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MODIFICATION OF McCLELLAN SADDLES.
M-1904 TO M-1928

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:-

- V-T-276 - Thread; cotton.
- 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.
- UU-P-268 - Paper; Kraft, wrapping.
- UU-P-271 - Paper; Kraft, wrapping, waterproofed.
- 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).
- 3-124 - Bronze Finish.
- 15-11 - Webbing, Linen.
- 23-2 - Stirrups, Wood, M-1940.
- 92-49 - Girth, Saddle, Mohair Cord.

A-1c. Quartermaster Corps Tentative Specifications:-

- J.Q.D. No. 177 - Buckles, Barrel Roller
- J.Q.D. No. 430 - Rivets, Belt; and Burrs.
- J.Q.D. No. 475 - Felt, woven, Saddles, Phillips' Pack and Military.
- O.Q.M.G. No. 94 - Specifications 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 Pales.

A-1d. Quartermaster Corps Drawings:-

- 1-1-1 - Stirrup, wood, M-1940 and Stirrup, wood, with Guidon Socket, M-1940.
- 1-1-36 - Saddles, McClellan, M-1904, Art., and M-1928, Cav. Illustrations.
- 1-1-37 - Saddle, McClellan, M-1928, Cav. Leather covered, with Skirts and metal trimmings.
- 1-1-38 - Saddle, McClellan, M-1904, Art., and M-1928, Cav., Leather Details.
- 1-1-44 - Straps, Stirrup; M-1904, M-1928.

1-1-62 - Girth, Saddle, Monair Cord.
4-1-36 - Buckles, Special "B".
4-1-39 - Rings - D, "B".

B. TYPE AND SIZE.

B-1. This specification covers the modification of Saddle, McClellan, M-1904, to Saddle, McClellan, M-1928.

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 hereinafter indicated.

C-1a. Leather.-

C-1a(1). Harness Leather.- Shall be russet, 12/64 inch thick, class 2(b), 50 percent grade "A" and 50 percent grade "B", conforming in all respects to the requirements described in Specification KK-L-171.

C-1a(2). Strap Leather.- Shall be russet, 10/64 inch thick, Class II, corresponding in all respects to 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 item.

C-1b. Webbing.- Shall be natural color, 5" wide, 4.6 oz. per linear yard (max.), conforming to ~~Table I~~, Specification 15-11.

C-1c. Felt.- Shall be woven, woolen felt, gray, 1/4" thick, 60 oz. per square yard conforming to the requirements described in Specification J.Q.D. No. 475.

C-1d. Thread.-

C-1d(1). Thread, 6-Cord.- May be either linen or cotton. The linen thread shall be 6-cord, natural and polished finish, vat dyed a light brown shade of color, and conform to the requirements for Type B, Table II, Specification V-T-291. The polished thread shall be used for the top thread in machine and the natural (or soft) for the bottom or bobbin thread in machine. The cotton thread shall be (heavy) 6-ply, ticket No. 8/6, vat dyed a light brown shade of color and conform to the requirements for Type IIIA and IIIB, Table IV, Specification V-T-276. The Type IIIB thread shall be used for the top thread in machine and the Type IIIA for bottom or bobbin thread in machine. The color of both linen and cotton thread shall have good fastness to laundering agents containing active chlorine.

C-1d(2). Thread, 8-cord.- May be either cotton or linen. The linen thread shall be 8-cord, natural and polished finish, unbleached, and conform to the requirements for Type B, Table II, Specification V-T-291. The polished

Thread shall be used for the top thread in machine and the natural (or soft) for the bottom or bobbin thread in machine. The cotton thread shall be (heavy) 8-ply, Ticket No. 8/8, unbleached, and conform to the requirements for Type IIIA and IIIB, Table IV, Specification V-T-276. The Type IIIB thread shall be used for the top thread in machine and the Type IIIA for bottom or bobbin thread in machine.

C-ld(3). Thread, Hand-Shoe.- Shall be linen, No. 10, vat dyed a light brown shade of color and conform to the requirements for Type C, Table III, Specification V-T-291. The color shall have good fastness to laundering agents containing active chlorine.

C-le. Wax.- The wax, russet, saddlers' shall be Type I, and the wax, russet, stitching, shall be Type II, conforming to the requirements described in Specification 2-97.

C-lf. Gum.- The gum, tragacanth, shall be what is known commercially as No. 3, flake.

C-lg. Stirrups, Wood, M-1940.- Shall be made in accordance with the requirements described in Specification 23-2.

C-lh. Girth, Saddle, Mohair Cord.- Shall be made in accordance with the requirements described in Specification 92-49. Unless otherwise specified in the invitation for bids, contract, or order, 10 percent of the girths shall be 44" long, 85 percent 47" long and 5 percent 50" long.

C-li. Buckles, 1-3/8" Barrel Roller.- Shall be made in accordance with the requirements for either Class A, B, or C, described in Specification J.Q.D. No. 177.

C-lj. Rivets, Belt, and Burrs.- The No. 10 belt rivets and burrs and the No. 8 burrs shall be made in accordance with the requirements for Class A, described in Specification J.Q.D. No. 430. The No. 8 burrs shall be countersunk.

C-lk. Wood Screws.- The 7/8" No. 6, flat head wood screws shall be made from a good commercial grade of brass, suitable for use on articles of this type. After complete fabrication the screws shall be given a bronze finish in accordance with the requirements described in Specification 3-124.

C-lk(1). At the option of the contractor substitution of an oxidized finish (blue black color) may be applied in lieu of bronze finish. The formula of this finish and method of application shall be as follows:-

Formula -

Copper carbonate	- - - - -	1 pound.
Ammonium hydroxide (commercial)	- - - - -	1 quart.
Water	- - - - -	-3 quarts.

Method of application -

Thoroughly clean article to be finished by any satisfactory commercial method. Add the water after the copper carbonate and the ammonia have been thoroughly mixed. Use at a temperature of 175° F., and immerse the work until the color is obtained (usually from 1/2 to 1 minute). There must be excess copper carbonate.

C-1L. Nails, Saddle; and Tacks.- The saddle nails and upholsterer's tacks used in modifying the saddle shall be made from steel, suitable for use on articles of this type. The heads of the saddle nails shall be capped with brass and shall be given either a bronze finish in accordance with the requirements described in Specification 3-124 or an oxidized finish as described in paragraph C-1k(1).

C-2. Workmanship.- The finished articles 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 specifications and drawings listed in Section A, and as specified in this specification.

E-2. Construction.- The construction shall be in accordance with the requirements outlined in this specification, and the design, shape and dimensions as shown on drawings listed in Section A. The following component parts are needed for the construction of one (1) saddle, M-1928 from one (1) saddle, M-1904:

- 2 Skirts (1 right and 1 left). - Shown on Drg. 1-1-38.
- 1 Girth, Saddle, mohair cord. - Shown on Drg. 1-1-62.
- 2 Girth Billets (1 right and 1 left). - Shown on Drg. 1-1-37.
- 4 Fillers (2 Front and 2 Rear) - Shown on Drg. 1-1-37.
- 2 Felt Linings (1 right and 1 left) - Shown on Drg. 1-1-37.
- 2 Stirrup Straps, M-1928. - Shown on Drg. 1-1-44.
- 2 Stirrups, Wood, M-1940. - Shown on Drg. 1-1-1.
- 4 Screws, wood, 7/8", No. 6, flat head, brass, bronze finish.
- 4 Nails, Saddle, 1/2" heads 1-1/8" long, heads bronze finished.
- 4 Burrs, No. 8, countersunk, brass, bronze finish.

E-3. Operations.- The operations necessary for the modification of Saddles, M-1904 to Saddles, M-1928 are in general as follows:

1. Remove halter squares from cantle and pommel quarter straps by cutting stitching in laps. Cut off ends of quarter straps even with the bottom edges of the side bars.

2. Rip stitching the full length on lower edges of side bars and continue around each end for approximately 3 inches and remove all cut stitches, both top and bottom.

3. Turn saddle bottom side up and fold bottom covers of side bars toward the center of saddle and secure by tacks driven into the tree..

4. Take the girth billets, fabricated as shown on drawing 1-1-37, and place them on the bottom of side bar with the leather billets up or toward the saddle seat and with center billet directly over the stirrup strap loop. The diagonal edge of the web shall be flush with the top edge of the side bar. The girth billets shall be secured to the tree with upholsterer's tacks of a size as indicated on drawing 1-1-37.

The leather, webbing, and thread used in the fabrication of the girth billets shall conform to the requirements described in paragraphs C-1a(1), C-1b, and C-1d(2), respectively.

5. Secure the front and rear fillers in place with the beveled edges away from the web as indicated on drawing 1-1-37 using 4-oz. upholsterers tacks to secure fillers to the tree.

6. Place skirts, grain side out, with the beveled edge on top of the side bar in such a position that the girth billets will be under the skirts when the saddle is in use. Secure the skirts to the tree with upholsters tacks as shown on above mentioned drawing, so as to hold skirt in place until stitching is completed.

The skirts shall be cut to the dimensions as shown on drawing 1-1-38, from leather conforming to the requirements described in paragraph C-1a(2).

7. Remove tacks driven in operation 3 and return side bar cover to its original position, thus having the skirts and girth billets between the top and bottom covers of side bars. Temporarily tack these together so as to keep in position until stitching is completed. The stitching shall be done with a wax end made of 3-cord, No. 10 shoe thread conforming to the requirements described in paragraph C-1d(3). Care shall be taken to stitch in the holes made by the previous stitching.

8. When saddles are lined with sheepskin with the wool on and it is in good condition it shall be left, but when the sheepskin is badly worn, torn or otherwise unserviceable it shall be removed and the saddles, together with all other saddles that are unlined, shall be lined with felt conforming to the requirements as described in paragraph C-1c.

The linings shall be cut to the proper size and conform to the design and shape as shown on drawing 1-1-37. Skiving shall extend back 3/4"

and down to 1/8" thick on the outer edges of the linings. After fabrication the linings shall be glued on the side bars with skived side placed next to the side bar using a good commercial grade of glue suitable for the purpose intended. The linings shall be stretched tight in all directions and held in place by temporarily tacking to the tree until stitching on felt is completed. The same stitching that secures the skirts and girth billets will also be used to secure the felt linings to that portion of the saddle. All other edges of the felt shall be pop stitched to the side bar covers, using one needle and with approximately 4 stitches per inch. The greatest care shall be exercised to see that all tacks are removed from felt linings after operation is completed.

9. After stitching is completed, turn saddle right side up, round the ends of cantle and pommel quarterstraps as illustrated on Saddle, M-1928, drawing 1-1-36, and secure them with wood screws conforming to the requirements described in paragraph C-lk. Each screw shall have under the head a No. 8, countersunk burr conforming to the requirements described in paragraph C-lj.

10. Place a saddle nail, conforming to the requirements described in paragraph C-ll, at the location as indicated on drawing 1-1-37. Use the washers, nail, saddle, previously removed, under the heads of the saddle nails.

11. Manufacture stirrup straps, M-1928, in accordance with the design, shape and dimensions as shown on drawing 1-1-44, Symbol (a). The leather used shall be in accordance with the requirements described in paragraph C-la(1). The leather used for standing loops shall be split to a thickness of 6/64 inch. Thread used for machine stitching shall be as described in paragraph C-ld(1) and thread used for hand stitching shall be as described in paragraph C-ld(3). The 1-3/8" barrel roller buckles shall be as described in paragraph C-li and the belt rivets and burrs shall conform to the requirements described in paragraph C-lj.

12. Manufacture girths, saddle, mohair cord and stirrups, wood, M-1940, in accordance with the requirements of paragraphs C-lg and C-lh.

E-4. Stitching.-- 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 for the various parts of the saddle.

E-4a. 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-4b. 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-le. The use of a cold liquid wax or prewaxed thread will not be permitted.

E-4c. * Stitch Type 201, as described in Specification DDD-S-751, shall be used for all hand stitching, except the pop-stitching used to secure the upper portions of the felt linings. The wax ends used for hand stitching shall be made of 3 cord, No. 10 shoe-thread and shall be waxed, well twisted and rewaxed with wax conforming to Type I, described in paragraph C-1e.

E-5. Finish of Leather.-

E-5a. Creasing, edging, finishing, etc., of leather shall be done in an accurate, neat and workmanlike manner. The edges of the leather shall be finished with tragacanth gum conforming to the requirements described in paragraph C-1f.

E-5b. 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-6. All rivets shall be neatly and securely set.

E-7. Marking For Identification.- Each modified saddle shall be permanently and distinctly stamped or marked in a suitable place near the bottom of both skirts with the letters "U.S." in characters 3/16" high and the name of contractor or trade name of such known character as to make source of manufacture easily determined, and the year modified in characters 3/32" high.

E-8. Samples For Approval.- Before production is commenced, unless otherwise specified in invitation for bids, contract or order a modified saddle, M-1928 shall be submitted to the contracting officer for approval.

E-9. Contractors' 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 articles covered herein shall be selected from time to time by the Government Inspector, 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 the requirements described in Specification CCC-T-191, insofar as applicable.

G. PACKAGING, PACKING, AND MARKING.

G-1. Packaging.- Unless otherwise specified in invitation for bids, contract, or order, each Saddle, McClellan, M-1928, Cavalry, shall be prepared for packing by detaching the stirrups, stirrup straps, and girth.

G-1a. Five (5) girths 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 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 not be packaged but shall be left loose.

G-2. Packing.- Unless otherwise specified in invitation for bids, contract, or order, five (5) Saddles, McClellan, M-1928, Cavalry, shall be packed in a nailed wood box having inside dimensions 35" long x 19" wide x 20-1/2" deep conforming to Style 2 or 4, Specification NN-B-621, except that the material used throughout the box shall be not less than commercial 1" lumber dressed two or more sides. The packaged girths, stirrup straps, and loose stirrups shall be placed in the vacant spaces remaining in the box. The box shall be lined with waterproof kraft wrapping paper conforming to Type A, B, or C, Specification UU-P-271. 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".

G-2a. Not less than one-quarter pound of naphthalene flakes of good commercial grade shall be sprinkled in each box as it is packed.

G-2b. For overseas shipment, each box shall be reinforced with two (2) steel straps in accordance with the requirements of Specification O.Q.M.G. No. 106.

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.

H. NOTES.

H-1. As of this date Bill of Materials No. 4-175, dated 4 December 1943, for materials for modification of McClellan Saddles M-1904 to M-1928 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.

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NOTE: Unless otherwise specified in invitation for bids, copies of this specification may be obtained from the following point:

Jeffersonville Quartermaster Depot, Jeffersonville, Indiana.