



## OPERATION AND MAINTENANCE MANUAL

### MXTA AND XLCT HYDRAULIC TORQUE WRENCHES

It is operating manual of MXTA and XLCT series Torque Wrench, please read carefully with following instruction, warning and Caution before using Tool.

#### IMPORTANT INSTRUCTIONS ON RECEIPT (OPEN PACKAGE INSPECTION)

Carefully inspect all components for shipping damages. If any shipping damage is found, notify the carrier at once. Shipping damage is NOT covered by warranty. The carrier is responsible for all repairs.

#### SAFETY FIRST!

The hydraulic torque wrench is a power tool. Read all the instructions, warnings and cautions before every operation. Comply with the safety precautions to avoid personal injury or equipment damage while operating this tool! Neither WREN, nor its distributors are responsible for damage to the tool caused by unsafe and/or faulty operations.

#### PRODUCTIONS DESCRIPTION

alloy and super high strength alloy steel for increased strength, intensity and durability of the tool. Double acting hydraulic design, Can lock and loosen the bolt connection, widely suitable for large torque bolt and disassembly, High repeatability, a precise design is with accuracy  $\pm 3\%$ .

MXTA series, Square Drive Torque Wrenches:

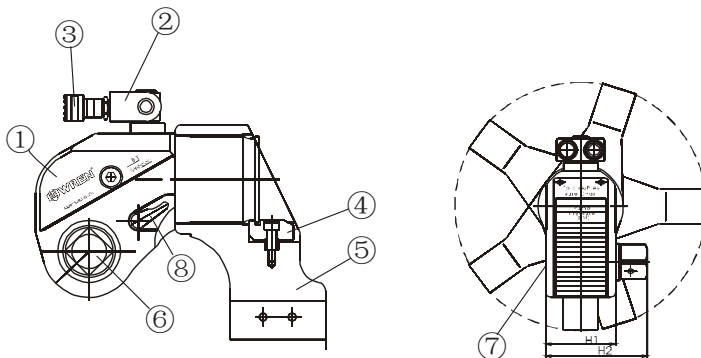
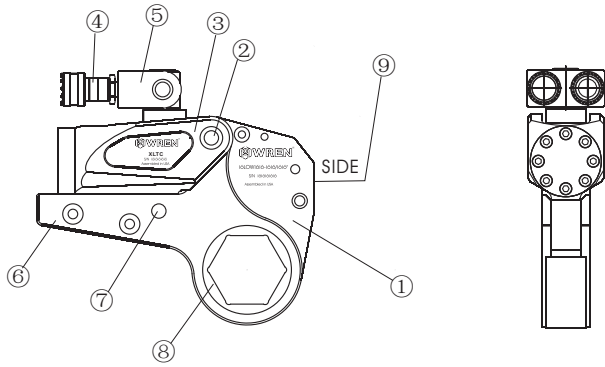


FIG1

ITEM	NAME
①	BODY
②	360° × 180° SWIVEL JOINT
③	QUICK COUPLING
④	FIXING HOOK
⑤	360° SWIVEL REACTION ARM
⑥	SQUARE DRIVE
⑦	DRIVE RETAINER
⑧	QUICK RELEASE ARM

XLCT series, XLCT Porque Wrenches:



ITEM	NAME
①	LOW PROFILE CASSETTE
②	PIN
③	POWER HEAD
④	QUICK COUPLING
⑤	360° × 360° SWIVEL JOINT
⑥	REACTION ARM
⑦	LINK PIN
⑧	RATCHET
⑨	360° SWIVEL JOINT

**WARNING AND CAUTION**

**SAFETY FIRST!**

**WARNING**

To avoid personal injuries and/or equipment damage, be sure that every hydraulic component of the hydraulic torque wrench, hydraulic hose assembly, hydraulic power pack and gauge are rated for 10,000 PSI (700kg/cm<sup>2</sup>) operating pressure.

**WARNING**

To minimize the danger of injury and damage to equipment: Never use a hydraulic torque wrench without a hydraulic gauge to indicate the working pressure. The hydraulic gauge is a window to show what is happening in the hydraulic system.

**DO NOT exceed the allowable maximum torque of the hydraulic torque wrench.**

**WARNING**

Immediately replace any worn or damaged parts of the tool with genuine WREN replacement parts .

**CAUTION**

Reduce damage to the hydraulic hose assembly by avoiding sharp bends and kinks when routing the hydraulic hose assembly. Using a bent or kinked hydraulic hose assembly will cause severe back-pressure. Also, sharp bends and kinks will internally damage the hose leading to premature failure. A kinked or damaged hydraulic hose assembly should be replaced immediately.

**CAUTION**

**DO NOT** drop heavy objects, crush, or drive over the hydraulic hose assembly. A sharp impact may cause internal damage to the hose wire strands. Applying pressure to a damaged hose may cause it to rupture. A crushed hydraulic hose assembly should be replaced immediately.

**CAUTION**

Avoid high temperature exposure to the hydraulic hose assembly.

**ALWAYS INSPECT THE HYDRAULIC HOSE ASSEMBLY FOR DAMAGE AND WEAR PRIOR TO USE.**

**WARNING**

To avoid personal injuries, equipment damage and/or warranty invalidation:

**DO NOT:** Remove the shroud from the hydraulic torque wrench. Modify any component of the hydraulic torque wrench. Adjust the hydraulic torque wrench safety relief valve located inside the swivel couplings.

## CAUTION

The incorrect system connection may cause failure and injury. Before connecting the hydraulic torque wrench and hydraulic hose assembly to the assembled power pack, make sure the hydraulic torque wrench swivel couplings, hose couplings and hydraulic power pack couplings are clean and free of debris.

## LOOSE OR DIRTY COUPLERS WILL CAUSE TOOL NOT TO OPERATE PROPERLY

### CAUTION

**DO NOT** use old or damaged sockets. use the wrong size sockets.

### WARNING

Only use a high quality socket. The socket must measure up to standard ISO-2725 and ISO-1174 or DIN3129 and DIN3121 or ASME-B107.2/1995. Never use a chrome plated socket.

### WARNING



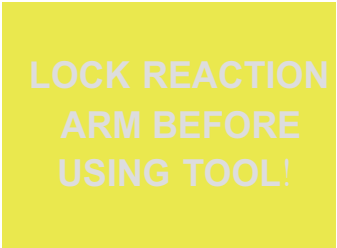
Always use a pin to lock the socket with the square drive in order to avoid the socket from falling off.

## PROPER SAFETY ATTIRE

When operating hydraulic equipment, use proper safety equipment and clothing. Consult with your company's safety representative to obtain this information.

## WARNING SIGN

Warning signs are shown in the following table

warning table	Meaning	Affixed Position
	PROHIBIT USING BY HAND	REVERSE LEVER
	THE SQUARE DRIVE IN POSITION, LEFT LOOSEN, RIGHT TIGHTEN	WORK HEAD
	PRIOR TO USE, FIXED THE REACTION ARM	REVERSE LEVER

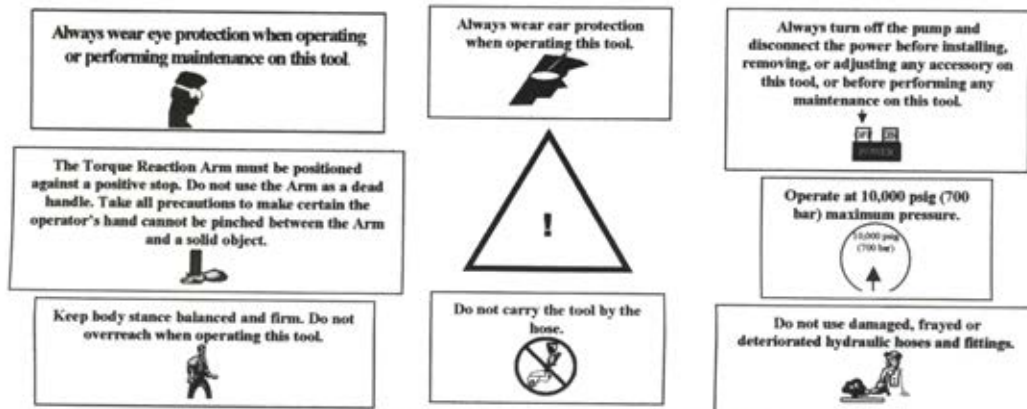
# BOLTING TIGHTENING FORCE RECOMMENDED CHART

FORM 1

Strength Grade		4.8		6.8		8.8		10.9		12.9	
Min breaking strength		392MPa		588MPa		784MPa		941MPa		1176MPa	
Material		Q235(SS41)		35(S35C)		35CrMo(SCM3)		42CrMo(SCM4)		40 GrNiMoA(SNCM)	
Bolting Thread		Torque values		Torque values		Torque values		Torque values		Torque values	
M	mm	KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m
14	22	7	69	10	98	14	137	17	165	23	225
16	24	10	98	14	137	21	206	25	247	36	363
18	27	14	137	21	206	29	284	35	341	49	480
20	30	18	176	28	296	41	402	58	569	69	680
22	32	23	225	34	333	55	539	78	765	93	911
24	36	32	314	48	470	70	686	100	981	120	1176
27	41	45	441	65	637	105	1029	150	1472	180	1764
30	46	60	588	90	882	125	1225	200	1962	240	2352
33	50	75	735	115	1127	150	1470	210	2060	250	2450
36	55	100	980	150	1470	180	1764	250	2453	300	2940
39	60	120	1176	180	1764	220	2156	300	2943	370	3626
42	65	155	1519	240	2352	280	2744	390	3826	470	4606
45	70	180	1764	280	2744	320	3136	450	4415	550	5390
48	75	230	2254	350	3430	400	3920	570	5592	680	6664
52	80	280	2744	420	4116	480	4704	670	6573	850	8330
56	85	360	3528	530	5149	610	5978	860	8437	1050	10290
60	90	410	4018	610	5978	790	7742	1100	10791	1350	13230
64	95	510	4998	760	7448	900	8820				
68	100	580	5684	870	8526	1100	10780				
72	105	660	6468	1000	9800	1290	12642				
76	110	750	7350	1100	10780	1500	14701				
80	115	830	8143	1250	12250	1850	18130				
85	120	900	8820	1400	13720	2250	22050				
90	130	1080	10584	1650	16170	2500	24500				
100	145	1400	13720	2050	20090						
110	155	1670	16366	2550	24990						
120	175	2030	19894	3050	29890						

## REMARKS:

1. All recommendations above are in accordance with the Germany standard (DIN).
2. The figures above represent the maximum bolt torque; the recommended torque is 80% of these chart figures.
3. The recommended tightening torque is 80% of the chart figure above. For example; for bolt M52 the strength grade is 8.8 therefore, the torque is  $4704 \times 80\% = 3763\text{Nm}$
4. The recommended loosening torque is 150% of the tightening torque. For example; the tightening torque is  $3763 \times 150\% (200\%) = 5645 (7526)\text{Nm}$ .



## PLACING THE TOOL IN SERVICE

## OPERATION SECTION

### HYDRAULIC TORQUE WRENCH SET UP

Connect the IBT square drive hydraulic torque wrench and hydraulic power pack with the proper twin line hydraulic hose assembly making sure all connections are proper and snug. If the couplings are not properly mated the hydraulic torque wrench may not operate.

### PREPARATION

1. Make certain of the size of the nut or bolt head, material, strength grade and determine the desired torque.

#### **ALWAYS ABIDE BY THE MANUFACTURERS/ENGINEERS PROCEDURES.**

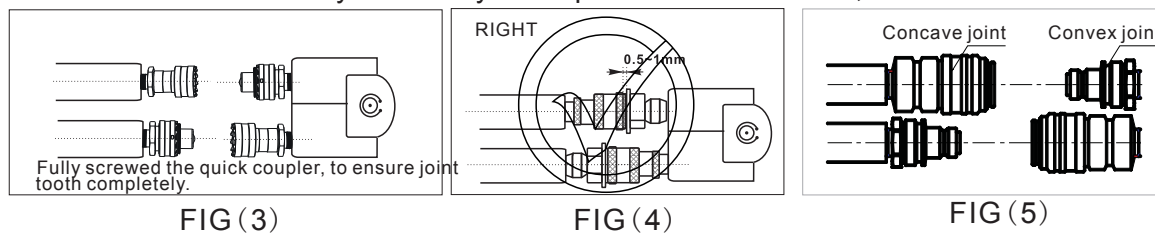
2. Determine the torque value needed and then determine the corresponding pressure of the torque wrench pump. This can be found in the Pressure - Torque Conversion Chart that was provided with the hydraulic torque wrench.

3. Inspect the hydraulic torque wrench set. Connect the hydraulic torque wrench, hydraulic hose assembly and the hydraulic power pack in to a hydraulic circuit. Ensure that all hydraulic connections are securely connected. Verify that the hydraulic hose assembly is not kinked, crushed or damaged.

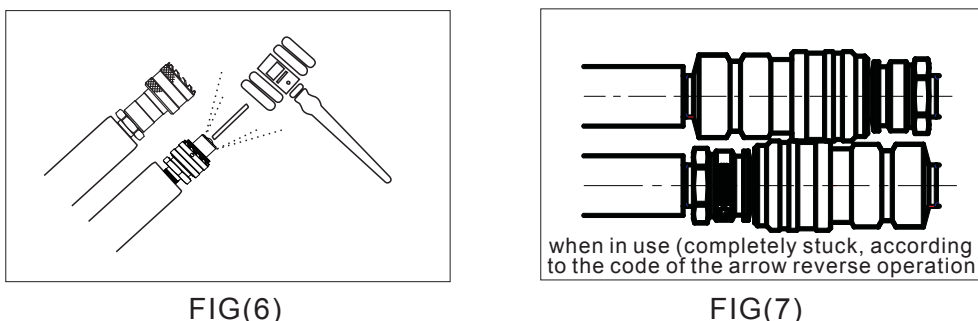
4. Connecting the hydraulic torque wrench:

The hydraulic torque wrench and torque wrench power pack are connected by a 10,000 PSI operation pressure twin line hydraulic hose assembly.

To connect the hydraulic hose assembly to the swivel as shown below Insure the connectors are fully engaged and screwed snugly together (FIG4), do as photo (4) show can ensure connection successfully. This way can open the check valve, make the oil circuit smoothly,



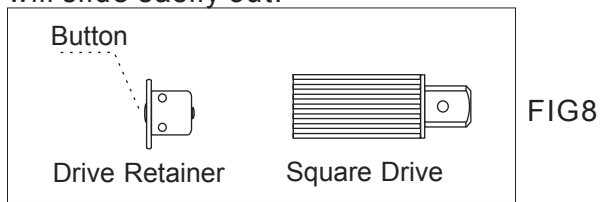
otherwise, the check valve will lock under the steel ball without top connection, as a result the oil circuit will not pass through, the wrench will not operate. The reason is that the connection is filled with pressure, in order to protect the tool, the top swivel will automatic drain oil. Right way to do correction, please loose the hydraulic hose, check all of the steel ball inside the quick coupler, please try to press the steel ball by hand, as normal the ball will be flexible when you touch it, if it is hard, you may find a hammer to knock the ball until your finger can press the ball (FIG6), during releasing the pressure in the system, please be more carefully with the spray oil, to avoid stain your clothes! Perfectly done, You may reconnect the quick coupler again. If you prefer to card set quick coupler, it will be more easy, ref the



arrow on the coupler, put the male coupler into the female coupler directly.

## FOR MXTA SERIES

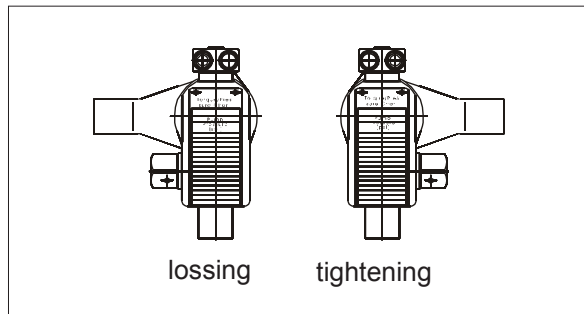
To remove the square, disengage the drive retainer assembly by depressing the center round button and gently pulling on the square end of the square drive, The square drive will slide easily out.



To insert the square drive in the tool (FIG8), place the drive in the desired direction, engage drive and bushing splines, then twist drive and bushing until ratchet spline can be engaged. Push drive through ratchet. Depress drive retainer button, engage retainer with drive and release button to lock.

### TO SETTING THE SQUARE DRIVE FOR ROTATION:

The position of the square drive when looking at the shroud will determine if the hydraulic torque wrench is set to loosen or tighten. When the square drive extends to the left when looking at the shroud, the hydraulic torque wrench is set to loosen. When the square drive extends to the right, the hydraulic torque wrench is set to tighten.



**Right is tight.**

**Left is loose.**

FIG9

### 5. Connecting the hydraulic pump:

The hydraulic torque wrench and torque wrench power pack are connected by a 10,000 PSI operation pressure twin line hydraulic hose assembly.

## IMPORTANT

### TO AVOID HYDRAULIC TORQUE WRENCH MALFUNCTION:

**DO NOT** reverse connectors.

When use the hydraulic hose with quick coupler, the connection should follow from the hydraulic torque wrench advance side to the pump advance side, from the hydraulic torque wrench retract side to the pump retract side, Each quick coupler should be inserted in the end, then screw the threaded sleeve by hand.

Carefully check whether the quick coupler is reliable, Carefully check the oil in the pump, no oil shortage operation. Please plug the power electric power supply.

### OPERATING THE HYDRAULIC TORQUE WRENCH

1. Put the wrench to the ground.
2. open the pump power switch, start the pump, then press the lock button to confirm the pump is running normally.
3. By pushing the remote control advance button, the rear of the hydraulic torque wrench will be pushed back until the reaction arm will make contact with the reaction point.
4. Continue to hold the advance button as the square drive turns until you hear an audible "click" which will signify the hydraulic cylinder inside the hydraulic torque wrench is fully extended and will not turn the socket further. Release button.
5. Continuing to hold the remote control advance button, will result in a rapid buildup of pressure to the point where the gauge reads what the hydraulic power pack was preset to prior to applying the hydraulic torque wrench.

**IMPORTANT: The reading of full preset pressure after the cylinder is extended DOES NOT INDICATE that this pressure (torque) is applied to the bolt/nut. It only indicates that the cylinder is fully extended and cannot turn the socket further, until the tool automatically resets itself.**

6. Releasing the remote control button will automatically retract the cylinder. The hydraulic torque wrench will automatically reset itself and the operator will hear an audible “click” indicating he can again push the remote control button and the square drive will turn. Each time the cylinder is extended and retracted, it is called a cycle. Successive cycles are made until the tool “stalls” at the preset Torque/PSI with an accuracy of +/-3%. Repeatability is +/-1%. Please repeat again and again, make the wrench turn without loading, observe the wrench tightening or loosening, no abnormalities, can be put into the socket.

**IMPORTANT: ALWAYS ATTEMPT ONE FINAL CYCLE TO INSURE THE “STALL” POINT HAS BEEN REACHED.**

**REMARKS: When the hydraulic torque wrench not in use, you may turn off the lock button, if long time no using the wrench, please shut off the motor switch.**

## **ADJUST THE PRESSURE**

Setting the pressure on the hydraulic power pack.

To set the pressure on the pump, follow this procedure.

Loosen the locking ring below the “T” handle on the hydraulic power pack’s external pressure regulator. Then, turn the “T” handle counterclockwise until it turns freely and easily.

Turn the hydraulic power pack on. Using the hydraulic power pack remote pendant, push the advance switch (or button on the air hydraulic power pack) and hold it.

While holding the hydraulic power pack in the advance mode, slowly turn the “T” handle clockwise and observe the hydraulic power pack pressure gauge rise.

**NOTE: Always adjust the regulator pressure UP - never down.**

When your gauge reaches the predetermined pressure, stop turning the “T” handle and let the gauge settle.

If the pressure continues to rise above the predetermined pressure, release the back pressure slightly by turning the “T” handle counterclockwise. Then, depress the advance switch on the remote and slowly bring pressure up to the predetermined pressure.

When the pressure is correct, turn the pump off and tighten the locking ring which is under the “T” handle. This sets the pump pressure, which determines torque wrench output.

Once your target pressure is set and locked, cycle the hydraulic power pack once more to ensure that your pressure setting did not change as you tightened the locking ring.

## **THE LOOSENING PROCESS**

1. Set the pump to 10000 PSI. Change the drive to the loosening mode, assuring the reaction arm abuts squarely on a solid reaction point.

2. Press and hold the remote control advance button. Pressure will decrease as the socket begins to turn. As the cylinder extends fully, you will hear an audible “click”.

3. Release the remote control advance button and the cylinder automatically retracts, at which time you again hear the audible “click”.

4. Repeat this process until the fastener can be removed by hand.

**NOTE: IF THE BOLT/NUT DOES NOT LOOSEN WITH THE ABOVE PROCEDURES, IT IS AN INDICATION THAT YOU REQUIRE A LARGER HYDRAULIC TORQUE WRENCH TO LOOSEN THE BOLT/NUT.**

## **THE TIGHTENING PROCESS**

1. hydraulic torque wrench setting

Firstly, according to the design requirements set torque, if no design torque, please ref the 80% of the recommended torque.

Way: the setting torque=(the recommended torque of these chart figures)×(80%-90%)

For example: the recommended tightening torque is 90% of the chart figure above. For example; for bolt M48 the strength grade is 8.8 therefore, the torque is 3920×90% = 3528Nm

2. Pump pressure setting

According to a desired torque value and the wrench model to set the pressure of the pump.

For example 8.8 grade, M48 bolt, the setting torque is 3528N. m, if you prefer to WR-3IBT wrench, you may find the torque is 3528N. m, the pump pressure is 54Mpa, so the pump pressure setting is 54Mpa.

3. Confirm the wrench is tightening, put the wrench on the nut, perform it until the nut does not move far.

## LOCKED-ON

Should the hydraulic torque wrench be “locked-on” after the final cycle, push down the remote control advance button once more (to build pressure) and while maintaining this pressure, pull back on the accuracy assurance pawl lever (located on the side of the tool). Release the remote control advance button, while continuing to push down on the accuracy assurance lever (this will allow the hydraulic torque wrench to be removed easily).

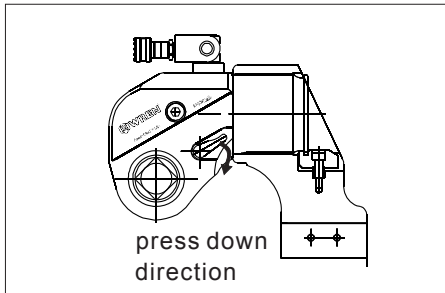


FIG10

## XLCT SERIES

### The Ratchet link and the power head assembly and disassembly

Insert the hex ratchet links. The low profile hex ratchet links are inserted and removed from the power head as follows:

The “hook” described by the link’s drive plate is inserted around the fixed pin of the power head and the link is swung down to rest along the base of the power head cylinder. At this point, the link pin holes of the power head and link will align. Insert the link pin to secure. Pull out the pin, pull up the power head, and then along the groove direction, disassembly the power head and the ratchet link.

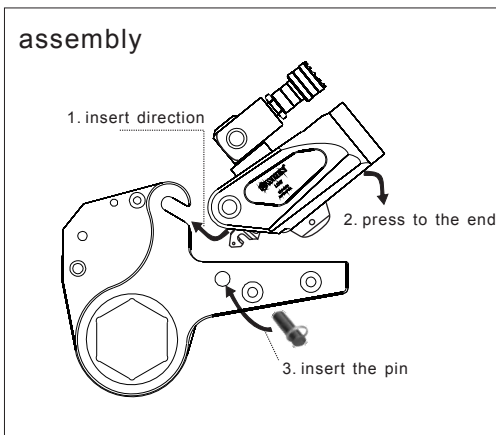


FIG 11

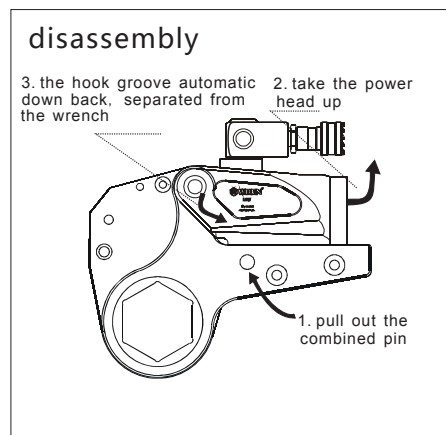


FIG 12

### Direction position

Setting for tightening or loosening the nut:

The position of the tool relative to the nut determines whether the action will tighten or loosen the nut. The power stroke of the piston rod will always turn the hex ratchet toward the shroud.

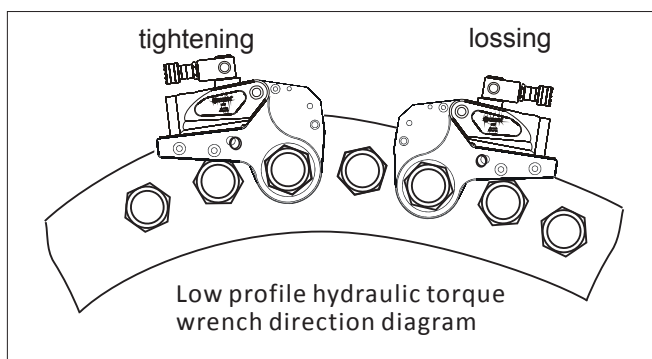


FIG 13

The nut turns clockwise for tightening and counterclockwise for loosening.



**Preparation** Determined the loose(tighten) nut size , select appropriated power head and ratchet link and reducer inserts.

### **CONNECT THE POWER PACK**

Use twin hose to Connect the high pump pressure outlet(H OR A) with the high pressure outlet of hydraulic wrench,low pressure outlet of the pump to low pressure outlet of the hydraulic torque wrench。 Insert the quick couple sleeve into the end, then screw tightening by no space.

Check carefully whether the twin hose joint connection is reliable, please be sure the oil in enough.The pump power plug power supply.

**WARNING** No oil shortage !

### **TEST RUN**

1. Put the wrench assembly in space, first start to finish, Check whether the rotating ratchet normal return or not, if the rotation is not normal, Maybe the hook position does not correspond between the power head and ratchet link,open to check.
2. Turn on the pump power switch, start the pump, then press the lock button to confirm the pump is running normally.
3. By pushing the remote control advance button, the rear of the hydraulic torque wrench will be pushed back until the reaction arm will make contact with the reaction point.
4. Continue to hold the advance button as the cassette turns until you hear an audible “click” which will signify the hydraulic cylinder inside the hydraulic torque wrench is fully extended and will not turn the socket further. Release button.
5. Continuing to hold the remote control advance button, will result in a rapid buildup of pressure to the point where the gauge reads what the hydraulic power pack was preset to prior to applying the hydraulic torque wrench.

**IMPORTANT: The reading of full preset pressure after the cylinder is extended DOES NOT INDICATE that this pressure (torque) is applied to the bolt/nut. It only indicates that the cylinder is fully extended and cannot turn the socket further, until the tool automatically resets itself.**

6. Releasing the remote control button will automatically retract the cylinder. The hydraulic torque wrench will automatically reset itself and the operator will hear an audible “click” indicating he can again push the remote control button and the cassette will turn. Each time the cylinder is extended and retracted, it is called a cycle. Successive cycles are made until the tool “stalls” at the preset Torque/PSI with an accuracy of +/-3%. Repeatability is +/-1%. Please repeat again and again, make the wrench turn without loading, observe the wrench tightening or loosening, no abnormalities, can be put into the nut directly.

**IMPORTANT: ALWAYS ATTEMPT ONE FINAL CYCLE TO INSURE THE “STALL” POINT HAS BEEN REACHED.**

**REMARKS:** When the hydraulic torque wrench not in use, ,you may turn off the lock button, if long time no using the wrench, please shut off the pump motor switch.

### **OPERATION**

Setting the pressure on the hydraulic power pack:

To set the pressure on the pump, follow this procedure:

Loosen the locking ring below the “T” handle on the hydraulic power pack external pressure regulator. Then, turn the “T” handle counterclockwise until it turns freely and easily.

Turn the hydraulic power pack on. Using the hydraulic power pack remote pendant, push the advance switch (or button on the air hydraulic power pack) and hold it.

While holding the hydraulic power pack in the advance mode, slowly turn the “T” handle clockwise and observe the hydraulic power pack pressure gauge rise.

**Note: Always adjust the regulator pressure UP - never down.**

When your gauge reaches the predetermined pressure, stop turning the “T” handle and let the gauge settle.

If the pressure continues to rise above the predetermined pressure, release the back pressure slightly by turning the “T” handle counterclockwise. Then, depress the advance switch on the remote and slowly bring pressure up to the predetermined pressure.

When the pressure is correct, turn the pump off and tighten the locking ring which is under the “T” handle. This sets the pump pressure, which determines torque wrench output. Once your target pressure is set and locked, cycle the hydraulic power pack once more to ensure that your pressure setting did not change as you tightened the locking ring.

### THE LOOSENING PROCESS

1. Set the pump to 10000 PSI. Change the drive to the loosening mode, assuring the reaction arm abuts squarely on a solid reaction point.
2. Press and hold the remote control advance button. Pressure will decrease as the cassette begins to turn. As the cylinder extends fully, you will hear an audible “click”.
3. Release the remote control advance button and the cylinder automatically retracts, at which time you again hear the audible “click”.
4. Repeat this process until the fastener can be removed by hand.

**NOTE: IF THE BOLT/NUT DOES NOT LOOSEN WITH THE ABOVE PROCEDURES, IT IS AN INDICATION THAT YOU REQUIRE A LARGER HYDRAULIC TORQUE WRENCH TO LOOSEN THE BOLT/NUT.**

### THE TIGHTENING PROCESS

1. Draulic torque wrench setting

Firstly, according to the design requirements set torque, If no design torque, please ref the 80% of the recommended torque.

Way: the setting torque=(the recommended torque of these chart figures)×(80%-90%)

For example: The recommended tightening torque is 90% of the chart figure above. For example; for bolt M48 the strength grade is 8.8 therefore, the torque is  $3920 \times 90\% = 3528\text{Nm}$

2. Pump pressure setting

According to a desired torque value and the wrench model to set the pressure of the pump.

For example 8.8 grade、M48 bolt, the setting torque is 3528N. m, if you prefer to WR-4LOW wrench, you may find the torque is 3528N.m, the pump pressure is 42Mpa, so the pump pressure setting is 42Mpa.

3. Confirm the wrench is tightening, put the wrench on the nut, perform it until the nut does not move far.

### LOCKED-ON

Should the hydraulic torque wrench be “locked-on” after the final cycle, push down the remote control advance button once more (to build pressure) and while maintaining this pressure, pull back on the accuracy assurance pawl lever (located on the side of the tool). Release the remote control advance button, while continuing to push down on the accuracy assurance lever (this will allow the hydraulic torque wrench to be removed easily).

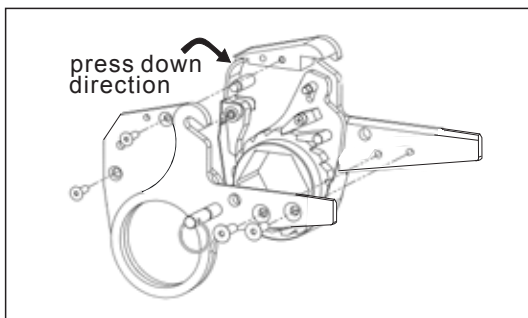


FIG 14

# MXTA SERIES HYDRAULIC TORQUE WRENCH PRESSURE-TORQUE CHART

FORM 2

Model	1MXTA	3MXTA	5MXTA	8MXTA	10MXTA	20MXTA	25MXTA	35MXTA
mpa	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m
7	183	451	752	1078	1551	2666	3472	4866
8	209	515	860	1232	1773	3047	3968	5561
9	236	580	967	1386	1994	3428	4464	6256
10	262	644	1075	1540	2216	3809	4960	6952
11	288	709	1182	1694	2438	4190	5456	7647
12	314	773	1290	1848	2659	4571	5952	8342
13	341	838	1397	2002	2881	4952	6448	9037
14	367	902	1505	2156	3103	5332	6945	9733
15	393	967	1612	2310	3324	5713	7441	10428
16	419	1031	1720	2464	3546	6094	7937	11123
17	446	1096	1828	2618	3768	6475	8433	11818
18	472	1160	1935	2772	3989	6856	8929	12514
19	498	1225	2043	2926	4211	7237	9425	13209
20	524	1289	2150	3080	4433	7618	9921	13904
21	551	1353	2258	3234	4654	7999	10417	14599
22	577	1418	2365	3388	4876	8380	10913	15295
23	603	1482	2473	3542	5098	8761	11409	15990
24	629	1547	2580	3696	5319	9142	11905	16685
25	656	1611	2688	3850	5541	9523	12401	17380
26	682	1676	2796	4004	5763	9903	12898	18076
27	708	1740	2903	4158	5984	10284	13394	18771
28	734	1805	3011	4312	6206	10665	13890	19466
29	761	1869	3118	4466	6428	11046	14386	20161
30	787	1934	3226	4620	6649	11427	14882	20856
31	813	1998	3333	4774	6871	11808	15378	21552
32	839	2063	3441	4928	7093	12189	15874	22247
33	866	2127	3548	5082	7314	12570	16370	22942
34	892	2191	3656	5236	7536	12951	16866	23637
35	918	2256	3764	5390	7758	13332	17362	24333
36	944	2320	3871	5544	7979	13713	17858	25028
37	971	2385	3979	5698	8201	14094	18354	25723
38	997	2449	4086	5852	8423	14475	18850	26418
39	1023	2514	4194	6006	8644	14855	19347	27114
40	1049	2578	4301	6160	8866	15236	19843	27809
41	1076	2643	4409	6314	9088	15617	20339	28504
42	1102	2707	4516	6468	9309	15998	20835	29199
43	1128	2772	4624	6622	9531	16379	21331	29895
44	1154	2836	4732	6776	9753	16760	21827	30590
45	1181	2900	4839	6930	9974	17141	22323	31285
46	1207	2965	4947	7084	10196	17522	22819	31980
47	1233	3029	5054	7238	10418	17903	23315	32676
48	1259	3094	5162	7392	10639	18284	23811	33371
49	1286	3158	5269	7546	10861	18665	24307	34066
50	1312	3223	5377	7700	11083	19046	24803	34761
51	1338	3287	5484	7854	11304	19427	25299	35456
52	1364	3352	5592	8008	11526	19807	25796	36152
53	1391	3416	5700	8162	11748	20188	26292	36847
54	1417	3481	5807	8316	11969	20569	26788	37542
55	1443	3545	5915	8470	12191	20950	27284	38237
56	1469	3610	6022	8624	12413	21331	27780	38933
57	1496	3674	6130	8778	12634	21712	28276	39628
58	1522	3738	6237	8932	12856	22093	28772	40323
59	1548	3803	6345	9086	13078	22474	29268	41018
60	1574	3867	6452	9240	13299	22855	29764	41714
61	1601	3932	6560	9394	13521	23236	30260	42409
62	1627	3996	6668	9548	13743	23617	30756	43104
63	1653	4061	6775	9702	13964	23998	31252	43799
64	1679	4125	6883	9856	14186	24378	31749	44495
65	1706	4190	6990	10010	14408	24759	32245	45190
66	1732	4254	7098	10164	14629	25140	32741	45885
67	1758	4319	7205	10318	14851	25521	33237	46580
68	1784	4383	7313	10472	15073	25902	33733	47276
69	1811	4448	7420	10626	15294	26283	34229	47971
70	1837	4512	7528	10780	15516	26664	34725	48666

# MXTA SERIES HYDRAULIC TORQUE WRENCH PRESSURE-TORQUE CHART

FORM 3

<b>Model</b>	<b>1MXTA</b>	<b>3MXTA</b>	<b>5MXTA</b>	<b>8MXTA</b>	<b>10MXTA</b>	<b>20MXTA</b>	<b>25MXTA</b>	<b>35MXTA</b>
<b>psi</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>	<b>ft.lbs</b>
1000	134	328	547	783	1127	1937	2523	3535
1200	161	394	656	940	1352	2324	3028	4242
1400	188	459	766	1096	1578	2712	3532	4949
1600	215	525	875	1253	1803	3099	4037	5656
1800	242	590	985	1409	2029	3487	4541	6363
2000	268	656	1094	1566	2254	3874	5046	7070
2200	295	721	1203	1723	2480	4261	5550	7777
2400	322	787	1313	1879	2705	4649	6055	8485
2600	349	852	1422	2036	2931	5036	6559	9192
2800	376	918	1532	2193	3156	5424	7064	9899
3000	403	984	1641	2349	3381	5811	7568	10606
3200	430	1049	1750	2506	3607	6198	8073	11313
3400	457	1115	1860	2662	3832	6586	8577	12020
3600	483	1180	1969	2819	4058	6973	9082	12727
3800	510	1246	2079	2976	4283	7361	9586	13434
4000	537	1311	2188	3132	4509	7748	10091	14141
4200	564	1377	2297	3289	4734	8135	10595	14848
4400	591	1443	2407	3446	4959	8523	11100	15555
4600	618	1508	2516	3602	5185	8910	11604	16262
4800	645	1574	2626	3759	5410	9298	12109	16970
5000	672	1639	2735	3915	5636	9685	12613	17677
5200	698	1705	2844	4072	5861	10072	13118	18384
5400	725	1770	2954	4229	6087	10460	13622	19091
5600	752	1836	3063	4385	6312	10847	14127	19798
5800	779	1901	3173	4542	6538	11235	14631	20505
6000	806	1967	3282	4699	6763	11622	15136	21212
6200	833	2033	3391	4855	6988	12009	15641	21919
6400	860	2098	3501	5012	7214	12397	16145	22626
6600	887	2164	3610	5168	7439	12784	16650	23333
6800	914	2229	3720	5325	7665	13172	17154	24040
7000	940	2295	3829	5482	7890	13559	17659	24747
7200	967	2360	3938	5638	8116	13946	18163	25454
7400	994	2426	4048	5795	8341	14334	18668	26162
7600	1021	2491	4157	5951	8567	14721	19172	26869
7800	1048	2557	4267	6108	8792	15109	19677	27576
8000	1075	2623	4376	6265	9017	15496	20181	28283
8200	1102	2688	4485	6421	9243	15883	20686	28990
8400	1129	2754	4595	6578	9468	16271	21190	29697
8600	1155	2819	4704	6735	9694	16658	21695	30404
8800	1182	2885	4814	6891	9919	17046	22199	31111
9000	1209	2950	4923	7048	10145	17433	22704	31818
9200	1236	3016	5032	7204	10370	17820	23208	32525
9400	1263	3082	5142	7361	10595	18208	23713	33232
9600	1290	3147	5251	7518	10821	18595	24217	33939
9800	1317	3213	5361	7674	11046	18983	24722	34647
10000	1344	3278	5470	7831	11272	19370	25226	35354

# XLCT SERIES HYDRAULIC TORQUE WRENCH PRESSURE-TORQUE CHART

FORM 4

Model	2XLCT		4XLCT				8XLCT		14XLCT	30XLCT		
	Bolt Size Range	19-55	60	34-36	41	46-65	70-80	41-95	100-105	50-117	110-155	160-175
	Mpa	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m
7		232	241	585	585	585	647	1094	1177	1852	4188	4459
8		265	275	669	669	669	739	1250	1345	2117	4786	5096
9		299	310	752	752	752	832	1407	1513	2381	5385	5733
10		332	344	836	836	836	924	1563	1682	2646	5983	6370
11		365	379	920	920	920	1017	1719	1850	2910	6581	7007
12		398	413	1003	1003	1003	1109	1876	2018	3175	7180	7644
13		432	448	1087	1087	1087	1202	2032	2186	3440	7778	8281
14		465	482	1171	1171	1171	1294	2188	2354	3704	8376	8918
15		498	517	1255	1255	1255	1387	2344	2523	3969	8975	9555
16		531	551	1338	1338	1338	1479	2501	2691	4233	9573	10192
17		565	586	1422	1422	1422	1572	2657	2859	4498	10171	10829
18		598	620	1506	1506	1506	1664	2813	3027	4762	10769	11467
19		631	655	1589	1589	1589	1757	2970	3195	5027	11368	12104
20		665	689	1673	1673	1673	1849	3126	3364	5292	11966	12741
21		698	724	1757	1757	1757	1942	3282	3532	5556	12564	13378
22		731	758	1840	1840	1840	2034	3439	3700	5821	13163	14015
23		764	793	1924	1924	1924	2127	3595	3868	6085	13761	14652
24		798	827	2008	2008	2008	2219	3751	4037	6350	14359	15289
25		831	862	2092	2092	2092	2312	3907	4205	6615	14958	15926
26		864	896	2175	2175	2175	2404	4064	4373	6879	15556	16563
27		897	931	2259	2259	2259	2497	4220	4541	7144	16154	17200
28		931	965	2343	2343	2343	2589	4376	4709	7408	16753	17837
29		964	1000	2426	2426	2426	2682	4533	4878	7673	17351	18474
30		997	1034	2510	2510	2510	2774	4689	5046	7938	17949	19111
31		1030	1069		2594	2594	2867	4845	5214	8202	18548	19748
32		1064	1103		2677	2677	2959	5002	5382	8467	19146	20385
33		1097	1138		2761	2761	3052	5158	5550	8731	19744	21022
34		1130	1172		2845	2845	3144	5314	5719	8996	20343	21659
35		1164	1207		2929	2929	3237	5470	5887	9260	20941	22296
36		1197	1241		3012	3012	3329	5627	6055	9525	21539	22933
37		1230	1276		3096	3096	3422	5783	6223	9790	22138	23570
38		1263	1310		3180	3180	3514	5939	6391	10054	22736	24207
39		1297	1345		3263	3263	3607	6096	6560	10319	23334	24845
40		1330	1379		3347	3347	3699	6252	6728	10583	23932	25482
41		1363	1414		3431	3431	3792	6408	6896	10848	24531	26119
42		1396	1448		3514	3514	3884	6565	7064	11113	25129	26756
43		1430	1483		3598	3598	3977	6721	7232	11377	25727	27393
44		1463	1517		3682	3682	4069	6877	7401	11642	26326	28030
45		1496	1552		3766	3766	4162	7033	7569	11906	26924	28667
46		1530	1586		3849	3849	4254	7190	7737	12171	27522	29304
47		1563	1621		3933	3933	4347	7346	7905	12435	28121	29941
48		1596	1655		4017	4017	4439	7502	8073	12700	28719	30578
49		1629	1690		4100	4100	4532	7659	8242	12965	29317	31215
50		1663	1724		4184	4184	4624	7815	8410	13229	29916	31852
51		1696	1759		4268	4268	4717	7971	8578	13494	30514	32489
52		1729	1793		4351	4351	4809	8128	8746	13758	31112	33126
53		1762	1828		4435	4435	4902	8284	8914	14023	31711	33763
54		1796	1862		4519	4519	4994	8440	9083	14288	32309	34400
55		1829	1897		4603	4603	5087	8596	9251	14552	32907	35037
56		1862	1931		4686	4686	5179	8753	9419	14817	33506	35674
57		1895	1966		4770	4770	5272	8909	9587	15081	34104	36311
58		1929	2000		4854	4854	5364	9065	9756	15346	34702	36948
59		1962	2035		4937	4937	5457	9222	9924	15611	35301	37585
60		1995	2069		5021	5021	5549	9378	10092	15875	35899	38223
61		2029	2104			5105	5642	9534	10260	16140	36497	38860
62		2062	2138			5188	5734	9691	10428	16404	37095	39497
63		2095	2173			5272	5827	9847	10597	16669	37694	40134
64		2128	2207			5356	5919	10003	10765	16933	38292	40771
65		2162	2242			5440	6012	10159	10933	17198	38890	41408
66		2195	2276			5523	6104	10316	11101	17463	39489	42045
67		2228	2311			5607	6197	10472	11269	17727	40087	42682
68		2261	2345			5691	6289	10628	11438	17992	40685	43319
69		2295	2380			5774	6382	10785	11606	18256	41284	43956
70		2328	2414			5858	6474	10941	11774	18521	41882	44593

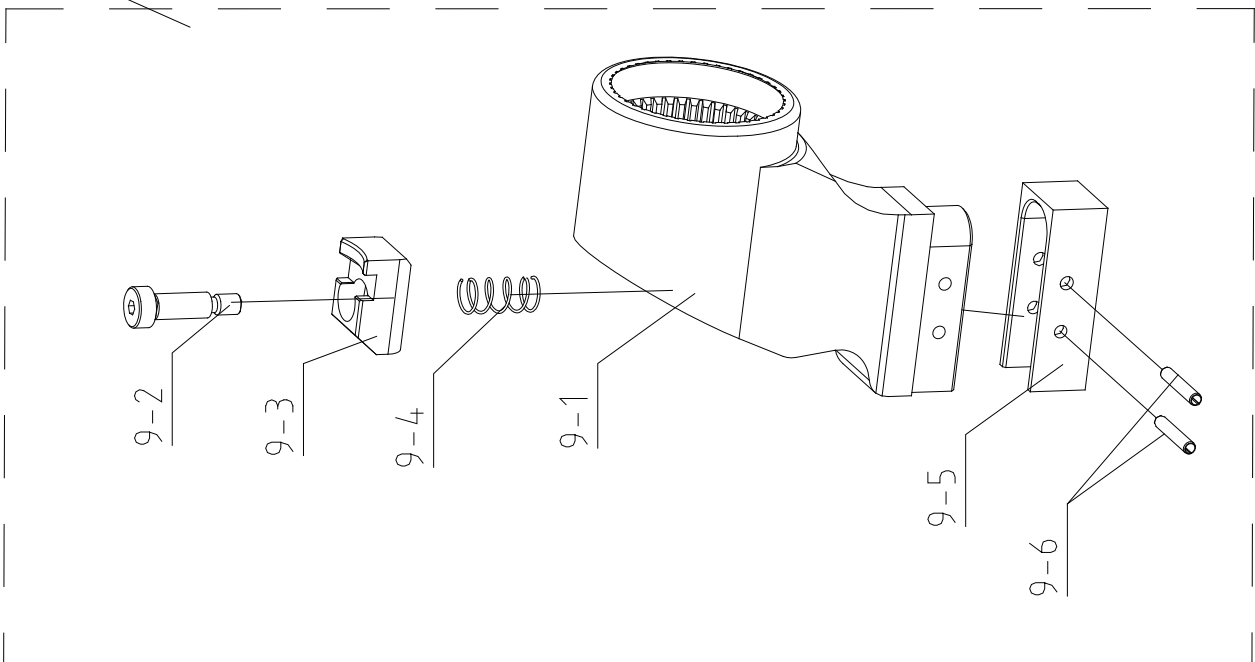
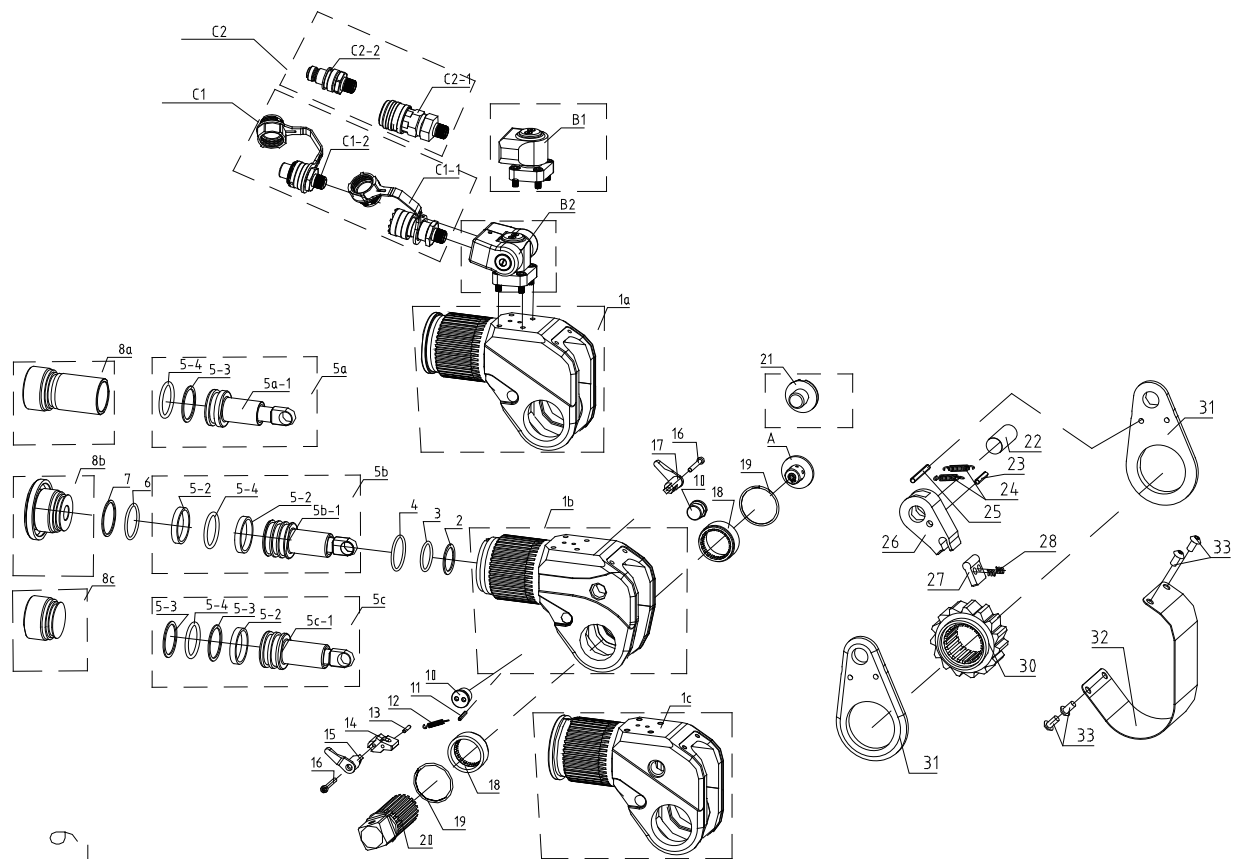
# XLCT SERIES HYDRAULIC TORQUE WRENCH PRESSURE-TORQUE CHART

FORM 4

Model	2XLCT		4XLCT				8XLCT		14XLCT	30XLCT		
	Bolt Size Range	19-55	60	34-36	41	46-65	70-80	41-95	100-105	50-117	110-155	160-175
psi	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs
1000	169	175	426	426	426	470	795	855	1346	3043	3240	
1200	203	210	511	511	511	564	954	1026	1615	3652	3888	
1400	237	245	596	596	596	658	1113	1197	1884	4260	4536	
1600	270	280	681	681	681	752	1272	1368	2153	4869	5184	
1800	304	315	766	766	766	846	1431	1539	2422	5477	5832	
2000	338	350	852	852	852	940	1590	1710	2692	6086	6480	
2200	372	385	937	937	937	1034	1749	1881	2961	6694	7127	
2400	406	421	1022	1022	1022	1128	1908	2052	3230	7303	7775	
2600	440	456	1107	1107	1107	1222	2067	2223	3499	7911	8423	
2800	473	491	1192	1192	1192	1317	2226	2395	3768	8520	9071	
3000	507	526	1277	1277	1277	1411	2385	2566	4037	9128	9719	
3200	541	561	1362	1362	1362	1505	2544	2737	4306	9737	10367	
3400	575	596	1447	1447	1447	1599	2703	2908	4575	10345	11015	
3600	609	631	1533	1533	1533	1693	2861	3079	4844	10954	11663	
3800	642	666	1618	1618	1618	1787	3020	3250	5113	11562	12311	
4000	676	701	1703	1703	1703	1881	3179	3421	5383	12171	12959	
4200	710	736	1788	1788	1788	1975	3338	3592	5652	12779	13606	
4400	744	771	1873	1873	1873	2069	3497	3763	5921	13388	14254	
4600	778	806		1958	1958	2163	3656	3934	6190	13996	14902	
4800	812	842		2043	2043	2257	3815	4105	6459	14605	15550	
5000	845	877		2128	2128	2351	3974	4276	6728	15213	16198	
5200	879	912		2214	2214	2445	4133	4447	6997	15822	16846	
5400	913	947		2299	2299	2539	4292	4618	7266	16430	17494	
5600	947	982		2384	2384	2633	4451	4789	7535	17039	18142	
5800	981	1017		2469	2469	2727	4610	4960	7804	17647	18790	
6000	1015	1052		2554	2554	2822	4769	5132	8074	18256	19438	
6200	1048	1087		2639	2639	2916	4928	5303	8343	18865	20085	
6400	1082	1122		2724	2724	3010	5087	5474	8612	19473	20733	
6600	1116	1157		2809	2809	3104	5246	5645	8881	20082	21381	
6800	1150	1192		2894	2894	3198	5405	5816	9150	20690	22029	
7000	1184	1227		2980	2980	3292	5564	5987	9419	21299	22677	
7200	1217	1262		3065	3065	3386	5723	6158	9688	21907	23325	
7400	1251	1298		3150	3150	3480	5882	6329	9957	22516	23973	
7600	1285	1333		3235	3235	3574	6041	6500	10226	23124	24621	
7800	1319	1368		3320	3320	3668	6200	6671	10495	23733	25269	
8000	1353	1403		3405	3405	3762	6359	6842	10765	24341	25917	
8200	1387	1438		3490	3490	3856	6518	7013	11034	24950	26564	
8400	1420	1473		3575	3575	3950	6677	7184	11303	25558	27212	
8600	1454	1508		3661	3661	4044	6835	7355	11572	26167	27860	
8800	1488	1543			3746	4138	6994	7526	11841	26775	28508	
9000	1522	1578			3831	4232	7153	7697	12110	27384	29156	
9200	1556	1613			3916	4326	7312	7868	12379	27992	29804	
9400	1589	1648			4001	4421	7471	8040	12648	28601	30452	
9600	1623	1683			4086	4515	7630	8211	12917	29209	31100	
9800	1657	1719			4171	4609	7789	8382	13186	29818	31748	
10000	1691	1754			4256	4703	7948	8553	13456	30426	32396	

# MXTA SERIES DRAWING AND PARTS LIST

## 1MXTA, 3MXTA, 5MXTA, 8MXTA, 10MXTA, 20MXTA, 25MXTA, 35MXTA SERIES



### INSTRUCTION:

1. Swivel B1 and B2 are optional parts, own interchange ability.
2. Quick coupler C1 assembly and C2 assembly are optional parts, own interchange ability.
3. #1 Body assembly and 5-1# piston assembly are not detachable parts.

## PARTS LIST--MXTA SERIES

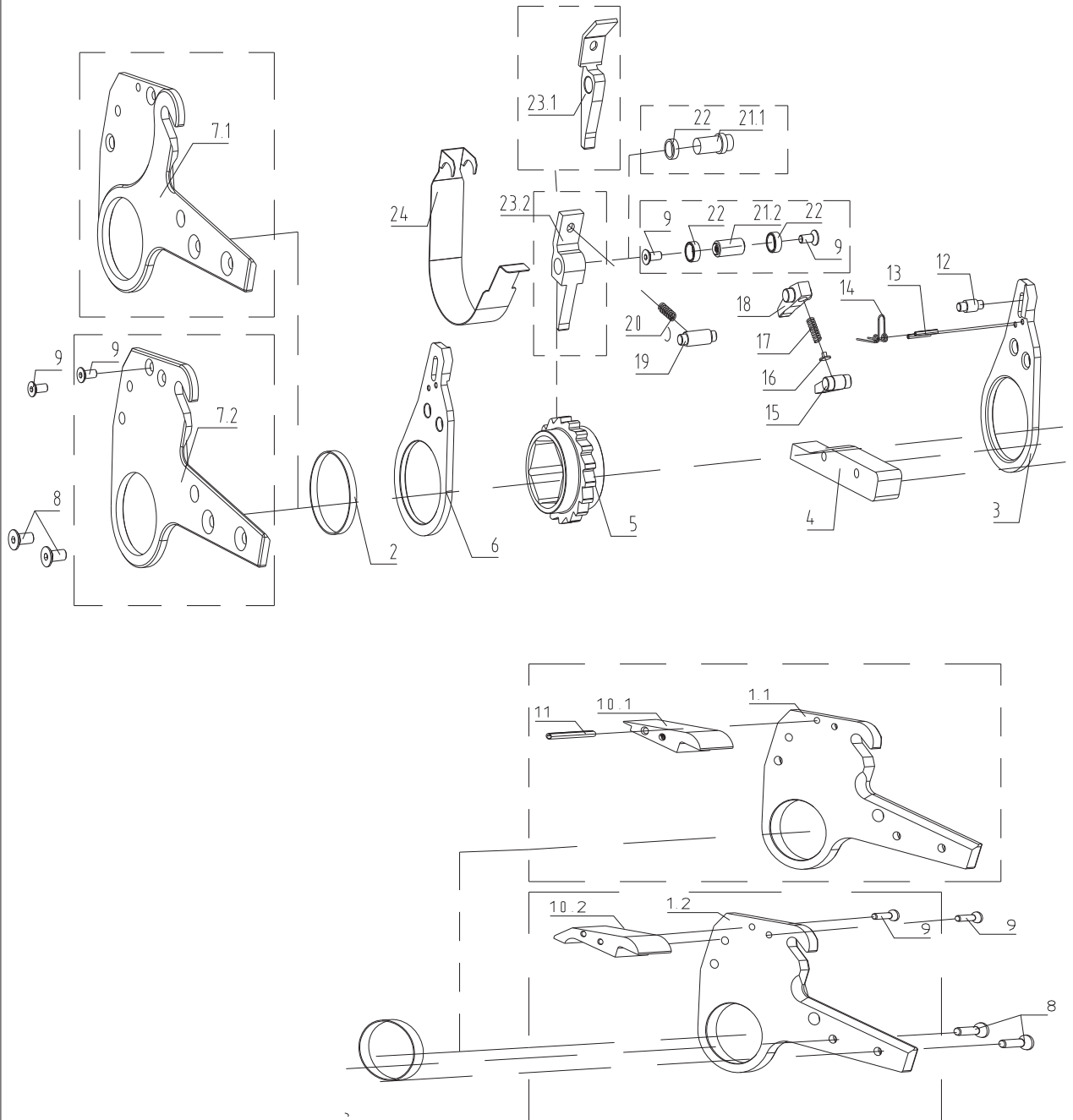
Model Number		1MXTA	3MXTA	5MXTA	8MXTA	10MXTA	20MXTA	25MXTA	35MXTA
Item	Name	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
1a	Body								
1b			1	1	1	1	1	1	1
1c		1							
2	Retaining Ring of Body	1							
3	O-Ring/U-Ring for Body	1	1	1	1	1	1	1	1
4	O-Ring for Piston Housing								
5a	Piston Rod Assembly								
5b							1	1	1
5c		1	1	1	1	1			
5a- 1	Piston Assembly								
5b- 1							1	1	1
5c- 1		1	1	1	1	1			
5-2	Wearable Ring for Piston Rod	1	1	1	1	1	2	2	2
5-3	Retaining Ring	1	1	1	2	1			
5-4	O-Ring for Piston Rod	1	1	1	1	1	1	1	1
6	O-Ring for End Cap	1	1	1	1	1	1	1	1
7	Retaining Ring for End Cap	1	1	1	1	1	1	1	1
8a	End Cap		1	1	1	1	1	1	1
8b									
8c		1							
9	Reaction Arm Assembly	1	1	1	1	1	1	1	1
9-1	Reaction Arm	1	1	1	1	1	1	1	1
9-2	Screw	1	1	1	1	1	1	1	1
9-3	Reaction Arm Fixer	1	1	1	1	1	1	1	1
9-4	Compressed Spring for Reaction Arm	1	1	1	1	1	1	1	1
9-5	Reaction Arm Cover	1	1	1	1	1	1	1	1
9-6	Pin for Reaction Arm Cover	1	1	2	2	2	2	2	2
10	Screw	2	2	2	2	2	2	2	2
11	Pin for Body	1	1	1	1	1	1	1	1
12	Tension Spring for Reaction Pawl	1	1	1	1	1	1	1	1
13	Reaction Pawl Pin	1	1	1	1	1	1	1	1
14	Reaction Pawl	1	1	1	1	1	1	1	1
15	Button Lever(Left)	1	1	1	1	1	1	1	1
16	Screw for Button Lever	2	2	2	2	2	2	2	2
17	Button Lever(Right)	1	1	1	1	1	1	1	1
18	Drive Sleeve Spline	2	2	2	2	2	2	2	2
19	Circlip	2	2	2	2	2	2	2	2
20	Square Drive	1	1	1	1	1	1	1	1
A	Drive Retainer	1	1	1	1	1	1	1	1
21	Drive Retainer Screw								
22	Drive Pin	1	1	1	1	1	1	1	1
23	Roll Pin for Drive Pawl Primary	1	1	1	1	1	1	1	1
24	Tension Spring for Drive Pawl Primary	2	2	2	2	2	2	2	2
25	Drive Plate Pin	1	1	1	1	1	1	1	1
26	Drive Pawl Primary	1	1	1	1	1	1	1	1
27	Drive Pawl Secondary	1	1	1	1	1	1	1	1
28	Compressed Spring Drive Pawl Secondary	2	1	2	2	1	1	1	1
29	Roll Pin for Compressed Spring Drive Pawl Secondary					1	1	1	1
30	Ratchet Spline	1	1	1	1	1	1	1	1
31	Drive Plate	2	2	2	2	2	2	2	2
32	Shroud	1	1	1	1	1	1	1	1
33	Screw for Cover Plate	4	4	4	4	4	4	4	4
B1	Swivel Assembly	1	1	1	1	1	1	1	1
B2		1	1	1	1	1	1	1	1
C1-1	Male Coupler	1	1	1	1	1	1	1	1
C2-1		1	1	1	1	1	1	1	1
C1-2	Female Coupler	1	1	1	1	1	1	1	1
C2-2		1	1	1	1	1	1	1	1

INSTRUCTION: 1. Swivel B1 and B2 are optional parts, own interchange ability.  
2. Quick coupler C1 assembly and C2 assembly are optional parts, own interchange ability.  
3. #1 Body assembly and 5-1# piston assembly are not detachable parts.



# ASSEMBLING DRAWING FOR RATCHET LINK--XLCT SERIES

## 2XLCT、4XLCT、8XLCT、14XLCT、30XLCT SERIES

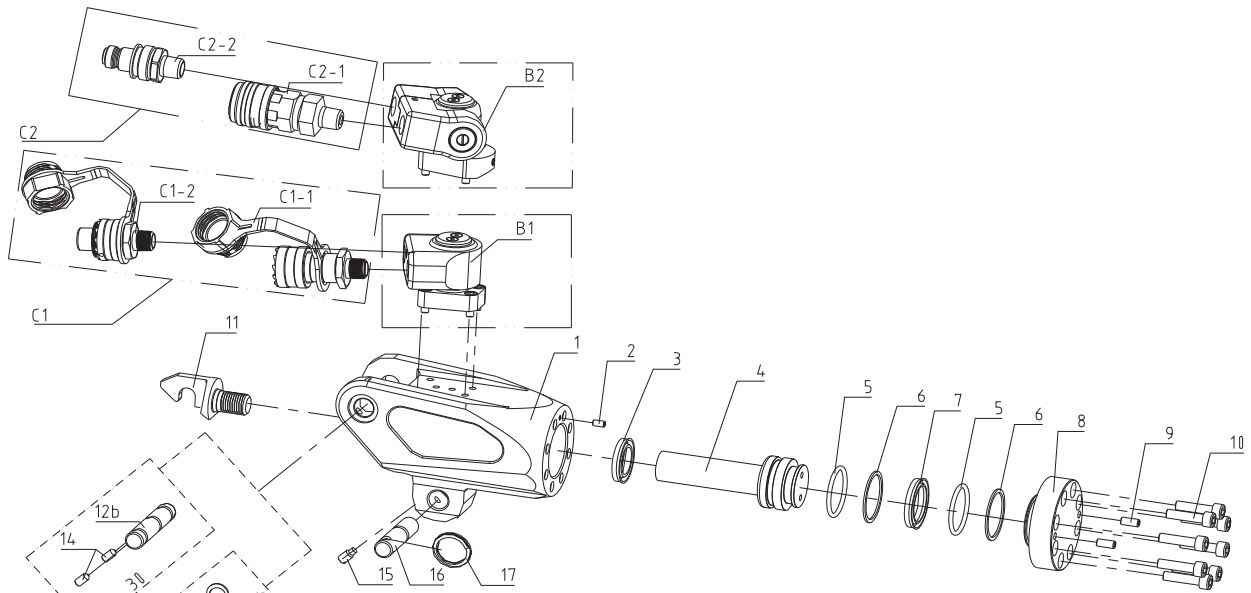


**PARTS LIST FOR RATCHET LINK---LOW SERIES**

	Model Number	2XLCT	4XLCT	8XLCT	14XLCT	30XLCT
Item	Name	Quantity	Quantity	Quantity	Quantity	Quantity
1a	Side Plate(Left)		1	1	1	1
1b						
2	Copper Belt				2	2
3	Drive Plate(Right)	1	1	1	1	1
4	Reaction Block	1	1	1	1	1
5	Ratchet Spline	1	1	1	1	1
6	Drive Plate(Left)	1	1	1	1	1
7a	Side Plate(Right)		1	1	1	1
7b		1				
8	Reaction Block Screw	4	4	4	4	4
9	Screw(Reaction Pawl Bushing And Top Spacer)	4	4	4	2	2
10a	Top Spacer		1	1	1	1
10b		1				
11	Roll Pin for Top Spacer		1	1	1	1
12	Drive Pin for Drive Plate	1	1	1	1	1
13	Roll Pin for Drive Plate	2	2	2	2	2
14	Drive Pin Spring	1	1	1	1	1
15	Drive Pawl	1	1	1	1	1
16	Spring Seat	1				
17	Compressed Spring	1	1	1	1	1
18	Drive Pawl Primary	1	1	1	1	1
19	Pin for Side Plate	1	1	1	1	1
20	Compressed Spring for Reaction Pawl	1	1	1	1	1
21a	Shaft of Rotation	1			1	1
21b			1	1		
22	Reaction Pawl Bushing	1	2	2	1	1
23a	Reaction Pawl		1	1	1	1
23b		1				
24	Shroud	1	1	1	1	1

# DRAWING FOR POWER HEAD WITH SWIVEL ON TOP AND ITS PART LIST-XLCT SERIES

## 2XLCT、4XLCT、8XLCT、14XLCT、30XLCT SERIES



### INSTRUCTION:

1. Swivel B1 and B2 are optional parts, own interchange ability.
2. Quick coupler C1 assembly and C2 assembly are optional parts, own interchange ability.

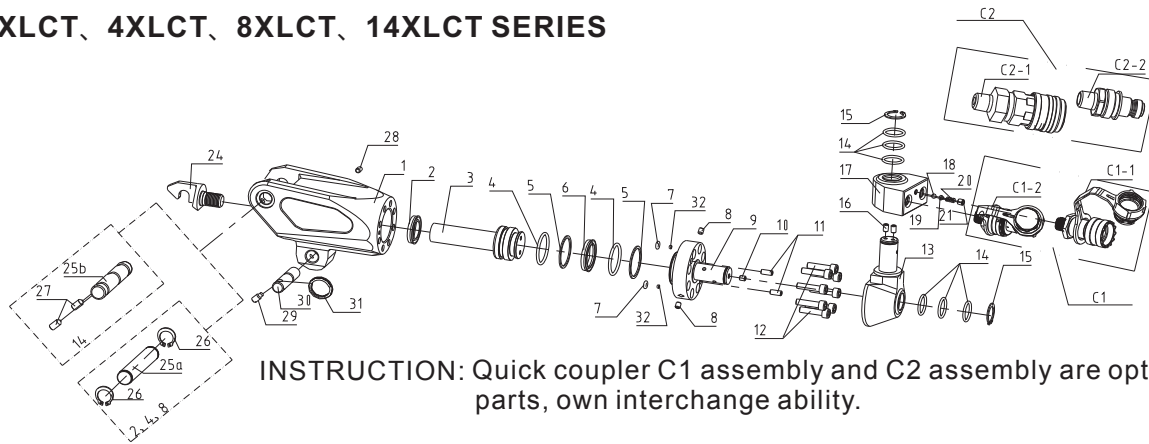
Model Number		2XLCT-DII	4XLCT-DII	8XLCT-DII	14XLCT-DII	30XLCT-DII
Item	Name	Quantity	Quantity	Quantity	Quantity	Quantity
1	Body	1	1	1	1	1
2	Casing Cap of Body	1	1	1	1	1
3	U-Ring for Body	1	1	1	1	1
4	Piston Rod	1	1	1	1	1
5	O-Ring for Piston Rod and End Cap	2	2	2	2	2
6	Retaining Ring for Piston Rod and End Cap	1	2	2	2	2
7	U-Ring for Piston Rod	1	1	1	1	1
8	End Cap	1	1	1	1	1
9	End Cap Screw	2	2	2	2	2
10	Screw of Body	8	8	8	8	8
11	Rod End	1	1	1	1	1
12a	Fixed Pin Upper	1	1	1		
12b					1	1
13	Retaining Ring for Fixed Pin Upper	2	2	2		
14	Screw for Fixed Pin Upper				2	2
15	Screw with Spring	1	1	1	1	1
16	Link Pin	1	1	1	1	1
17	Draw Ring	1	1	1	1	1
B1	Swivel	1	1	1	1	1
B2		1	1			
C1-1	Male Coupler	1	1	1	1	1
C2-1		1	1	1	1	1
C1-2		1	1	1	1	1
C2-2		1	1	1	1	1

### INSTRUCTION:

1. Swivel B1 and B2 are optional parts, own interchange ability.
2. Quick coupler C1 assembly and C2 assembly are optional parts, own interchange ability.

# DRAWING FOR POWER HEAD WITH SWIVEL IN BACKSIDE AND ITS PART LIST-XLCT SERIES

## 2XLCT、4XLCT、8XLCT、14XLCT SERIES



Model Number		2XLCT-DIII	4XLCT-DIII	8XLCT-DIII	14XLCT-DIII
Item	Name	Quantity	Quantity	Quantity	Quantity
1	Body	1	1	1	1
2	U-Ring for Body	1	1	1	1
3	Piston Rod	1	1	1	1
4	O-Ring for Piston Rod and End Cap	2	2	2	2
5	Retaining Ring for Piston Rod and End Cap	1	2	2	2
6	U-Ring for Piston Rod	1	1	1	1
7	O-Ring for End Cap	2	1	1	2
8	Screw of Side End Cap	2	1	1	2
9	End Cap	1	1	1	1
10	Screw of Top End Cap	2	1	1	2
11	End Cap Screw		2	2	2
12	Screw of Body	8	8	8	8
13	Swivel	1	1	1	1
14	O-Ring for The Swivel	6	6	6	6
15	Retainer Ring for The Swive	2	2	2	2
16	Screw for The Swivel	4	2	2	4
17	Swivel Joint	1	1	1	1
18	Steel Ball	1	1	1	1
19	Spring Pedestal	1	1	1	1
20	Spring	1	1	1	1
21	Plug	1	1	1	1
24	Rod End	1	1	1	1
25a	Fixed Pin Upper	1	1	1	
25b					1
26	Retaining Ring for Fixed Pin Upper	2	2	2	
27	Screw for Fixed Pin Upper				2
28	Screw	2	1	1	1
29	Screw with Spring	1	1	1	1
30	Link Pin	1	1	1	1
31	Draw Ring	1	1	1	1
32	Copper Gasket	2			
C1-1	Male Coupler	1	1	1	1
C2-1		1	1	1	1
C1-2	Female Coupler	1	1	1	1
C2-2		1	1	1	1

INSTRUCTION:quick coupler c1 assembly and c2 assembly are optional parts, own interchange ability.

## TROUBLE SHOOTING GUIDE

TROUBLE	PROBABLE CAUSE	SOLUTION
Piston will not advance or retract	Couplers are not securely attached to the tool or pump	Check the coupler connections and make certain that they are connected
	Coupler is defective	Replace any defective Coupler
	Defective remote control unit	Replace the button and/or control pendent
	Dirt in the direction-control valve o the pump unit	Disassemble the pump and clean the direction-control valve
Piston will not retract	Hose connections reversed	Make certain the advance on the pump is connected to the advance on the tool and retract on the pump is connected to the retract on the tool
		Retract hose not connected
	Retract pin and/or spring broken	Replace the broken pin and/or spring
	Cylinder will not build up pressure	Piston Seal and/or End Plug Seal leaking
Coupler is defective		Replace any defective Coupler
Square Drive will not turn	Grease or dirt build up in the teeth of the Ratchet and Segment Pawl	Disassemble the Ratchet and clean the grease or dirt out of te teeth
	Worn or broken teeth on Ratchet an/or Segment Pawl	Replace any worn or damaged parts
Pump will not build up pressure	Defective relief valv	Inspect,adjust or replace the relief vale
	Electric power source is too low	Make certain the amperage,voltage and any extension aord size comply with the pump manual requirements
	Defective Gauge	Replace the Gauge
	Low oil level	Check and fill the pump reservoir
	Clogged filter	Inspect,clean and/or replace the pump filter
Nut Returns with retract stroke	Ball Plungers are not engaging the Drive Sleeves	Thread the Ball Pungers to the correct Depth in the Housing

## ROUTINE MAINTENANCE AND TRANSPORT OF HYDRAULIC TORQUE WRENCH

### MAINTENANCE OF THE HYDRAULIC TORQUE WRENCH

1. Before and after use, should check the screws are loose or not on the torque wrench, if loose should be tightened. If you do not tighten, it may cause damage to the equipment.
2. Inside of the Torque Wrench, all parts should be regularly smear NLGI # 2, in complex environmental conditions, should be cleaned and lubricated.
3. The coupler should be kept clean after work, tighten the dust cap to prevent dust entering the hydraulic system failure to make the equipment damage.
4. Connecting devices, switch direction control valves, check the pressure with or without exception.
5. Check for leakage, if a similar situation, please identify the reasons and processed.
6. The parts of inside torque wrench are connected, if one part fails, it is bound to affect other parts caused by wear, so regular inspection and maintenance are very important.

### HYDRAULIC TORQUE WRENCH NOISE DECLARATION

Hydraulic torque wrench noise value:  $\leq 70\text{db}$ .

### HYDRAULIC TORQUE WRENCH TRANSPORT INFORMANTION

1. Handle with care.
2. The shipment should be vertical upward, as shown in the figure 9-1.

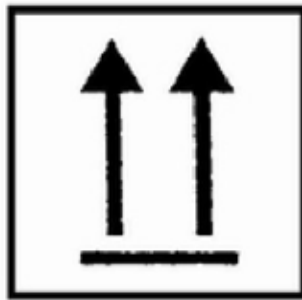


FIG 9-1

3. Product handling, generally using portable, car handling and lifting and moving, as shown in the figure 9-2.

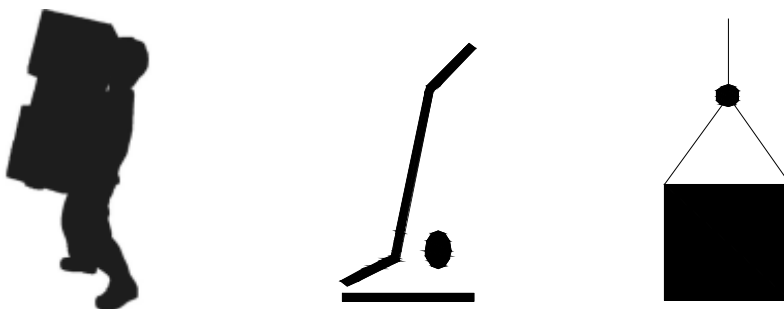


FIG 9-2

## SPECIFICATION & PARAMETER

Model	Torque(N.m)	Bolt size(M)	Square drive(inch)		
1MXTA	183-1837	16-36	3/4		
3MXTA	451-4512	22-48	1		
5MXTA	752-7528	27-56	1-1/2		
8MXTA	1078-10780	30-64	1-1/2		
10MXTA	1551-15516	36-72	1-1/2		
20MXTA	2666-26664	42-90	2-1/2		
25MXTA	3472-34725	48-100	2-1/2		
35MXTA	4866-48666	64-120	2-1/2		
Model	Torque(N.m)	Screw size(mm)	Model	Torque(N.m)	Screw size(mm)
2XLCT19	232-2328	19-55	14XLCT50	1852-18521	50-117
2XLCT22	232-2328	19-55	14XLCT55	1852-18521	50-117
2XLCT27	232-2328	19-55	14XLCT60	1852-18521	50-117
2XLCT30	232-2328	19-55	14XLCT65	1852-18521	50-117
2XLCT32	232-2328	19-55	14XLCT70	1852-18521	50-117
2XLCT34	232-2328	19-55	14XLCT75	1852-18521	50-117
2XLCT36	232-2328	19-55	14XLCT80	1852-18521	50-117
2XLCT41	232-2328	19-55	14XLCT85	1852-18521	50-117
2XLCT46	232-2328	19-55	14XLCT90	1852-18521	50-117
2XLCT50	232-2328	19-55	14XLCT95	1852-18521	50-117
2XLCT55	232-2328	19-55	14XLCT100	1852-18521	50-117
2XLCT60	241-2414	60	14XLCT105	1852-18521	50-117
4XLCT34	585-2510	34-65	14XLCT110	1852-18521	50-117
4XLCT36	585-2510	34-65	14XLCT115	1852-18521	50-117
4XLCT41	585-5021	34-65	14XLCT117	1852-18521	50-117
4XLCT46	585-5858	34-65	30XLCT85	4188-41882	85-155
4XLCT50	585-5858	34-65	30XLCT90	4188-41882	85-155
4XLCT55	585-5858	34-65	30XLCT95	4188-41882	85-155
4XLCT60	585-5858	34-65	30XLCT100	4188-41882	85-155
4XLCT65	585-5858	34-65	30XLCT105	4188-41882	85-155
4XLCT70	647-6474	70-80	30XLCT110	4188-41882	85-155
4XLCT75	647-6474	70-80	30XLCT115	4188-41882	85-155
4XLCT80	647-6474	70-80	30XLCT117	4188-41882	85-155
8XLCT41	1097-10941	41-95	30XLCT120	4188-41882	85-155
8XLCT46	1097-10941	41-95	30XLCT125	4188-41882	85-155
8XLCT50	1097-10941	41-95	30XLCT130	4188-41882	85-155
8XLCT55	1097-10941	41-95	30XLCT135	4188-41882	85-155
8XLCT60	1097-10941	41-95	30XLCT140	4188-41882	85-155
8XLCT65	1097-10941	41-95	30XLCT145	4188-41882	85-155
8XLCT70	1097-10941	41-95	30XLCT150	4188-41882	85-155
8XLCT75	1097-10941	41-95	30XLCT155	4188-41882	85-155
8XLCT80	1097-10941	41-95	30XLCT160	4459-44593	160-175
8XLCT85	1097-10941	41-95	30XLCT165	4459-44593	160-175
8XLCT90	1097-10941	41-95	30XLCT170	4459-44593	160-175
8XLCT95	1097-10941	41-95	30XLCT175	4459-44593	160-175
8XLCT100	1177-11774	100-105			
8XLCT105	1177-11774	100-105			



Hangzhou WREN Hydraulic Equipment  
Manufacturing Co.,Ltd

RECYCLED  
PAPER







MXTA和XLCT系列  
液压扭矩扳手  
操作保养手册

# 目 录

一、收货须知（开箱检查）	1
二、产品描述	1
三、警告事项及警告标志	2-3
四、螺栓预紧力推荐表	4
五、操作使用	5-8
六、MXTA液压扭矩扳手压力-扭矩对照表	9-10
七、XLCT液压扭矩扳手压力-扭矩对照表	11-12
八、MXTA系列装配图	13
九、MXTA系列零件详表	14
十、XLCT系列工作头装配图	15
十一、XLCT系列工作头零件详表	16
十二、XLCT系列二代动力头装配图及零件详图	17
十三、XLCT系列三代动力头装配图及零件详图	18
十四、故障与排除	19
十五、检查、维修和保养	20
十六、液压扳手规格参数表	21
十七、CE认证	22



# 液压扭矩扳手操作保养手册

本操作手册内容包括MXTA和XLCT系列的液压扭矩扳手操作规程、警告和注意事项以及故障排除。使用前，请仔细阅读本手册，彻底理解其内容并妥善保管。本说明书仅作为最终用户参考。

## 一、收货须知(开箱检查)

仔细检查产品外观有无损伤，是否有运输损坏。运输损坏不包括在保修范围内。如果发现因货运受损，应及时向货运商申报。货运商应支付运输损坏带来的所有维修和更换费用。

### 安全第一

液压扭矩扳手是一种动力工具，使用前应仔细阅读所有的说明、警告和注意事项，遵守安全措施以避免在操作设备发生人身或设备的损伤!WREN对因为不安全操作及错误操作导致的损坏不负责任。

## 二、产品描述

WREN MXTA/XLCT液压扭矩扳手采用铝钛合金及超高强度合金材料制造，为双作用的液压，设计，可以锁紧及松开螺栓连接，广泛适合用于扭矩螺栓拆卸，扭矩精确可调，误差不超过±3%。

MXTA型液压扭矩扳手由：

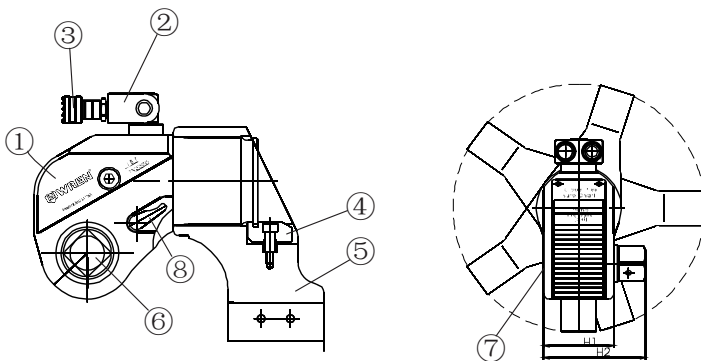
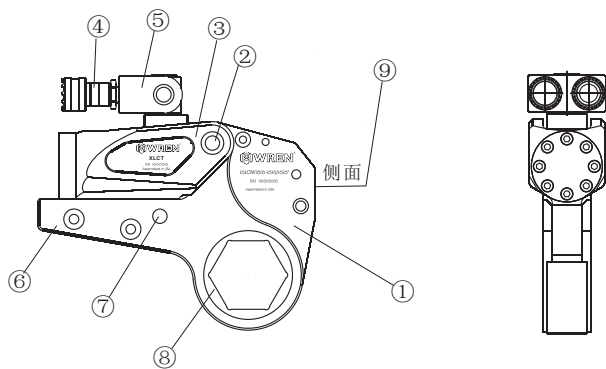


图 (1)

序号	名称
①	扳手本体
②	360° ×180° 旋转接头
③	快速接头
④	销固装置
⑤	360° 微调式反作用力臂
⑥	四方驱动轴
⑦	驱动轴锁紧器
⑧	快速释放扳机

XLCT型液压扭矩扳手由:



图(2)

序号	名称
①	工作头
②	长销轴
③	动力头
④	快速接头
⑤	360° × 180° 旋转接头
⑥	反作用挡板
⑦	快速组合销
⑧	棘轮
⑨	快速释放扳机

### 三 警告事项及警告标志

#### 一、警告事项

- !** 警告 为避免人身伤害及可能的设备损伤, 要确保每一个液压单元能够承受700bar的工作压力。
- !** 警告 不要超过设备的额定负荷  
尽量减少超载的危险;在系统中使用压力表以显示系统压力。压力表是系统内发生情况的窗口。  
使用液压扳手时不得超过其允许的最大扭矩。
- !** 警告 尽快用WREN原厂零件替换损坏的零件
- !** 注意 避免损坏液压油管  
使用中应该避免液压油管严重弯曲和缠绕。使用弯曲或缠绕的油管将产生过大的背压。严重弯曲和缠绕使油管内部损坏, 从而过早报废。  
防止重物掉到或压到油管上。严重冲击可引起油管内部金属线损坏, 加压时损坏的油管可能破裂。  
不能用液压油管拖拉及吊拿其它液压部件(如:泵、液压扳手、阀等)。
- !** 警告 为避免损坏设备及人身伤害, 不得拆掉扳手上的护板, 不得改动扳手及附件, 不得改变旋转接头上的安全阀。
- !** 注意 不正确的连接会导致故障及危险。连接前应保持快速接头清洁, 使用后旋上防尘帽。
- !** 注意 不得使用破损的套筒和插头。不得用公制套筒扭英制的螺母和螺栓, 反之亦然。
- !** 警告 使用WREN原厂高性能的套筒。
- !** 警告 用插销将套筒驱动头紧固以避免套筒脱落。

## 二、警告标志

警告标志如下表所示

警告标志	意义	粘贴位置
	禁止用手触摸	反力臂
	驱动轴右紧左松	工作头
	使用前固定好反力臂	反力臂

## 四 螺栓预紧力推荐表

表(1)

强度等级	4.8		6.8		8.8		10.9		12.9	
最小破断强度	392MPa		588MPa		784MPa		941MPa		1176MPa	
材质	一般构造用钢		机械构造用钢		铬钼合金钢		镍铬钼合金钢		镍铬钼合金钢	
螺栓 螺母	扭距值		扭距值		扭距值		扭距值		扭距值	
M mm	KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m
14 22	7	69	10	98	14	137	17	165	23	225
16 24	10	98	14	137	21	206	25	247	36	363
18 27	14	137	21	206	29	284	35	341	49	480
20 30	18	176	28	296	41	402	58	569	69	680
22 32	23	225	34	333	55	539	78	765	93	911
24 36	32	314	48	470	70	686	100	981	120	1176
27 41	45	441	65	637	105	1029	150	1472	180	1764
30 46	60	588	90	882	125	1225	200	1962	240	2352
33 50	75	735	115	1127	150	1470	210	2060	250	2450
36 55	100	980	150	1470	180	1764	250	2453	300	2940
39 60	120	1176	180	1764	220	2156	300	2943	370	3626
42 65	155	1519	240	2352	280	2744	390	3826	470	4606
45 70	180	1764	280	2744	320	3136	450	4415	550	5390
48 75	230	2254	350	3430	400	3920	570	5592	680	6664
52 80	280	2744	420	4116	480	4704	670	6573	850	8330
56 85	360	3528	530	5149	610	5978	860	8437	1050	10290
60 90	410	4018	610	5978	790	7742	1100	10791	1350	13230
64 95	510	4998	760	7448	900	8820				
68 100	580	5684	870	8526	1100	10780				
72 105	660	6468	1000	9800	1290	12642				
76 110	750	7350	1100	10780	1500	14701				
80 115	830	8143	1250	12250	1850	18130				
85 120	900	8820	1400	13720	2250	22050				
90 130	1080	10584	1650	16170	2500	24500				
100 145	1400	13720	2050	20090						
110 155	1670	16366	2550	24990						
120 175	2030	19894	3050	29890						

注：表中数值为德国工业标准，在螺栓达到屈服极限的80%时所测定的。


建议锁紧扭矩为：表中数值×80%

例如：M52，8.8级螺栓，则锁紧力矩为4704×80%=3763N.m


拆松力矩为锁紧力矩的1.5-2倍。

例如：上例锁紧力矩为3763N.m，则其拆松力矩为3763×1.5(2)=5645(7526)N.m


反力臂必须放置在一个绝对停止的位置，请勿把手臂用作固定手柄，做好预防措施确保操作者的手不被夹在手臂和坚固物体中间。




保持身体姿态平衡和稳固。




请勿靠拿管子来移动工具。




在安装、移动或在工具上调节附件，或者给工具做保养前，请先关闭泵和断开电源。



最大操作压力为10000 psi (700bar)

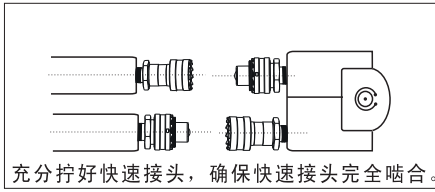


请勿使用损坏的，磨损的或老化的液压油管和装置。

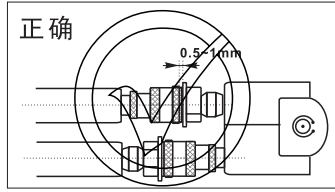


## 五 操作使用

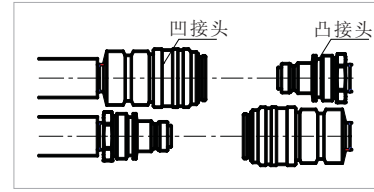
连接 扳手及液压泵是由额定工作压力均为700Bar的钢丝编织的复式油管连接。每根油管的底端均有凹凸接头，以保证泵与扳手之间的正确连接。不得随意变动旋转接头上的任何螺栓。这是厂家为了安全而设定的，只有受过专业培训者才能去调节。



图(3)



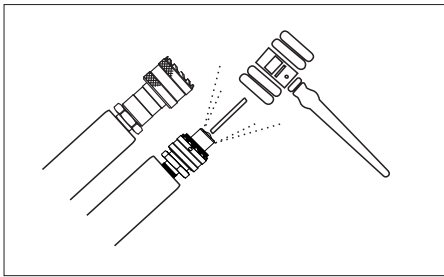
图(4)



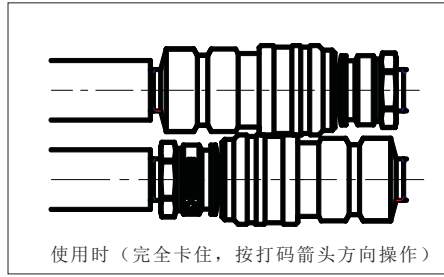
图(5)

快速接头互连时，必须保证啮合后无间隙图(4)，只有这样才能确保连接。使快速接头内单向阀打开，使油路畅通。否则，连接后，接头内钢珠没有相顶，接头内单向阀无法打开，致使油路不通过后，接头内将充满压力，会出现扳手无法运转、从扳手旋转体上的自动泄油口出油等现象。

此时需要拆开所有软管接头，检查所有快速接头内包括扳手接头内钢珠，用手是否可以按动钢珠，有弹性。如果不能按动，此时需要找锤去敲打接头内的钢珠(图6)，释放接头里的压力，请注意敲击钢珠时会有液压油喷出，虽然没有危险，但会弄脏您的衣服!直至用手可以按动接头内钢珠为止。再重新连接。



图(6)

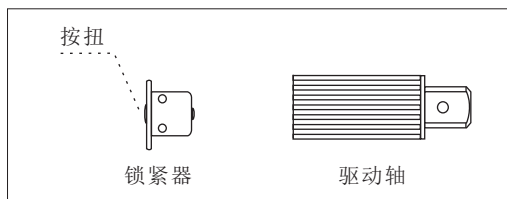


图(7)

远离超高压液压油可能喷出的位置;高压液压油泄漏可能穿透你的手，导致严重受伤。如果液压油喷到你的眼睛里，立即用清水冲洗大约15分钟，然后去医院清洗眼睛。不要碰带压力的软管;如果液压油喷出，会导致严重伤害。液压软管是消耗性配件，经过肉眼检查没有问题，内部也可能有破裂和针孔;考虑到良好使用状况，应定期更换软管，且使用时应避免出现急弯。

## MXTA系列

**驱动换向** 按住锁紧器中间的圆型按钮，并轻拉驱动轴，以解开驱动轴与锁紧器的啮合，驱动轴就可以拉出。

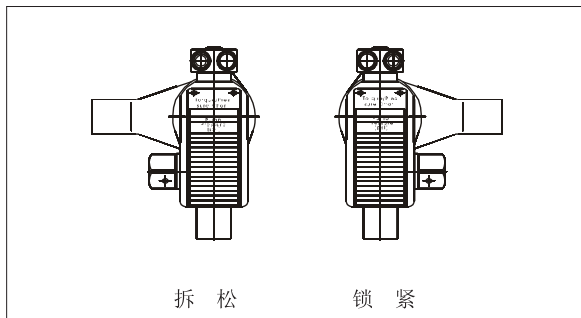


图(8)

将驱动轴放入扳手内，确定方向图(8)，使其与花键套完全啮合，然后转动驱动轴使之于花键套以及棘轮槽啮合，通过棘轮推动驱动轴转动。

## 准备 确定是拆松，还是锁紧螺母

通过按下驱动方轴锁紧器;取出方身驱动轴;按图进行左右换向，装上驱动轴锁紧器，拉下反作用力臂上的力臂夹，按合适方位装入反作用力臂。拆锁时方轴方向见IBT 液压扭矩扳手选向图(9)所示。



左松右紧

图(9)

## 连接泵站

将泵的高压出口(H或A)与液压扳手的高压出口(H或A)、泵的低压出口(L或R)与液压扳手的低压出口(L或R)分别用高压油管连接起来连接时油管上的快速接头应插到底，然后用手拧紧固定螺母。

仔细检查油管接头是否连接可靠，泵中是否有油。  
将泵电源插头插入电源。

**警告** 严禁油量不足运转!

## 试运转

- 1、将扳手置于空地上。
- 2、打开泵电源开关，启动泵，然后按下开机按钮（自锁式按钮），检查泵是否运转正常。
- 3、按线控开关上的工作按钮（自复式按钮），此时方轴开始转动，当听到“啪”的一声，复位扳机跳下，扳手到位停止转动，压力表由“0”急速上升至调定压力，松开按钮，扳手自动回程;当又听到“啪”的一声，扳手自动回程到位，压力表由“0”急速上升至9Mpa。重新按下按钮，此时扳手转动，一个新的循环开始。反复几次，使扳手空转数次，观察扳手转向，以确定是拆松还是锁紧螺母，无异常时，才能将扳手放至套筒上，拆装螺栓。

**注意:**扳手临时不用时，可使用开机按钮（自锁式按钮）关闭电机运转，如果长时间不用，应即时关闭油泵电源!

## 操作

### 调整压力

一手将线控开关按钮按下，当听到扳手“啪”一声，复位扳机跳下，扳手到位停止转动，压力表由“0”急速上升，另一只手调整油泵调压阀，调整压力表中指针至所需压力，并旋紧防松螺母，防止压力变化。

### 拆松

将泵站压力调整到最高，并旋紧防松螺母，确认扳手转向，确认为拆松方一向，将扳手放到螺母上，找好反作用支点，靠稳，反复执行试运转中第三条动作，直至将螺母拆下。

### 锁紧

#### 1、力矩设定

首先可根据设计要求设定力矩;如无设计力矩，建议按表(1)螺栓预紧力推荐表中数据来设定力矩。

具体方法为:设定力矩二(表中数矩)X (80%-90%)

例如:8.8级、M48螺栓，表中建议预紧力为3920N. m，则设定力矩为:

$3920 \times 90\% = 3528 \text{N. m}$ 。

#### 2、泵站压力设定

根据所需的力矩值及所用扳手型号来设定泵站压力。

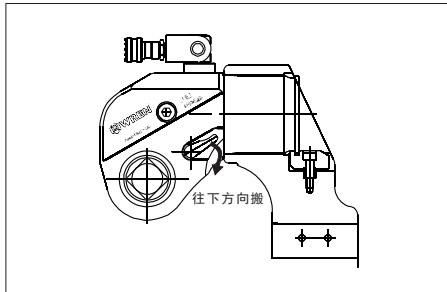


如上述8.8级、M48螺栓设定力矩为3528N·m，选用WR-3MXTA下型扳手，则查表中3MXTA一列，查出对应于3528N·m力矩时泵站的压力为54Mpa，所以泵站压力应设定至54Mpa。

3、确定扳手转向确为锁紧方向，将扳手放在螺母上反复执行试运转中第三条的动作，直至螺母不动为止。

### 使用中扳手卡紧取不下时：解除方法

在操作中，螺栓锁紧后，取扳手时如扳手卡紧取不下，切忌用锤打；而应将线控开关(按钮)按下不松，同时按下复位扳机保持着(图10)，然后放开按钮，接着放开复位扳机，此时扳手会自动松开，取下扳手！或将泵压力再调高一些，将螺栓再拧紧，放开即可！



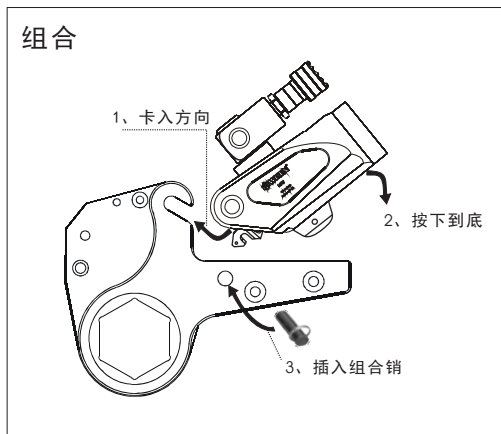
图(10)

### XLCT系列

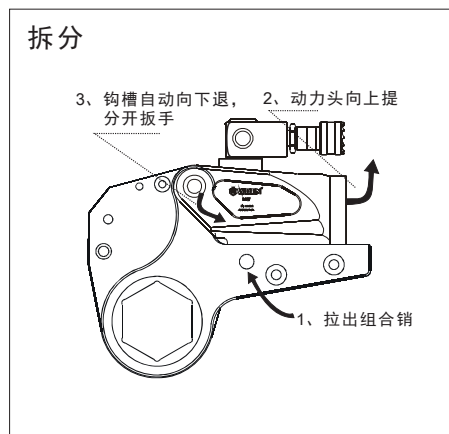
#### 工作头与动力头的组合与拆分

将动力头上的长销轴卡入工作头的勾头确保勾头方向正确(垂直向下)，然后按下动力头，将工作头驱动板推入墙板内，然后对齐组合销口，再插入快速组合销定位从上插入,防止脱落(图11)。

拉出快速组合销，向上拉起动力头，然后沿着沟槽方向，将动力头和工作头分开(图12)。



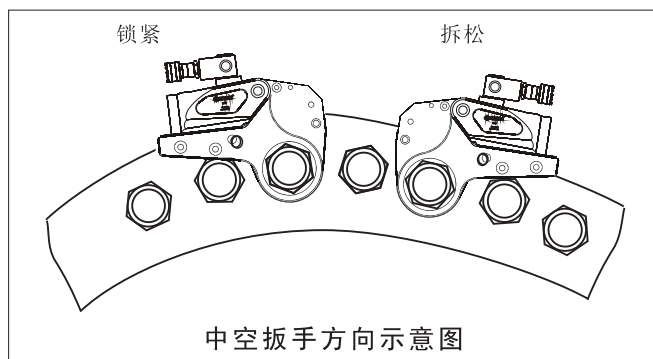
图(11)



图(12)

### 方向位置

中空扳手的松紧程序也是左松右紧，工作时移动要确保反作用力臂或直角靠在一个牢靠的反作用支点上，组合销的拉环在外面。



图(13)

**准备** 确定要拆松(锁紧)螺母的大小, 选择适合的动力头、工作头及变径套附件。

### 连接泵站

将泵的高压出口(H或A)与液压扳手的高压出口(H或A)、泵的低压出口(L或R)分别与液压扳手的低压出口((L或R)分别用高压油管连接起来。连接时油管上的快速接头应插到底, 然后用手拧紧固定螺母。

仔细检查油管接头是否连接可靠, 泵中是否油量足够。

将泵电源插头插入电源。

**警告** 严禁油量不足运转!

### 试运转

1. 将扳手组合置于空地上, 第一次启动完成, 回程时检查棘轮是否转动正常, 如果转动不正常, 有可能动力头和工作头勾头位置不对, 拆开检查。
2. 打开泵电源开关, 启动泵, 然后按下开机按钮(自锁式按钮), 检查泵是否运转正常。
3. 按线控开关上的工作按钮(自复式按钮), 此时棘轮开始转动, 当听到“啪”的一声, 扳手运转到位停止转动, 压力表由“0”急速上升至调定压力, 松开按钮, 扳手自动回程; 当又听到“啪”的一声, 扳手自动回程到位, 压力表由“0”急速上升至9Mpa。重新按下按钮, 此时扳手转动, 一个新的循环开始。反复几次, 使扳手空转数次, 观察扳手有无异常, 然后根据工况是需要拆松还是锁紧, 把扳手放在螺母上。

**注意:** 扳手临时不用时, 可使用开机按钮(自锁式按钮)关闭电机运转, 如果长时间不用, 应即时关闭油泵电源!

### 操作

#### 调整压力

一手将线控开关按钮按下, 当听到扳手“啪”一声, 复位扳机跳下, 扳手到位停止转动, 压力表由“0”急速上升, 另一只手调整油泵压阀, 调整压力表中指针至所需压力。

#### 拆松

将泵站压力调整到最高, 确认扳手转向, 确认为拆松方一向, 将扳手放到螺母上, 找好反作用支点, 靠稳, 反复执行试运转中第三条动作, 直至将螺母拆下。

#### 锁紧

##### 1、力矩设定

首先可根据设计要求设定力矩; 如无设计力矩, 建议按表(1)螺栓预紧力推荐表中数据来设定力矩。

具体方法为: 设定力矩 = (表中数矩) X (80%-90%)

例如: 8. 8级、M48是螺栓, 表中建议预紧力为3920N. m, 则设定力矩为:  
 $3920 \times 90\% = 3528 \text{ N. m}$ 。

##### 2、泵站压力设定

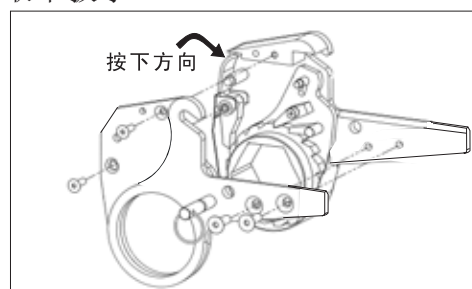
根据所需的力矩值及所用扳手型号来设定泵站压力。

如上述8. 8级、M48是螺栓设定力矩为3528N. m, 选用WR-4XLCT下型扳手, 则查表中4XLCT一行, 查出对应于3528N. m力矩时泵站的压力为42Mpa, 所以泵站压力应设定至42Mpa。

3、确定扳手转向确为锁紧方一向, 将扳手放在螺母上反复执行试运转中第三条的动作, 直至螺母不动为止。

### 使用中扳手卡紧取不下时:

在操作中, 螺栓锁紧后, 取扳手时如扳手卡紧取不下, 切忌用锤打; 而应将工作按钮(自复式按钮)按下不松, 同时按下快速释放杆保持着(图14), 然后放开按钮, 接着放开复位扳机, 此时扳手会自动松开, 取下扳手!



图(14)

六 MXTA液压扭矩扳手压力--扭矩对照表

表 (2)

型号	1MXTA	3MXTA	5MXTA	8MXTA	10MXTA	20MXTA	25MXTA	35MXTA
mpa	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m
7	183	451	752	1078	1551	2666	3472	4866
8	209	515	860	1232	1773	3047	3968	5561
9	236	580	967	1386	1994	3428	4464	6256
10	262	644	1075	1540	2216	3809	4960	6952
11	288	709	1182	1694	2438	4190	5456	7647
12	314	773	1290	1848	2659	4571	5952	8342
13	341	838	1397	2002	2881	4952	6448	9037
14	367	902	1505	2156	3103	5332	6945	9733
15	393	967	1612	2310	3324	5713	7441	10428
16	419	1031	1720	2464	3546	6094	7937	11123
17	446	1096	1828	2618	3768	6475	8433	11818
18	472	1160	1935	2772	3989	6856	8929	12514
19	498	1225	2043	2926	4211	7237	9425	13209
20	524	1289	2150	3080	4433	7618	9921	13904
21	551	1353	2258	3234	4654	7999	10417	14599
22	577	1418	2365	3388	4876	8380	10913	15295
23	603	1482	2473	3542	5098	8761	11409	15990
24	629	1547	2580	3696	5319	9142	11905	16685
25	656	1611	2688	3850	5541	9523	12401	17380
26	682	1676	2796	4004	5763	9903	12898	18076
27	708	1740	2903	4158	5984	10284	13394	18771
28	734	1805	3011	4312	6206	10665	13890	19466
29	761	1869	3118	4466	6428	11046	14386	20161
30	787	1934	3226	4620	6649	11427	14882	20856
31	813	1998	3333	4774	6871	11808	15378	21552
32	839	2063	3441	4928	7093	12189	15874	22247
33	866	2127	3548	5082	7314	12570	16370	22942
34	892	2191	3656	5236	7536	12951	16866	23637
35	918	2256	3764	5390	7758	13332	17362	24333
36	944	2320	3871	5544	7979	13713	17858	25028
37	971	2385	3979	5698	8201	14094	18354	25723
38	997	2449	4086	5852	8423	14475	18850	26418
39	1023	2514	4194	6006	8644	14855	19347	27114
40	1049	2578	4301	6160	8866	15236	19843	27809
41	1076	2643	4409	6314	9088	15617	20339	28504
42	1102	2707	4516	6468	9309	15998	20835	29199
43	1128	2772	4624	6622	9531	16379	21331	29895
44	1154	2836	4732	6776	9753	16760	21827	30590
45	1181	2900	4839	6930	9974	17141	22323	31285
46	1207	2965	4947	7084	10196	17522	22819	31980
47	1233	3029	5054	7238	10418	17903	23315	32676
48	1259	3094	5162	7392	10639	18284	23811	33371
49	1286	3158	5269	7546	10861	18665	24307	34066
50	1312	3223	5377	7700	11083	19046	24803	34761
51	1338	3287	5484	7854	11304	19427	25299	35456
52	1364	3352	5592	8008	11526	19807	25796	36152
53	1391	3416	5700	8162	11748	20188	26292	36847
54	1417	3481	5807	8316	11969	20569	26788	37542
55	1443	3545	5915	8470	12191	20950	27284	38237
56	1469	3610	6022	8624	12413	21331	27780	38933
57	1496	3674	6130	8778	12634	21712	28276	39628
58	1522	3738	6237	8932	12856	22093	28772	40323
59	1548	3803	6345	9086	13078	22474	29268	41018
60	1574	3867	6452	9240	13299	22855	29764	41714
61	1601	3932	6560	9394	13521	23236	30260	42409
62	1627	3996	6668	9548	13743	23617	30756	43104
63	1653	4061	6775	9702	13964	23998	31252	43799
64	1679	4125	6883	9856	14186	24378	31749	44495
65	1706	4190	6990	10010	14408	24759	32245	45190
66	1732	4254	7098	10164	14629	25140	32741	45885
67	1758	4319	7205	10318	14851	25521	33237	46580
68	1784	4383	7313	10472	15073	25902	33733	47276
69	1811	4448	7420	10626	15294	26283	34229	47971
70	1837	4512	7528	10780	15516	26664	34725	48666

七 MXTA液压扭矩扳手压力--扭矩对照表

表 (3)

型号	1MXTA	3MXTA	5MXTA	8MXTA	10MXTA	20MXTA	25MXTA	35MXTA
psi	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs
1000	134	328	547	783	1127	1937	2523	3535
1200	161	394	656	940	1352	2324	3028	4242
1400	188	459	766	1096	1578	2712	3532	4949
1600	215	525	875	1253	1803	3099	4037	5656
1800	242	590	985	1409	2029	3487	4541	6363
2000	268	656	1094	1566	2254	3874	5046	7070
2200	295	721	1203	1723	2480	4261	5550	7777
2400	322	787	1313	1879	2705	4649	6055	8485
2600	349	852	1422	2036	2931	5036	6559	9192
2800	376	918	1532	2193	3156	5424	7064	9899
3000	403	984	1641	2349	3381	5811	7568	10606
3200	430	1049	1750	2506	3607	6198	8073	11313
3400	457	1115	1860	2662	3832	6586	8577	12020
3600	483	1180	1969	2819	4058	6973	9082	12727
3800	510	1246	2079	2976	4283	7361	9586	13434
4000	537	1311	2188	3132	4509	7748	10091	14141
4200	564	1377	2297	3289	4734	8135	10595	14848
4400	591	1443	2407	3446	4959	8523	11100	15555
4600	618	1508	2516	3602	5185	8910	11604	16262
4800	645	1574	2626	3759	5410	9298	12109	16970
5000	672	1639	2735	3915	5636	9685	12613	17677
5200	698	1705	2844	4072	5861	10072	13118	18384
5400	725	1770	2954	4229	6087	10460	13622	19091
5600	752	1836	3063	4385	6312	10847	14127	19798
5800	779	1901	3173	4542	6538	11235	14631	20505
6000	806	1967	3282	4699	6763	11622	15136	21212
6200	833	2033	3391	4855	6988	12009	15641	21919
6400	860	2098	3501	5012	7214	12397	16145	22626
6600	887	2164	3610	5168	7439	12784	16650	23333
6800	914	2229	3720	5325	7665	13172	17154	24040
7000	940	2295	3829	5482	7890	13559	17659	24747
7200	967	2360	3938	5638	8116	13946	18163	25454
7400	994	2426	4048	5795	8341	14334	18668	26162
7600	1021	2491	4157	5951	8567	14721	19172	26869
7800	1048	2557	4267	6108	8792	15109	19677	27576
8000	1075	2623	4376	6265	9017	15496	20181	28283
8200	1102	2688	4485	6421	9243	15883	20686	28990
8400	1129	2754	4595	6578	9468	16271	21190	29697
8600	1155	2819	4704	6735	9694	16658	21695	30404
8800	1182	2885	4814	6891	9919	17046	22199	31111
9000	1209	2950	4923	7048	10145	17433	22704	31818
9200	1236	3016	5032	7204	10370	17820	23208	32525
9400	1263	3082	5142	7361	10595	18208	23713	33232
9600	1290	3147	5251	7518	10821	18595	24217	33939
9800	1317	3213	5361	7674	11046	18983	24722	34647
10000	1344	3278	5470	7831	11272	19370	25226	35354

八 XLCT液压扭矩扳手压力--扭矩对照表

表(4)

型号	2XLCT		4XLCT				8XLCT		14XLCT	30XLCT	
螺母对边(mm)	19-55	60	34-36	41	46-65	70-80	41-95	100-105	50-117	110-155	160-175
Mpa	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m	N.m
7	232	241	585	585	585	647	1094	1177	1852	4188	4459
8	265	275	669	669	669	739	1250	1345	2117	4786	5096
9	299	310	752	752	752	832	1407	1513	2381	5385	5733
10	332	344	836	836	836	924	1563	1682	2646	5983	6370
11	365	379	920	920	920	1017	1719	1850	2910	6581	7007
12	398	413	1003	1003	1003	1109	1876	2018	3175	7180	7644
13	432	448	1087	1087	1087	1202	2032	2186	3440	7778	8281
14	465	482	1171	1171	1171	1294	2188	2354	3704	8376	8918
15	498	517	1255	1255	1255	1387	2344	2523	3969	8975	9555
16	531	551	1338	1338	1338	1479	2501	2691	4233	9573	10192
17	565	586	1422	1422	1422	1572	2657	2859	4498	10171	10829
18	598	620	1506	1506	1506	1664	2813	3027	4762	10769	11467
19	631	655	1589	1589	1589	1757	2970	3195	5027	11368	12104
20	665	689	1673	1673	1673	1849	3126	3364	5292	11966	12741
21	698	724	1757	1757	1757	1942	3282	3532	5556	12564	13378
22	731	758	1840	1840	1840	2034	3439	3700	5821	13163	14015
23	764	793	1924	1924	1924	2127	3595	3868	6085	13761	14652
24	798	827	2008	2008	2008	2219	3751	4037	6350	14359	15289
25	831	862	2092	2092	2092	2312	3907	4205	6615	14958	15926
26	864	896	2175	2175	2175	2404	4064	4373	6879	15556	16563
27	897	931	2259	2259	2259	2497	4220	4541	7144	16154	17200
28	931	965	2343	2343	2343	2589	4376	4709	7408	16753	17837
29	964	1000	2426	2426	2426	2682	4533	4878	7673	17351	18474
30	997	1034	2510	2510	2510	2774	4689	5046	7938	17949	19111
31	1030	1069		2594	2594	2867	4845	5214	8202	18548	19748
32	1064	1103		2677	2677	2959	5002	5382	8467	19146	20385
33	1097	1138		2761	2761	3052	5158	5550	8731	19744	21022
34	1130	1172		2845	2845	3144	5314	5719	8996	20343	21659
35	1164	1207		2929	2929	3237	5470	5887	9260	20941	22296
36	1197	1241		3012	3012	3329	5627	6055	9525	21539	22933
37	1230	1276		3096	3096	3422	5783	6223	9790	22138	23570
38	1263	1310		3180	3180	3514	5939	6391	10054	22736	24207
39	1297	1345		3263	3263	3607	6096	6560	10319	23334	24845
40	1330	1379		3347	3347	3699	6252	6728	10583	23932	25482
41	1363	1414		3431	3431	3792	6408	6896	10848	24531	26119
42	1396	1448		3514	3514	3884	6565	7064	11113	25129	26756
43	1430	1483		3598	3598	3977	6721	7232	11377	25727	27393
44	1463	1517		3682	3682	4069	6877	7401	11642	26326	28030
45	1496	1552		3766	3766	4162	7033	7569	11906	26924	28667
46	1530	1586		3849	3849	4254	7190	7737	12171	27522	29304
47	1563	1621		3933	3933	4347	7346	7905	12435	28121	29941
48	1596	1655		4017	4017	4439	7502	8073	12700	28719	30578
49	1629	1690		4100	4100	4532	7659	8242	12965	29317	31215
50	1663	1724		4184	4184	4624	7815	8410	13229	29916	31852
51	1696	1759		4268	4268	4717	7971	8578	13494	30514	32489
52	1729	1793		4351	4351	4809	8128	8746	13758	31112	33126
53	1762	1828		4435	4435	4902	8284	8914	14023	31711	33763
54	1796	1862		4519	4519	4994	8440	9083	14288	32309	34400
55	1829	1897		4603	4603	5087	8596	9251	14552	32907	35037
56	1862	1931		4686	4686	5179	8753	9419	14817	33506	35674
57	1895	1966		4770	4770	5272	8909	9587	15081	34104	36311
58	1929	2000		4854	4854	5364	9065	9756	15346	34702	36948
59	1962	2035		4937	4937	5457	9222	9924	15611	35301	37585
60	1995	2069		5021	5021	5549	9378	10092	15875	35899	38223
61	2029	2104			5105	5642	9534	10260	16140	36497	38860
62	2062	2138			5188	5734	9691	10428	16404	37095	39497
63	2095	2173			5272	5827	9847	10597	16669	37694	40134
64	2128	2207			5356	5919	10003	10765	16933	38292	40771
65	2162	2242			5440	6012	10159	10933	17198	38890	41408
66	2195	2276			5523	6104	10316	11101	17463	39489	42045
67	2228	2311			5607	6197	10472	11269	17727	40087	42682
68	2261	2345			5691	6289	10628	11438	17992	40685	43319
69	2295	2380			5774	6382	10785	11606	18256	41284	43956
70	2328	2414			5858	6474	10941	11774	18521	41882	44593

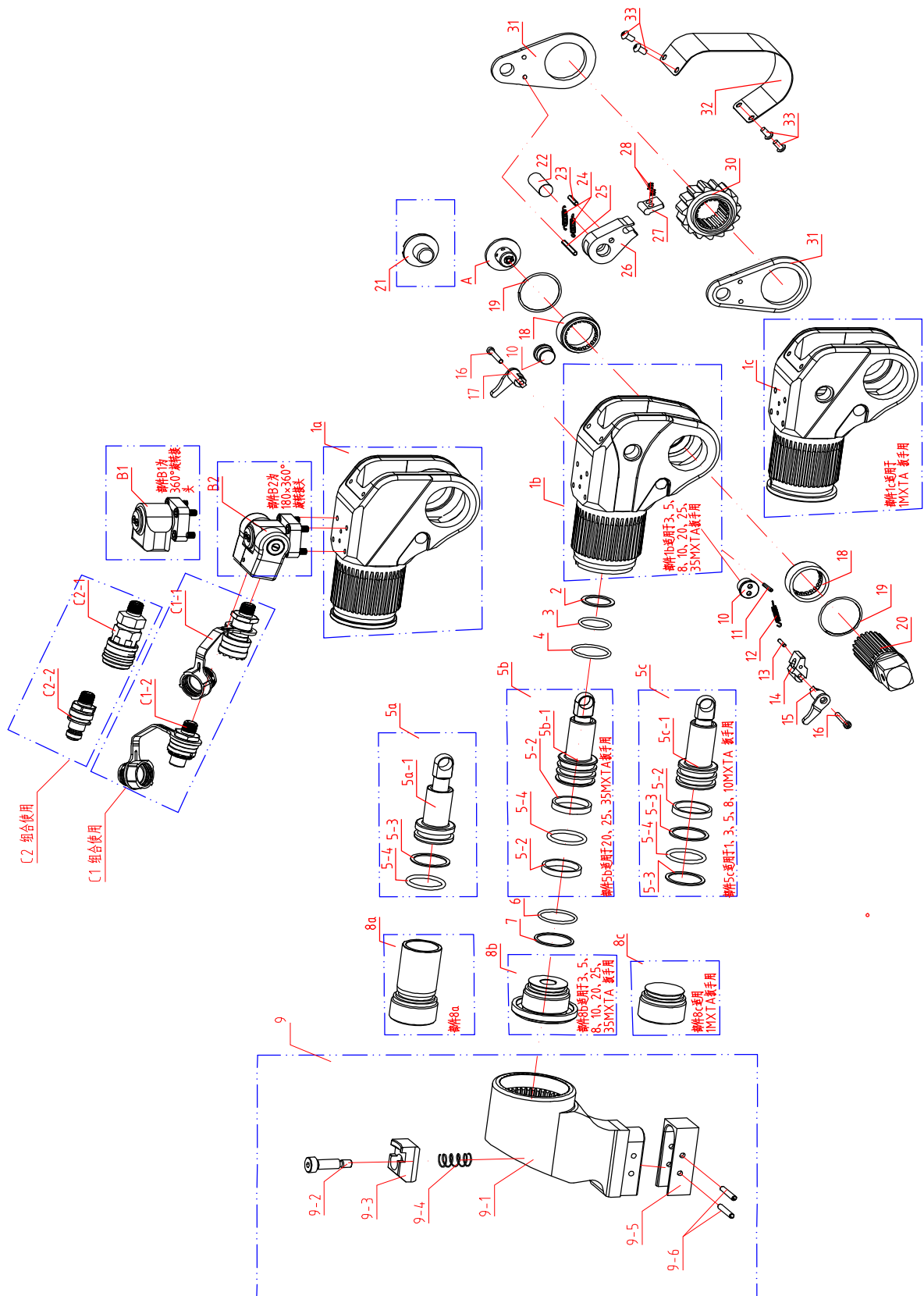
九 XLCT液压扭矩扳手压力--扭矩对照表

表 (5)

型号	2XLCT		4XLCT				8XLCT		14XLCT	30XLCT	
螺母对边(mm)	19-55	60	34-36	41	46-65	70-80	41-95	100-105	50-117	110-155	160-175
psi	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs	ft.lbs
1000	169	175	426	426	426	470	795	855	1346	3043	3240
1200	203	210	511	511	511	564	954	1026	1615	3652	3888
1400	237	245	596	596	596	658	1113	1197	1884	4260	4536
1600	270	280	681	681	681	752	1272	1368	2153	4869	5184
1800	304	315	766	766	766	846	1431	1539	2422	5477	5832
2000	338	350	852	852	852	940	1590	1710	2692	6086	6480
2200	372	385	937	937	937	1034	1749	1881	2961	6694	7127
2400	406	421	1022	1022	1022	1128	1908	2052	3230	7303	7775
2600	440	456	1107	1107	1107	1222	2067	2223	3499	7911	8423
2800	473	491	1192	1192	1192	1317	2226	2395	3768	8520	9071
3000	507	526	1277	1277	1277	1411	2385	2566	4037	9128	9719
3200	541	561	1362	1362	1362	1505	2544	2737	4306	9737	10367
3400	575	596	1447	1447	1447	1599	2703	2908	4575	10345	11015
3600	609	631	1533	1533	1533	1693	2861	3079	4844	10954	11663
3800	642	666	1618	1618	1618	1787	3020	3250	5113	11562	12311
4000	676	701	1703	1703	1703	1881	3179	3421	5383	12171	12959
4200	710	736	1788	1788	1788	1975	3338	3592	5652	12779	13606
4400	744	771	1873	1873	1873	2069	3497	3763	5921	13388	14254
4600	778	806		1958	1958	2163	3656	3934	6190	13996	14902
4800	812	842		2043	2043	2257	3815	4105	6459	14605	15550
5000	845	877		2128	2128	2351	3974	4276	6728	15213	16198
5200	879	912		2214	2214	2445	4133	4447	6997	15822	16846
5400	913	947		2299	2299	2539	4292	4618	7266	16430	17494
5600	947	982		2384	2384	2633	4451	4789	7535	17039	18142
5800	981	1017		2469	2469	2727	4610	4960	7804	17647	18790
6000	1015	1052		2554	2554	2822	4769	5132	8074	18256	19438
6200	1048	1087		2639	2639	2916	4928	5303	8343	18865	20085
6400	1082	1122		2724	2724	3010	5087	5474	8612	19473	20733
6600	1116	1157		2809	2809	3104	5246	5645	8881	20082	21381
6800	1150	1192		2894	2894	3198	5405	5816	9150	20690	22029
7000	1184	1227		2980	2980	3292	5564	5987	9419	21299	22677
7200	1217	1262		3065	3065	3386	5723	6158	9688	21907	23325
7400	1251	1298		3150	3150	3480	5882	6329	9957	22516	23973
7600	1285	1333		3235	3235	3574	6041	6500	10226	23124	24621
7800	1319	1368		3320	3320	3668	6200	6671	10495	23733	25269
8000	1353	1403		3405	3405	3762	6359	6842	10765	24341	25917
8200	1387	1438		3490	3490	3856	6518	7013	11034	24950	26564
8400	1420	1473		3575	3575	3950	6677	7184	11303	25558	27212
8600	1454	1508		3661	3661	4044	6835	7355	11572	26167	27860
8800	1488	1543			3746	4138	6994	7526	11841	26775	28508
9000	1522	1578			3831	4232	7153	7697	12110	27384	29156
9200	1556	1613			3916	4326	7312	7868	12379	27992	29804
9400	1589	1648			4001	4421	7471	8040	12648	28601	30452
9600	1623	1683			4086	4515	7630	8211	12917	29209	31100
9800	1657	1719			4171	4609	7789	8382	13186	29818	31748
10000	1691	1754			4256	4703	7948	8553	13456	30426	32396

# 十 MXTA系列装配图

1MXTA、3MXTA、5MXTA、8MXTA、10MXTA、20MXTA、25MXTA、35MXTA系列



- 说明：1、旋转接头B1和B2为选配件，具有互换性。  
 2、快速接头C1组合与C2组合为选配件，具有互换性。  
 3、1#本体部件与5-1#活塞部件为不可拆分部分。

## 十一 MXTA系列零件详表

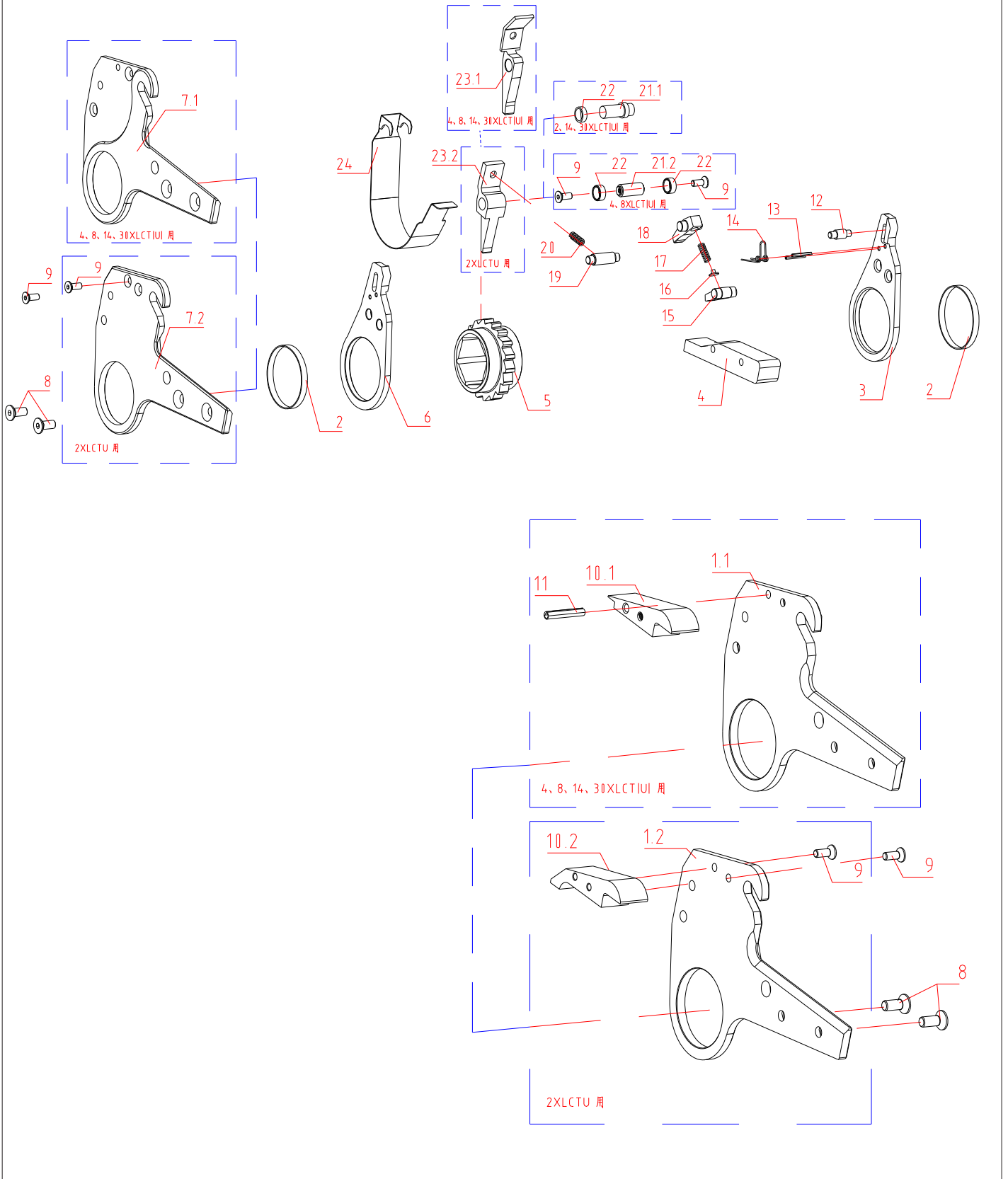
型号		1MXTA	3MXTA	5MXTA	8MXTA	10MXTA	20MXTA	25MXTA	35MXTA
序号	名称	数量	数量	数量	数量	数量	数量	数量	数量
1a	本体部件								
1b			1	1	1	1	1	1	1
1c		1							
2	(本体)挡圈	1							
3	(本体)O形圈/U型圈	1	1	1	1	1	1	1	1
4	(缸套)O型圈								
5a	活塞杆部件								
5b							1	1	1
5c		1	1	1	1	1			
5a-1	活塞部件								
5b-1							1	1	1
5c-1		1	1	1	1	1			
5-2	(活塞)耐磨环	1	1	1	1	1	2	2	2
5-3	(活塞)挡圈	1	1	1	2	1			
5-4	(活塞)O形圈/格来圈	1	1	1	1	1	1	1	1
6	(缸盖)O型圈	1	1	1	1	1	1	1	1
7	(缸盖)挡圈	1	1	1	1	1	1	1	1
8a	缸盖		1	1	1	1	1	1	1
8b									
8c		1							
9	反力臂部件	1	1	1	1	1	1	1	1
9-1	反力臂	1	1	1	1	1	1	1	1
9-2	塞打螺钉	1	1	1	1	1	1	1	1
9-3	定位块	1	1	1	1	1	1	1	1
9-4	(反力臂)压簧	1	1	1	1	1	1	1	1
9-5	马掌	1	1	1	1	1	1	1	1
9-6	(马掌)销	1	1	2	2	2	2	2	2
10	螺钉	2	2	2	2	2	2	2	2
11	本体销	1	1	1	1	1	1	1	1
12	(止退棘爪)拉簧	1	1	1	1	1	1	1	1
13	止退棘爪销	1	1	1	1	1	1	1	1
14	止退棘爪	1	1	1	1	1	1	1	1
15	左复位扳机	1	1	1	1	1	1	1	1
16	(复位扳机)螺钉	2	2	2	2	2	2	2	2
17	右复位扳机	1	1	1	1	1	1	1	1
18	自由花键套	2	2	2	2	2	2	2	2
19	卡簧	2	2	2	2	2	2	2	2
20	驱动轴	1	1	1	1	1	1	1	1
A	锁紧器	1	1	1	1	1	1	1	1
21	锁紧螺钉								
22	销轴	1	1	1	1	1	1	1	1
23	大棘爪销	1	1	1	1	1	1	1	1
24	大棘爪拉簧	2	2	2	2	2	2	2	2
25	驱动板销	1	1	1	1	1	1	1	1
26	大棘爪	1	1	1	1	1	1	1	1
27	小棘爪	1	1	1	1	1	1	1	1
28	小棘爪压簧	2	1	2	2	1	1	1	1
29	(小棘爪压簧)销					1	1	1	1
30	棘轮	1	1	1	1	1	1	1	1
31	驱动板	2	2	2	2	2	2	2	2
32	盖板	1	1	1	1	1	1	1	1
33	(盖板)螺钉	4	4	4	4	4	4	4	4
B1	旋转接头	1	1	1	1	1	1	1	1
B2		1	1	1	1	1	1	1	1
C1-1	凹接头部件	1	1	1	1	1	1	1	1
C2-1		1	1	1	1	1	1	1	1
C1-2	凸接头部件	1	1	1	1	1	1	1	1
C2-2		1	1	1	1	1	1	1	1

说明: 1、旋转接头B1和B2为选配件, 具有互换性。 2、快速接头C1组合与C2组合为选配件, 具有互换性。3、1#本体部件与5-1#活塞部件为不可拆分件。



## 十二 XLCT系列工作头装配图

2XLCT、4XLCT、8XLCT、14XLCT、30XLCT系列



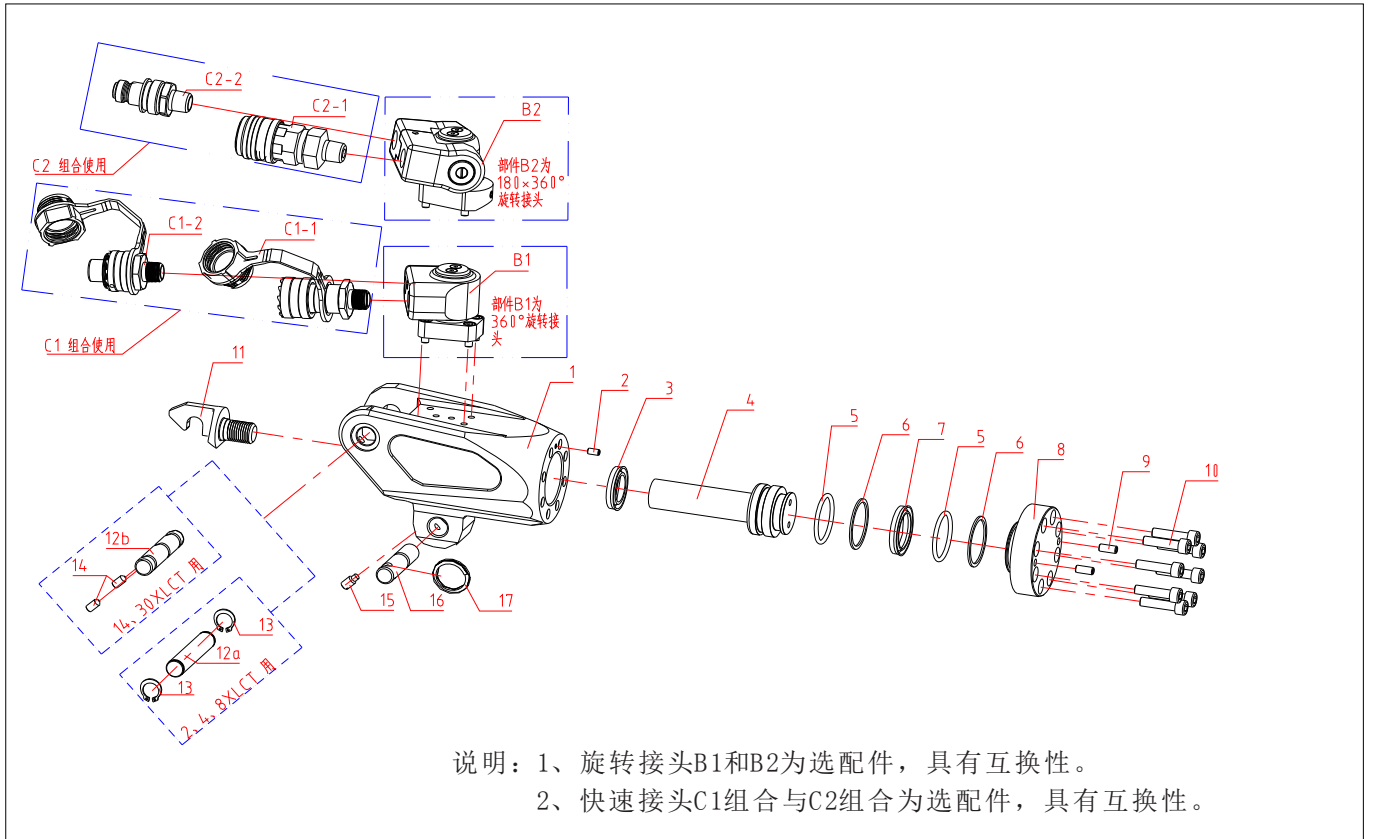
### 十三 XLCT系列工作头零件详图

2XLCT、4XLCT、8XLCT、14XLCT、30XLCT系列

型号		2XLCT	4XLCT	8XLCT	14XLCT	30XLCT
序号	名称	数量	数量	数量	数量	数量
1a	左墙板		1	1	1	1
1b						
2	铜带				2	2
3	右驱动板	1	1	1	1	1
4	反力支板	1	1	1	1	1
5	棘轮	1	1	1	1	1
6	左驱动板	1	1	1	1	1
7a	右墙板		1	1	1	1
7b		1				
8	(反力支板) 螺钉	4	4	4	4	4
9	(轴套、连接垫板) 螺钉	4	4	4	2	2
10a	连接垫板		1	1	1	1
10b		1				
11	(连接垫板) 弹性销		1	1	1	1
12	(驱动板) 驱动销	1	1	1	1	1
13	(驱动板) 弹性销	2	2	2	2	2
14	扭簧	1	1	1	1	1
15	短棘爪	1	1	1	1	1
16	弹簧垫	1				
17	(大棘爪) 压簧	1	1	1	1	1
18	长棘爪	1	1	1	1	1
19	(墙板) 销轴	1	1	1	1	1
20	(止退棘爪) 压簧	1	1	1	1	1
21a	转轴(轴)	1			1	1
21b			1	1		
22	轴套	1	2	2	1	1
23a	止退棘爪		1	1	1	1
23b		1				
24	盖板	1	1	1	1	1

# 十四 XLCT系列二代动力头装配图零件详图

2XLCT、4XLCT、8XLCT、14XLCT、30XLCT系列

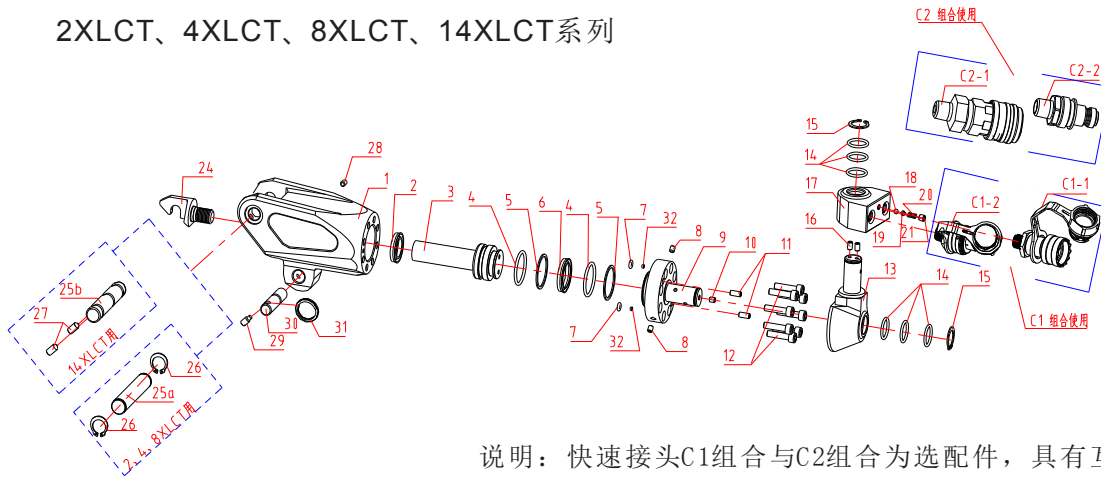


型号		2XLCT-DII	4XLCT-DII	8XLCT-DII	14XLCT-DII	30XLCT-DII
序号	名称	数量	数量	数量	数量	数量
1	本体	1	1	1	1	1
2	堵头(本体)	1		1	1	1
3	(本体)U型圈	1	1	1	1	1
4	活塞杆	1	1	1	1	1
5	(活塞、油缸盖)O型圈	2	2	2	2	2
6	(活塞杆、油缸盖)挡圈	1	2	2	2	2
7	(活塞)U型圈	1	1	1	1	1
8	油缸盖	1	1	1	1	1
9	(油缸盖)顶出螺钉		2	2	2	2
10	(本体)螺钉	8	8	8	8	8
11	勾头	1	1	1	1	1
12a	长销轴	1	1	1		
12b					1	1
13	(长销轴)挡圈	2	2	2		
14	螺钉(长销轴)				2	2
15	碰珠螺钉	1	1	1	1	1
16	短销轴	1	1	1	1	1
17	钥匙圈	1	1	1	1	1
B1	旋转接头	1	1	1	1	1
B2		1	1			
C1-1	凹接头部件	1	1	1	1	1
C2-1		1	1	1	1	1
C1-2		1	1	1	1	1
C2-2		1	1	1	1	1

说明：1、旋转接头B1和B2为选配件，具有互换性。 2、快速接头C1组合与C2组合为选配件，具有互换性。

## 十五 XLCT系列三代动力头装配图零件详图

2XLCT、4XLCT、8XLCT、14XLCT系列



说明：快速接头C1组合与C2组合为选配件，具有互换性。

型号		2XLCT-DIII	4XLCT-DIII	8XLCT-DIII	14XLCT-DIII
序号	名称	数量	数量	数量	数量
1	本体	1	1	1	1
2	(本体) U型圈	1	1	1	1
3	活塞杆	1	1	1	1
4	(活塞、油缸盖) O型圈	2	2	2	2
5	(活塞杆、油缸盖) 挡圈	1	2	2	2
6	(活塞) U型圈	1	1	1	1
7	(油缸盖) O形圈	2	1	1	2
8	(油缸盖侧) 螺钉	2	1	1	2
9	油缸盖	1	1	1	1
10	(油缸盖顶) 螺钉	2	1	1	2
11	(油缸盖) 顶出螺钉		2	2	2
12	(本体) 螺钉	8	8	8	8
13	旋转体	1	1	1	1
14	(旋转体、有缸盖) O形圈	6	6	6	6
15	(旋转体、有缸盖) 挡圈	2	2	2	2
16	(旋转体) 螺钉	4	2	2	4
17	接头座	1	1	1	1
18	钢球	1	1	1	1
19	弹簧座	1	1	1	1
20	弹簧	1	1	1	1
21	(接头座) 堵头	1	1	1	1
24	勾头	1	1	1	1
25a	长销轴	1	1	1	
25b					1
26	(长销轴) 挡圈	2	2	2	
27	螺钉(长销轴)				2
28	螺钉(本体侧)	2	1	1	1
29	碰珠螺钉	1	1	1	1
30	短销轴	1	1	1	1
31	钥匙圈	1	1	1	1
32	压紧套	2			
C1-1	凹接头部件	1	1	1	1
C2-1		1	1	1	1
C1-2		1	1	1	1
C2-2		1	1	1	1

说明：快速接头C1组合与C2组合为选配件，具有互换性。

## 十六 故障与排除

引起的故障	可能引起故障的原因	解决方法
活塞不顶升或回缩	快速接头没有被连接到位	检查快速接头，确保快速接头连接到底
	快速接头有缺陷	替换任何有缺陷的快速接头
	遥控器有缺陷	替换按钮或控制器
	污垢进入泵上的方向控制阀	拆开泵，把方向控制阀擦干净
活塞不回缩	管子接头连接错误	确保泵上的高压接口与工具上的高压接口相连接以及泵上的低压接口与工具上的低压接口相连接
	回油管没有连接好	安全正确的连接回油管
	返回销或弹簧损坏	替换弹簧或销子
油缸不能建立起压力	活塞密封发生泄漏	替换任何有缺陷的密封圈
	接头有缺陷	替换任何有缺陷的接头
方头驱动轴不转动	油渍或污垢存在于棘齿和棘爪间	拆开棘轮部件，擦污垢或油渍
	棘齿或棘爪破旧或损坏	替换任何破旧或损坏的部件
泵不能建立起压力	有缺陷的泄压阀	检查，调节或替换泄压阀
	电压太低	确保电流，电压和其他一些数值符合泵的操作要求
	压力表有缺陷	替换压力表
	油太少	检查和加入足够的泵用油
	过滤器堵塞	检查，擦干净或替换泵用过滤器
螺母随着回程回转	棘轮和止退棘爪未吻合	更换棘爪或更换棘爪的压簧

## 十七 液压扳手的日常保养及运输

### 一、液压扳手的保养

1. 使用前后应检查扳手上各螺钉是否松动，发现有松动，应将拧紧，如不及及时处理导致脱落可能造成设备严重损坏。
2. 扳手内部所有运动部件都应定期涂上优质的NLGI#2硫化二钼，在混杂的环境条件下，清洗和润滑都应进行。
3. 快速接头应保持清洁，工作结束后拧上防尘帽，禁止灰尘进入液压系统导致内部阀的失效，造成设备损坏。
4. 连接各设备，切换方向控制阀，加压检查有无异常。
5. 检查配管或设备是否有漏油现象，如有此类情况发生，请查明原因并对此进行处理。
6. 扳手内部结构件都是相连的，如果有一个零件出现故障，势必会对其他零部件造成磨损，所以要定期检查，及时保养。

### 二、液压扳手噪音/振动声明

液压扳手使用噪声值为： $\leq 70\text{db}$

### 三、液压扳手运输信息

1. 搬运时注意轻拿轻放。
2. 装运时应将产品立式向上，如图9-1所示。

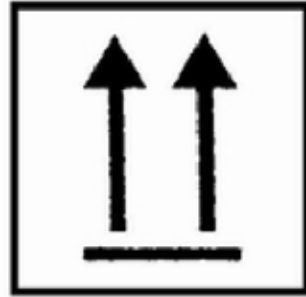


图9-1

3. 产品搬运一般采用手提式或小车搬运移动、吊装移动，如图9-2所示。

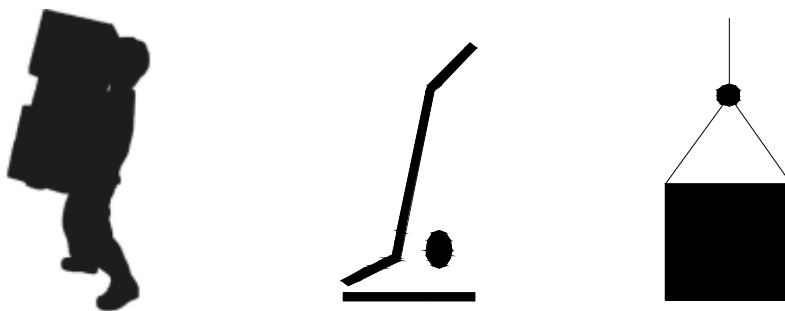


图9-2

## 十八 液压扳手规格参数表

型号	扭矩(N·m)	螺母对边(M)	驱动轴 (inch)		
1MXTA	183-1837	16-36	3/4		
3MXTA	451-4512	22-48	1		
5MXTA	752-7528	27-56	1-1/2		
8MXTA	1078-10780	30-64	1-1/2		
10MXTA	1551-15516	36-72	1-1/2		
20MXTA	2666-26664	42-90	2-1/2		
25MXTA	3472-34725	48-100	2-1/2		
35MXTA	4866-48666	64-120	2-1/2		
型号	扭矩(N.m)	螺栓范围(mm)	型号	扭矩(N.M)	螺栓范围(mm)
2XLCT 19	232-2328	19-55	14XLCT 50	1852-18521	50-117
2XLCT 22	232-2328	19-55	14XLCT 55	1852-18521	50-117
2XLCT 27	232-2328	19-55	14XLCT 60	1852-18521	50-117
2XLCT 30	232-2328	19-55	14XLCT 65	1852-18521	50-117
2XLCT 32	232-2328	19-55	14XLCT 70	1852-18521	50-117
2XLCT 34	232-2328	19-55	14XLCT 75	1852-18521	50-117
2XLCT 36	232-2328	19-55	14XLCT 80	1852-18521	50-117
2XLCT 41	232-2328	19-55	14XLCT 85	1852-18521	50-117
2XLCT 46	232-2328	19-55	14XLCT 90	1852-18521	50-117
2XLCT 50	232-2328	19-55	14XLCT 95	1852-18521	50-117
2XLCT 55	232-2328	19-55	14XLCT 100	1852-18521	50-117
2XLCT 60	241-2414	60	14XLCT 105	1852-18521	50-117
4XLCT 34	585-2510	34-65	14XLCT 110	1852-18521	50-117
4XLCT 36	585-2510	34-65	14XLCT 115	1852-18521	50-117
4XLCT 41	585-5021	34-65	14XLCT 117	1852-18521	50-117
4XLCT 46	585-5858	34-65	30XLCT 85	4188-41882	85-155
4XLCT 50	585-5858	34-65	30XLCT 90	4188-41882	85-155
4XLCT 55	585-5858	34-65	30XLCT 95	4188-41882	85-155
4XLCT 60	585-5858	34-65	30XLCT 100	4188-41882	85-155
4XLCT 65	585-5858	34-65	30XLCT 105	4188-41882	85-155
4XLCT 70	647-6474	70-80	30XLCT 110	4188-41882	85-155
4XLCT 75	647-6474	70-80	30XLCT 115	4188-41882	85-155
4XLCT 80	647-6474	70-80	30XLCT 117	4188-41882	85-155
8XLCT 41	1097-10941	41-95	30XLCT 120	4188-41882	85-155
8XLCT 46	1097-10941	41-95	30XLCT 125	4188-41882	85-155
8XLCT 50	1097-10941	41-95	30XLCT 130	4188-41882	85-155
8XLCT 55	1097-10941	41-95	30XLCT 135	4188-41882	85-155
8XLCT 60	1097-10941	41-95	30XLCT 140	4188-41882	85-155
8XLCT 65	1097-10941	41-95	30XLCT 145	4188-41882	85-155
8XLCT 70	1097-10941	41-95	30XLCT 150	4188-41882	85-155
8XLCT 75	1097-10941	41-95	30XLCT 155	4188-41882	85-155
8XLCT 80	1097-10941	41-95	30XLCT 160	4459-44593	160-175
8XLCT 85	1097-10941	41-95	30XLCT 165	4459-44593	160-175
8XLCT 90	1097-10941	41-95	30XLCT 170	4459-44593	160-175
8XLCT 95	1097-10941	41-95	30XLCT 175	4459-44593	160-175
8XLCT 100	1177-11774	100-105			
8XLCT 105	1177-11774	100-105			



**EC-ATTESTATION CERTIFICATE  
OF MACHINE SAFETY**

**Date/Place of Issue** : 29.08.2012 / ISTANBUL  
**Valid Until** : 28.08.2017  
**Name of Applicant** : HANGZHOU WREN HYDRAULIC EQUIPMENT MANUFACTURING CO., LTD  
**Address of Applicant** : NO. 24, XINGXING ROAD, XINGQIAO, YUHANG DISTRICT,  
HANGZHOU, CHINA  
**Name of Manufacturer** : HANGZHOU WREN HYDRAULIC EQUIPMENT MANUFACTURING CO., LTD  
**Address of Manufacturer** : NO. 24, XINGXING ROAD, XINGQIAO, YUHANG DISTRICT,  
HANGZHOU, CHINA  
**Description of Product** : HYDRAULIC TORQUE WRENCH  
**Model(s)** : # IBT SERIES; LOW SERIES; XLCT SERIES, #  
# MXTA SERIES; S SERIES; H SERIES. #  
**Assessment Performed** : CONFORMITY TO ANNEX I's APPLICABLE PARAGRAPHS OF 2006/42/EC  
MACHINERY DIRECTIVE.  
**Standard(s)** : # EN ISO 12100: 2010; EN ISO 4413: 2010.#  
**Conditions Subject to Issue** : ACCEPTANCE OF INFORMATION DETAILED IN TECHNICAL FILE  
TCF-120813-205 AND REFERENCED AGAINST JOB FILE IS1250-0782.  
**Declaration** : IN THE OPINION OF SGS THE SUBMITTED TECHNICAL FILE  
TCF-120813-205 SATISFIES THE REQUIREMENTS OF THE  
MACHINERY DIRECTIVE 2006/42/EC ANNEX-VII.  
**Assessor ID No.** : TR-IND-S20  
**Date/Place of Assessment** : 06.08.2012 / YUHANG - CHINA

Test reports in technical file TCF-120813-205 and referenced against job file IS1250-0782 are reviewed and found to be acceptable. The certificate is valid as long as the relevant directives and harmonised standards written above are current. The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.



This EC-Attestation Certificate is only valid for the equipment and configuration described in conjunction with the data detailed above. It refers only to the sample submitted to SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş. for testing and certification. Any modifications made to the product shall immediately be reported to SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş. office in order to examine whether this certificate remains valid. This certificate shall not be reproduced except in full without the written approval of SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş.

For and on behalf of  
SGS Supervise Gözetme Etüd  
Kontrol Servisleri A.Ş.

SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş.  
Abide-i Hürriyet Cad. Geçit Sokak  
NO:4 K:1-2-3-4 34381 Şişli İstanbul- TURKEY  
t: 90.212.3684000 (Pbx)  
f: 90.212.2964782-83  
e: [sgs\\_turkey@sgs.com](mailto:sgs_turkey@sgs.com)

S-IND-F-32/ Rev:4

Ali Osman ÖZVEREN  
Page 1 of 1





## 国际单位换算公式

长度				
国际单位	转换系数	非国际单位	转换系数	国际单位
毫米 (mm)	×0.03937	寸	×25.4	毫米
厘米 (cm)	×0.3937	寸	×2.51	厘米
米 (m)	×1.0936	码	×0.944	米
千米 (km)	×0.62	里	×1.61	公里
面积				
国际单位	转换系数	非国际单位	转换系数	国际单位
平方毫米 (mm <sup>2</sup> )	×0.00155	平方英寸	×645	平方毫米
平方厘米 (cm <sup>2</sup> )	×0.155	平方英寸	×6.45	平方厘米
平方米 (m <sup>2</sup> )	×10.8	平方英尺	×0.0929	平方米
平方米 (m <sup>2</sup> )	×1.2	平方码	×0.836	平方米
公顷 (ha)	×2.47	英亩	×0.405	公顷
平方千米 (km <sup>2</sup> )	×0.39	平方英里	×2.59	平方千米
容积				
国际单位	转换系数	非国际单位	转换系数	国际单位
立方厘米 (cm <sup>3</sup> )	×0.061	立方英寸	×16.4	立方厘米
升 (L)	×61	立方英寸	×0.016	1升
毫升 (ML)	×0.034	盎司-流体	×29.6	毫升
升 (L)	×1.06	夸脱	×0.946	1升
升 (L)	×0.26	加仑	×3.79	1升
立方米 (m <sup>3</sup> )	×1.3	立方码	×0.76	立方米
质量				
国际单位	转换系数	非国际单位	转换系数	国际单位
克 (g)	×0.035	盎司	×28.36	克
千克 (kg)	×2.2	磅	×0.454	公斤
公吨 (t)	×1.1	短吨	×0.907	吨
力				
国际单位	转换系数	非国际单位	转换系数	国际单位
牛顿 (N)	×0.225	磅	×4.45	牛顿
千牛 (KN)	×225	磅	×0.00445	千牛顿
扭矩				
国际单位	转换系数	非国际单位	转换系数	国际单位
牛顿·米 (N.M)	×8.9	磅·英寸	×0.113	牛顿·米
牛顿·米 (N.M)	×0.74	磅·英尺	×1.36	牛顿·米
压强				
国际单位	转换系数	非国际单位	转换系数	国际单位
千帕 (kpa)	×4	英寸水柱	×0.249	千帕
千帕 (kpa)	×0.3	英寸汞柱	×3.38	千帕
千帕 (kpa)	×0.145	磅/英寸 <sup>2</sup>	×6.89	千帕
兆帕 (Mpa)	×145	磅/英寸 <sup>2</sup>	×0.00689	兆帕
巴 (Bar)	×14.5	磅/英寸 <sup>2</sup>	×0.0689	巴
功率				
国际单位	转换系数	非国际单位	转换系数	国际单位
千瓦 (kw)	×1.34	马力	×0.746	千瓦
瓦特 (w)	×0.74	英寸磅/秒	×1.36	瓦
温度				
°C = ( F - 32 ) ÷ 1.8		F = ( °C × 1.8 ) + 32		



Hangzhou WREN Hydraulic Equipment  
Manufacturing Co.,Ltd

RECYCLED  
PAPER

