Designation: F2030 – 11 (Reapproved 2016)

An American National Standard

Standard Specification for Paintball Cylinder Burst Disk Assemblies[1]

This standard is issued under the fixed designation F2030; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers burst disk assemblies for paintball marker propellant sources their application and installation requirements.

1.2 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *Code of Federal Regulations:*[2]

DOT 49 CFR

2.2 *CGA Standard:*[3]

CGA S-1.1 Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases

CGA TB-13 Correct Assemblies and Installation of Rupture Disk and Fusible Plug Type Pressure Relief Devices

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 Burst Disk Assembly is sometimes known as a Rupture Disk Assembly.

3.1.2 *burst disk port, n*—port into which a burst disk assembly is installed.

3.1.3 *service pressure, n*—operating pressure as indicated by markings placed on cylinder at time of manufacture.

3.1.4 *test pressure, n*—⅝ of cylinder's service pressure.

3.2 *Abbreviations:*

3.2.1 *psi*—pounds per square inch

4. Materials and Manufacture

4.1 The materials and processes used to manufacture the burst disk assembly shall result in items with mechanical strength sufficient to pass the applicable burst pressure tests. Materials used shall be corrosion resistant, chemically compatible with the propellant used, and shall not promote galvanic action. Burst disks shall be manufactured and tested in accordance with DOT 49 CFR and CGA S-1.1.

4.2 The burst disk assembly and related port features shall be free of burrs and sharp edges.

5. Performance

5.1 Burst disk must rupture between 90 and 100 % of test pressure as noted in Table 1.

5.2 Burst disk assembly must contain a minimum of two relief holes positioned 180° apart.

5.3 Relief holes must be oriented to reduce the likelihood of thrust resulting in cylinder spin.

5.4 The relief hole in the burst disk assembly shall provide for flow to adequately vent the cylinder as specified in CGA S-1.1.

5.5 When installed in the burst disc port, the relief holes in the burst disk assembly shall allow for visible inspection by the end user to verify that the holes are free and clear of obstructions/debris. An example of the location of the relief holes is shown in Fig. 1.

5.6 The burst disk and seal shall be affixed on the plug to provide proper alignment and assembly.

5.7 The burst disk assembly will be of a single use design (non user resetable or rebuildable). Therefore, if activated, this will require the replacement of the entire burst disk assembly.

6. Marking

6.1 The burst disk assembly shall be marked with its maximum rated burst pressure. This shall be done in accordance with Table 1.

6.2 The markings on the burst disk assembly shall be at least 10 point type and must be marked so as to be clearly visible as shown in Fig. 1.

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[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.24 on Paintball and Equipment.

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[2] *Code of Federal Regulations*, available from U.S. Government Printing Office, Washington, DC 20402.

[3] Available from Compressed Gas Assoc., Inc., 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202–4102.

TABLE 1 Burst Disk Burst Pressure and Markings

Service Pressure	1800 psi	3000 psi	4500 or 5000 psi
Minimum Burst Disk Burst Pressure @ SAT	2700 psi	4500 psi	6750 psi
Maximum Burst Disk Burst Pressure @ SAT	3000 psi	5000 psi	7500 psi
Burst Disk Marking (Fig. 1)	3K	5K	7.5K
Burst Disk Port Marking	3K ONLY	5K ONLY	7.5K ONLY
Burst Disk Assembly Thread Specification	3/8-24UNF-2A	3/8-24UNF-2A	3/8-24UNF-2A
Burst Disk Port Thread Specification	3/8-24UNF-2B	3/8-24UNF-2B	3/8-24UNF-2B

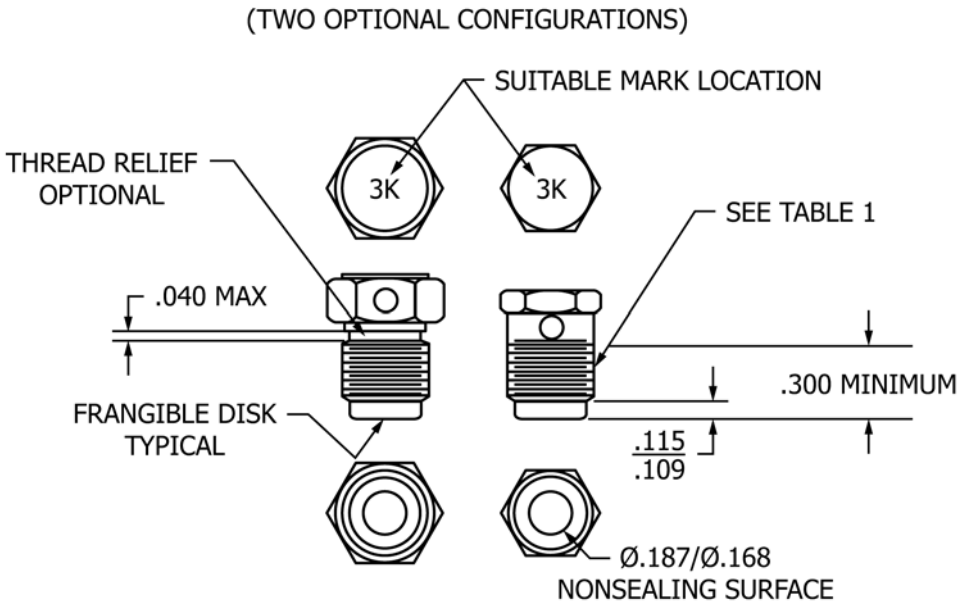

FIG. 1 Burst Disk Assembly

6.3 The burst disk port shall be marked with the maximum rated pressure for the burst disk assembly that is intended to be installed within that port. This shall be done in accordance with Table 1.

6.4 The markings on the burst disk port shall be marked adjacent to the burst disk port and be of an appropriate size so as to be clearly visible.

7. Physical Envelope, Burst Disk Assembly

7.1 The burst disk assembly shall conform to the physical envelope and style as described in Fig. 1.

8. Physical Envelope, Burst Disk Port

8.1 The burst disk port shall conform to the physical envelope described in Fig. 2.

9. Installation

9.1 Prior to installation the mating port and the burst disk assembly shall be inspected to confirm compliance with physical envelope requirements, cleanliness, and general suitability for use.

9.2 It is recommended that the manufacturer supply installation instructions for their burst disk assemblies.

9.3 Refer to CGA TB-13 for guidance.

10. Keywords

10.1 burst disk; burst disk assembly; burst disk port; cylinder; paintball; paintball marker; propellant

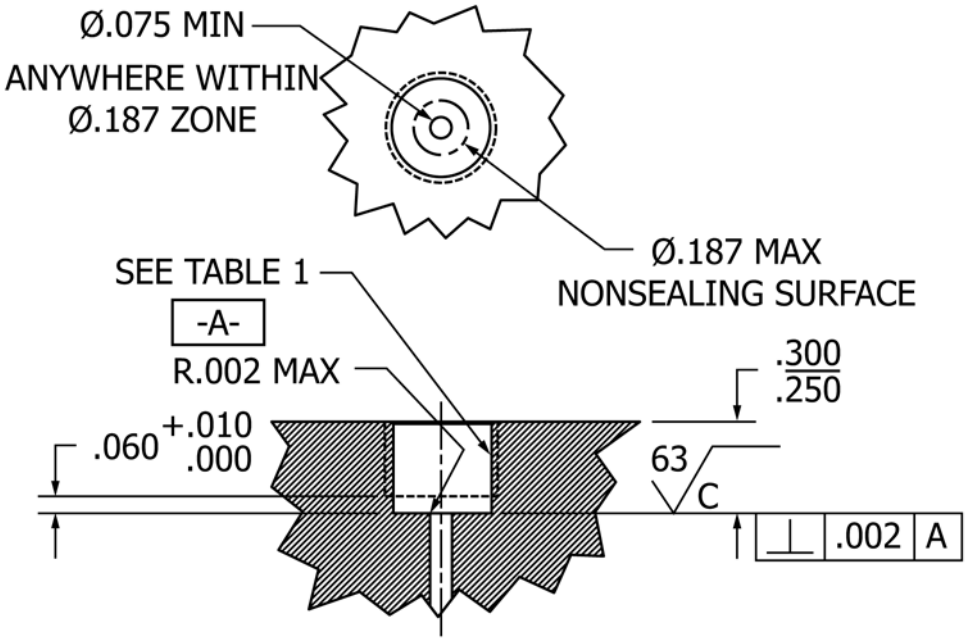

FIG. 2 Burst Disk Port