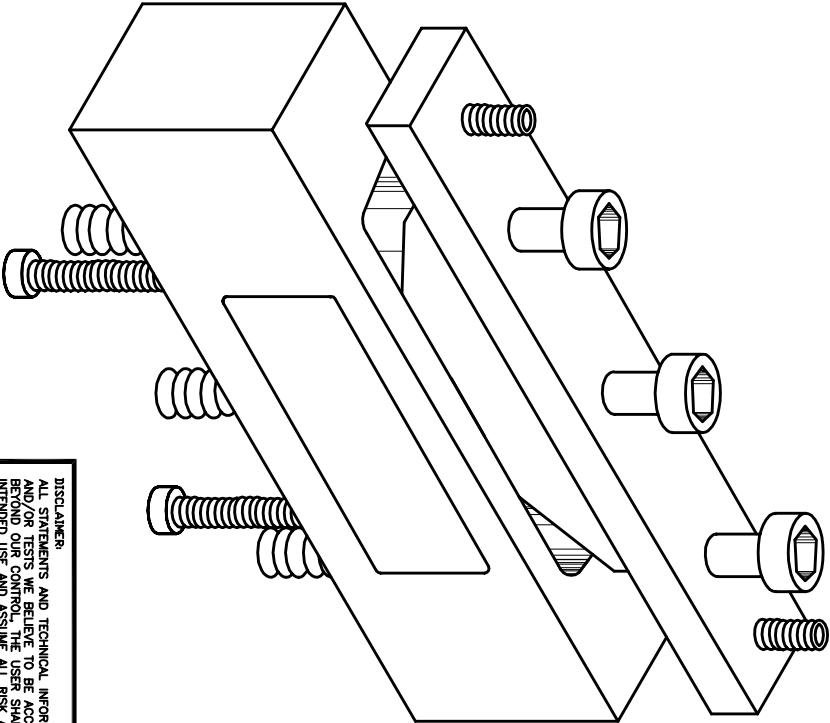


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REVISIONS			DOC. NO. SPC-F005 * Effective: 12/21/98 * DCP No: 680					
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
	B	REVISE AND REDRAWN	J.A.P.	4/23/93	J.C.	4/26/93	K.D.	4/27/93
583	C	Change file name. was DSP-37P *	HYO	6/28/01	J.C.	7/3/01	J.C.	7/3/01

PANEL PUNCHES FOR D-SUBMINIATURE CONNECTOR HOLES

DSP-37P - For use with T&B Ansley, ITT Cannon and TRW Cinch plastic plugs and sockets as well as other plastic and metal sockets. The punch/die unit itself is machined of D-2 tool steel, hardened, and cutting edges are ground. Punch and die are drawn together by 3 bolts which are tightened in a predetermined sequence. Adhesive templates which are provided with the kit locate these three bolt holes. Before the hole is completely cut, two hard point screws are tightened to both mark and prick punch the receptacle mounting screw holes. After the operation is completed, the slug is ejected from the die by use of two cap screws. All fasteners are socket headed and allen wrenches are provided. Punches are designed for recommended thicknesses from 22 gauge to 16 gauge steel and aluminum panels.



TYPE	DSP-37P
DIMENSION AND SPECIFICATIONS (PUNCH, DIE AND SCREWS)	PAGE 2
DIMENSION AND SPECIFICATIONS (HEX KEYS AND TEMPLATE)	PAGE 3
INSTRUCTION SHEET	PAGE 4
WARRANTY AND DISCLAIMER CLAUSE	PAGE 5

DISCLAIMER:
ALL STATEMENTS AND TECHNICAL INFORMATION CONTAINED HEREIN ARE BASED UPON INFORMATION AND/OR TESTS WE BELIEVE TO BE ACCURATE AND RELIABLE. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE INTENDED USE AND ASSUME ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.



SPC TECHNOLOGY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.		DRAWING TITLE: D-SUB PUCH, 37 CONNECTOR PINS	
DRAWN BY: J.A.P.	DATE: 4/23/93	SIZE A	DWG. NO. DSP-37P
CHECKED BY: JOHN COLE	DATE: 4/26/93	ELECTRONIC FILE 44N1088.DWG	
APPROVED BY: K.D.	DATE: 4/27/93	SCALE: NTS	U.O.M.: INCHES
		SHEET: 1	OF 5

1. MATERIAL: D-2 TOOL STEEL
2. HEAT-TREAT: NORMALIZED
3. FINISH: BLACK OXIDE
4. ALL SCREWS ARE MILL RUN GRADE 5 STEEL OR LESS.

ITEM	QTY	DESCRIPTION
B	1	PUNCH
C	1	DIE
D	3	DRAW SCREW; SOCKET HEAD SCREW (M6 x 50 MM)
E	2	SOCKET SET SCREW, CONE POINT #8-32 UNC X .51 LG.
F	2	SOCKET HEAD CAP SCREW, #8-32 UNC X 1 LG.

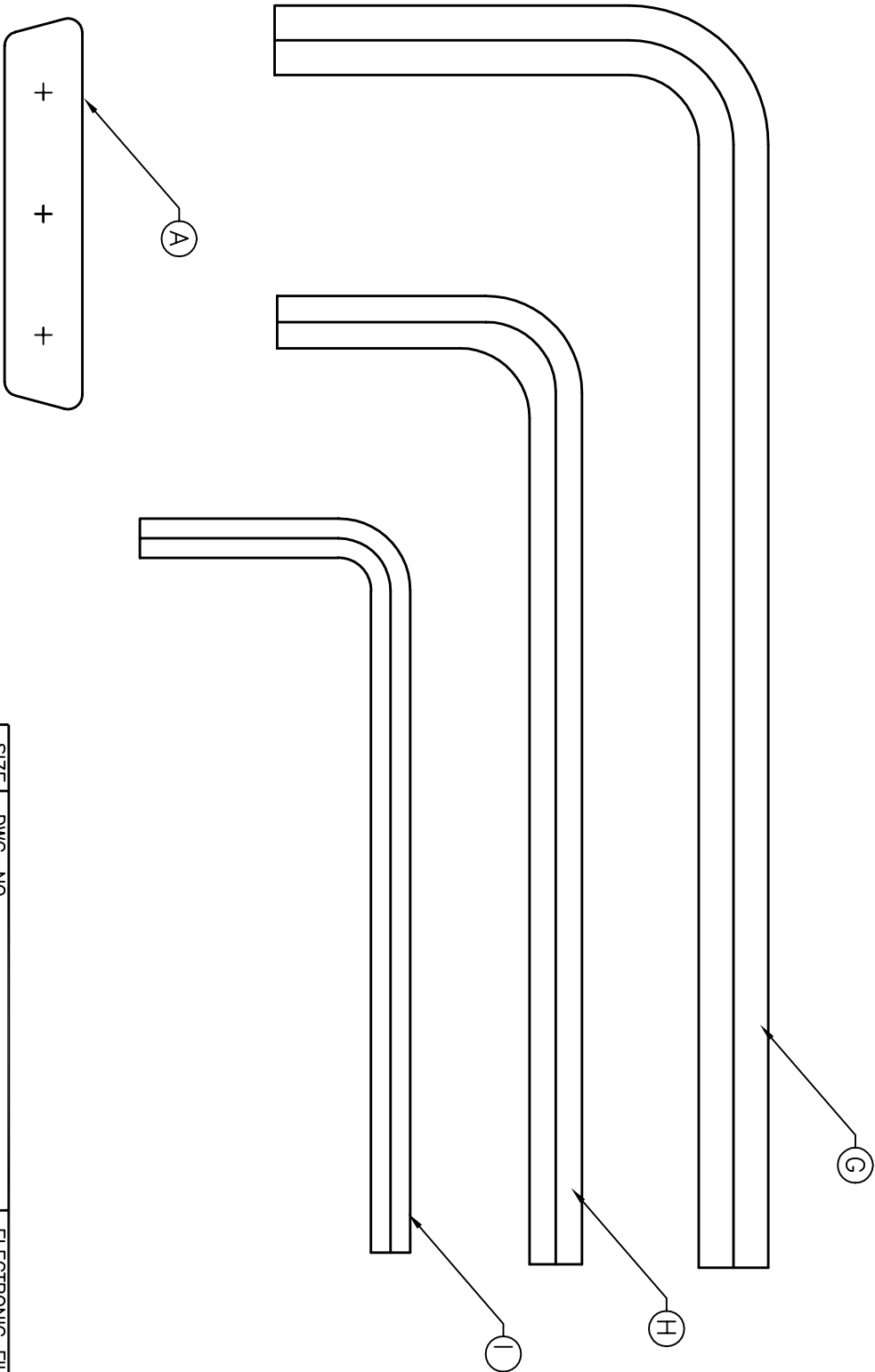


SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	DSP-37P	44N1088.DWG	C
SCALE: NTS	U.O.M.: INCHES	SHEET: 2	OF 5

NOTES:

- 1. MATERIAL: COLD ROLLED STEEL
- 2. FINISH: BLACK OXIDE

ITEM	QTY	DESCRIPTION
A	25	ADHESIVE-BACKED TEMPLATE
G	1	HEX KEY, SHORT ARM (5 mm)
H	1	HEX KEY, (9/64)
I	1	HEX KEY, (5/64)



SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	DSP-37P	44N1088.DWG	C
SCALE:	NTS	U.O.M.: INCHES	SHEET: 3 OF 5

INSTRUCTIONS

WARNING: THIS IS A HAND TOOL AND USE OF POWER TOOLS INSTEAD OF THE ALLEN WRENCHES PROVIDED VOIDS ALL WARRANTIES.

PLEASE NOTE (5) & (6): IF THESE INSTRUCTIONS
ARE NOT READ AND FOLLOWED THE DIE WILL
BREAK. THERE IS NO WARRANTY PROVIDED FOR
THIS MISUSE.

(1) MOUNT the adhesive backed template at the location you wish to make a connector installation. **CAUTION** be sure there will be sufficient clearance to use both punch & die at this spot. Surface must be clean & dry so the template will adhere.

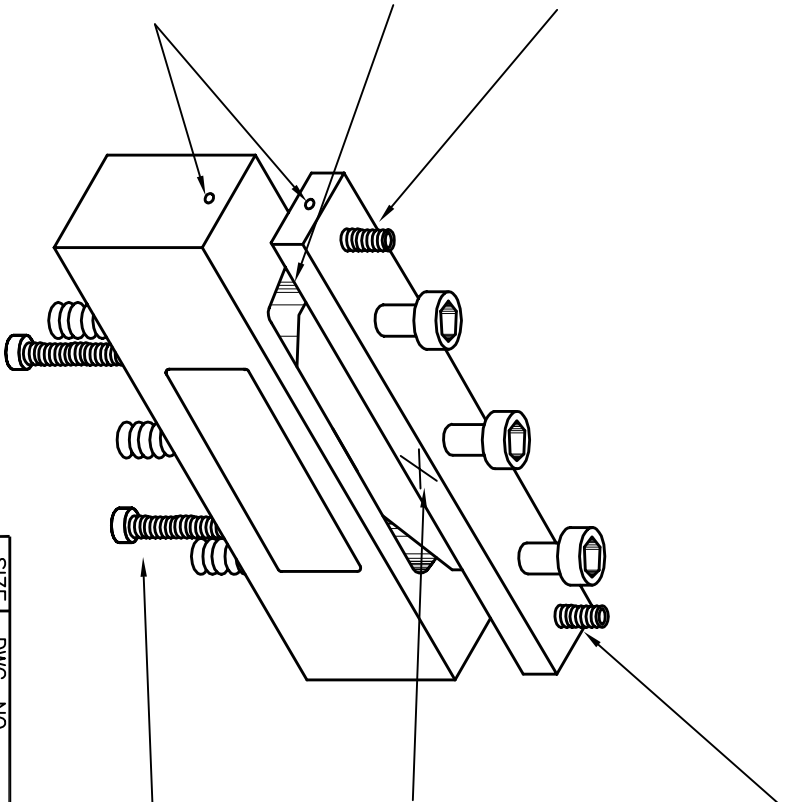
(2) CENTER PUNCH and drill three 1/4 inch holes at the points marked "+" on the template. It is wise to remove the template before the actual drilling.

(3) CLEAN and LUBRICATE the area to be punched. Any oil (or even vegetable shortening) will allow the punch to work easier.

(4) THREAD the 2 hard point screws into their holes so the points **do not project** beyond the face of the punch flange. IF THEY PROJECT BEYOND THE FLANGE FACE EXCESSIVE LOAD WILL CAUSE THE PUNCH TO BREAK.

(5) NOTE the template has tapered ends; so do the punch and die. When the punch & die are installed to make the hole they must be aligned properly with each other.

(6) INSERT these three Draw Screws into their holes on the punch, through the 3 holes you drilled in the panel and thread them into their tapped holes in the die. You will note there is a punch mark on the end of the punch; there is a corresponding mark on the end of the die. These marks must BOTH be on the same end, as shown in the sketch. If you install the Punch/ Die wrong, the die will break and the punch will be distorted. **THERE IS NO WARRANTY AGAINST BREAKAGE OR DISTORTION DUE TO SUCH MISUSE.**



(7) AFTER properly aligning punch to die and snugging the 3 draw screws hand tight, use the large hex key to tighten the draw screws, alternately if necessary, and thus cut the hole. Most times the entire hole can be made by use of the center draw screw only and the screws on either side are used to correct any tilting of the punch as related to the die.

(8) AFTER the hole is punched and before the 3 draw screws are loosened the two hard point set screws are tightened sufficiently to mark the locations of the mounting holes for the connector. (After removal of the punch unit you can then center punch and drill the holes at these locations.) Then, BACK THESE 2 SCREWS CLEAR (as per paragraph (4)).

(9) REMOVE the 3 draw screws and die.

(10) REMOVE the punch from the panel. By gripping the punch with vise grip pliers in the center of the flange and applying slight up-and-down motion the punch should release. **Do NOT** pry the punch out with a screwdriver.

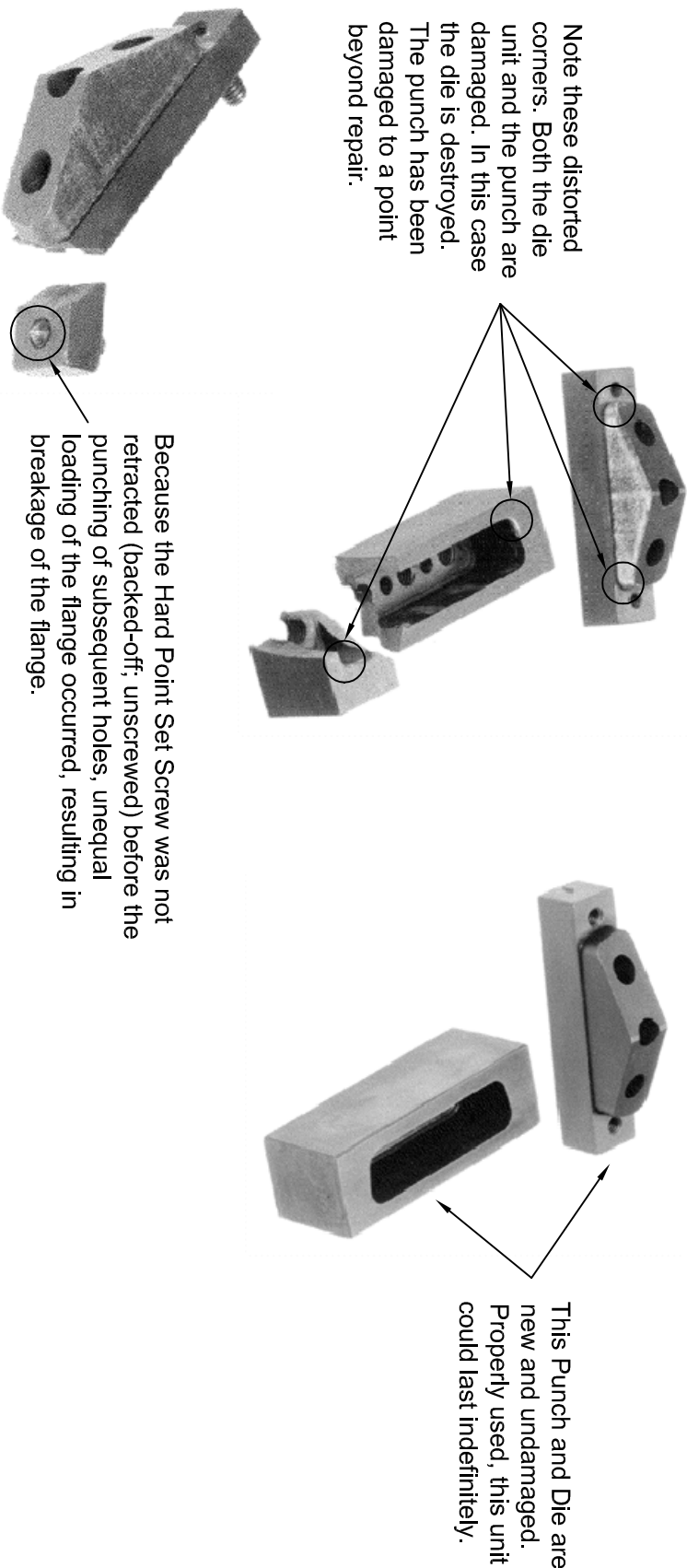
(11) By threading the 2 ejector screws into the die the slug is readily removed.

(12) STORE the tool after applying a light oil coating.

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	DSP-37P	44N1088.DWG	C
SCALE: NTS	U.O.M.: INCHES	SHEET: 4 OF 5	

RECOGNIZING THE CAUSES OF PANEL PUNCH DAMAGE

The Panel Punch Instructions outline the proper procedure for assembly of the Punch/Die unit in order to punch a hole. If the instructions are not followed and the Punch is inserted into the Die incorrectly, 180 degrees from its proper placement, an end load will be applied to the die section which exceeds design load and the die will break. See the example below, left. The actual load that caused this damage was not measurably higher than the force that would be required to punch 16 gauge mild steel if the punch and die were not lubricated.



Read the directions. The above types of breakages are not covered by warranty.

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