

Balancing Machine Proving Rotors

1. SCOPE:

This SAE Aerospace Recommended Practice (ARP) specifies a series of balancing machine proving rotors and related test weights as directly required for the evaluation of gas turbine rotor balancing machines.

1.1 Purpose:

Provides the recommended design for the construction of balancing machine proving rotors.

2. REFERENCES:

2.1 Applicable Documents:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

ARP1382	Design Criteria for Balancing Machine Tooling
ARP4048	Balancing Machine - Description and Evaluation Horizontal, Two-plane, Hard-bearing Type for Gas Turbine Rotors
ARP4050	Balancing Machine - Description and Evaluation Vertical, Two-plane, Hard-bearing Type for Gas Turbine Rotors

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SAE ARP4162 Revision A

3. DETAIL REQUIREMENTS:

- 3.1 All proving rotors and related test masses required per ARP4048 or ARP4050 shall be as specified in Appendix A.

The user procurement specification shall clearly indicate type and weight class of proving rotor, e.g., vertical, 25 lb rotor.

4. NOTES:

4.1 Dimensions:

Unless otherwise specified, all dimensions are in inches, rotor weights are in pounds, and test masses are in ounces and grams.

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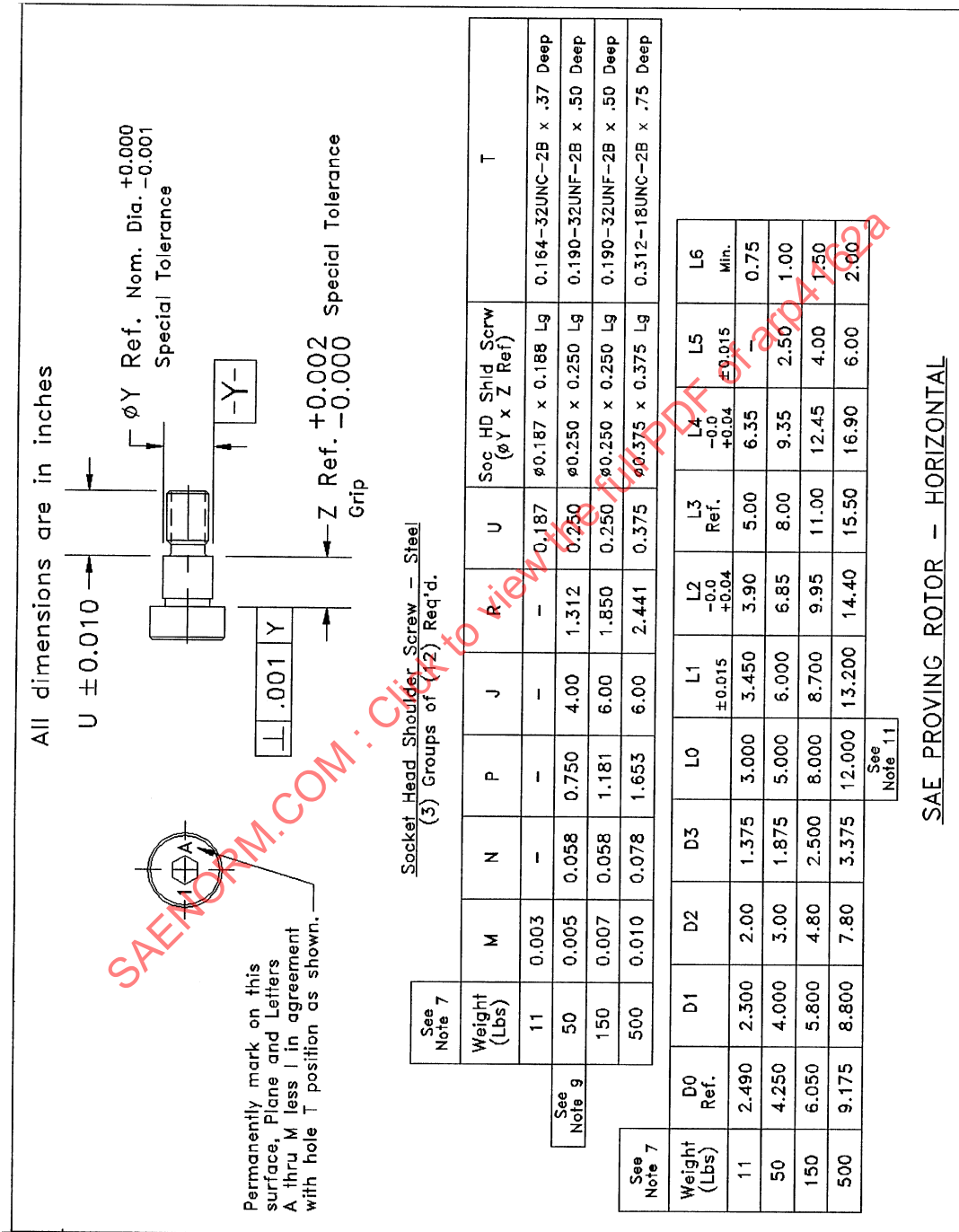
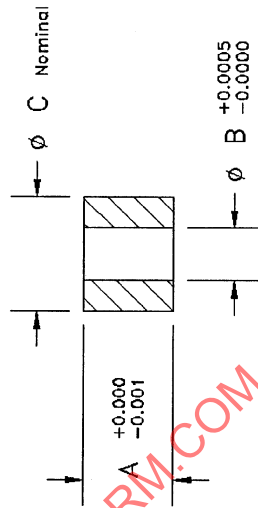


FIGURE A1 (Continued)

All dimensions are in inches



11 Pound				50 Pound				150 Pound				500 Pound			
10.0 Micro-inch displacement				10.0 Micro-inch displacement				15.0 Micro-inch displacement				15.0 Micro-inch displacement			
	125A	25A	10A		125A	25A	10A		125A	25A	10A		125A	25A	10A
Req'd	2	2	1	Req'd	2	2	1	Req'd	2	2	1	Req'd	2	2	1
A	0.1880	0.1880	0.1880	A	0.2480	0.2480	0.2480	A	0.2480	0.2480	0.2480	A	0.3730	0.3730	0.3730
B	0.1875	0.1875	0.1875	B	0.2500	0.2500	0.2500	B	0.2500	0.2500	0.2500	B	0.3750	0.3750	0.3750
C	0.5536	0.4371	0.4663	C	0.7770	0.6112	0.6525	C	1.3292	1.0213	1.0985	C	1.6213	1.2544	1.3455
oz	0.1795	0.0359	0.0144	oz	0.4737	0.0947	0.0379	oz	1.4909	0.2982	0.1193	oz	3.2766	0.6553	0.2621
M	5.0892	1.0178	0.4071	M	13.4301	2.6860	1.0744	M	42.2663	8.4533	3.3813	M	92.8892	18.5778	7.4311
Mat'l	Steel	Alum	Polymer	Mat'l	Steel	Alum	Polymer	Mat'l	Steel	Alum	Polymer	Mat'l	Steel	Alum	Polymer

M = Mass

See notes 2,3,6 and 8

SAE PROVING ROTOR TEST WEIGHTS – HORIZONTAL

FIGURE A1 (Continued)

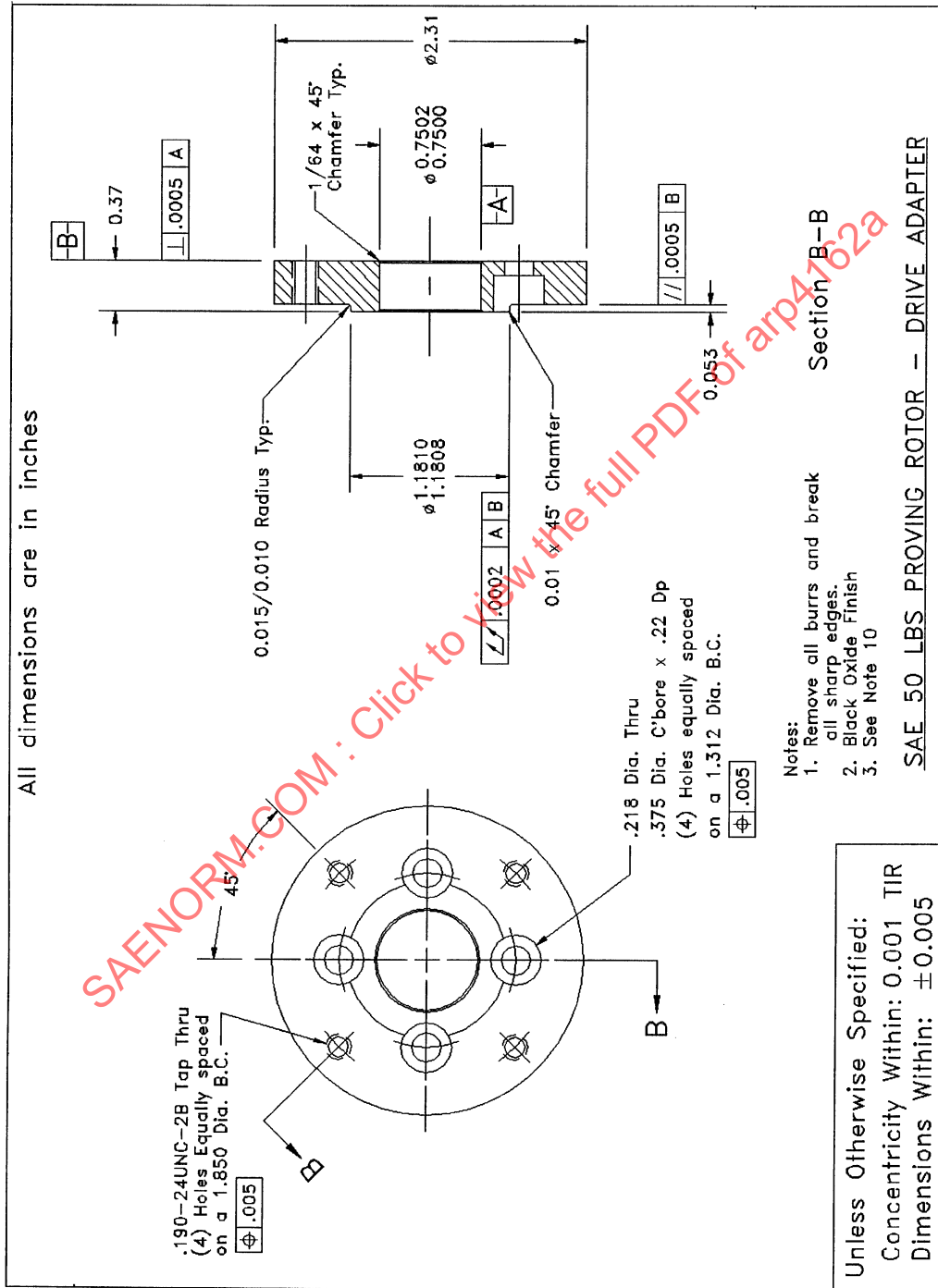


FIGURE A1 (Continued)

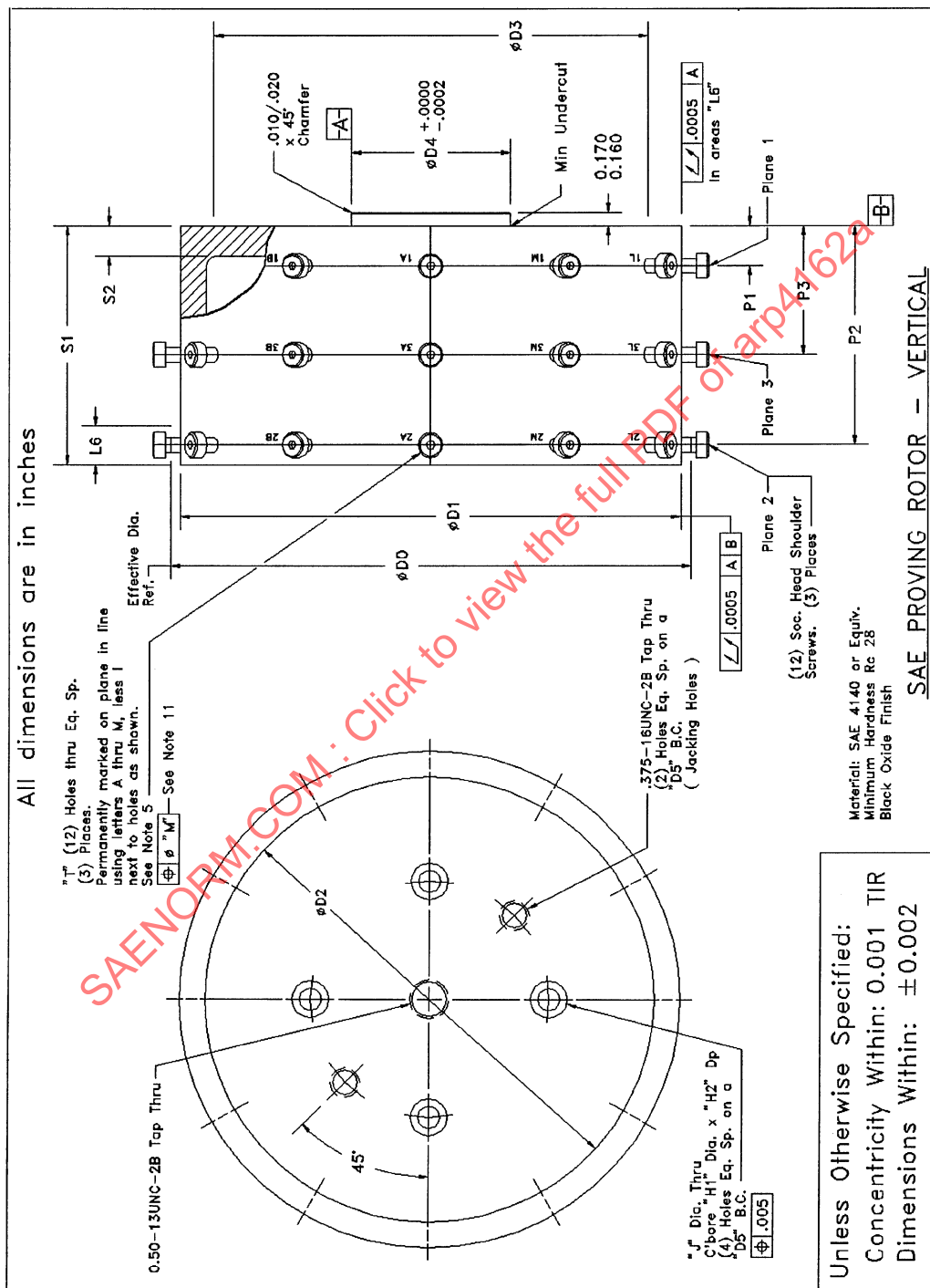


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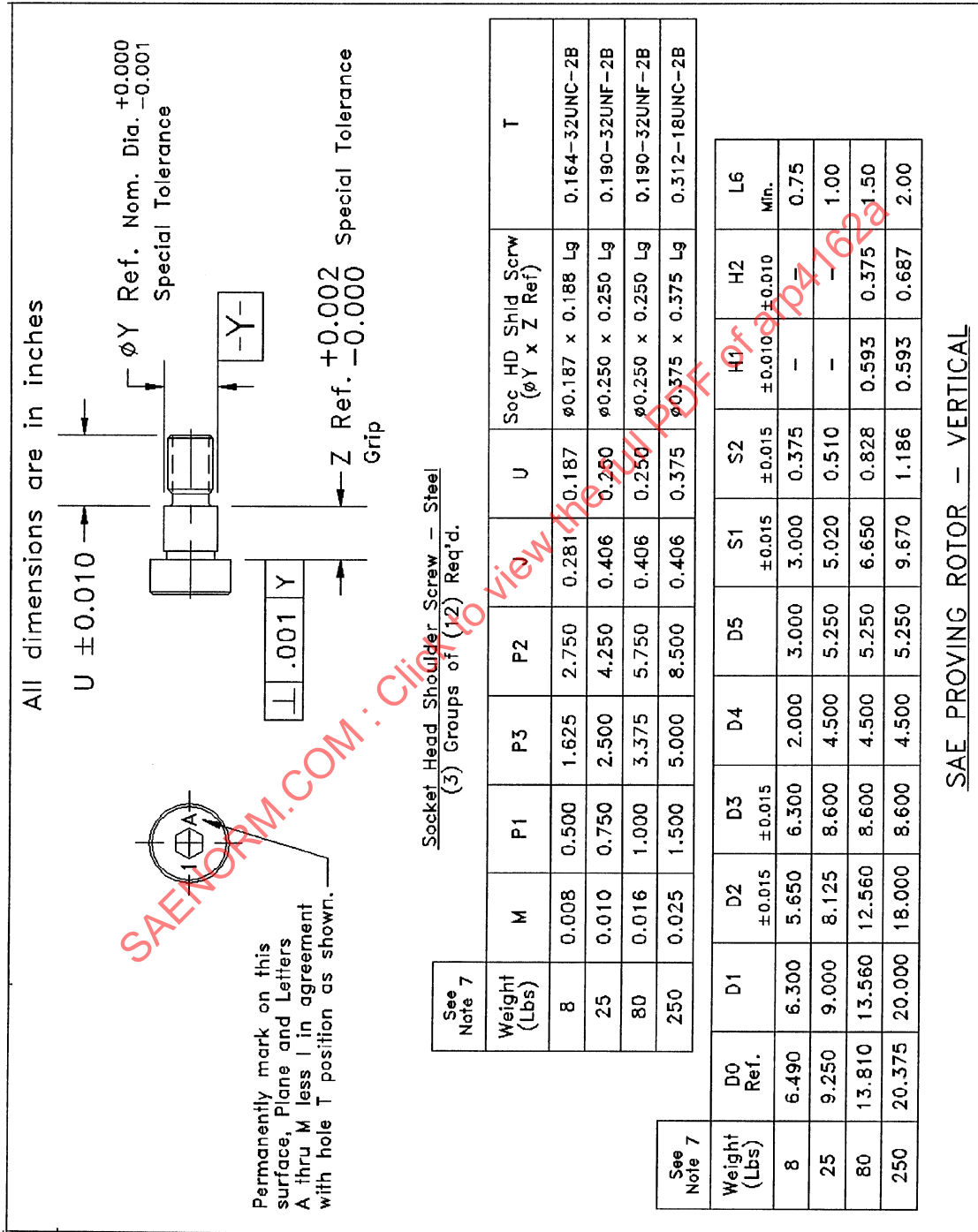


FIGURE A1 (Continued)