

North Coast Outfitters, LTD

Model SR901RT

Multi-Purpose Utility Table

SAFETY ASSESSMENT REPORT (SAR)

10 August 2004

TABLE OF CONTENTS

1	INTRODUCTION.....	4
1.1	PURPOSE	4
1.2	OPERATIONAL CONCEPTS	4
2	SYSTEM DESCRIPTION	4
	SYSTEM DESCRIPTION	
	• Part A to Part M	
3	SYSTEM OPERATION.....	5
	3.1 SAFETY	
4	SAFETY ENGINEERING.....	6
	4.1 HAZARD ASSESSMENT	
	4.2 Identification of Hazards Associated with the Specific Product Manuals	
5	HEALTH HAZARD ASSESSMENT.....	11
	5.1 TOXIC MATERIALS	
	5.2 Flammable Materials	
6	CONCLUSION AND RECOMMENDATION	11
6.1	CONCLUSION.....	11
6.2	RECOMMENDATION.....	11
7	ATTACHMENTS	11

1 INTRODUCTION

1.1 Purpose

- SR901RT, a product of North Coast Outfitter Ltd., provides the Safety Assessment Report for the Multi-Purpose Utility Table SR901RT to satisfy the requirements to address the preliminary hazards, sub-system hazard analysis, system hazard analysis and operating and support hazards using MIL-STD 882D as guidance. This report summarizes the minimum protective measures and safety features to insure safe operation of the Marine Corps Medical Battalion personnel. The Technical Product Manual SR 901 RT Multi-Purpose Utility Table should be adhered to under normal operating conditions of common sense use, procedural controls and personnel training under all operational conditions are to be followed.

1.2 Operational Concepts

- The SR901RT is a commercial off the shelf (COTS), light weight and compact operating table that allows doctors to stabilize and operate in far forward remote areas when necessary prior to transport. The Technical Product Manuals address operational uses and product specific warnings and cautions of use of each respective sub-system assembly.

2 SYSTEM DESCRIPTION

- The SR901RT is a commercial off the shelf (COTS), light weight and compact operating table that allows doctors to stabilize and operate in far forward remote areas when necessary prior to transport . The SR901RT has a multi task design which can be configured for ease of deployment. The SR901RT consist of the Part A: Leg assembly (2) which is made of 6061-T6 Aluminum and consist of the snap button (4) which is made of stainless steel, the connector tube (2) which is made 6061-T6 aluminum and ¼ T-pin (4) adjustor leg assembly (4) which is made of stainless steel.
- Part B: Support Tube Assembly (2) which is made of 6061-T6 Aluminum, and consist of the snap button (8) which made of stainless steel and the handle assembly (4) which is made of 6061-T6 Aluminum.
- Part C: Leg Support Assembly (2) which is made of 6061-T6 Aluminum, and consist the snap button (4) which is made of stainless steel, connector tube (2) which is made of 6061-T6 Aluminum, and the knob assembly which is made of Polymer/SS.

- Part D: Stretcher Clamp Assembly(2) which is made of 6061-T6 Aluminum and consist of the stretcher clamp receiver assembly (4) which if made of 6061-T6 Aluminum, stretcher clamp (8) which is made of stainless steel, and the leg support cross-member (2) which is made of 6061-T6 Aluminum.
- Part E: Mesh Shelf (2) is made of polypropylene and Lower Shelf (1) is made of fiberglass.
- Part F: Arm Board Assembly (2) is made of fiberglass/6061-T6 and the tension knob (1) is made of polymer/SS.
- Part G: Leg Board Assembly (N/A) is made of fiberglass/6061-T6 and the tension know (N/A) is made of polymer/SS.
- Part H: Instrument Tray Assembly (1) is made of fiberglass/6061-T-6 and consist of the tension knob (1) which is made of polymer/SS, Pole (1) Stainless Steel, Clamp (1) 6061-T6 Aluminum, knob(1) polymer/SS, and the instrument tray (1) which is made of stainless steel.
- Part I: Accessory Tray Assembly (1) which is made of fiberglass and consist of the snap button (1) which is made of stainless steel, leg (1) which is made of 6061-T6 Aluminum and foot (1) rubber.
- Part J: Stirrup Assembly (2) is made of 6061-T6 Aluminum/SS which consist of the stirrup (2) which is made of 6061-T6 Aluminum, 1.97 knob assembly (2) which is made of polymer/SS, clamp (2) which is made of 6061-T6 Aluminum, pole (2) which is made of stainless steel, strap (2) which is made of nylon and the pad (2) which is made of nylon.
- Part K: Light Assembly (2) which is made of aluminum.
- Part L: Examination Light Assembly (N/A) which is made of aluminum.
- Part M: IV Poles (N/A) which is made of stainless steel.

3 SYSTEM OPERATION

- Technical Manual SR901 RT address operational uses and when assembling the SR901RT verify that all snap buttons are fully engaged, all clamps are secure, and that sub-assemblies are secure before proceeding to the next assembly instruction.

3.1 Safety:

- Do not attaché accessories that were not designed for the SR901RT.
- Follow Technical Manual training guidelines, safety instructions and common sense.
- Do not modify the system or equipment

- Do not exceed the 400 pounds maximum capacity.
- Make all height adjustments to the SR901RT prior to the placement of the patient on the table.
- When performing an operation that requires raising or lowering the head or feet of the patient make sure to properly secure the patient to the litter.

3.1.1 Precautions

- Do not attempt to use the SR901RT for reasons other than its intended use.
- Recognize all safety precautions and information in the assembly instruction of the Technical Manual.
- When assembling verify that all snap buttons are fully engaged.
- When assembling verify that clamps are secure.
- When assembling verify all sub-assemblies are secure before proceeding to the next assembly instruction.

4 **SAFETY ENGINEERING**

- Standards Compliance in Table 5 below.

4.1 **Hazards Assessment**

4.1.1 Hazard Severity.

- As per Mil-Std 882D, Hazard severity categories, as defined below in Table 1, assist in providing a qualitative measure of the worst credible mishap resulting from personnel error, environmental condition, design inadequacy, procedural error, system failure or system malfunction:

Table 1: Hazard Severity

Description	Category	Mishap Definition
CATASTROPHIC	I	Could result in death, permanent total disability, or irreversible severe environmental damage that violates law or regulation.
CRITICAL	II	Could result in permanent partial disability, injuries or occupational illness that may result in hospitalization of one or more personnel, or reversible environmental damage causing a violation of law or regulation.
MARGINAL	III	Could result in injury or occupational illness resulting in one or more lost workdays, or mitigatable environmental damage without violation of law or regulation where restoration activities can be accomplished.
NEGLIGIBLE	IV	Could result in injury or illness not resulting in a lost workday, or minimal environmental damage not violating law or regulation.

4.1.2 Hazard Probability.

- The probability Table 2 below, that a hazard will be created during the planned life expectancy of a mature system can be described using actual and potential occurrences over time. Assigning a quantitative hazard probability to a potential design or procedural hazard for a prototype or untested system is not possible early in the life cycle. However, a qualitative hazard probability may be derived from experience and analysis and evaluation of historical safety data from similar systems. Qualitative hazard probability rankings are defined below:

Table 2: Hazard Probability

Description	Level	Individual Systems
FREQUENT	A	Likely to occur often in the life of an item, with a probability of occurrence greater than 0.10 in that life
PROBABLE	B	Will occur several times in life of an item, with a probability of occurrence less than 0.10 but greater than .01 in that life.
OCCASIONAL	C	Likely to occur sometime in life of an item, with a probability of occurrence less than 0.01 but greater than 0.001 in that life.
REMOTE	D	Unlikely but possible to occur in the life of an item, with a probability of occurrence less than 0.001 but greater than 0.000001 in that life.
IMPROBABLE	E	So unlikely, it can be assumed occurrence may not be experienced, with a probability of occurrence less than 0.0000001 in that life.

4.1.3 Hazard Risk Index.

- The hazard risk index for a potential procedural or design hazard may be determined at the intersection of a Hazard Severity versus Hazard Probability matrix as shown below in Table 3:

Table 3: Hazard Risk Index

HAZARD PROBABILITY	HAZARD SEVERITY			
	I CATASTRPOPHIC	II CRITICAL	III MARGINAL	IV NEGLIGIBLE
A FREQUENT	IA	IIA	IIIA	IVA
B PROBABLE	IB	IIB	IIIB	IVB
C OCCASIONAL	IC	IIC	IIIC	IVC
D REMOTE	ID	IID	IIID	IVD
E IMPROBABLE	IE	IIE	IIIE	IVE

4.1.4 Hazard Risk Index Interpretation

- Hazard risk indices Table 4 are grouped for interpretation, review and action as follows:

Table 4: Hazard Risk Index Interpretation

Risk Assessment Codes	Suggested Risk Criteria
IA, IB, IC, IIA, IIB,	HIGH
ID, IIC, IIIA, IIIB	SERIOUS
IE, IID, IIE, IIIC, IIID, IIIE, IVA, IVB	MEDIUM
IVC, IVD, IVE	LOW

4.2 Identification of Hazards Associated with the Specific Product Manuals

4.2.1 Cautions

- Personnel must adhere to all “WARNINGS” and CAUTIONS” as identified in the Technical Product Manual in order to assure safe operation and maintenance of this equipment. A list of safety warnings and precautions is listed in section 3.1.1.
- Table 5 below identifies and categorizes potential hazards associated with the SR901RT during use and indicates the hazard category and risk assessment code (RAC).

System/ Subsystem or Component	Event or Phrase	Cause of Hazard	Effect on System and Personnel	Hazard Category/Probability	Redesign/Control Remarks	Final RAC
1. Leg assembly (2)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD
2. Support Tube Assembly (2)	Training	Failure to adhere to training	Personnel injury	IIID	Training	IVD
3. Leg Support Assembly (2)	Training	Failure to adhere to training	Personnel injury	IVD	Training	IVD
4. Stretcher Clamp Assembly(2)	Training	Failure to adhere to training	Personnel injury	IIID	Supervision	IVD
5. Mesh Shelf (2); Lower Shelf	Operation	Failure to comply with weight limit	Personnel injury	IIID	Supervision	IVD
6. Arm Board Assembly (2)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD
7. Instrument Tray Assembly (1)	Operation	Failure to adhere to training	Personnel injury	IIID	Supervision	IVD
8. Accessory Tray Assembly (1)	Operation/ Training	Failure to adhere to training	Personnel injury	IIID	Training	IVD
9. Stirrup Assembly (2)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD
10. Light Assembly (2)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD
11. Examination Light Assembly (N/A)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD
12. IV Poles (N/A)	Operation	Failure to adhere to training	Personnel injury	IIID	Training	IVD

Table 5: Potential Hazards Associated With The SR901RT

5 HEALTH HAZARD ASSESSMENT

5.1 Toxic Materials

- This SR 901RT multi-purpose utility table does not contain any toxic materials.

5.2 Flammable Materials

- This SR 90RT multi-purpose utility table does not contain any flammable materials.

6 CONCLUSION AND RECOMMENDATION

6.1 Conclusion

- Based on the information furnished in this Safety Assessment Report and the attachments thereto, and, provided that operators and personnel are properly trained, it is concluded that the following items, SR901RT Multi-Purpose utility table with accessories are safe to operate and maintain in a military tactical environment if used for its intended purpose.

6.2 Recommendation

- It is recommended that the information in this Safety Assessment Report and its attachments be used as the basis for the development of operator and maintenance training programs to be provided to all operators and maintenance personnel.

7 ATTACHMENTS

- Technical Manual SR901RT Multi-Purpose Utility Table.