480D/480LL LOADER

Service Manual

9-69260

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TORQUE SPECIFICATIONS

Grade 5 Bolts, Nuts and Studs (Dry Threads)

Thread size	Pound-Feet	Newton metres
1/4-20 NC	5-10	7-13
1/4-28 NF	10-15	13-20
5/16-18 NC	15-20	20-27
5/16-24 NF	15-20	20-27
3/8-16 NC	25-35	34-47
3/8-24 NF	30-40	41-54
7/16-14 NC	45-55	61-74
7/16-20 NF	50-60	68-81
1/2-13 NC	65-85	88-15
1/2-20 NF	80-100	108-135
9/16-12 NC	100-120	135-163
9/16-18 NF	110-130	149-176
5/8-11 NC	135-165	183-223
5/8-18 NF	160-200	316-271



Thread size	Pound-Feet	Newton metres
3/4-10 NC	235-285	319-386
3/4-16 NF	270-330	366-447
7/8-9 NC	360-440	488-597
7/8-14 NF	395-490	536-664
1-8 NC	520-640	705-867
1-12 NF	575-705	780-955
1-1/8-7 NC	720-820	976-1111
1-1/8-12 NF	790-970	1071-1315
1-1/4-7 NC	1010-1240	1370-1681
1-1/4-12 NF	1115-1365	1512-1850
1-3/8-6 NC	1315-1610	1783-2182
1-3/8-12 NF	1510-1850	2047-2508
1-1/2-6 NC	1745-2135	2366-2894
1-1/2-12 NF	1880-2420	2549-3281

Grade 8 Bolts, Nuts and Studs (Dry Threads)

Thread size	Pound-Feet	Newton metres
1/4-20 NC	10-15	13-20
1/4-28 NF	15-20	20-27
5/16-18 NC	20-30	27-40
5/16-24 NF	25-30	34-40
3/8-16 NC	40-50	54-67
3/8-24 NF	45-55	61-74
7/16-14 NC	60-80	82-108
7/16-20 NF	70-90	95-122
1/2-13 NC	100-120	136-162
1/2-20 NF	110-130	149-176
9/16-12 NC	135-165	183-223
9/16-18 NF	155-190	210-257
5/8-11 NC	200-240	271-325
5/8-18 NF	215-265	292-359



Thread size	Pound-Feet	Newton metres
3/4-10 NC	340-420	461-569
3/4-16 NF	380-460	515-623
7/8-9 NC	540-660	732-894
7/8-14 NF	595-725	807-982
1-8 NC	810-990	1098-1342
1-12 NF	900-1100	1220-1491
1-1/8-7 NC	1150-1400	1559-1898
1-1/8-12 NF	1295-1585	1756-2148
1-1/4-7 NC	1640-2000	2224-2711
1-1/4-12 NF	1800-2200	2440-2982
1-3/8-6 NC	2140-2620	2901-3552
1-3/8-12 NF	2450-3000	3322-4067
1-1/2-6 NC	2845-3475	3857-4711
1-1/2-12 NF	3200-3900	4339-4880

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TORQUE SPECIFICATIONS FOR STEEL HYDRAULIC FITTINGS

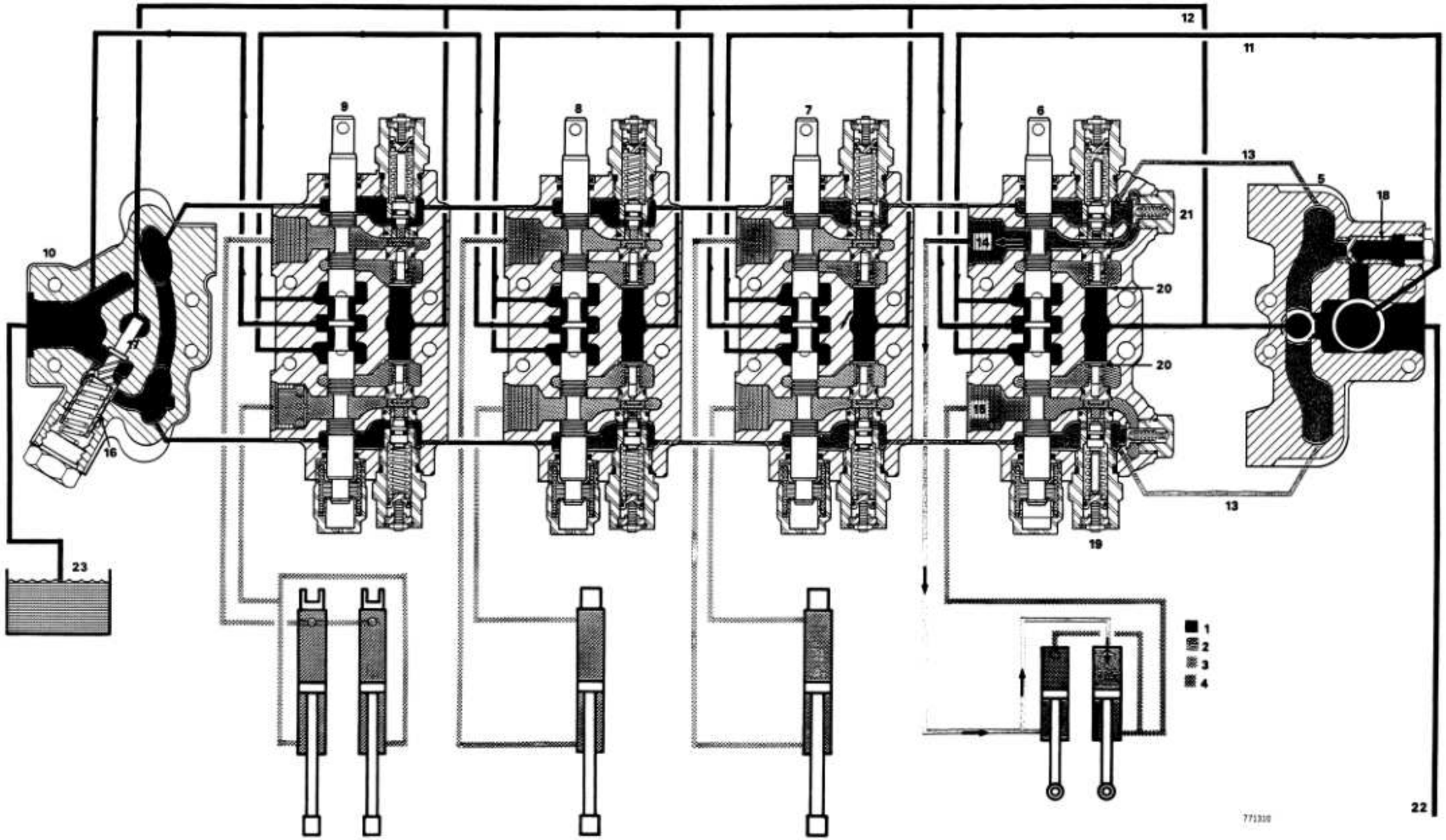
Dash Size	Tube O.D. Hose I.D.	Thread Size	37 Degree Flare		Straight Thread With O-ring	
			Pound-Feet	Newton metres	Pound-Feet	Newton metres
4	1/4 inch	7/16-20	6-12	8-16	12-19	16-25
5	5/16 inch	1/2-20	8-16	11-21	16-25	22-33
6	3/8 inch	9/16-18	10-25	14-33	25-40	34-54
8	1/2 inch	3/4-16	15-42	20-56	42-67	57-90
10	5/8 inch	7/8-14	25-58	34-78	58-92	79-124
12	3/4 inch	1-1/16-12	40-80	54-108	80-128	108-174
14	7/8 inch	1-3/16-12	60-100	81-135	100-160	136-216
16	1 inch	1-5/16-12	75-117	102-158	117-187	159-253
20	1-1/4 inches	1-5/8-12	125-165	169-223	165-264	224-357
24	1-1/2 inches	1-7/8-12	210-250	285-338	250-400	339-542

Split Flange Mounting Bolts (Grade 5, Dry Threads)

Thread Size	Pound-Feet	Newton metres
5/16-18 NC	15-20	20-27
3/8-16 NC	20-25	26-33
7/16-14 NC	34-35	47-61
1/2-13 NC	55-65	74-88
5/8-11 NC	140-150	190-203

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1. PUMP FLOW
2. RETURN OIL
3. STATIC OIL
4. OIL PUSHED OUT OF SWING CYLINDERS
5. INLET
6. SWING
7. BUCKET
8. DIPPER
9. BOOM
10. OUTLET
11. OPEN CENTER PASSAGE (INTERNAL)
12. PARALLEL PASSAGE (INTERNAL)
13. RETURN PASSAGE
14. A PORT
15. B PORT
16. REGENERATION SPOOL
17. REGENERATION PISTON
18. REGENERATION CHECK VALVE
19. SECONDARY RELIEF VALVE
20. LOAD CHECK VALVE
21. ANTICAVITATION VALVE
22. FROM THE HYDRAULIC PUMP THROUGH THE LOADER OR DOZER CONTROL VALVE AND STABILIZER CONTROL VALVE
23. HYDRAULIC OIL RESERVOIR

Figure 7 - Anticavitation

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