



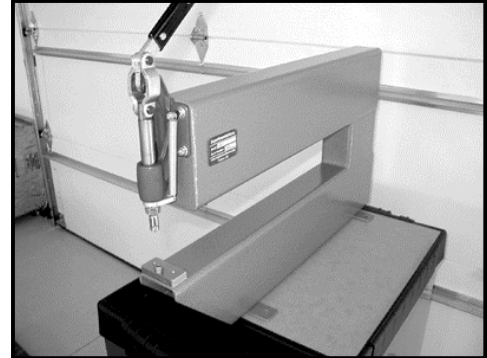
ExperimentalAero

DRDT-2 Construction/Operation Manual

Introduction

The DRDT-2 is c-frame dimpling tool. It is a welded frame that supports a compression clamp and die holder. It is designed to meet the following specifications:

- ❑ Capable of dimpling aluminum skins up to 0.040" thick
- ❑ 22" throat depth
- ❑ Capable of dimpling leading and trailing edge skins
- ❑ Safety system** to prevent accidental damage to parts
- ❑ Minimum weight
- ❑ Reliable and simple design



**To protect from accidentally releasing the handle while working which could create an unwanted dimpled hole, a balanced (low force) return system is incorporated in the design. This solution provides protection while minimizing the resistive load on the operator.

Disclaimer: When using the DRDT-2, high compression loads can be created. Use care when operating to prevent injury. **The DRDT-2 is designed for aluminum dimpling operations only.** Using the DRDT-2 for any other purpose damage the product. ExperimentalAero™ is not responsible for any injury resulting from the use of the DRDT-2.

Assembly

- ❑ Install the handle to the clamp assembly using the mounting hardware provided. Note: Due to manufacturing variations, the handle may only fit on the clamp assembly one way.
- ❑ Install the ram and nut into clamp plunger.
- ❑ Mount the clamp assembly to the c-frame with the mounting hardware provided in the following order (do not tighten the hardware at this time).
 1. Install the lower socket head cap screws and washers to clamp/frame.
 2. Install the springs, spacers, nuts and washers on the upper socket head cap screws and install to clamp/frame.
 3. Using needle nose pliers, open the end loops of the springs and insert the loops through the return spring holder on the clamp. Compress the loops closed.



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- ❑ Mount the die receiver to the lower rail with mounting hardware provided.
- ❑ Install the dimple dies (not provided) or 3/16" alignment pin (not provided)
- ❑ With the clamp and die receiver mounting bolts loose, slowly bring down the die ram and engage the dimple dies. Make sure the die faces meet parallel.
- ❑ Tighten all mounting hardware** and cycle the clamp slowly and make sure you have proper die alignment. Inspect a few dimpled sample parts to determine if the dimples are acceptable. If not repeat the alignment steps as required to get final alignment. ***If you can not get the die surfaces parallel, you can shim under the die receiver to correct for any tilt errors using aluminum foil shims.***



** Do not over tighten bolts. You can get proper torque using a standard Allen (Hex) wrench without using a leverage extender. Over tightening can cause stripping of the threads.

Operation

The DRDT-2 is simple and easy to operate.

- ❑ Lift the handle, which raises the ram.
- ❑ Install the male or female dimple die in the ram
- ❑ Install the opposite dimple die in the receiver block.
- ❑ Lower the handle until the clamp hits the clamp stop (if the dies engage first back off on the ram jam nut and screw the ram in (clockwise))



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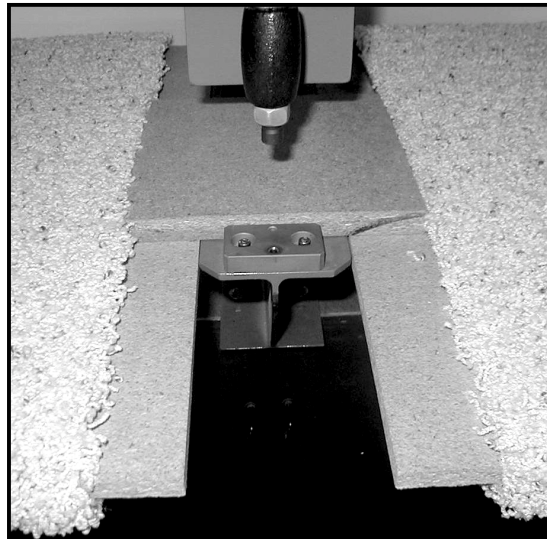
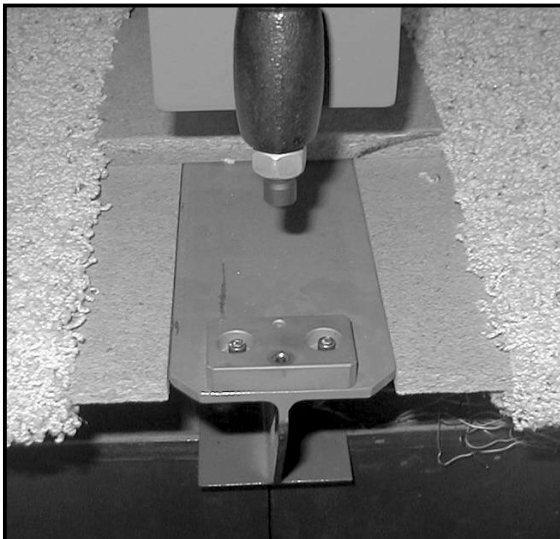
- ❑ Unscrew the ram until the die engage completely
- ❑ Tighten the ram nut (hand tight)
- ❑ Lift the handle (which lifts the ram).
- ❑ Place a test piece of aluminum in position over the dimple dies.
- ❑ Lower the handle until the clamp hits the clamp stop.
- ❑ Inspect the dimple, adjust the ram to apply more or less dimple force if needed

Maintenance

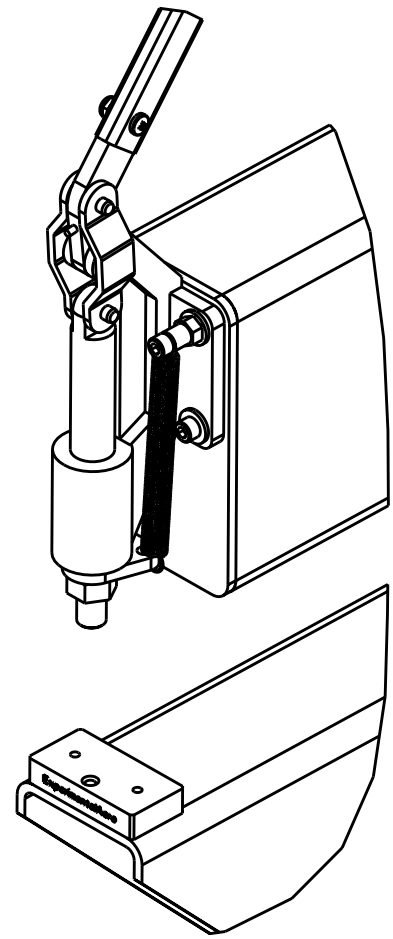
The DRDT-2 requires only light oiling of the pivots and clamp plunger. Oiling the clamp plunger will help prevent rusting of the machined surface.

Platform Construction

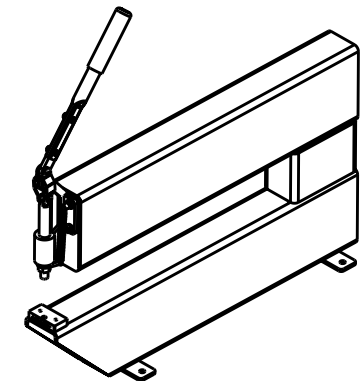
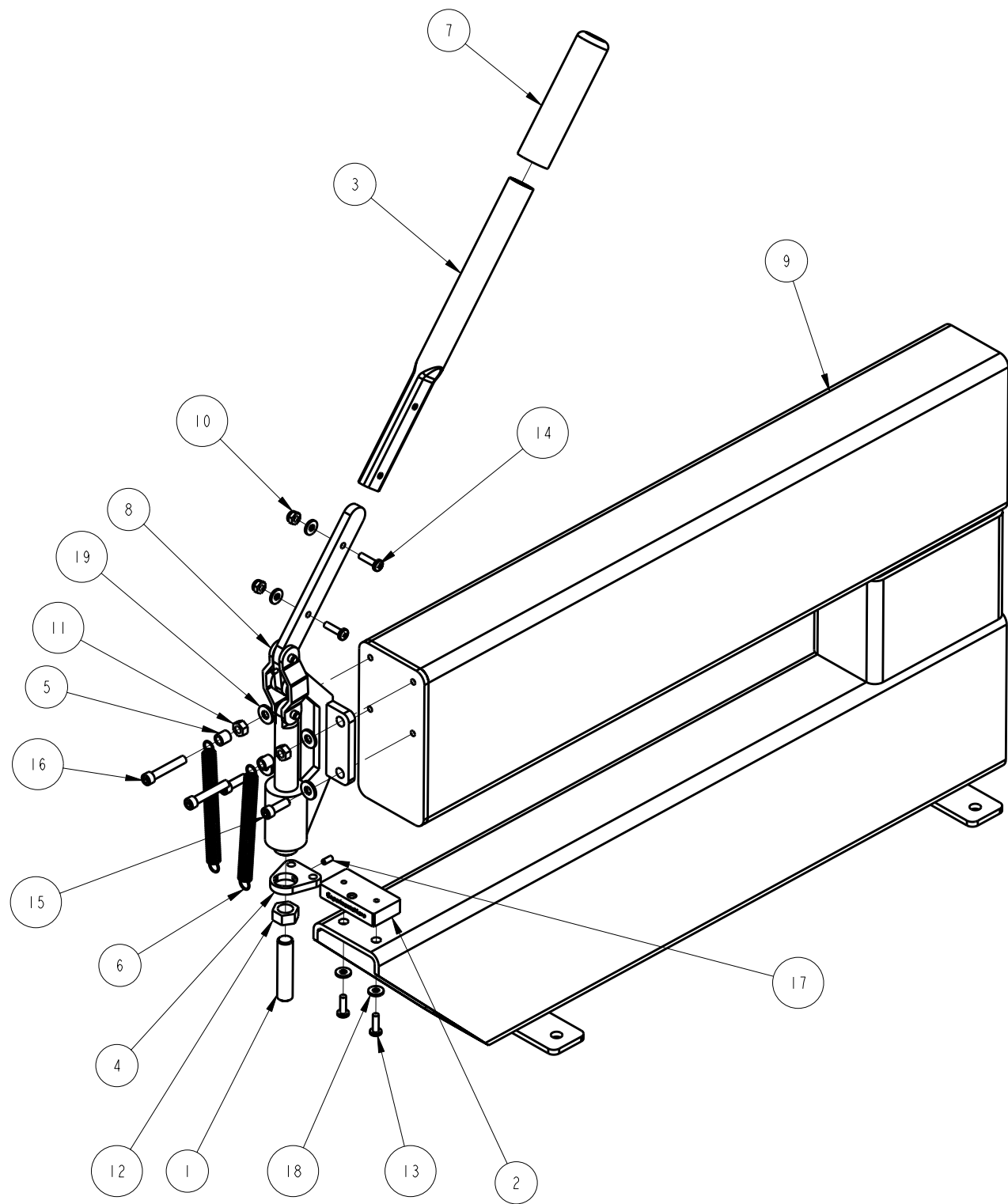
A drawing is provided that details the construction the DRDT-2 platform. This platform provides a support surface for laying the skins on while dimpling and has been designed so that it can be slid forward to give greater support when needed. The materials used to construct the platform can vary. The sample shown is made from 5/8" particleboard. Once completed the platform can be wrapped with carpet and stapled or glued underneath.



REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	02/08/04	P.MEREMS



SCALE 0.500



SCALE 0.125

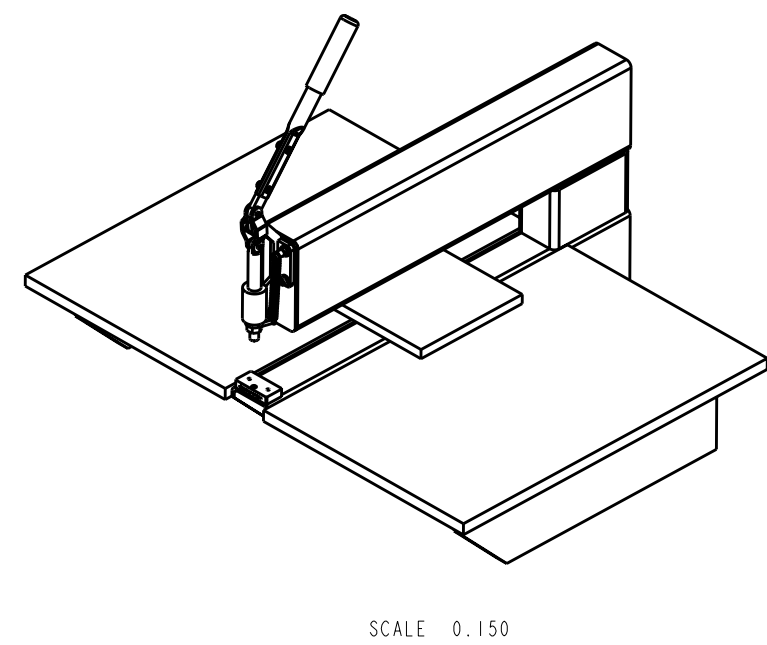
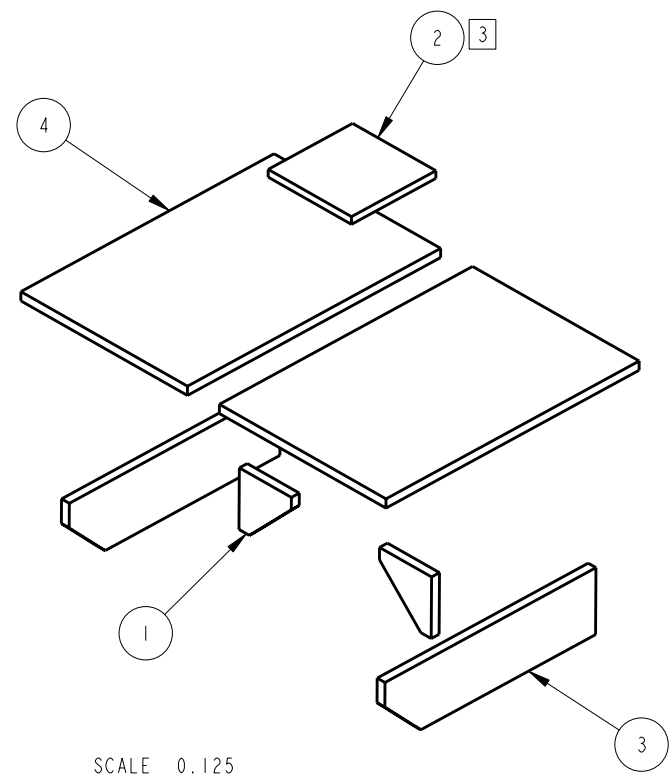
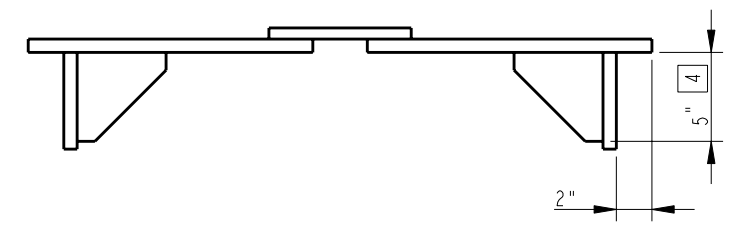
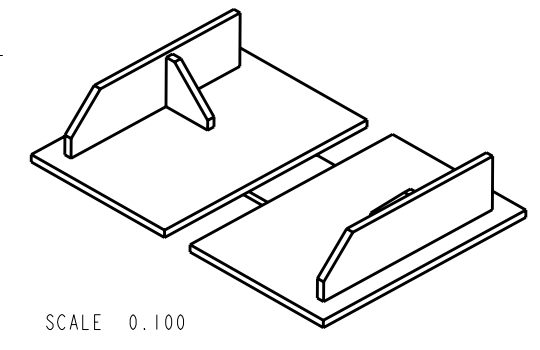
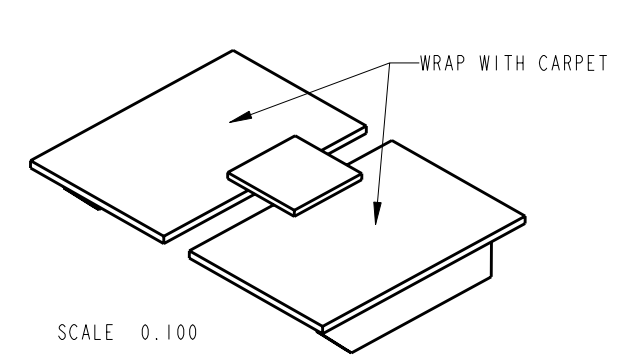
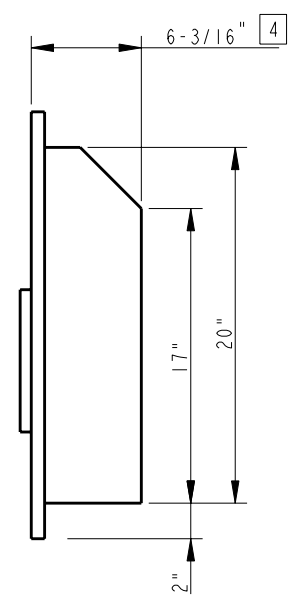
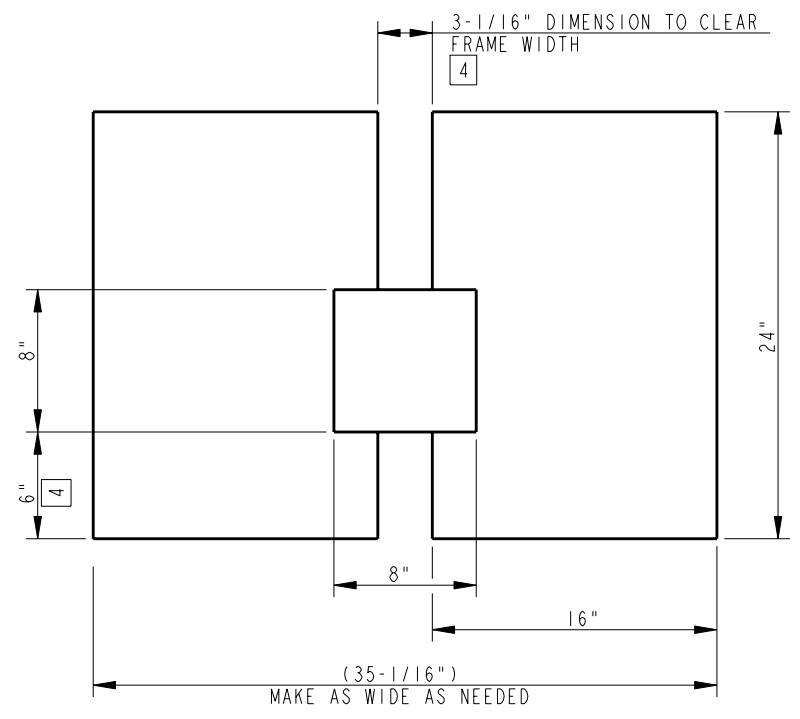
ITEM	QTY	PART NUMBER	DESCRIPTION
19	4	WASHER_SAE_250	WASHER, FLAT, 1/4" SAE
18	4	WASHER_SAE_190	WASHER, FLAT, #10, SAE
17	1	SSFP-8-32X375	SCREW, SET, FP, #8-32 X .375L
16	2	SHCS-250-20X1500	SCREW, SHCS, 1/4-20 X 1.500L, HTAS
15	2	SHCS-250-20X750	SCREW, SHCS, 1/4-20 X .750L, HTAS
14	2	PHS_190_0750	SCREW, PAN HEAD, #10-32 X .75
13	2	PHS_190_0625	SCREW, PAN HEAD, #10-32 X .625
12	1	NUT_HEX_500-13	NUT, HEX, 1/2-13, STEEL
11	2	NUT_HEX_250-20	NUT, HEX, 1/4-20, STEEL
10	2	LOCKNUT_190-32	NUT, LOCK, #10-32, STEEL
9	1	DRDT-2_FA	ASS'Y, FRAME, DRDT-2, 22"
8	1	CLAMP_ASSY	ASS'Y, CLAMP, DRDT-1
7	1	9729K21	GRIP, RUBBER, .875 ID
6	2	9654K256	SPRING, EXTENSION
5	2	40005	SPACER, .25 ID X .37 OD X .37L
4	1	40004	MOUNT, SPRING RETURN, DRDT-2
3	1	40003	HANDLE, DRDT-1
2	1	40002	DIE RECEIVER, DRDT-1
1	1	40001	DIE RAM, DRDT-1

PARTS LIST

DIMENSIONS INCHES TOLERANCES (EXCEPT AS NOTED) .XX ± .010 .XXX ± .005 .XXXX ± .0005 ANG ± 0°30'		ExperimentalAero 12351 E. LOU BOCK PL. TUCSON, AZ 85749 TEL : (520) 760-7115 EMAIL: INFO@EXPERIMENTALAERO.COM	
THIRD ANGLE PROJECTION 		DEEP REACH DIMPING TOOL (DRDT-2)	
MATERIAL: LISTED FINISH: N/A DRAWN BY: P.MEREMS		SIZE A2	DWG NO DRDT-2
		SCALE: 0.33	REV 00
		SHEET 1 OF 1	

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00	INITIAL RELEASE	02/08/04	P.MEREMS



NOTES: UNLESS OTHERWISE SPECIFIED

- 7. PLATFORM DIMENSIONS SHOWN FOR 6"X3" STRUCTURAL STEEL FRAME.
- 4 DIMENSION MAY NEED TO BE MODIFIED TO FIT FRAME .
MEASURE THE FRAME PRIOR TO BUILDING THE PLATFORM.
- 3 MATERIAL: 5/8" PARTICLE BOARD
- 2. GLUE AND SCREW COMPONENTS TOGETHER.
- 1. MATERIAL: 5/8" OR 3/4" PARTICLE BOARD

ITEM	QTY	PART NUMBER	DESCRIPTION
4	2	TOP	TOP, DRDT-2 PLATFORM, 3/4"X16"X24"
3	2	SIDE	SIDE, DRDT-2 PLATFORM, 3/4"X5 1/4"X20"
2	1	BRIDGE	BRIDGE, DRDT-2 PLATFORM, 5/8"X8"X8"
1	2	BRACE	BRACE, DRDT-2 PLATFORM, 3/4"X5"X5"

DIMENSIONS INCHES		ExperimentalAero www.experimentalaero.com 12351 E. LOU BOCK PL. TUCSON, AZ 85749 TEL: (520)-760-7115 EMAIL: INFO@EXPERIMENTALAERO.COM	
TOLERANCES (EXCEPT AS NOTED)			
.XX	± .010	PLATFORM, DRDT-2	
.XXX	± .005		
.XXXX	± .0005		
ANG	± 0°30'	THIRD ANGLE PROJECTION	
MATERIAL: LISTED		SIZE A2	DWG NO DRDT-2_PLATFORM
FINISH: N/A		SCALE: 0.15	REV 00
DRAWN BY: P.MEREMS		SHEET 1 OF 1	

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