



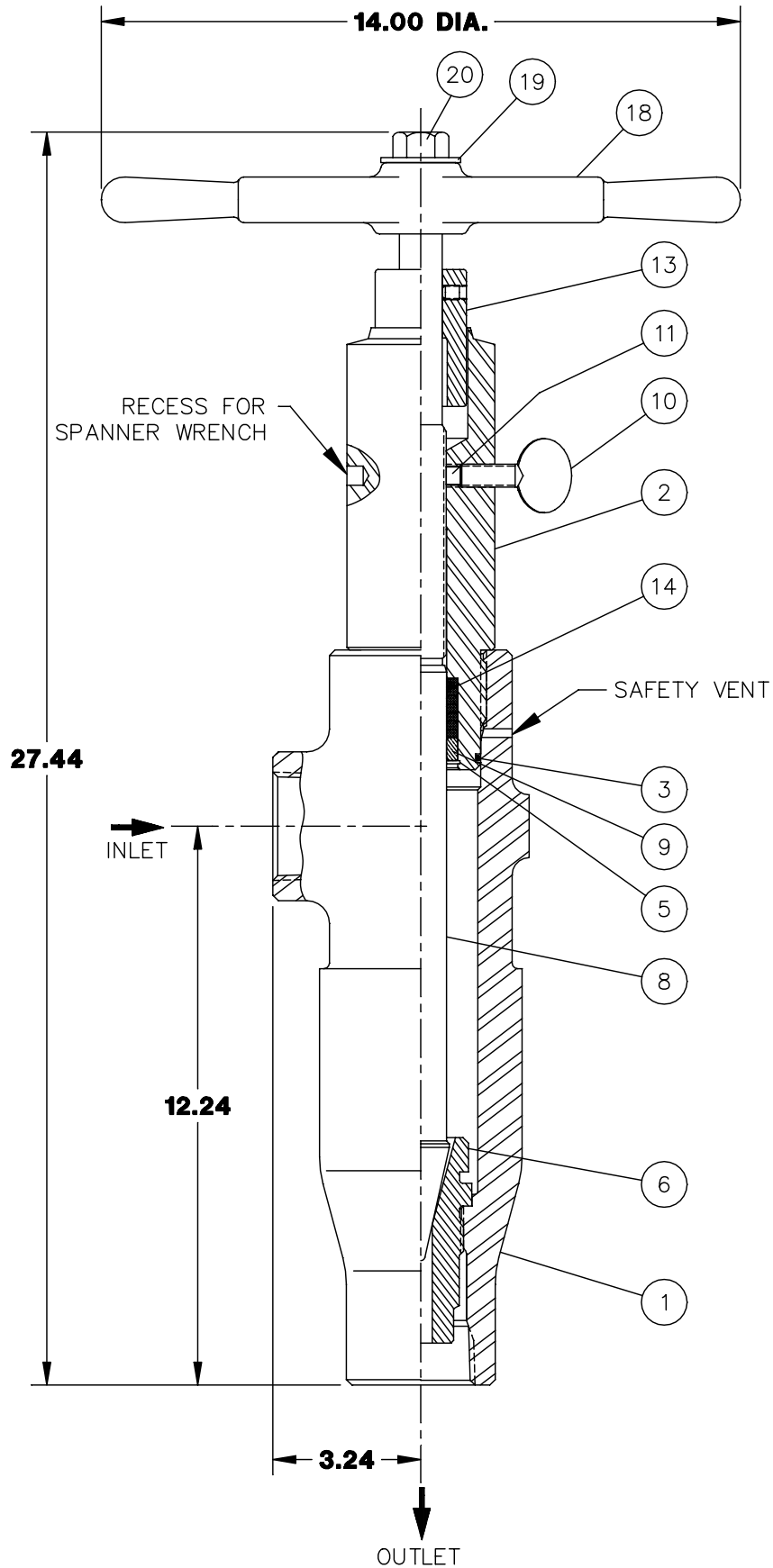
SUBMITTAL DATA SHEETS
THORNHILL-CRAVER CHOKES

T-1
07-16-99

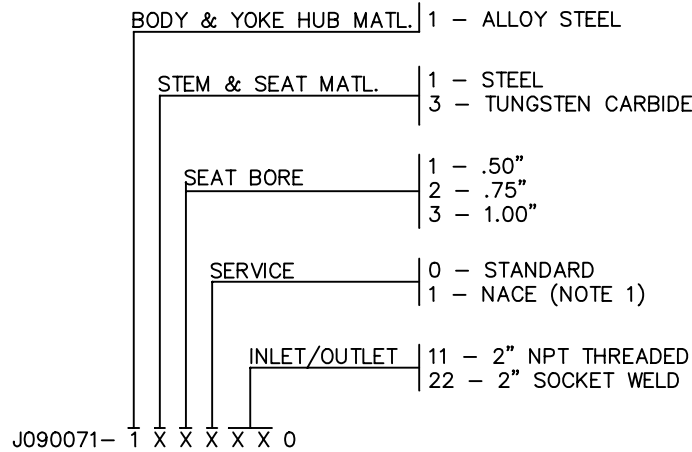
ADJUSTABLE HEATER CHOKES

2" 6500 ECONOMY CHOKE - THREADED OR SOCKET WELD INLET & OUTLET....	T-91	07-16-99
2" 6500 UNIBOLT CHOKE - 2" NPT INLET & OUTLET	T-92	07-16-99
- UNIBOLT INLET & OUTLET	T-93	07-16-99
2" 10M UNIBOLT CHOKE - UNIBOLT INLET & OUTLET	T-94	07-16-99
2" 15M UNIBOLT CHOKE - API FLANGED INLET & UNIBOLT OUTLET.....	T-95	07-16-99

**THORNHILL CRAVER
2" UNIBOLT ECONOMY HEATER CHOKE
6500 WP THREADED OR SOCKET WELD
INLET & OUTLET**



ASSEMBLY PART NUMBER

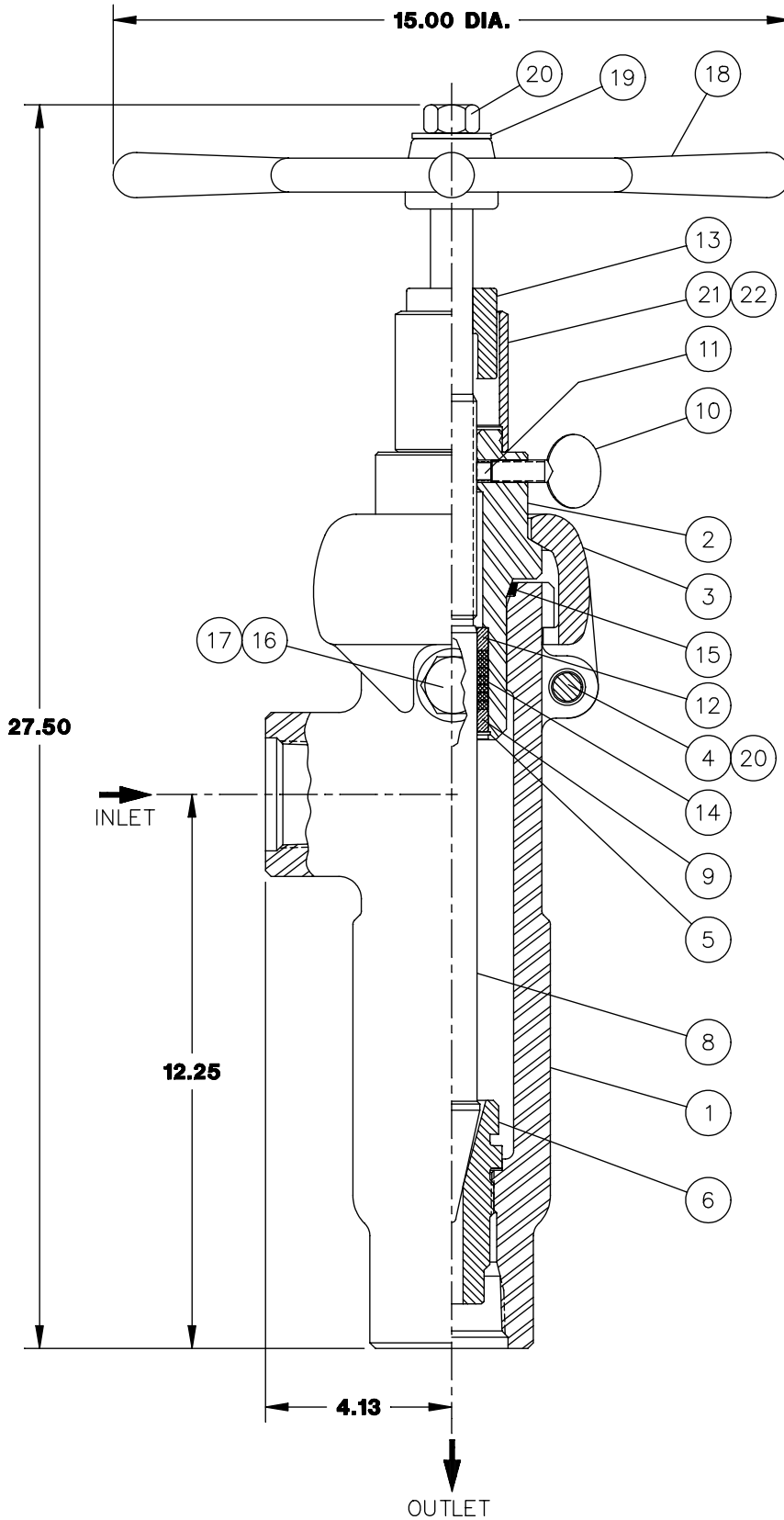


PARTS LIST

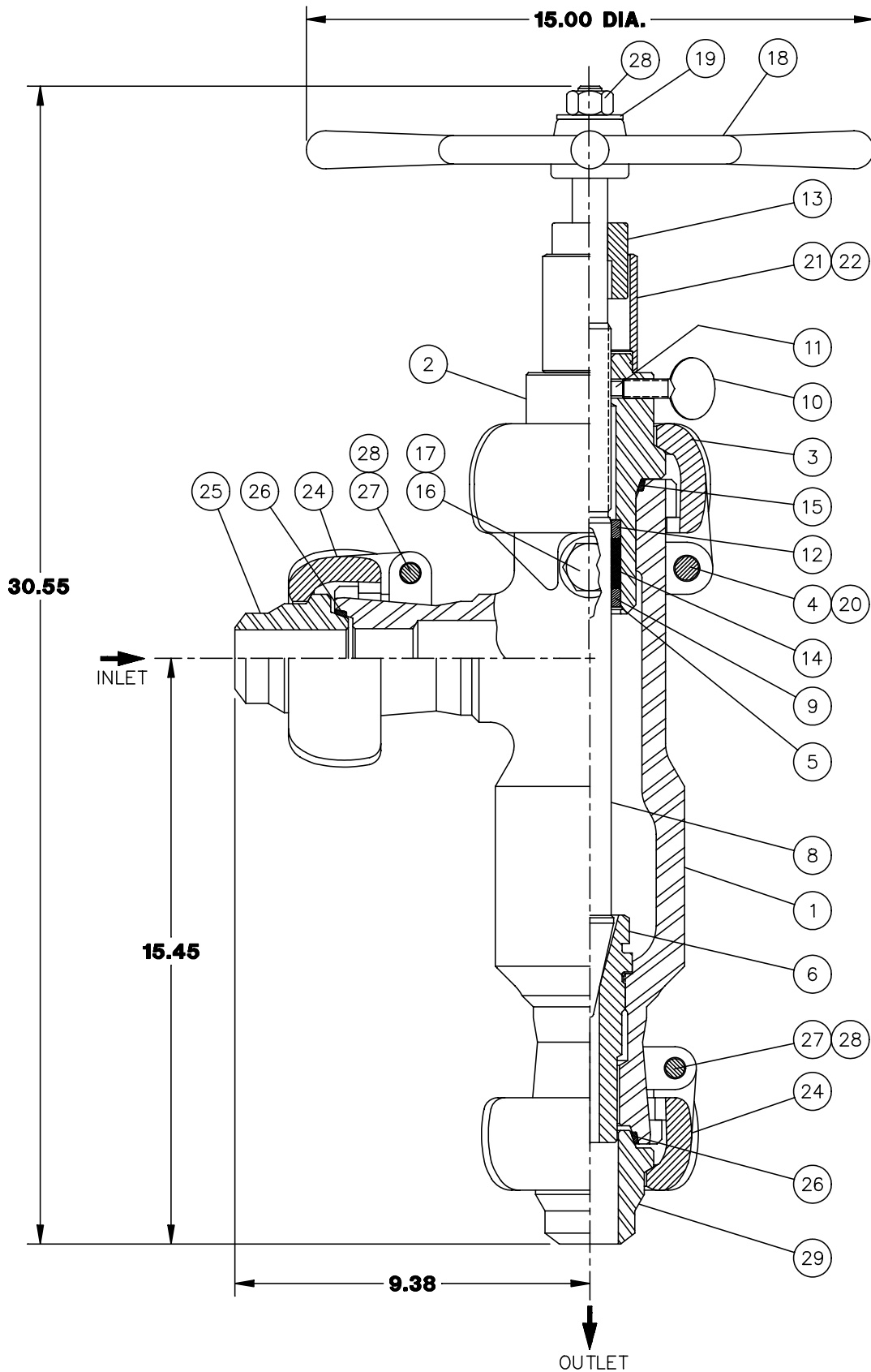
INDEX	REQD	DESCRIPTION	PART NO.	MATERIAL
		ASSEMBLY BASE NUMBER	J090071	
1	1	BODY - 2" NPT THREADED - STANDARD - NACE - 2" SOCKET WELD - STANDARD - NACE	J090072	ALLOY STEEL
			J093170	
			J090076	
			2140265-01	
2	1	YOKE HUB	J090074	ALLOY STEEL
3	1	O-RING - YOKE HUB SEAL	J005520-229	BUNA-N
			J005531-229	VITON
5	1	RETAINER RING	J090066-162	STAINLESS STEEL
6	1	SEAT - .50" BORE - .75" BORE - 1.00" BORE	J090010-001	STEEL
			J090011-001	
			J090012-001	
		SEAT - .50" BORE - .75" BORE - 1.00" BORE	J090013	TUNGSTEN CARBIDE (SEE NOTE 1.)
			J090014	
			J090015	
8	1	STEM	J090075-001	STEEL
			J090141	TUNGSTEN CARBIDE (SEE NOTE 1.)
9	1	STEM BEARING	J090020	FIBER FILLED RYTON
10	1	STEM LOCK	J005715-28020	STEEL
11	1	STEM LOCK SHOE	J090026	STEEL
13	1	INDICATOR - .50" SEAT - .75" SEAT - 1.00" SEAT	J090022	PVC
			J090023	
			J090024	
14	1	PACKING SET	J090033	COTTON/NYLON/TFE IMPREGNATED
18	1	HANDWHEEL	J090077	DUCTILE IRON
19	1	FLAT WASHER - HANDWHEEL	J005880-0222810	STEEL
20	1	NUT - HANDWHEEL	2709000-07-01	STEEL

NOTE: Tungsten Carbide Stem & Seat required for NACE Service.

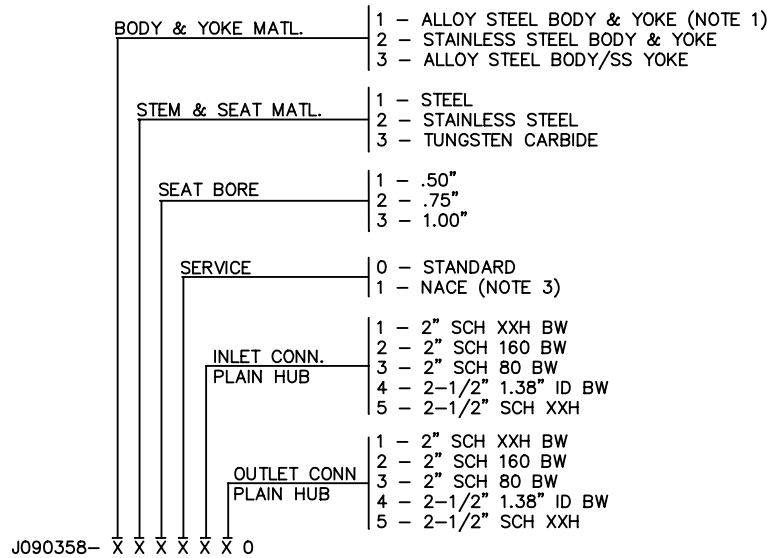
**THORNHILL CRAVER
2" UNIBOLT ADJUSTABLE
HEATER CHOKE WITH TAPER TYPE SEAL
2" NPT INLET & OUTLET
6500 CWP MAX.**



**THORNHILL CRAVER
2" UNIBOLT ADJUSTABLE
HEATER CHOKE WITH TAPER TYPE SEAL
UNIBOLT INLET & OUTLET
6500 CWP MAX.**



ASSEMBLY PART NUMBER



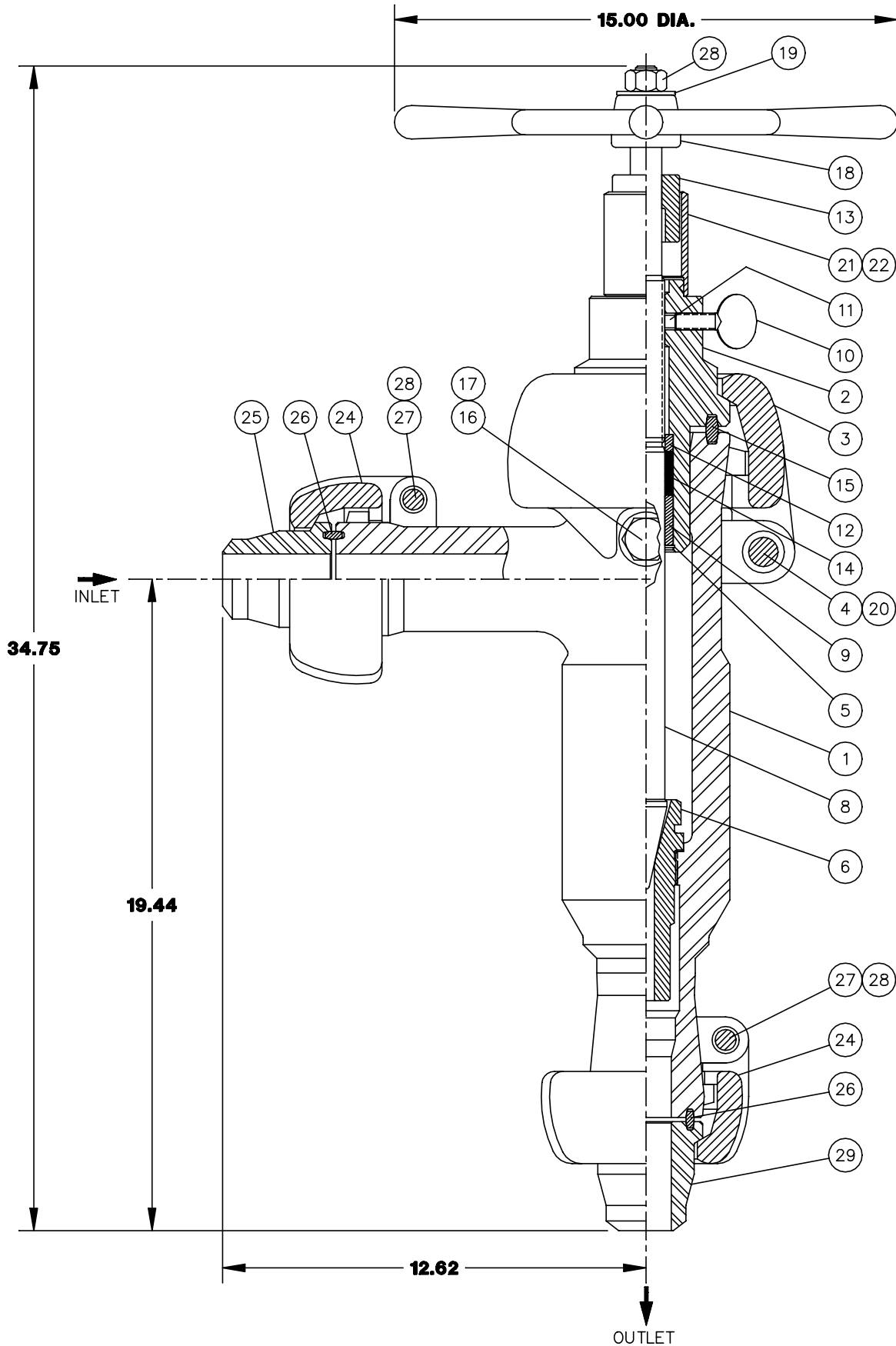
PARTS LIST

INDEX	REQD	DESCRIPTION	PART NO.	MATERIAL	
		ASSEMBLY BASE NUMBER	J090358		
1	1	BODY	J090359-X0X	-001 ALLOY STEEL (STANDARD SERVICE) -101 ALLOY STEEL (NACE SERVICE) -002 STAINLESS STEEL (STANDARD SERVICE) -102 STAINLESS STEEL (NACE SERVICE)	
2	1	YOKE HUB	J090186-X0X	-001 ALLOY STEEL (STANDARD SERVICE) -101 ALLOY STEEL (NACE SERVICE) -002 STAINLESS STEEL (STANDARD SERVICE) -102 STAINLESS STEEL (NACE SERVICE)	
3	1	NUT MEMBER	2139268-01	ALLOY STEEL	
4	1	T-HEAD BOLT	J090064-32068	STEEL	
5	1	RETAINER RING	J090066-162	STAINLESS STEEL	
6	1	SEAT - .50" BORE	J090137-00X	-001 STEEL	
		- .75" BORE	J090138-00X	-002 STAINLESS STEEL	
		- 1.00" BORE	J090139-00X		
		SEAT - .50" BORE	J090143	TUNGSTEN CARBIDE (SEE NOTE 3.)	
		- .75" BORE	J090144		
8	1	STEM	J090075-00X	-001 STEEL, -002 STAINLESS STEEL	
			J090141	TUNGSTEN CARBIDE (SEE NOTE 3.)	
			J090020	FIBER FILLED RYTON	
9	1	STEM BEARING	J090020	FIBER FILLED RYTON	
10	1	STEM LOCK	J005715-28020	STEEL	
11	1	STEM LOCK SHOE	J090026	BRASS	
12	1	PACKING BOX INSERT	J090021	STAINLESS STEEL	
13	1	INDICATOR - .50" BORE	J090022	PVC	
		- .75" BORE	J090023		
		- 1.00" BORE	J090024		
14	1	PACKING SET	J090033	COTTON/NYLON/TFE IMPREGNATED	
15	1	SEAL RING	J090168-00X	-001 BRONZE, -002 STAINLESS STEEL	
16	1	BLEEDER PLUG - STD. - NACE	J090017	STAINLESS STEEL	
			J090764	STAINLESS STEEL	
17	1	GASKET - BLEEDER PLUG	J090018	MONEL	
18	1	HANDWHEEL	J090025	CARBON STEEL	
19	1	FLAT WASHER	J005880-0222810	STEEL	
20	2	NUT	2709000-07-01	STEEL	
21	1	INDICATOR SLEEVE	J090019	CARBON STEEL	
22	1	SET SCREW	J005710-22006	STEEL	
24	2	NUT MEMBER - INLET/OUTLET	2139269-01	STEEL	
25	1	PLAIN HUB - INLET - 2" SCH XXH BW	J090363	STEEL	
			- 2" SCH 160 BW	J090364	
			- 2" SCH 80 BW	J090365	
			- 2-1/2" 1.38 ID BW	J090847-001	
			- 2-1/2" SCH XXH BW	J090846-001	
26	2	SEAL RING - INLET/OUTLET	J090167-00X	-001 BRONZE, -002 STAINLESS STEEL	
27	2	T-HEAD BOLT - INLET/OUTLET	J090064-28060	STEEL	
28	2	NUT - INLET/OUTLET	2709000-05-01	STEEL	
29	1	PLAIN HUB - INLET - 2" SCH XXH BW	J090363	STEEL	
			- 2" SCH 160 BW	J090364	
			- 2" SCH 80 BW	J090365	
			- 2-1/2" 1.38 ID BW	J090847-001	
			- 2-1/2" SCH XXH BW	J090846-001	

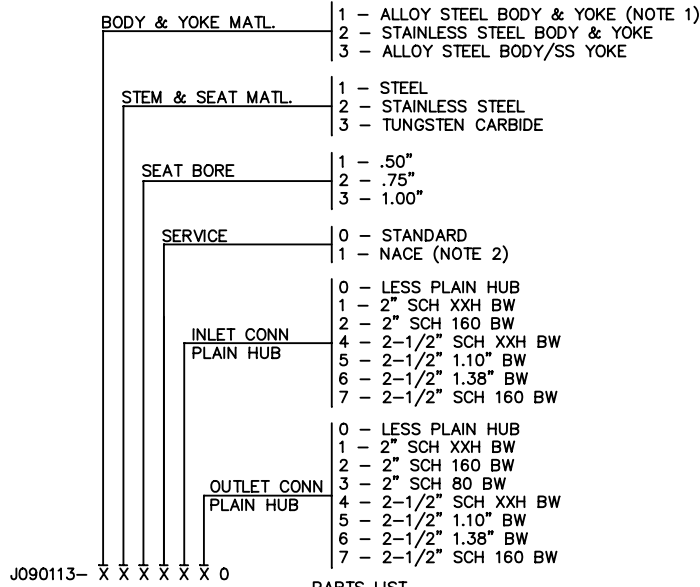
NOTE:

1. Stainless Steel Yoke Hub recommended with Stainless Steel Stem & Seat (Body & Yoke Hub - Option 3).
2. Tungsten Carbide Stem & Seat required for NACE Service.

**THORNHILL CRAVER
2" UNIBOLT ADJUSTABLE
HEATER CHOKE
UNIBOLT INLET & OUTLET
10,000 CWP MAX.**



ASSEMBLY PART NUMBER



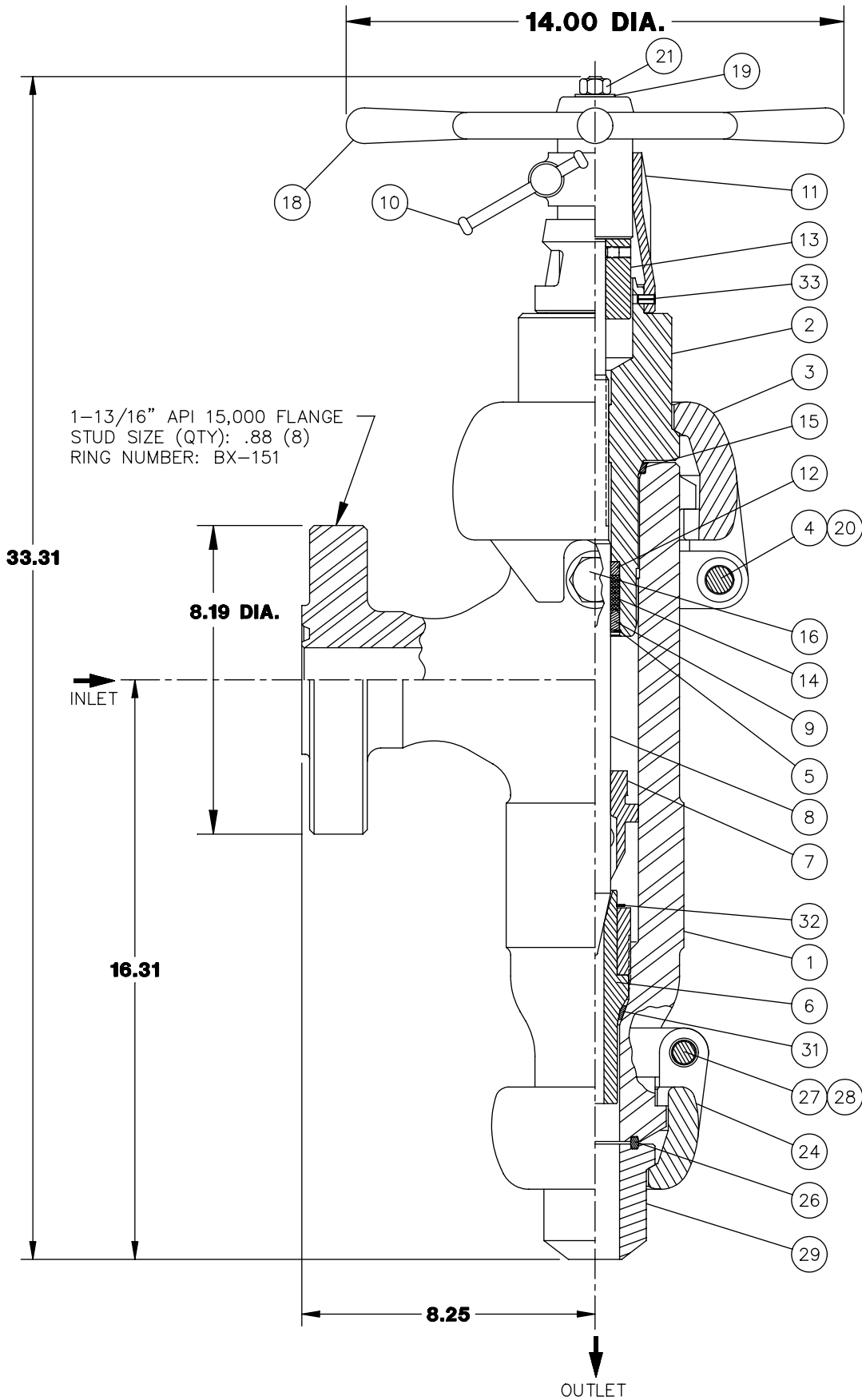
PARTS LIST

INDEX	REQD	DESCRIPTION	PART NO.	MATERIAL
		ASSEMBLY BASE NUMBER	J090113	
1	1	BODY	J090114-XOX	-001 ALLOY STEEL (STANDARD SERVICE) -101 ALLOY STEEL (NACE SERVICE) -002 STAINLESS STEEL (STANDARD SERVICE) -102 STAINLESS STEEL (NACE SERVICE)
2	1	YOKE HUB	J090135-XOX	-001 ALLOY STEEL (STANDARD SERVICE) -101 ALLOY STEEL (NACE SERVICE) -002 STAINLESS STEEL (STANDARD SERVICE) -102 STAINLESS STEEL (NACE SERVICE)
3	1	NUT MEMBER	J090125	ALLOY STEEL
4	1	T-HEAD BOLT	J090064-36096	STEEL
5	1	RETAINER RING	J090066-162	STAINLESS STEEL
6	1	SEAT - .50" BORE	J090137-00X	-001 STEEL
		- .75" BORE	J090138-00X	-002 STAINLESS STEEL
		- 1.00" BORE	J090139-00X	
		SEAT - .50" BORE	J090143	TUNGSTEN CARBIDE (SEE NOTE 2.)
		- .75" BORE	J090144	
		- 1.00" BORE	J090145	
8	1	STEM	J090075-00X	-001 STEEL, -002 STAINLESS STEEL
			J090141	TUNGSTEN CARBIDE (SEE NOTE 2.)
			J090136	FIBER FILLED RYTON
9	1	STEM BEARING	J005715-28020	STEEL
10	1	STEM LOCK	J090026	BRASS
11	1	STEM LOCK SHOE	J090021	STAINLESS STEEL
12	1	PACKING BOX INSERT	J090022	PVC
13	1	INDICATOR - .50" SEAT	J090023	
		- .75" SEAT	J090024	
		- 1.00" SEAT	J090033	COTTON/NYLON/TFE IMPREGNATED
14	1	PACKING SET	J090131-00X	-001 BRONZE, -002 STAINLESS STEEL
15	1	SEAL RING	J090017	STAINLESS STEEL
16	1	BLEEDER PLUG - STD.	J090764	STAINLESS STEEL
		- NACE	J090018	MONEL
17	1	GASKET - BLEEDER PLUG	J090025	CARBON STEEL
18	1	HANDWHEEL	J005880-0222810	STEEL
19	1	FLAT WASHER	2709000-09-01	STEEL
20	2	NUT	J090019	CARBON STEEL
21	1	INDICATOR SLEEVE	J005710-22006	STEEL
22	1	SET SCREW	J090123	ALLOY STEEL
24	2	NUT MEMBER - INLET/OUTLET	J090149-001	STEEL
25	1	PLAIN HUB - INLET - 2" SCH XXH BW	J090150-001	
		- 2" SCH 160 BW	J090152-001	
		- 2-1/2" SCH XXH BW	J090153-001	
		- 2-1/2" 1.10" BW	J090154-001	
		- 2-1/2" 1.38" BW	J090155-001	
		- 2-1/2" SCH 160 BW		
26	2	SEAL RING - INLET/OUTLET	J090129-00X	-001 BRONZE, -002 STAINLESS STEEL
27	2	T-HEAD BOLT - INLET/OUTLET	J090064-32068	STEEL
28	3	NUT	2709000-07-01	STEEL
29	1	PLAIN HUB - OUTLET - 2" SCH XXH BW	J090149-001	STEEL
		- 2" SCH 160 BW	J090150-001	
		- 2" SCH 80 BW	J090151-001	
		- 2-1/2" SCH 160 BW	J090152-001	
		- 2-1/2" 1.10" BW	J090153-001	
		- 2-1/2" 1.38" BW	J090154-001	
		- 2-1/2" SCH 160 BW	J090155-001	

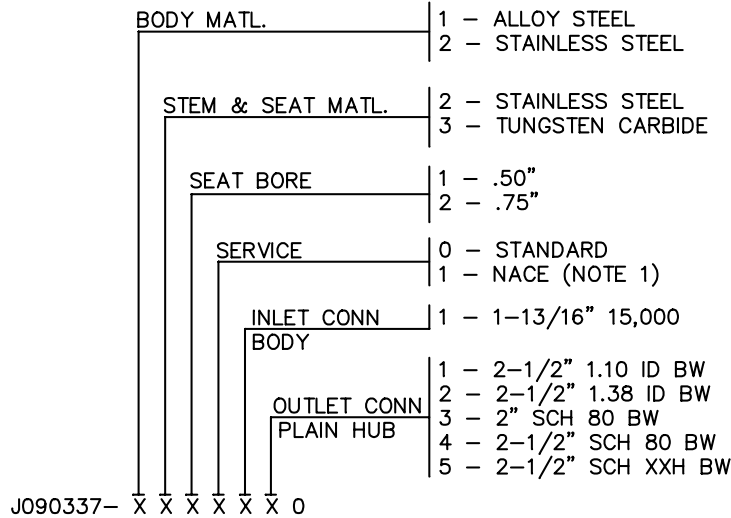
NOTE:

1. Stainless Steel Yoke Hub recommended with Stainless Steel Stem & Seat (Body & Yoke Hub - Option 3).
2. Tungsten Carbide Stem & Seat required for NACE Service.

**THORNHILL CRAVER
2" UNIBOLT ADJUSTABLE
HEATER CHOKE WITH TAPER TYPE SEAL
15,000 API FLANGED INLET & UNIBOLT OUTLET**



ASSEMBLY PART NUMBER



PARTS LIST

INDEX	REQD	DESCRIPTION	PART NO.	MATERIAL
		ASSEMBLY BASE NUMBER	J090337	
1	1	BODY - 1-13/16" 15,000	J090338-X0X	-001 ALLOY STEEL (STANDARD SERVICE) -101 ALLOY STEEL (NACE SERVICE) -002 STAINLESS STEEL (STANDARD SERVICE) -102 STAINLESS STEEL (NACE SERVICE)
2	1	YOKE HUB	J090277	STAINLESS STEEL
3	1	NUT MEMBER	J090275	ALLOY STEEL
4	1	T-HEAD BOLT	J090064-34092	STEEL
5	1	RETAINER RING	J090066-137	STAINLESS STEEL
6	1	SEAT - .50" BORE	J090346-002	STAINLESS STEEL
		- .75" BORE	J090347-002	
		SEAT - .50" BORE	J090348	TUNGSTEN CARBIDE (SEE NOTE 1.)
		- .75" BORE	J090349	
7	1	SEAT RETAINER NUT	J090353	STAINLESS STEEL
8	1	STEM	J090279	STAINLESS STEEL
			J090281	TUNGSTEN CARBIDE (SEE NOTE 1.)
9	1	STEM BEARING	J090174	FIBER FILLED RYTON
10	1	STEM LOCK	J090103	STEEL
11	1	CLAMP RING	J090301	DUCTILE IRON
12	1	PACKING ADAPTER	J090298	STAINLESS STEEL
13	1	INDICATOR - .50" SEAT	J090175	PVC
		- .75" SEAT	J090176	
14	1	PACKING SET	J090293	COTTON/NYLON/TFE IMPREGNATED
15	1	SEAL RING	J090168-002	STAINLESS STEEL
16	1	BLEEDER PLUG w/GASKET	J090294	STAINLESS STEEL/MONEL
18	1	HANDWHEEL	J090299	CARBON STEEL
19	1	FLAT WASHER	J005880-0162014	STEEL
20	1	NUT - T-HEAD BOLT	2709000-08-01	STEEL
21	1	NUT - HANDWHEEL	2709000-04-01	STEEL
24	1	NUT MEMBER - OUTLET	J090340	ALLOY STEEL
26	1	SEAL RING - OUTLET	J090356-002	STAINLESS STEEL
27	1	T-HEAD BOLT - OUTLET	J090064-32060	STEEL
28	1	NUT - OUTLET	2709000-07-01	STEEL
29	1	PLAIN HUB - 2-1/2" 1.10 ID BW	J090345	STEEL
		- 2-1/2" 1.38 ID BW	J090342	
		- 2" SCH 80 BW	J090343	
		- 2-1/2" SCH 80 BW	J090344	
		- 2-1/2" SCH XXH BW	J093401	
31	1	SEAL RING - SEAT	J090352-002	STAINLESS STEEL
32	1	RETAINER RING - SEAT	J090336-125	STAINLESS STEEL
33	1	SPRING PIN - CLAMP RING	J005445-25008	SPRING STEEL

NOTE:

1. Tungsten Carbide Stem & Seat required for NACE Service.