

प्रमाणित प्रतिलिपि  
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Specification No. IND/GS/1561

भारत सरकार  
रक्षा मंत्रालय  
गुणता आश्वासन महानिदेशालय  
GOVERNMENT OF INDIA  
MINISTRY OF DEFENCE  
(DQQA ORGANISATION)  
SPECIFICATION

FOR

CANOPY RIGGING LINK DETACHABLE PTR-M  
D. S. Cat. No. 1676 - 000326

ISSUED BY

नियंत्रक  
गुणता आश्वासन निदेशालय (सामान्य वस्तु )  
रक्षा उत्पादन तथा आपूर्ति विभाग  
रक्षा मंत्रालय  
(गुणता आश्वासन महानिदेशालय)  
पोस्ट बॉक्स संख्या 127  
कानपुर 208 001

CONTROLLER  
CONTROLLERATE OF QUALITY ASSURANCE (GENERAL STORES)  
DEPARTMENT OF DEFENCE PRODUCTION & SUPPLIES  
MINISTRY OF DEFENCE (DQQA)  
POST BOX No. 127  
KANPUR - 208 001

PRICE : Rs. 90/-

YEAR : 1998

FOR CONTROLLED  
INFORMATION  
CONTROLLERATE OF QUALITY ASSURANCE (DQQA)  
POST BOX No. 127, KANPUR  
DQQA ORGANISATION


28/6/01

Post No. 127, Kanpur



CONTENTS

Srl No.	Contents	Page No.
0.	Foreword	1,2
1.	Scope	2
2.	Related Specifications / References Drawings and Sketches	2
3.	Standard Pattern	3
4.	Materials	3
5.	Processing	3
6.	Dimensions and Tolerances	3,4
7.	Workmanship and finish	4
8.	Pre-inspection of Supplies by producer	4
9.	Quality Assurance	4
10.	Sampling Procedure	4
11.	Scale of Sampling	4
12.	Criteria for conformity	3,6
13.	Marking	7
14.	Packaging	7,8
15.	Technical Literature/Documents	9
16.	Warranty	9
17.	Drawings/Sketches	9
18.	Suggestions for improvement	9

  
 DR. CONTROL  
 जिला कारखाना निगराना (राजस्थान)  
 Directorate of Quality Assurance  
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 जयपुर नि. 121, राजस्थान

0.0 FOREWORD

0.1 This specification has been prepared by Controllerate of Quality Assurance (General Stores), Kanpur on behalf of the Director General Quality Assurance, Ministry of Defence, New Delhi.


0.2 This specification supersedes unsealed specification No. COA(GS)/US/371.

0.3 This specification shall be used to guide procurement, manufacture & Quality Assurance of the store for which it is intended.

0.4 The Quality Assurance Authority for the store covered by this specification is the Controller, Controllerate of Quality Assurance (General Stores), P.B.No.127, Kanpur-208 001. Enquiries regarding this specification related to technical or any other contractual conditions shall be referred to the Quality Assurance Authority named in the purchase document viz. tender or contract.

0.5 This Specification is a live document and is, therefore, likely to undergo changes. Any major change in design should have the approval of General Staff/Users, financial concurrence in the form of DGOA approval. Thus, it may involve some price difference. Therefore; a specification issued holds good only for the supply order for which it is issued.

0.6 Copies of any other reference documents such as specification/drawing/instructions/guides etc. can be obtained on payment from the addresses as shown below :-

Specification	Source
I.S. Series  Director General Bureau of Indian Standards, Manak Bhawan 7, Bahadur Shah Zafar Marg, NEW DELHI-110 002. Or its Regional Offices at Mumbai, Calcutta, Chennai and Kanpur. Or their Regional Establishments	
IND/GS/series JSS & Supple. Schedule in COA(GS)/SS. Series The Controller, Controllerate of Quality Assurance (GS), PB No.127, KANPUR-208 001.	1. Sr. Quality Assurance officer S. Q. A. Estt.( GS ) Hastings, CALCUTTA - 700 022.
IND/SL series The Controller, Controllerate of Quality Assurance (Materials), PB.No.229, KANPUR- 208 001.	2. Sr. Quality Assurance officer S. Q. A. Estt.( GS ) DGOA Complex, LBS Marg Vikhroli, MUMBAI - 400 083.
IND/TC series The Controller, Controllerate of Quality Assurance (T&C), PB No 294, KANPUR-208 001.	3. Sr. Quality Assurance Officer S. Q. A. Estt.( GS ) P. B. No. 307, KANPUR-208 001.
IND/CL series for petroleum products (if required). The Controller, Controllerate of Quality Assurance (petroleum produ- cts), P.B. No.244, KANPUR-208 001.	4. Sr. Quality Assurance Officer S. Q. A. Estt ( GS ) DGOA Complex, Pazhavanthangal, CHENNAI - 600 114.

DMSRDE series The Director,  
(if required) DMSRDE, BT Road,  
KAMPUR-208 013.

5. Sr. Quality Assurance Officer  
S. D. A. Estt(68), Anand Parbat  
NEW DELHI-110 005.

6. Sr. Quality Assurance Officer  
S. D. A. Estt(68),  
Shahjahanpur - 242 001.

## 1.0 SCOPE

1.1 This specification covers the requirements of Canopy Rigging Link Detachable PTR-M (DS cat No. 1670-000320 and provides guidance to contractors / suppliers, manufacturers, quality assurance agencies and stockists/Indentors etc.

## 2.0 RELATED SPECIFICATIONS AND DOCUMENTS

Srl.No.	Specification No.	Title / Subjects
(a)	IS:1570-1961 (Amdt.5) (Reaffirmed-1993)	Schedules for wrought steel for general Engineering purposes.
(b)	IS:1068-1993 (Third Revision)	Electroplated Coatings of Nickel plus Chromium and Copper plus Nickel plus Chromium on Iron and Steel.
(c)	IS:2102-1993 (Pt-1) (Third Revision)	General Tolerances: Tolerances for linear and angular dimensions without individual tolerance indications.
(d)	IS:2500(Pt-I)-1992 (Second revision)	Sampling Inspection procedures: Attribute Sampling plans indexed by Acceptable Quality Level (AQL) for lot-by-lot inspection.
(e)	IS:2771 (Pt-I)-1990 Second Revision, Amdt No.1	Fibre Board Boxes, Corrugated Fibre Board Boxes.
(f)	IS:3748-1990 (2nd revision) Amdt No.1	Tool & die Steels.
(g)	IS:4195-1989 (1st Revision) & Supp Sch NoCIS/SS/185(b)	Adhesive Paper tapes.
(h)	IS:4905-1968 (Amdt. 1) (Reaffirmed-1991)	Methods for Random Sampling.
(i)	JSS:8115-1 with Amdt No.1 & SS No. CIGS/SS/27(e)	Boxes Rigid collapsible covered Type 'D'.
(j)	JSS:9330-02 with Amdt List No.1 & CIGS/SS/313(a)	Polythene film.
(k)	IND/68/1683(a)	Polypropylene Strapping (0.55 mm thick x 12 mm width)
(l)	JSS:7530-1 (Aug-86) with SS No. CQA(68)/SS/427	Label Carton 50 mm x 25 mm
(m)	Bursting Strength 775 KPa	Label Card Board 45 x 25 mm with

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भारतीय मानक ब्यूरो (BIS)  
Cooperative Quality Assurance (CQA)  
B-12, Sector-11, Gurgaon  
Distt. Gurgaon, Haryana

## 3.0 STANDARD PATTERN

3.1 Standard pattern of Canopy Rigging Link Detachable PTR-M (Ds Cat No. 1670-000320) held by the Controllerate of quality assurance (General Stores), Post Box No.127, Kanpur shall constitute the standard as regards any particulars or properties, not noted or defined in this specification.

## 4.0 MATERIAL

4.1 The item shall be manufactured from the following materials :

Sr1 No.	Store/component	Material & Grade if any	Specification
(a)	Complete Store	(a) 40Cr1M02B	Schedule IV of Table
		or	XXI of IS:1570-1961,
		(b) 40Cr1M060	Amdt No.5 Reaff-1993
		or	
		(c) T 40Ni2Cr1M02B	Schedule VI of Table
			XLVII of IS 1570-1961,
			Amdt No.5 Reaff-1993.

Note:- Sulphur & phosphorus should not exceed 0.04% each.

4.2 Test certificates of materials from recognised laboratories shall be obtained showing physical and chemical properties if the manufacturer does not have his own laboratory.

4.3 Material utilised for the manufacture of the store shall be free from decarburization.

## 5.0 PROCESSING

5.1 Canopy Rigging Link Detachable (PTR-M) DS Cat No.1670-000320 shall be manufactured to the shape and design as shown in the relevant plate attached to this specification.

5.2 Heat Treatment : All the Canopy Rigging Link Detachable PTR-M shall be heat treated to ensure that

- ✓(a) A tensile strength of 119.5 Kg/sq mm to 133.5 Kg/sq mm is achieved.
- ✓(b) All Canopy Rigging Link Detachable (PTR-M) have a hardness of 360-410 VHN.
- ✓(c) All Canopy Rigging Link Detachable (PTR-M) satisfy the proof load requirements.
- (d) Optimum micro structure & other mechanical properties in relation to the requirements at (a) above are achieved.

5.3 Plating : The Canopy Rigging Link Detachable (PTR-M) shall have a plating conforming to service condition No. 3 classification Code Fe/Cu15 Ni25 PCrr of table 1 B to IS:1068-1993 (Third Revision). The plating shall conform to clause 7.3 Adhesion and Clause 7.4 Corrosion Resistance to IS 1068-1993 (Third Revision).

5.4 Leg, Hot Forged and Normalized after forming.

## 6.0 DIMENSIONS AND TOLERANCES

## 6.1 DIMENSIONS

6.1.1 The store shall conform to the dimensions and tolerances as shown in the plate attached to this specification.

AS FROM  
FOR DELIVERY  
(3) CONTROLLERATE OF QUALITY ASSURANCE  
Box No. 127, KANPUR

6.2 Tolerances as specified in Drawing Sheet 2 of 2 attached with this specification.

#### 7.0 WORKMANSHIP AND FINISH

7.1 General Workmanship and finish shall be similar to that of sealed/certified samples held by the AHSP.

7.1.1 Legs should be smooth and free from fins and pits, remove all burr from screws.

7.1.2 Surfaces marked V to have 32 VRMS.

7.2 The general workmanship and finish shall be of a high standard and similar to sealed pattern.

#### 8.0 PRE-INSPECTION OF SUPPLIES BY THE PRODUCER

8.1 ADVANCE SAMPLE : If required the manufacturers shall submit three advance samples of acceptable quality fabricated from specified material for approval by CQA(6S) prior to commencement of bulk production.

8.2 Manufacturers/contractors must satisfy themselves first that the store manufactured are in accordance with the contract and fully conform to the specification, by carrying out thorough pre-inspection of each lot/batch before actually tendering the same for inspection to the Quality Assurance Officer nominated under the terms of the contract.

8.3 A declaration by the Contractor that necessary pre-inspection tests have been carried out on the stores tendered and the same are fit for inspection and test, shall be rendered along with the challan. The declaration shall include the method followed in pre-inspection showing features checked/tested.

#### 9.0 QUALITY ASSURANCE

9.1 Examination of samples taken from any portion of the consignment or during surveillance inspection, shall conform to the requirement when tested in accordance with the methods mentioned against each in this specification.

9.2 Control samples shall be forwarded to CQA(6S) Kanpur from bulk supplies to check/monitor the quality whenever required.

#### 10.0 SAMPLING PROCEDURE

10.1 The suppliers shall arrange the units of the homogeneous lot in such a way that all the units are easily accessible to the Quality Assurance Officer to enable him to draw samples from any portion of the homogeneous lot.

10.2 Sampling of stores shall be done adopting appropriate sampling method as per IS:4905-1968 Amdt.1 (Reaffirmed-1991) so that samples drawn as per Table I and II given for assessing various quality requirements, are truly representative of the lot.

#### 11.0 SCALE OF SAMPLING

11.1 The number of sample units to be drawn for assessing the quality of the store, characteristic wise, should be in accordance with the Table I for dimensional/non destructive/visual inspection and Table II for detailed laboratory testing.

## 12.0 CRITERIA FOR CONFORMITY

12.1 All the sample units as specified in Table I and II are required to be tested / inspected irrespective of the rejection number ( $= Ac+1$ ) being achieved earlier.

12.2 The Quality Assurance Officer shall draw samples as per Table I for dimensional/nondestructive/visual inspection to assess the quality of the lot. If the quality of the lot indicates conformity to the standard as laid down in Table I, sampling for laboratory testing will be done. Otherwise the lot shall be straightway rejected.

### 12.3 Sampling for Laboratory Testing

12.3.1 If the lot is considered conforming to the quality standards as specified in Table I, sampling for laboratory tests shall be carried out as per Table II and the samples shall be subjected to the laboratory tests.

### 12.4 Bulk Sentencing

12.4.1 If the laboratory test report indicates that the lot does not conform to the standards as specified in table II, the whole lot shall be rejected.

12.4.2 The lot shall be considered conforming to the specified quality if the number of defective units observed in the sample is not more than the respective acceptance number of each class of defects.

12.4.3 When the sample size equals to the lot size, do 100% Quality Assurance.

12.4.4 The number of sample units to be sampled for laboratory testing should be a multiple of the number of Characteristics / tests which can not be carried out simultaneously on the same sample units.

### 12.5 Sampling and Formation of Lot

12.5.1 The delivery shall be visually inspected by the Quality Assurance Officer at the spot in the first instance to ascertain its homogeneity in respect of nature, size, shape, source and year of manufacture. If it is homogeneous, the delivery shall be treated as one lot. If not, it shall be segregated by the supplier into separate groups so that each group which is homogeneous within itself forms a lot.

### 12.6 Sampling Tables

Table I  
Sampling plan for visual inspection  
(Based on general inspection level II AQL-4 %)

Lot Size	Sample Size (n)	Acceptance Number (Ac)
Up to 50	8	1
51 to 90	13	1
91 to 150	20	2
151 to 280	32	3
281 to 500	50	5
501 to 1200	80	7
1201 to 3200	125	10
3201 to 10000	200	14

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Box No. 127, KANPIT



Table II  
Sampling plan for Laboratory Testing  
(Special Inspection Levels S-2 and S-3) AQL 4%

Lot Size	Sample Size (n)		Acceptance Number (Ac)	
	S-2	S-3	S-2	S-3
Up to 50	3	3	0	0
51 to 90	3	5	0	0
91 to 150	5	5	0	0
151 to 280	5	8	0	1
281 to 500	8	8	0	1
501 to 1200	8	13	0	1
1201 to 3200	8	13	1	1
3201 to 10000	8	20	1	2

Note : i) When the sample size equals lot size do 100 % inspection/non destructive testing with zero acceptance number.

ii) The rejection number (Re) will always be one more than the acceptance number (Ac).

iii) Level S-2 for Chemical tests (Individual Sample to be tested).

iv) Level S-3 for Physical tests (Individual Sample to be tested).

Source - IS:2500(PT-1)-1992(2nd Revision):(Sampling Inspection Procedures).

12.7 Test Methods

12.7.1 Physical tests : Design, shape and dimension.

12.7.2 Chemical tests : Chemical Analysis, thickness/amount of plating/coating.

Plating : As per Clause 5.3 under the Processing, laid down in this specification.

12.7.3 Performance Test :

12.7.3.1 PROOF LOAD TEST : 100% of the Canopy Rigging Link Detachable (PTR-M) shall be load tested after finishing and prior to plating to the proof load of 13344 N specified in the drawing. The load shall be applied gradually to the Canopy Rigging Link Detachable (PTR-M) required to be tested and shall be maintained at the proof load specified for a period of not less than 10 seconds. It shall be examined after testing for any sign of permanent set or damage.

12.7.3.2 100% of the Canopy Rigging Link Detachable (PTR-M) may again be subjected to proof load test after plating and they shall satisfy the proof load test requirements.

12.7.4 CRACK DETECTION TEST : There shall be no cracks in the heat treated and finished canopy Rigging Link detachable PTR-M after proof loading. All Canopy Rigging Link Detachable PTR-M required to be proof load tested shall be tested for cracks after finishing and prior to plating. The crack detection will be done by the use of suitable magnetic Crack detector. The Complete magnetic crack detection equipment shall be subjected to the approval of the inspector after crack detection test. The Canopy Rigging Link Detachable (PTR-M) shall be fully demagnetized by the supplier.

FOR CONTROLLED  
 कर्मचारी नियंत्रित एवं प्रमाणित सामग्री  
 (Controller of Quality Assurance)  
 18/02/2021  
 Page No. 17, KANPUR

13.0 MARKING

13.1 Marking by the supplier

13.1.1 The store shall be legibly and indelibly marked on the innerside of the tubular centre in between marked with :

- (a) Manufacturer's name, initials or recognised trade mark.
- (b) The year of manufacture.
- (c) D. S. Catalogue number of the store.

13.2 Marking by the Quality Assurance Officer

13.2.1 Each accepted store shall be legibly and indelibly marked using stencil plate or Rubber / Steel stamp of letter size 6 mm depending upon the size of the store/component adjacent to firm's marking.

13.2.2 In case of small components, where steel stamping or stencilling is not possible, the rubber acceptance mark shall be stamped on individual packages containing the items for this purpose, each package shall be sealed by a continuous piece of gummed tape such that ends overlap each other. Acceptance marks shall be affixed on the joint of the tape end partly covering the package.

13.3 The final rejections may be marked by Quality Assurance Officer by stamping the letter 'X' on both sides of the manufacturer's marking thus :

1670-000320  
X M ----- & CO X  
1998

14. PACKAGING

14.1 Packing Materials

- (a) Corrugated Fibre Board Boxes 5-Ply construction
- (b) Adhesive Paper Tapes 25 mm wide
- (c) Boxes Rigid Collapsible Covered Type "D"
- (d) Polythene Film of 0.04 mm thickness (Low density bag).
- (e) Polypropylene Strapping (0.55 mm thick x 12 mm width)
- (f) Label Carton 50 mm x 25 mm
- (g) Label Card Board 45 x 25 mm with tie-on-tag.

Conforming to

IS:2771 (Pt-I)-1990,  
Second Revision, Amdt No.1

IS:4185-1989 First Revision  
& Supp Sch No. CI6S/SS/185(b).

JSS:8115-1 with Amdt. No.1.  
& Supp Sch No. CI6S/SS/27(e).

JSS:9330-02 with Amdt. List No.1  
& SS No. CI6S/SS/313(a).

IND/65/1693(a).

JSS:7530-1 (Aug-86) with SS  
No. COA(GS)/GS/427.

Bursting Strength 775 KPa.

Signature of the Quality Assurance Officer  
Signature of the Quality Assurance Officer  
Signature of the Quality Assurance Officer  
Signature of the Quality Assurance Officer

14.2 Method of packaging

14.2.1 Each Canopy Rigging Link Detachable PIR-M shall be individually packed in polythene bag 0.04 mm thick of suitable size and heat sealed. 20 (twenty) such packs shall be kept in one carton of suitable size i.e Boxes Rigid Collapsible Covered Type 'D' and duly sealed with Tape Paper Brown gummed 25 mm width and stamped with acceptance mark of 12 mm size. Such boxes or cartons shall be packed in a Corrugated Fibre Board Box (5 Ply-construction) of suitable size. Then each box shall be strapped with polypropylene strap widthwise at two places and length wise at two places. Each carton 50 x 25 mm bearing, D.S. Cat. No., Nomenclature, Qty packed and year of manufacture.

14.2.2 One item in each Boxes Rigid Collapsible Covered Type 'D' shall be tied with a label Card Board 45 x 25 mm bearing D. S. Cat No. and Nomenclature of the store.

14.2.3 Each final package shall be strapped width wise at two places and length wise at two places as mentioned below :

- (i) Corrugated Fibre Board, Box 5 Ply - Polypropylene Strapping.

Note :- (i) The Polypropylene strappings are further sealed with a crimped metal seal or permastel seal.

14.2.5 Mass of any Corrugated Fibre Board, Box 5 Ply shall not exceed 20 Kg. In order to maintain the limit of mass, the number of items in the package may be altered at the discretion of the OAO.

14.3 Marking on package case:-

14.3.1 Each final package shall be legibly and indelibly marked as under :

(a) Front and Top

- i) D.S.Cat.No. and Designation of the store.
- ii) Quantity packed preceded by the abbreviation 'QTY'.

(b) Back

- i) Name and address of the consignee as given in the contract.
- ii) Mass of the package in Kilogram preceded by the abbreviation 'Kg'.
- iii) Number of the individual package and total number of packages in the consignment i.e. 1 of 4, 2 of 4, 3 of 4 and 4 of 4 when the consignment consists of 4 packages.

(c) Left end

- i) Consignor's name, initials or recognised Trade Mark.
- ii) Month and year of packing.
- iii) A/T, S/O or Extract No. and Date.
- iv) I/Note No. and Date.

FOR CONTRACTS  
भारतीय मानक संगठन (भारत)  
(B) Directorate of Quality Assurance  
एन ३२ ६६३-१२/१९९१  
एन ३२ ६६३-१२/१९९१

15.0 TECHNICAL LITERATURE / DOCUMENTS

15.1 Illustrated spare parts list History sheet/maintenance manual shall be supplied with each store wherever required/demanded.

16.0 WARRANTY

16.1 Stores supplied against this specification shall be deemed to bear the warranty of the contractor against defective design material, workmanship and performance for a period of 24 months from the date of receipt of store at consignee end, and if during the specified period, the store supplied are found to be defective, the same shall be replaced immediately with serviceable store by the contractor at site free of any charges as may be decided by the purchasing officer, on recommendation of consignee/Quality Assurance Authority.

17.0 DRAWING / SKETCHES

Sl.No.	Sheet No.	Detail No.	Component/Assembly
1.	1 of 2	-	Assembly & detail of leg.
2.	2 of 2	-	Screw

18.0 SUGGESTIONS FOR IMPROVEMENT

18.1 This specification is a live document and subject to change/updating. Any suggestions for improvement of this document may be sent to the Controller, CQA(65) Kanpur.

CONTROLLER

CONTROLLERATE OF QUALITY ASSURANCE (65)

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KANPUR - 208 001

*[Handwritten Signature]*  
25/6/01

FOR CONTROLLER  
POST BOX NO. 127, KANPUR  
Controller of Quality Assurance (65)  
IND 65-1-127-1-01  
Post Box No. 127, KANPUR.

(9)

*[Handwritten Signature]*  
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