SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

SAE AS85352

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Inflator Assembly and Gage Elements, Pneumatic Pressure, Remote Control, Direct Reading

FSC 4920

NOTICE

This document has been taken directly from U.S. Military Specification MIL-I-85352, Amendment 3 and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-I-85352, Amendment 3. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

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1. SCOPE:

1.1 Scope:

This specification covers a direct reading, remote control, pneumatic pressure inflator assembly, for use on aircraft tires and struts having pneumatic pressure requirements up to 600 psi. It includes pressure relief provisions to provide for safe inflation. Also included are dual chuck stem gages for measuring tire pressure.

1.2 Classification:

Inflator assemblies and gage elements shall be as specified in the following table (see 6.2).

PART NUMBER	NOMENCLATURE	PRESSURE RANGE (PSI)
M85352/1	INFLATOR ASSEMBLY KIT	50-600 & 10-150
M85352/2	REMOTE CONTROLLER ASSEMBLY	---
M85352/3-1	GAGE ELEMENT, SIZE 1	50-600
M85352/3-2	GAGE ELEMENT, SIZE 2	10-150
M85352/4-1	DUAL CHUCK STEM GAGE KIT SIZE 1	50-600
M85352/4-2	DUAL CHUCK STEM GAGE KIT SIZE 2	10-150

2. APPLICABLE DOCUMENTS:

2.1 Government documents:

2.1.1 Specifications, standards, and handbooks: The following specifications, standards, and handbooks form a part of this specification to the extend specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

Federal

PPP-C-1120 Cushioning Material, Uncompressed Bound Fiber for Packaging

Military

MIL-P-116	Preservation, Packaging, Methods of
MIL-H-13531	Hose, Rubber and Hose Assembly, Rubber (Hydraulic, Flexible)
MIL-P-24074	Polytetrafluoroethylene Parts and Coatings and Polyanide Parts
MIL-T-27730	Tape, Antiseize, Tetrafluoroethylene, with Dispenser
MIL-I-85352/1	Inflator Assembly Kit
MIL-I-85352/2	Remote Controller Assembly
MIL-I-85352/3	Gage Elements
MIL-I-85352/4	Dual Chuck Stem Gage Kit

STANDARDS

Federal

FED-STD-595	Color

Military

DOD-STD-100	Engineering Drawing Practices
MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-143	Specifications and Standards, Order or Precedence for the Selection of
MIL-STD-794	Part and Equipment, Procedures for Packaging and Packing of
MIL-STD-808	Finish, Protective, and Codes for Finishing Schemes for Ground and Ground Support Equipment
MIL-STD-831	Test Reports, Preparation of
MIL-STD-889	Dissimilar Metals
MS28889	Valve, Air, High-Pressure Charging
AN912	Bushing, Pipe

(When requesting applicable documents, refer to both title and number. Copies of unclassified documents may be obtained from the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120. Requests for copies of classified documents should be addressed to the Naval Publications and Forms Center, via the cognizant Government representative.)

2.2 Other publications:

The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American National Standard Institute

ANSI-B40.1 Gages, Pressure Indicating Dial Type, Elastic

(Copies of the above publication may be obtained from the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

National Bureau of Standards

Handbook H28 Screw-Thread Standards for Federal Services

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.)

3. REQUIREMENTS:

3.1 Specification sheets:

The individual part requirements shall be as specified herein and in accordance with the applicable specification sheets. In the event of conflict between the requirements of this specification and the specification sheet, the requirements of the specification sheet shall govern.

3.2 First article:

The parts furnished under this specification shall be a product which has been inspected and passed the first article inspection specified herein (see 4.3).

3.3 Selection of specifications and standards:

Specifications and standards for necessary commodities and services not specified herein shall be selected in accordance with MIL-STD-143, except as provided in 3.2.1.

3.3.1 Commercial parts: Commercial parts having suitable properties may be used where, on the date of invitation for bids, there are no suitable standard parts. In any case, commercial utility parts such as screws, bolts, nuts, and cotter pins having suitable properties may be used provided:

a. They can be replaced by the MS or AN standard parts without alteration.
b. The corresponding standard part numbers are referenced in the parts list and, if practical, on the contractor's drawings.

3.4 Materials:

Materials shall conform to applicable specifications or standards and shall be as specified herein. Materials which are not covered by applicable specifications or standards shall be of the best quality, and entirely suitable for the purpose intended.

3.4.1 Metals: Metals shall be of the corrosion-resistant type or treated to resist corrosion. All metal stock used in the fabrication of inflator assemblies shall have a properly refined structure with uniform elemental distribution, sound and free from nonmetallic inclusions, injurious porosity, excess segregation, soft spots, hard spots, and other injurious defects.

3.4.2 Metal parts: All metal parts shall be of corrosion-resistant material or treated in a manner to render them adequately resistant to corrosion.

3.4.3 Dissimilar metals: Unless suitably protected against electrolytic corrosion, dissimilar metals shall not be used in intimate contact with each other. Dissimilar metals are defined in MIL-STD-889.

3.4.4 Fungus proof materials: Materials that are nutrients of fungi shall not be used.

3.5 Design and construction:

The inflator assembly shall be designed to provide a safe, reliable and accurate means for remote controlled inflation, deflation, and gaging pneumatic pressure. The dual chuck stem gage shall be designed to provide a safe, reliable and accurate means for gaging pneumatic pressure. The inflator assembly and dual chuck stem gages shall be so constructed that parts will not work loose in service. It shall be built to withstand the strains, shocks, vibrations, and environmental conditions incident to shipping, storage, and service. The configurations shall be as shown in Figures 1 and 2. The gage elements Size 1 and 2, shall be complete self-contained units and interchangeable within the inflator assembly and dual chuck stem gage. The relief valve shall provide pressure relief to prevent overinflation.

3.5.1 Threads: All threaded components shall conform to the applicable requirements of the National Bureau of Standards Handbook H-28. All pipe thread connections shall be assembled with antiseize tape conforming to MIL-T-27730.

3.5.2 Fastening devices: All screws, pins, and similar parts shall be installed with adequate means for preventing loss of proper tightness and adjustment. Parts subject to removal or adjustment shall not be swaged, peened, staked, or otherwise deformed.

3.5.3 Welding, brazing, and soldering: Welding, brazing, and soldering shall be performed in accordance with the best commercial practice and shall be used only when such operations are required for assemblies in the original design. In no event shall such processes be used as a repair medium for faulty parts.

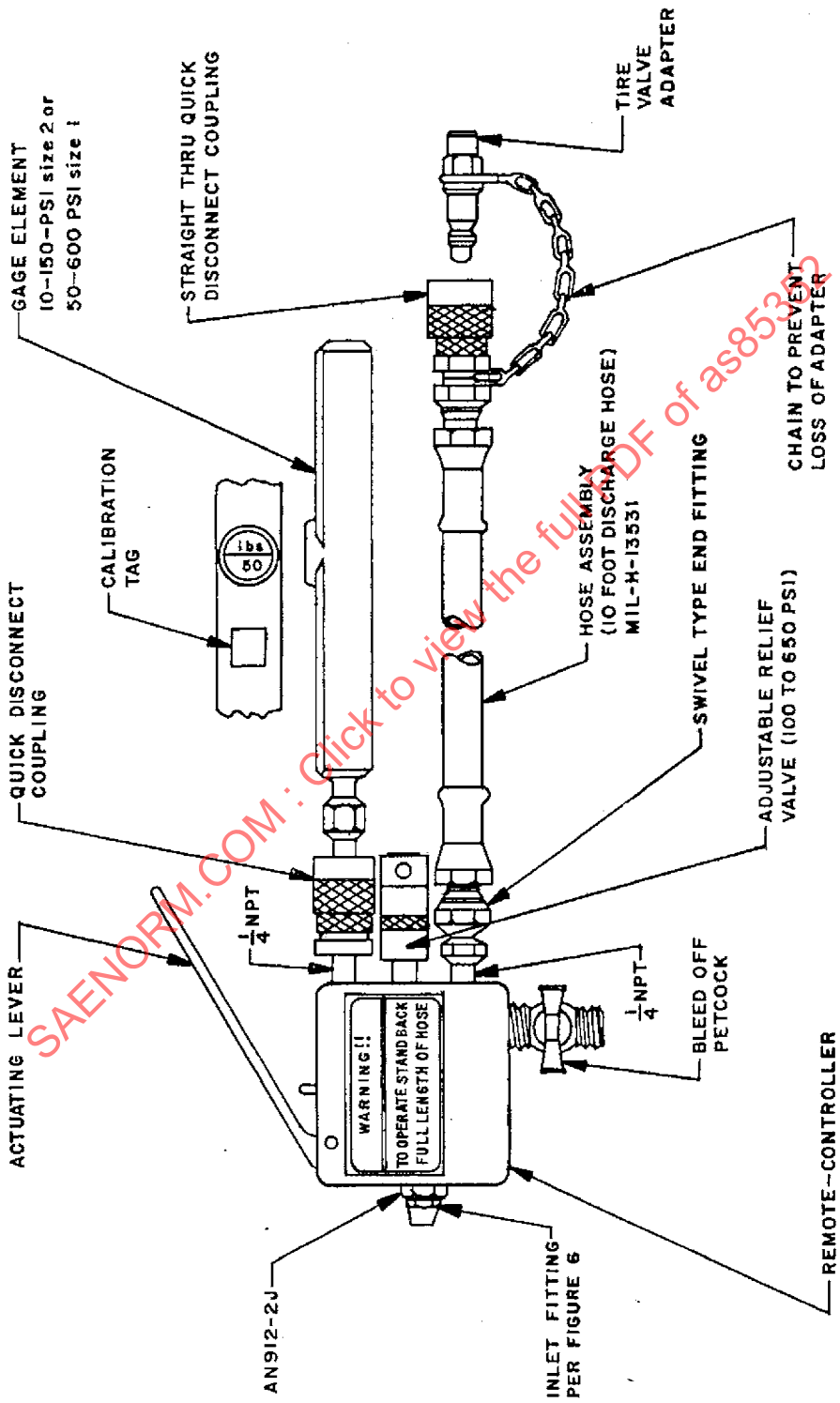

FIGURE 1. Inflator assembly

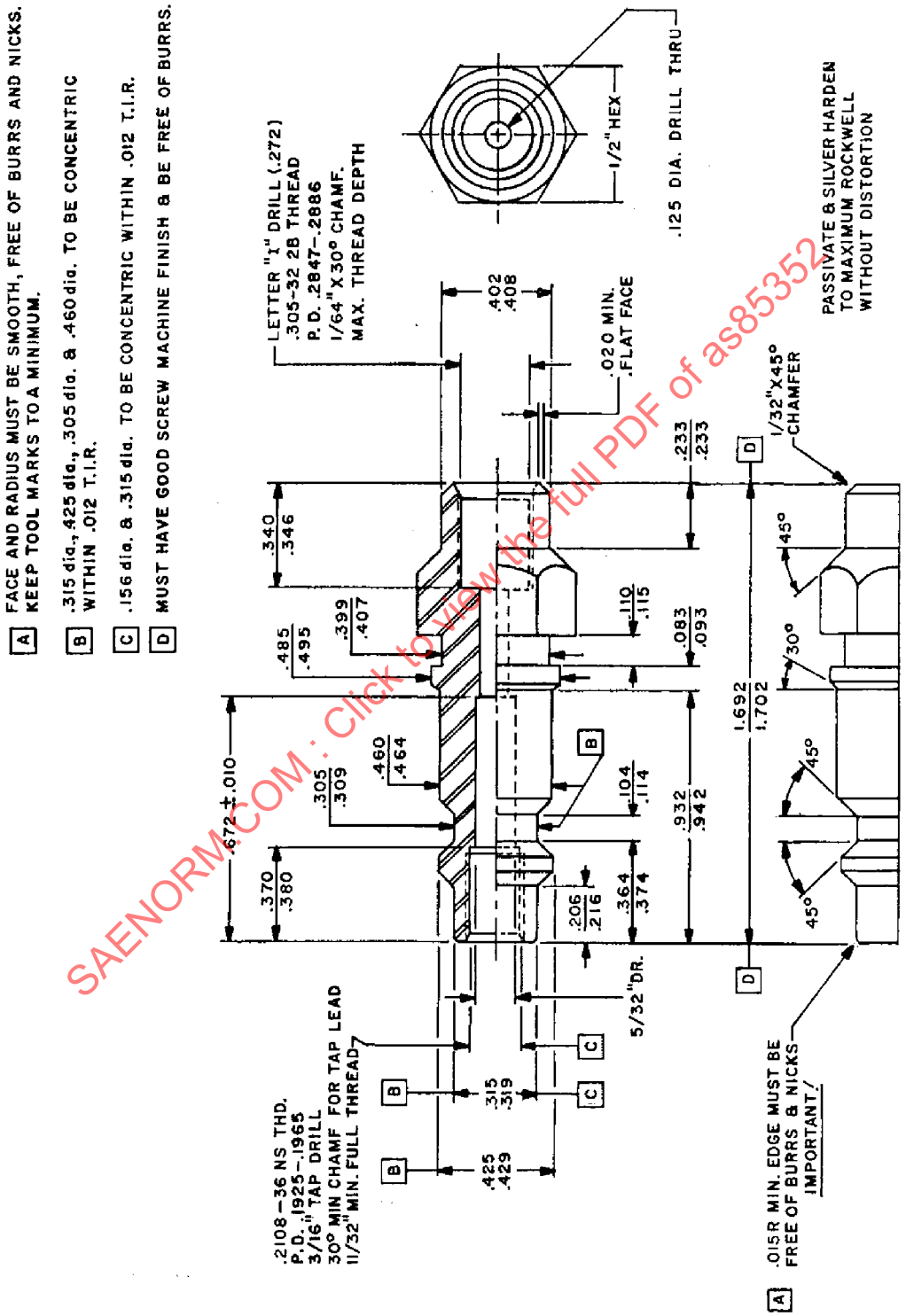

FIGURE 2. Tire valve adapter

3.6 Maintainability:

The inflator assembly and dual chuck stem gages shall have a minimum number of parts consistent with reliability. All parts subject to disassembly for maintenance purposes shall be readily accessible for adjustments, repairs, and cleaning without the use of special tools.

3.7 Performance characteristics:

The inflator assembly shall meet the performance tests in Section 4 in the order listed below:

a.	Scale error at room temperature	(4.6.2)
b.	Overpressure	(4.6.3)
c.	Endurance	(4.6.4)
d.	Drop test	(4.6.5)
e.	Cold test	(4.6.6)
f.	Heat test	(4.6.7)
g.	Friction test	(4.6.8)
h.	Calibration test	(4.6.9)
i.	Valve adapter test	(4.6.10)

The dual chuck stem gage shall be subjected to the endurance and drop test only. The gage element used in the dual chuck stem gage shall be tested as part of the inflator assembly for the remaining test listed.

3.8 Inflator assembly kit:

The inflator assembly kit shall conform to MIL-I-85352/1 and consist of a gage element, remote-controller, hose/tire valve adapter assembly, relief valve, carrying case, and inlet fitting.

3.8.1 Gage element: The gage element shall conform to MIL-I-85352/3. The gage element shall consist of an indicator (pressure lbs) and actuating mechanism enclosed in a housing fitted with the male portion of a straight thru quick-disconnect coupling and lens. The gage element shall be capable of measuring pneumatic pressure from 50 to 600 psi for Size 1, from 10 to 150 psi for Size 2. The accuracy of the gage element shall be ±6 psi for Size 1, and ±2 psi from 10 to 80 psi and ±4 psi from 81 to 150 psi for Size 2, through their entire range at temperatures from -20° to +140°F. The gage element shall be instantly removable and replaceable as a unit to the remote-controller body by use of a straight thru quick-disconnect coupling. Both gage elements, Size 1 and Size 2, are to be interchangeable for use within the inflator assembly.

3.8.1.1 Indicator: The indicator shall be manufactured from nonferrous metal or plastic. The indicator shall be calibrated from 50 to 600 psig in 10-pound increments for Size 1, from 10 to 150 psig in 2-pound increments for Size 2. Adjacent graduations shall be spaced not less than .026 inch apart. Every fifth graduation shall be indicated by its value with numerals not less than .063 inch in height. The graduations and numerals shall be clearly and legibly marked in black on a white background. The graduations and markings are to be arranged on the indicator in such a manner to permit reading through the lens regardless of position of the indicator.

3.8.1.2 Actuating mechanism: The indicator piston shall be pressure actuated, and balanced by the resistance of a constant rate (compression) spring. Internal stops shall be provided to control extreme positions of the piston to prevent overloading the spring. An external means of adjusting the mechanism shall be provided for correcting the indicator reading. The adjustment shall be capable of correcting an indicator error of from +20 psi to -50 psi at any scale reading between 100 psi and 580 psi, for Size 1, and from +10 psi to -10 psi at any scale reading between 20 psi and 140 psi for Size 2, while connected to a pneumatic pressure source. The adjustment shall contain a lock and seal to resist tempering.

3.8.1.3 Housing: The gage element housing shall be of machined or extruded aluminum alloy with outside dimensions not exceeding 1-1/8 by 1-1/8 by 1-1/8 inches. A 3/4 inch diameter opening shall be provided in the housing to allow reading of the indicator. A wire marker or pointer shall be inserted at the opening midpoint to serve as a reference point to facilitate accurate reading. The opening shall be equipped with a non-breakable magnifying lens. The lens retainer or bezel shall not protrude more than 1/8 inch above the housing surface. The outer surface of the lens shall be recessed at least 1/16 inch below the surrounding surface. The housing for Size 1 gauge elements shall be anodized yellow (color 33481 of FED-STD-595) and Size 2 gage elements, blue (color 35177 of FED-STD-595) in accordance with MIL-A-8625.

3.8.1.3.1 Quick-disconnect coupling: The gage element housing shall be equipped with the male portion of a straight thru quick-disconnect coupling conforming to the applicable dimensions of Figure 2. The overall dimensions of the housing with the disconnect fitting shall not exceed 8-3/4 inches.

3.8.1.3.2 Lens: The reading port magnifying lens shall be of good commercial quality, non-breakable, and shall be free from distortion. The lens shall be retained in the housing in such a manner as to enable removal for cleaning without the use of special tools. The relationship of the lens, reading marker, and indicator shall be such as to enable accurate pressure readings. The magnification of indicator markings shall be at least 2 to 1.

3.8.2 Remote-controller: The remote controller shall conform to MIL-I-85352/2. The body of the remote-controller shall be of machined or extruded aluminum alloy constructed to withstand a maximum working pressure of 1,500 psi and a minimum bursting pressure of 3,000 psi. The body shall be anodized to resist corrosion. The body shall be a maximum of 3-1/4 inches long by 3-1/4 inches high by 1-1/4 inches thick. The inlet port of the remote controller body shall be fitted with an AN912-2J bushing reducer. The body shall contain a lever operated inflator valve assembly and a bleed-off petcock. The attachment point for the gage element shall be equipped with the female portion of a straight thru quick-disconnect coupling to receive the gage element. This shall provide an airtight joint and be readily assembled or disassembled without the use of tools. The words “hose”, “gage” and “relief valve” shall be impression stamped adjacent to the applicable port on the remote controller body.

3.8.2.1 Inflator valve assembly: The valve cartridge external envelope shall be designed and constructed in accordance with Figure 3 and shall be removable and replaceable as a unit without the use of special tools. The level or trigger mechanism shall be designed and constructed to provide a minimum leverage ration of 4.5 to 1 and shall be a depress to open design. The depressed position of the valve cartridge internal mechanism shall permit delivery of source pressure directly to the receiver. Release of the lever will position the valve cartridge mechanism so as to shut-off the pneumatic source and simultaneously permit receiver pressure to be read on the gage element. The body and valve mechanism shall be designed and constructed to prevent source pressure from being introduced into the gaging element when the lever or trigger mechanism is in any position.

3.8.2.2 Bleed-off petcock: The bleed-off petcock shall be attached to the body as indicated in Figure 1, in such manner as to provide a safe method of bleeding off excess pneumatic pressure (over-inflation) from the receiver. The petcock shall be installed such that the vented gases are directed down or away or both from the operator.

3.8.2.3 Warning plate: A warning plate, manufactured from a suitable metal, shall be mechanically attached to the remote-controller body with screws or rivets. The plate shall be not less than 2-1/2 by 1-1/2 inches and shall be clearly lettered by a metal-photo or equivalent method as follows:

WARNING: TO OPERATE, STAND BACK FULL LENGTH OF HOSE. INLET PRESSURE IS TO BE SET AT 150% OF DESIRED TIRE PRESSURE OR 600 PSI, WHICHEVER IS THE LESSER. DO NOT EXCEED 600 PSI.

3.8.3 Hose/tire valve adapter assembly: The assembly shall consist of a service hose, tire valve adapter and a straight thru quick-disconnect coupling (see Figure 1). The tire valve adapter shall be firmly secured to the coupling with a 9-3/8 ± 1/2 inch length of brass chain to prevent loss. Each end of the chain shall terminate with a slip or “S” hook to allow full 360° swivel action. The end of the hose that connects to the remote controller body shall include a swivel type fitting that permits the hose to easily and continuously rotate 360°, thus facilitating the winding of the hose for storage in the carrying case.

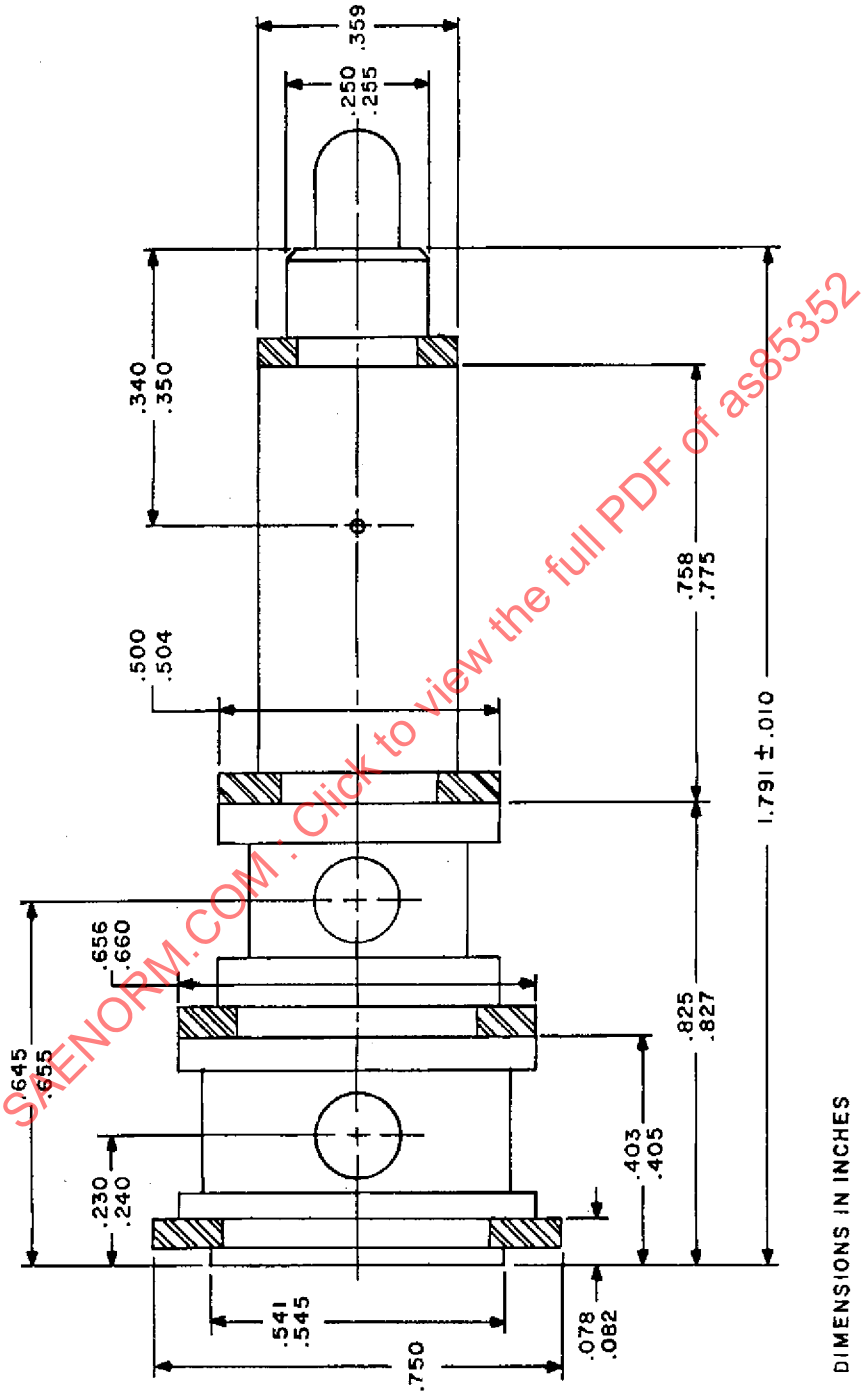

Figure 3. Valve cartridge

3.8.3.1 Tire valve adapter: The tire valve adapter shall be fabricated of stainless steel in accordance with Figure 2. One end shall be threaded to fit a tire valve stem and contain a compression resistant gasket to create an air tight seal. The gasket shall be fabricated of Polytetrafluoroethylene (PTFE) in accordance with MIL-P-24074 (Ships), Type I, grade B, 25% glass filled. The other end shall be fitted with a replaceable tire valve adapter extension. No special tools shall be required for attaching the adapter to the tire valve stem.

3.8.3.1.1 Tire valve adapter extension: The tire valve adapter extension shall be so designed as to depress, without distortion or damage, the tire valve core when threaded onto the tire valve stem and connected to the quick-disconnect coupling (Figure 4). This replaceable extension is to be a non-sealing device and shall be removed and replaced in the tire valve adapter without special tools.

3.8.3.2 Service hose assembly: The service hose shall conform to Type I, Class A of MIL-H-13531. The outer hose covering shall be perforated. The hose shall be 1/4 inch inside diameter and not less than 10 feet in length. The end of the hose shall be fitted with a straight thru quick-disconnect coupling designed to depress the extension in the tire valve adapter (see Figure 4). The actuator pin (spud) and spring shall be designed in such a manner that the spud cannot be removed from the spring thereby eliminating the possibility of inverting the spud on the spring. The end of the hose that connects to the remote controller body shall include a swivel type fitting that permits the hose to easily and continuously rotate 360 degrees, thus facilitating the winding of the hose for storage in the carrying case.

3.8.4 Relief valve: An adjustable relief valve shall be attached to the outlet side of the inflator body by a threaded connection as indicated in Figure 1. The relief valve shall be installed such that the vented gases are directed down and/or away from the operator. The valve is to be a self reseating type and shall contain an adjustment mechanism capable of setting the relief pressure throughout a range of 100 to 650 psi. The adjustment mechanism shall be graduated in psi readings so that any change in setting shall be readily detected. Once set, the valve shall be capable of repeating any relief setting throughout its range within ±5%. The valve shall be capable of re-seating itself with zero leakage at not less than 85% of its relief setting. The adjustment mechanism shall contain a lock and seal to resist tampering. The relief valve shall be a maximum of 3-3/4 inches in length. The initial setting of the relief valve shall be 100 psi.

3.8.5 Carrying case: A metal case shall be provided for storing and transporting the inflator assembly. The case shall incorporate two spring type latches to securely hold the lid in a closed position. The latches shall be constructed in such a manner that opening and closing of the case may be easily accomplished. The case shall be provided with a handle which shall provide sufficient clearance for an easy and complete grip by a person wearing heavy gloves. The case shall be fitted with internal cushioning, utilizing rubberized hair conforming to type II of PPP-C-1120, to prevent the component parts of the inflator assembly from shifting position in the case and protects same from damage during storage and transporting. The case shall incorporate an instruction sheet in accordance with 3.7.5.1. The outside dimensions of the closed case shall not exceed 18 inches long by 12 inches wide by 4 inches high (see Figure 5). The carrying case shall be finished in accordance with MIL-STD-808.

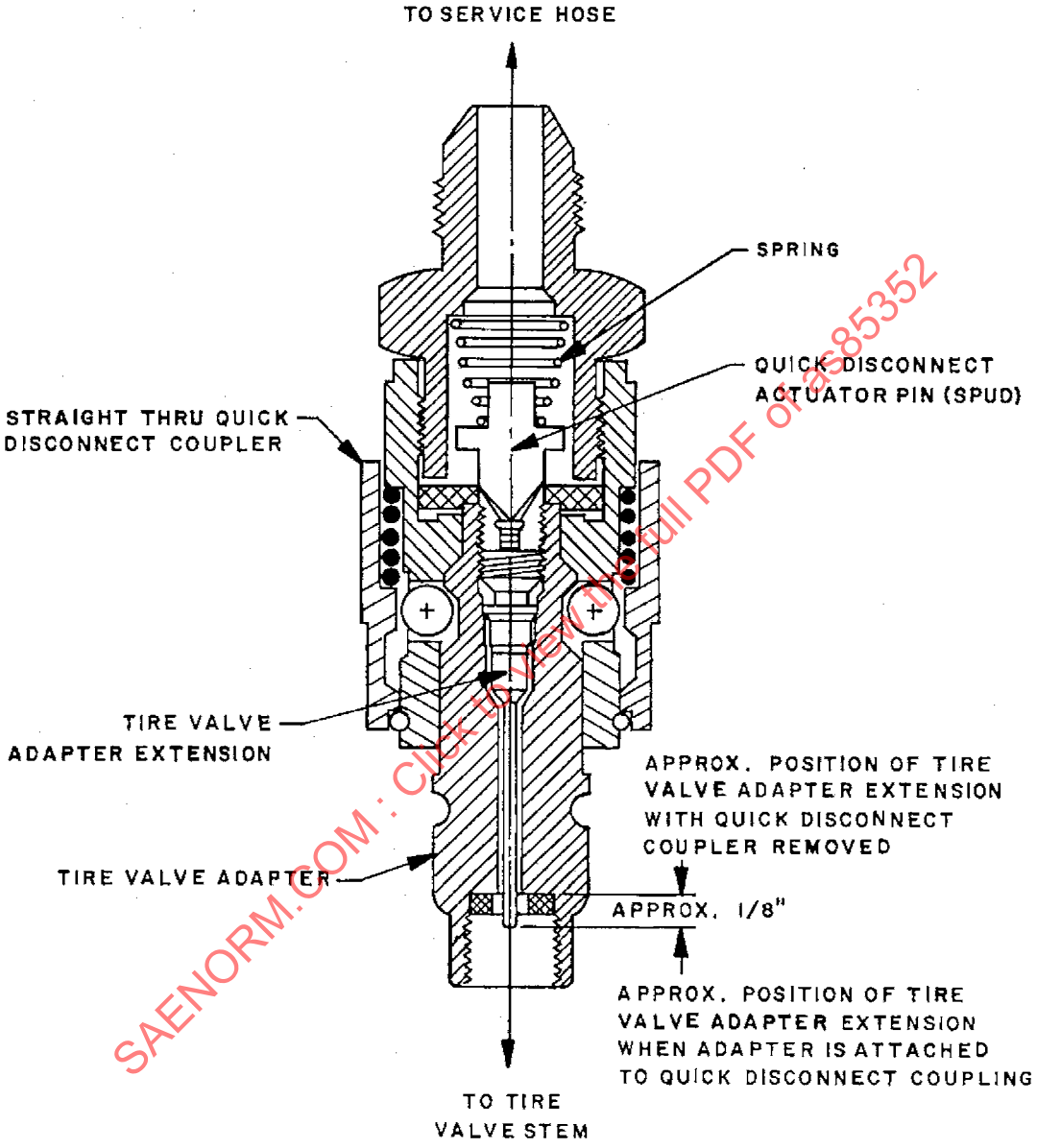

Figure 4. Tire valve adapter coupling assembly

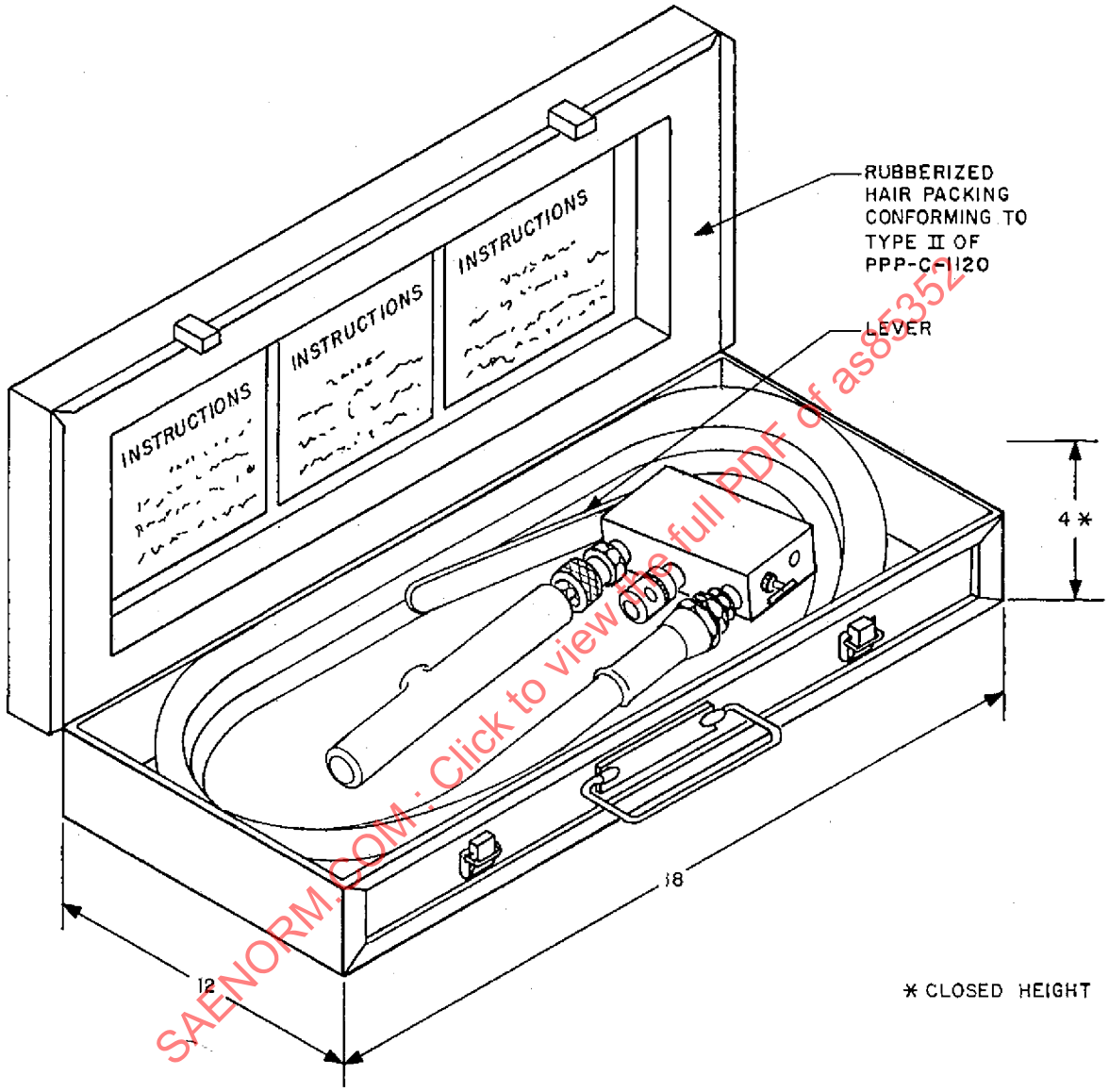

Figure 5. Inflator assembly carrying case

3.8.5.1 Operating instructions: An instruction sheet covering the care and safe operation of the inflator shall be permanently attached to the inside of the cover (see Figure 5). The instruction shall be enclosed in a transparent plastic envelope, permanently sealed on all edges, or printed on a decalcomania. The envelope or decalcomania shall be permanently fastened to the cover in such manner that the instructions can be read from the front of the open case.

3.8.6 Inlet fitting: An inlet fitting shall be fabricated in accordance with Figure 6. It shall be installed in the remote-controller as shown in Figure 1.

3.9 Dual chuck stem gage kit:

The dual chuck stem gage kit shall conform to MIL-I-85352/4 and shall consist of a dual-chuck foot, chuck foot extension, a gage element coupled together with a quick-disconnect coupling and carrying case.

3.9.1 Dual-chuck foot: The chucks shall be offset approximately 30 degrees as shown on Figure 7. The chucks shall be designed and constructed to fit a valve stem conforming to MS28889. The dual chucks shall be so designed that engagement of one of the chucks with the valve stem will render the deflator stem of the other chuck inoperative. Deflator pins shall be fabricated from hardened steel. The pins shall be designed with flats so that distortion of sealing washers will not cause any restriction of the air flow through the chuck to the gage after continued usage.

3.9.2 Chuck foot extension: The chuck foot shall have an extension approximately 6 inches long. The chuck foot shall either be fabricated integrally with the extension or shall be rigidly attached thereto in such manner that it will not become loose or detached under normal usage. The free end shall be equipped with the female portion of a quick disconnect coupling which will mate with the male portion of a quick-disconnect coupling conforming to the applicable dimensions of Figure 2.

3.9.3 Gage element: The gage element shall conform to MIL-I-85352/3 and meet all the requirements specified in 3.7.1, 3.7.1.1, 3.7.1.2, 3.7.1.3, 3.7.1.3.1, and 3.7.1.3.2.

3.9.4 Dual chuck gage carrying case: A metal case shall be provided for storing and transporting the dual chuck stem gage. The case shall incorporate two spring type latches to securely hold the lid in a closed position. The latches shall be constructed in such a manner that opening and closing of the case may be easily accomplished. The case shall be provided with a handle which shall provide sufficient clearance for an easy and complete grip by a person wearing heavy gloves. The case shall be fitted with internal cushioning, utilizing rubberized hair conforming to type II of PPP-C-1120, to prevent the dual chuck stem gage from shifting position in the case and protects same from damage during storage and transporting. The outside dimensions of the closed case shall not exceed 10-5/8 inches long by 5 inches wide. The carrying case shall be finished in accordance with MIL-STD-808, F103 Type I, Color DG.

3.10 Part numbering of interchangeable parts: All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable. The item identification and part number requirements of DOD-STD-100 Chapter 600 shall govern the manufacturer's part numbers and changes thereto.

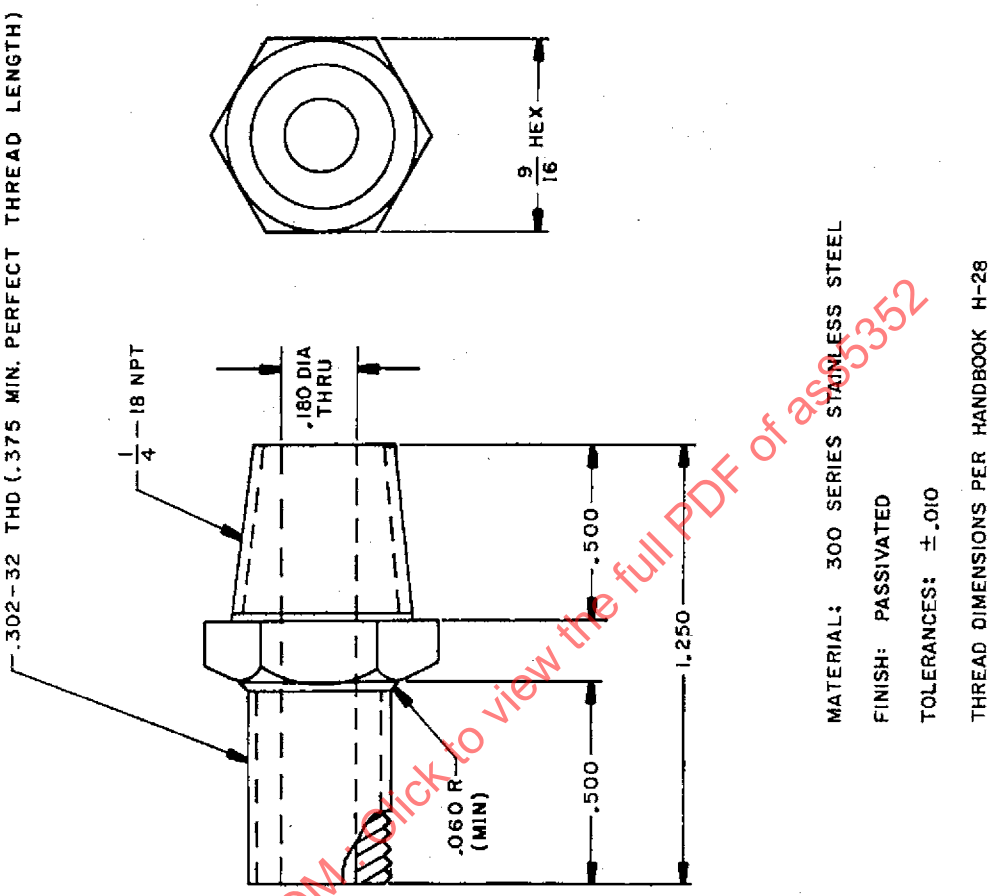

Figure 6. Inlet fitting

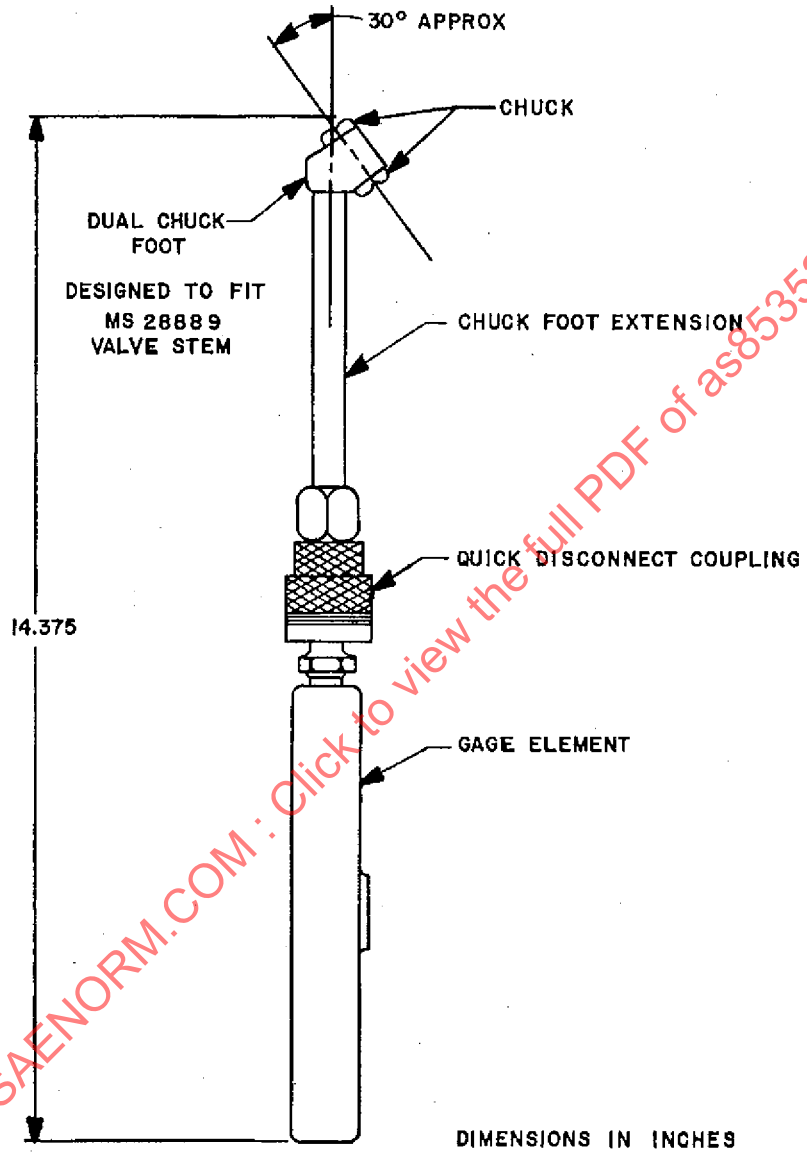

Figure 7. Dual chuck stem gage

3.11 Protective finish: Materials, used in the construction of the inflator assembly, that are subjected to deterioration when exposed to environmental conditions likely to occur during service usage shall have a protective finish to resist corrosion. The use of any protective coating that will crack, chip, or scale with age or extremes of atmospheric conditions shall be avoided. Protective finishes shall be in accordance with QQ-N-290, QQ-P-416, QQ-Z-325, MIL-A-8625 or QQ-C-320. Protective finishes shall be in accordance with MIL-STD-808.

3.12 Identification marking: Equipment assemblies, and parts shall be marked for identification in accordance with MIL-STD-130. The nomenclature and scale range of both gage elements shall be marked on the outside of the carrying case in black letters 3/8 inch high.

3.12.1 Each gage element is to have separate identification: The gage element housing shall be marked on the indicator side of the housing with the proper pressure range, 50 to 600 psi for Size 1, and 10 to 150 psi for Size 2, as follows:

GAGE PRESSURE
XX TO XXX PSI

On the side of the housing adjacent to the above, the following shall be marked:

U.S. MILITARY PROPERTY
N.S.N.
MFR
CONT. NO.
P/N M85352/3-X (X-insert correct dash number)

These markings shall be letters 1/8 inch high, stamped or etched.

3.12.1.1 Calibration tag: A pressure sensitive metallic foil tag approximately 3/4 inch square shall be firmly attached to the indicator side of the gage element as indicated in Figure 1. The tag shall indicate that the gage element has been tested and is in compliance with the accuracy requirements of MIL-I-85352. The date of the test shall be included.

3.12.2 Remote controller assembly: On the side of the remote controller housing, opposite the warning marking, the following shall be marked:

U.S. MILITARY PROPERTY
N.S.N.
MFR.
CONT. NO.
P/N M85352/2

3.13 Cleaning: The inflator assembly and dual chuck stem gage shall be thoroughly clean of loose, spattered or excess solder, metal chips, or other foreign material. There shall be no burrs and sharp edges, as well as resin flash which may crumble.

3.14 Workmanship:

Workmanship shall be of the quality necessary to produce complete units of good appearance, with safe and efficient operating characteristics as is customarily found in high grade commercial quality items of a similar nature.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Repsonsibility for inspection:

Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own facilities or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspection:

The inspection of the inflator assembly shall be classified as follows:

a. First article inspection (4.3)
b. Quality conformance inspection (4.4)

4.3 First article inspection:

First article inspection shall consist of the inspections of this specification.

4.3.1 Sampling for first article inspection: Unless otherwise specified, as soon as practicable after award of the contract or order, the contractor shall furnish 2 inflator assembly kits or 2 remote controller assemblies or 2 gage elements, or 2 dual chuck stem gages as applicable, to determine conformance with this specification. The samples shall be identified in accordance with 3.10 and contract number and shall be inspected as specified herein and in accordance with the contract or order (see 6.2).

4.3.2 First article test report: The contractor shall prepare a report of the first article tests in accordance with MIL-STD-831 showing that the inflator assemblies for each size gage element conform to this specification. Two copies shall be furnished to the procuring activity. Two additional copies shall be forwarded with the verification test samples.

4.3.3 Verification test samples for the procuring activity: The contractor shall submit to the procuring activity, together with the first article test report, 2 sample inflator assembly kits or remote controller assemblies or gage elements or dual chuck stem gages as applicable, as specified in 4.3.1 to be used as follows:

a. For a review of the mechanical construction of the product.
b. To perform any tests included in the specification, after reviewing the contractor's test report.

4.4 Quality conformance inspection:

Quality conformance inspection shall consist of the individual inspection and sampling tests.

4.4.1 Individual inspection: Each test sample shall be subjected to the following inspection:

a. Examination (4.6.1)

b. Scale error at room temperature (4.6.2)

4.4.2 Sampling tests: A random sample shall be selected from each inspection lot in accordance with MIL-STD-105, Inspection Level S-2, Acceptable Quality Level (AQL) of 0.65 percent major defects and an AQL of 10.0 percent for minor defects. Samples shall be subjected to the tests specified in 4.6.1, 4.6.2, 4.6.3 and 4.7.

4.4.2.1 Inspection lot: A lot shall consist of all inflator assemblies and carrying cases or remote controllers or gage elements or dual chuck stem gages manufactured and assembled under essentially the same conditions and submitted for inspection at one time.

4.4.2.2 Resubmitted inspection lots: The paragraph entitled “Resubmitted lots or batches” of MIL-STD-105 shall apply except that a resubmitted inspection lot shall be inspected by the contractor under supervision of the Government inspector, using tightened inspection. If the original acceptance number was zero, a sample size represented by the next higher sample size code letter shall be chosen with the acceptance number remaining zero. Before an inspection lot is resubmitted, full particulars concerning the cause of previous rejection and the action taken to correct the defects in the inspection lot shall be furnished by the contractor to the Government inspector.

4.5 Test conditions:

4.5.1 Test equipment: Tests shall be conducted using equipment of laboratory accuracy and acceptable to the procuring activity. Tests shall be performed using air or nitrogen gas pressure to simulate actual use. Tests with hydraulic pressures are not acceptable.

4.5.2 Atmospheric conditions: Unless otherwise specified, all tests required by this specification shall be made at an atmospheric pressure of approximately 30 inches of mercury and at room temperature of 70° ± 5°F. When tests are made with atmospheric pressure and temperature substantially different from the above values, proper allowance shall be made for the difference from specified conditions.

4.6 Inspection methods:

4.6.1 Examination: The inflator assembly and dual chuck stem gage including carrying case, shall be thoroughly examined for design, construction, materials, and workmanship to determine compliance with the requirements of this specification. Any deviation from these requirements shall be cause for rejection.