

GOVERNMENT OF INDIA  
MINISTRY OF DEFENCE  
DIRECTORATE GENERAL OF QUALITY ASSURANCE



SPECIFICATION  
FOR  
NIV- Knife All Purpose  
SIDA 2224 6 0000044

(This specification is broad based and requires separately the stipulation  
of specific design & dimensions)

ISSUED BY  
CONTROLLER  
CONTROLLERATE OF QUALITY ASSURANCE (GENERAL STORES)  
DEPARTMENT OF DEFENCE PRODUCTION & SUPPLIES  
MINISTRY OF DEFENCE (DGQA), DGQA COMPLEX,  
ASHOK PATH, CANTT. KANPUR  
KANPUR - 208 004

YEAR: 2021

RECORD OF AMENDMENTS

Amendment Sl. no.	Date	Details of amendments	Amendments carried out by & Date

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**FOREWORD**

- 0.1 This technical specification has been prepared by CQA (GS) on behalf of Director General Quality Assurance, Ministry of Defence, New Delhi-110011.
- 0.2 This is a Broad /Generic technical Specification prepared for 'Knife all Purpose'. This store is a general utility item to be used as pocket tool by the Armed Forces.
- 0.3 This is a revision of existing specification No CQA(GS)/Prov/G-10/01/06(c)/2013, which would be treated as superseded by present Specs No CQA(GS)/PROV/GS-2/Knife AP-2021/01.
- 0.4 The revision of current specification is carried out on the recommendations of Services, received vide letter No MC/6920/GEN/6/S&S/QAS dated 13 Dec 2018. This type of model of Knife all purpose was successfully supplied in past vide Contract No B/82253/2/Knife all purpose/MGO/EM(GS&C)/PPO-3 dated 14 Nov 2006 for qty 14,945 Nos.
- 0.5 Formulation of JSS would be taken up in due course after approval of Dte of Standardization.
- 0.6 This specification is applicable for open tender enquiry, procurement, manufacture & Quality Assurance of Multipurpose Tool. This is a broad specification and product shall qualify all the functional/ qualitative requirements given in this specification.
- 0.7 The Quality Assurance Authority for the store covered by this specification is CQA (GS), Kanpur. Enquiries regarding this specification, related to technical matters or any other related contractual technical conditions shall be referred to the quality assurance authority mentioned above/name in the tender or contract.
- 0.8 This specification is intended to guide the process of purchase, inspection and manufacture.
- 0.9 All clauses of this specification shall be complied with in every respect, irrespective of the source of supply of the material.
- 0.10 Whenever a reference to any other specification(s) occurs in this specification, the latest version of the specification shall be taken as reference at the time of finalization of contract.

## 1.0 SCOPE

1.1 This specification covers the Qualitative Requirements of Knife All Purpose a utility general pocket tool to be used by the Armed Services.

## 2.0 RELATED SPECIFICATIONS AND DOCUMENTS

2.1 Reference is made in this specification to the following BIS Specification; however, the technical data from these specifications has been incorporated in the relevant Para of this tech specification for ready reference to the manufacturers.

2.2 The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

Sl. No.	Specification No.	Title / Subject
i)	IS: 2500 (Pt-I)-2000 (RA 2016). Or ISO 2859-1:1999	Sampling inspection procedures: Part-I Attributes sampling plans indexed by Acceptable Quality Level (AQL) for lot by lot sampling inspection
ii)	IS: 4905-2015 /latest	Methods of random sampling
iii)	IS:2012 (Part I)-1993 (Third revision) (RA 2008)/latest	General Tolerance: Tolerances for linear and angular dimensions without individual tolerance indications
iv)	IS: 1586: 2000/ latest	Method of Hardness Testing Rockwell in C Scale
v)	DIN: 10088-1 or IS 1570 (Pt.5), RA 2009	For Chemical composition of SS Alloy

2.1 Copy of National / International specifications like IS, DIN and ISO will issue by concerned office and this AHSP has no role in issuing said specifications.

2.2 The copy of this specification can be obtained on payment from CQA (GS), DGQA Complex, Ashok path, Kanpur- 208004 or from the Order Placing Authority.

## 3.0 STANDARD PATTERN

The standard pattern of Knife All Purpose is available with the Purchase Officer and Controllerate of Quality Assurance (General Store), DGQA Store complex, Ashok Path, Kanpur -208004 shall constitute the standard sample as regards to any particulars or properties not noted or defined in this specification.

**4.0 MATERIAL**

The Knife All Purpose shall be manufactured by using the appropriate grade of Corrosion Resistance Stainless Steel' having chemical composition as given in the following table, (reference DIN: 10088-1 or IS 1570 (Pt 5), RA 2009):-

S N	Name of Component	Designation of Steel	Chemical composition (% by mass)
<b>Name of the components of Knife All Purpose</b>			
1	Large Knife Blade	X38CrMo14	C:0.36-0.42, Cr:13-14.5, Mo:0.60-1.0
2	Small Knife Blade (Belt cutter)		
3	Phillips Screwdriver		
4	Can Opener with small Screwdriver (2.5 mm)	X39Cr13	C: 0.36-0.42, Cr:12.5-14.5
5	Cap Lifter with large Screwdriver ( 6mm) & Wire Stripper		
6	Reamer/ Punch	X38CrMo14	C:0.36-0.42, Cr:13-14.5, Mo:0.60-1.0
7	Key ring	X30Cr13	C: 0.26-0.35, Cr:12-14
8	Handles	CP, Cellidor	

**5.0 MANUFACTURE**

5.1. The Knife All Purpose should be user friendly in application and easy in handling/ storage. Made of Stainless Steel Alloy with precisely tuned features that are essential for the application. The steel is tampered, annealed and polished to achieve the necessary hardness and optimum resistance to corrosion.

5.2 The tool shall be capable to provide independent and automatic locking mechanism of components in operation and in closed position. The components shall not pinch or harm the user during its operation when used with bare hands. All components of the Knife All Purpose shall function independently. Indian Army logo and manufacturer trade mark shall be legibly printed at the body of tool.

6.0 **DIMENSION AND TOLERANCES:** The Dimensional parameters of various components of Knife All Purpose given in the **03 drawing plates**. General tolerances as per IS: 2102(Pt-I):1993 RA: 2014(3<sup>rd</sup> rev). Designation: C, Description: Course or 10 % Applicable for all dimensions. Dimensions are indicative in nature subject to qualifying the qualitative requirements.

**7.0 WORKMANSHIP AND FINISH**

The general workmanship and finish should be best trade quality acceptable to Purchaser and QA Officer.

**8.0 PRE-INSPECTION BY PRODUCER**

8.1 Advance Sample:- Three numbers advance sample should be submitted to The Controller, CQA(GS), DGQA Store Complex, Ashok Path, Kanpur 208004 for test and approval prior to the commencement of Bulk manufacture from those firms who have not supplied the store during last three years.

8.2 The quantity of advance samples must be submitted to AHSP as per terms & conditions of AT/SO along with pre-inspection report. Testing of sample will be carried out at the designated AHSP labs. When test facilities are not available, facilities of Government labs/NABL accredited labs will be utilized. The AHSP shall carry out testing and evaluation of advance sample and forward the recommendation of Bulk Production clearance (BPC) to The Purchase Officer.

8.3 Suppliers must satisfy themselves that the stores are in accordance with the term of the contract and fully conform to the required specification by carrying out thorough pre-inspection of each lot before actually tendering the same for inspection to the Quality Assurance Officer nominated under the terms of the contract. A declaration by the supplier that necessary pre-inspection has been carried out on the stores tendered will be submitted along with the challan. The declaration will also indicate the method followed in carrying out pre-inspection showing the features checked/tested and will have the test certificate attached to the challan/declaration. If the Quality Assurance Officer finds that Pre-inspection of the consignment as required above has not been carried out, the consignment is liable to rejection.

## 9.0 QUALITY ASSURANCE

9.1 Examination of sample taken from any portion of the consignment shall conform to the requirement when tested in accordance with the methods mentioned against each in the specification.

9.2 The accepted store shall be marked with facsimile of acceptance mark (Stamp Steel Metal) on the packing pouch.

## 10.0 SAMPLING PROCEDURE :

(Sampling plan, inspection procedure and acceptance criteria)

The Sampling method as per IS: 4905-2015(1<sup>st</sup> Rev) and Random sampling procedure be followed in drawing of samples to ensure samples have truly representative of the lot.

Sampling plan AQL 4% for Visual inspection as per general inspection level-II and for Laboratory testing as per Inspection level S-1 and S-3 be taken. Source:-IS 2500(Pt-I):2000, Amdt 2, RA 2016(3<sup>rd</sup> rev) or ISO 2859-1:1999.

## 11.0 SCALE OF SAMPLING

Table

Lot Size	For Visual examination			For Physical test (S3)			For Chemical test (S1)		
	Sample size	Ac No.	Re No.	Sample size	Ac	Re	Sample size	Ac	Re
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Up to 150	20	2	3	5	0	1	3	0	1
151-280	32	3	4	8	1	2	3	0	1
281-500	50	5	6	8	1	2	3	0	1
501-1200	80	7	8	13	1	2	5	0	1
1201-3200	125	10	11	13	1	2	5	0	1
3201-10000	200	14	15	20	2	3	5	0	1

- (a) All samples drawn as per Table be checked for shape and design at sampling stage and the lot should be rejected if number of samples found to be not matching with approved / user evaluated sample and are greater than Acceptance Number.
- (b) The lot will be rejected if any sample fails in any of the above tests (mentioned at Col 3 in Table);
- (c) Unexpended sample if any will be merged with accepted lot.

**12.0 CRITERIA OF CONFORMITY**

12.1 All the sample unit as specified in sampling table 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 column (2) of the sampling table for dimensional / visual inspection to access the quantity of the lot. If the quality of the lot indicates conforming to the standard as laid down in sampling table, sampling for laboratory testing will be done else the lot shall be straightaway rejected.

12.3 The Quality Assurance Officer shall draw samples as per column (2) sampling table of visual examination for the following tests as under (as per drawing plate attached):-

- a) Shape & Design- 100%
- b) Workmanship & Finish- 100%
- c) Dimensions 5% of the sample size (Minimum 3 Nos.)
- d) Weight 100% of sample size

**13 DEFECTS:**

Major Defects	Minor defects
a) Failure in performance, b) Substandard material used, c) Missing of functional component, d) Insufficient locking mechanism, e) Excessive variation in weight.	a) Poor marking, b) Scratch mark etc. c) Inadequate/Poor packing, d) Difficulty in opening the tool.

Minor defects shall not affect the serviceability and functional requirements of store.

**14 TESTS:**

**14.1 PHYSICAL CHARACTERISTICS REQUIREMENTS:-**

S N	Component	Hardness in HRC*
1	Large Knife Blade	52-56
2	Small Knife Blade	52-56
3	Phillips Screwdriver	50-54
4	Can Opener with small Screwdriver 2.5 mm	50-54
5	Cap Lifter/large Screwdriver (6 mm) & Wire Stripper	50-54
6	Reamer (Punch)	50-54

Note: Method of Hardness testing as per: IS: 1586:2000 or equivalent Std.



14.2 **Staining Test:** Multi Purpose Tool when dipped for 16 hours in the following solution, shall not show any sign of staining after removal from the solution at the end of above period:-

“Five gm of glacial acetic acid (99%) dissolved in distilled water to make 100 ml.”

14.3 **Size:** Maximum length of tool  $85 \pm 5$  mm in closed position.

14.4 **Maintenance:** It should require minimal user maintenance, lubricants and tightening of assembly screw (s). It should be capable of maintaining its performance in Sand and Dust.

14.5 **Weight:** Max 90 gm.

## 15 PACKING AND MARKING

15.1 The seller is responsible to provide packing and preservation of the stores and spares as per best trade practice acceptable to Inspecting Officer to ensure safe shipment till consignee end. Ensure no damage in the conditions during transportation, shipment, storage, handling in field and against weather hazards during transportation, subject to proper cargo handling. A cartoon box not more than 25 Kg weight and inside store shall be wrapped by use of moisture proof materials. A label in English shall be pasted on the carton indicating the under mentioned details of the item contained in the carton. The cartons shall then be packed in packing cases as required indicating the under mentioned details of the item contained in each carton:-

- (a) Nomenclature
- (b) DS CAT number/ Manufacturer's Part No.
- (c) Contract number and date
- (d) Consignee
- (e) I/note no. and date
- (f) Name of seller/ seller's trademark
- (g) Package No.
- (h) Packaged quantity
- (i) Gross/net weight in Kg.

15.2 The physical damage if any during transit that may occur as result of defective packing shall be borne by seller.

### 15.3 Marking by the Quality Assurance Officer :

Each carton packed with accepted store shall be legibly and indelibly marked suitably with Inspection Mark and ensuring that store having manufacturer's Trade mark.

## 16 WARRANTY CLAUSE

"Except as otherwise provided in the invitation to the tender, the supplier/seller hereby declare that the goods, stores, articles sold/supplied to the purchaser under this contract shall be of the best quality and workmanship and new in all respects and shall be strictly in accordance with the specification and particulars contained/mentioned in the contract.

The supplier/seller hereby guarantees that the said goods/stores/articles would continue to conform to the description and quality aforesaid for period of 12 months from the date of delivery of the said goods/stores/articles to the purchaser or 15 months from the date of shipment/dispatch from the supplier's work, whichever is earlier and that notwithstanding the fact that the purchaser(Inspector) may have inspected and/or approved the said goods/stores, articles, if during the foresaid period of 12/15 months the said goods/stores/articles, be discovered not to conform to the description and quality aforesaid or not having satisfactory performance or have deteriorated and the decision of the purchaser in that behalf shall be final and binding on the supplier/seller to rectify/replace by acceptable stores/articles or such portion or portions thereof as is found to be defective by the purchaser within reasonable period not exceeding 3 months or as may be allowed by the purchaser in this discretion on the application made thereof by the supplier/seller and in such an event the above mentioned warranty period shall apply to the stores rectified/replaced from the date of rectification/replacement thereof, otherwise the supplier/seller shall pay to the purchaser such compensation as determined by the purchaser as may arise by reason of the breach of the warranty herein contained.

## 17.0 SUGGESTIONS FOR IMPROVEMENT


This specification is a live document and subject to change/updating. Any suggestion(s) for improvement of this document may be sent to the following address:-


**The Controller**

**Controllerate of Quality Assurance (General Stores)**

**DGQA Stores Complex,**

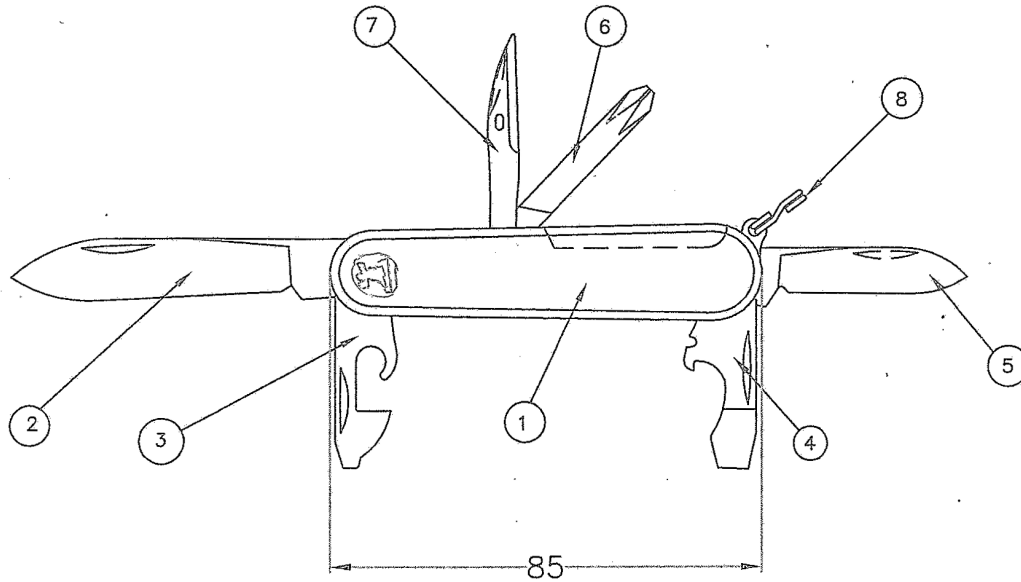
**Ashok Path, Kanpur - 208 004**

  
22/09/21  
बिजेन्द्र कुमार, रजिस्ट्रार  
BHENDRA KUMAR, DGAS  
डी ए जी/एन एन एन जी, JAG / NFSG  
डय कंट्रोलर / Dy Controller  
कृष्णासिंह(कानपुर), कानपुर/CQA (GS), Kanpur  
रक्षा मंत्रालय / Min. of Defence  
अशोक पथ, कानपुर / Ashok Path Cantt. Kanpur

  
23/09/21  
OFFG. CONTROLLER

4 3 2 1

**MAIN ASSEMBLY**



**DETAIL INDEX**

DETAIL No.	NOMENCLATURE	PER SET
1	MAIN ASSEMBLY (HANDLE)	—
2	LARGE BLADE	1
3	CAN(TIN) OPENER WITH SMALL SCREWDRIVER	1
4	CAP LIFTER WITH SCREWDRIVER AND WIRE STRIPPER	1
5	SMALL BLADE	1
6	PHILLIPS-SCREWDRIVER	1
7	REAMER,PUNCH	1
8	KEY RING	1

D  
C  
B  
A

*[Signature]*  
 (PD ARYA)  
 JTO (D)  
 SO/GS-9

PASSED BY:-  
*[Signature]*  
 GO/GS-2

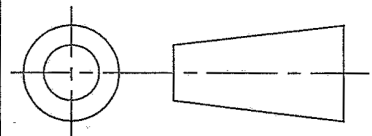
APPROVED BY:  
*[Signature]*  
 22/09/20  
 DC/GS-2

DATE	NAME
DGN.	
DRN.	PD ARYA
CHD.	PD ARYA
TRD.	
COMP.	

SCALE : 1 : 2

**KNIFE ALL PURPOSE**

CQA (GS)  
 MINISTRY OF DEFENCE(DGQA)  
 KANPUR



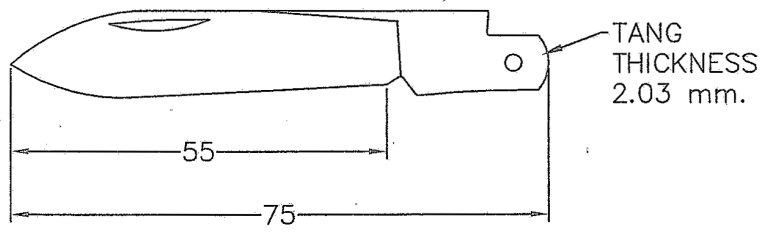
ALL DIMENSIONS ARE IN mm

PLATE ATTACHED TO UNSEALED SPECN.  
 NO.-CQA(GS)/PROV/GS-2/KNIFE AP.-202/01

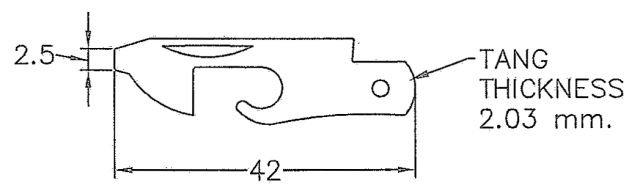
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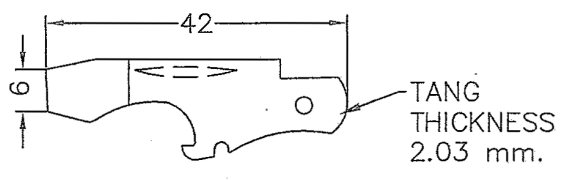
2.- LARGE BLADE



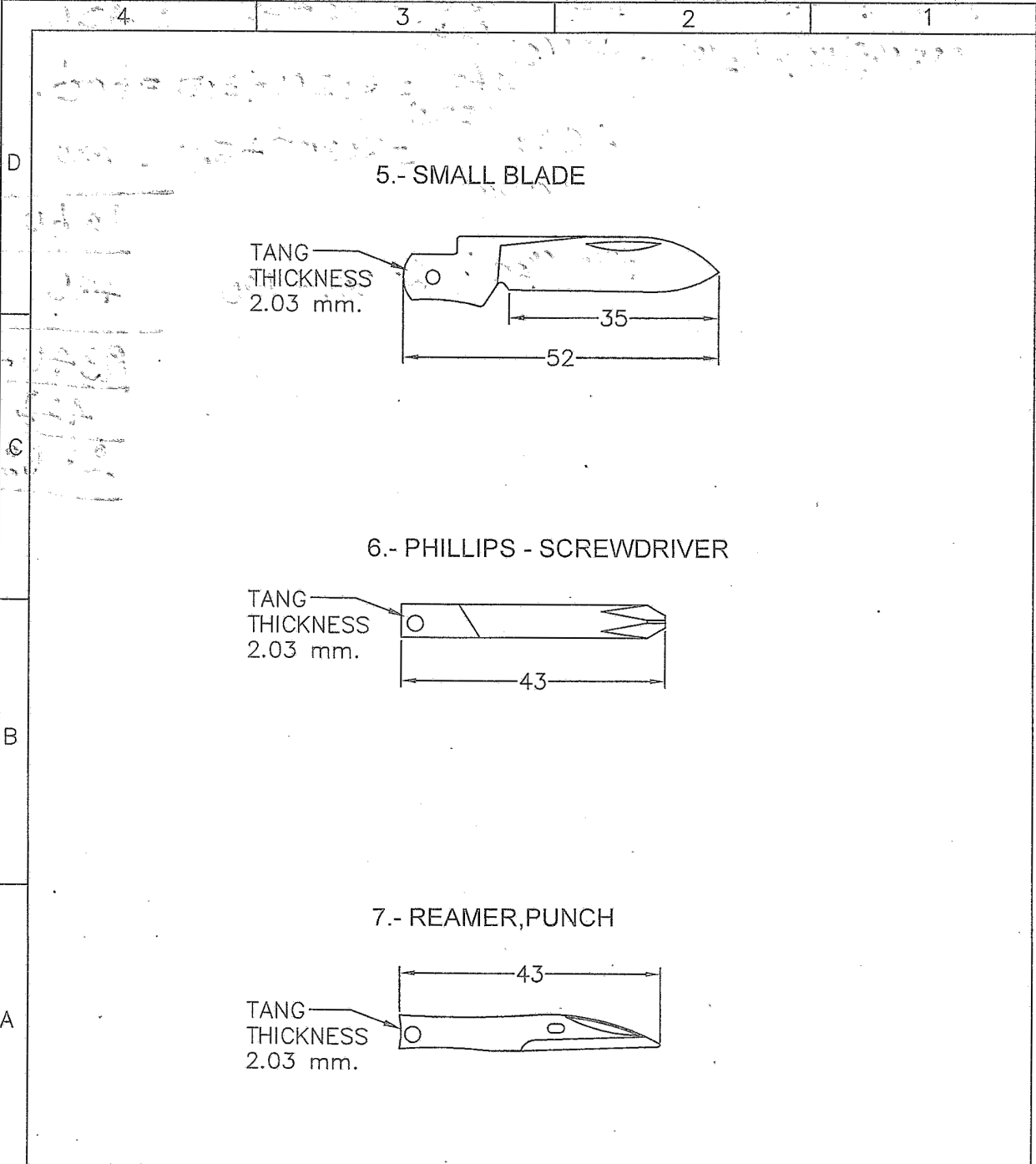
3.- CAN (TIN) OPENER WITH SMALL SCREWDRIVER



4.- CAP LIFTER WITH SCREWDRIVER AND WIRE STRIPPER



 (PD ARYA) JTO (D) SO/GS-9	DATE	NAME	CQA (GS) MINISTRY OF DEFENCE(DGQA) KANPUR
	DGN.		
	DRN.	PD ARYA	
	CHD.	PD ARYA	
	TRD.		
PASSED BY:-	COMP.		
 GO/GS-2	SCALE : 1 : 1		
APPROVED BY:-  DC/GS-2			
KNIFE ALL PURPOSE			ALL DIMENSIONS ARE IN mm PLATE ATTACHED TO UNSEALED SPECN. NO.-CQA(GS)/PROV/GS-2/KNIFE AP.-202/01



<p><i>[Signature]</i></p> <p>(PD ARYA) JTO (D) SO/GS-9</p> <p>PASSED BY:- <i>[Signature]</i> GO/GS-2</p> <p>APPROVED BY:- <i>[Signature]</i> 22/09/21 DC/GS-2</p>	DATE	NAME	<p>CQA (GS) MINISTRY OF DEFENCE(DGQA) KANPUR</p> <p>KNIFE ALL PURPOSE</p> <p>ALL DIMENSIONS ARE IN mm</p> <p>PLATE ATTACHED TO UNSEALED SPECN. NO.-CQA(GS)/PROV/GS-2/KNIFE AP.-202/01</p>
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	DRN.	PD ARYA	
	CHD.	PD ARYA	
	TRD.		
COMP.			
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