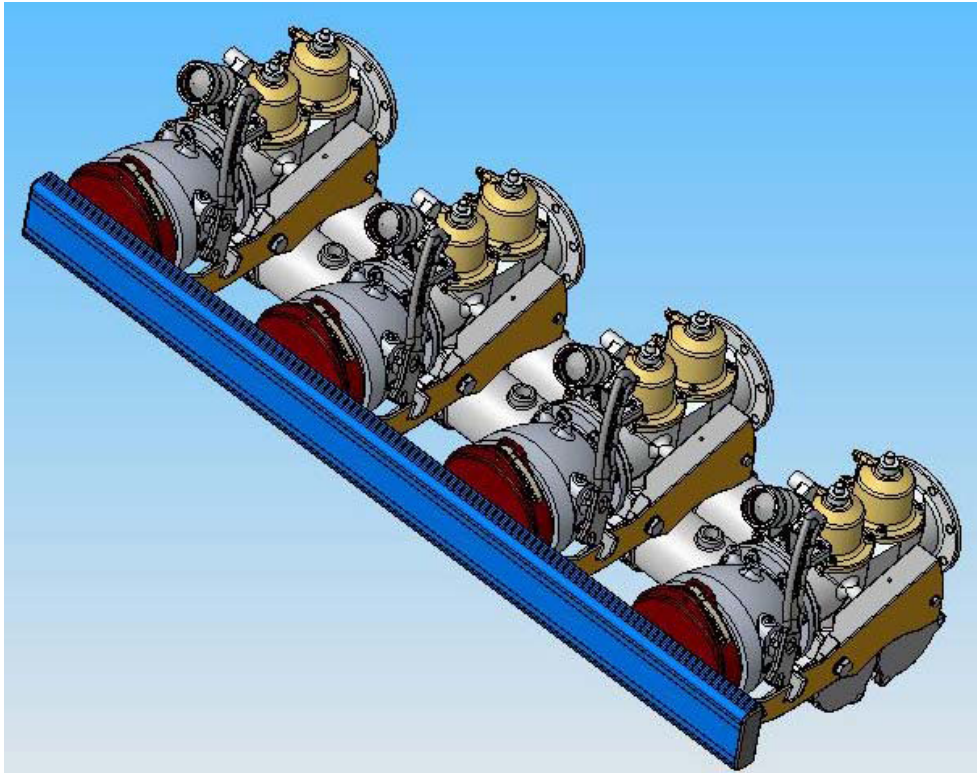


## Petroleum Manifold for Tank Trucks



### Installation Instruction

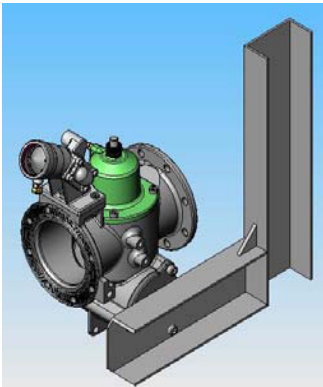
## Suggested Mounting Arrangements

The Civacon manifold must be supported by dedicated structural supports. The supporting brackets may be bolted to the frame or welded to the tank, as shown below.

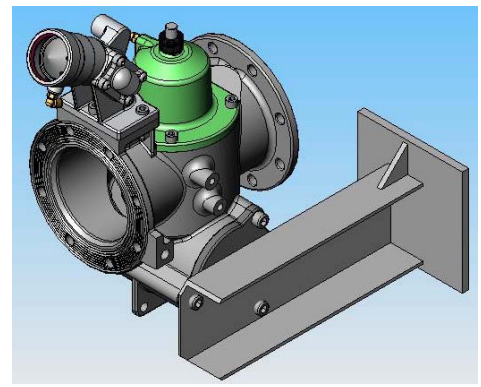
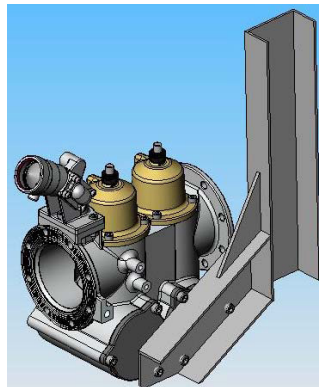
**CAUTION:** The manifold cannot be supported by product piping alone.

**CAUTION:** Mounting configurations are provided as suggestions only. Securing the manifold to the truck is the sole responsibility of the installer. Civacon assumes no responsibility for the attachment of the manifold.

### Suggested Installation Configurations



Mounting to Tank

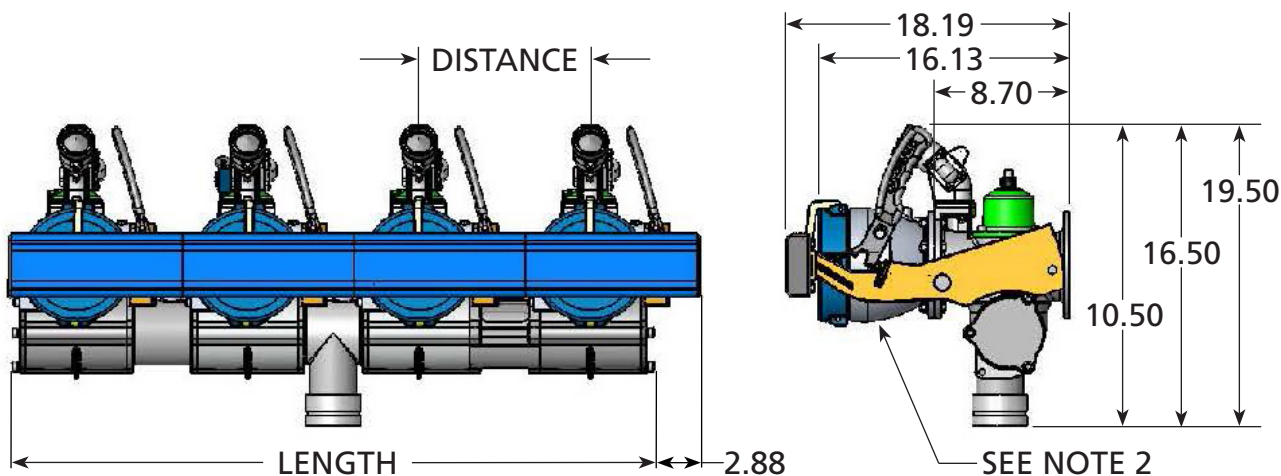


Mounting to Truck Frame

- Mounting illustration uses 4 x .150 aluminum channel
- At Least 3/4" (19mm) of thread engagement is required in the manifold body. Six M10-1.5 x 35 long, Class 8.8 zinc plated socket head cap screws (P/N 10576M) are supplied for this purpose. These longer screws will replace the standard M10-1.5 x 30 long screws that are used to fasten the end caps at the factory.
- If the supporting material is thicker than 3/16", then longer M10-1.5 Class 8.8 screws must be used.

# Single Manifold Assembly

01-05-018DS



	# COMPARTMENTS	2	3	4	5	6	7
Length, (in.)	11" Centers	19.5	30.5	41.5	52.5	63.5	74.5
Length, (in.)	14" Centers	22.5	36.5	50.5	64.5	78.5	92.5
Weight (lbs.) <sup>2</sup>	11" Centers	42	64	85	106	128	149
Weight (lbs.) <sup>2</sup>	14" Centers	43	65	87	109	131	153

## NOTES:

1. All weights and dimensions are for reference only
2. Weight of API adapters and caps are not included.  
API adapter weight is approximately 11.5 lbs. each.  
API cap weight is approximately 1.5 lbs. each.
3. Weight of guard bar, per compartment, is 6 lbs.  
Weight of return spout assembly, per compartment, is 2.5 lbs. These weights are included in table values.



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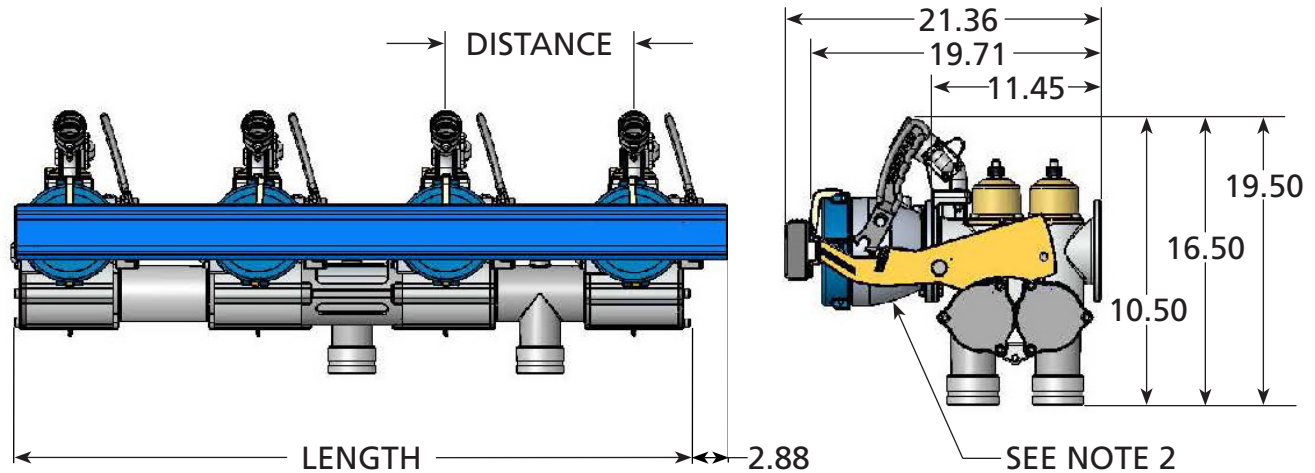
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DEFINING | WHAT'S NEXT

# Dual Manifold Assembly

01-05-019DS



	# COMPARTMENTS	2	3	4	5	6	7
Length, (in.)	11" Centers	19.5	30.5	41.5	52.5	63.5	74.5
Length, (in.)	14" Centers	22.5	36.5	50.5	64.5	78.5	92.5
Weight (lbs.) <sup>2</sup>	11" Centers	68	102	136	170	204	238
Weight (lbs.) <sup>2</sup>	14" Centers	70	105	140	175	210	245

## NOTES:

1. All weights and dimensions are for reference only
2. Weight of API adapters and caps are not included.  
API adapter weight is approximately 11.5 lbs. each.  
API cap weight is approximately 1.5 lbs. each.
3. Weight of guard bar, per compartment, is 6 lbs.  
Weight of return spout assembly, per compartment, is 2.5 lbs. These weights are included in table values.



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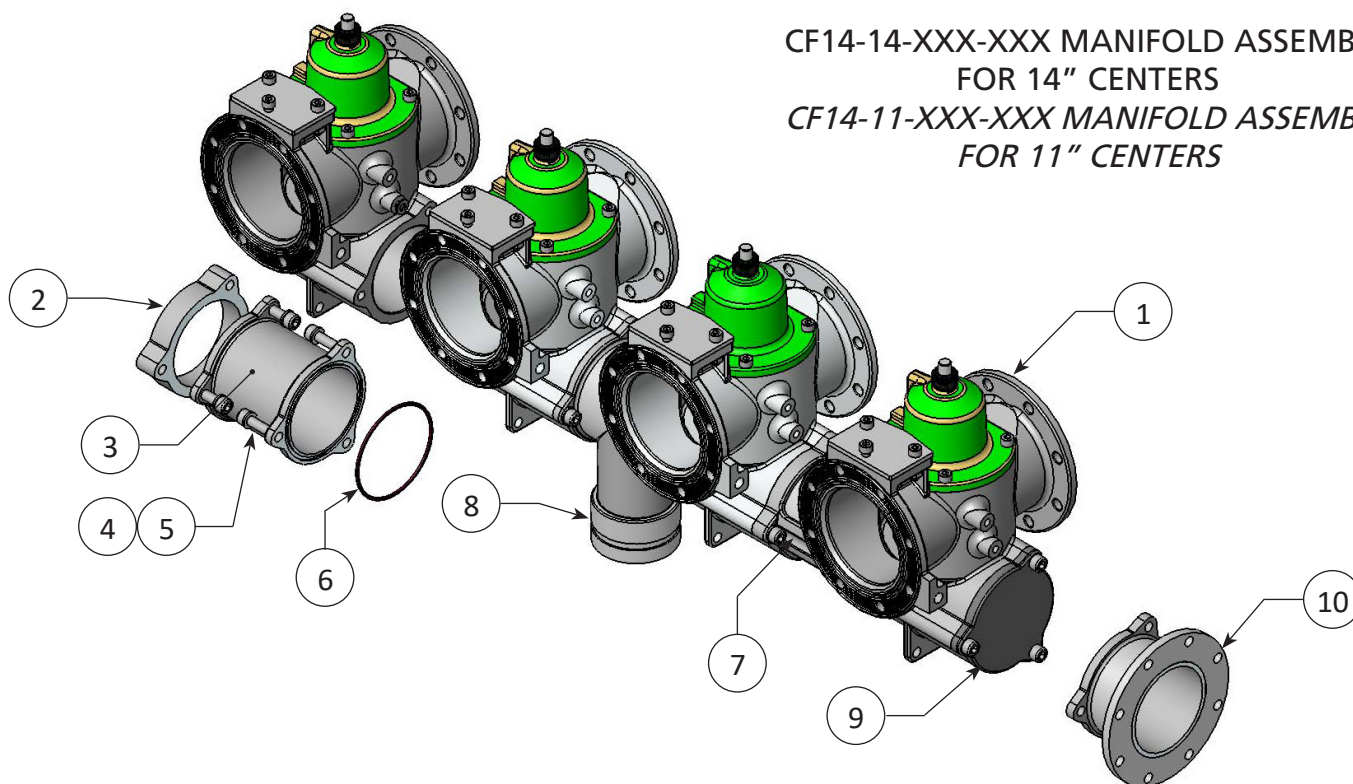
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**DEFINING | WHAT'S NEXT**

# CF14 Single Manifold Assembly

01-05-009RP

CF14-14-XXX-XXX MANIFOLD ASSEMBLY  
FOR 14" CENTERS  
CF14-11-XXX-XXX MANIFOLD ASSEMBLY  
FOR 11" CENTERS



ITEM	PART NUMBER	DESCRIPTION
1	10540M	SINGLE MANIFOLD VALVE ASSEMBLY
2	10982M	SPACER, 1" WIDE FOR 12" CENTERS
3	10562M	COLLECTOR PIPE FOR 14" CENTERS, 355MM
3	10561M	COLLECTOR PIPE FOR 11" CENTERS, 280MM
4	10576M	SCREW, M10 x 35 ZINC PLATED (TYPICAL)
5	10740M	LOCK WASHER, M10 ZINC PLATED (TYPICAL)
6	10494M	O-RING, 102 x 3 NITRILE (TYPICAL)
7	10644M	COLLECTOR SIGHT GLASS FOR 14" CENTERS
7	10698M	COLLECTOR SIGHT GLASS FOR 11" CENTERS
8	10798M	COLLECTOR TEE FOR 14" CENTERS, 3" VICTAULIC
8	10697M	COLLECTOR TEE FOR 11" CENTERS, 3" VICTAULIC
9	10558M	END CAP ASSEMBLY
10	10983M	OUTLET ADAPTER, 4" TTMA (OPTIONAL)



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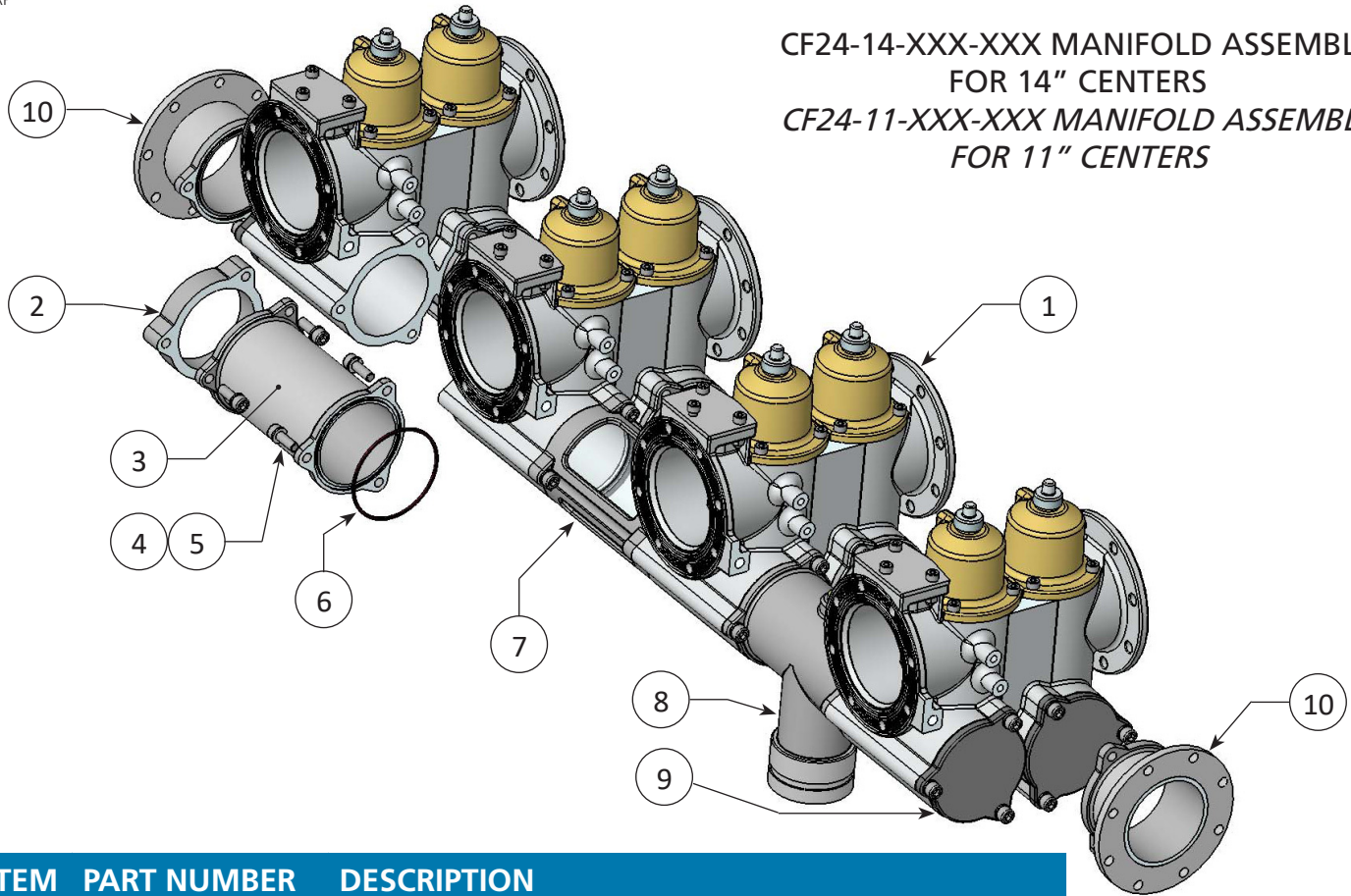
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DEFINING | WHAT'S NEXT

# CF24 Dual Manifold Assembly

01-05-008RP

CF24-14-XXX-XXX MANIFOLD ASSEMBLY  
FOR 14" CENTERS  
CF24-11-XXX-XXX MANIFOLD ASSEMBLY  
FOR 11" CENTERS



ITEM	PART NUMBER	DESCRIPTION
1	10541M	DUAL MANIFOLD VALVE ASSEMBLY
2	10982M	SPACER, 1" WIDE FOR 12" CENTERS
3	10562M	COLLECTOR PIPE FOR 14" CENTERS, 355MM
3	10561M	COLLECTOR PIPE FOR 11" CENTERS, 280MM
4	10576M	SCREW, M10 x 35 ZINC PLATED (TYPICAL)
5	10740M	LOCK WASHER, M10 ZINC PLATED (TYPICAL)
6	10494M	O-RING, 102 x 3 NITRILE (TYPICAL)
7	10644M	COLLECTOR SIGHT GLASS FOR 14" CENTERS
7	10698M	COLLECTOR SIGHT GLASS FOR 11" CENTERS
8	10798M	COLLECTOR TEE FOR 14" CENTERS, 3" VICTAULIC
8	10697M	COLLECTOR TEE FOR 11" CENTERS, 3" VICTAULIC
9	10558M	END CAP ASSEMBLY
10	10983M	OUTLET ADAPTER, 4" TTMA (OPTIONAL)



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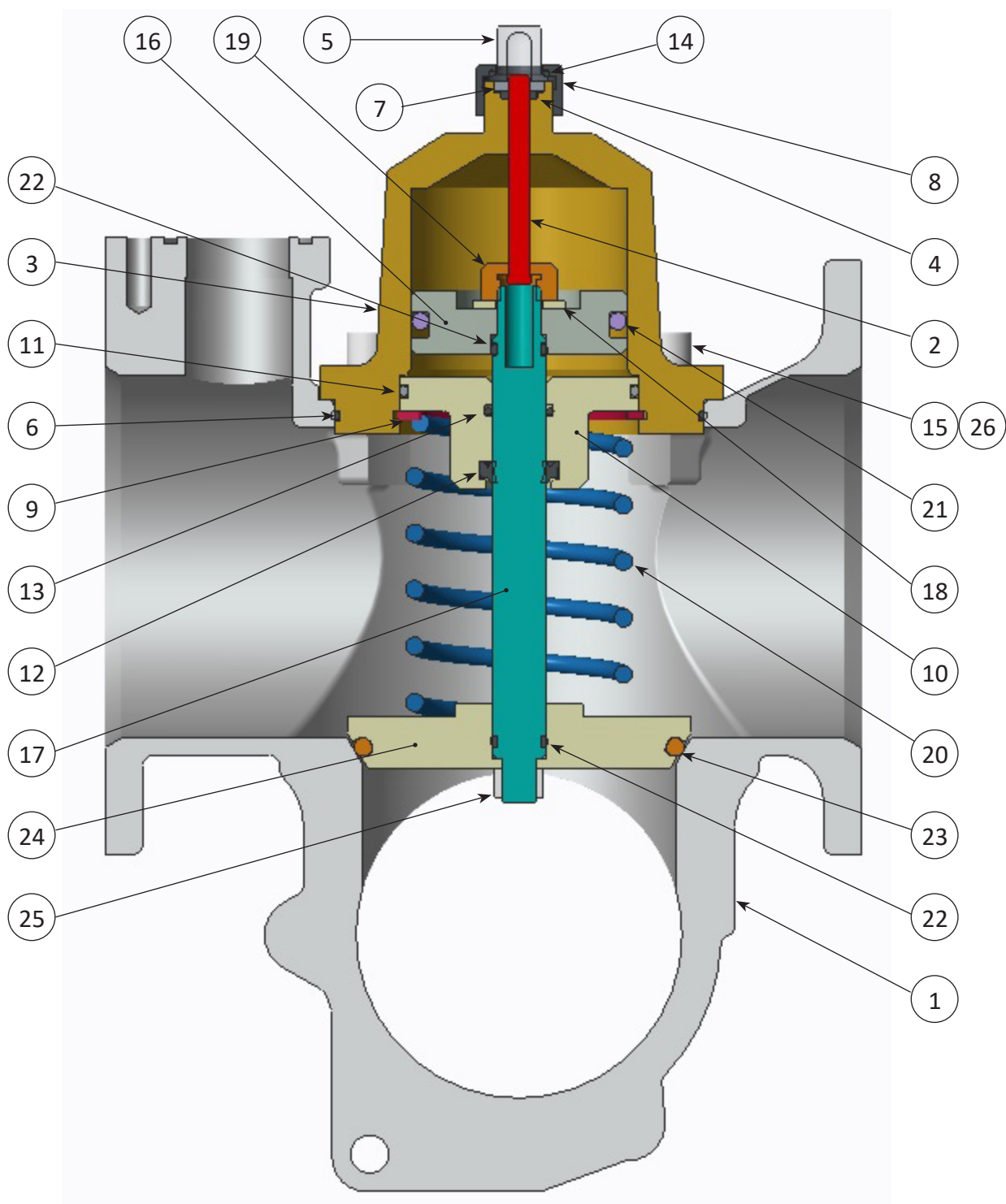
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DEFINING | WHAT'S NEXT

# 10540M Single Manifold Valve Assembly

01-05-001RP



# 10540M Single Manifold Valve Assembly

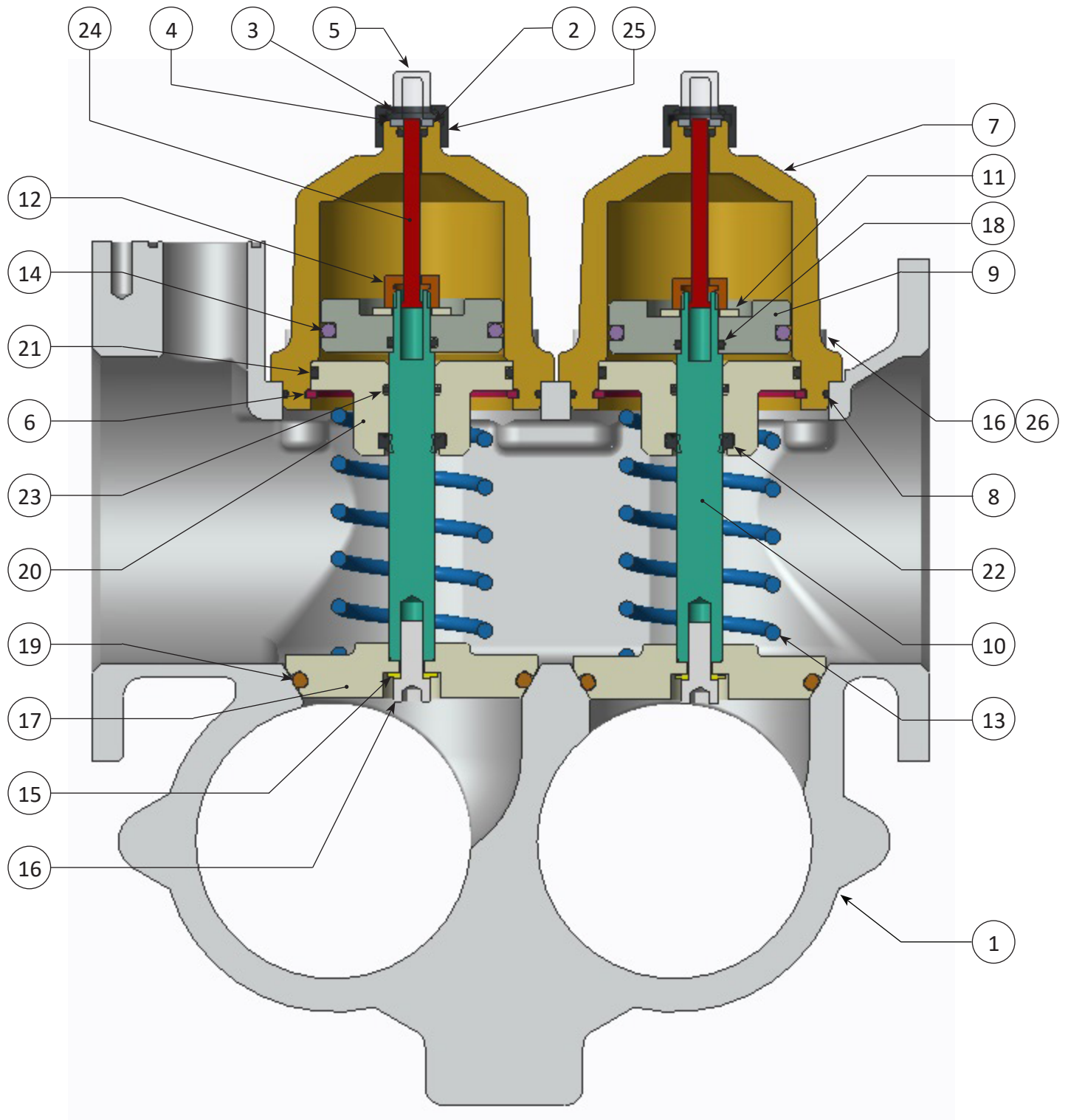
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11773M	BODY, SINGLE MANIFOLD, MACHINED	1
2	10207M	INDICATOR ROD	1
3	10390M	CYLINDER, SINGLE MANIFOLD	1
4	10241M	O-RING, 6 x 2.5	1
5	10773M	INDICATOR COVER	1
6	12955	O-RING, 103 x 2	1
7	10209M	INDICATOR WASHER	1
8	10772M	CARRIER, INDICATOR COVER	1
9	10237M	CIR CLIP, INT 70MM	1
10	10202M	END PLATE, CYLINDER	1
11	10243M	O-RING, 63 x 3	1
12	10238M	WIPER SEAL, 5/8" VITON	1
13	10520M	O-RING, 15.9 x 2.4	1
14	10776M	O-RING, 2-015 BUNA-N	1
15	10276M	SCREW, M8 x 25MM SOC HD	4
16	11255M	PISTON	1
17	10691M	ROD, POPPET	1
18	2618	PISTON WASHER	1
19	10205M	SHAFT NUT, PISTON	1
20	10233M	SPRING	1
21	10476M	O-RING, 52 x 6 FLUOROSILICON	1
22	10687M	O-RING	2
23	13009	O-RING, TEF-O-SIL	1
24	10678M	DISC, POPPET MACHINED	1
25	6119	NUT, LOCK 3/8-16	1
26	10806M	WSHR, M8 LOCK PLD	4

## REPAIR KITS

10540M-RK	POPPET REPLACEMENT KIT, SINGLE MANIFOLD
11285M-RK	REPAIR KIT, UPPER VALVE ASSY. O-RING/SEALS
11283M-RK	REPAIR KIT, MANIFOLD INDICATOR COVER

# 10541M Dual manifold Valve Assembly

01-05-003RP



# 10541M Dual Manifold Valve Assembly

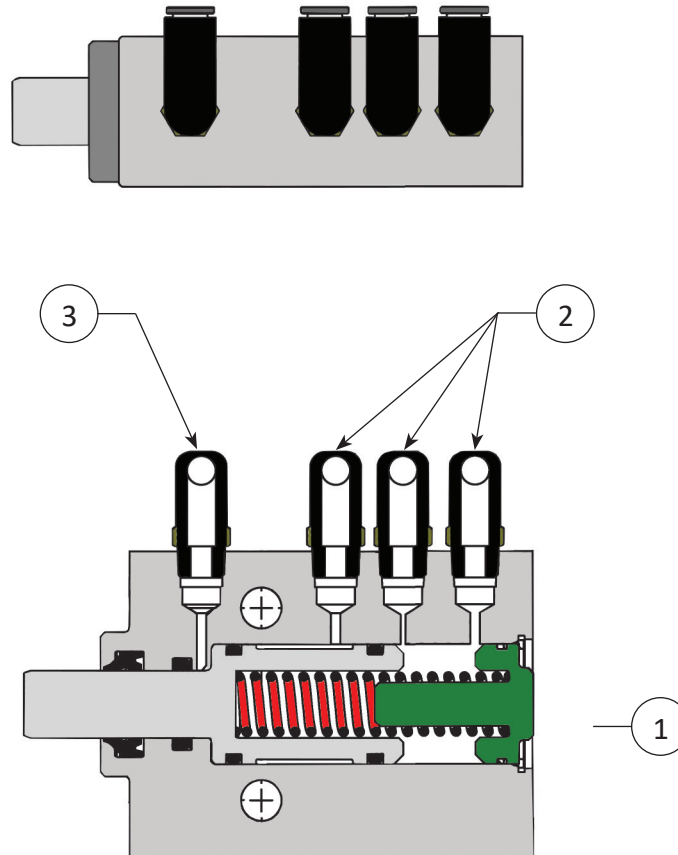
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11625M	BODY, DOUBLE MANIFOLD, MACHINED	1
2	10241M	O-RING, 6 x 2.5	2
3	10776M	O-RING, -015 BUNA-N	2
4	10209M	INDICATOR WASHER	2
5	10773M	INDICATOR COVER	2
6	10237M	CIR CLIP, INT 70MM	2
7	10391M	CYLINDER, DOUBLE MANIFOLD	2
8	12956	O-RING, 85 x 2	2
9	10203M	PISTON	2
10	10204M	ROD, POPPET	2
11	2618	PISTON WASHER	2
12	10205M	SHAFT NUT, PISTON	2
13	10233M	SPRING	2
14	10476M	O-RING, 52 x 6 FLUOROSILICON	2
15	10232M	SEAL WASHER, 5/16"	2
16	10276M	SCREW, M8 x 25MM SOC HD	10
17	10265M	DISC, POPPET MACHINED 3"	2
18	10240M	O-RING, 12.5 x 2.5	2
19	12800	O-RING, TEF-O-SIL	2
20	10202M	END PLATE, CYLINDER	2
21	10243M	O-RING, 63 x 3	2
22	10238M	WIPER SEAL, 5/8" VITON	2
23	10520M	O-RING, 15.9 x 2.4	2
24	10207M	INDICATOR ROD	2
25	10772M	CARRIER, INDICATOR COVER	2
26	10806M	WSHR, M8 LOCK PLD	8

## REPAIR KITS

10541M-RK	POPPET REPLACEMENT KIT, DUAL MANIFOLD
11285M-RK	REPAIR KIT, UPPER VALVE ASSY. O-RING/SEALS
11283M-RK	REPAIR KIT, MANIFOLD INDICATOR COVER

# 10544M Guard Bar Locking Valve Assembly

01-05-012RP



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11293M-A	GUARD BAR LOCK SUB-ASSEMBLY	1
2	9489	AIR FITTING, 1/8 NPT, 1/4 HOSE	3
3	10786M	AIR FITTING BRASS	1



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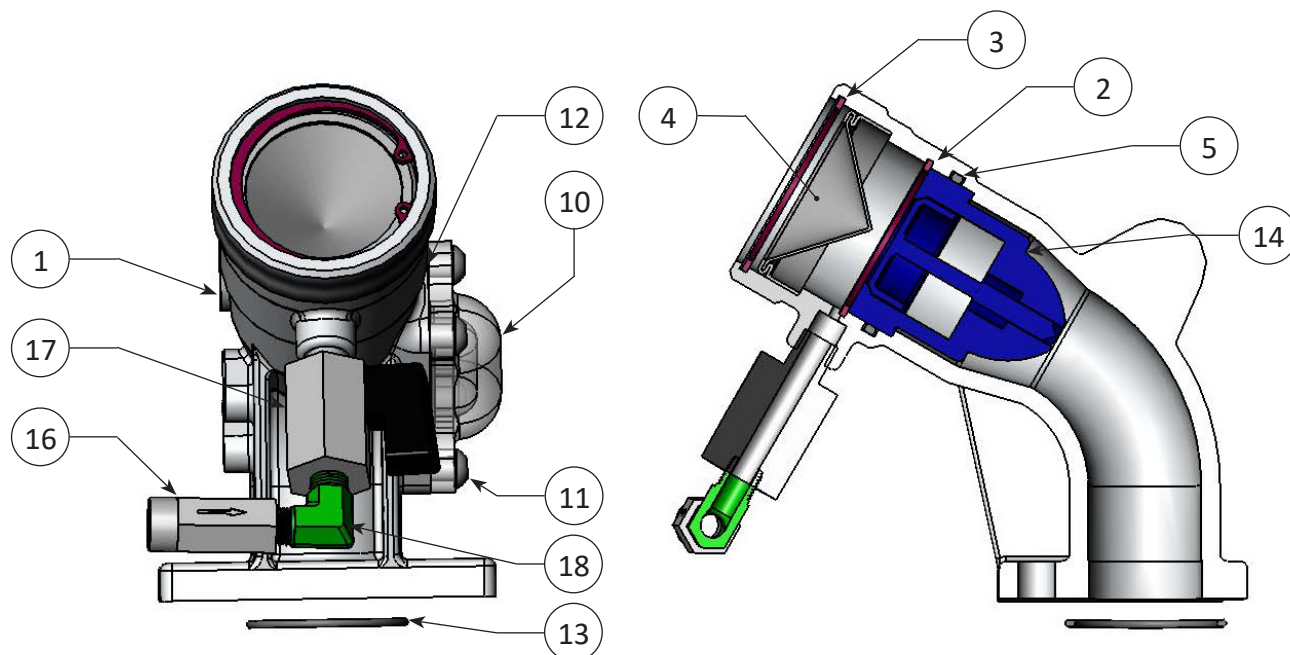
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DEFINING | WHAT'S NEXT

# 10546M NPT Return Spout Assembly

01-05-005RP



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10539M	BODY, RETURN SPOUT, MACHINED	1
2	10249M	RETAINING RING, 1-3/4" INT, ZP	1
3	10250M	RETAINING RING, 2" INTERNAL, ZP	1
4	10251M	STRAINER, MANIFOLD RETURN SPOUT	1
5	10252M	O-RING, 44 x 3 VITON	1
6	10235M	SCREW, M8 x 20 SHCP ZP	1
7	10277M	SCREW, M8 x 35 SHCP ZP	2
8	10263M	WASHER, M8 FLAT ZP	2
9	10262M	NUT, M8 ZP	2
10	11365M	SIGHT GLASS	1
11	12490	SCREW, 1/4-20 x 1/2 w/ THREAD LOCKER	4
12	H51437M	O-RING, BUNA-N LOW SWELL	1
13	11700M	O-RING, 2-125 BLACK NITRILE	1
14	12580	CHECK VALVE, RETURN SPOUT	1
15	10756M	CAP, VINYL 2" NPT (NOT SHOWN)	1
16	10765M	CHECK VALVE, RTN SPT BLOW DOWN	1
17	10766M	BALL VALVE, RTN SPT BLOW DOWN	1
18	10767M	FITTING, BRASS ELB. 1/8 MPT	1

Items 6, 7, 8, 9 & 13 will be bagged with each return spout.



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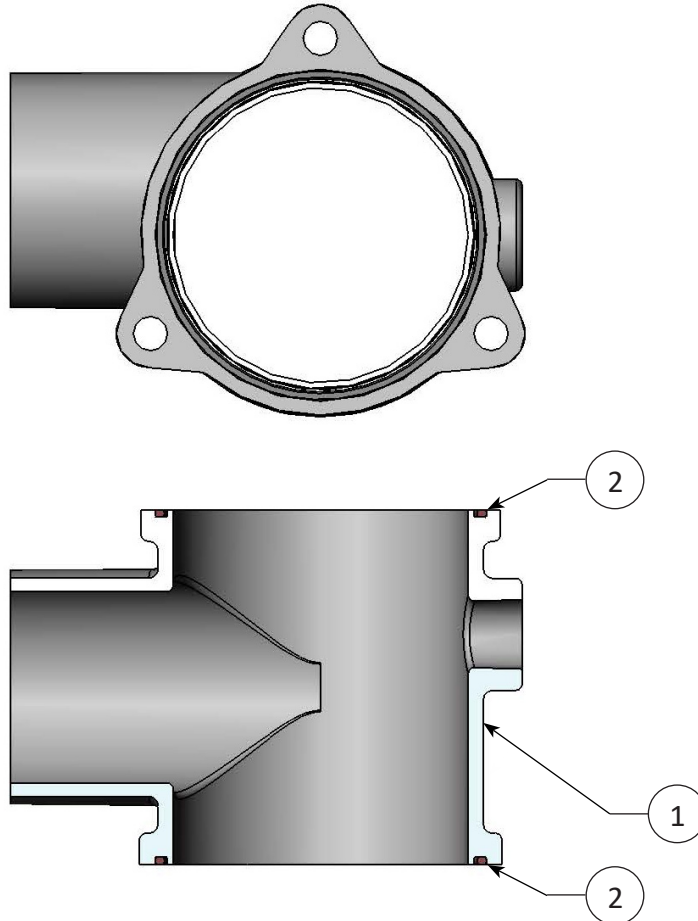
DEFINING | WHAT'S NEXT

# Collector Tee Assembly

01-05-014RP

10557M Collector Tee Assembly  
for 14" Centers

10556M Collector Tee Assembly  
for 11" Centers



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10566M	COLLECTOR TEE FOR 14" CENTERS	1
1	10564M	COLLECTOR TEE FOR 11" CENTERS	1
2	10494M	O-RING, 102 x 3 (.118 x 4.016) NITRILE	2
-	10521M	SCREW, M10 x 1.5 x 30, ZINC PLATED	6
-	10740M	LOCK WSHR, M10, ZINC PLATED	6



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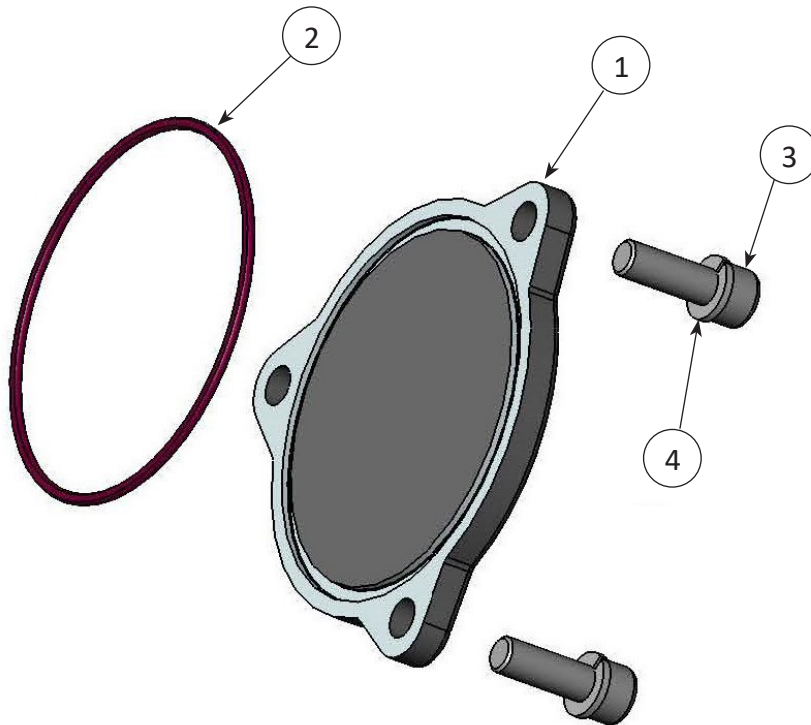
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DEFINING | WHAT'S NEXT

# 10558M End Cap Assembly

01-05-002RP



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11246M	END CAP, MANIFOLD COLLECTOR	1
2	10494M	O-RING, 102 x 3 NITRILE	1
3	10521M	SCREW, M10 x 1.5 x 30, ZINC PLATED	3
4	10740M	LOCK WSHR, M10 ZINC PLATED	3



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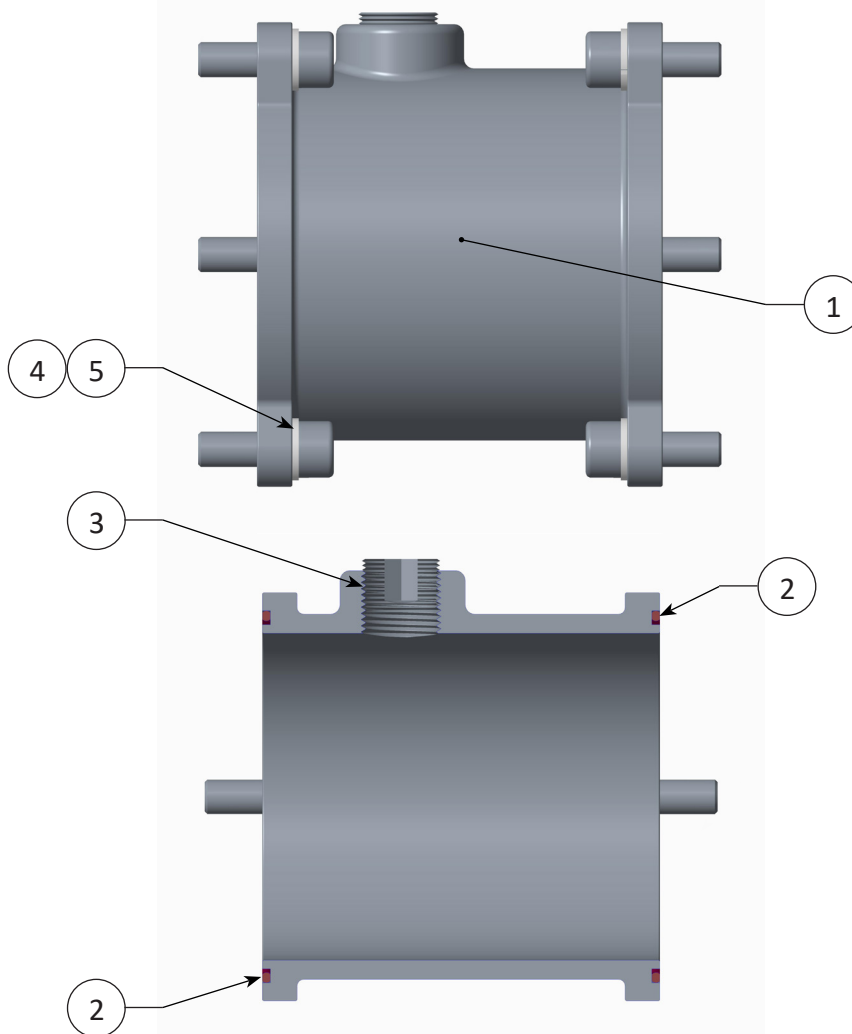
**DEFINING | WHAT'S NEXT**

# Collector Pipe Assembly

01-05-015RP

10562M Collector Pipe Assembly  
for 14" Centers

10561M Collector Pipe Assembly  
for 11" Centers



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10571M	COLLECTOR PIPE FOR 14" CENTERS	1
1	10570M	COLLECTOR TEE FOR 11" CENTERS	1
2	10494M	O-RING, 102 x 3 (.118 x 4.016) NITRILE	2
3	9901	PLUG, 1/2 NPT, BRASS	1
4	10521M	SCREW, M10 x 1.5 x 30, ZINC PLATED	6
5	10740M	LOCK WSHR, M10, ZINC PLATED	6



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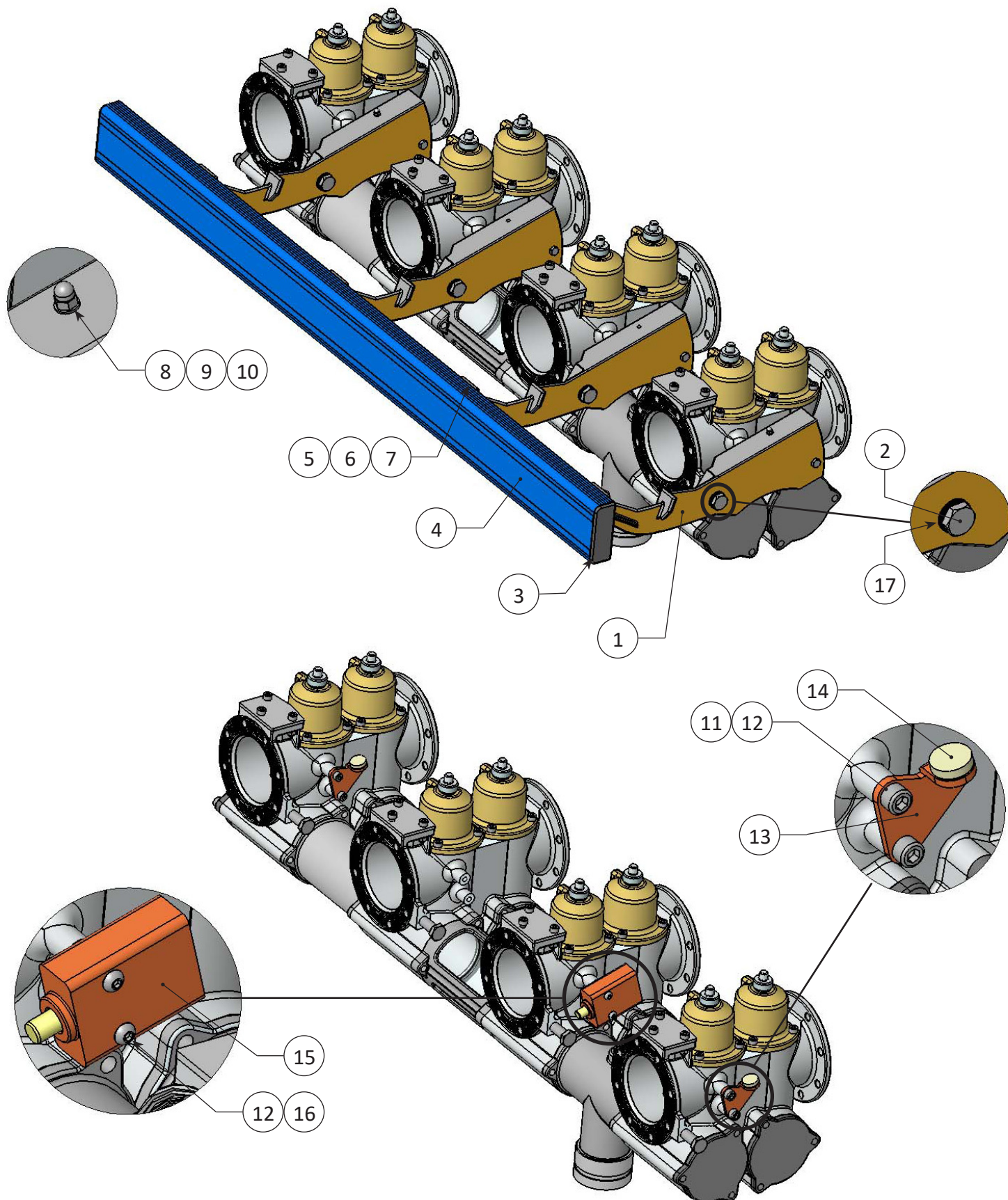
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DEFINING | WHAT'S NEXT

# 10641M API Guard Bar Assembly

01-05-010RP

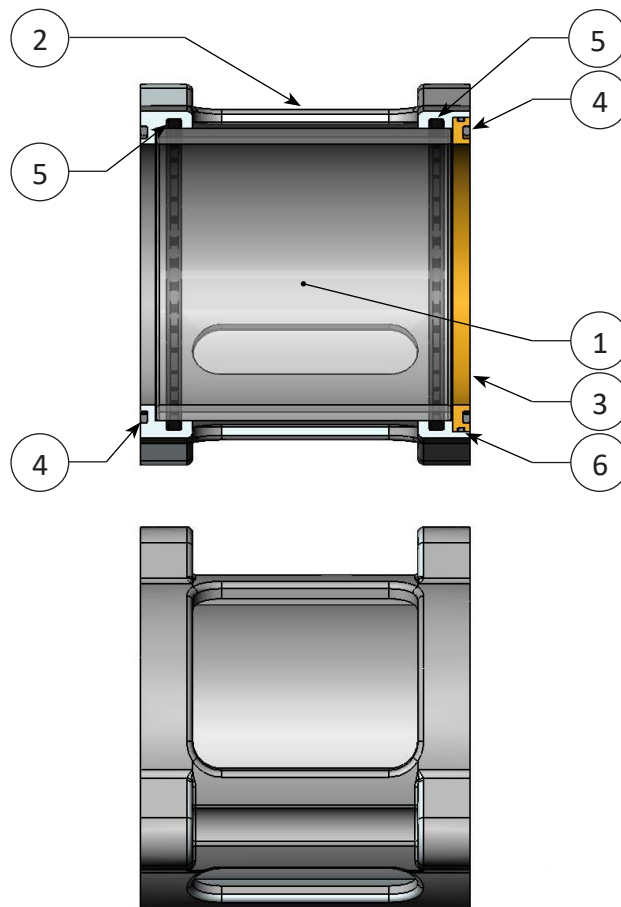


# Sight Glass Assembly

01-05-016RP

10644M Sight Glass Assembly  
for 14" Centers

10698M Sight Glass Assembly  
for 11" Centers



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10569M	COLLECTOR SIGHT GLASS HOUSING, 14" CENTERS	1
1	10568M	COLLECTOR SIGHT GLASS HOUSING, 11" CENTERS	1
2	10525M	SIGHT GLASS FOR 14" CENTERS	1
2	10524M	SIGHT GLASS FOR 11" CENTERS	1
3	10507M	SEAL RING, COLLECTOR SIGHT GLASS	1
4	10494M	O-RING, 102 x 3 (.118 x 4.016) NITRILE	2
5	10495M	O-RING, 104 x 4 (.157 x 4.094) NITRILE	2
6	10496M	O-RING, 106.67 x 1.78 (.070 x 4.239) NITRILE	1
-	10576M	SCREW, M10 x 1.5 x 35, ZINC PLATED	6
-	10740M	LOCK WSHR, M10, ZINC PLATED	6



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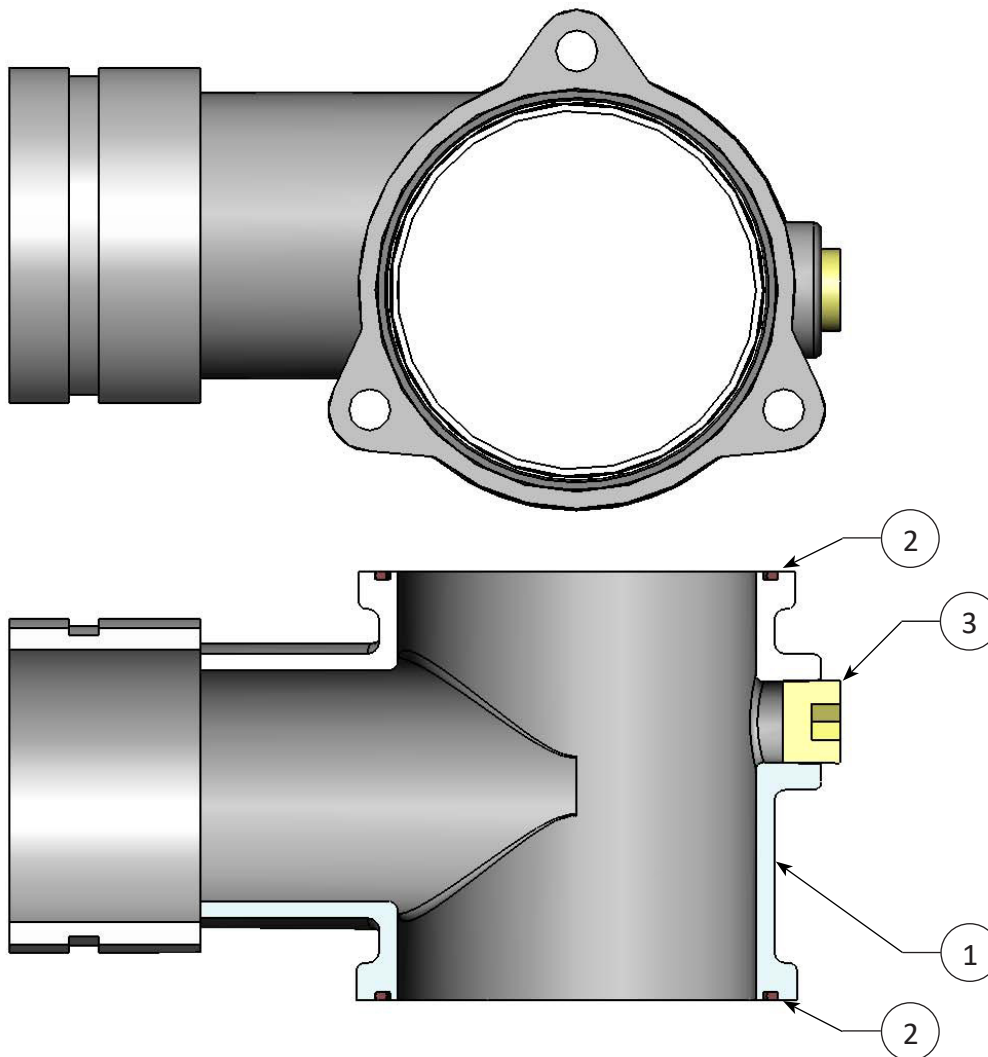
DEFINING | WHAT'S NEXT

# Collector Tee Assembly

01-05-013RP

10798M Collector Tee Assembly  
for 14" Centers with 3" Victaulic Outlet

10697M Collector Tee Assembly  
for 11" Centers with 3" Victaulic Outlet



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10797M	COLLECTOR TEE FOR 14" CENTERS	1
1	11391M	COLLECTOR TEE FOR 11" CENTERS	1
2	10494M	O-RING, 102 x 3 (.118 x 4.016) NITRILE	2
3	9901	PLUG, 1/2 NPT, BRASS	1
-	10521M	SCREW, M10 x 1.5 x 30, ZINC PLATED	6
-	10740M	LOCK WSHR, M10, ZINC PLATED	6



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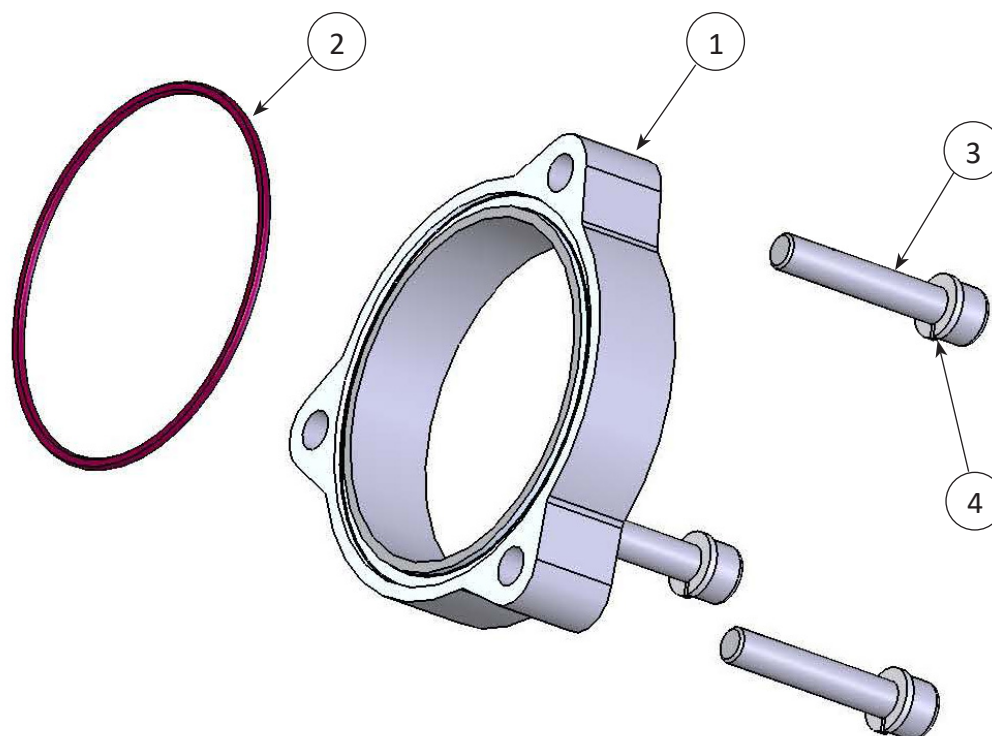
DEFINING | WHAT'S NEXT

# 10641M API Guard Bar Assembly

ITEM	PART NUMBER	DESCRIPTION
1	10542M	ASSEMBLY, API GUARD BAR ARM
2	10213M	SHOULDER BOLT, GUARD BAR ARM
3	10754M	CAP, GUARD BAR ARM
4	10643M-XX	GUARD BAR EXTRUSION (SPECIFY LENGTH)
5	1228	SCREW, 1/4-20 x 1" ZINC PLATED
6	1691	WASHER 1/4 FLAT ZINC PLATED
7	10807M	NUT, 1/4-20 NYLON LOCKING
8	10274M	NUT, M5 ACORN PLATED
9	10255M	WASHER, M5 PLATED
10	10258M	MAGNET BUTTON PLATED
11	10264M	SCREW, M8 x 40 ZINC PLATED
12	10263M	WASHER, M8 FLAT PLATED
13	10534M	MAGNET BRACKET
14	10270M	MAGNET
15	10544M	GUARD BAR LOCK
16	10280M	SCREW, M8 x 45 ZINC PLATED
17	10245M	BUSHING, GUARD BAR ARM

# 10982M 1" Collector Spacer Assembly

01-05-004RP



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10748M	SPACER, 1" COLLECTOR	1
2	10494M	O-RING, 102 x 3 NITRILE	1
3	10750M	SCREW, M10 x 1.5 x 55, ZINC PLATED	3
4	10740M	LOCK WSHR, M10 ZINC PLATED	3



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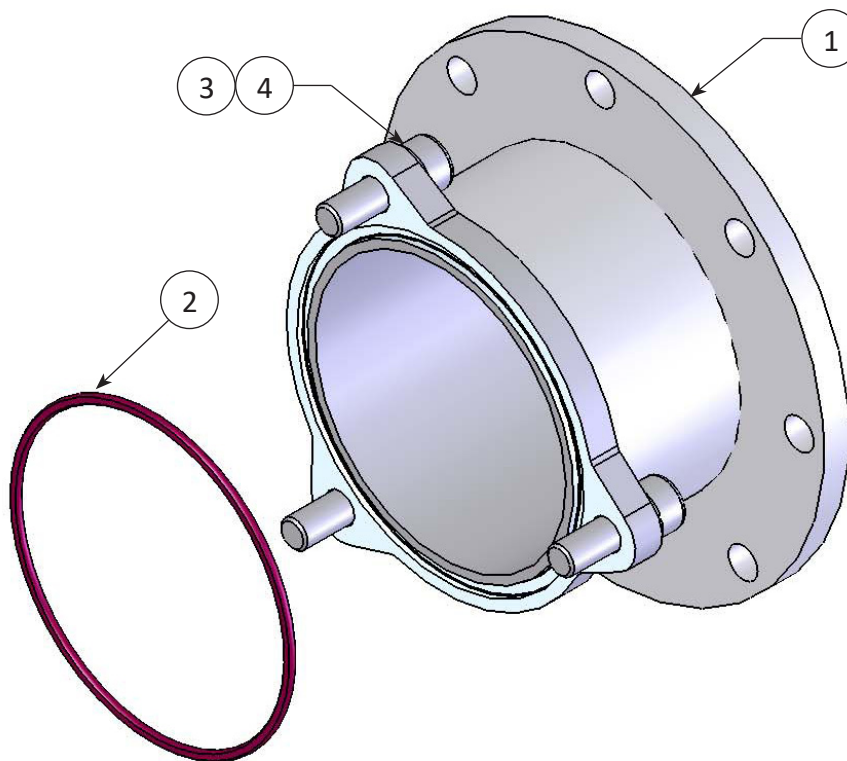
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DEFINING | WHAT'S NEXT

# 10983M 4" TTMA Adapter Assembly

01-05-011RP



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	10974M	4" TTMA FLANGE WELDMENT (2-3/4)	1
2	10494M	O-RING, 102 x 3 NITRILE	1
3	10521M	SCREW, M10 x 1.5 x 30, ZINC PLATED	3
4	10740M	LOCK WSHR, M10 ZINC PLATED	3



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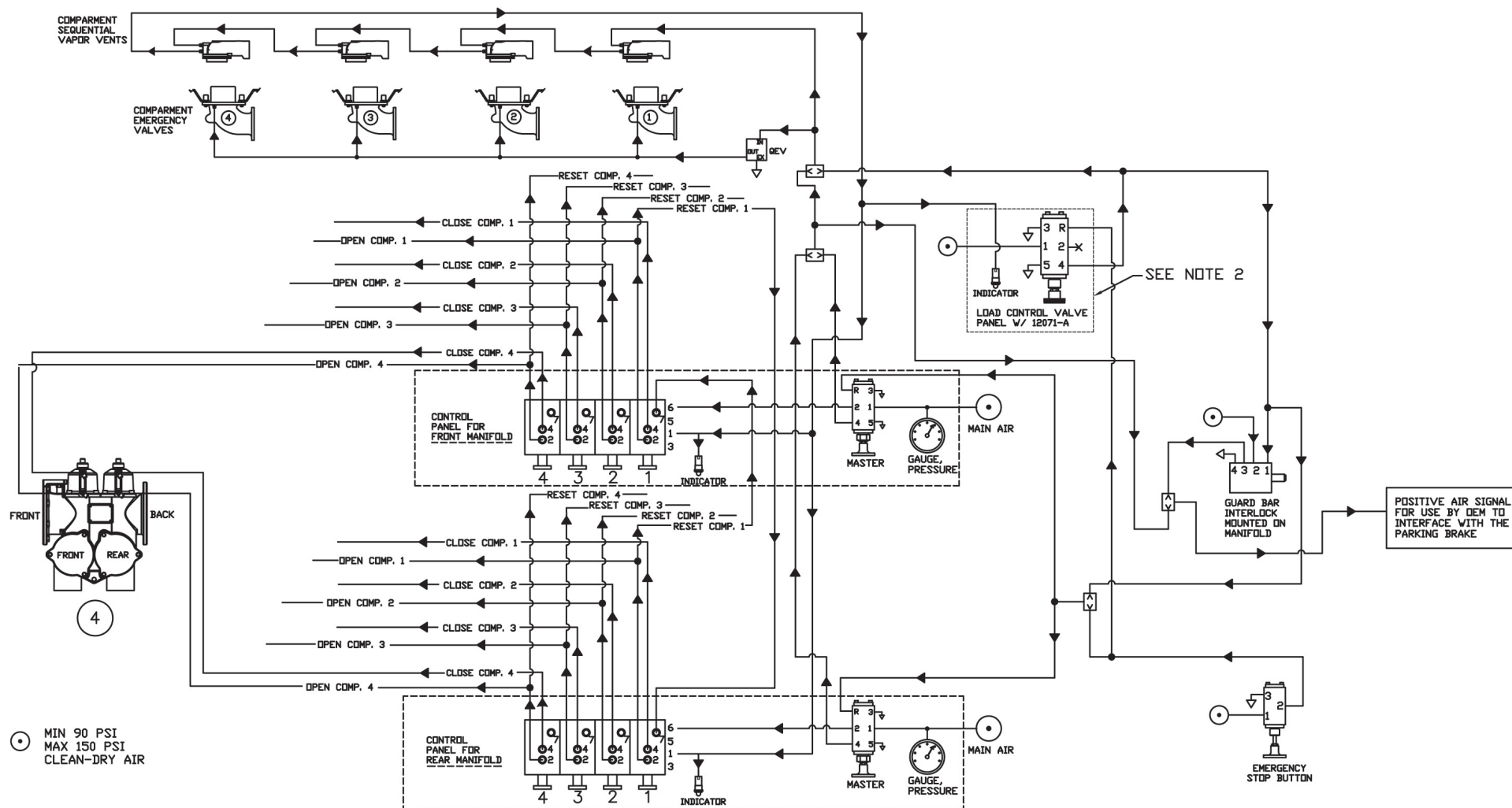
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DEFINING | WHAT'S NEXT

# Dual Air Control Manifold Wiring

01-05-023CH



## MOUNTING NOTES

- 1) LOAD CONTROL VALVE PANEL TO BE MOUNT ABOVE THE MANIFOLD.
- 2) THE CIVACONTROL MANIFOLD CONTROL PANELS CONTROL UNLOADING OPERATIONS ONLY. MOUNT EACH PANEL CLOSE TO OTHER RELEVANT UNLOADING CONTROLS ie METER OR HOSE REEL CONTROL, OR TO CUSTOMERS REQUIREMENTS



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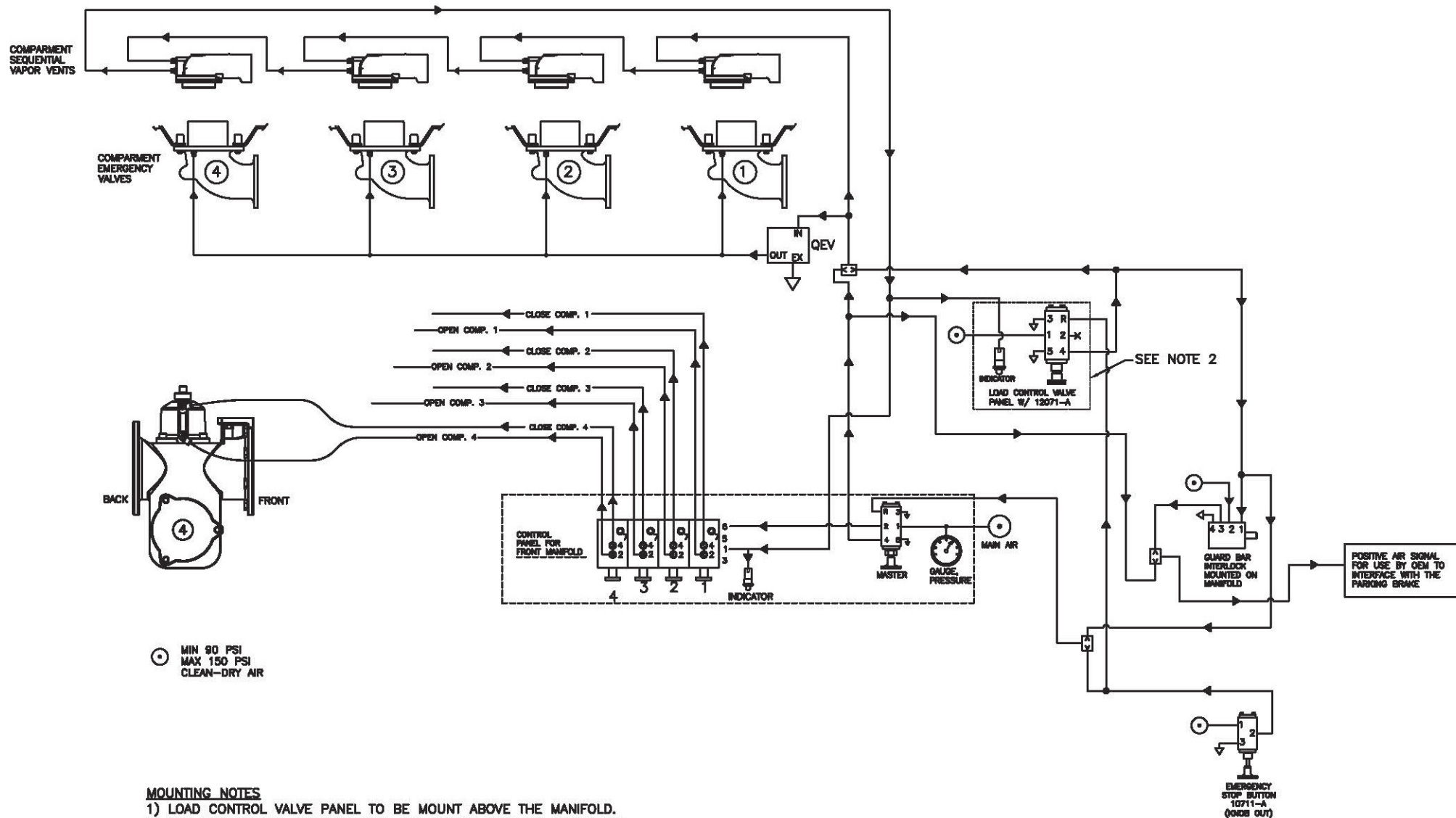
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DEFINING WHAT'S NEXT

# Single Manifold Wiring

01-05-020CH



## MOUNTING NOTES

- 1) LOAD CONTROL VALVE PANEL TO BE MOUNT ABOVE THE MANIFOLD.
- 2) THE CIVACONTROL MANIFOLD CONTROL PANELS CONTROL UNLOADING OPERATIONS ONLY. MOUNT EACH PANEL CLOSE TO OTHER RELEVANT UNLOADING CONTROLS ie METER OR HOSE REEL CONTROL, OR TO CUSTOMERS REQUIREMENTS

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DEFINING WHAT'S NEXT

## MCP “CIVACONTROL” OPERATION MANUAL

The purpose of this document is to explain how the MCP CIVACONTROL® air control system operates and to communicate the capabilities of this system. Each air connection has been identified with descriptions below. A photograph of the air control manifold has been included as a reference, as well as a suggested plumbing schematic.

The air control manifold is designed with a master air valve that is used to supply air to the individual control valves. One of the safety features of this air control manifold is that the master can be closed (Knob pushed in) and will automatically close all the other control valves. Not only does this close off all (internal) loading valves, it pneumatically locks the control valves in the closed position with air pressure. The system can be plumbed in such a manner to allow the same automatic shut off from a remote location at the front of the tank using an emergency stop valve.

This air control system has been designed to protect the tank during loading or unloading. The master valve, pulled out, sends an automatic diagnostic signal to open the sequentially plumbed vapor vents and emergency valves. The signal is then returned to the individual control valves. At this point, an indicator can be plumbed into the system to physically show the signal has been returned to the individual control valves. The manifold poppets can't be opened until they have received the automatic diagnostic confirmation that the vapor recovery vents from each compartment have been opened.

This air control system has the ability to enable access to the API loading adapters with the use of our guard bar lock. A protective bar is positioned over the ends of the API loading adapters and cannot be rotated out of the way until an air valve that is located in a locked cabinet is actuated. This allows the guard bar to be lifted to load or unload.

### **WARNING:**

Never lubricate or introduce non-recommended oils or solvents (WD40® or alcohol) into the CIVACONTROL® air control system. Please lubricate the system only with the recommended oils that are made for air controls on vehicles. The non-recommended oils or solvents can attack seals and cause damage to the valves resulting in excessive wear, leaking valves and even premature failures.

1

This is the primary air supply for ports 2 and 4. Air to this port should be the return air from the vapor vents.

2

With air supplying port 1, this port is air out with knob pulled out.

3

This is an external exhaust port with flow from port 2 to port 3 with knob pushed in.

4

With air supplying port 1, this port is air out with knob pushed in.

5

This is an exhaust port with flow from port 4 to port 5 with knob pulled out.

6

Air to this port will cause all knobs in the stack to pull in and remain retracted until air pressure is released. This is typically called the "common reset port". For example, when air is applied to port 6 all compartment valves on an MCP-4 will pull in and remain retracted.

7

Air to this port will cause only the knob of the block it is on to pull in and remain retracted until air pressure is released. This is typically called the "individual reset port". For example, when air is applied to port 7 on the compartment 3 valve of an MCP-4, only the compartment 3 valve will pull in and remain retracted.

