| NOT MEASUREMENT SENSITIVE |

MIL-M-19181F
19 May 1989
SUPERSEDING
MIL-M-19181E
17 August 1982

MILITARY SPECIFICATION

MARKERS, TRAFFIC LINE, SELF-PROPELLED

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers commercial, self-propelled, pressure feed, walking and riding type traffic line markers. The assembly is hereinafter identified as a marker.

1.2 Classification. Markers will be one of the following styles, as specified (see 6.1).

Style 1 - Walking operation, one striping gun.
Style 2 - Riding operation, two striping guns.
Style 3 - Riding operations, three striping guns.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.1).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 3825

SPECIFICATIONS

FEDERAL

A-A-393 - Extinguisher, Fire, Dry Chemical (Hand Portable).

MILITARY

MIL-T-704 - Treatment and Painting of Material.
MIL-S-12651 - Sprayers, Packaging of.

STANDARD

FEDERAL

FED-STD-595 - Colors.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.1.2 Other Government documents. The following other Government document form a part of this specification to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DEPARTMENT OF LABOR (DoL)
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

Occupational Safety and Health Standards.

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

2.2 Non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.1).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME - Boiler and Pressure Vessel Code.
Section VIII - Pressure Vessels, Division I.

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017.)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

SAE J534 - Lubrication Fittings.
SAE J551 - Performance Levels and Methods of Measurement of Electromagnetic Radiation From Vehicles and Devices.
SAE J552 - External Electromagnetic Radiation Suppressor.

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096).

TIRE AND RIM ASSOCIATION, INC. (TRA)

TRA Yearbook.

(Application for copies should be addressed to the Tire and Rim Association, Inc., 3200 West Market Street, Akron, OH 44313.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, (except for associated detail specifications, specification sheets or MS standards), the text of this specification takes precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Standard commercial product. The marker shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the marker being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

3.2 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.2.1 and 6.4).

3.3 Identical Items. Markers of the same classification furnished under specific contract shall be physically and mechanically identical. This requirement includes parts, assemblies, components, and accessories. No deviation will be acceptable without prior written approval of the contracting officer.

3.4 Safety. All rotating or reciprocating parts, and all parts subject to high operational temperatures, that are of such a nature or so located as to be or become a hazard to the safety of the operating personnel shall be insulated, enclosed, or guarded to the extent necessary to eliminate the hazard. The marker shall comply with OSHA regulations in effect at time of manufacture.

3.5 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification.

3.6 Description. Markers shall consist of air actuated striping gun(s), paint container(s), air compressor, air receiver, and gasoline engine to drive compressor and propel marker. Valves, gages, and other accessories shall be supplied as necessary to make a complete and serviceable unit.

3.6.1 Style 1 marker. Style 1 marker shall have handlebar steering which will enable an operator to walk behind and operate all controls while marker is in motion. Marker shall have a paint container of not less than 7-gallon capacity, one striping gun, and an air compressor of not less than 9 cubic feet per minute (cfm) displacement. Operating weight shall not exceed 500 pounds (lb). Steering effect shall not exceed 25 lbs. When specified (see 6.1), style 1 marker shall be provided with a platform trailer conforming to the requirements of 3.6.2.

3.6.2 Style 2 marker. Style 2 marker shall have handlebar or automotive type steering detachable operator's platform trailer or integrally built operator's platform, paint container(s) of not less than 12-gallon total capacity, two striping guns operable separately or simultaneously, and an air compressor of not less than 11 cfm displacement. The platform trailer shall have pneumatic rubber-tired wheels and a hitch attachment to the marker. Platform shall be not less than 24 inches long and 12 inches wide. When specified (see 6.1), marker shall be capable of laying two solid or intermittent lines in two colors.

3.6.3 Style 3 marker. Style 3 marker shall have automotive type steering, automotive type transmission and brakes, operator's platform integral with frame, an operator's seat, paint container(s) of not less than 36-gallon total capacity, three striping guns operable separately or simultaneously, an air compressor of not less than 40 cfm displacement. When specified (see 6.1), marker shall be capable of laying three solid or intermittent lines in two colors.

3.7 Performance. The marker shall be capable of operating satisfactorily in any direction on a 20 percent grade. Painted stripes shall be of uniform film thickness and width. The ends and sides of the stripe shall be clearly defined and free from runs and smears. Unless otherwise specified (see 6.1), the width of each painted stripe shall be variable from 2 to 6 inches for style 1 and from 3 to 6 inches for styles 2 and 3. When specified (see 6.1), the stripe width shall be adjustable to 12 inches. In addition, the style 3 marker shall be capable of producing an 18-inch wide solid line for air field marking. The marker shall be capable of maintaining a forward speed on a level surface of

not less than 2 miles per hour (mph) for style 1, and 5 mph for styles 2 and 3, while operating all accessories and depositing sufficient paint from each gun to form a continuous line not less than 0.015 inches thick and the maximum specified width. For style 2 and 3 markers, the above performance shall be attained while transporting the operator.

3.8 Design and construction. Design and construction of the marker shall be such that no member or part shall show evidence of failure or permanent deformation under severe service conditions. All pressure gages, pressure regulators, and control valves shall be mounted within view and easy reach of the operator. Weight distribution of the marker shall be balanced for easy steering and handling. Conditions which could be hazardous to personnel or deleterious to equipment shall not be permitted.

3.8.1 Attachment of accessories. Design shall permit attachment and operation of the following accessories even if the accessories are not supplied with the marker:

a. An attachment to apply reflective beads over the painted stripe.
b. A mechanism to apply the stripe(s) intermittently.
c. A hand gun.

3.8.2 Ease of maintenance. The marker shall be so designed and constructed that normal adjustments, repair, and overhaul can be readily accomplished by means of general purpose tools with a minimum removal or disturbance of other elements of the unit. Ease of maintenance provisions shall insure operating clearances for facilitating maintenance and servicing. Where possible, intricate locking devices, controls, and threaded fastenings that can be easily over-torqued by operators lacking feel through thick gloves or numbness, shall be avoided. Covers or plates that must be removed for component adjustment or for parts removal shall be equipped with substantial, quick-disconnect fastenings.

3.9 Frame. Frame shall be welded construction of structural steel providing sufficient strength and rigidity to support all components. Handlebars shall be of tubular steel firmly affixed to, or integral with, the frame. For style 1 marker, paint container may be integral with the frame structure.

3.10 Wheel bearings. Wheel bearings shall be ball or roller type, either permanently lubricated and sealed or provided with means for lubrication.

3.11 Tires and rims. Tire and rim ratings shall conform to TRA recommendations for the type and size of tires furnished. Tires shall be tube or tubeless type with highway tread. Tires shall be of rated capacity at least equal to the load imposed on each tire, measured at each wheel at the ground. Tires shall be not less than 100 level quality and shall be of domestic make. When tube type tires are furnished, inner tubes shall be heavy-duty type, and shall be of proper size for the tires furnished. Style 3 markers shall have tire and rim sizes the same for all wheels.

3.12 Brake. Style 1 marker shall be provided with an effective hand-operated brake. Style 2 marker shall be provided with an effective hand-operated or foot-operated brake. Brake control shall be easily accessible

and shall lock the brake for parking. Style 3 marker shall be equipped with automotive type mechanical or hydraulic service brakes, and parking lock or a separate parking brake. With engine stopped, brake shall hold marker on a 25 percent grade, headed up or down, without slippage.

3.13 Engine. The marker shall be a gasoline engine having horsepower, torque, and speed characteristics to satisfactorily meet all marker performance requirements specified herein. The engine shall be complete with all accessories normally furnished with the marker, including at least the following:

a. A manual or electric cranking system for styles 1 and 2.
b. A 12-volt electric cranking system, for style 3, including a cranking motor, battery charging generator or alternator and regulator, battery without electrolyte, and control switch.
c. A fuel tank of sufficient capacity for 2 hours of normal operation.
d. Fuel filter located between carburetor and fuel tank.
e. Speed governing system with provisions for adjusting the speed setting.
f. An engine hour meter having a totalizing mechanism of not less than 9,999 hours shall be furnished for style 3 markers.
g. Air cleaner for carburetor inlet.
h. Throttle control located convenient to operator.

3.14 Traction. Traction devices shall transmit the engine power smoothly and reliably to the driving wheel(s). For style 1 and 2 markers, the traction shall be by mechanically linked ribbed friction pulleys, belted chain drive to the driving wheels, or by clutch using chain and sprocket drive through diferential. Style 3 marker shall have automotive type drivetrain with clutch and transmission, permitting forward and reverse speeds. Traction control shall be readily accessible to the operator.

3.15 Air receiver. Compressor shall be provided with an air receiver tank of sufficient size to eliminate air pressure surges, cool compressed air, and collect moisture. Receiver shall be equipped with drain valve and a preset pressure relief valve. Receiver shall be designed and constructed in accordance with good commercial practice for styles 1 and 2. For style 3, the receiver shall be designed and constructed in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, and shall be stamped with the official code symbol.

3.15.1 Compressor pressure gage. A dial-indicating air pressure gage of the manufacturer's current standard type shall be furnished to indicate compressor discharge pressure. Gage shall be of such range and so connected that compressor pressure is easily and safely observed from the operating position.

3.15.2 Pressure release. A hand-operated valve or other unloader device shall be provided to release pressure in compressor during starting.

3.16 Paint container(s). A paint container(s) shall be designed and constructed in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, and shall be stamped with the official code symbol. Rated pressure shall be equal to, or greater than, the maximum compressor discharge pressure. container size shall be as specified in 3.6.1 through 3.6.3 for the style of marker specified. The opening of the container shall be of adequate

size for filling, cleaning, and inspection, but shall be not less than 8 inches in diameter. The opening shall be provided with an airtight safety cover having a noncorroding gasket and an effective locking device. Container(s) may also be filled through a filler hole provided with seal-tight cap. A manual drain valve or plug shall be provided at the lowest point of paint container, when container is not detachable. A valve for shutting off the flow of paint shall be provided with a removable paint strainer. A dial-indicating pressure gage of the manufacturer's current standard type which indicates container pressure shall be mounted within view of the operator.

3.17 Paint spray equipment.

3.17.1 Striping gun. Striping gun shall be air actuated, non-bleeding, internal atomizing type, having vertical and lateral adjustment for the width and line spacing. Gun operating controls shall be within easy reach of the marker operator. Spray tubes, air curtains, or shields shall be used to insure consistent clear edged lines. Guns shall handle all types of standard cold marking paints. Gun components shall be easily detachable for replacement.

3.17.2 Hose. All fluid and air hose shall be of braided non-kinking, synthetic rubber, nylon, or rayon. Fluid hose shall be suitable for use with solvents contained in traffic line paint. Hose shall be clamped and braced, where necessary, to avoid excessive movement and contact with hot or moving parts.

3.17.3 Cleaning equipment. A solvent container of not less than 1 quart capacity for style 1 and 1/2 gallon for styles 2 and 3 with necessary connections and valves to permit flushing paint hoses, strainer, and gun(s) shall be provided.

3.17.4 Paint agitator. The agitator shall be hand operated paddle type. When specified (see 6.1), style 3 marker shall be provided with a power operated agitator.

3.18 Regulators and controls. Separated regulators shall be provided to maintain paint container pressure and atomizing line pressure. Each gun shall be separately regulated on style 2 and 3 markers. Check valves shall be provided to prevent backflow of material from the tank or gun(s) into the air manifold. Shutoff valve(s) shall be provided in the line(s) from the paint container(s) to the gun(s).

3.19 Optional accessories. When specified (see 6.1), any of the following accessories shall be furnished as specified.

3.19.1 Bead dispenser. The bead dispenser unit shall distribute reflective beads uniformly and simultaneously with the paint spray over the newly applied stripe. Bead dispenser shall be capable of handling beads of various sizes and weights, and shall include means of accurately controlling and varying the volume of beads to be dispensed. Dispenser hopper shall have sufficient capacity to allow for a flow of 6 lbs of beads per gallon of paint in container. When specified (see 6.1), the hopper capacity shall be sufficient for 10 lbs of beads per gallon of paint.

3.19.2 Guide-pointer. The guide pointer shall be manufacturer's current standard type for the marker specified.

3.19.3 Intermittent line mechanism. The mechanism shall automatically produce intermittent or broken lines. Device shall be such that broken or continuous lines may be produced interchangeably. Lines shall be capable of being applied in solid or automatically broken stripes of predetermined lengths. Style 2 and 3 markers shall be capable of making solid and broken stripes simultaneously.

3.19.4 Hand spray gun. The hand spray gun shall be complete with 25 feet of air hose, 25 feet of fluid hose, and necessary hose connections. Provisions shall be made to coil and clip hoses to marker frame. A steel box with hinged cover attached to marker frame shall be provided to store hand gun.

3.20 Fire extinguisher. When specified (see 6.1), a fire extinguisher and mounting bracket, shall be furnished for style 3 marker. Extinguisher shall be installed so that it is readily accessible to the operator. The fire extinguisher shall meet all the requirements specified in Commercial Item Description A-A-393, and shall be a type 1, class 1, size 5 designation.

3.21 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted as specified herein. The color of the finish coat shall be as specified (see 6.1), and shall conform to FED-STD-595. Surfaces to be painted shall be cleaned and dried to insure that they are free from contaminants such as oil, grease, welding slag and spatter, loose mill scale, water, dirt, corrosion product, or any other contaminating substances. As soon as practicable after cleaning, and before any corrosion product, or other contamination can result, the surfaces shall be prepared or treated to insure the adhesion of the coating system. The painting shall consist of at least one coat of primer and one finish coat. The primer shall be applied to a clean, dry surface as soon as practicable after cleaning and treating. Painting shall be with manufacturer's current materials according to manufacturer's current processes and the total dry film thickness shall be not less than 1.5 mils over the entire surface. The paint shall be free from runs, sags, orange peel, or other defects.

3.22 Lubrication. Lubrication means shall be provided for all moving parts requiring lubrication. Lubrication shall be in accordance with the equipment manufacturer's recommendations and shall be compatible with lubricants specified herein. Pressure lubrication shall not damage seals or other parts. Hydraulic lubrication fitting shall conform to SAE J534. All parts requiring lubrication shall be lubricated prior to delivery as specified in section 5 and tagged to show the type and temperature rating of the lubricant used.

3.23 Identification plate. The contracting officer will furnish to the Government inspector the required identification plates. The contractor will be required to stamp the necessary data in the blank spaces thereon and securely affix said plates in a conspicuous place on each unit, assembly or subassembly, and parts as directed by the Government inspector., Nonferrous screws, rivets, or bolts of not less than 1/8-inch in diameter shall be used to affix the plates. Nomenclature shall be placed in the nomenclature block.

3.24 Instruction plates. The marker shall be equipped with instruction plates suitably located, describing any special or important procedures to be followed in operating and servicing the equipment. Plates shall be of a

material which will last and remain legible for the life of the equipment. Plates shall be securely affixed to the equipment with nonferrous screws or bolts of not less than 1/8-inch diameter.

3.25 Electromagnetic interference characteristics. When specified (see 6.2), the marker shall be equipped with radio noise suppressors conforming to SAE J552. Electromagnetic radiation from the marker shall be within the limits of SAE J551.

3.26 Workmanship.

3.26.1 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to insure uniformity of size and shape.

3.26.2 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

3.26.3 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and of uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.26.4 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of part to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.26.5 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect which reduces the castings ability to perform its intended function.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own 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 and of the inspection set forth in the specifications where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

a. First article inspection (see 4.2.1).
b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on the marker of each style when first article sample is required (see 3.2 and 6.1). This inspection shall include the examination of 4.3 and the tests of 4.4. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.3, the tests of 4.4, and the packaging inspection of 4.4.7. Quality conformance inspection shall be made on each marker supplied to the Government.

4.3 Examination. Each marker shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.4 Tests. Markers shall be tested as specified herein. Any unit failure to pass the following tests, as applicable, shall be rejected. Prior to the tests specified herein which require the marker to be operated, the marker shall be serviced with the fuel, oils, and greases recommended by the manufacturer for use in the ambient temperature at the test location.

4.4.1 Performance test. Each marker shall, as a minimum, be tested to assure that it is capable of meeting the performance requirements specified herein. The marker shall be driven for not less than 1 mile during a period of 30 minutes over a level, paved surface to verify the applicable speed requirements of 3.7. The marker shall then be driven over a course, including an ascending and descending 20-percent slope, right and left curves, to verify

conformance to 3.7. Function of engine and traction shall be observed during the run. Compressor shall be operated and all controls and indicators shall be checked for proper function.

4.4.2 Pressure test. The paint container(s) for styles 1, 2, and 3, and the style 3 air receiver shall be hydrostatically tested in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, and held at this pressure until examined for leaks and distortion. Leaks or distortion shall be cause for rejection. The ASME code stamp will be accepted as evidence of this test.

4.4.3 Brake test. Marker shall be parked headed up a 25-percent grade and the brake shall be applied and locked. Marker shall be left unattended for 30 minutes to determine conformance to 3.12. This test shall be repeated with the marker facing the opposite direction.

4.4.4 Painting tests. Marker shall apply paint stripes following prescribed guidelines. Each stripe shall be not less than 150 feet long, continuous and shall include two 90-degree (°) turns, one turn to right and one turn to left with minimum radii. Style 1 marker shall paint three single stripes one each at widths of 4-1/2, and 6 or 12 inches, as specified to verify conformance to 3.7. Style 2 marker shall paint three double stripes at widths of 3, 4-1/2, and 6 or 12 inches as specified to verify conformance to 3.7. Style 3 marker shall paint three triple stripes at widths of 3, 4-1/2, and 6 or 12 inches, as specified to verify conformance to 3.7. Style 3 marker shall also paint one straight stripe 150 feet and 18 inches wide to verify conformance to 3.7. Maximum deviation in width shall not be more than 1/4 inch. The ends and sides of each stripe shall be clearly defined with a minimum of runs and smears. Paint shall be uniformly distributed throughout each stripe.

4.4.5 Bead dispension and intermittent operation tests. The reflective-bead dispensing unit and intermittent striping mechanism, when required, shall be attached to the marker. The marker shall then apply one stripe of paint and reflective material following the prescribed guideline. Stripe shall be 150 feet long, intermittent, and shall include one 90° turn to right and left. The reflective beads shall feed steadily down the hopper and through the dispenser. No stoppage shall occur while unit is in operation. The bead application shall be automatically coordinated with the application of the paint spray. The reflective beads shall be uniformly distributed over the painted stripe. The painted and unpainted portions of the intermittent line shall be consistent in length.

4.4.6 Hand spray gun test. Gun shall be connected to the marker and operated by a qualified operator. Paint shall be sprayed on a suitable test panel over a minimum area of 50 square feet. The spray gun shall emit a steady uniform mixture of paint and air so as to produce a uniform coating on test panel.

4.4.7 Packaging inspection. The inspection of the preservation, packing, and marking shall be in accordance with the requirement of section 4 of MIL-S-12651. The inspection shall consist of the quality conformance inspection; and, when specified (see 6.1), a preproduction pack shall be furnished for examination and test within the time frame required (see 6.1).

5. PACKAGING

5.1 Preservation, packing, and marking. Preservation, packing, and marking shall be in accordance with the requirements of MIL-S-12651 with the level of preservation and the level of packing as specified (see 6.1).

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Acquisition documents should specify the following:

a. Title, number, and date of this specification.
b. Style of marker required (see 1.2).
c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
d. When first article is required for inspection and approval (see 3.2, 4.2.1, and 6.4).
e. When style 1 marker is to be equipped with a platform trailer (see 3.6.1).
f. When style 2 marker is to be capable of laying 2 lines in 2 colors (see 3.6.2).
g. When style 3 marker is to be capable of laying 3 lines in 2 colors (see 3.6.3).
h. When stripe width shall be adjustable to 12 inches (see 3.7).
i. When style 3 marker is to be provided with a power operated agitator (see 3.17.4).
j. Optional accessories required (see 3.19).
k. When hopper capacity of 10 lbs of beads per gallon of paint is required (see 3.19.1).
l. When a fire extinguisher is to be furnished with style 3 marker (see 3.20).
m. When treatment and painting are to be other than as specified (see 3.21).
n. When treatment and painting are to be in accordance with MIL-T-704 (see 3.21).
o. Color of finish coat required (see 3.21).
p. When conformance to electromagnetic interference characteristic requirements and test limits is required (see 3.26).
q. When a preproduction pack inspection is required and time frame required for submission (4.4.7).
r. Level of preservation and level of packing required (see 5.1).

6.2 First article. When a first article inspection is required, the marker will be tested and should be a first production item or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one complete marker. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.3 Subject term (key word) listing.

Compressor
Guide pointer
Hose
Paint container
Platform
Sprayer
Striping gun
Traffic line marker

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Navy - YD
Air Force - 99

Review activities:
DLA - CS
Air Force - 84

User activity:
Navy - MC

Preparing activity:
Navy - YD

Project 3825-0189

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INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge *(DO NOT STAPLE)*, and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document*(s)* or to amend contractual requirements.

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-M-19181F	MILITARY SPECIFICATION - MARKERS, TRAFFIC LINE, SELF-PROPELLED

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*:

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

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