

**L-Wrenches
Hex Ball Drivers®**

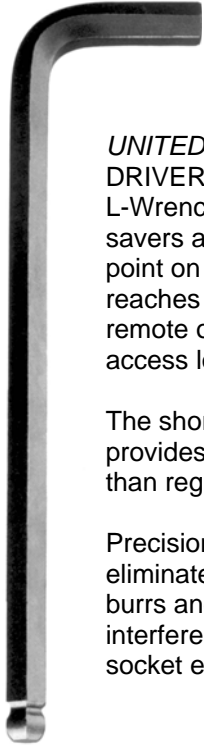
Hex Ball Driver®

L-Wrenches and Sets

L – WRENCHES HEX BALL DRIVERS®

Save Time and Costs!

UNITED BALL DRIVER® L-Wrenches are guaranteed to be free of defects. We will replace free any returned defective tools.



UNITED BALL DRIVER®

L-Wrenches are work savers as this ball point on long blades reaches difficult, blind, remote or hard-to-access locations.

The short arm provides higher torque than regular hex keys.

Precision chamfering eliminates cut off burrs and avoids interference with socket engagement.

INDIVIDUAL PART NO.	INCH SIZES	BLADE INCH	LEN MM	PKG QTY	INDIVIDUAL PART NO.	METRIC SIZES	BLADE INCH	LEN MM	PKG QTY
UDB-10902	.050	2.8	71	10	UDB-10949	1.27	2.8	71	10
UDB-10903	1/16	3.0	76	10	UDB-10950	1.5	3.0	76	10
UDB-10904	5/64	3.2	81	10	UDB-10952	2	3.2	81	10
UDB-10905	3/32	3.4	86	10	UDB-10954	2.5	3.5	89	10
UDB-10906	7/64	3.6	91	10	UDB-10956	3	3.9	99	10
UDB-10907	1/8	3.8	97	10	UDB-10958	3.5	4.0	102	10
UDB-10908	9/64	3.9	99	10	UDB-10960	4	4.3	109	10
UDB-10909	5/32	4.1	104	10	UDB-10962	4.5	4.7	119	10
UDB-10910	3/16	4.5	114	10	UDB-10964	5	5.0	127	10
UDB-10911	7/32	4.9	124	10	UDB-10966	5.5	5.5	140	10
UDB-10912	1/4	5.2	132	10	UDB-10968	6	5.9	150	10
UDB-10913	5/16	6.0	152	10	UDB-10970	7	6.0	152	10
UDB-10914	3/8	6.8	173	10	UDB-10972	8	6.7	170	10
UDB-10915	7/16	7.5	191	2	UDB-10974	9	7.1	180	10
UDB-10916	1/2	8.3	211	2	UDB-10976	10	7.4	188	10
UDB-10917	9/16	9.0	229	2	UDB-10978	11	7.9	201	2
UDB-10918	5/8	9.8	249	2	UDB-10980	12	8.7	221	2
UDB-10919	3/4	11.3	287	1	UDB-10984	14	10.2	259	2
					UDB-10986	17	11.0	279	1
					UDB-10988	19	11.6	295	1

Bulk and Individuals are available.

L – WRENCHES HEX BALL DRIVERS® SETS



UNITED BALL DRIVER® L-Wrenches Sets are compact and versatile.

Sets are packaged in *UNITED'S* key case that has individually marked slots securing each wrench by twisting in place.

The variety of tool sizes allow you to do the job quicker and easier.

Ideal for jobs requiring a variety of tool sizes!

UNITED PART NO.	USA INCH SIZES	TOOLS PER SET
UDB-10932	.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32	8
UDB-10936	.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16	12
UDB-10937	.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8	13
UDB-10938	1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4	10
UDB-10945	5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16	7
UNITED PART NO.	USA METRIC SIZES	TOOLS PER SET
UDB-10946	1.5, 2, 2.5, 3, 4, 5	6
UDB-10999	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10	9

12-17-98

Hex Ball Drivers® And Sets

Hex Ball Driver® Sets

UNITED HEX BALL DRIVERS® are superior to any standard hex tools. The ball point on the blade allows access in a wide variety of work situations. The arm and handle grip allows high torque.

They are easy to use and identify. Handles are color coded and stamped in both inch and metric sizes.

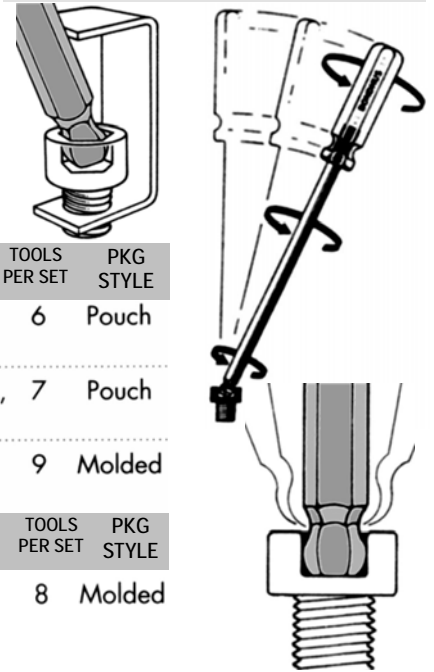
Handles and blade lengths are proportioned to allow optimum torque.

UNITED PART NO.	USA INCHES SIZES	TOOLS PER SET	PKG STYLE
UDB-10632	.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32	8	Pouch
UDB-10633	7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16	8	Roll Up
UDB-10637	.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8	13	Molded
UDB-10645	5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16	7	Pouch

UNITED PART NO.	LONGER INCH SIZES	TOOLS PER SET	PKG STYLE
UDB-10737	5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8	11	Molded

UNITED PART NO.	USA METRIC SIZES	TOOLS PER SET	PKG STYLE
UDB-10686	1.5, 2, 2.5, 3, 4, 5mm	6	Pouch
UDB-10687	1.27, 1.5, 2, 2.5, 3, 4, 5mm	7	Pouch
UDB-10699	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10mm	9	Molded
PART NO.	LONGER METRIC SIZES	TOOLS PER SET	PKG STYLE
UDB-10733	2, 2.5, 3, 4, 5, 6, 8, 10mm	8	Molded

HEX BALL DRIVER® SETS



UNITED BALL DRIVER® Socket Drivers work faster because the ball point on the long blade reaches difficult or hard to access locations.

Handles and blade length are proportional to allow fasteners torque. Easy color coding and ergonomically designed handles made of 8650 tool steel give you the best in the industry.

Both inch and metric sizes are available in standard and long length.



Protanium™ High Torque 8650 Steel — Ergonomically designed handles

PART NO.	SIZES	INCH	MM	OAL MM	PKG QTY	PART NO.	SIZES	INCH	MM	OAL MM	PKG QTY
UDB-10602	.050	3.2	81	4.7	10	UDB-10649	1.27	3.2	81	119	10
UDB-10603	1/16	3.3	83	4.8	10	UDB-10650	1.5	3.4	86	124	10
UDB-10604	5/64	3.5	88	5.3	10	UDB-10652	2	3.5	89	138	10
UDB-10605	3/32	3.7	94	5.6	10	UDB-10654	2.5	3.9	99	146	10
UDB-10606	7/64	2.9	73	5.1	10	UDB-10656	3	3.3	81	139	10
UDB-10607	1/8	3.1	78	5.3	10	UDB-10658	3.5	3.5	89	143	10
UDB-10608	9/64	3.3	83	6.1	10	UDB-10660	4	3.8	97	170	10
UDB-10609	5/32	3.5	88	6.4	10	UDB-10662	4.5	4.3	109	182	10
UDB-10610	3/16	3.8	96	7.3	10	UDB-10664	5	4.3	109	199	10
UDB-10611	7/32	4.2	106	7.7	10	UDB-10666	5.5	5.0	127	215	10
UDB-10612	1/4	4.7	119	8.6	5	UDB-10668	6	5.4	137	227	10
UDB-10613	5/16	5.6	142	9.4	5	UDB-10670	7	5.7	145	234	10
UDB-10614	3/8	6.5	165	10.4	5	UDB-10672	8	6.4	163	261	5
UDB-10615	7/16	7.6	193	11.5	1	UDB-10674	9	6.9	175	273	5
UDB-10616	1/2	8.5	215	12.5	1	UDB-10676	10	7.3	185	283	5

HEX BALL SOCKET DRIVER® SETS

Longer sizes available.

Dowel Pins

Precise Alignment in Mating Parts with UNITED Dowel Pins



8 RMS-RC55-60 TO NAS-MS STDS
ALLOY STEEL — NOMINAL PLUS .0002 MAX

UNITED's DOWEL PINS: Precision ground—Finish 8 RMS—Heat treated—RC55-60—Meet NAS and MS standards—Tough Alloy Steel—Available .0002 or .001 oversize Oversize .0002 is standard. DOWEL PINS are most commonly used to retain parts in a fixed position. They may also be used for alignment in mating parts. Special sizes, materials and finishes available on request.

DIA.	LENGTH OVER ALL	PART NO. .0002 OVERSIZED DIAMETER A	PART NO. .001 OVERSIZED DIAMETER B	NO PER BOX	DIA.	LENGTH OVER ALL	PART NO. .0002 OVERSIZED DIAMETER A	PART NO. .001 OVERSIZED DIAMETER B	NO PER BOX
1/8"	3/8	DP-A-1/8-3/8	DP-B-1/8-3/8	100	7/16"	7/8 SPL	DP-A-7/16-7/8	DP-B-7/16-7/8	100
	1/2	DP-A-1/8-1/2	DP-B-1/8-1/2			1	DP-A-7/16-1	DP-B-7/16-1	
	5/8	DP-A-1/8-5/8	DP-B-1/8-5/8			1 1/4	DP-A-7/16-1 1/4	DP-B-7/16-1 1/4	
	3/4	DP-A-1/8-3/4	DP-B-1/8-3/4			1 1/2	DP-A-7/16-1 1/2	DP-B-7/16-1 1/2	
	7/8	DP-A-1/8-7/8	DP-B-1/8-7/8			1 3/4	DP-A-7/16-1 3/4	DP-B-7/16-1 3/4	
	1	DP-A-1/8-1	DP-B-1/8-1			2	DP-A-7/16-2	DP-B-7/16-2	
	1 1/8 SPL	DP-A-1/8-1 1/8	DP-B-1/8-1 1/8			2 1/4 SPL	DP-A-7/16-2 1/4	DP-B-7/16-2 1/4	
	1 1/4	DP-A-1/8-1 1/4	DP-B-1/8-1 1/4			2 1/2	DP-A-7/16-2 1/2	DP-B-7/16-2 1/2	
	1 3/8	DP-A-1/8-1 3/8	DP-B-1/8-1 3/8			2 3/4 SPL	DP-A-7/16-2 3/4	DP-B-7/16-2 3/4	
	1 1/2	DP-A-1/8-1 1/2	DP-B-1/8-1 1/2			3	DP-A-7/16-3	DP-B-7/16-3	
	1 3/4	DP-A-1/8-1 3/4	DP-B-1/8-1 3/4			3/4	DP-A-1/2-3/4	DP-B-1/2-3/4	
	2	DP-A-1/8-2	DP-B-1/8-2			1	DP-A-1/2-1	BP-B-1/2-1	
3/16"	1/2	DP-A-3/16-1/2	DP-B-3/16-1/2	100	1/2"	1 1/4	DP-A-1/2-1 1/4	DP-B-1/2-1 1/4	50
	5/8	DP-A-3/16-5/8	DP-B-3/16-5/8			1 1/2	DP-A-1/2-1 1/2	DP-B-1/2-1 1/2	
	3/4	DP-A-3/16-3/4	DP-B-3/16-3/4			1 3/4	DP-A-1/2-1 3/4	DP-B-1/2-1 3/4	
	7/8	DP-A-3/16-7/8	DP-B-3/16-7/8			2	DP-A-1/2-2	DP-B-1/2-2	
	1	DP-A-3/16-1	DP-B-3/16-1			2 1/4	DP-A-1/2-2 1/4	DP-B-1/2-2 1/4	
	1 1/8 SPL	DP-A-3/16-1 1/8	DP-B-3/16-1 1/8			2 1/2	DP-A-1/2-2 1/2	DP-B-1/2-2 1/2	
	1 1/4	DP-A-3/16-1 1/4	DP-B-3/16-1 1/4			2 3/4 SPL	DP-A-1/2-2 3/4	DP-B-1/2-2 3/4	
	1 3/8 SPL	DP-A-3/16-1 3/8	DP-B-3/16-1 3/8			3	DP-A-1/2-3	DP-B-1/2-3	
	1 1/2	DP-A-3/16-1 1/2	DP-B-3/16-1 1/2			3 1/4 SPL	DP-A-1/2-3 1/4	DP-B-1/2-3 1/4	
	1 3/4	DP-A-3/16-1 3/4	DP-B-3/16-1 3/4			3 1/2	DP-A-1/2-3 1/2	DP-B-1/2-3 1/2	
	2	DP-A-3/16-2	DP-B-3/16-2			3 3/4	DP-A-1/2-3 3/4	DP-B-1/2-3 3/4	
	1/4"	1/2	DP-A-1/4-1/2			DP-B-1/4-1/2	100	5/8"	
5/8		DP-A-1/4-5/8	DP-B-1/4-5/8	1	DP-A-5/8-1	DP-B-5/8-1			
3/4		DP-A-1/4-3/4	DP-B-1/4-3/4	1 1/4	DP-A-5/8-1 1/4	DP-B-5/8-1 1/4			
7/8		DP-A-1/4-7/8	DP-B-1/4-7/8	1 1/2	DP-A-5/8-1 1/2	DP-B-5/8-1 1/2			
1		DP-A-1/4-1	DP-B-1/4-1	1 3/4	DP-A-5/8-1 3/4	DP-B-5/8-1 3/4			
1 1/8		DP-A-1/4-1 1/8	DP-B-1/4-1 1/8	2	DP-A-5/8-2	DP-B-5/8-2			
1 1/4		DP-A-1/4-1 1/4	DP-B-1/4-1 1/4	2 1/4	DP-A-5/8-2 1/4	DP-B-5/8-2 1/4			
1 3/8		DP-A-1/4-1 3/8	DP-B-1/4-1 3/8	2 1/2	DP-A-5/8-2 1/2	DP-B-5/8-2 1/2			
1 1/2		DP-A-1/4-1 1/2	DP-B-1/4-1 1/2	2 3/4 SPL	DP-A-5/8-2 3/4	DP-B-5/8-2 3/4			
1 3/4		DP-A-1/4-1 3/4	DP-B-1/4-1 3/4	3	DP-A-5/8-3	DP-B-5/8-3			
2		DP-A-1/4-2	DP-B-1/4-2	3 1/4 SPL	DP-A-5/8-3 1/4	DP-B-5/8-3 1/4			
2 1/4		DP-A-1/4-2 1/4	DP-B-1/4-2 1/4	3 1/2	DP-A-5/8-3 1/2	DP-B-5/8-3 1/2			
2 1/2	DP-A-1/4-2 1/2	DP-B-1/4-2 1/2	3 3/4 SPL	DP-A-5/8-3 3/4	DP-B-5/8-3 3/4				
5/16"	1/2	DP-A-5/16-1/2	DP-B-5/16-1/2	100	3/4"	4 1/2	DP-A-5/8-4 1/2	DP-B-5/8-4 1/2	10
	5/8	DP-A-5/16-5/8	DP-B-5/16-5/8			5	DP-A-5/8-5	DP-B-5/8-5	
	3/4	DP-A-5/16-3/4	DP-B-5/16-3/4			1 1/2 SPL	DP-A-3/4-1 1/2	DP-B-3/4-1 1/2	
	7/8	DP-A-5/16-7/8	DP-B-5/16-7/8			2	DP-A-3/4-2	DP-B-3/4-2	
	1	DP-A-5/16-1	DP-B-5/16-1			2 1/4 SPL	DP-A-3/4-2 1/4	DP-B-3/4-2 1/4	
	1 1/8 SPL	DP-A-5/16-1 1/8	DP-B-5/16-1 1/8			2 1/2	DP-A-3/4-2 1/2	DP-B-3/4-2 1/2	
	1 1/4	DP-A-5/16-1 1/4	DP-B-5/16-1 1/4			2 3/4 SPL	DP-A-3/4-2 3/4	DP-B-3/4-2 3/4	
	1 3/8 SPL	DP-A-5/16-1 3/8	DP-B-5/16-1 3/8			3	DP-A-3/4-3	DP-B-3/4-3	
	1 1/2	DP-A-5/16-1 1/2	DP-B-5/16-1 1/2			3 1/4 SPL	DP-A-3/4-3 1/4	DP-B-3/4-3 1/4	
	1 3/4	DP-A-5/16-1 3/4	DP-B-5/16-1 3/4			3 1/2	DP-A-3/4-3 1/2	DP-B-3/4-3 1/2	
	2	DP-A-5/16-2	DP-B-5/16-2			3 3/4 SPL	DP-A-3/4-3 3/4	DP-B-3/4-3 3/4	
	2 1/4	DP-A-5/16-2 1/4	DP-B-5/16-2 1/4			4	DP-A-3/4-4	DP-B-3/4-4	
2 1/2	DP-A-5/16-2 1/2	DP-B-5/16-2 1/2	4 1/2	DP-A-3/4-4 1/2	DP-B-3/4-4 1/2				
2 3/4	DP-A-5/16-2 3/4	DP-B-5/16-2 3/4	5	DP-A-3/4-5	DP-B-3/4-5				
3	DP-A-5/16-3	DP-B-5/16-3	6	DP-A-3/4-6	DP-B-3/4-6				
3/8"	1/2	DP-A-3/8-1/2	DP-B-3/8-1/2	100	7/8"	2	DP-A-7/8-2	DP-B-7/8-2	10
	5/8	DP-A-3/8-5/8	DP-B-3/8-5/8			2 1/2	DP-A-7/8-2 1/2	DP-B-7/8-2 1/2	
	3/4	DP-A-3/8-3/4	DP-B-3/8-3/4			3	DP-A-7/8-3	DP-B-7/8-3	
	7/8	DP-A-3/8-7/8	DP-B-3/8-7/8			3 1/2	DP-A-7/8-3 1/2	DP-B-7/8-3 1/2	
	1	DP-A-3/8-1	DP-B-3/8-1			4	DP-A-7/8-4	DP-B-7/8-4	
	1 1/4	DP-A-3/8-1 1/4	DP-B-3/8-1 1/4			4 1/2	DP-A-7/8-4 1/2	DP-B-7/8-4 1/2	
	1 3/8 SPL	DP-A-3/8-1 3/8	DP-B-3/8-1 3/8			5	DP-A-7/8-5	DP-B-7/8-5	
	1 1/2	DP-A-3/8-1 1/2	DP-B-3/8-1 1/2			6	DP-A-7/8-6	DP-B-7/8-6	
	1 3/4	DP-A-3/8-1 3/4	DP-B-3/8-1 3/4			2	DP-A-1-2	DP-B-1-2	
	2	DP-A-3/8-2	DP-B-3/8-2			2 1/2	DP-A-1 2 1/2	DP-B-1 2 1/2	
	2 1/4	DP-A-3/8-2 1/4	DP-B-3/8-2 1/4			3	DP-A-1-3	DP-B-1-3	
	2 1/2	DP-A-3/8-2 1/2	DP-B-3/8-2 1/2			3 1/2	DP-A-1-3 1/2	DP-B-1-3 1/2	
2 3/4 SPL	DP-A-3/8-2 3/4	DP-B-3/8-2 3/4	4	DP-A-1-4	DP-B-1-4				
3	DP-A-3/8-3	DP-B-3/8-3	4 1/2	DP-A-1-4 1/2	DP-B-1-4 1/2				
1"				5	1"	5	DP-A-1-5	DP-B-1-5	
						6	DP-A-1-6	DP-B-1-6	

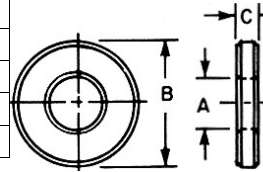
Flat, Spherical, Plain C and Swing C-Washers



UNITED PART NO.	BOLT / STUD SIZE	A I. D.	B O. D.	C THICKNESS	UNITED PART NO.	BOLT / STUD SIZE	A I. D.	B O. D.	C THICKNESS
UDB-926545(-SS)	#10 (3/16)	13/64	1/2	3/32	UDB-926590	5/8	21/32	1-3/8	3/16
UDB-926550(-SS)	1/4	9/32	5/8	1/8	UDB-926595(-SS)	3/4	25/32	1-5/8	5/32
UDB-926555(-SS)	5/16	11/32	3/4	1/8	UDB-926600	3/4	25/32	1-5/8	1/4
UDB-926560	5/16	11/32	3/4	3/16	UDB-926605(-SS)	7/8	29/32	1-3/4	5/32
UDB-926565(-SS)	3/8	13/32	7/8	1/8	UDB-926610	7/8	29/32	1-3/4	1/4
UDB-926570	3/8	13/32	7/8	3/16	UDB-926615(-SS)	1"	1-1/32	2"	3/16
UDB-926572(-SS)	7/16	15/32	1"	1/8	UDB-926620	1"	1-1/32	2"	9/32
UDB-926575(-SS)	1/2	17/32	1-1/8	1/8	UDB-926625	1-1/8	1-5/32	2-1/4	9/32
UDB-926580	1/2	17/32	1-1/8	3/16	UDB-926627	1-1/4	1-9/32	2-1/2	1/4
UDB-926585(-SS)	5/8	21/32	1-3/8	1/8	UDB-926630(-SS)	1-1/4	1-9/32	2-1/2	9/32

C-12L14 STEEL
CARBURIZED
HARDENED
HEAT TREATED
BLACK OXIDE FINISH

STAINLESS 300
SERIES AVAILABLE



FLAT WASHERS

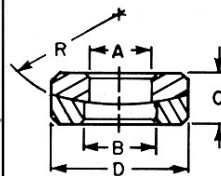


Refer to Page G23 for Stainless.

'(-SS)' INDICATES SIZES AVAILABLE IN STAINLESS STEEL. ADD 'SS' TO PART NO. FOR STAINLESS.

ADD 'SS' TO PART NO. FOR STAINLESS STEEL. SHADED PART NO.s AVAILABLE IN STAINLESS. ALL OTHERS ARE SPECIALS IF STAINLESS.

Assembly PART NO.	* TOP PART NO.	* BOTTOM PART NO.	STUD DIA.	A	B	C	D	R
* UDB-926250	UDB-926350	UDB-926450	1/4	9/32	5/16	3/16	5/8	3/4
* UDB-926255	UDB-926355	UDB-926455	5/16	11/32	3/8	1/4	3/4	1
* UDB-926260	UDB-926360	UDB-926460	3/8	13/32	7/16	1/4	7/8	1-1/4
* UDB-926265	UDB-926365	UDB-926465	1/2	17/32	9/16	5/16	1-1/8	1-1/2
* UDB-926270	UDB-926370	UDB-926470	5/8	21/32	11/16	5/16	1-3/8	1-3/4
* UDB-926275	UDB-926375	UDB-926475	3/4	25/32	13/16	3/8	1-5/8	2-1/4
* UDB-926280	UDB-926380	UDB-926480	7/8	15/16	1	3/8	1-3/4	2-1/2
* UDB-926285	UDB-926385	UDB-926485	1	1-1/16	1-1/8	1/2	2	2-3/4
UDB-926290	UDB-926390	UDB-926490	1-1/8	1-11/64	1-1/4	1/2	2-1/4	3
UDB-926295	UDB-926395	UDB-926495	1-1/4	1-19/64	1-3/8	1/2	2-5/8	3
UDB-926300	UDB-926400	UDB-926500	1-1/2	1-9/16	1-5/8	9/16	2-7/8	3



* T.C.M.A. STANDARD

SPHERICAL WASHERS



Refer to Page G21 for Stainless.

C-WASHERS are best used for applications requiring repetitive insertion and removal of the work piece.

PART NO.	A	B	C	PART NO.	A	B	C
* UDB-926000	9/32	3/4	1/4	* UDB-926028	21/32	2-1/8	3/8
* UDB-926002		1		UDB-926030		2-1/2	
* UDB-926004		1-1/4		UDB-926032		3	
UDB-926006		1-1/2		* UDB-926034	25/32	2-1/2	7/16
UDB-926008		1-3/4		UDB-926036		2-7/8	
UDB-926010	11/32	1	5/16	UDB-926038		3-3/8	
* UDB-926012		1-1/4		UDB-926040	29/32	2	7/16
UDB-926014		1-1/2		UDB-926042		2-1/2	
* UDB-926016	13/32	1-1/4	3/8	UDB-926044		3	
* UDB-926018		1-1/2		UDB-926046	1-1/32	2-1/2	1/2
* UDB-926020		1-3/4		UDB-926048		3	
* UDB-926022	17/32	1-7/8	3/8	UDB-926050		3-1/2	
* UDB-926024		2-1/4					
UDB-926026		2-3/4					



* T.C.M.A. STANDARD



GROUND PARALLEL
HEAT TREATED STEEL — BLACK OXIDE FINISH

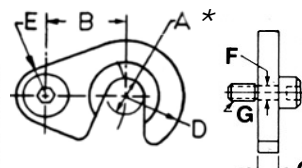
Refer to Page G23 for Stainless.

All SWING C-WASHERS are available with the 'A' dimension radiused for Flange Nuts. UNITED Swing C Washers act as a latch for jigs and fixtures and special machinery. They can be swung in and out of the way for quick insertion and removal of the work piece.

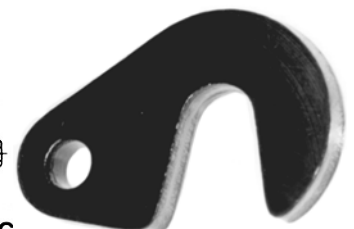
Manufactured from durable steel. Socket shoulder screws are included.

* ADD 'R' TO PART NO. TO SPECIFY RADIUSED 'A' DIMENSION (FOR FLANGE NUTS).

PART NO.	A	B	C	D	E	F	G	SCREW NO.
* UDB-926210	13/32	1	1/4	3/4	3/8	3/8	5/16-18	931065
* UDB-926215	17/32	1-1/4	5/16	1	1/2	3/8		931067
* UDB-926220	21/32	1-1/2	3/8	1-1/8	9/16	1/2	3/8-16	931111
* UDB-926225	25/32	1-3/4	1/2	1-1/4	5/8	1/2		931112



Refer to Page G23 for Stainless.



SOCKET SHOULDER SCREWS INCLUDED
GROUND PARALLEL

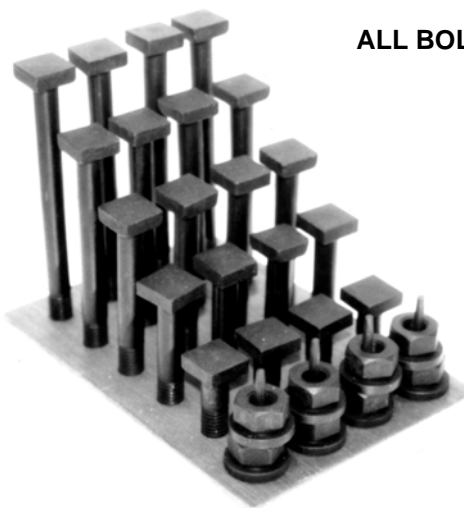
* T.C.M.A. STANDARD HEAT TREATED — BLACK OXIDE FINISH

**T-Bolts Square Head
Individual and Sets**

Square Head T-Bolts

HIGH GRADE ALLOY STEEL

T-BOLT SETS — Consist of 29 Pieces: 20 Bolts, 8 Flange Nuts and 1 Holder



ALL BOLTS are the SAME THREAD SIZE in EACH SET.

UNITED T-BOLTS will reduce set up time in all forms of milling.

UNITED T-BOLT SETS

Conform to V.I.C. specifications.

High Grade Alloy Steel provides minimum of 150,000 P.S.I.

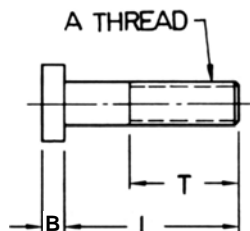
Threads rolled to class 2A standard.

Heat treated with Black Oxide finish.



Custom Configurations available on request.

EACH T-BOLT SET CONSISTS OF 29 PIECES				L = BOLT LENGTH T = THREAD LENGTH									
T-BOLT SET NO.	THD SIZE	H	C	L	T	L	T	L	T	L	T	L	T
UDB-941500	3/8 - 16	1/4	11/16	2	1-3/4	3	2	4	2	5	2	6	2
UDB-941000	1/2 - 13	5/16	7/8	2	1-3/4	3	2	4	2	5	2	6	2-1/2
UDB-941100	5/8 - 11	13/32	1-1/8	3	2	4	2	5	2	6	2-1/2	8	2-1/2
UDB-941200	3/4 - 10	17/32	1-5/16	3	2	4	2	5	2	6	2-1/2	8	2-1/2
UDB-941400	1 - 8	11/16	1-11/16	4	4	5	4	6	4	8	4	10	4



T-BOLTS

**Use UNITED T-BOLTS with
Clamp Straps
Flange Nuts
Spherical Washers**

FOR NATIONAL ACME T-BOLTS, SEE PAGE F35.

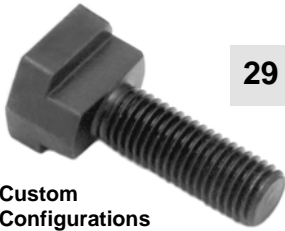
L LENGTH UNDER HEAD	A - 3/8-16 B - 1/4 C - 11/16	T THD LEN	A - 1/2-13 B - 5/16 C - 7/8	T THD LEN	A - 5/8-11 B - 13/32 C - 1-1/8	T THD LEN	A - 3/4-10 B - 17/32 C - 1-5/16	T THD LEN	A - 1-8 B - 11/16 C - 1-11/16	T THD LEN
1-1/2	UDB-941503	1-1/4	UDB-941003	1-1/4	UDB-941103	1-1/4				
2"	UDB-941504	1-3/4	UDB-941004	1-3/4	UDB-941104	1-3/4	UDB-941204	1-3/4		
2-1/2	UDB-941505	2"	UDB-941005	2"	UDB-941105	2"	UDB-941205	2"		
3"	UDB-941506	2"	UDB-941006	2"	UDB-941106	2"	UDB-941206	2"		
3-1/2	UDB-941507	2"	UDB-941007	2"	UDB-941107	2"	UDB-941207	2"		
4	UDB-941508	2"	UDB-941008	2"	UDB-941108	2"	UDB-941208	2"	UDB-941408	4"
4-1/2	UDB-941509	2"	UDB-941009	2"	UDB-941109	2"	UDB-941209	2"		
5	UDB-941510	2"	UDB-941010	2"	UDB-941110	2"	UDB-941210	2"	UDB-941410	4"
5-1/2	UDB-941511	2"	UDB-941011	2"	UDB-941111	2"	UDB-941211	2"		
6	UDB-941512	2"	UDB-941012	2-1/2	UDB-941112	2-1/2	UDB-941212	2-1/2	UDB-941412	4"
7	UDB-941514	2"	UDB-941014	2-1/2	UDB-941114	2-1/2	UDB-941214	2-1/2	UDB-941414	4"
8	UDB-941516	2"	UDB-941016	2-1/2	UDB-941116	2-1/2	UDB-941216	2-1/2	UDB-941416	4"
9							UDB-941218	3"	UDB-941418	4"
10			UDB-941020	3"	UDB-941120	3"	UDB-941220	3"	UDB-941420	4"
11							UDB-941222	3"	UDB-941422	4"
12			UDB-941024	3"	UDB-941124	3"	UDB-941224	3"	UDB-941424	4"
13									UDB-941426	4"
14									UDB-941428	4"
15									UDB-941430	4"
16									UDB-941432	4"
20									UDB-941440	4"

8-21-02

T-Slot Bolts

HIGH GRADE ALLOY STEEL

T-Slot Bolts
Individual and Sets



Custom Configurations available on request.

29 Pieces: 20 Bolts, 8 Flange Nuts and 1 Holder are in T-SLOT BOLT SETS

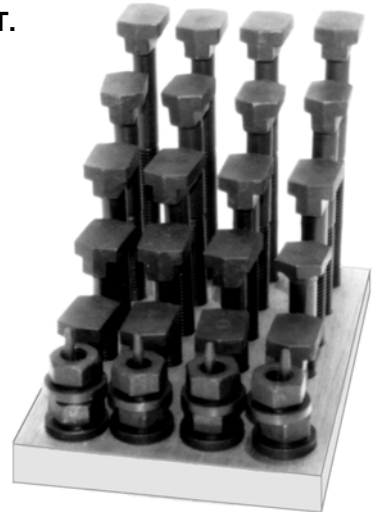
ALL BOLTS are the SAME THREAD SIZE in EACH SET.

We also feature T-Slot Bolts for Bridgeport Machine Tables.

UNITED T-SLOT BOLT SETS

Machined contact surfaces on head.
High Grade Alloy Steel provides minimum of 150,000 P.S.I.
Threads rolled to class 2A standard.
Heat treated to Grade 5 (150,000 psi) with Black Oxide finish.

Most of our threads are longer than industry standards.

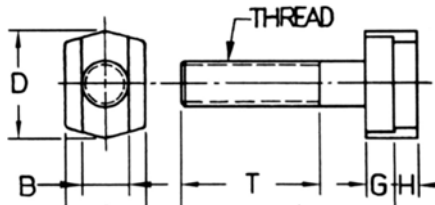


UNITED T-SLOT BOLTS SERVE YOUR MACHINE NEEDS AND ASSURE LONG DEPENDABLE WEAR.

EACH T-SLOT BOLT SET CONSISTS OF 29 PIECES											
T-BOLT SET NO.	A THD SIZE	L BOLT LENGTH 4 PCS PER SIZE					B	C	D	G	H
UDB-942300	3/8 - 16	1-1/2	2	2-1/2	3	4	3/8	11/16	13/16	3/16	3/16
UDB-942500	1/2 - 13	2	3	4	5	6	1/2	7/8	1-3/16	5/16	1/4
UDB-942600	5/8 - 11	2	3	4	5	6	5/8	1-1/8	1-5/16	11/32	11/32
UDB-942700	3/4 - 10	2	3	4	5	6	3/4	1-1/4	1-9/16	13/32	15/32

UNITED T-SLOT BOLTS make set up time easy and fast in all forms of milling.

Use with Clamp Straps And Flange Nuts.



T-SLOT BOLTS

L LENGTH UNDER HEAD INCL. SHOULDER	A 3/8-16	B 1/4	C 11/16	A 1/2-13	B 1/2	C 7/8	A 5/8-11	B 5/8	C 1-1/8	A 3/4-10	B 3/4	C 1-1/4
	D 11/16	G 3/16	H 3/16	D 1-3/16	G 5/16	H 1/4	D 1-5/16	G 11/32	H 11/32	D 1-5/16	G 13/32	H 15/32
	THD LEN T			THD LEN T			THD LEN T			THD LEN T		
1"	UDB-942310			3/4								
1-1/2"	UDB-942315			1"			UDB-942615			1"		
2"	UDB-942320			1-1/2"			UDB-942620			1-1/2"		
2-1/2"	UDB-942325			2"			UDB-942625			2"		
3"	UDB-942330			2"			UDB-942630			2"		
3"				UDB-944530 *			2"					
3-1/2"	UDB-942335			2"			UDB-942635			2"		
4"	UDB-942340			2-1/2"			UDB-942640			2-1/2"		
4"				UDB-944540 *			2-1/2"					
4-1/2"				UDB-942545			2-1/2"					
5"	UDB-942350			2-1/2"			UDB-942650			2-1/2"		
5"				UDB-944550 *			2-1/2"					
6"	UDB-942360			2-1/2"			UDB-942660			2-1/2"		
6"				UDB-944560 *			2-1/2"					
7"				UDB-942570			3"			UDB-942770		
8"	UDB-942380			3-1/2"			UDB-942680			3-1/2"		
9"										UDB-942790		
10"										UDB-942791		
12"										UDB-942792		

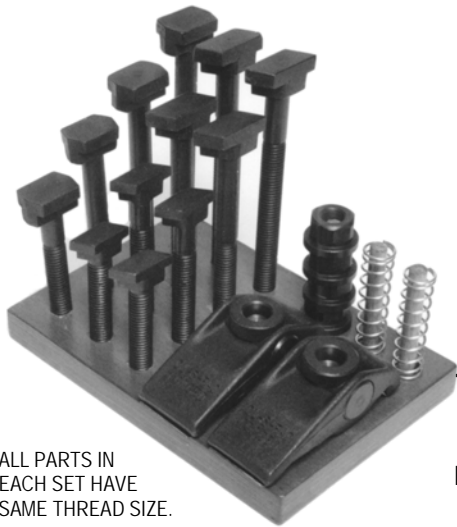
BOLDED PART NUMBERS DESIGNED TO FIT BRIDGEPORT MACHINE TABLES. * B = .625, C = 1", D = 1-1/4

**Rotary T-Slot Bolts
Individual and Sets**

Rotary T-Slot Bolts & Sets

HIGH GRADE ALLOY STEEL

ROTARY T-SLOT BOLT SETS: 12 Bolts, 2 Pivot Clamps, 2 Springs, 4 Flange Nuts and 1 Holder



ALL PARTS IN EACH SET HAVE SAME THREAD SIZE.

UNITED 21 PIECE SETS of ROTARY T-SLOT BOLTS, PIVOT CLAMPS and FLANGE NUTS

High Grade Alloy Steel provides minimum of 150,000 P.S.I.

Threads rolled to class 2A standard.

Heat treated with Black Oxide finish.

These two Sets, UDB-850755 – 1/2-13 and UDB-850765 – 5/8-11, feature two of our new Adjustable Forged Clamps. The sets include our new Rotary T-Slot Bolts in lengths of 3," 4," 5" and 6."

Designed for Bridgeport type milling machine tables, these simple efficient time saver tool sets include 2 Springs, 4 Flange Nuts, 12 Rotary T-Slot Bolts, 2 forged Adjustable Clamps and a handy holder.

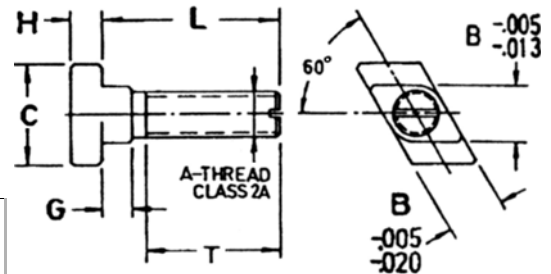
These Sets take the place of space consuming clamp sets that require step blocks, step clamps, T-Slot nuts and studs. They are fast, efficient and adjust simply to eliminate other unnecessary expensive tools. You will be glad you made the change!

21 Pieces UDB-850755 T-SLOT BOLT SET 1/2-13			
QTY	PART NO.	SIZE	DESCRIPTION
3	UDB-843530	1/2 – 13 x 3	ROTARY T-SLOT BOLT
3	UDB-843540	1/2 – 13 x 4	ROTARY T-SLOT BOLT
3	UDB-843550	1/2 – 13 x 5	ROTARY T-SLOT BOLT
3	UDB-843560	1/2 – 13 x 6	ROTARY T-SLOT BOLT
2	UDB-850750	1/2	ADJUSTABLE PIVOT CLAMP
4	UDB-925165	1/2 – 13	FLANGE NUT
1	UDB-850751	1/2 – 13	SET HOLDER
2	UDB-850752	1/2	SPRING

21 Pieces UDB-850765 T-SLOT BOLT SET 5/8-11			
QTY	PART NO.	SIZE	DESCRIPTION
3	UDB-843630	5/8 – 11 x 3	ROTARY T-SLOT BOLT
3	UDB-843640	5/8 – 11 x 4	ROTARY T-SLOT BOLT
3	UDB-843650	5/8 – 11 x 5	ROTARY T-SLOT BOLT
3	UDB-843660	5/8 – 11 x 6	ROTARY T-SLOT BOLT
2	UDB-850751	5/8	ADJUSTABLE PIVOT CLAMP
4	UDB-925170	5/8 – 11	FLANGE NUT
1	UDB-850761	5/8 – 11	SET HOLDER
2	UDB-850762	5/8	SPRING

ROTARY T-SLOT BOLTS

TOP OF HEAD IS EASY TO INSERT—ROTATE AND SECURE TO MACHINE BED.



Custom Configurations in Sets are available on request.

The Rotary T-Slot Bolts fit smoothly and snugly in 1/2" and 5/8" wide table slots on all major machine tables.

T-SLOT BOLT PART NO.	L LENGTH UNDER HEAD INCL. SHOULDER	T THD LEN	A	B	C	G	H
UDB-843515	1-1/2	1"	1/2 – 13	5/8	1-1/8	11/32	11/32
UDB-843520	2"	1-1/2"					
UDB-843525	2-1/2"	2"					
UDB-843530	3"	2-1/2"					
UDB-843535	3-1/2"	2"					
UDB-843540	4"	2-1/2"					
UDB-843545	4-1/2"	2-1/2"					
UDB-843550	5"	2-1/2"					
UDB-843560	6"	4-1/2"					
UDB-843615	1-1/2	1"	5/8 – 11	3/4	1-1/4	13/32	13/32
UDB-843620	2"	1-1/2"					
UDB-843625	2-1/2"	2"					
UDB-843630	3"	2-1/2"					
UDB-843635	3-1/2"	2"					
UDB-843640	4"	2-1/2"					
UDB-843650	5"	2-1/2"					
UDB-843660	6"	4-1/2"					

UNITED T-SLOT BOLTS will reduce set up time in all forms of milling.

Use UNITED ROTARY T-SLOT BOLTS with Pivot Clamps and Flange Nuts.