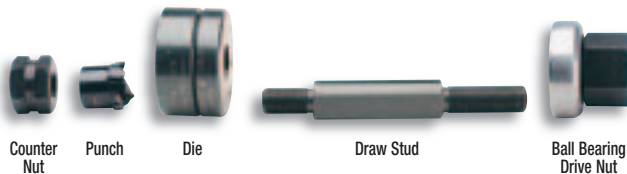
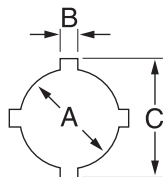


SPECIAL APPLICATION PUNCHES

Oiltight Punches with Notches

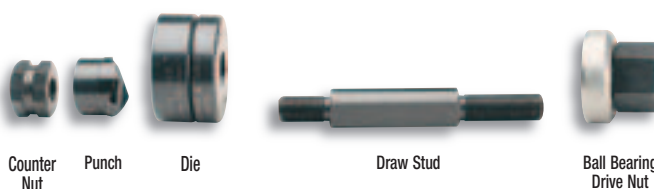
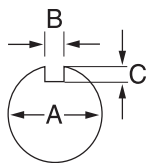
Other oiltight sizes without notches available in standard, Slug-Buster® and Slug-Splitter® designs.



HOLE SIZE						MAXIMUM CAPACITY		OPERATION TYPE	CAT./UPC NO.						MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
									PUNCH UNIT		(INCLUDES PUNCH, DIE DRAW STUD AND NUTS)	PUNCH	DIE	DRAW STUD					
INCH			mm			MILD STEEL													
A	B	C	A	B	C	GA	mm								INCH	mm	LBS.	kg.	
.875	.125	1.000	22.5	3.2	25.4	14	2.0	Hand/Hydr.	60238	60239	60250	60117	60165	60258	.625	15.9	2.1	.95	60167◇
1.210	.190	1.380	30.5	4.8	36.0	10	3.5	Hand/Hydr.	60242	60243	60249	60117	60165	60258	.625	15.9	2.7	1.2	60167◇

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers.

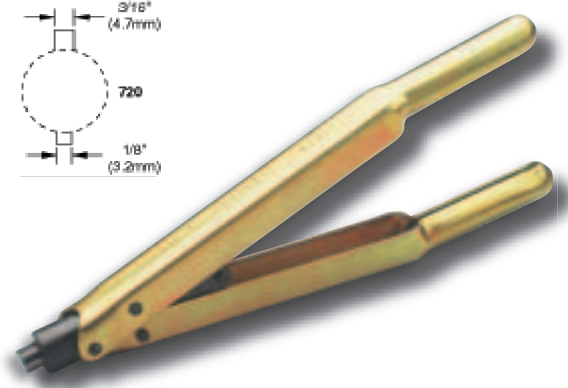
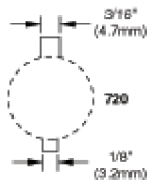
Key Punches



HOLE SIZE						MAXIMUM CAPACITY MILD STEEL		OPERATION	CAT./UPC NO.						MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
									PUNCH UNIT (INCLUDES PUNCH, DIE, DRAW STUD AND NUTS)	PUNCH	DIE	DRAW STUD	BB DRIVE NUT	COUNTER NUT					
INCH			mm			GA	mm	TYPE							INCH	mm	LBS.	kg.	
0.481 Ø	0.055	.030	12.2 Ø	1.4	.8	16	1.5	Hand/Hydr.	60101	60102	60103	60115	60120	05244	.375	9.5	.88	.4	60114◇
1.171 Ø	0.123	.097	29.7 Ø	3.1	2.5	14	2.0	Hand/Hydr.	60104	60105	60106	60166	60165	60258	.875	23.8	2.3	1.0	60167◇
1.265 Ø	0.156	.097	32.1 Ø	4.0	2.5	14	2.0	Hand/Hydr.	60107	60108	60109	60166	60165	60258	.875	23.8	2.4	1.1	60167◇
1.328 Ø	0.102	.097	33.7 Ø	2.6	2.5	14	2.0	Hand/Hydr.	60110	60111	60112	60166	60165	60258	.875	23.8	2.4	1.1	60167◇

◇ For use with any Greenlee Hydraulic Driver or Battery-Powered Driver. For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers.

720 Keyway Punch

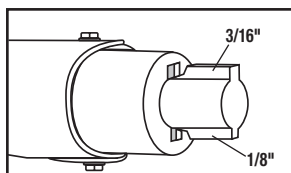


- Eliminates time-consuming hand sawing and filing when making keyways for push-button switches.
- Use as a nibbler to make wider or deeper keyways.
- Punches 1/8" (3.2 mm) or 3/16" (4.8 mm) keyways for 7/8" (22.5 mm) or 1-7/32" (30.5 mm) push-button holes.
- Patented – U.S. Patent No. 4,375,128; Canadian Patent No. 1,172,435.

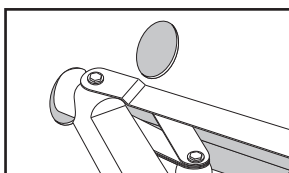
CAT. NO.	UPC NO.	DESCRIPTION	WEIGHT LBS. kg.
720	26534	Keyway Punch	2.8 1.27
	26536	Punch	
	26538	Die	

SPECIFICATIONS

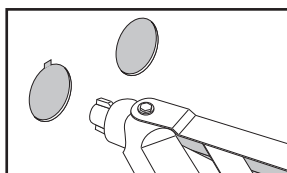
Operation	Manual
Capacity	10 gauge (3.5 mm) mild steel



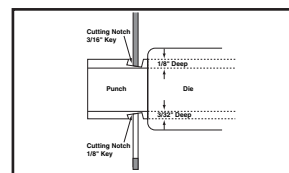
1. Locate proper cutting notch on the cutting head.



2. Place cutting notch inside edge of hole and cut keyway.

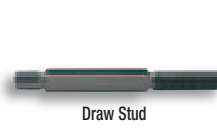
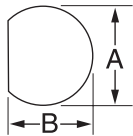


3. Withdraw the punch.



4. Use as a nibbler to make wider or deeper keyways.

"D" Punches

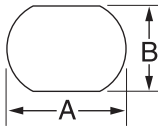


HOLE SIZE				MAXIMUM CAPACITY MILD STEEL		OPERATION TYPE	PUNCH UNIT (INCLUDES PUNCH, DIE, DRAW STUD AND NUTS)	CAT./UPC NO.					MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
								PUNCH	DIE	DRAW STUD	BB DRIVE NUT	COUNTER NUT					
INCH	mm	GA	mm										INCH	mm	LBS.	kg.	
0.500 Ø	0.469	12.7 Ø	11.9	16	2.0	Hand/Hydr.	60077	60078	60079	60115	60120	05244	.375	9.5	.9	.41	60114
0.625 Ø	0.594	15.9 Ø	15.1	14	2.0	Hand/Hydr.	61080	60081	60082	34421	34733	04638	.500	12.7	1.1	.50	33967
0.750 Ø	0.703	19.1 Ø	17.9	14	2.0	Hand/Hydr.	61083	60084	60085	34421	34733	04638	.500	12.7	1.2	.50	33967

For use with any Greenlee Hydraulic Driver or Battery-Powered Driver

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers

Double "D" Punches



HOLE SIZE				MAXIMUM CAPACITY MILD STEEL		OPERATION TYPE	PUNCH UNIT (INCLUDES PUNCH, DIE, DRAW STUD AND NUTS)	CAT./UPC NO.					MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
								PUNCH	DIE	DRAW STUD	BB DRIVE NUT	COUNTER NUT					
INCH	mm	GA	mm										INCH	mm	LBS.	kg.	
0.769 Ø	0.642	19.5 Ø	16.3	14	2.0	Hand/Hydr.	61086	60087	60088	34421	34733	04638	.500	12.7	1.1	.50	33967
0.795 Ø	0.697	20.2 Ø	17.6	14	2.0	Hand/Hydr.	61089	60090	60091	34421	34733	04638	.500	12.7	1.1	.50	33967
0.913 Ø	0.756	23.2 Ø	19.2	14	2.0	Hand/Hydr.	61092	60093	60094	34421	34733	04638	.500	12.7	1.2	.54	33967
0.913 Ø	0.795	23.2 Ø	20.2	14	2.0	Hand/Hydr.	61095	60096	60097	34421	34733	04638	.500	12.7	2	.9	33967
1.375 Ø	1.125	34.9 Ø	28.6	14	2.0	Hand/Hydr.	61098	60099	60100	60166	60165	60258	.875	23.8	2.5	1.1	60167

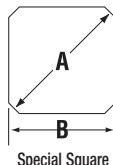
For use with any Greenlee Hydraulic Driver or Battery-Powered Driver

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers

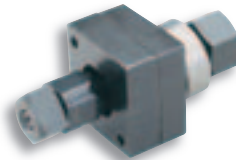
Square and Special Square Punches



Square



Special Square



HOLE SIZE			MAXIMUM CAPACITY MILD STEEL		OPERATION	CAT./UPC NO.						MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
						PUNCH UNIT (INCLUDES PUNCH, DIE, DRAW STUD AND NUTS)	PUNCH	DIE	DRAW STUD	BB DRIVE NUT	COUNTER NUT					
INCH		mm	GA	mm	TYPE							INCH	mm	LBS.	kg	
1/2"	0.500 x 0.500	12.7 x 12.7	16	1.5	ØHand/Hydr.	60001	60002	60003	60115	60120	05244	.375	9.5	1.1	.50	60114
5/8"	0.625 x 0.625	15.9 x 15.9	14	2.0	ØHand/Hydr.	61004	60005	60006	34421	34733	04638	.500	12.7	1.5	.68	33967
3/4"	0.750 x 0.750	19.1 x 19.1	14	2.0	ØHand/Hydr.	61007	60008	60009	34421	34733	04638	.500	12.7	1.5	.68	33967
7/8"	0.882 x 0.882	22.4 x 22.4	14	2.0	ØHand/Hydr.	61010	60011	60012	34421	34733	04638	.500	12.7	1.8	.82	33967
	0.945 x 0.945	24.0 x 24.0	14	2.0	ØHand/Hydr.	61013	60014	60015	34421	34733	04638	.500	12.7	2.3	1.0	33967
1"	1.000 x 1.000	25.4 x 25.4	14	2.0	ØHand/Hydr.	60016	60017	60018	60117	60165	60258	.625	15.9	2.4	1.1	60167
	1.772 x 1.772	45.0 x 45.0	10	3.5	ØHydr. Only	60287	60288	60289	60118	—	60235	1.188	30.2	6.0	2.7	Ø
1-13/16"	1.811 x 1.811	46.0 x 46.0	10	3.5	ØHydr. Only	60019	60020	60021	60118	—	60235	1.188	30.2	6.2	2.8	Ø
2"	2.000 x 2.000	50.8 x 50.8	10	3.5	ØHydr. Only	60168	60169	60170	60118	—	60235	1.188	30.2	6.9	3.1	Ø
2-11/16"	2.677 x 2.677	68.0 x 68.0	10	3.5	ØHydr. Only	60171	60172	60173	60118	—	60235	1.188	30.2	10.1	4.6	Ø
3-5/8"	3.622 x 3.622	92.0 x 92.0	10	3.5	*Hydr. Only	60174	60175	60176	60118	—	60235	1.188	30.2	14.8	6.7	*
4-1/8"	4.125 x 4.125	104.8 x 104.8	10	3.5	*Hydr. Only	60177	60178	60179	60118	—	60235	1.188	30.2	18.8	8.5	*
	5.433 x 5.433	138.0 x 138.0	14	2.0	*Hydr. Only	60234	60023	60024	60118	—	60235	1.188	30.2	20	9.1	*

SPECIAL SQUARE

0.886(A)	0.791(B)	22.5 Ø(A) 20.1(B)	14	2.0	Hand/Hydr.	61125	60126	60127	34421	34733	04638	.500	12.7	.7	.3	33967
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For use with with Hand and Foot Pump Hydraulic Drivers with Ram

For use with any Greenlee Hydraulic Driver, or Battery-Powered Driver

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers

Rectangular Punches

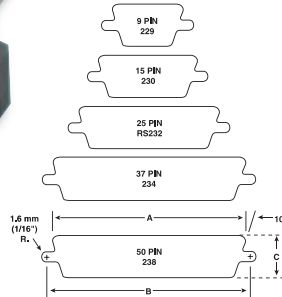


HOLE SIZE		MAXIMUM CAPACITY MILD STEEL		OPERATION TYPE	CAT./UPC NO.						MINIMUM PILOT HOLE Ø		WEIGHT		OPTIONAL ADAPTER FOR HYDRAULIC DRIVERS
					PUNCH UNIT (INCLUDES PUNCH, DIE, DRAW STUDS AND NUTS)	PUNCH	DIE	DRAW STUD	BB DRIVE NUT	COUNTER NUT					
INCH	mm	GA	mm								INCH	mm	LBS.	kg	
0.437 x 0.875	11.1 x 22.2	16	1.5	Hand/Hydr.	60025	60026	60027	60115	60120	05244	.375	9.5	1.2	.5	60114
0.670 x 0.749	17.0 x 19.0	14	2.0	Hand/Hydr.	61028	60029	60030	34421	34733	04638	.500	12.7	1.5	.68	33967
0.750 x 1.140	19.1 x 29.0	14	2.0	Hand/Hydr.	60031	60032	60033	60117	60165	60258	.625	15.9	2.3	1.0	60167
0.750 x 1.310	19.1 x 33.3	14	2.0	Hand/Hydr.	60034	60035	60036	60117	60165	60258	.625	15.9	2.3	1.0	60167
0.861 x 1.018	21.9 x 25.9	14	2.0	Hand/Hydr.	60037	60038	60039	60117	60165	60258	.625	15.9	2.3	1.0	60167
0.866 x 1.181	22.0 x 30.0	14	2.0	Hand/Hydr.	60040	60041	60042	60117	60165	60258	.625	15.9	2.4	1.1	60167
0.866 x 1.654	22.0 x 42.0	14	2.0	Hand/Hydr.	60043	60045	60046	60117	60165	60258	.625	15.9	2.9	1.3	60167
0.990 x 1.140	25.1 x 29.0	14	2.0	Hand/Hydr.	60047	60048	60049	60117	60165	60258	.625	15.9	2.6	1.2	60167
1.250 x 1.380	31.8 x 35.1	14	2.0	Hand/Hydr.	60050	60051	60052	60117	60165	60258	.625	15.9	3.1	1.4	60167
1.312 x 2.625	33.3 x 66.7	10	3.5	Hydr. Only	60053	60054	60055	60118	—	60235	1.188	30.2	5.1	2.3	Ø
1.378 x 2.047	35.0 x 52.0	10	3.5	Hydr. Only	60056	60057	60058	60118	—	60235	1.188	30.2	6.1	2.8	Ø
1.378 x 2.559	35.0 x 65.0	10	3.5	Hydr. Only	60059	60060	60061	60118	—	60235	1.188	30.2	6.8	3.1	Ø
1.378 x 3.228	35.0 x 82.0	14	2.0	*Hydr. Only	60062	60063	60064	60118	—	60235	1.188	30.2	7.7	3.5	*
1.378 x 4.409	35.0 x 112.0	14	2.0	*Hydr. Only	60065	60066	60067	60118	—	60235	1.188	30.2	9.2	4.2	*
1.811 x 3.622	46.0 x 92.0	10	3.5	*Hydr. Only	60068	60069	60070	60118	—	60235	1.188	30.2	8.9	4.0	*
2.250 x 3.500	57.2 x 88.9	10	3.5	*Hydr. Only	60071	60072	60073	60118	—	60235	1.188	30.2	10.1	4.6	*
2.677 x 5.433	68.0 x 138.0	14	2.0	*Hydr. Only	60074	60075	60076	60118	—	60235	1.188	30.2	16.1	7.3	*

*For use with Hand and Foot Pump Hydraulic Drivers with Ram
 ØFor use with any Greenlee Hydraulic Driver or Battery-Powered Driver

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers

Electronic Connector Panel Punches



- Cut-out and mounting slots are punched in one operation.
- Drill only one 7/16" (11.1 mm) pilot hole. (See catalog page 42 for Kwik Stepper® step bits.)
- Fast, accurate panel punching with no sawing or filing required.
- Universal size punches for front or back mount of TRW Cinch and ITT Cannon-type or equivalent connectors in 9,15,25,37 or 50-pin configurations.
- U.S. Patent No. 4,899,447

SPECIFICATIONS

Capacity	16 gauge (1.5 mm) mild steel; 10 gauge (3.5 mm) aluminum
Operation	Manual with a wrench; Quick Draw® and Quick Draw 90® hydraulic drivers, Battery Driver, Ram and Pump hydraulic drivers

PUNCH UNIT		NO. OF PINS	DIMENSIONS			REPLACEMENT CAT./UPC NO.					WEIGHT	
CAT. NO.	UPC NO.		A	B	C	PUNCH	DIE UNIT	DRAW STUD	SQUARE COUNTER NUT	DRIVE NUT	LBS.	kg.
229	34436	9	.787" (20.0 mm)	.982" (24.9 mm)	.469" (11.9 mm)	34441	35196	34421	04638	34733	1.4	.64
231	34437	15	1.127" (28.6 mm)	1.309" (33.3 mm)	.469" (11.9 mm)	34442	35197	34421	04638	34733	1.5	.68
RS232	34420	25	1.655" (42.0 mm)	1.853" (47.1 mm)	.469" (11.9 mm)	34418	35198	34421	04638	34733	2.0	.91
234	34429	37	2.296" (58.3 mm)	2.497" (63.4 mm)	.469" (11.9 mm)	34427	35199	34421	04638	34733	2.0	.91
238	34444	50	2.201" (55.9 mm)	2.402" (61.0 mm)	.579" (14.7 mm)	34443	35200	34421	04638	34733	2.0	.91

For maximum draw stud life, Greenlee recommends the use of battery or hydraulic drivers