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QUARTERMASTER CORPS  
TENTATIVE  
SPECIFICATION.

J.Q.D. NO. 446  
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OBSOLETE — SUPERSEDED BY *Mil-S-1518*  
SADDLE, MILITARY, PHILLIPS.\*  
(STOCK NO. 34-S-225)

A. APPLICABLE SPECIFICATIONS.

A-1. The following specifications and drawings, of the issue in effect on date of invitation for bids shall form a part of this specification.

A-1a. Federal Specifications:-

- C-B-191 - Beeswax; technical grade.
- C-G-451 - Glue; animal (for) wood-working.
- V-T-291 - Thread; linen.
- KK-L-171 - Leather; harness, black and russet, (vegetable tanned)
- KK-L-271 - Leather; strap, black and russet.
- NN-B-621 - Boxes; wood, nailed and lock-corner.
- QQ-M-151 - Metals; general specification for inspection of.
- QQ-S-766 - Steel, corrosion-resisting; plates, sheets, strips and structural shapes.
- RR-C-451 - Cloth, wire, screen.
- UU-P-268 - Paper; Kraft, wrapping.
- UU-P-271 - Paper; Kraft, wrapping, waterproofed.
- CCC-C-271 - Cheesecloth, bleached and unbleached.
- CCC-T-191 - Textiles; general specifications, test methods.
- DDD-S-751 - Stitches; seams; and stitching.

A-1b. United States Army Specifications:-

- 2-97 - Wax (saddler's and stitching).
- 8-15 - Felt, pressed.
- 8-80 - Cloth, wool, worsted warp-woolen filling.
- 9-26 - Leather, pigskin, russet.
- 9-28 - Rawhide, hard.
- 15-11 - Webbing, linen.
- 48-5 - Wire, soft, iron and steel, bare and coated.
- 57-107 - Steel, carbon and alloy, bare.
- 57-136 - Steel, carbon and alloy; sheets and strips.
- 92-32 - Stirrups, M-1912 and M-1938.
- 92-49 - Girth, saddle, mohair cord.

A-1c. Quartermaster Corps Tentative Specifications:-

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\* This is the approved Nomenclature.

- J.Q.D. No. 208 - Duck, cotton, plied-yarns (army, numbered and tent duck).
- J.Q.D. No. 226 - Dyeing (vat) and finishing of Duck and tent twill.
- J.Q.D. No. 231 - Dyeing (mineral) and finishing of duck and tent twill.
- J.Q.D. No. 430 - Rivets, Belt, with Burrs.
- J.Q.D. No. 450 - Leather, Latigo
- J.Q.D. No. 475 - Felt, woven, Saddles, Phillips' Pack and Military.
- O.Q.M.G. No. 94- Specification for marking of outside shipping containers by contractors.
- O.Q.M.G. No.106 -Strapping steel nailless type (flat steel and round steel wire) for boxes; crates and bales.

- A-1d. Quartermaster Corps Drawings:-
- 1-1-67 - Saddle, Military, Phillips, Illustration.
- 1-1-68 - Saddle, Military, Phillips', Tree, Wood, Cloth-covered, assembly.
- 1-1-69 - Saddle, Military, Phillips', Tree, Wood, bar, side.
- 1-1-70 - Saddle, Military, Phillips', Tree, Wood, pommel.
- 1-1-71 - Saddle, Military, Phillips', Tree, Wood, Cantle.
- 1-1-72 - Saddle, Military, Phillips', Template, top, for checking tree.
- 1-1-73 - Saddle, Military, Phillips', Template, bottom, for checking tree.
- 1-1-74 - Saddle, Military, Phillips', tree, with metal parts assembled.
- 1-1-75 - Saddle, Military, Phillips', tree, metal parts "A".
- 1-1-76 - Saddle, Military, Phillips', tree, metal parts "B".
- 1-1-77 - Saddle, Military, Phillips', tree, metal parts "C".
- 1-1-78 - Saddle, Military, Phillips', tree, rawhide covered, assembly.
- 1-1-79 - Saddle, Military, Phillips', tree, rawhide covered, details.
- 1-1-80 - Saddle, Military, Phillips', strainer, web, assembly and details.
- 1-1-81 - Saddle, Military, Phillips', strainer, seat, assembly and details.
- 1-1-82 - Saddle, Military, Phillips', cover, web strainer and roll, seat, assembly and details.
- 1-1-83 - Saddle, Military, Phillips', pommel point and wool flock padding, assembly and details.
- 1-1-84 - Saddle, Military, Phillips', seat, ground, assembly and details.
- 1-1-85 - Saddle, Military, Phillips', seat, leather, temporary assembly and details.

- 1-1-86 - Saddle, Military, Phillips', seat, leather, jockeys and filler, top, assembly and details
- 1-1-87 - Saddle, Military, Phillips', seat, leather, details.
- 1-1-88 - Saddle, Military, Phillips', seat, leather, finished and assembled.
- 1-1-89 - Saddle, Military, Phillips', template, top, for checking finished seat.
- 1-1-90 - Saddle, Military, Phillips', skirts, outer, assembly and details
- 1-1-91 - Saddle, Military Phillips', skirts, outer, details.
- 1-1-92 - Saddle, Military, Phillips', skirts, under, assembly.
- 1-1-93 - Saddle, Military, Phillips', skirts, under, details.
- 1-1-94 - Saddle, Military, Phillips', pads, assembly and details.
- 1-1-95 - Saddle, Military, Phillips', pads, details "A".
- 1-1-96 - Saddle, Military, Phillips', pads, details "B".
- 1-1-97 - Saddle, Military, Phillips', pads, details "C".
- 1-1-98 - Saddle, Military, Phillips', template, bottom, for checking assembled pads.
- 1-1-99 - Saddle, Military, Phillips', cantle roll support, stirrup straps and coat straps.
- 1-1-45 - Stirrups, M-1912, M-1938.
- 1-1-62 - Girth, saddle, mohair cord.
- 4-1-22 - Rivets, cap and burrs.
- 4-1-33 - Hardware, Miscellaneous "C".
- 4-1-36 - Buckles, special "B".
- 4-1-39 - Rings-D, "B".
- 4-1-42 - Buckles, special "C".

B. TYPE AND SIZE.

B-1. This specification covers one type and size of Saddle, Military, Phillips'.

C. MATERIAL AND WORKMANSHIP.

C-1. Material. - The materials shall conform in all respects to the specifications and drawings listed in Section A, and as indicated in this specification.

C-1a. Lumber. - The lumber used in the fabrication of the tree shall be beech, No 1 Common, thoroughly air-seasoned, straight-grained, clear, sound and free from knots, shakes, checks, rot, sap, splits and all other defects that would affect the strength or serviceability of the tree.

C-1b. Cloth, For Covering Tree. - Shall be cheesecloth 36" wide, conforming to the requirements for Type I, Class A, described in Specification CCC-C-271. The cloth shall be secured to the tree with a good grade of carriage trimmers paste.

C-1c. Shellac.- The shellac used for coating the cloth covered tree shall be a good commercial grade of orange shellac, 4-lb., cut.

C-1d. Steel.-

C-1d(1). Steel, corrosion resisting, strip, used in the manufacture of various metal parts for the saddle shall conform to the requirements for Class B-2c(2), Grade 1C, described in Specification QQ-S-766.

C-1d(2). Steel, corrosion resisting, round bar stock and wire, used in the manufacture of metal parts other than those covered by paragraph C-1d(1), shall be cold finished and be in accordance with the following chemical compositions.

Carbon-----	0.08-0.20 percent.
Manganese-----	1.25 percent (max)
Phosphorus-----	0.03 percent (max)
Sulphur-----	0.03 percent (max)
Silicon-----	0.75 percent (max)
Chromium-----	0.75 - 20.00 per- cent.
Nickel-----	8.00-10.00 per- cent.

C-1d(3). Steel, used in the manufacture of inside pommel reinforce, shall be cold melt, electric furnace, conforming to the requirements for W.D. No. 1095, as described in specification 57-136.

C-1d(4). Steel, strip, used in the manufacture of the rear reinforce shall conform to the requirements for W.D. No. 1010, and steel, spring, annealed, used in the manufacture of 1/4" lock washers and the stirrup strap bar latch springs shall conform to the requirements for W.D. No. 1095, described in Specification 57-136.

C-1d(5). Steel, carbon, bar stock, forging quality, used in making the stirrup strap bar body shall conform to the requirements for W.D. No. 1035, described in Specification 57-107.

C-1d(6). Steel, wire, used in fabricating the pins for stirrup strap bar, shall be bright basic and conform to the requirements for W.D. No. 1015, described in Specification 48-5.

C-1d(7). Steel, bar, used in the manufacture of the stirrup strap bar latch shall be max-el (chrome-manganese) or equal

C-1e. Leather.- The various kinds of leather used in the manufacture of the saddle shall be as follows:

C-1e(1). Leather, harness, russet, 12/64 inch thick shall be Class 2(b), 50 percent Grade "A" and 50 percent Grade "B", conforming to the requirements described in Specification KK-L-171.

C-1e(2). Leather, strap, russet, 8/64 inch thick, Class II and 10/64 inch thick, Class III, used for skirts, inner; skirts, outer; and jockeys, shall be 50 percent Grade "A" and 50 percent Grade "B", conforming to the requirements described in Specification KK-L-271. The russet strap leather used for all other parts shall conform in all respects to the requirements of Specification KK-L-271, except that the leather may contain any kind or number of defects which do not affect its serviceability or materially affect the appearance of the finished parts. Care shall be exercised to see that the leather cut into the finished pieces is free of all injurious defects. The thickness of the leather used shall be as indicated on drawings.

C-1e(3). Leather, latigo, sides, shall be 8/64 inch thick, 50 percent selection "A" and 50 percent selection "B", conforming to the requirements described in Specification J.Q.D. No. 450.

C-1e(4). Leather, calfskin, rawhide, hard, shall be in accordance with the requirements for Type I (b), described in Specification 9-28.

C-1e(5). Leather, pigskin, russet, 3/64 inch thick, shall be selection "A", conforming to the requirements described in Specification 9-26.

C-1e(6). Leather, sheepskin, russet, without wool, shall be free from cuts, scratches and other defects which might affect the serviceability and conform to the following requirements:-

Thickness.- Shall be not less than 2-1/2 sixty-fourths and not more than 3 sixty-fourths inch thick (plus or minus 1/2 sixty-fourth inch).

Tannage.- The tannage shall be by a Vegetable tanning process.

Color.- The leather shall be a natural russet color.

Tensile Strength and Stretch.- The tensile strength shall be not less than 2300 pounds per square inch. The stretch shall be not more than 25 percent at 1,000 pounds per square inch tensile strength, when tested according to the A.C.L.A. methods and when stretched in a direction parallel to the direction of the backbone.

Grease Content.- Shall be not less than 5 percent nor more than 8 percent, calculated on an "as received" basis.

PH - Shall be not less than 3.25.

Finish.- The finish of the leather shall be full grain with the flesh side smooth and free from flesh.

C-1e(7). Leather, calfskin, russet, shall be free from serious neck or fat wrinkles or grain imperfections that would impair the strength and conform to the following requirements:-

Thickness - Shall be 2-3/4 sixty-fourths to 3-1/2 sixty-fourths inch thick.

Tannage.- Shall be by a Vegetable tanning process.

Tensile Strength and Stretch.- The tensile strength shall be not less than 2,500 pounds per square inch. The stretch shall

be not more than 25 percent at 2,000 pounds per square inch tensile strength, when tested according to the A.C.L.A. methods and when stretched in a direction parallel to the direction of the backbone.

Grease Content.- Shall be not less than 10 percent nor more than 15 percent (chloroform extraction), Calculated on an "as received" basis.

PH.- Shall be not less than 3.25.

Crackiness.- Shall not crack when bent over on itself grain side out.

Color.- Shall be natural russet.

Finish.- The leather shall be full grain and free from cuts, scratches or other imperfections that might affect the appearance or serviceability.

C-1f. Duck.- The duck used in the manufacture of the strainer seat body shall be No. 1 cotton duck conforming to the requirements for Type I, Table I, hard texture, described in Specification J.Q.D. No. 208.

C-1f(1) Finish.- The duck shall be dyed in a color match of the No. 7 shade of olive drab and made highly water repellent in accordance with the requirements for either Specification J.Q.D. No. 226 or J.Q.D. No. 231.

C-1g. Webbing.- The linen webbing used in the manufacture of the saddle shall be natural color and conform to the requirements of Specification 15-11, as follows:-

3" wide, 2-70/100 oz. per linear yard, Table I.

C-1h. Felt.-

C-1h(1). Felt, woven, saddles, Phillips' pack and military, 1/4" thick, 60 oz. per square yard, shall be in accordance with the requirements described in Specification J.Q.D. No. 475.

C-1h(2). Felt, pressed, 1/4" thick shall conform to item 25, and felt, pressed 3/16" - 1/4" thick, to Item 26, Table I, as described in Specification 8-15.

C-1i. Hair.- The hair used for stuffing the roll for under skirt shall be curled hair (drawings) gray, good grade, 55% prime winter hog, 30% cattle, 5% horse mane hair, 10% horse tail hair, all properly carded, picked and curled.

C-1j. Sheeting. The unbleached cotton sheeting shall conform to the requirements as shown in Table I.

TABLE I.

Width Inches	Weight per sq.yd Ounces	Threads per Inch.		Breaking Strength	
		Warp.	Filling	(Grab method 1 x 1 x 3) Warp	Filling
36	4.15	58	58	62 lbs.	60 lbs

C-1k. Cord, Sash.- Cord, sash, cotton, braided, used for cores in front and rear rolls, shall be No. 3, polished finish, of a good commercial grade. The color of the cord shall be natural or unbleached.

C-1L. Wool, Flock.- Shall be of a good commercial grade equal to the standard sample, a representative piece of which will be furnished upon request by the Quartermaster Depot, Jeffersonville, Indiana.

C-1m. Serge.- The cream colored serge used for the ground seat on the saddle shall be a worsted, woolen cloth conforming in all respects to the requirements described in Specification 8-80.

C-1n. Thread.-

C-1n(1). Thread, linen, machine, 4-cord and 6-cord, used in machine stitching on the saddle shall be vat dyed a light brown shade of color and conform to Type B, Table II, Specification V-T-291. The thread shall be natural and polished finished, the polished finish being used for the top thread in the machine and the natural finish for the bottom or bobbin thread in machine

C-1n(2). Thread, linen, machine, No. 25-3 and 50-3 cord, shall be vat dyed in a color match conforming to shade "S", U.S. Army Standard Color card and conform to the requirements for Type A, Table I, Specification V-T-291.

C-1n(3). Thread, linen, hand-shoe, No. 10, shall be vat dyed a light brown shade of color and conform to the requirements for Type C, Table III, Specification V-T-291.

C-1n(4). The color of all thread shall have good fastness to laundering agents containing active chlorine.

C-1o. Wax.-

C-1o(1). The wax, russet, saddlers', used in hand stitching shall be Type I, and wax, russet, stitching, used in machine stitching, Type II, conforming to the requirements described in Specification 2-97.

C-1o(2). Beeswax shall conform to the requirements described in Specification C-B-191.

C-1p. Gum.- The gum, tragacanth, used for finishing edges, laps, etc., of leather, shall be what is known commercially as No. 3, flake,

C-lq. Wire cloth. - The cloth, brass wire, used for reinforcing the chape for loops on outer skirts, shall be 32 mesh per inch, wire diameter 0".0079, conforming to the requirements for Type B, described in Specification RR-C-451.

C-lr. Rivets, Belt, with Burrs. - The flat head No. 10 belt rivets, and burrs used in the manufacture of the saddle shall be made in accordance with the requirements for Class A, described in Specification J.Q.D No. 430.

C-ls. Grommets and washers, 7/32" x 1-9/32", Oblong - The grommets shall be made of soft brass and the washers of half-hard brass of a good commercial grade suitable for use on articles of this type.

C-lt. Sockets, Cantle. - Shall be fabricated from half-hard brass of a good commercial grade.

C-lu. Nails, Escutcheon Pins, Rivets (except Belt Rivets) Screws and Tacks. Shall be of the kind, material, size, shape and dimension as indicated on drawings listed in Section "A".

C-lv. Buckle, Bridle. - The 3/4" bridle buckle, used in the manufacture of coat straps shall be made in accordance with the design, shape and dimensions as shown on drawing No. 4-1-36, Symbol (B.)

C-lw. Buckle, 1-1/4" Stirrup Strap, Style 4. Shall be made in accordance with the design, shape and dimensions as shown on drawing No 4-1-42, symbol (A).

C-lx. Girth, Saddle, Mohair Cord. - Shall be a natural color and shall be made in accordance with the requirements described in Specification 92-49. Unless otherwise specified the tariff of sizes shall be; 10 percent 47", 85 percent 50", and 5 percent 53"

C-ly. Stirrups, M-1938. - Shall be manufactured in accordance with the requirements for Type II, described in Specification 92-32.

C-lz. Templates. - The templates used for checking the tree, finished seat, and pitch of skirt, shall be made of the materials and in strict accordance with the design, shape and dimensions as shown on drawings.

C-2. Workmanship. - The finished article shall be clean, well made, and free from any defects which may affect appearance or serviceability.

#### D. GENERAL REQUIREMENTS.

D-1. See Section E.

#### E. DETAIL REQUIREMENTS.



E-1. All detail requirements for the manufacture of the finished article and its component parts shall be as shown by drawings and specifications listed in Section A and as indicated in this specification.

E-2. Stitching.-

E-2a. Stitching shall be in regular lines. Thread tension of machine stitching shall be properly maintained so that the lock will be embedded in the materials sewed.

E-2b. Stitch Type 301, as described in Specification DDD-S-751, shall be used for all machine stitching. The number of stitches per inch shall be as indicated on drawings.

E-2c. Machine stitching shall be done on machines capable of using a hot stitching wax, the wax to conform to the requirements for Type II described in paragraph C-10(1). The use of a cold liquid wax or prewaxed thread will not be permitted.

E-2d. Stitch Type 201, as described in Specification DDD-S-751, shall be used for all hand stitching, except as otherwise indicated on drawings. The wax ends used for hand-stitching shall be made up of the various kinds of thread specified on drawings, for each type of stitching and shall be waxed, well twisted and rewaxed with wax conforming to Type I, described in paragraph C-10(1), or, when so indicated on drawings, with beeswax conforming to the requirements described in paragraph C-10(2).

E-3. Finish of Leather:-

E-3a. Creasing, edging, finishing, etc., of leather shall be done in an accurate, neat, and workmanlike manner.

E-3b. The leather of the finished article shall be cleaned with a solution of approximately two tablespoonfuls of oxalic acid Crystals dissolved in one quart of water.

E-4. Finish of Hardware.- Unless otherwise specified in the invitation for bids, contract or order, all items of hardware for the saddle shall be finished as indicated on drawings. Where no finish is specified the article shall be given a bright, polished finish.

E-5. All rivets shall be neatly and securely set.

E-6. The use of templates, constructed as indicated in paragraph C-12, shall be employed in the fabrication of each tree and saddle.

E-7. Marking For Identification.- Each saddle shall have a name plate affixed in the location as shown on drawing No. 1-1-94. The name plate shall be stamped or marked with the characters as indicated and with the name of the contractor and year manufactured in the location as shown on drawing.

E-8. Samples for Approval.- Before production is commenced, the finished templates, together with a finished Saddle, Military, Phillips, M-1941, shall be submitted to the contracting officer for approval.

E-9. Contractor's Inspection.- The contractor shall inspect all finished articles for compliance with this specification prior to submitting them to the United States Government for final inspection.

#### F. METHODS OF SAMPLING, INSPECTION AND TESTS.

F-1. Sampling.- Samples of any materials, components, etc., not furnished by the United States Government, entering into the manufacture of the article covered herein shall be selected from time to time by the Government Inspector, and carefully examined and tests made to determine if they are in accordance with the drawings and specifications listed in Section A, and with this specification.

F-2. Inspection.- Inspection may be made throughout the entire process of manufacture. The passing as satisfactory of any detail of construction or materials shall not relieve the contractor of responsibility for faulty workmanship or materials which may be discovered at any time prior to final acceptance. Final inspection of the finished article shall be made either at point of production or at point of delivery designated in the contract or purchase order of procuring agency. In case of factory inspection, every facility shall be afforded inspectors, by the manufacturer, for the prosecution of their work.

F-2a. It is to be understood that the methods of testing described in this specification will in general be used; however, the Government reserves the right to use such additional information or methods deemed necessary to determine compliance with the letter and spirit of this specification.

F-3. Tests.- Shall be in accordance with Specifications QQ-M-151 and CCC-T-191, insofar as applicable.

#### G. PACKAGING, PACKING, AND MARKING.

G-1. Packaging.- Unless otherwise specified in invitation for bids, contract, or order, the stirrups, stirrup straps, and girth shall be detached from the saddle.

G-1a. Five (5) girths of the same size shall be bundled, approximately one-eighth pound of flake naphthalene shall be distributed throughout the bundle, and the girths shall then be wrapped in No. 2 kraft paper, 60 pounds per 1,000 sheets based on size 24" x 36", conforming to Specification UU-P-268.

G-1b. Ten (10) stirrup straps of the same length shall be tied in a bundle with a suitable cord or string and wrapped in No. 2 kraft paper, 60 pounds per 1,000 sheets based on size 24" x 36", conforming to Specification UU-P-268.

G-1c. Stirrups shall be wrapped in pairs in No. 2 kraft paper, 60 pounds per 1,000 sheets based on size 24" x 36", conforming to Specification UU-P-268.

G-2. Packing.- Unless otherwise specified in invitation for bids, contract, or order, five (5) saddles, military, Phillips, shall be packed in a nailed wood box (inside dimensions 46-1/2" x 21-1/2" x 21-1/2") conforming to Specification NN-B-621, Style 2 or 4, except that the material used throughout the box shall be not less than commercial 1" lumber dressed two or more sides. The box shall be lined with waterproof kraft wrapping paper conforming to Specification UU-P-271, Type B. At the top of the box and at any point where two edges of the same sheet or of different sheets meet, the edges shall overlap not less than 4". The packaged girths, stirrup straps, and stirrups shall be placed at one end of the box within the space formed by the arch of the last saddle packed. Crushed paper or similar packing material shall be used to fill up voids so that the packaged parts are not free to move about, thus damaging the saddles.

For overseas shipment the box shall be reinforced with three (3) steel straps conforming to the requirements of Specification O.Q.M.G. No. 106, passing over the sides, top and bottom, one strap to be centered on the length of the box and the other two straps placed one-sixth the distance from each end.

G-3. Marking.- Unless otherwise specified in invitation for bids, contract, or order under which shipment is made, marking on each box shall conform to Specification O.Q.M.G. No. 94.

G-3a. In addition to the marking specified above, each box shall be marked to indicate the length of the girths and the length of the stirrup straps packed therein.

#### H. NOTES.

H-1. As of this date Bill of Materials No. 4-172 dated 9 November 1943, is applicable to this specification.

This Bill of Materials is for the information of the United States Government only and is not for distribution to fabricators.

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

NOTE: Unless otherwise specified in invitation for bid or purchase order, copies of this specification may be obtained at the following point:-

Jeffersonville Quartermaster Depot, Jeffersonville, Indiana.