



## PIERCE-ALL INC.

6087 NETHERHART ROAD, UNIT 4,

MISSISSAUGA, ON. L5T 1G5

Phone (905) 670-2975 Fax (905) 670-5738

“The Name Says it All”

### Introduction

Pierce-All Performate Tooling System helps to keep hole punching costs down and production rates up. Performate round or shaped punches and dies are available in the following size ranges 0 – 1¼”, 1¼” to 2”, 2” – 3½”. An additional size range, 3 ½” – 5” is available for use in the Pierce-All 50ton hole punching machine. In each size range, the punch driver and stripping assembly accepts all round or shaped punches within that group. Because punch and die changes are fast, out of production time is minimal. With performate tooling it is not necessary to purchase complete assemblies for each punch, just the punch and die.

### Standard and special shapes

Tooling is available in a wide variety of standard round and shaped punches and dies. Special punches and dies can be made to any configuration. The following pages contain all the information you need to order to your specifications.

The performate die system is economical and simple to use. Punches in the 0 to 1¼” size range use inexpensive die buttons and die button holders. All round or shaped dies up to 2” are held in die adapters. Dies in the 2” to 3½” size range are placed directly into the die locator ring on the machine table.

### Standard keying method

Shaped punches are keyed so that they may be oriented parallel, perpendicular or at a 45° angle to the tool holder centerline. For tooling in the 1¼” to 2” and 2” to 3½” size ranges, the key is incorporated in the punch driver and stripping assembly. Tooling in the 0 to 1 ¼” size range requires a separate key. It is slipped over the fork of the punch driver and stripping assembly. The punch is then inserted into the fork; the flats on the punch are matched with flats on the key and oriented in relation to the ears on the key. As the assembly is placed in the stripping guide, the ears on the key drop into slots in the upper collar of the guide which is keyed to the tool holder.

### Shear-proof punch

The shear-proof punch eliminates distortion and is recommended when less than full hole punching is required and when large openings in a sheet are needed. It has a built-in stripping mechanism that acts as a positive hold down on the material until the stripping stroke is completed. While the shear proof punch is designed for the Pierce-All Performator, it can be used on other hole punching machines with a special adapter. It is available in a 1/8” square and 2” square sizes.

### Performate tooling is versatile

Versatile performate tooling is standard for all Pierce-All Performator hole punching machines. Performators also accept tooling for machines of other manufactures. The wide range of performate tooling sizes, available off the shelf, eliminates the need for many specials.

### The multi purpose tool storage cabinet

Available from Pierce-All is the ideal cabinet for safe, convenient storage of punches and dies and other valuable tooling and accessories. The drawers glide easily on a heavy-duty suspension ball bearing system. The drawers open fully without sagging, for easy access to all stored items. One standard size suspension system fits all drawers to provide maximum flexibility. Drawer capacity is 400 pounds. The large sturdy drawer pull is supplied with labels and protective vinyl shields to provide easy identification of drawer contents. Each cabinet comes complete with Safeguard locking device for complete security and a variety of drawer accessories that include 23 partitions, 115 dividers, 5 groove trays and 140 label holders.

### Specifications

Cabinet Dimensions	Inches
Height	26”
Width	30”
Depth	27 ¾”
Drawer Dimensions	
Area	25 1/8” x 25 1/8”
Useable draw heights	2 @ 3”
	2 @ 4”
	1 @ 8”

# RECTANGULAR POINT SIZE LIMITATION

Length



1/2" STN		1" STN		1 1/4" STN		2" STN		3 1/2" STN	
W	L	W	L	W	L	W	L	W	L
.125	.4840	.125	.9921	.125	1.243	.125	1.9960	.125	3.4977
.156	.4750	.156	.9877	.156	1.240	.156	1.9938	.156	1.4965
.187	.4636	.187	.9823	.187	1.235	.187	1.9911	.187	3.4940
.218	.4499	.218	.9759	.218	1.230	.218	1.9880	.218	3.4931
.250	.4330	.250	.9682	.250	1.224	.250	1.9843	.250	1.4910
.281	.4135	.281	.9596	.281	1.217	.281	1.9826	.281	3.4886
.312	.3907	.312	.9500	.312	1.210	.312	1.9754	.312	3.4860
.343	.3637	.343	.9393	.343	1.201	.343	1.9702	.343	3.4831
Max Square .3535		.375	.2962	.375	1.192	.375	1.9645	.375	3.4784
		.406	.9138	.406	1.182	.406	1.9583	.406	3.4763
		.437	.8994	.437	1.171	.437	1.9515	.437	3.4725
		.500	.8660	.500	1.145	.500	1.9364	.500	3.4641
		.562	.8271	.562	1.116	.562	1.9192	.562	3.4548
		.625	.7804	.625	1.082	.625	1.8998	.625	3.4422
		.687	.7267	.687	1.043	.687	1.8781	.687	3.4317
		Max Square .7071		.750	1.000	.750	1.8540	.750	3.4186
				.812	.949	.812	1.8275	.812	3.4043
				.875	.892	.875	1.7984	.875	3.3888
				Max Square .833		.937	1.7666	.937	3.3721
						1.000	1.7320	1.000	3.3541
						1.062	1.6944	1.062	3.3348
						1.125	1.6535	1.125	3.3142
						1.187	1.6092	1.187	3.2923
						1.250	1.5612	1.250	3.2690
						1.312	1.5090	1.312	3.2291
						1.375	1.4523	1.375	3.2185
						1.406	1.4221	1.406	3.2050
						Max Square 1.414		1.437	3.1911
								1.500	3.1621
								1.625	3.1010
								1.750	3.0310
								1.875	2.9553
								2.000	2.8722
								1.125	2.7810
								2.250	2.6809
								2.375	2.5708
								Max Square 2.4748	

Recommended Total Cutting Clearance for Steel		
Gauge	Steel Clearance	U.S. STD
20	.009	.0359
19	.009	.0418
18	.009	.0478
17	.012	.0538
16	.012	.0598
15	.015	.067
14	.018	.0747
13	.021	.0897
12	.021	.1046
11	.024	.1196
10	.024	.1345
9	.030	.1495
8	.030	.164
7	.035	.179
6	.035	.194
5	.040	.209
1/4	.045	.250

## Tool Steel Comparison

A2	<div>-----</div> <div>oo</div> <div>=====</div>	<b>A2</b> Air Hardening  Tool Steel
S1	<div>-----</div> <div>oooooooooooooooooooooooooooo</div> <div>=====</div>	<b>S1</b> Shock Resisting  Tool Steel
S5	<div>-----</div> <div>oooooooooooooooooooooooooooo</div> <div>=====</div>	<b>S5</b> Silicone Molybdenum Shock Resisting Tool Steel
D2	<div>-----</div> <div>oo</div> <div>=====</div>	<b>D2</b> High Carbon High Chrome Tool Steel
M2	<div>-----</div> <div>oo</div> <div>=====</div>	<b>M2</b> High Speed  Tool Steel

**LEGEND**

Wear Resistance	-----
Red Hardness	oooooooooooooooooooo
Toughness	=====

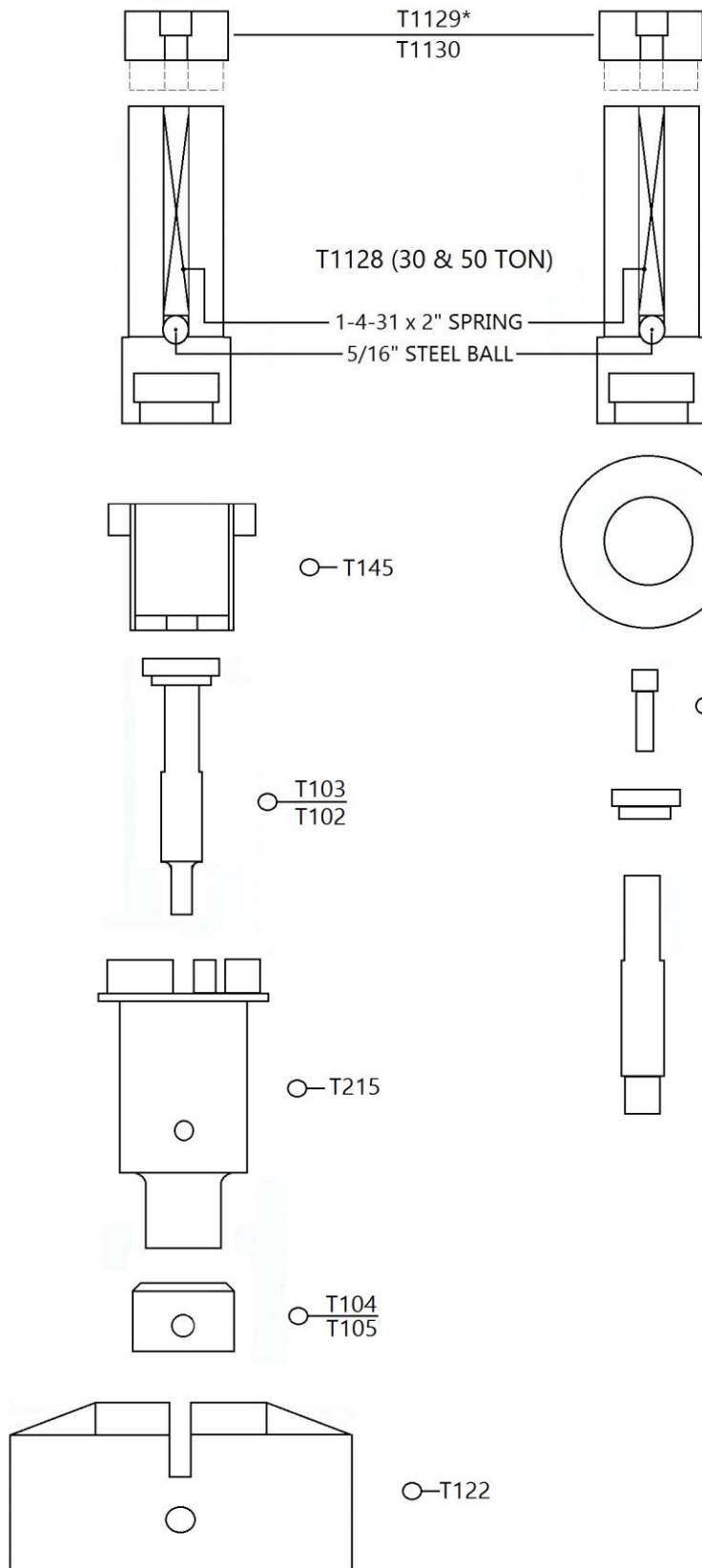
### Delivery Schedule

Round Punches & Dies A2 up to 1.25" Capacity	Approx. 1 – 2 working days
Shaped Punches & Dies A2 up to 1.25" Capacity	Approx. 3 – 4 working days
Round Punches & Dies A2 to 5.0" Capacity	Approx. 4 – 5 working days
Shaped Punches & Dies A2 to 3.5" Capacity	Approx. 6 – 7 working days
Shaped Punches & Dies A2 to 5.0" Capacity	Approx. 10 – 14 working days

## 0.5 CAPACITY TOOLING



**\* DENOTES 50 TON PARTS**



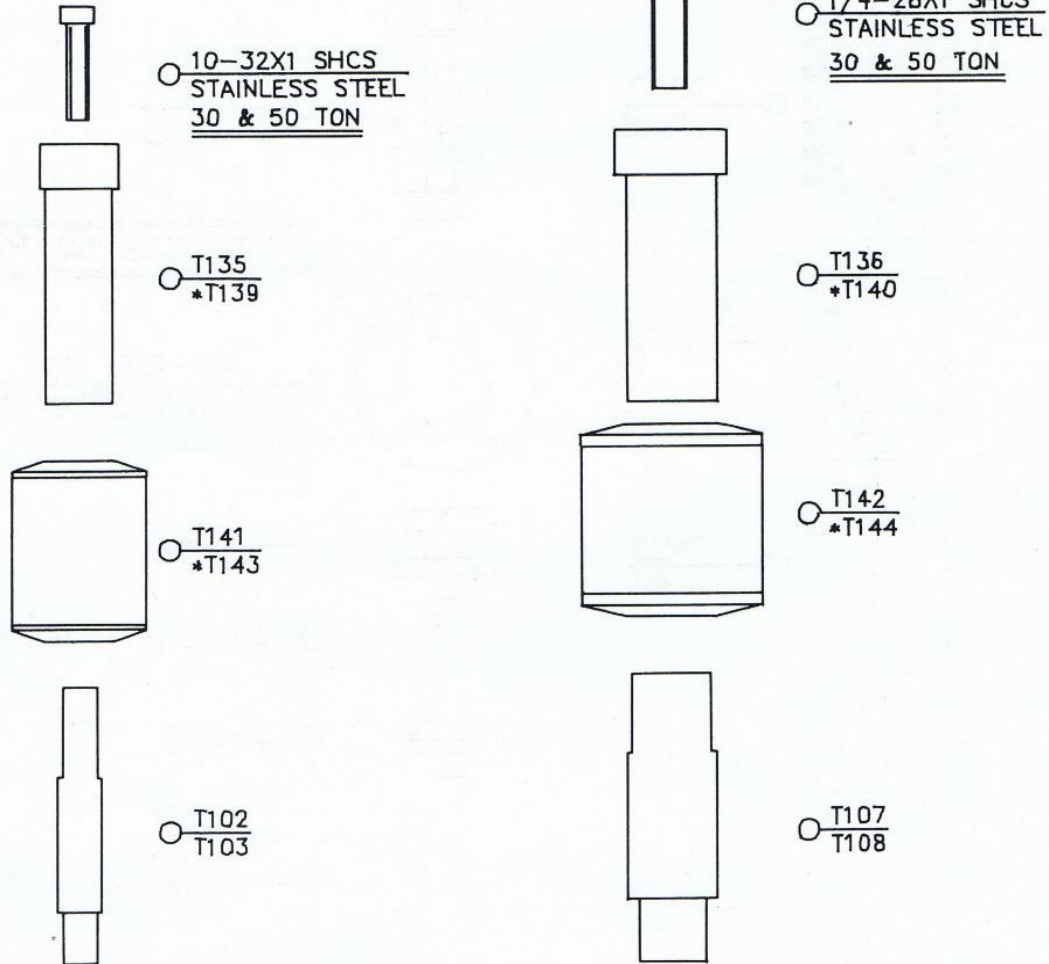
CAT #:	DESCRIPTION
T102	0.5 SHAPED PUNCH
T103	0.5 ROUND PUNCH
T104	0.5 ROUND DIE
T105	0.5 SHAPED DIE
T122	0.5 DIE HOLDER
T145	0-0.5 PUNCH KEY
T155	0-0.5 PUNCH HEAD
T215	0.5 PUNCH GUIDE
T1128	SOLID P DRIVER BODY 30&50TON
T1129	SOLID P DRIVER HEAD 30 TON
T1130	SOLID P DRIVER HEAD 50 TON
DS - 230	DS230 DISC SPRINGS
	5/16" DIA STEEL BALL (30&50TON)
103258SHCS	10- 32 X 5/8 SHCS

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# 0-1.25" HEAVY DUTY TOOLING



NOTE: WITH SHAPED PUNCHES USE  
T145 OR T146 PUNCH KEY  
FOR 1.25" CAP USE LARGER DRIVER

NOTE: PUNCHES & DIES AVAILABLE IN A2  
OR HSS TOOL STEEL

FOR SPECIAL SHAPES REFER  
TO WINDOWS IN THIS CATALOGUE

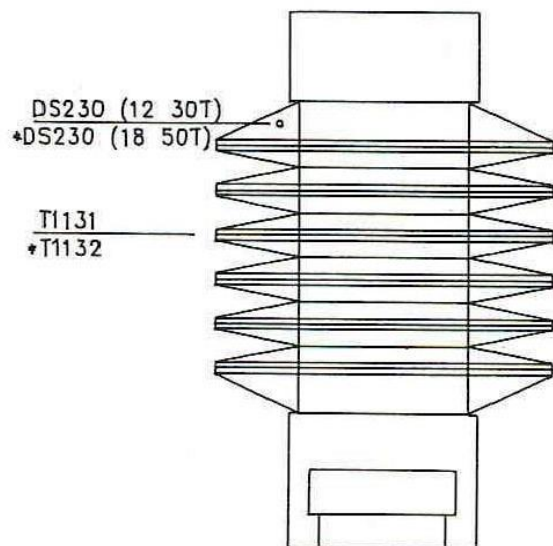
\*DENOTES 50 TON PARTS

CAT#:	DESCRIPTION:
T102	.5" SHAPED PUNCH
T103	.5" ROUND PUNCH
T107	1.0" SHAPED PUNCH
T108	1.0" ROUND PUNCH
T135	.5" HEAVY DUTY PUNCH DRIVER
T136	.5-1.25" HEAVY DUTY PUNCH DRIVER
*T139	.5" HEAVY DUTY PUNCH DRIVER (50T)
*T140	.5-1.25" HEAVY DUTY PUNCH DRIVER (50T)
T141	.5" URETHANE STRIPPER
T142	.5-1.25" URETHANE STRIPPER
*T143	.5" URETHANE STRIPPER (50T)
*T144	.5-1.25" URETHANE STRIPPER (50T)
10321SHCS	10-32X1 SHCS STAINLESS STEEL
14281SHCS	1/4-28X1 SHCS STAINLESS STEEL





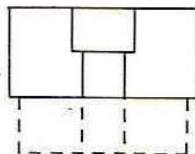
## 0"–1.25" SOLID PUNCH DRIVER



3/8"–16 X 3/4" SHCS  
\*3/8"–16 X 1 1/4" SHCS



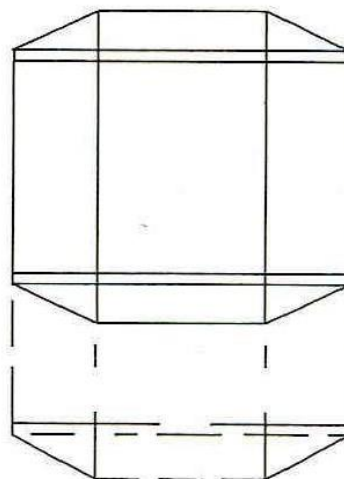
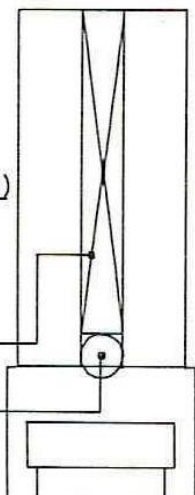
T1129  
\*T1130



T1128 (30 & 50 TON)

1–4–31 X 2"  
SPRING  
30 & 50 TON

5/16" STEEL BALL  
30 & 50 TON



T142  
\*T144

NOTE: FOR EXTRA STRIPPING PRESSURE USE  
URETHANE STRIPPER ABOVE.

\* DENOTES 50 TON PARTS

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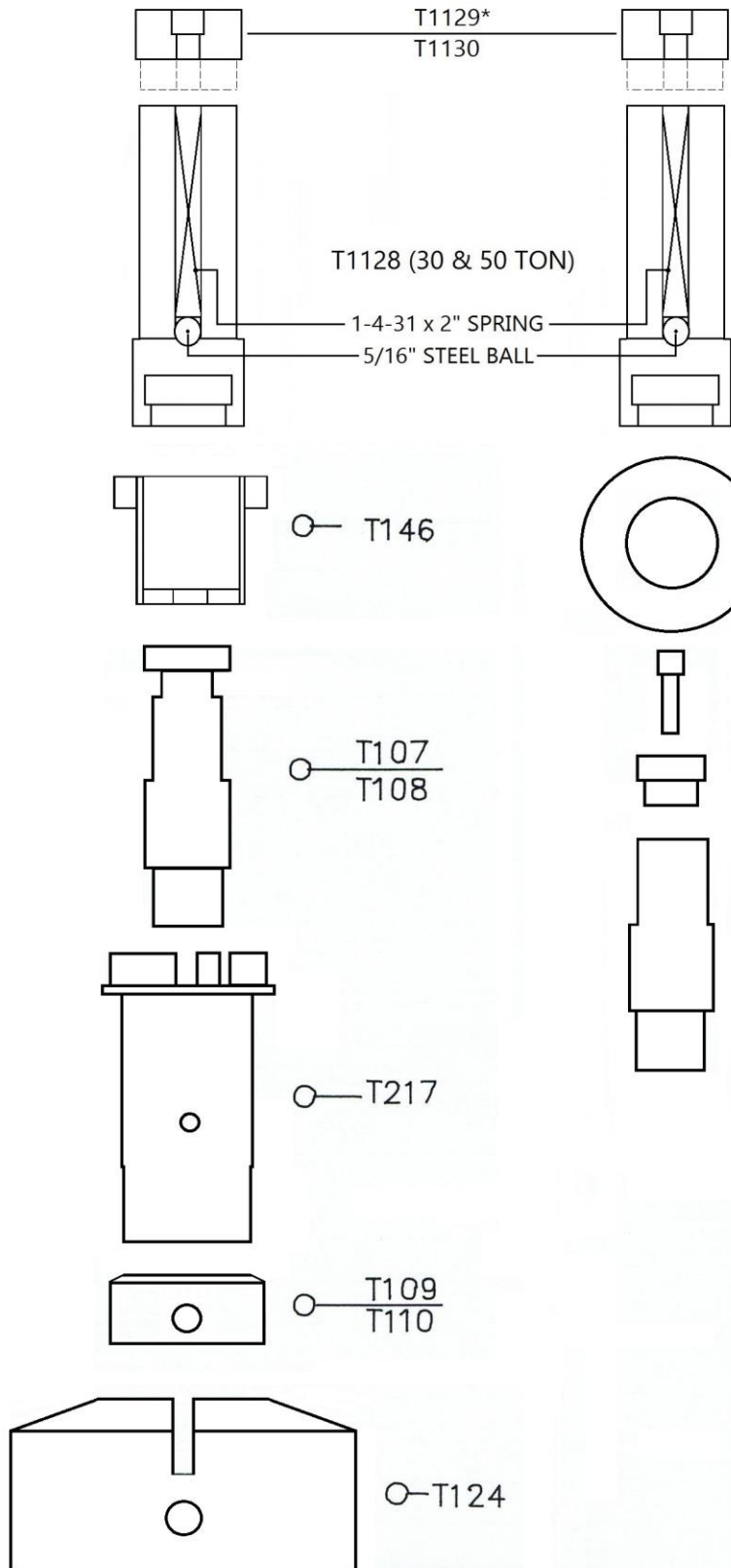
T142	URETHANE STRIPPER 30T
*T144	URETHANE STRIPPER 50T
T1128	SOLID P D BODY 30 & 50 TON
T1129	SOLID P D HEAD 30 TON
*T1130	SOLID P D HEAD 50 TON
T1131	SOLID P D ASS'Y 30 TON
*T1132	SOLID P D ASS'Y 50 TON
DS230	DISC SPRING (12 – 30T)
*DS230	DISC SPRING (18 – 50T)
	3/8–16 X 3/4 SHCS (30T)
	3/8–16 X 1 1/4 SHCS (50T)
1–4–31	SPRING 2" LONG (30&50T)
	5/16" DIA STEEL BALL (30&50T)

PIERCE – ALL CANADA  
LIMITED

# 1.0 CAPACITY TOOLING



\* DENOTES 50 TON PARTS



DS-230 (12) 30T  
\* DS-230 (18) 50T

1/4-28 X 5/8 SHCS

T132

T107  
T108

CAT #:	DESCRIPTION
T107	1.0 SHAPED PUNCH
T108	1.0 ROUND PUNCH
T109	1.0 ROUND DIE
T110	1.0 SHAPED DIE
T124	1.0 DIE HOLDER
T132	1.0 PUNCH HEAD
T217	1.0 PUNCH GUIDE
T1128	SOLID P DRIVER BODY 30&50TON
T1129	SOLID P DRIVER HEAD 30 TON
T1130	SOLID P DRIVER HEAD 50 TON
DS - 230	DS230 DISC SPRINGS
	5/16" DIA STEEL BALL (30&50TON)
142858SHCS	1/4-28 X 5/8 SHCS

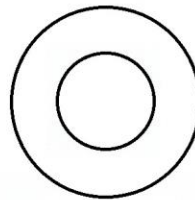
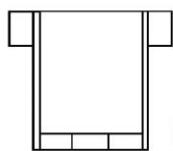
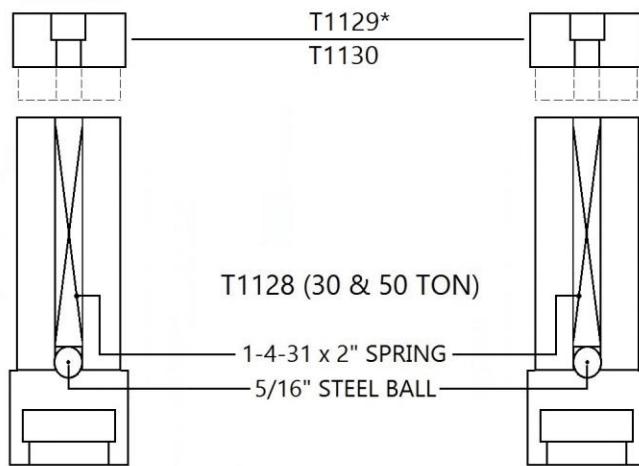
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## 1.25 CAPACITY TOOLING

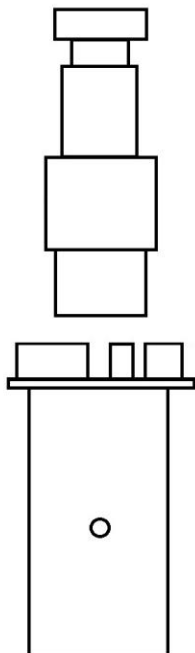
\* DENOTES 50 TON PARTS



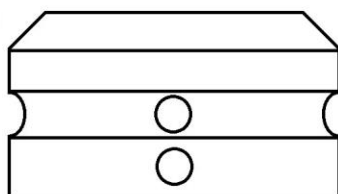
1/4-28 X 5/8 SHCS

T132

T111  
T112



T219



CAT #:	DESCRIPTION
T111	1.25 ROUND PUNCH
T112	1.25 SHAPED PUNCH
T114	1.25 ROUND DIE
T115	1.25 SHAPED DIE
T132	1.25 PUNCH HEAD
T219	1.25 PUNCH GUIDE
T1128	SOLID P DRIVER BODY 30&50TON
T1129	SOLID P DRIVER HEAD 30 TON
T1130	SOLID P DRIVER HEAD 50 TON
DS - 230	DS230 DISC SPRINGS
	5/16" DIA STEEL BALL (30&50TON)
142858SHCS	1/4-28 X 5/8 SHCS

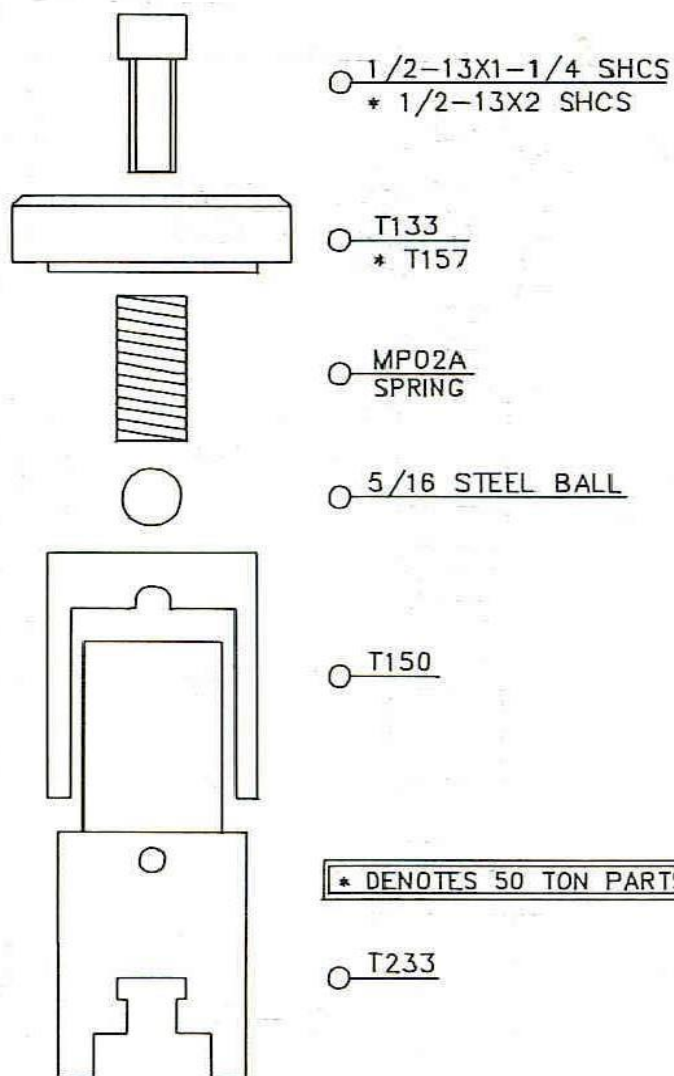
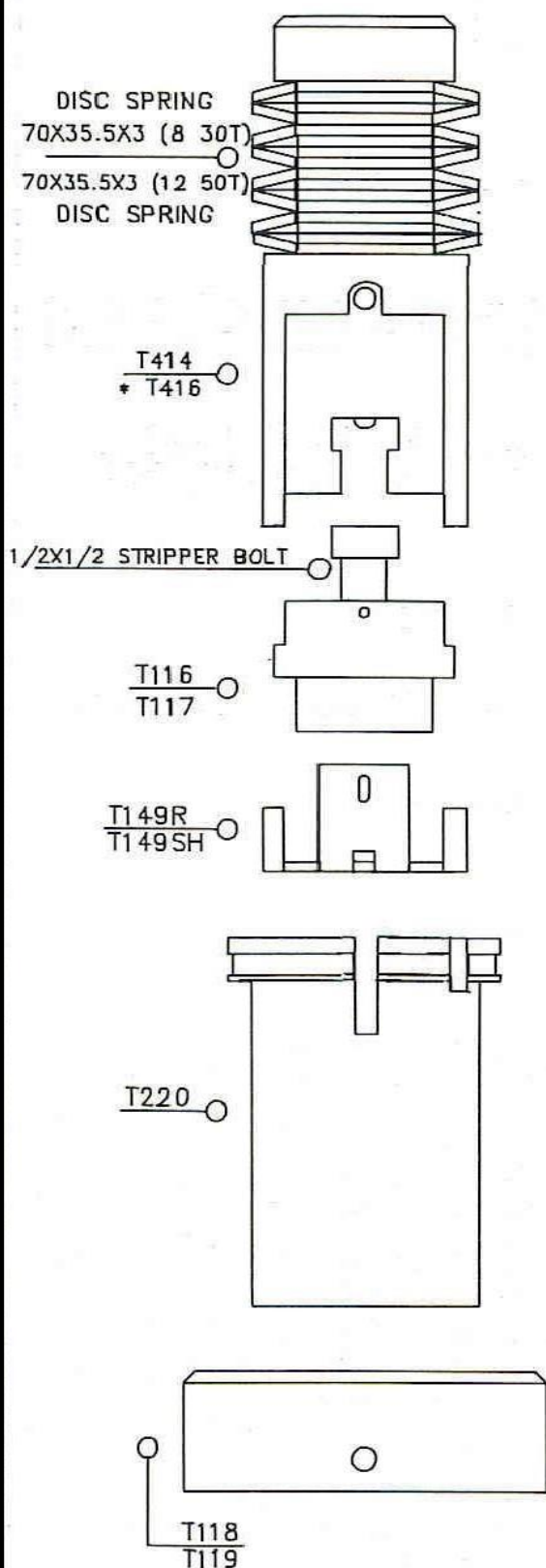
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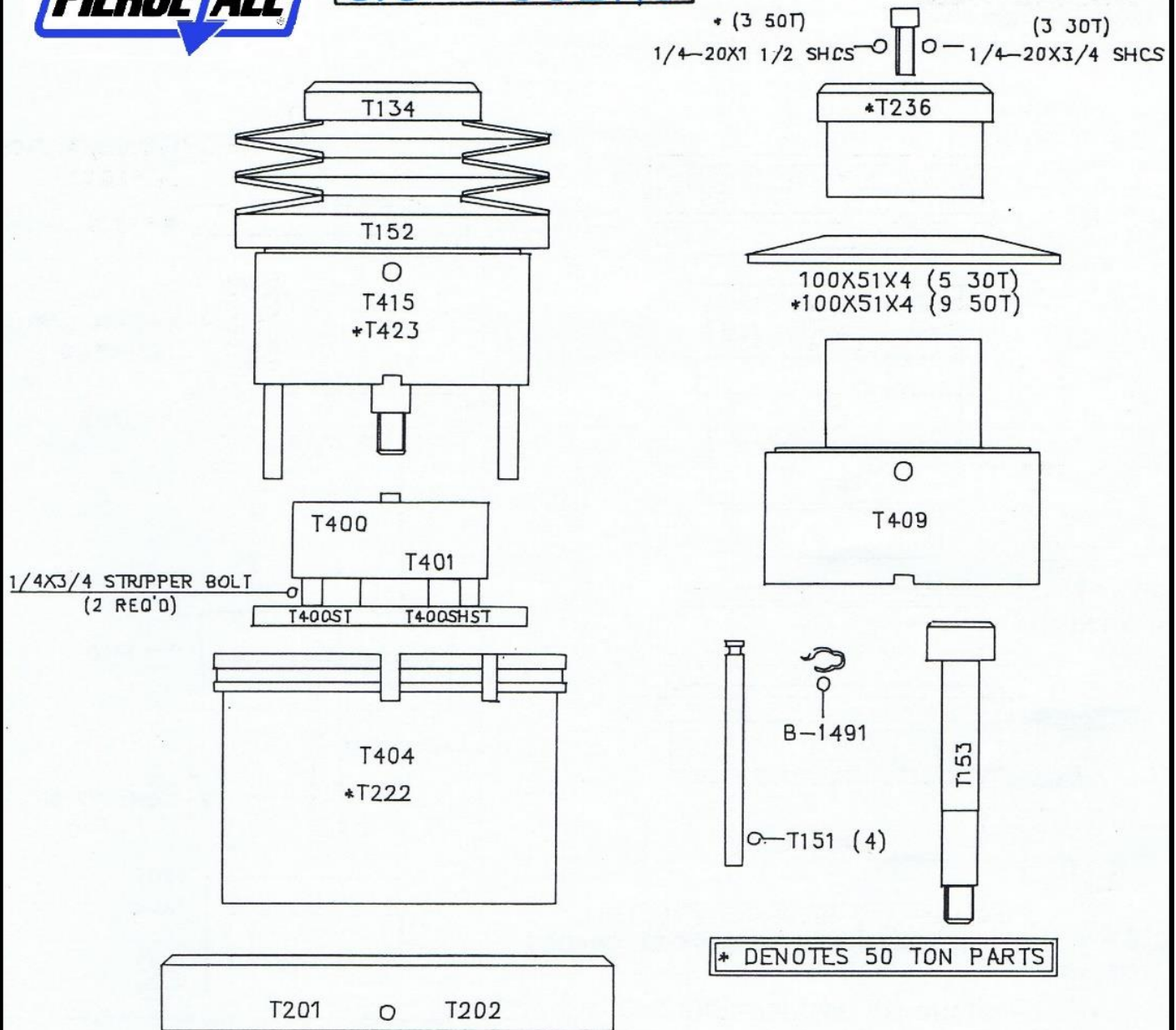
## 2.0" TOOLING



CAT#:	DESCRIPTION
T116	2.0" ROUND PUNCH
T117	2.0" SHAPED PUNCH
T118	2.0" ROUND DIE
T119	2.0" SHAPED DIE
T133	2.0" PUNCH DRIVER HEAD
T149R	2.0" ROUND STRIPPER
T149SH	2.0" SHAPED STRIPPER
T150	2.0" STRIPPER BACK UP RING
* T157	2.0" PUNCH DRIVER HEAD (50T)
T220	2.0" PUNCH GUIDE
T233	2.0" PUNCH DRIVER BODY
T414	2.0" PUNCH DRIVER ASS'Y
* T416	2.0" PUNCH DRIVER ASS'Y (50T)



## 3.5" TOOLING

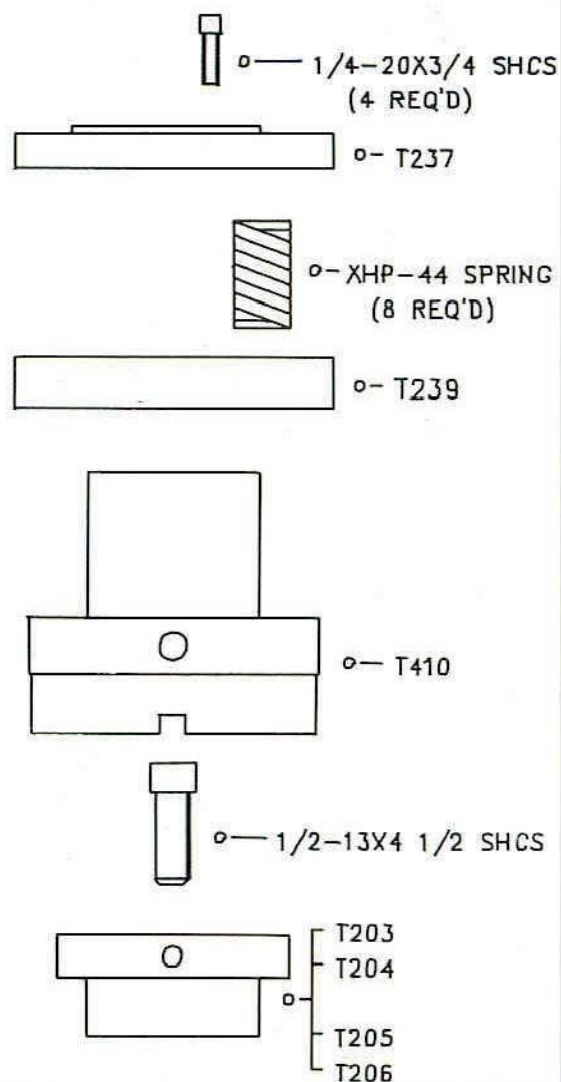
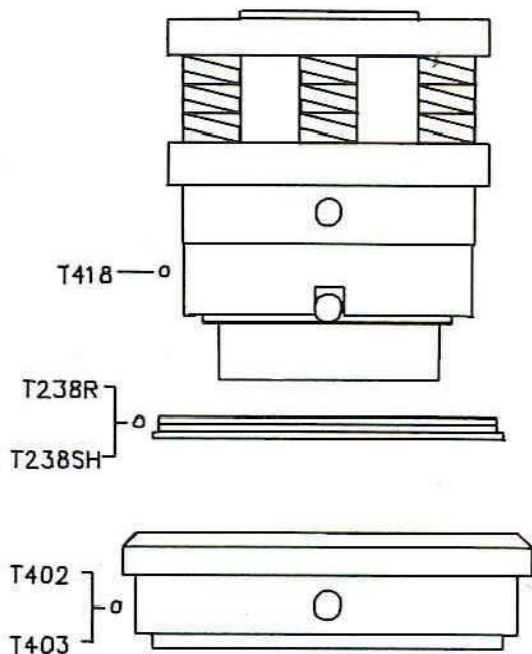


CAT#:	DESCRIPTION:	CAT#:	DESCRIPTION:
T134	PUNCH DRIVER HEAD (30T)	T400ST	3.5" ROUND STRIPPER
T151	PRESSURE PIN (STRIPPER)	T400SHST	3.5" SHAPED STRIPPER
T152	SPRING SUPPORT RING	T404	3.5" PUNCH GUIDE
T153	PUNCH TIP RETAINING SCREW	T409	3.5" PUNCH DRIVER BODY
T201	3.5" ROUND DIE	T415	3.5" PUNCH DRIVER ASS'Y (30T)
T202	3.5" SHAPED DIE	*T423	3.5" PUNCH DRIVER ASS'Y (50T)
*T222	3.5" PUNCH GUIDE (50 TON)	100514	100X51X4.0 DISC SPRINGS
*T236	3.5" PUNCH DRIVER HEAD (50 TON)	B-1491	RETAINING CLIP
T400	3.5" ROUND PUNCH	*T4000	3.5" ROUND PUNCH OVER 3.062" DIA.
T401	3.5" SHAPED PUNCH	*T4010	3.5" SHAPED PUNCH OVER 3.062" DIA.





## 5.0" TOOLING



### NOTE:

PUNCHES AND DIES ARE AVAILABLE  
IN THE FOLLOWING TOOL STEEL GRADES

- A2 — STANDARD APPLICATIONS
- D2 — FOR INCREASED WEAR RESISTANCE  
FOR SS OR HRS APPLICATIONS
- M2 — FOR SUPERIOR WEAR RESISTANCE  
HIGH PRODUCTION APPLICATIONS
- S1 — FOR EXCELLENT TOUGHNESS  
HEAVY DUTY APPLICATIONS

PLEASE ASK ORDER DESK FOR  
RECOMMENDED TOOL STEEL

CAT#:	DESCRIPTION
T203	5.0" PUNCH ROUND 4.0" MAX. DIA.
T204	5.0" PUNCH SHAPED 4.0" MAX. DIA.
T205	5.0" PUNCH ROUND 5.0" MAX. DIA.
T206	5.0" PUNCH SHAPED 5.0" MAX. DIA.
T237	5.0" PUNCH DRIVER HEAD
T238R	5.0" STRIPPER ROUND
T238SH	5.0" STRIPPER SHAPED
T239	5.0" SPRING PRESSURE RING
T402	5.0" DIE ROUND
T403	5.0" DIE SHAPED
T410	5.0" PUNCH DRIVER BODY
T418	5.0" PUNCH DRIVER ASS'Y