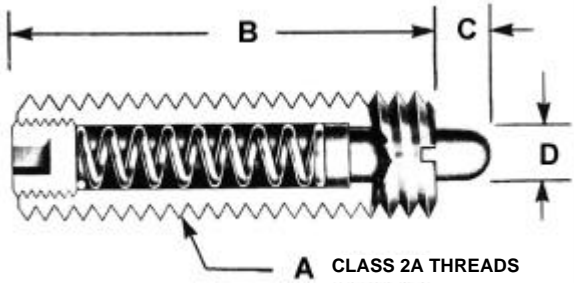


Spring Plungers

Precision Spring Plungers

UNITED SPRING PLUNGERS



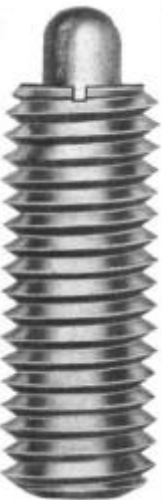
- Durability plus
- Positive spring tension
- Economical pricing
- Precise and sure tension
- Hardened for maximum wear
- Original equipment and machining applications:
 - Positioners
 - Locating Pins
 - Detents
 - Die ejectors
- Wherever accurately controlled constant spring loads are required

Available in two spring pressures

- Black Nose with Standard Pressure
- Silver Nose with Light Pressure

STEEL NOSE BLACK — STANDARD END PRESSURE

FOR USE WHERE STRONG WORK LOAD REQUIRES HEAVY DUTY END PRESSURE



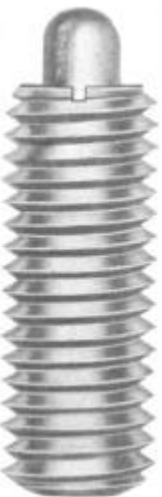
End Pressures are given in pounds.

Full or 100% pressures are the full force pounds to move the nose distance shown in Column C.

UNITED PLAIN	WITH NYLON INSERT	REF. NO	DIMENSIONS				END PRESSURE (LBS.)	
			A	B	C	D +.001 -.001	50% COMPRESSION	100% COMPRESSION
UDB-950005	UDB-950105	S-48	6-32	3/8	1/16	.046	1.3	1.6
UDB-950010	UDB-950110	S-48A	6-32	17/32	1/16	.046	3.0	4.5
UDB-950015	UDB-950115	S-50	8-32	5/8	3/32	.070	5.0	7.3
UDB-950020	UDB-950120	S-52	10-32	3/4	1/8	.093	7.0	11.1
UDB-950025	UDB-950125	S-54	1/4-20	3/4	1/8	.119	5.5	9.0
UDB-950030	UDB-950130	S-54A	1/4-20	1	5/32	.119	8.0	13.0
UDB-950035	UDB-950135	S-54B	1/4-28	1	5/32	.119	8.0	13.0
UDB-950040	UDB-950140	S-56	5/16-18	1	3/16	.135	9.0	15.0
UDB-950045	UDB-950145	S-58	3/8-16	1-1/8	3/16	.186	10.0	14.5
UDB-950050	UDB-950150	S-60	1/2-13	1-1/4	1/4	.248	12.0	17.4
UDB-950055	UDB-950155	S-62	5/8-11	1-1/2	5/16	.310	18.0	25.5
UDB-950060	UDB-950160	S-64	3/4-10	1-3/4	5/16	.374	22.0	37.3
UDB-950065	UDB-950165	S-66	1-8	2-13/32	1/2	.499	42.0	68.0

STEEL NOSE SILVER — LIGHT END PRESSURE

FOR USE WHERE LIGHT DUTY OPERATION REQUIRES FAST REPETITIVE PRESSURE



To install Plungers, we recommend a 90° countersink 1/32 larger than the major diameter of the mating thread.

That prevents damage and reduces the locking torque.

UNITED PLAIN	WITH NYLON INSERT	REF. NO	DIMENSIONS				END PRESSURE (LBS.)	
			A	B	C	D +.001 -.001	50% COMPRESSION	100% COMPRESSION
UDB-950210	UDB-950310	S-49	6-32	17/32	1/16	.046	1.0	1.5
UDB-950215	UDB-950315	S-51	8-32	5/8	3/32	.070	1.5	2.3
UDB-950220	UDB-950320	S-53	10-32	3/4	1/8	.093	2.0	2.7
UDB-950225	UDB-950325	—	1/4-20	3/4	1/8	.119	1.0	2.0
UDB-950230	UDB-950330	S-55	1/4-20	1	5/32	.119	2.5	4.0
UDB-950235	UDB-950335	S-55A	1/4-28	1	5/32	.119	2.5	4.0
UDB-950240	UDB-950340	S-57	5/16-18	1	3/16	.135	3.0	4.5
UDB-950245	UDB-950345	S-59	3/8-16	1-1/8	3/16	.186	5.0	7.2
UDB-950250	UDB-950350	S-61	1/2-13	1-1/4	1/4	.248	6.0	9.3
UDB-950255	UDB-950355	S-63	5/8-11	1-1/2	5/16	.310	7.0	10.5
* UDB-950260	UDB-950360	—	3/4-10	1-3/4	5/16	.374	11.0	16.0
* UDB-950265	UDB-950365	S-67	1-8	2-13/32	1/2	.499	17.5	31.0

* SPECIAL SIZES

Nylon Spring Plungers

USE NYLON NOSES TO PREVENT MARRING
BRASS, ALUMINUM OR COMPOSITES

Nylon Nose
Spring Plungers

Nylon Nose — Steel Body

STANDARD END PRESSURE — NYLON NOSE BLACK

NYLON — USE WITH SOFT MATERIALS TO PREVENT MARRING

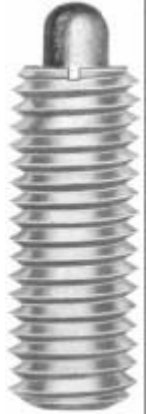
- High tensile strength
- Excellent wear resistance
- Reinforced for minimum deformation under force

Highly durable
**UNITED NYLON
SPRING PLUNGERS**

have many uses

- Positioning
- Ejecting
- Lifters
- Indexes
- Latches
- Detents

Black Oxide Body



STANDARD PRESSURE PLAIN	WITH NYLON INSERT	REF. NO	DIMENSIONS				END PRESSURE (LBS.) COMPRESSION	
			A	B	C	D +.000 -.002	50%	100%
UDB-950405	UDB-950455	NS-50	8-32	5/8	3/32	.070	5.0	7.3
UDB-950410	UDB-950460	NS-52	10-32	3/4	1/8	.093	7.0	11.1
UDB-950415	UDB-950465	NS-54	1/4-20	1	5/32	.119	8.0	13.0
UDB-950420	UDB-950470	NS-56	5/16-18	1	3/16	.135	9.0	15.0
UDB-950425	UDB-950475	NS-58	3/8-16	1-1/8	3/16	.186	10.0	14.5
UDB-950430	UDB-950480	NS-60	1/2-13	1-1/4	1/4	.248	12.0	17.4
UDB-950435	UDB-950485	NS-62	5/8-11	1-1/2	5/16	.310	18.0	25.5

Nylon Nose — Steel Body

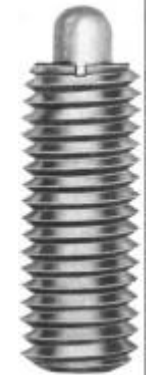
LIGHT END PRESSURE — NYLON NOSE SILVER

LIGHT END — FOR FAST REPETITIVE OPERATIONS

- Varied pressures
- Limited space applications
- Hardened for long wear
- Black Oxide finish
- Excellent for strippers or locators

**UNITED NYLON
SPRING PLUNGERS**

- Long travel
- No Mar bearing surface
- Various design options
- Corrosion resistance
- Black Oxide body



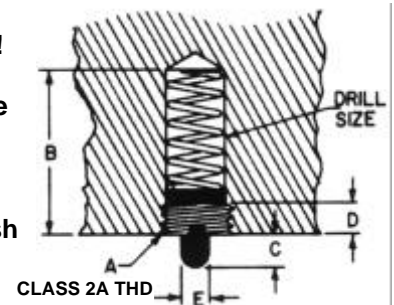
LITE PRESSURE PLAIN	WITH NYLON INSERT	REF. NO	DIMENSIONS				END PRESSURE (LBS.) COMPRESSION	
			A	B	C	D +.000 -.002	50%	100%
UDB-950505	UDB-950555	NS-51	8-32	5/8	3/32	.070	1.5	2.3
UDB-950510	UDB-950560	NS-53	10-32	3/4	1/8	.093	2.0	2.7
UDB-950515	UDB-950565	NS-55	1/4-20	1	5/32	.119	2.5	4.0
UDB-950520	UDB-950570	NS-57	5/16-18	1	3/16	.135	3.0	4.5
UDB-950525	UDB-950575	NS-59	3/8-16	1-1/8	3/16	.186	5.0	7.2
UDB-950530	UDB-950580	NS-61	1/2-13	1-1/4	1/4	.248	6.0	9.3
UDB-950535	UDB-950585	NS-63	5/8-11	1-1/2	5/16	.310	7.0	10.5

Steel Nose — Steel Body — Space Saver 'A'

BLIND HOLE MOUNTING — TYPE A

BLIND HOLE PART NO.	A	B	C	D	E ±.001	DRILL SIZE
UDB-950605	8-32 x 3/16	1/2	3/32	1/8	.069	#29
UDB-950610	10-32 x 3/16	5/8	1/8	5/32	.092	#21
UDB-950615	1/4-20 x 1/4	13/16	5/32	3/16	.118	#6
UDB-950620	5/16-18 x 5/16	13/16	3/16	7/32	.134	F
UDB-950625	3/8-16 x 5/16	7/8	3/16	7/32	.186	5/16
UDB-950630	1/2-13 x 7/16	1	1/4	1/4	.248	27/64
UDB-950635	5/8-11 x 1/2	1-5/16	5/16	5/16	.311	17/32
UDB-950640	3/4-10 x 5/8	1-3/8	5/16	3/8	.373	21/32

- GREAT FOR
LIMITED SPACE!**
- Hardened Steel for long wear life
 - Excellent as locators or strippers
 - Black Oxide finish
 - Tough
 - Wears well

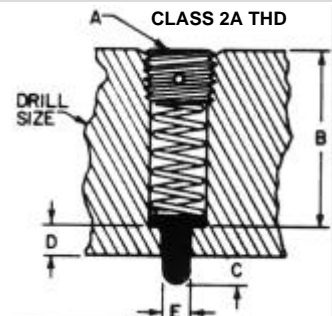


Steel Nose — Steel Body — Space Saver 'B'

THROUGH HOLE MOUNTING — TYPE B

THRU HOLE PART NO.	A	B	C	D	E ±.001	DRILL SIZE
UDB-950655	8-32 x 3/16	21/32	1/8	3/32	.069	#29
UDB-950660	10-32 x 3/16	3/16	5/32	1/8	.092	#21
UDB-950665	1/4-20 x 1/4	1-3/32	3/16	5/32	.118	#6
UDB-950670	5/16-18 x 5/16	1-3/16	7/32	3/16	.134	F
UDB-950675	3/8-16 x 5/16	1-9/32	7/32	3/16	.186	5/16
UDB-950680	1/2-13 x 7/16	1-3/8	1/4	1/4	.248	27/64
UDB-950685	5/8-11 x 1/2	1-13/16	5/16	5/16	.311	17/32
UDB-950690	3/4-10 x 5/8	2-1/8	3/8	5/16	.373	21/32

- FROM THE TOP of
a HOLE or DIE**
- Nylon Nose
 - Prevents vibration
 - Prevents screw movement
 - Easily installed
 - Black Oxide



Ball Plunger Ball Plunger Detent

Compact Ball Plungers, Detents and Wrenches

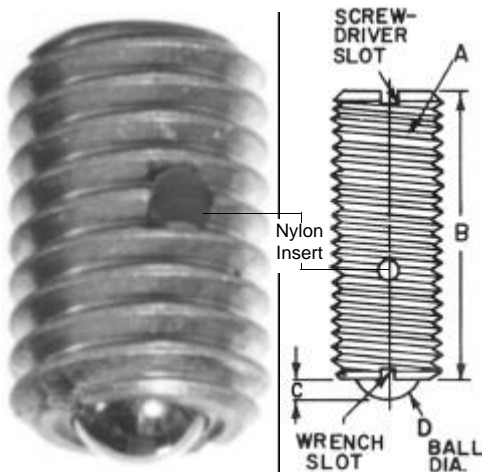
BALL PLUNGERS — Nylon Locking Element Holds Plunger Spring

Compact controlled end pressures eliminate side load problems.

Excellent for

- Positioning Levers
- Gear Shifting
- Automatic Indexing
- Torque Limiting

Fits perfectly in Ball Detent shown below.

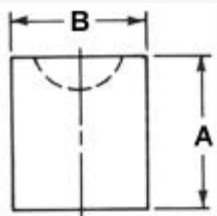


UNITED STEEL BALL PLUNGERS are Color Coded to indicate End Pressures.
 SILVER — Light pressure BLACK — Standard GOLD — Heavy pressure

STAINLESS STEEL PART NO.	UNITED STEEL PART NO.	REF. NO.	STEEL COLOR CODE	END PRESSURE (POUNDS)	A ** Sizes less than 1/4-20	B	C	D BALL DIA.	USED WITH THESE BALL DETENTS
* UDB-950850	UDB-950710	(SS) B-46	BLACK	1/2	4-48	.187	.020	.062	UDB-951005
* UDB-950855	UDB-950715	(SS) B-47	BLACK	3/4	5-40	.250	.020	.062	UDB-951005
* UDB-950860	UDB-950720	(SS) B-48	BLACK	1	6-40	.312	.023	.078	UDB-951010
* UDB-950865	UDB-950725	(SS) B-50	BLACK	1-1/4	8-36	.344	.025	.0937	UDB-951015
UDB-950870	UDB-950730	(SS) B-52	BLACK	3	10-32	.513	.025	.0937	UDB-951015
(STAINLESS SILVER)	UDB-950735	(SS) BL-52	SILVER	1-1/2	10-32	.513	.025	.0937	UDB-951015
	UDB-950740	(SS) BH-52	GOLD	5	10-32	.513	.025	.0937	UDB-951015
UDB-950875	UDB-950745	(SS) B-54	BLACK	7	1/4-20	.531	.035	.125	UDB-951020
(STAINLESS SILVER)	UDB-950750	(SS) BL-54	SILVER	4	1/4-20	.531	.035	.125	UDB-951020
	UDB-950755	(SS) BH-54	GOLD	12	1/4-20	.531	.035	.125	UDB-951020
UDB-950880	UDB-950760	(SS) B-56	BLACK	9	5/16-18	.578	.040	.156	UDB-951025
(STAINLESS SILVER)	UDB-950765	(SS) BL-56	SILVER	4-1/2	5/16-18	.578	.040	.156	UDB-951025
	UDB-950770	(SS) BH-56	GOLD	17	5/16-18	.578	.040	.156	UDB-951025
UDB-950885	UDB-950775	(SS) B-58	BLACK	10	3/8-16	.625	.048	.1875	UDB-951030
(STAINLESS SILVER)	UDB-950780	(SS) BL-58	SILVER	5	3/8-16	.625	.048	.1875	UDB-951030
	UDB-950785	(SS) BH-58	GOLD	21	3/8-16	.625	.048	.1875	UDB-951030
UDB-950890	UDB-950790	(SS) B-60	BLACK	12	1/2-13	.750	.072	.2813	UDB-951035
(STAINLESS SILVER)	UDB-950795	(SS) BL-60	SILVER	6	1/2-13	.750	.072	.2813	UDB-951035
	UDB-950800	(SS) BH-60	GOLD	30	1/2-13	.750	.072	.2813	UDB-951035
UDB-950895	UDB-950805	(SS) B-62	BLACK	18	5/8-11	.984	.096	.375	UDB-951040
(STAINLESS SILVER)	UDB-950810	(SS) BL-62	SILVER	9	5/8-11	.984	.096	.375	UDB-951040
	UDB-950815	(SS) BH-62	GOLD	50	5/8-11	.984	.096	.375	UDB-951040

* No Nylon Insert ** Sizes smaller than 1/4 - 20 have Screw Driver Slot only.

BALL PLUNGER DETENTS — Fit Our Ball Plungers



UNITED
BALL
DETENTS

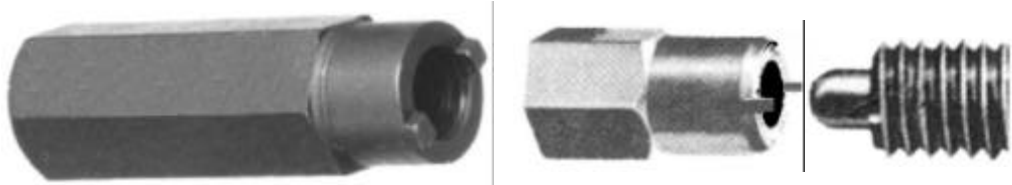
These Buttons are the perfect fit for our Ball Plungers!

UNITED BALL DETENTS are hardened and ground to diameters of + .0002 - .0000 for easy insertion into a reamed hole.

- Prevents part damage
- Provides a striker plate to take the wear of side loads

UNITED PART NO.	USED WITH THESE UNITED BALL PLUNGERS	A	B	+ .0002 - .0000
UDB-951005	UDB-950710 UDB-950715	1/8	.1075	
UDB-951010	UDB-950720	1/8	.1175	
UDB-951015	UDB-950725 UDB-950730 UDB-950735 UDB-950740	3/16	.1614	
UDB-951020	UDB-950745 UDB-950750 UDB-950755	1/4	.2034	
UDB-951025	UDB-950760 UDB-950765 UDB-950770	5/16	.2659	
UDB-951030	UDB-950775 UDB-950780 UDB-950785	3/8	.3284	
UDB-951035	UDB-950790 UDB-950795 UDB-950800	1/2	.4378	
UDB-951040	UDB-950805 UDB-950810 UDB-950815	5/8	.5472	

SPRING PLUNGER WRENCHES — For Fast Installation



UNITED SPRING PLUNGER WRENCHES speed the installation of BALL and SPRING PLUNGERS. Do not use screw drivers. Use correct plunger wrench to avoid costly spring damage.

The right tool for the right job!

UNITED PART NO.	NOMINAL THREAD SIZE OF PLUNGER
UDB-957200	#6
UDB-957205	#8
UDB-957210	#10
UDB-957215	1/4
UDB-957220	5/16
UDB-957225	3/8
UDB-957230	1/2
UDB-957235	5/8
UDB-957240	3/4
UDB-957245	1"

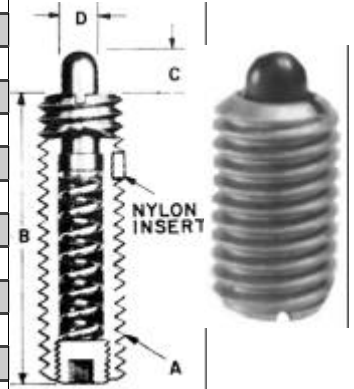
Short Plungers/Spring Stops

"Shorty" Plungers
and Spring Stops

1/2 LENGTH of STANDARD SPRING PLUNGERS

UNITED PART NO.		REF. NO.	END FORCE			DIMENSIONS			
STEEL NOSE	NYLON NOSE		NOM.	ACTUAL INITIAL LBS.	ACTUAL FINAL LBS.	A	B	C	D
UDB-950900	UDB-950950	M50	HEAVY	1-1/2	4-1/4	8-36	.437	.052	.070
UDB-950902	UDB-950952	M51	LIGHT	1/2	1-1/2	8-36	.437	.052	.070
UDB-950905	UDB-950955	M52	HEAVY	1-3/4	6-1/4	10-32	.468	.065	.093
UDB-950907	UDB-950957	M53	LIGHT	3/4	2-1/2	10-32	.468	.065	.093
UDB-950910	UDB-950960	M54	HEAVY	3	10-1/2	1/4-20	.531	.078	.119
UDB-950912	UDB-950962	M55	LIGHT	1	3-1/2	1/4-20	.531	.078	.119
UDB-950915	UDB-950965	M56	HEAVY	3-3/4	15-1/2	5/16-18	.562	.084	.135
UDB-950917	UDB-950967	M57	LIGHT	1-1/4	4	5/16-18	.562	.084	.135
UDB-950920	UDB-950970	M58	HEAVY	4-1/2	18-1/2	3/8-16	.625	.110	.186
UDB-950922	UDB-950972	M59	LIGHT	1-1/2	5	3/8-16	.625	.110	.186
UDB-950925	UDB-950975	M60	HEAVY	5	28	1/2-13	.750	.151	.248
UDB-950927	UDB-950977	M61	LIGHT	1-3/4	5-1/2	1/2-13	.750	.151	.248
UDB-950930	UDB-950980	M62	HEAVY	7	50	5/8-11	1.062	.215	.310
UDB-950932	UDB-950982	M63	LIGHT	2	8-1/2	5/8-11	1.062	.215	.310

"SHORTY" SPRING PLUNGERS

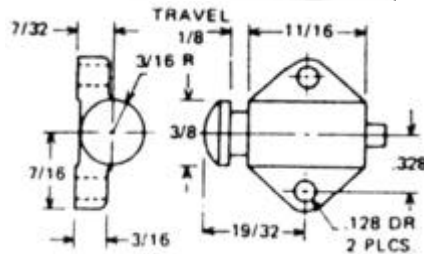


LIGHT FORCE STYLES ARE SPECIALS.

Combines the compactness of ball plungers with the travel of a spring plunger!

ROUND SPRING STOPS UDB-955000

ALUMINUM BODY
END PRESSURE
10 LBS.

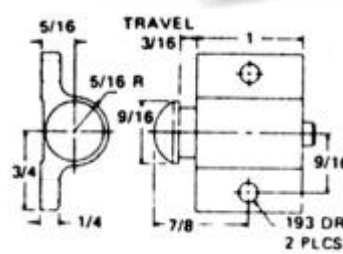


ROUND SPRING STOPS UDB-955015

ALUMINUM BODY
END PRESSURE
14 LBS.



STEEL UDB-955010

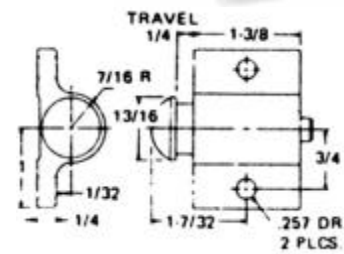


ROUND SPRING STOPS UDB-955025

ALUMINUM BODY
END PRESSURE
32 LBS.

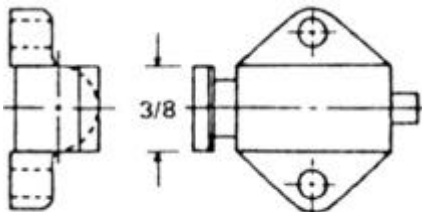


STEEL UDB-955020



SQUARE SPRING STOPS UDB-955050

ALUMINUM BODY
END PRESSURE
10 LBS.



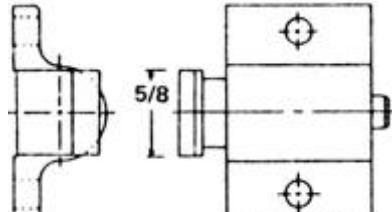
See above for missing dimensions.

SQUARE SPRING STOPS UDB-955060

ALUMINUM BODY
END PRESSURE
14 LBS.



STEEL UDB-955055



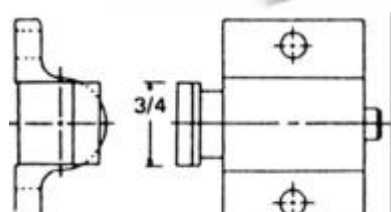
See above for missing dimensions.

SQUARE SPRING STOPS UDB-955070

ALUMINUM BODY
END PRESSURE
32 LBS.



STEEL UDB-955065



See above for missing dimensions.

Rotary Cam Indexing Plungers

Rotary Cam Indexing Plungers

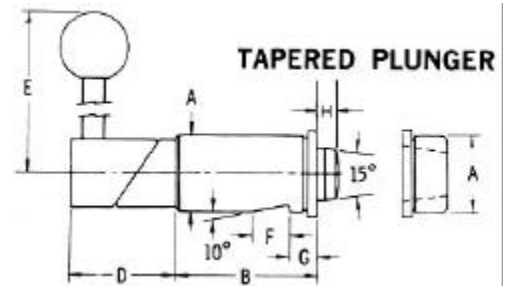
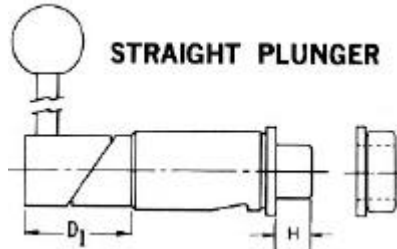
STRAIGHT MOUNT ROTARY CAM INDEX PLUNGERS

STANDARD MOUNT STYLE FEATURES A WHISTLE NOTCH TO PROVIDE THE SEAT FOR A LOCKING SET SCREW. *UNITED* RECOMMENDS SET SCREWS WITH NYLON INSERTS FOR THESE PLUNGERS. SET SCREWS MUST CONTACT BUT NOT EXERT PRESSURE AGAINST THE WHISTLE NOTCH.



STRAIGHT OR TAPERED PLUNGER

STRAIGHT MOUNT



PRECISION TOLERANCES TO PREVENT BINDING AND FOR LIGHT INTERFERENCE FIT

BOTH STANDARD AND FLANGE MOUNT STYLES FEATURE:

PLUNGER P/N		SPECIFY BUSHINGS SEPARATELY.										BUSHING P/N	
STRAIGHT	TAPERED	DIA.	A ^{a1:a2}	B	D	D1	E	F	G	H	STRAIGHT	TAPERED	
UDB-922004*	UDB-922016*	1/2	.765	1-3/8	1-1/8	1-1/8	3"	7/16	5/16	5/16	UDB-922026*	UDB-922030*	
UDB-922006#	UDB-922018#	1/2	.7515	1-3/8	1-1/8	1-1/8	3"	7/16	5/16	5/16	UDB-922028#	UDB-922032#	
UDB-922104*	UDB-922116*	3/4	1.140	2"	1-5/8	1-1/2	3-1/2	9/16	3/8	13/32	UDB-922126*	UDB-922130*	
UDB-922106#	UDB-922118#	3/4	1.1265	2"	1-5/8	1-1/2	3-1/2	9/16	3/8	13/32	UDB-922128#	UDB-922132#	
UDB-922204*	UDB-922216*	3/4	1.515	2-1/4	2-1/8	1-7/8	4-1/2	11/16	7/16	7/16	UDB-922226*	UDB-922230*	
UDB-922206#	UDB-922218#	3/4	1.5018	2-1/4	2-1/8	1-7/8	4-1/2	11/16	7/16	7/16	UDB-922228#	UDB-922232#	
UDB-922304*		1-3/8	2.015	3"		2-1/8	5-3/4	3/4	1/2	7/8	UDB-922326*		

* A diameter of Plunger and Bushing tolerance is +.001, -.000.
A diameter of Plunger and Bushing finished tolerance is +.0003, -.0000.

PLUNGER BODY AND BUSHING WITH IDENTICAL OUTSIDE DIAMETERS SIMPLIFY JIG OR FIXTURE MANUFACTURE.

HANDLE ROTATION OF 180° RETRACTS THE PLUNGER COMPLETELY.

UNITED ROTARY CAM INDEXING AND LOCATING PLUNGERS AND BUSHINGS ARE HEAT TREATED, AND CAMS ARE HARDENED STEEL.

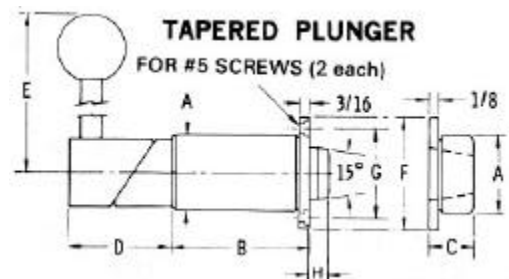
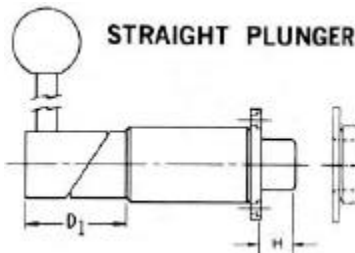
FLANGE MOUNT ROTARY CAM INDEX PLUNGERS

FLANGE MOUNT STYLE FOR INSTALLATIONS WHERE A CROSS HOLE WITH SET SCREW IS NOT PRACTICAL.



STRAIGHT OR TAPERED PLUNGER

FLANGE MOUNT



SPECIFY BUSHINGS SEPARATELY.

PLUNGER P/N		SPECIFY BUSHINGS SEPARATELY.										BUSHING P/N	
STRAIGHT	TAPERED	DIA.	A ^{a1:a2}	B	C	D	D1	E	F	G	H	STRAIGHT	TAPERED
UDB-922005*	UDB-922017*	1/2	.765	1-3/8	1/2	1-1/8	1-1/8	3"	1-5/16	1"	5/16	UDB-922027*	UDB-922031*
UDB-922007#	UDB-922019#	1/2	.7515	1-3/8	1/2	1-1/8	1-1/8	3"	1-5/16	1"	5/16	UDB-922029*	UDB-922033#
UDB-922105*	UDB-922117*	3/4	1.140	2"	5/8	1-5/8	1-1/2	3-1/2	1-11/16	1-3/8	13/32	UDB-922127*	UDB-922131*
UDB-922107#	UDB-922119#	3/4	1.1265	2"	5/8	1-5/8	1-1/2	3-1/2	1-11/16	1-3/8	13/32	UDB-922129#	UDB-922133#

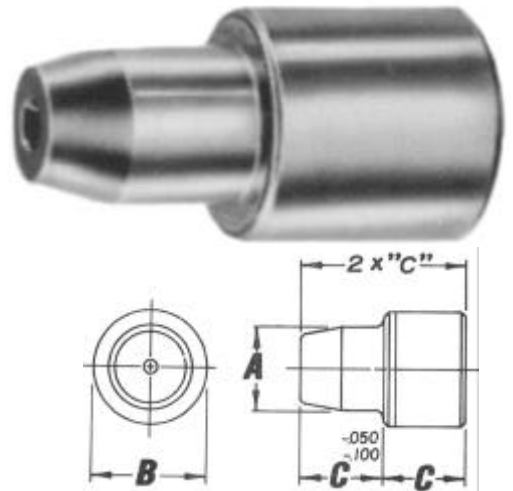
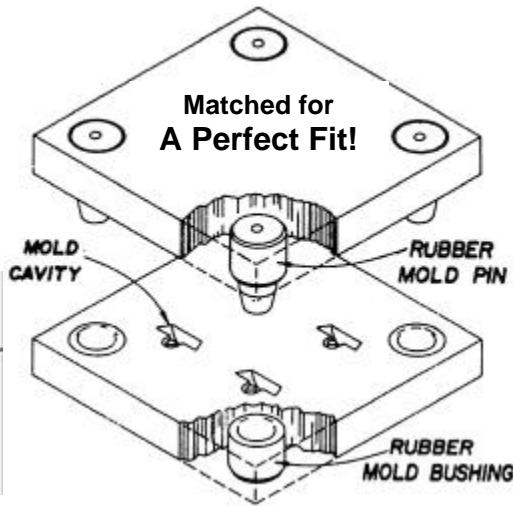
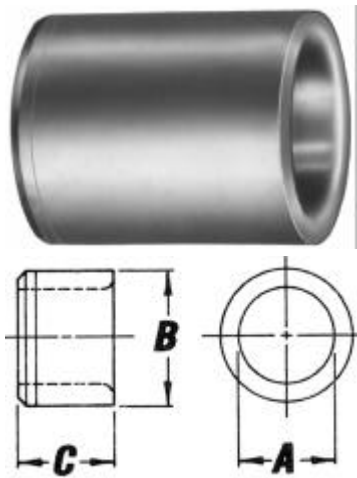
* A diameter of Plunger and Bushing tolerance is +.001, -.000.
A diameter of Plunger and Bushing finished tolerance is +.0003, -.0000.

RELIEF OF TAPERED STYLE PLUNGER HELPS ELIMINATE INACCURACY AND MAKES FOR AN EASIER RELEASE FROM THE TAPERED BUSHING.

Rubber Mold Pins

Rubber Mold Bushings

Rubber Mold Pins
and Bushings



RUBBER MOLD BUSHINGS

Features

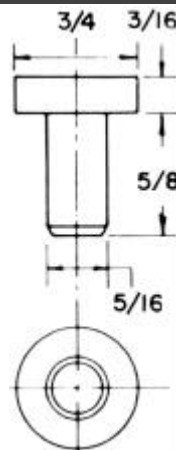
RUBBER MOLD PINS

Ground Diameters — Chamfered Leads — Full Entry Radii — Hardened to RC 61-65

A I.D. SIZES			B O.D. SIZES			C LENGTHS					
NOM.	PIN - ACTUAL	BUSHING - ACTUAL	NOM.	PIN - ACTUAL	BUSHING - ACTUAL	PINS		Part No.s BUSHINGS			
						1/2"	3/4"	1"	1/2"	3/4"	1"
5/16	.3120 - .3105	.3130 - .3145	1/2	.5019 - .5012	.5019 - .5012	RMP-32-8	RMP-32-12	RMP-32-16	RMB-32-8	RMB-32-12	RMB-32-16
3/8	.3745 - .3730	.3755 - .3770	5/8	.6269 - .6262	.6269 - .6262	RMP-40-8	RMP-40-12	RMP-40-16	RMB-40-8	RMB-40-12	RMB-40-16
1/2	.4995 - .4980	.5005 - .5020	3/4	.7520 - .7513	.7520 - .7513	RMP-48-8	RMP-48-12	RMP-48-16	RMB-48-8	RMB-48-12	RMB-48-16
5/8	.6245 - .6230	.6255 - .6270	7/8	.8770 - .8763	.8770 - .8763	RMP-56-8	RMP-56-12	RMP-56-16	RMB-56-8	RMB-56-12	RMB-56-16
3/4	.7495 - .7480	.7505 - .7520	1"	1.0020 - 1.0013	1.0020 - 1.0013	RMP-64-8	RMP-64-12	RMP-64-16	RMB-64-8	RMB-64-12	RMB-64-16
7/8	.8745 - .8730	.8755 - .8770	1-1/4	1.2522 - 1.2515	1.2522 - 1.2515	RMP-80-8	RMP-80-12	RMP-80-16	RMB-80-8	RMB-80-12	RMB-80-16
1"	.9995 - .9980	1.0005 - 1.0020	1-3/8	1.3774 - 1.3766	1.3774 - 1.3766	RMP-88-8	RMP-88-12	RMP-88-16	RMB-88-8	RMB-88-12	RMB-88-16

MOLD STOP PIN

HEAD THICKNESS
HAS .020" GRINDING



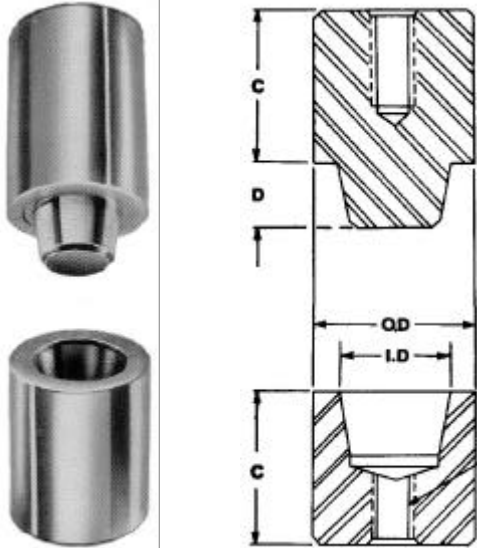
UDB-520600



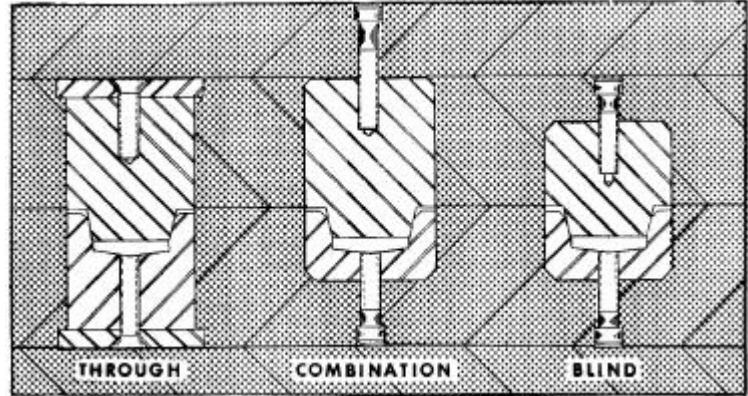
Tapered Locators

Tapered Locators and Shoulder Plates

TAPERED LOCATORS



ALIGN Mold Halves - Plates - Cavities - Cores



We recommend **six or more sets** for **large molds** using 1", 1-1/2" and 2" diameter Locators.

We recommend **four sets** for **medium molds** using 3/4" and 1" Locators.

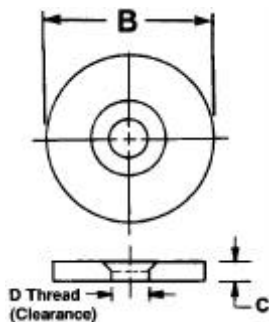
Two sets of 1/2" and 3/4" Locators are generally adequate for **small molds, cavities and cores.**

Use Shoulder Plates with thru hole construction. Accurate alignment is best achieved by line boring the two plates simultaneously. Blind installation hole construction is more difficult and must be machined with great care.

There is grind stock on the back face of both male and female Locators. Grind stock is also allowed in the front face of the female Locator, permitting final fitting at assembly. For ultimate precision grind the excess stock from the female front face. These Locators will then align simultaneously on the tapered diameters and faces.

I. D.	O. D.	THREAD	D	C	MALE PART NO.	FEMALE PART NO.	SET: MALE & FEMALE	USE SHOULDER PLATE
5/16	1/2	10 - 24	7/32	11/16	UDB-830411	UDB-840411	UDB-850411	UDB-841804
				7/8	UDB-830414	UDB-840414	UDB-850414	
				1-3/16	UDB-830419	UDB-840419	UDB-850419	
				1-3/8	UDB-830422	UDB-840422	UDB-850422	
1/2	3/4	1/4 - 20	5/16	11/16	UDB-830611	UDB-840611	UDB-850611	UDB-841806
				7/8	UDB-830614	UDB-840614	UDB-850614	
				1-3/16	UDB-830619	UDB-840619	UDB-850619	
				1-3/8	UDB-830622	UDB-840622	UDB-850622	
5/8	1"	1/4 - 20	3/8	11/16	UDB-830811	UDB-840811	UDB-850811	UDB-841808
				7/8	UDB-830814	UDB-840814	UDB-850814	
				1-3/16	UDB-830819	UDB-840819	UDB-850819	
				1-3/8	UDB-830822	UDB-840822	UDB-850822	
1"	1-1/2	5/16 - 18	1/2	1-1/8	UDB-831218	UDB-841218	UDB-851218	UDB-841812
				1-3/8	UDB-831222	UDB-841222	UDB-851222	
				1-5/8	UDB-831226	UDB-841226	UDB-851226	
1-1/2	2	5/16 - 18	1/2	1-1/8	UDB-831618	UDB-841618	UDB-851618	UDB-841816
				1-3/8	UDB-831622	UDB-841622	UDB-851622	
				1-5/8	UDB-831626	UDB-841626	UDB-851626	

SHOULDER PLATES



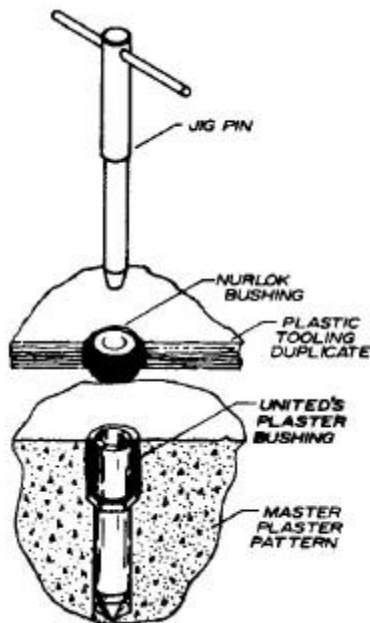
SHOULDER PLATES

PART NO.	D SCREW SIZE	B	C
UDB-841804	10 - 24	11/16	3/16
UDB-841806	1/4 - 20	1"	3/16
UDB-841808	1/4 - 20	1-3/16	3/16
UDB-841812	5/16 - 18	1-11/16	1/4
UDB-841816	5/16 - 18	2-3/16	1/4

Locating for Plastic Fixtures, Duplicates

Plaster Bushings Leader Pins

PLASTER BUSHINGS

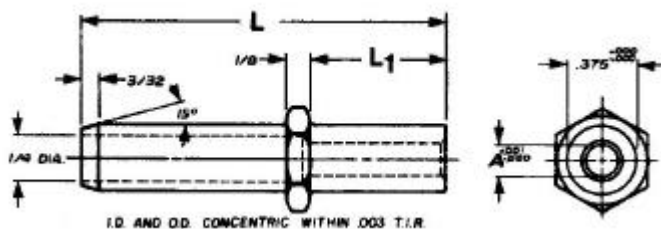


**EASY TRANSFER
TO
PLASTIC FIXTURES**

ALLOY STEEL
HEAT TREATED
BLACK OXIDE FINISH

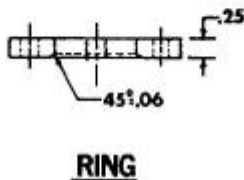
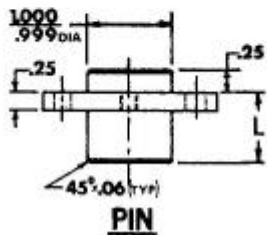
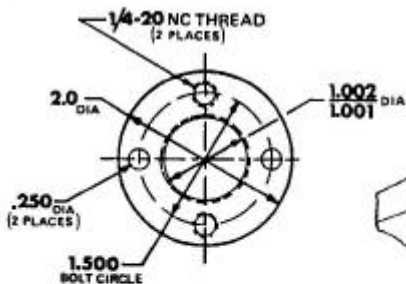
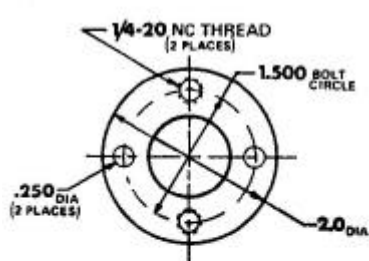
When master plaster patterns are used, Plaster Bushings provide easy transfer to plastic fixtures.

Locate a *UNITED* Nurlock drill bushing over the Plaster Bushing and insert proper jig pin. This guarantees accurate alignment while the plastic laminate fixture cures.



PART NO.	A I.D.		L LENGTH	L ₁ LENGTH
	NOM.	ACTUAL		
UDB-651041	#30	.1285 / .1295	1"	1/2
UDB-651049	#10	.1935 / .1945	1"	1/2
UDB-651053	1/4	.2500 / .2510	1"	1/2
UDB-651059	1/8	.1250 / .1260	2"	3/4
UDB-651060	#30	.1285 / .1295	2"	3/4
UDB-651061	3/16	.1875 / .1885	2"	3/4
UDB-651063	#10	.1935 / .1945	2"	3/4
UDB-651065	13/64	.2031 / .2041	2"	3/4
UDB-651067	7/32	.2187 / .2197	2"	3/4
UDB-651069	#1	.2280 / .2290	2"	3/4
UDB-651071	15/64	.2344 / .2354	2"	3/4
UDB-651073	1/4	.2500 / .2510	2"	3/4

PBT LEADER PINS



L LENGTH	PIN PART NO.	RING PART NO.	SET PIN & RING PART NO.
1/2	UDB-652009	UDB-652017	UDB-652011
3/4	UDB-652013	UDB-652017	UDB-652019
1"	UDB-652015	UDB-652017	UDB-652021

UNITED's PBT LEADER PINS, RINGS & SETS provide fast and easy alignment of pierce blank templates in short run stamping.

DIAMOND PINS AVAILABLE ON REQUEST
ALLOY STEEL HEAT TREATED BLACK OXIDE FINISH

Headless, Threaded & Headed Retainer

UNITED Retainers for Locating Pins

HEADLESS RETAINERS for Lockscrew Locating Pins

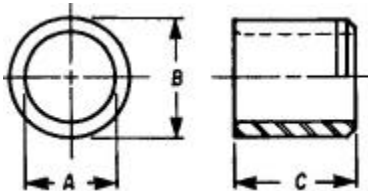
HEADLESS RETAINERS FOR LOCKSCREW LOCATING PINS



- UNITED's** Headless Retainers are
- Hardened
 - Precision Ground
 - Concentric.

Match Locating Pin O.D. with Retainer I.D.

A I. D.	B UNGROUND	UNGROUND PART NO.	B GROUND	GROUND PART NO.	C
.3126 .3129	.520 .515	LU-32-8	.5017 .5014	L-32-8	1/2
.5002 .5005	.770 .765	LU-48-12	.7518 .7515	L-48-12	3/4
.7503 .7506	1.020 1.015	LU-64-16	1.0018 1.0015	L-64-16	1"
1.0004 1.0007	1.395 1.390	LU-88-22	1.3772 1.3768	L-88-22	1-3/8



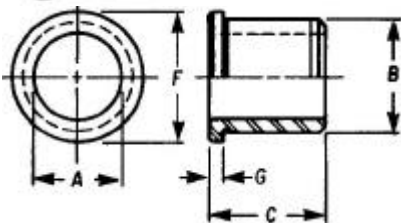
HEADED RETAINERS for Lockscrew Locating

HEADED RETAINERS FOR LOCKSCREW LOCATING PINS

- UNITED's** Headed Retainers are
- Hardened
 - Precision Ground
 - Concentric.

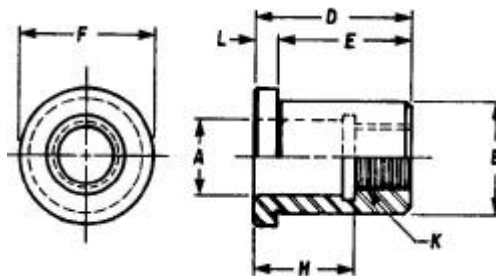
Match Locating Pin O.D. with Retainer I.D.

A I. D.	B UNGROUND	UNGROUND PART NO.	B GROUND	GROUND PART NO.	C	G	F
.3126 .3129	.520 .515	HLU-32-8	.5017 .5014	HL-32-8	1/2	3/32	5/8
.5002 .5005	.770 .765	HLU-48-12	.7518 .7515	HL-48-12	3/4	3/32	7/8
.7503 .7506	1.020 1.015	HLU-64-16	1.0018 1.0015	HL-64-16	1"	1/8	1-1/8
1.0004 1.0007	1.395 1.390	HLU-88-22	1.3772 1.3768	HL-88-22	1-3/8	1/8	1-1/2



THREADED RETAINERS for Threaded Locating Pins

THREADED RETAINERS FOR THREADED LOCATING PINS



Match Locating Pin O.D. Thread with Retainer I.D. Thread

- UNITED's** Threaded Retainers are
- Hardened
 - Precision Ground
 - Concentric.

A I. D.	UNGROUND PART NO.	B UNGROUND	GROUND PART NO.	B GROUND	D	E	F	H	K	L
.3126 .3128	UDB-622269	.457 .452	UDB-622268	.4392 .4389	3/4	21/32	9/16	1/2	1/4 - 28	3/32
.4376 .4378	UDB-622271	.707 .702	UDB-622270	.6893 .6890	1"	7/8	7/8	5/8	3/8 - 24	1/8
.5626 .5629	UDB-622273	.832 .827	UDB-622272	.8143 .8140	1-5/16	1-5/32	1"	3/4	1/2 - 20	5/32
.8751 .8754	UDB-622275	1.270 1.265	UDB-622274	1.2522 1.2518	1-3/4	1-1/2	1-9/16	1-1/8	3/4 - 16	1/4