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SPECIFICATION ARMY(AUST) 71

FOR

TRAILER, CARGO, LIGHT GS

ISSUE 5

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2.


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Pattern Endorsed

13 Aug 80

Approved for Production/
 Procurement

18 Aug 80


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3.

1. SCOPE

This specification covers a two wheeled cargo trailer of $\frac{1}{2}$ ton (short ton) rated capacity.

2. APPLICABLE DOCUMENTS

Reference is necessary to the latest issue of each of the following documents:

2.1 Specifications

Army(Aust)65 - Cable, Electric, 10 core, Intervehicle

Army(Aust)96 - Reflectors, Round, Large, Red.

These Specifications are available from the Head, Engineering Development Establishment, Private Bag No 12, PO ASCOT VALE, Victoria. 3032.

GPC-E-21/2 - Enamel, Lustreless, Olive Drab.

This specification is available from the Secretary, Government Paint Committee, Private Bag No 50, PO ASCOT VALE, Victoria 3032.

DEF(AUST)135 - Connector, Plug, Electrical and Connector, Receptacle, Electrical (12 Pin, Trailer Connection).

DEF(AUST)206 - Handbook of Liquid Fuels, Lubricants and Allied Products.

These specifications are available from the Technical Information Centre, Technical Services Branch, Department of Productivity, 69/71 Little Oxford Street Collingwood, Victoria 3006.

2.2 Standards

AS K185 - Colours for Specific Purposes.

AS 1554 - SAA Code for Welding in Building

AS 1204-1972 - Structural steels - Ordinary Weldable Grades.

AS B133 - Unified Screw Threads.

AS K132 - Electro-plated Coatings on Threaded Components.

These standards are available from the Standards Association of Australia in all capital cities.

2.3 EMEI's

Vehicle H117-5, -7, and -9. These EMEI's cover various modifications to subject trailer. Copies are available from Maintenance Engineering Agency (Support Group), Camp Road, BROADMEADOWS, VIC, 3047.

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2. (cont'd)

2.4 Drawings

- | | | |
|-----------------|---|---|
| ADE(V)51 Series | - | Trailer, Cargo ½ Ton. |
| ADE(M)24-2 | - | Cleaning, Pretreatment and Painting of Metal. |
| ADE(V)5-16 | - | Registration Plate, Mounting Details. |
| ADE(V)43-1 | - | Unit/Formation Sign Holders. |

These drawings are available from the Head, Engineering Development Establishment, Private Bag No 12, PO ASCOT VALE, Victoria 3032.

2.5 Publications

VCEPS Draft Regulations

These regulations are available from the Australian Motor Vehicle Standards Committee, Department of Shipping and Transport, 497 Collins Street, Melbourne Victoria 3000.

Commonwealth Paint Committee List of Approved Products

This publication is available from the Secretary, Commonwealth Paint Committee.

Tyre and Rim Standards Manual of the Tyre and Rim Association, Australia

This standard is available from the Secretary, Tyre and Rim Association of Australia, 192 King Street, Melbourne, Victoria 3000.

3. DEFINITIONS

- 3.1 "Quality Assurance Authority (QAA)". The organisation nominated as having the responsibility for the Quality Assurance and Technical Acceptance for the particular contract.
- 3.2 "Quality Assurance Representative (QAR)". The person nominated by the QAA to act in respect of the Quality Assurance and Technical acceptance provisions of the contract.
- 3.3 "Approved" shall mean approved by the QAR.

4. REQUIREMENTS

4.1 General

- 4.1.1 The trailer shall be manufactured to the requirements of this specification, the ADE(V)51 Series of drawings and those EMEI's detailed in para 2.3 above.

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4. (cont'd)

- 4.1.2 The trailer, on delivery, shall be in a "ready for road" condition. The wheel bearings shall be packed with XG274 grease. (See DEF(AUST)206).
- 4.1.3 The complete trailer shall comply in all respects with VCEPS Draft Regulations.

4.2 Construction

- 4.2.1 The trailer chassis shall consist of a tubular main member: Four cross members are welded to the main member.
- 4.2.2 The extremities of the two central cross members shall each support one longitudinal auxiliary tubular member; these longitudinals support the suspension assembly.
- 4.2.3 The cargo body shall be a waterproof container of all welded construction and shall be manufactured from 14 gauge steel
- 4.2.4 The container shall be bolted to the chassis.
- 4.2.5 The wheels shall be one-piece incorporating a 16 by 5.50F (H) drop centre rim as specified in the Tyre and Rim Standards Manual and a heavy duty centre disc with 1½ inch offset, 4½ inch bore and 5 holes on 6.500 pitch diameter for 9/16 inch studs.
- 4.2.6 The tyres shall be light truck and utility tyres, 7.50 by 16 Tyrex cord, 6 ply rating, with butyl tubes. The tyre treads shall be non-directional cross country pattern, eg. Goodyear "All Service", Olympic "Pattern 31", or similar approved pattern and make.
- 4.2.7 All lubricating nipples shall be the straight pattern type and shall be threaded ½ British Standard Pipe; the tips shall be the hydraulic type.

4.3 Electrical Equipment

- 4.3.1 The trailer electrical equipment shall operate from a 12 volt direct current source.
- 4.3.2 The wiring to all the trailer lights shall terminate at a terminal board (DSN 5940-99-972-9933). A 10 core cable (to Army(Aust)65) complete with a 12 pin plug (toDEF(AUST) 135) shall be fitted to the trailer.
- 4.3.2.1 The cable shall terminate at terminal board and shall extend 3 feet beyond the end of the towing eye.
- 4.3.2.2 The wiring shall be as detailed in the ADE(V)51 Drawing Series.

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4.4 Patterns and Tooling

4.4.1 Reserved

4.5 Materials

- 4.5.1 All materials shall be as specified. Where the material is not specified, it shall comply with the relevant Australian or British Standard where such exist or, in their absence, to an approved standard.
- 4.5.2 All bolts, nuts and set screws used for the construction of the trailer shall have Unified Threads in accordance with AS B133 and shall have the minimum strength requirements of SAE grade 5. All bolts, nuts and set screws shall be Cadmium plated to AS K132.
- 4.5.3 All steel members shall be made from steel in accordance with AS 1204.

4.6 Workmanship

- 4.6.1 Workmanship shall be in accordance with the best trade practice and shall be to the satisfaction of the QAR.
- 4.6.2 The preparation for, and the application of, all metallic arc welding shall be in accordance with AS 1554.
- 4.6.3 The preparation of surfaces for painting and the painting process shall be in accordance with drawing No ADE(M)24-2. The cleaning treatment used shall be either process 1, 2, 4, 5, 6, or 9. The primer coat process shall be 21 and the undercoat process 31.
- 4.6.4 The following colours shall be used:
- | | | |
|-------------------------------------|---|--|
| Undercoat | - | Light Grey to AS K185 Colour No 631 |
| Finishing coat on exterior surfaces | - | Lustreless Enamel, Olive Drab. (to GPC-E-21/2) |

4.7 Tendering

- 4.7.1 The Tenderer shall submit samples of all components and all materials designated as approved components or materials. Alternatively, the Tenderer shall state the source of supply in sufficient detail in order that the components and materials can be readily checked or recognised.

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4.7 (cont'd)

- 4.7.2 Should the Tenderer desire to depart in any manner from the requirements of this specification, he shall detail the variation in his tender, and shall include a statement of the advantages to be gained by its adoption.
- 4.7.3 Tenders, which are not accompanied by the information asked for above, may be rejected without further consideration.

4.8 Warranty

- 4.8.1 A copy of the warranty shall be supplied with each trailer for insertion in the Army Vehicle Log Book with a list of State agents who shall honour the warranty. The contractor for each chassis shall be responsible for honouring the warranty whether he is the manufacturer or not of the part(s) or items concerned.
- 4.8.2 Tenders shall contain the following minimum warranty clauses:
- a. The trailer supplied under this Specification shall be guaranteed against defective materials, or workmanship for the first 20,000 km or twelve months in use, whichever occurs first after date of delivery.
 - b. The chassis shall operate satisfactorily on current grades of lubricants as listed in DEF(AUST) 206 and the warranty shall not be invalidated by the use of such grades.
 - c. If the trailer is delivered into store for long term storage, the operation of the Warranty shall be suspended for up to two years.
 - d. If the trailer is withdrawn from storage before expiration of two years, the guarantee shall be on a pro-rata basis. The guarantee shall range from 20,000 km/12 months if the trailer is issued in the first month to 5000 km/3 months if the trailer is issued to the user in the 24th month. The guarantee shall finally expire after 27 months.
 - e. In the event of failure of any part or parts during these periods, the affected part or parts shall be replaced or repaired promptly by the state agent if within 40 km.

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- f. When the part or parts are to be provided for the trailer at a greater distance than 40 km from a State agent, the part or parts shall be delivered to the designated unit or Agent nominated by the Army. Installation of the part(s) shall be by Army tradesmen or the nominated agent.
- g. All replacements shall be supplied free of charge and without extra costs (eg. installation, transportation costs) to the Commonwealth.

4.8.3 As an alternative to providing a warranty cover with his trailer the tenderer is required to state the cost reduction on unit price he will give for the non supply of:

- a. Warranty/guarantee
- b. Pre-delivery service

5. QUALITY ASSURANCE PROVISIONS

- 5.1 The official tender invitations and contract shall nominate the Quality Assurance Authority, the conditions of inspection and the requirements for contractor's Quality Control.
- 5.2 The Contractor shall perform, or have performed, the examinations and tests necessary to substantiate that the supplies and/or services conform to the requirements, as specified herein, and shall offer for acceptance only supplies and/or services that conform to these specification requirements.
- 5.3 The Quality Assurance Authority reserves the right to perform, or have performed, any examinations or tests deemed necessary to ensure that supplies and/or services conform to the contract and specification requirements.
- 5.4 The acceptance of all supplies and/or services shall be subject to agreement, by the Quality Assurance Authority, that the quality requirements of the contract and specification have been fulfilled. The Quality Assurance Authority reserves the right to reject any supplies and/or services which, in its opinion, are inferior in quality of materials or workmanship, or differ in any respect from the contract and specification requirements.
- 5.5 The minimum examination and tests necessary for proof of conformity are detailed in Annex A.

6. PREPARATION FOR DELIVERY

6.1 Packaging

Packaging shall be as designated in the Tender Schedule or Official Order.

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7. NOTES

7.1 Named Trade Items

A named trade item called up in this Specification and reference documents may be replaced by an approved equivalent.

7.2 Ordering Data

7.2.1 Procurement documents should specify the following:

- a. Title, number, issue and date of this Specification.
- b. Details of the type of packaging to be used by the Contractor.
- c. Details of the options that are to be called up in the Official Order.
- d. Details of items which shall be supplied as GFE by the Army.
- e. The Quality Assurance Authority.

7.3 Changes to Pattern

7.3.1 Requests for changes to the design of an item, materials, components, fabrication methods or manufacturing techniques called up in specifications, approved drawings or sealed samples shall be made by means of the following procedures as appropriate:

- a. Production Permit. Permission in advance of manufacture to use materials or methods to make items which differ from the approved pattern. It is limited in application to cover a specific quantity, lot, series or batch of materials or items.
- b. Production Concession. A request to use or release a specific quantity, lot, series or batch of materials, components or stores already made but which do not comply strictly with approved pattern.
- c. Pattern Change Request. A request for a change in the design of an item, materials, components, fabrication methods or manufacturing techniques.

7.3.2 In the above procedures the Contractor shall pass relevant details on the correct form to the Quality Assurance Authority together with samples and test certificates as appropriate.

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7.3.3 The Quality Assurance Authority shall pass to the Contractor in writing the outcome of any production permit/concession or pattern change request before the Contractor may incorporate or proceed with the proposed change.

7.4 Adherence to Specification

7.4.1 The approving authority for this Specification is the Director General of Materiel on behalf of the Chief of Materiel, Department of Defence (Army Office). No departure from this Specification or associated specifications will be approved by the Director General of Materiel, unless, by reason of the acceptance of a tender, full details of approved alternatives are incorporated in an eventual Contract. Copies of this Specification may be obtained from:

Head,
Engineering Development Establishment,
Private Bag No 12, PO
ASCOT VALE VICTORIA 3032

TRAILER, CARGO, LIGHT GS

TESTS

1. Outline

- 1.1 This Annex outlines the tests to be performed on a sample Trailer Cargo, Light GS selected at random by the QAR and on each production run equipment submitted in satisfaction of the order.

2. Procedure

- 2.1 Unless exempted (a) by specific clauses in the contract/ official order which state that tendered certification of compliance is accepted or (b) that a trailer identical in all respects to that now tendered or submitted has previously been inspected, tested and accepted by the QAR to this issue of the Specification then the following tests and determinations shall be performed. The QAR shall be present during the conduct of all tests and determinations.

2.2 Sample Equipment Road Testing

- 2.2.1 The sample trailer laden with an evenly distributed load of $\frac{1}{2}$ ton shall be coupled to a Truck Light GS and subjected to a minimum road trial of:

- a. 50 km of first class roads.
- b. 50 km of formed unsealed roads.

at speeds where practicable up to that allowable by the State laws and governed by the capabilities of the towing vehicle.

2.3 Cross Country Tests

- 2.3.1 The trailer laden as described above shall be towed for a minimum of 20 km over cross country terrain at speeds up to the capabilities of the Truck Light GS when safety permits.

2.4 Brake Tests

- 2.4.1 During the road test the combined Truck/Trailer shall be checked for correct brake operation with a least two panic stops being performed while travelling on first class roads.

2.5 Approved Sample

- 2.5.1 When the QAR is satisfied that the sample trailer is representative of the contract requirement and has successfully passed the above tests, the trailer shall be called the approved sample, and held as a quality reference for the remainder of the contract, and shall be delivered with the final shipment of trailers for the contract concerned.

3. Production Run Trailers

- 3.1 After approval by the QAR of the sample, each production trailer shall be submitted to a minimum of 8 km of road testing on first class roads laden with a $\frac{1}{2}$ ton evenly distributed load. During the road tests the correct operation of lights, and running gear shall be checked. Fault or failure of any part shall be reason for non-acceptance.

4. Test Results

- 4.1 The results of all tests and determinations on the sample equipment shall be recorded and a copy of all records retained by the QAR.