

National Aeronautics and  
Space Administration

CREW AND THERMAL SYSTEMS DIVISION

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**INTERNATIONAL SPACE STATION**

**CATALOGUE**

**OF**

**INTRAVEHICULAR ACTIVITY**  
**(IVA)**

**GOVERNMENT FURNISHED EQUIPMENT**  
**(GFE)**

**FLIGHT CREW EQUIPMENT**  
**(FCE)**

**JSC 28533 Rev E**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**  
**LYNDON B. JOHNSON SPACE CENTER**  
**CREW AND THERMAL SYSTEMS DIVISION**  
**LIFE SUPPORT AND HABITABILITY BRANCH**  
**HOUSTON, TEXAS**

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**CHANGE / REVISION LOG**

<b>REV</b>	<b>DATE</b>	<b>CHANGE DESCRIPTION</b>
A	7/2001	Update catalog with certified hardware
B	5/2002	Added CDRA/5MLE Mounting Plates Added Crew Notebook Added Electric Razor Added Electronic Keyboard Added Facial Wipes Added File Handles Added IVA Hand Toolbox Added Panavise Assy Added Personal Hygiene Kit Added Speaker Kit Assy Added Timex Ironman Watch Updated Bike Shorts Updated Vacuum Cleaner
C	11/2003	Added Battery Tester Added Chronographic, Space Aviation Watch Added Combination Wrench Assy Added Dial Torque Wrench Assy Added Educational Payload Added Index Section Added ISS VAC HEPA Filter Added Related Document Numbers (EIS, GCAR, Material Cert, etc) Added Small Gauge Crimp Tool Added Tempo Multi-use Dry Wipes Added TVIS Gyro Repair Tool Kit Added WOLF Camera Bracket Removed Make-up Removed Portable Emergency Equipment Separated Page Numbers by Sections

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D	5/2004	Added Arrid XX Deodorant/Antiperspirant Added Gillette Deodorant/Antiperspirant Added Hair Clipper Kit Added Lady Speed Stick Deodorant/Antiperspirant Added Makeup Base Soft Finish Added Makeup Base SuperFit Added Makeup Eye Solvent Added Makeup Quickliner for Eyes Added Right Guard Deodorant/Antiperspirant Added Secret Deodorant/Antiperspirant Added Sure Deodorant/Antiperspirant Added Vaseline Lotion Corrected P/N for TVIS Repair Tools Corrected Format of each section (Added header for each page except first of each sect.) Reduced font for Hand Tool Bag List
E	7/2007	Added -302 Huggies Wipes Added Third Party Hardware Section Added 20-Micron Condensate Filter Added ACTEX Added Ammonia Respirator Kit Added Binder Assembly Added CQMK Added CWC Added Disinfectant Wipes Added DTV Mux Tools Added Emesis Bag Added EMU Water Processing Kit Added Fanny Packs – Modified Lode Added Fanny Packs – Modified Wallet Added Fanny Packs – Unmodified Lode Added Fanny Packs – Unmodified Wallet Added Fiberscope Added Foam Applicator Assembly Added Inner Hatch Window Shield Kit Added IPOD Added ISS QD Trainer Assembly Added IVA Ammonia Detection Kit Added Large Gauge Pin Kit Added Makita Battery Added Moisture Removal Kit Added New Formula Shampoo Added New Formula Body Wash Added Non-Intrusive Flow Meter Kit Added OGS PWR Added Oxygen Sensor Added PWR Added Scopemeter Current Probe Kit Added Scopemeter Load and Connector Kit Added Scopemeter Kit Added Scopemeter Pressure Probe Kit Added Scopemeter Temperature Probe Kit

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Added Screw Extractor Master Kit  
Added TAK 1  
Added TAK 2  
Added Treadmill Harness  
Added ULD Audio Cable Assy  
Added Velcro Cable Straps  
Added Volume E Bag Assy  
Added Wicket Safety Cap

Added Tap and Die Set  
Added Trash Container  
Added Vacuum Cleaner tool pouch assembly  
Added TVIS Harness  
Added TVIS Maintenance Tools Kit  
Changed 'Shelf-Life' description to 'Limited Life' on all  
hardware and format page  
Corrected dimensions and weight for the ISS Vacuum  
Cleaner Hepa Filter  
Corrected weight and measurements for Aluminum  
Clipboard Assembly

Moved Aluminum Clipboard Assembly from R&MA to  
Crew Provisioning

Moved TVIS Gyro Repair Kit from Tools and Diagnostics  
to new Third Party Hardware

Updated Pouch Assembly, No Rinse Body Bath to include  
new formula Body Bath Concentrate

Added a separate Table of Contents for Retired Items  
(where applicable)

Updated Catalog format to include five sections: FCE,  
ECLSS, ATCS, WTS, and Other

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INTERNATIONAL SPACE STATION CATALOGUE OF IVA  
GOVERNMENT FURNISHED EQUIPMENT (GFE) FLIGHT CREW  
EQUIPMENT (FCE)

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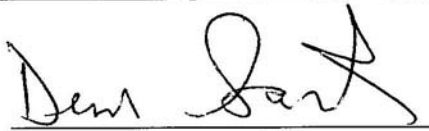
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**Revision Signature Page**

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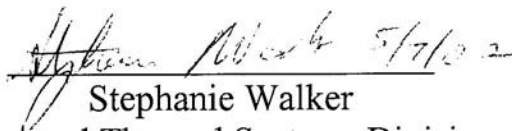
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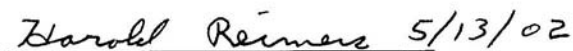
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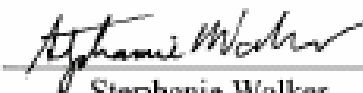
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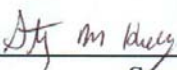
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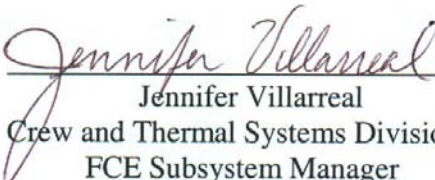
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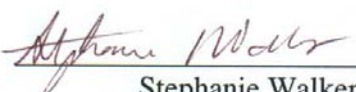
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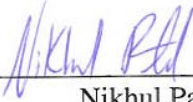
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Rev: E

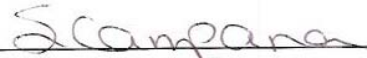
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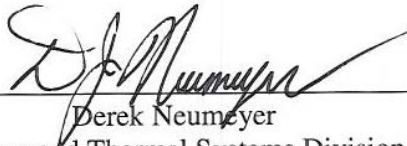
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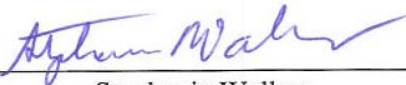
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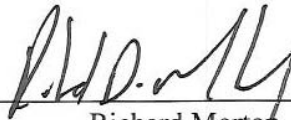
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# INTRODUCTION

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## **SCOPE and provisioning phases**

Crew Thermal Systems Division (CTSD) provides Government Furnished Equipment (GFE) to maintain the hygiene, habitation, productivity, and general well being of the crew on the ISS. This document offers information regarding the equipment necessary to maintain these functions on-orbit.

### **FLIGHT CREW EQUIPMENT (FCE):**

- **HOUSEKEEPING/TRASH MANAGEMENT:**  
Equipment, softgoods, and consumables to support routine space station cleaning and trash collection.
- **CREW PROVISIONING:**  
Equipment, softgoods, and consumables to support ISS personal and entertainment activities.
- **EXERCISE EQUIPMENT:**  
Equipment, softgoods, and consumables to support ISS exercise and strength maintaining activities.
- **INVENTORY MANAGEMENT:**  
Equipment to support tracking of consumables and loose equipment.
- **PORTABLE ILLUMINATION:**  
Portable task lighting to support nominal work activities.
- **RESTRAINTS AND MOBILITY AIDS:**  
Portable intravehicular activity (IVA) crew and equipment translation and restraint devices.
- **TOOLS AND DIAGNOSTIC EQUIPMENT:**  
A Maintenance Work Area, tools, and maintenance test equipment to support routine maintenance, the identification of failed systems, isolation of failures, and replacement of defective devices.
- **STOWAGE EQUIPMENT:**  
Provisions for transport of unconditioned, pressurized cargo to and from ISS in an MPLM
- **PAYLOAD EQUIPMENT RESTRAINT SYSTEMS:**  
A modular system of equipment designed to aid the crew in transferring and restraining loose equipment

**ENVIRONMENTAL CONTROL AND LIFE SUPPORT SYSTEM (ECLSS):**

Hardware certified by EC3 but operationally supported by ECLSS.

**ACTIVE THERMAL CONTROL SYSTEM (ATCS):**

Hardware certified by EC3 but operationally supported by ATCS.

**WATER TRANSFER SYSTEM (WTS):**

Hardware certified by EC3 but operationally supported by WTS.

**OTHER:**

Hardware certified by EC3 but operationally supported by groups noted.

Personal and some Crew Provisioning Equipment are not included in this publication and can be found under separate cover, "Joint Crew Provisioning Catalog," SSP 50477.

Labels and Decals are not included in this publication and can be found under separate cover, "Decal Process Document and Catalog," JSC 27260C.

Inventory Management System Bar Code Labels are not included in this publication and can be found under separate cover, "IMS Label Specification Document," SSP 50007.

## **GENERAL INFORMATION**

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### **DESIGN AND DEVELOPMENT:**

Design reviews and technical interchange meetings were conducted throughout the design and development of each End-Item. Participants included but were not limited to the Space Shuttle Program Office, ISS Program Office, Division Managers for ISS and Space Shuttle, representatives of Flight Crew Operations Directorate (FCOD), Materials and Processes (M&P), Missions Operations Directorate (MOD), and Safety, Reliability, and Quality Assurance (SR&QA).

### **HUMAN FACTORS:**

FCE complies with the requirements SSP 50005, "Flight Crew Integration Standards," which provided data, principles, and practices of Human Factors and Ergonomics for the new design of equipment and systems or modification of commercially available off-the-shelf equipment.

### **CERTIFICATION:**

Use of FCE for functions and in environments outside of the scope of current certification could require recertification by the user and should be negotiated with subsystem managers and the user's NASA SR&QA representatives.

## **DEFINITIONS AND FORMAT**

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### ***SUBSYSTEM NAME***

#### **DEFINITION:**

Brief Subsystem description.

#### **END-ITEMS:**

- Listing of the individual pieces of hardware that satisfy part of the function of the subsystem.

### ***END-ITEM NAME*** ***PART NO.***

---

#### **DESCRIPTION:**

- Functions of the end-item are listed in this block: If the end-item has accessories that expand the function of the end-item, these accessories are listed with their functions described. (All end-items are designed to function at Nominal Operating Pressure of 14.7 +/- .2 psia and Nominal Operating Temperature of 72.5 +/- 7.5 °F)

#### ***Weight:***

- Mass properties of the End-Item.

***(Picture of end-item)***

#### ***Volume or Measurements:***

- Unstowed configuration of the End-Item.

#### ***Type:***

- End-items are classified as one of two types as follows:
  - Consumable: An End-Item that is expended due to its use.
  - Outfitted: An End-Item that can be used repeatedly without detriment to its function.

#### ***Power:***

- One set of Batteries (Rechargeable NiCad or Expendable Alkaline) is provided for battery powered end-items.
- End-Items utilizing the ISS provided 28 VDC or 120 VDC power are in accordance with SSP 30257:002, Space Station Program Utility Outlet Panel (UOP) Standard Interface Control Document and are provided with a DC power cord that interfaces with the UOP.

#### ***Fuse:***

- All items interfacing the UOP and most battery-powered end-items will be fused.
- Fuse size is specified.

#### ***Restraint:***

- FCE with Seat Track Interfaces are in accordance with SSP 41002, International Standard Payload Rack to NASA/ESA/NASDA Modules Interface Control Document.

- Hook and Pile fastener and tethers are typical restraint methods.

***Stowage:***

- FCE is designed to be transported to and from orbit, soft stowed with the following three exceptions: (The exceptions will be defined in the end-item's respective section.)
  - Restraints and Mobility Aids Panel Covers
  - MPLM Bungee Kit
  - RSP Rack

***Limited Life:***

- A specified time limit from delivery when the item becomes subject to replacement due to possible reduction in function.
- Limited life listed in this document must be evaluated prior to flight based upon the time that the item will remain on-orbit for use.

***Lineage:***

- Source of the end-item: Designs of existing Space Transportation System (STS) equipment were initially analyzed as design solutions for ISS specifications and requirements. If existing STS equipment or modified existing STS equipment did not fulfill the requirements of the ISS, a market survey (“make or buy” analysis) was performed to research commercially available (off-the-shelf) products that could fulfill the ISS requirements. If commercially available products were not available or could not be cost effectively modified for the ISS, new design and development activities were initiated.

***Reference Documents:***

- Numbers of documents specific to the hardware created in the certification process. Documents may include, but are not limited to: GCAR, EIS, Material Cert, Waivers, Safety Reports, Testing Reports, Requirements / Verification documents, etc.

***Contact:***

- Who to contact in case of hardware issue or malfunction.

## 1.1 HOUSEKEEPING/TRASH MANAGEMENT

### **DEFINITION:**

Equipment, softgoods, and consumables used to support routine ISS cleaning and trash collection.

### **END-ITEMS:**

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EMESIS BAG.....	3
ISS VACUUM CLEANER HEPA FILTER.....	4
PORTABLE WET/DRY VACUUM CLEANER.....	5
VACUUM CLEANER TOOL POUCH ASSEMBLY.....	5
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TEMPO MULTI-PURPOSE DRY WIPES.....	8
TRASH CONTAINER.....	9
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### **RETIRED ITEMS:**

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## **DISINFECTANT WIPES ASSY PART NO. SEG33117799-301**

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### **DESCRIPTION:**

- The Commercial Off-the-Shelf (COTS) disinfectant wipes replaced the previous GFE wipes SEG33107170-314 (GCAR G4083). These new disinfectant wipes are moist Polyester/Rayon towelettes saturated with cationic detergents.

**Weight:**  
0.45lbs.

**Volume or Measurements:**

10" x 4.2" x 1"

**Type:**  
Consumable

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Hook fastener

**Stowage:**  
Locker stowed

**Limited Life:**  
Shelf Life: two years from date of manufacture

**Lineage:**  
Commercial Off-the-shelf (COTS)  
Vendor: USA Wipes  
Vendor P/N: USAW1070NSDS

**Reference Documents:**  
GCAR G5230  
CR SSCN 008789  
Materials MATL-05-133

**Contact:**  
Patricia Barrett



## **EMESIS BAG** **PART NO. SED12100656-301**

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### **DESCRIPTION:**

- The Emesis Bag is used for crew-sickness in the reduced gravity environment.
- The used bags will be placed in the wet trash container immediately following use.

### **Weight:**

0.1 lb

### **Volume or Measurements:**

Deployed: 24.00" x 8.875" x 3.250"

Stowed: 4.717" x 4.050" x 1.520"

### **Type:**

Consumable

### **Power:**

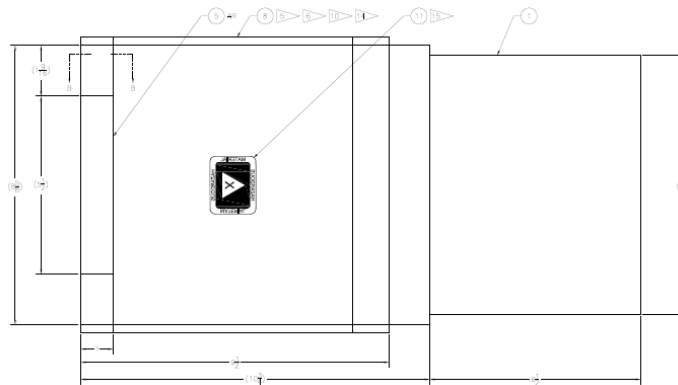
N/A

### **Fuse:**

N/A

### **Restraint:**

N/A



### **Stowage:**

Locker stowed/Soft stowed, Crew worn

### **Limited Life:**

N/A

### **Lineage:**

CR G08856R2

### **Reference Documents:**

GCAR	G5387
CR	G08856R2
Materials	MATL-06-027
ARM	JSC 62167
RAESR	JSC 62255
VM	JSC 62168

### **Contact:**

Bum Jacinto

**ISS VACUUM CLEANER HEPA FILTER**  
**PART NO. SDG33115756-801 HEPA FILTER**  
**PART NO. SDG33115755-001 HEPA FILTER RECEPTACLE**

---

**DESCRIPTION:**

- Square corrugated paper filter in a molded rubber (receptacle)
- Added to ISS wet/dry vacuum cleaner to allow filtration of small particles. The filter is positioned behind the bag, before the outlet.
- Supports ECLSS HEPA filter cleaning operations
- Filter small particles down to 0.3 micron.
- Filter changed as needed. Vendor suggests every 6 months based on nominal housekeeping.

**Weight:**

Filter: .055 lb

Receptacle : .50 lb

**Volume or Measurements:**

Filter: 3.48" x 3.04" x 0.60"

Receptacle: 6" Dia. x 1.65"

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Installed in Vacuum Cleaner

**Stowage:**

Standard Stowage Trays

**Limited Life:**

N/A

**Lineage:**

New Hardware development for ISS

**Reference documents:**

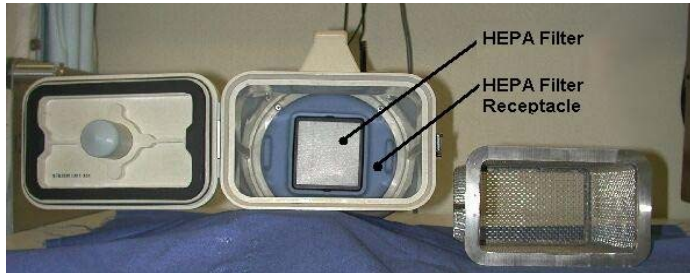
GCAR G4675

ARM JS60358

Materials MATL-03-093

**Contact:**

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**PORTABLE WET/DRY VACUUM CLEANER**  
**PART NO. SEG39125637-301, -302**  
**VACUUM CLEANER TOOL POUCH ASSEMBLY**  
**PART NO. SEG39126290-301**

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**DESCRIPTION:**

- Removes liquids and wet and dry non-toxic debris from air, filters, mesh screens and other surfaces.
- The Tool Pouch Assembly consists of a Nomex Tool Pouch, P/N SEG39126291-301, which contains attachments, including a Crevice Tool, P/N SDG39125646-001, Brush Tool, P/N SEG39123368-301, Flexible Modular Cleaning Tool, P/N SEG39125404-302, and a Surface Tool, P/N SDG39125648-002. Accessories not stowed in the bag include a Hose Cleaning Tool, P/N SEG39125638-301, Suction Hose, P/N SEG39123305-301, Power Cable, P/N SEG39130245-303, 306, and a Vacuum Cleaner Bag, P/N SEG39123308-302.
- The Vacuum Cleaner Assy (VCA) is capable of containing both wet (up to 24 ounces) and dry non-toxic debris (up to 100 cubic inches) utilizing disposable bags.
- The ISS vacuum cleaner allows in-suit bag change out.
- Hose > 29" long and > 1" inner dia
- The VCA has an on/off switch to control power to the unit and a high/low switch for selecting the motor speed (approximately 10700 RPM on low and 11400 RPM on high).
- Lexan (polycarbonate) case
- 14 ft. removable power cable – connector is difficult to seat
- Diodes prevent reverse current to UOP
- Nominal operating life of 10,000 hours
- Bag rating (particle size): 6 microns – HEPA Filter can be added for smaller filtering, ref pg. 1-5
- Acceptable TOX level to be vacuumed up: TOX 0

**Weight:**

15 lbs (With tools)

**Volume or Measurements:**

1.43 cu ft (With tools)

**Type:**

Outfitted except for Vacuum Cleaner Bags

**Power:**

120 VDC, 0.75-2.27 Amps

**Fuse:**

5.0 amp



**Restraint:**

Vacuum Cleaner has a 1/2 in diameter tether ring on housing. Tether is not included with this assembly.

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3061B	Offgas/Flam	MATL-98-172 (Vacuum)
EIS	JSC 27095	Offgas/Flam	MATL-98-201(-301 Bag)
PMP	TTA 49	Offgas/Flam	MATL-98-202 (Hose)
SAR	JSC 28425	Offgas/Flam	MATL-98-203 (Tools)
Prog. Rqmts	JSC 27094	EMI	EMECBTIA#0049
Training man.	LMSMSS 32716	Stress	HDID-H-98-0282
		PDA Procedure	JSC 28462

**Contact:**

Bum Jacinto

## **SURFACTANT LIQUID (CLEANING AGENT POUCHES) PART NO. SEG39123711-301**

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### **DESCRIPTION:**

- A liquid detergent used to support the routine cleaning of soiled surfaces.
- The cleaning agent is provided as a concentrate in beverage pouches, which will be hydrated on orbit to contain 12 oz. of liquid cleaning fluid
- The dispenser has a septum adapter installed on the ground. On-orbit, the 4-inch Straw Assembly, part number SED48101596-301, is inserted into the cleaning agent dispenser. The straw can be configured to contain the liquid when not in use. The 4-inch Straw Assembly inventory is maintained on-orbit in sufficient quantity by the Food subsystem for this use. (The 5-inch Straw Assembly, part number SED48101596-302 is not a nominal item and must be manifested if required for use.)  
Formula: Rewoteric AMB-14 (50%)

### **Weight:**

1.44 oz

### **Volume or Measurements:**

18.5 cu in

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Pouch has hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

Shelf life is two (2) years from date of manufacture

### **Lineage:**

EIS No. JSC 27096, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3059	PDA Procedure JSC 28462
Materials	MATL-99-44	
	MATL-98-100	

### **Contact:**

Patricia Barrett



## **TEMPO MULTI-PURPOSE DRY WIPES PART NO. SEZ33114924-301**

---

### **DESCRIPTION:**

- COTS packages of 24ea. 4-ply dry paper wipes contained in a polyethylene package.

*NOTE: This hardware is the recommended replacement for Durable Wipe (SEG33107170-305,-315) and Dry Wipe (SEG33107170-306,-316) once supply is exhausted.*

### **Weight:**

2oz.

### **Volume or Measurements:**

8.25" x 4.5" x 0.5"

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

### **Stowage:**

Cargo Transfer Bag or Locker

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27096, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR           G4365  
Materials       MATL-02-114

### **Contact:**

Patricia Barrett



## **TRASH CONTAINER PART NO. SED33117566-301**

---

### **DESCRIPTION:**

- The Trash Container is used during Space Shuttle and Space Station missions to store trash during launch, orbit, and landing.
- Trash Container was modified to strengthen its attachment to the Orbiter panels to allow for launch/land in-place (Old P/N 10104-20003-01)

### **Weight:**

1.8 lbs.

### **Volume or Measurements:**

28.8" x 7.8" x 4.5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Tie Wrap

P/N SDD13101649-303

Manufacturer: Thomas and Betts Corp.

Vendor P/N TYZ25M



### **Stowage:**

N/A

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD

### **Reference Documents:**

GCAR	G5143	Crew Procedures	Habitability Equipment and Procedures 91020 (DX33-CS-008)
CR	G08894R2	Stress Analysis	ESCG-6400-05-MEMO-0050
Materials	MATL-05-071		ESCG-4005-05-STRESS-0022
OCAD	670		

### **Contact:**

Terry Wille



## **TRASH CONTAINER LINER ASSY PART NO. SEZ33114033-301**

---

### **DESCRIPTION:**

- Designed to fit SpaceHab Trash Container for contingency use
- Serving as backup for Russian trash liners on ISS

### **Weight:**

1.2 oz

### **Volume or Measurements:**

18" x 8" x 6"



### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro hook (to be used in non-flammable trash container when in use)

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for SpaceHab

Adopted by the ISS program for use with SpaceHab trash containers

### **Reference Documents:**

GCAR	G3770
Materials	MATL-01-040
MUA	LM/ISS-50
CR	G3327

### **Contact:**

Terry Wille

## **WET-DRY VACUUM CLEANER BAGS**

### **PART NO. SEG39123308-302**

---

#### **DESCRIPTION:**

- Incorporates a new material, Zitex G-104, to replace the -301 bag material
- Bag housed in wire basket and interfaces the vacuum cleaner via a short tube
- Bags certified to contain Toxicity 0 material only

#### **Weight:**

2.24 oz

#### **Measurements or Volume:**

8" x 6.63" x 4.25"

#### **Type:**

Consumable

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Attached to Wet/Dry Vacuum Cleaner

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD modification of previous wet/dry vacuum bags (SEG39123308-301)  
[(Built for NASA by United Space Alliance / Flight Crew Equipment (USA/FCE)]

#### **Reference Documents:**

GCAR	G3631	PDA Procedure JSC 28462
RASEAR	JSC 29138	
Materials	MATL-00-156A	
Procedures	Habitability Equipment and Procedures Class #91020	
ARM	G05491R1	
CR	G05491R6	

#### **Contact:**

Bum Jacinto



**WIPES**  
**PART NO. (SEE BELOW)**

---

**DETERGENT WIPE**

**PART NO. SEG33107170-302, -312**

**DESCRIPTION:**

- A white paper wipe with an aqueous solution used to support general cleaning.
- Decreasing surface tension between the dirt and surface loosens particulate matter on surface.
- Best wipe for soil removal.
- Wipe material is a 55/45 wood pulp/polyester.
- Formula contains:

Deionized water	99.8%
Rewoteric AMB-14	0.1%
Kathon CG/ ICP II	0.1%
- Packages contain 30 wipes with 190 ml of fluid per package.

**DRY WIPE**

**PART NO. SEG33107170-306, -316**

***NOTE: RECOMMENDED REPLACEMENT ONCE SUPPLY IS EXHAUSTED IS  
TEMPO MULTI-PURPOSE DRY WIPES (SEZ33114924-301)***

**DESCRIPTION:**

- A white paper wipe used to support light cleaning.
- Absorbency is approximately 400% greater than the wipe's dry mass.
- Trap tear strength of .1 lbs.
- Cartridge contain 50 wipes.

**DURABLE WIPE**

**PART NO. SEG33107170-305, -315**

***NOTE: RECOMMENDED REPLACEMENT ONCE SUPPLY IS EXHAUSTED IS  
TEMPO MULTI-PURPOSE DRY WIPES (SEZ33114924-301)***

**DESCRIPTION:**

- A white fabric wipe used to support moderate general cleaning.
- Absorbency is approximately 400% greater than the wipe's dry mass.
- Trap tear strength of 5.2 lbs.

**UTENSIL DETERGENT WIPE  
PART NO. SEG33107170-301, -311**

**DESCRIPTION:**

- Removes organic debris, grease and oils from three soiled utensils (knife, spoon and fork)
- Wipe material is 55/45 woodpulp/polyester
- Formula contains:
 

Deionized water	96.671%
Barlox 12 (lauryl dimethyl amine oxide) 30%	0.528%
Steol CS-330 (sodium lauryl ether 2.5 mole sulfate 28.5%)	1.205%
Stepanol WAC (sodium lauryl sulfate 30%)	1.420%
KATHON CG/ICP II	0.100%
MgCl <sub>2</sub> -6H <sub>2</sub> O HCl to pH 6-9	0.076%
- Packages contain 30 wipes with 190 ml fluid per package.

**(Data below applies to all wipes except where otherwise noted)**

**Weight:**

8 oz per package

**Volume or Measurements:**

33 cu in per package

Wipes Unfolded

-301 thru -305

9" x 7"

-306

17" x 7"

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Wipe cartridges have a hook velcro tab.

**Stowage:**

Standard stowage trays



**Limited Life:**

Two (2) years from date of manufacture (wet wipes only)

**Lineage:**

EIS No. JSC 27096, JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3017	PDA Procedure	JSC 28462
PTRS	JSC-27096	PMP	TTA 49
		SAR	JSC-28426
		Materials	MATL-98-137
			MATL-98-138
		Stress Analysis	HDID-SAS-98-0233
		Functional TPS	6M9820033
		Durable Wipe	
		Strength Test TPS	6M9820009
		Water Absorbancy	
		Test TPS	6N9720135

**Contact:**

Patricia Barrett

## ZIPLOCK BAG, FLAME RETARDANT W/ VELCRO

<b>PART NO. SEZ33113225</b>	<b>-301</b>	<b>12" x 12"</b>
<b>SEZ33113225</b>	<b>-303</b>	<b>13"x 18"</b>
<b>SEZ33113225</b>	<b>-305</b>	<b>23"x 24"</b>

---

### **DESCRIPTION:**

- Various sizes of flame retardant Ziploc bags for nominal crew use
- Teflon shell attached to polyethylene Ziploc

### **Weight:**

1.63 oz

### **Volume or Measurements:**

See Above

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Hardware Development for ISS

CR# G5602

### **Reference Documents:**

GCAR G3623

Materials MATL-00-018

### **Contact:**

Bum Jacinto



## **H2O2 DISPOSABLE TOWELETTE**

### **P/N: SLD48100161-002**

***NOTE: THIS HARDWARE HAS BEEN RETIRED.***

#### **DESCRIPTION:**

- The H2O2 Towelette was an item created in response to the alcohol ban.
- Alfa Nobel, LLC (manufacturer of the wipes) determined that the amount of hydrogen peroxide per towelette would be approximately 5-6 grams.
- Composition is 3 percent hydrogen peroxide, 97 percent de-ionized water.
- Expected usage rate on orbit is approximately three wipes per crewmember per day.
- In particular, they will be used for cleaning eating utensils and hands after meals on ISS.

#### **Weight:**

0.01 lbs

#### **Volume or Measurements:**

2.02" x 3.0" x 0.03"

#### **Type:**

Consumable

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

N/A

#### **Stowage:**

Standard Stowage Trays

#### **Limited Life:**

Consumable

#### **Stowage:**

Locker stowed for launch and landing;  
SSP and ISS operational location crew cabin

#### **Lineage:**

COTS hardware

Vendor: Alpha Nobel, LLD

Vendor P/N: 32560



**Reference Documents:**

FCE CCB CR G08745  
ISS Program CR 006982  
GCAR G4764  
Materials MATL-03-122  
Toxicology HMST 11850

**Contact:** Patricia Barrett



**WIPES**  
**PART NO. (SEE BELOW)**

---

**DISINFECTANT WIPE**

**PART NO. SEG33107170-304, -314**

**NOTE: THE -314 HARDWARE HAS BEEN RETIRED. RECOMMENDED  
 REPLACEMENT IS DISINFECTANT WIPES ASSEMBLY, SEG33117799-301.**

**DESCRIPTION:**

- A white paper wipe with a low-level broad spectrum disinfectant used to inhibit microbiological growth.
- Best wipe for cleaning Waste Management Compartment surfaces
- Wipe material is 100% polyester.
- Packages contain 30 wipes with 190 ml of fluid per package
- Formula contains:
 

Deionized water	99.52%
Barquat 4250-Z	0.48%
2400 ppm active Barquat 4250-Z (50%) EPA reg. No. 6836-26	
N-alkyl (C12-18) -N, N-dimethyl -N- benzylammonium chloride and	
N-alkyl (C12-14) -N, N-dimethyl -N- ethylbenzyl ammonium chloride	

**UTENSIL RINSE WIPE ASSEMBLY**

**PART NO. SEG33107170-303, -313**

**NOTE: THE -313 HARDWARE HAS BEEN RETIRED.**

**DESCRIPTION:**

- Removes any detergent residue from utensils after use of utensil detergent wipe
- Wipe material is 100% polyester
- Formula contains:
 

Deionized water	99.9770%
Huntington JAQ	
EPA REG. NO. 47371-28 (N-ALKYL (C14, 95%, C12, 3%,	
C16, 2%) dimethyl benzyl ammonium	
chloride dihydrate 100%)	0.0220%
Methylene Blue	0.0010%
- Package contain 30 wipes with 190 ml of fluid per package.

**(Data below applies to all wipes except where otherwise noted)**

**Weight:**

8 oz per package

**Volume or Measurements:**

33 cu in per package

Wipes Unfolded

-301 thru -305

9" x 7"

-306

17" x 7"

**Type:**  
Consumable

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Wipe cartridges have a hook velcro tab.

**Stowage:**  
Standard stowage trays



**Limited Life:**  
Two (2) years from date of manufacture (wet wipes only)

**Lineage:**  
EIS No. JSC 27096, JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3017	PDA Procedure	JSC 28462
PTRS	JSC-27096	PMP	TTA 49
		SAR	JSC-28426
		Materials	MATL-98-137
			MATL-98-138
		Stress Analysis	HDID-SAS-98-0233
		Functional TPS	6M9820033
		Durable Wipe	
		Strength Test TPS	6M9820009
		Water Absorbancy	
		Test TPS	6N9720135

**Contact:**  
Patricia Barrett

## 1.2 CREW PROVISIONING

### DEFINITION:

Equipment, soft goods, and consumables used to support crew hygiene and various pre/post sleep, mealtime, and off duty activities.

### END-ITEMS:

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## **3-HOLE PAPER PUNCH ASSY PART NO. SEG33114110-301**

---

### **DESCRIPTION:**

- 3-hole punch for use on ISS
- Tape is applied to hole punch to retain punched paper holes.

### **Weight:**

3.54 lb

### **Volume or Measurements:**

12" x 9" x 3"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro Hook

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD Modified off-the-shelf

Vendor: ACCO USA Inc, Lincolnshire, IL

Vendor P/N Model 150

### **Reference Documents:**

GCAR	G3863
CR	ISS GCB 4910
ARM	JSC 40146
RAESR	JSC 29297
Materials	MATL-01-099
MUA	S01

### **Contact:**

Terry Wille



## **ALUMINUM CLIPBOARD ASSY PART NO. SEG33114111-301**

---

### **DESCRIPTION:**

- Used by crewmembers to secure documents for reading or note taking.

**Weight:**

1.0 lb

**Volume or Measurements:**

12.5" x 9.0" x 1.0"

**Type:**

Outfitted



**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Velcro hook fasteners

**Stowage:**

Standard stowage trays

Stowed when not in use.

**Limited Life:**

N/A

**Lineage:** JSC CTSD modified off-the-shelf for ISS

Vendor: Newell Office Products, Madison, WI

Vendor P/N: 50946

**Reference Documents:**

GCAR	G3802
CR	ISS GCB 4910
ARM	JSC 40147
RAESR	JSC 29298
Materials cert:	MATL-01-082

**Contact:**

Terry Wille

## ANTIPERSPIRANT & DEODORANT PART NO. (SEE BELOW)

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<b>PART NO. 528-41759 -3</b>	<b>LADY SPEED STICK</b>
<b>-4</b>	<b>SECRET PLATINUM</b>
<b>-5</b>	<b>SURE ORIGINAL SOLID</b>
<b>-6</b>	<b>GILLETTE POWER STRIPE</b>
<b>-7</b>	<b>RIGHT GUARD</b>
<b>-8</b>	<b>ARRID XX</b>

---

### **DESCRIPTION:**

- Antiperspirant/deodorants have been certified for compliance with the alcohol ban.
- Expected usage rate on orbit- as needed.
- Crew pick should be fragrance-free.

### **Weight:**

See below

### **Volume or Measurements:**

See below

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

N/A

### **Stowage:**

Locker stowed for launch and landing;  
SSP and ISS Operational location- crew cabin

### **Limited Life:**

Consumable

### **Lineage:** COTS hardware

Lady Speed Stick (528-41759-3)

Vendor: Colgate-Palmolive Co., Piscataway, NJ

Secret Platinum (528-41759-4), Sure Original Solid (528-41759-5)

Vendor: Proctor and Gamble, Cincinnati, OH

Gillette Power Stripe (528-41759-6), Right Guard (528-41759-7)

Vendor: The Gillette Company, Boston, MA

Arrid XX (528-41759-8)

Vendor: Church & Dwight Co., Inc., Princeton, NJ

**Reference Documents:**

FCE CCB CR G08745

ISS Program CR 006982

GCAR G4734

Materials-only certification

MATL-03-107, MATL-03-122

**Contact:**

Patricia Barrett



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**Lady Speed Stick 528-41759-3**

**Weight:** 0.24 lb

**Volume or Measurements:**

2.0" x 5.1" x 1.0"

**Toxicology Certification:** HMST-11856



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**Secret Platinum 528-41759-4**

**Weight:** 0.27 lb

**Volume or Measurements:**

2.3" x 5.1" x 2.1"

**Toxicology Certification:** HMST-11852



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**Sure Original Solid 528-41759-5**

**Weight:** 0.26 lb

**Volume or Measurements:**

2.1" x 5.3" x 1.0"

**Toxicology Certification:** HMST-11854



---

**Gillette Power Stripe 528-41759-6**

**Weight:** 0.24 lb

**Volume or Measurements:**

2.5" x 4.5" x 1.6"

**Toxicology Certification:** HMST-11851



---

**Right Guard 528-41759-7**

**Weight:** 0.25 lb

**Volume or Measurements:**

2.5" x 4.5" x 1.0"

**Toxicology Certification:** HMST-11853



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**Arrid XX 528-41759-8**

**Weight:** 0.27 lb

**Volume or Measurements:**

2.1" x 5.1" x 1.0"

**Toxicology Certification:** HMST-11855



## **AUDIO CABLE ASSY, 1/8" PLUG PART NO. SEZ33113217-301**

---

### **DESCRIPTION:**

- Interconnecting cable to the CD Player Assy, P/N SEZ33113218-301, and active noise reduction (ANR) headset battery box, P/N SEG16103504-801.
- Six (6) foot shielded electrical cable with 1/8 in. mini stereo plugs at each end
- Provides crew with capability to listen to compact disks when ANR headsets are worn.

### **Weight:**

2.29 oz

### **Measurements:**

0.157 " dia x 72 " long

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook & Loop Velcro Straps

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

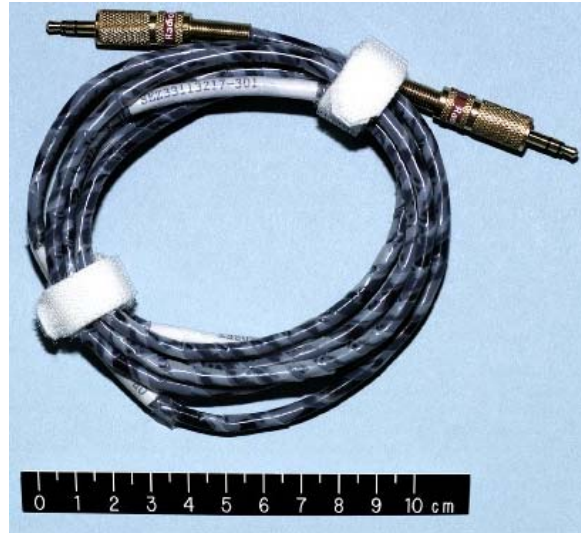
N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Radio Shack

Vendor P/N 420-2607



**Reference Documents:**

GCAR	G3586
CR	G05606
SAR	JSC 40024
Materials	MATL-00-128
MUA	S06

**Contact:**

Bum Jacinto

## BIKE SHORTS

PART NO. SLZ33114222 -001 MEN'S  
-003 WOMEN'S  
-005 MEN'S  
-007 WOMEN'S

---

---

### DESCRIPTION:

- 90/10 Cotton / Lycra bike shorts (-001, -003, -007)
- 90/10 Nylon/ Spandex Men's Drylast shorts (-005)
- 3 pairs of -001 procured for evaluation purposes
- 100 pairs of -005 and -007
- This clothing will be available to use in conjunction with the nylon exercise shorts for ergometer use. The -001 and -003 configurations have padding in the stride for additional comfort while using a 1g bicycle. The -005 and -007 configurations do not have padding.
- **NOTE:** This hardware has been flown once and is currently not available for reflight.

### **Weight:**

Varies

### **Volume or Measurements:**

Varies

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

N/A

### **Stowage:**

Stowed Clothing Assy

### **Limited Life:**

N/A



**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

-001 Vendor: Canari Cyclewear

Vendor P/N 1001

-003 Vendor: Canari Cyclewear

Vendor P/N 3010

-005 Vendor: New Balance

Vendor P/N MSH108D

-007 Vendor: Danskin

Vendor P/N 8263

**Reference Documents:**

GCAR G3886 (-001,-003)

G4356 (-005,-007)

Materials MATL-01-123 (-001, -003)

Materials MATL-02-100 (-005, -007)

MUA LM/ISS-59

Cert. Req. JSC27301B

**Contact:**

Terry Wille

**BINDER ASSY**  
**PART NO. SEZ33118969-301**

---

**DESCRIPTION:**

- Used by crew for storing uplinked messages.

**Weight:**

0.26 lbs.

**Volume or Measurements:**

12.0" x 1.3" x 1.5"

**Type:**

Outfitted

**Power:** N/A

**Fuse:** N/A

**Restraint:**

Hook Fastener

**Stowage:**

Crew locker stowed

**Limited Life:** N/A

**Lineage:**

Modified COTS hardware

**Reference Documents:**

GCAR G5255

CR G08991

Materials MATL-05-130

**Contact:**

Terry Wille



## CD PLAYER ASSY PART NO. SEZ33113218-301

---

### DESCRIPTION:

- Crew entertainment item
- Mechanical slide lock full open top cover for change out of a single compact disk
- Stored in CD Kit Assy, P/N SED33104183-305, which contains the stereo ear phones, CDs, and spare batteries.
- Capability of connecting to a flight certified ANR headset (SEG16103504-801) through the use of an Audio Cable Assembly, P/N SEZ33113217-301

### **Weight:**

0.52 lb w/ batteries

### **Volume or Measurements:**

1.03" x 5.06" x 5.10"

### **Type:**

Outfitted

### **Power:**

2 AA Alkaline Batteries

### **Fuse:** N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Stowed Clothing Assy

### **Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Panasonic

Vendor P/N SL-SX270





**Reference Documents:**

GCAR	G3630
CR	G05583
VM	JSC 40053
RAESR	JSC29078
Materials	MATL-00-192
Offgassing	JSC12048
	WSTF 00-35-363
MUA	S04

**Contact:**

Bum Jacinto

## **CHRONOGRAPH, SPACE AVIATION WATCH**

### **P/N: 528-20991-2**

---

#### **DESCRIPTION:**

- The new Space Aviation Chronograph is the updated Omega-33 Speedmaster professional watch with Kevlar Watchband.
- Watch functions include standard time, date, alarm, chronograph, and countdown timer. Additional functions include Mission Elapsed Time (MET), MET Alarm, Universal Time (GMT), Universal Time Alarm, and a battery End-of-Life indicator
- Teflon tape is placed over face of watch for compliance with fracture control.

#### **Weight:**

0.2 lbs

#### **Volume or Measurements:**

12.5" x 1.5" x .5"  
(with band open)

**Type:** Outfitted

#### **Power:**

3V Lithium Ion Battery,  
P/N CR2320



**Fuse:** N/A

#### **Restraint:**

Crew worn

#### **Limited Life:**

2 years battery replacement

#### **Stowage:**

Watch may be worn on the outside of the orange launch suit when wristband extender is used. This watch may also be soft stowed in crewmember's luggage, in a pocket, or in a mid-deck locker. It MAY NOT be worn inside/under the orange launch suit.

#### **Lineage:**

Updated model of 528-20991-1

#### **Reference Documents:**

GCAR #G3106 Rev B  
GFE MUA # LM/IS-120  
Material Cert #MATL-03-073

#### **Contact:**

Bum Jacinto

## **CREW NOTEBOOK ASSY PART NO. 7530-00-274-5494**

---

### **DESCRIPTION:**

- Black notebook with 80 pages of ruled white sulfite writing paper.

### **Weight:**

0.35 lbs

### **Volume or Measurements:**

9" x 5.63" x 0.50"

### **Type:**

Consumable

**Power:** N/A

**Fuse:** N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Stowed Clothing Assembly

**Limited Life:** N/A

### **Lineage:**

Vendor: Government Stores Stock Catalog

Vendor P/N: 10108-10068

### **Reference Documents:**

GCAR G4239

### **Contact:**

Bum Jacinto



## DVD PLAYER ASSY

**PART NO. SEZ12100606**

**-301 TEFLON ON CABLE**

**-303 MIL SPEC WRAP (NO TEFLON)**

---

### DESCRIPTION:

- Crew entertainment item
- Software modification to play DVD's with other country codes
- Addition of a battery power cable.
- 7" wide LCD viewing screen
- Built in speakers for playing DVD's, video CD's, or listening to audio CD's
- Capability of connecting to a flight-certified ANR headset (SEG16103504-801) through the use of an Audio Cable Assembly, P/N SEZ33113217-301.
- Portable crew speakers can be connected through the headphone jack.

### **Weight:**

1.5 lb. Without CLIO Battery Pouch Assembly (SEG12100600-301)

### **Volume or Measurements:**

7.5" x 5.38" x 1"

### **Type:**

Outfitted

### **Power:**

Flight certified camcorder battery, P/N SED33111486-301, or equivalent, as part of the 7.2V ISS CLIO Battery Pouch Assembly, P/N SEG12100600-301.

-A fully charged camcorder battery will allow approximately 100 minutes of play time when the LCD screen brightness is set to its lowest intensity. Play time can be extended when portable crew speakers or separately powered headphones are used instead of the built in speakers.

-When the portable speakers are powered by AA batteries, play time of the camcorder battery powering the DVD Player will be extended.

### **Fuse:**

3.15A in DVD Player

4A in Battery

2A for 22 gauge external cable

### **Software:**

Firmware for DVP-FX1 (Ver 1.2)

Son-Fx.bin (Ver 1221)

### **Restraint:**

Hook Fastener

### **Stowage:**

Standard Stowage Trays



**Limited Life:**

N/A

**Lineage:**

JSC CTSD modified off-the-shelf for ISS

-301 Vendor: Sony  
Vendor P/N DVD-SONFX1R

-303 Vendor: Sony  
Vendor P/N ON-DVDFX1S

**Reference Documents:**

GCAR (-301) G3861

GCAR (-303) G4085

CR SSCN 4208, G05991,  
G08181

ARM JSC 40054

VM JSC 40141

RAESR JSC 29251

Materials MATL-01-078,  
MATL-01-220

MUA LM/ISS-55

Offgassing WSTF-00-35781

TIA EMECB TIA#0336

HA Doc JSC 29251

**Contact:**

Bum Jacinto

## **ELECTRIC RAZOR ASSEMBLY (PANASONIC) PART NO. SEZ12100621-301**

---

### **DESCRIPTION:**

- Battery operated electric shaver used for personal hygiene purposes.

### **Weight:**

4.59 oz

### **Volume or Measurements:**

3.9 " x 2.2" x 1.1"

### **Type:**

Outfitted

### **Power:**

2 AA alkaline batteries

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

### **Stowage:**

Personal Hygiene Kit

### **Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS and STS

Vendor: Panasonic

Vendor P/N: ES825

### **Reference Documents:**

GCAR	G4164
CR	G08202
Materials	MATL-01-240
MUA	S04
ARM	JSC47667
VM	JSC47670
RAESR	JSC47671

### **Contact:**

Bum Jacinto



## **ELECTRONIC KEYBOARD ASSEMBLY SEG33114632-301**

---

### **DESCRIPTION:**

- The Electronic Keyboard Assy consists of an Electronic Keyboard (P/N SEG33114632-501), a Sustain Foot Pedal (P/N SEG33114632-503), and Headphones (P/N SEG33114632-505). The Electronic Keyboard has 61 full-size touch response keys with options including 3 keyboard lessons, 256 voices, 100 demo songs in memory and a 6-track song recorder. The Sustain Foot Pedal provides added expression by allowing notes to be sustained. The Headphones allow the crewmember to use the Electronic Keyboard without disturbing the other crewmembers. This hardware is designed to function at Nominal Operating Pressure of 14.7 +/- .2 psi and Nominal Operating Temperature of 72.5 +/- 7.5 °F.

### **Weight:**

12 lbs 7 oz

### **Volume or Measurements:**

36.75" x 14.63" x 5.17"

### **Type:**

Outfitted

### **Power:**

- 6 Certified D-Cell Alkaline Batteries (P/N 528-41350-5)
- Batteries provided by United Space Alliance (USA/FEPC) and are non-rechargeable

### **Fuse:**

1.85 A

### **Restraint:**

N/A



### **Stowage:**

Stored in the crewmembers sleep station when not in use

### **Limited Life:**

D-Cell Alkaline Batteries: 3 years

### **Lineage:**

JSC modified Commercial-Off-the-Shelf (COTS) for ISS

Vendor: Yamaha

Vendor P/N : PSR-282

**Reference Documents:**

CR	SSCN 5882
ARM	JSC 47732
VM	JSC 47734
Materials	MATL-01-253
MUA	LM/ISS-88
Stress	MSAD-00-0579
HA (Short)	JSC 29576
GCAR	G4143

**Contact:**

Bum Jacinto



## **FACIAL CLEANSING WIPES ASSY PART NO. SEZ42104610-301**

---

### **DESCRIPTION:**

- Cleansing and Make-Up Remover towelettes
- 15 towelettes per package
- Allowable usage rate is based on 1 towelette per day (based on offgasing analysis).
- Must be stowed when not in use.

### **Weight:**

N/A

### **Volume or Measurements:**

6.5" x 3.25" x 1.0"

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Crew PHK's.

### **Limited Life:**

Vendor specified shelf life of 18 months from date of manufacture.

### **Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: Chesebrough-Pond's, Greenwich, CT.

Vendor P/N: N/A

### **Reference Documents:**

GCAR G4248

Materials MATL-02-051

CR SSCN6102

### **Contact:**

Patricia Barrett



## **FANNY PACK LODE, MODIFIED PART NO. SED12100665-301**

---

### **DESCRIPTION:**

- COTS modified fanny pack (with self-adhesive Velcro, snap, and attached Nomex pouch to hold pens, pencils) (REI Lode).

### **Weight:**

0.75lbs.

### **Volume or Measurements:**

10" x 2" x 9.5"

### **Type:**

Outfitted

**Power:** N/A

**Fuse:** N/A

### **Restraint:**

Crew worn

Hook Fastener (inside pouch)

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD Modified off-the-shelf

Manufacturer:

Recreational Equipment Inc. (REI).

### **Reference Documents:**

GCAR G5042

CR G08846

Materials MATL-05-034

### **Contact:**

Patricia Barrett



## **FANNY PACK LODE, UNMODIFIED PART NO. SED12100665-701**

---

### **DESCRIPTION:**

- COTS unmodified black nylon fanny pack (REI Lode).

### **Weight:**

0.54 lbs.

### **Volume or Measurements:**

10" x 2" x 9.5"

### **Type:**

Outfitted

**Power:** N/A

**Fuse:** N/A

### **Restraint:**

Crew worn

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

Manufacturer:

Recreational Equipment Inc. (REI).

### **Reference Documents:**

GCAR G5042

CR G08846

Materials MATL-05-034

### **Contact:**

Patricia Barrett



## **FANNY PACK WALLET, MODIFIED PART NO. SED12100665-302**

---

### **DESCRIPTION:**

- COTS modified fanny pack (with self-adhesive Velcro, snap, and attached Nomex pouch to hold pens, pencils) (REI Travel Wallet).

### **Weight:**

0.88 lbs.

### **Volume or Measurements:**

9.0" x 2" x 8.5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Crew worn  
Hook Fastener

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

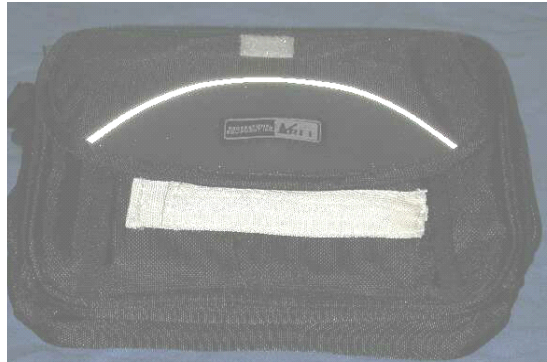
JSC CTSD Modified off-the-shelf  
Manufacturer:  
Recreational Equipment Inc. (REI).

### **Reference Documents:**

GCAR	G5042
CR	G08846
Materials	MATL-05-034

### **Contact:**

Patricia Barrett



## FANNY PACK WALLET, UNMODIFIED PART NO. SED12100665-702

---

### DESCRIPTION:

- COTS unmodified black nylon fanny pack (REI Wallet.)

**Weight:**

0.22 lbs.

**Volume or Measurements:**

9" x 2" x 8.5"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Crew worn

Hook fastener

**Stowage:**

Standard Stowage Trays

**Limited Life:**

N/A

**Lineage:**

JSC CTSD off-the-shelf for ISS

Manufacturer:

Recreational Equipment Inc. (REI).

**Reference Documents:**

GCAR G5042

CR G08846

Materials MATL-05-034

**Contact:**

Patricia Barrett



## **GUITAR ASSY PART NO. SLG12100618-301**

---

### **DESCRIPTION:**

- Includes a guitar, travel bag and a guitar tool
- Constructed of wood with water soluble glues, polyester and polyurethane coatings
- Case is nylon fabric with foam padding
- Guitar tool is chrome-plated steel

### **Weight:**

5.39 lbs

### **Volume or Measurements:**

39" x 14 <sup>3</sup>/<sub>4</sub>" x 5 <sup>1</sup>/<sub>2</sub>"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Unknown

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

CR# 5291

Vendor: Jean Larrivee Guitars, Vancouver, BC, Canada

### **Reference Documents:**

GCAR G3962

CR SSCN5291

Materials MATL-01-171

MUA LM/ISS-75

Offgassing WSTF #01-36181

### **Contact:**

Bum Jacinto



**HAIR CLIPPER KIT**  
**PART NO. SJG33115164-302**  
**-303 (WITHOUT BATTERIES)**

---

**DESCRIPTION:**

- The Hair Clipper Kit is a Commercial Off-the-Shelf (COTS) cordless hair clipper that was modified by the vendor to operate on two (2) AA alkaline batteries for personal hygiene purposes. The vacuum attachment catches cut hair. Batteries last approximately 2 ½ haircuts; power on high to avoid clogging
- Kit Consists of:
  - Hair Clipper: 8789M1
  - Hose: SJG33115164-601
  - Cleaning Brush: SJG66448497-602
  - Small Guide Comb: SJG33115164-603
  - Large Guide Comb: SJG33115164-604
  - Blade Guard: SJG33115164-605
  - AA Battery: 528-41350-3

**Weight:**

Hair Clipper (w/out batteries)  
0.7 lbs

Hose: 0.4 lbs.

Cleaning Brush: 0.004 lbs.

Small Guide Comb: 0.03 lbs

Large Guide Comb: 0.07 lbs

Blade Guard: 0.01 lbs.

AA Battery: 0.04 lb



**Volume or Measurements:**

Hair Clipper (w/out batteries)

8.3" x 5.5" x 2.5"

Hose Assy:

73" x 1.275" (diameter) in

Cleaning Brush:

3.1" x 0.6" x 0.3"

Small Guide Comb:

2.6" x 2.1" x 1.1"

Large Guide Comb:

1.6" x 3.6" x 2.1"

**Type:**

Outfitted

**Power:**

Two (2) AA Alkaline Batteries

**Fuse:**

N/A

**Restraint:**

Velcro hook fastener

**Stowage:**

Soft Stowage

**Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

**Lineage:**

JSC CTSD modified off the shelf for ISS  
and STS

Vendor: Wahl Clipper Corp.

**Reference Documents:**

GCAR:G4774

GFE MUA: SO4

Material Cert: MATL-04-007A

CR: 6598

ARM: JSC 47954

VM: JSC 60464

RAESR: JSC 60484

**Contact:**

Bum Jacinto



**HUGGIES WIPES ASSY**  
**PART NO. SEG33115639-301**  
**-302**

---

**DESCRIPTION:**

- Soft, resealable COTS package of Huggies baby wipes.
- Huggies Wipes Assy, P/N SEG33115639-301, has a resealable pull back tab dispenser.
- Huggies Wipes Assy, P/N SEG33115639-302, has a flip top dispenser.
- NOTE: Replaces Hygiene, Wet Wash Dispenser Assy (V669-000704-009)

**Weight:**

1.0 lbs.

**Volume or Measurements:**

9.5" x 4" x 1.8"

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook Fastener

**Stowage:**

Standard Stowage Trays

**Limited Life:**

2 years from date of manufacture

**Lineage:**

JSC CTSD Modified off-the-shelf

Manufacturer:

Kimberly Clark Corp.

Vendor P/N: 36000 18698 (the vendor part number is the same for both -301 and -302 configurations.)



**Reference Documents:**

GCAR	G4602
CR	SSCN 7547
Materials	MATL-03-079

**Contact:**

Patricia Barrett

## HYGIENE DISPOSAL BAGS

**PART NO. SEZ33113458**    **-301** Hygiene Disposal Bag, 6" x 6"  
**-303** Hygiene Disposal Bag, 12" x 12"  
**-001** Hygiene Disposal Bag, Hotel

---

### **DESCRIPTION:**

- -001 Waxy paper material
- -301/-303 Gas impermeable for odor control
- Must be unstowed less than one hour per day

**Weight:**        -001: 0.114 oz  
                      -301: 0.17 oz  
                      -303: 0.588 oz

### **Volume or Measurements:**

See Heading

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener (-301, -303)

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

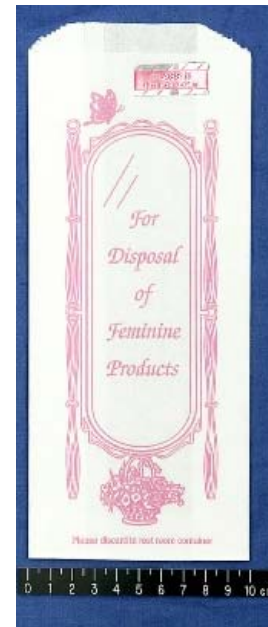
JSC CTSD modified off-the-shelf for ISS (except -001 which is COTS)

Vendor:        Com-Pac International

P/N:            -301    4742-S  
                     -303    4745-S

Vendor:        KMK Supply Co.

P/N:            -001    SBNL



**Reference Documents:**

GCAR            G3670  
Materials        MATL-00-181

**Contact:**

Patricia Barrett

**HYGIENE, WET WASH DISPENSER ASSY  
PART NO. V669-000704-009**

***NOTE: RECOMMENDED REPLACEMENT IS HUGGIES WIPES ASSY (SEG33115639-301) ONCE SUPPLY IS EXHAUSTED.***

**DESCRIPTION:**

- Unscented, alcohol free wipes
- Cartridge contains 36 wipes
- Original Formula 1980's to 1994:
  - Purified water
  - Propylene Glycol
  - PEG-75 Lanolin
  - Disodium Cocoamphodiacetate
  - Cetyl Hydroxyethylcellulose
  - DMDM Hydantoin
  - Methylparaben
  - Malic Acid
  
- Second Formula 1994-2001 and 2001 to present
  - Purified Water
  - Potassium Laureth Phosphate
  - Glycerin
  - Polysorbate 20
  - Aloe Barbadensis Gel
  - Tetrasodium EDTA
  - DMDM Hydantoin
  - Malic Acid
  - Methylparaben
  
- Third Formula 2001 only
  - Water
  - Sunflower Seedamidopropyl Morpholine Lactate
  - Polysorbate 20
  - Sodium Hydroxymethylglycinate
  - Glycerin
  - Aloe Barbadensis Gel
  - Iodopropynyl
  - Tocopheryl Acetate



**Weight:**

.72 lb

**Volume or Measurements:**

6" x 4" x 1.5" (589.93 cu cm)

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Wall Dispenser

**Stowage:**

Standard stowage trays

**Limited Life:**

1 Year from date of manufacture

**Lineage:**

USA Hardware Grandfathered for ISS from STS program

Vendor: CFE from Boeing North America (BNA)

**Reference Documents:**

GCAR G4384

CR G05355

Cert. Req. JSC27301

Materials MATL-02-088

**Contact:**

Patricia Barrett

## **IPOD MP3 PLAYER ASSY PART NO. SEZ33117876-301**

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### **DESCRIPTION:**

- Portable device with head phones for listening to music
- External Battery pack (internal battery removed)
- 20Gb internal memory
- Does not interface with any on-orbit hardware (power or data)

### **Weight:**

1.05lbs.

### **Volume or Measurements:**

5.0" x 2.75" x 1.75"

### **Type:**

Outfitted

### **Power:**

4 AA Alkaline Batteries

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Crew Locker Stowed

### **Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

### **Lineage:**

JSC CTSD Modified off-the-shelf

### **Reference Documents:**

GCAR	G5113
CR	G08840R2
Materials	MATL-05-034

### **Contact:**

Bum Jacinto



## ISS FOOD WARMER PART NO. SED39114053-309

### **DESCRIPTION:**

- Heats wet pack or rehydrated soft pack crew meals on ISS.
- Certified to connect to Service Module outlet via DC Power Cable (P/N: SEG39135494-301) and PEEK / IMAX Cable (P/N SEZ39134173-301) and Russian Adapter Cable (P/N SEG33112678-301).
- Heats 6 wet pack, 6 re-hydratable packs between 145° F - 190°F.
- Operates up to 280 Watts.
- Will heat 12 packs in under 40 minutes
- Food packets are placed under the springs on both sides of the heater plate. The springs are only used to keep the food in place with the case open, so minor spring damage is not a functional problem. Total food pack capacity is 12 - 6 packs on top and 6 packs on the bottom. The Food Warmer is intended to be closed and latched during use.
- The Food Warmer has 5 indicator lights: one (1) that indicates power on/off, and four (4) that illuminate in sequence at 10, 20, 30, and 40 minutes after power on. These four indicator lights would flash if there was a problem detected by the circuit board that caused abnormal operation. When the Food Warmer is first powered on, only the red power light should be lit; the 4 green timer lights should be off.
- The Food Warmer has a manually re-settable 10A circuit breaker located next to the power connection.
- The Food Warmer has two independent thermometers for each of the four (4) heater elements. The thermometers cut off the heater at 197°F, and turn it back on at or below 175°F. The outside case temperature during normal operation is 101°F.
- The foam in the top and bottom of the Food Warmer is made of Melamine and is coated with Mosites for ease of cleaning. Tears in the foam are not a flammability concern.
- Empty and closed, the Food Warmer requires 1.25 hours from power off to cool to touch temperature at the heater plate. Empty and open, the Food Warmer requires 0.5 hours from power off to cool to touch temperature at the heater plate.



### **Weight:**

13.0 lbs

### **Volume or Measurements:**

19 ¼" x 13 7/8" x 6 ½"

### **Type:**

Outfitted

### **Power:**

10 Amp (28-32 VDC) Power Source



**Fuse:**

5 x 20 Fast Acting Fuse (P/N H216.630, Little Fuse Corporation)

**Restraint:**

Velcro or Strap Assy (P/N SDD39114059-305)

**Stowage:**

Standard Stowage Tray

**Limited Life:**

N/A

**Lineage:**

JSC CTSD new development for ISS

**Reference Documents:**

GCAR	G3555A
Requirements	JSC 39343
SAR	JSC 39536
Materials	MATL-00-039
Stress	MSAD-00-0019
HRD	JSC39343A
Test Procedures	JSC39500
CR	G04106

**Contact:**

Bum Jacinto

## LEATHERMAN TOOL ASSY PART NO. (SEE BELOW)

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<b>PART NO. SLZ33112269 -001</b>	<b>LEATHERMAN TOOL W/ SHEATH</b>
<b>-003</b>	<b>LEATHERMAN TOOL, ORIGINAL</b>
<b>-005</b>	<b>LEATHERMAN TOOL SHEATH, ORIGINAL</b>
<b>-007</b>	<b>LEATHERMAN TOOL, MICRA</b>
<b>-009</b>	<b>LEATHERMAN TOOL, WAVE</b>
<b>-011</b>	<b>LEATHERMAN TOOL SHEATH, FLASHLIGHT COMBO</b>
<b>-013</b>	<b>LEATHERMAN TOOL SHEATH, WAVE</b>

### DESCRIPTION:

- Multi-use tool with the following features:
- Wave
  - Pliers
  - Knife, straight
  - Knife, serrated
  - Wire Cutters
  - Scissors
  - File
  - File, diamond coated
  - Screwdrivers (large, medium, small, extra small)
  - Screwdriver, phillips
  - Container Opener
  - Saw
  - Wire Stripper
  - Locking Blades (4 of 11)
- Original
  - Pliers
  - Knife, straight
  - Wire Cutters
  - File
  - Screwdrivers (large, medium, extra small)
  - Screwdriver, phillips
  - Container Opener
  - Awl / Punch
  - Ruler
- Micra
  - Knife, Straight
  - Scissors
  - File
  - Screwdriver (medium, extra small)
  - Screwdriver, Phillips



-005



-009



-011



-001



-007



## **LIQUID FERTILIZER CONTAINER ASSY PART NO. SEZ46118520-301**

---

### **DESCRIPTION:**

- Bottle for fluid containment of certified fertilizer for astronaut herb garden
- Hazard level 0
- Top of bottle is threaded

### **Weight:**

Unknown

### **Volume or Measurements:**

3 oz

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Inside Hygiene Disposal Bag w/ Velcro

### **Stowage:**

Standard stowage trays

### **Limited Life:**

Manufacturer suggested 1-year shelf life

### **Lineage:**

JSC CTSD New Hardware Development for ISS

Combined:

½ Strength Hoagland Nutrient Solution

Boston Round Bottle Assy (SED48101663-309)

Vendor – Nutrient Solution – Wisconsin Center for Space Automation and Robotics

Vendor – Boston Bottle – USA/FCE

### **Reference Documents:**

GCAR G4045

CR SSCN 005578A

Materials MATL-01-196

### **Contact:**

Patricia Barrett



**MACH3 TURBO RAZOR ASSY**  
**PART NO. SED33115495-301**  
**MACH3 TURBO CARTRIDGE ASSY**  
**PART NO. SED33115496-301**

---

**DESCRIPTION:**

- Razor and replacement blades

**Weight:**

Razor Only: 0.05 lb (1 oz)

Razor and Cartridge: 0.15 lb (2 oz)

**Volume or Measurements:**

1.63" x 5.3" x 1.0"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook Fastener

**Stowage:**

Crew PHK

**Limited Life:**

N/A

**Lineage:**

JSC CTSD unmodified off-the-shelf

**Reference Documents:**

GCAR	G4601 (Turbo Razor)
	G4600 (Turbo Cartridge)
CR	G08677
Materials	MATL-03-082
MUA	S04

**Contact:**

Bum Jacinto



**MAKEUP**

**PART NO. 528-43067**

**-24 MAKEUP BASE, SOFT FINISH**  
**-25 MAKEUP BASE, SUPERFIT**  
**-26 MAKEUP SOLVENT**  
**-27 QUICKLINER FOR EYES**

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**DESCRIPTION:**

These products were certified for compliance with the alcohol ban. Expected usage rate on orbit- as needed.

**Weight:**

See below

**Volume or Measurements:**

See below

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

N/A

**Stowage:**

Locker stowed for launch and landing;  
SSP and ISS operational location - crew cabin.

**Limited Life:** N/A

**Lineage:** COTS hardware

Vendor: Estee Lauder Co.,  
Clinique Division

**Reference Documents:**

FCE CCB CR G08745  
ISS Program CR 006982  
GCAR G4733  
Materials-only certification  
MATL-03-107, MATL-03-122

**Contact:**

Patricia Barrett

**Soft Finish Base 528-43067-24**

**Weight:** 0.241 lb

**Volume or Measurements:**

1.5" x 3.4" x 1.0"

**Toxicology certification:** HMST-11846

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**SuperFit Base 528-43067-25**

**Weight:** 0.10 lb

**Volume or Measurements:**

1.4" x 3.1" x 1.0"

**Toxicology certification:** HMST-11871

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**Eye Makeup Solvent 528-43067-26**

**Weight:** 1.00 lb

**Volume or Measurements:**

1.0" x 5.3" x 1.0"

**Toxicology certification:** HMST-11848

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**Quickliner for Eyes 528-43067-27**

**Weight:** 0.18 lb

**Volume or Measurements:**

0.3" x 5.6" x 0.3"

**Toxicology certification:** HMST-11847



## NO RINSE BODY BATH POUCH ASSY PART NO. SED32103194-303

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### DESCRIPTION:

- No rinse body wash (packaged in beverage pouch at USA/FEPC)
- Pouch Beverage Pkg, P/N SDD48101683-001
- Septum Adapter Assy, P/N SED48101796-301
- Straw Assy, P/N SED48101596-302
- Composition:
  - -303:

H2O		90.19%
Tecsuds 642 (Surfactant Blend)		8.00%
Cocodiethanolamide		1.00%
Ordenone		0.50%
Diazolidinyl Urea		0.18%
Methylparaben		0.06%
Citric Acid		0.05%
Propylparaben		0.02%

**Weight:** 0.04 lbs

### Volume or Measurements:

.25 oz as flown  
6 oz hot water and 2 oz cold water added prior to use

### Type:

Consumable

### Power:

N/A

### Fuse:

N/A

### Restraint:

Hook Fastener

### Stowage:

Crew PHK

### Limited Life:

4 years from date of manufacture





**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: No Rinse Laboratories, LLC, Springboro, OH

Vendor P/N: 00900-N (bath concentrate)

Vendor P/N: 00100-NS [new formula No Rinse Body Wash Assy, P/N SEZ33114283-302

(8 OZ), P/N SEZ33114283-312 (2 OZ)]

**Reference Documents:**

GCAR G4438

Cert. Req. JSC 27301D

Materials MATL-02-155

CR G08497

**Contact:**

Patricia Barrett



**Fuse:**

N/A

**Restraint:**

Velcro hook fastener

**Stowage:**

Crew PHK

**Limited Life:**

3 years from date of manufacture

**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: No Rinse Laboratories, Springboro, OH

Vendor P/N: 00940-N [-301 (8 oz)]

Vendor P/N: 00930-N [-311 (2 oz)]

Vendor P/N: 00940-NS [-302 (8 oz)]

Vendor P/N: 00930-NS [-312 (2 oz)]

**Reference Document:**

GCAR G4392

CR SSCN 5289 RevA

Cert. Req. JSC27301D

Materials MATL-02-120

MUA S04

**Contact:**

Patricia Barrett

Processing responsibility for -301, -311, -302, and -312 transferred to USA/FCE

**NO RINSE SHAMPOO**

**PART NO. SEZ33114865-301 8 OZ**  
**-311 2 OZ**  
**-302 8 OZ**  
**-312 2 OZ**

**DESCRIPTION:**

- Shampoo towels out of hair
- Composition:

-301 and -311

H2O		94.59%
Tecsuds 642 (Surfactant Blend)		4.60%
Ordenone		0.50%
Diazolidinyl Urea		0.18%
Methylparaben		0.06%
Citric Acid		0.05%
Propylparaben		0.02%



-302 and -312

NASA No-Rinse Shampoo new formulation:

Water 90%  
 Sulfochem B-NBB 10%  
 Water  
 PEG-80  
 Sorbitan Laurate  
 Cocamidopropyl betaine  
 Sodium trideceth sulfate  
 Glycerin  
 Disodium lauroamphodiacetate  
 PEG-150 distearate  
 Sodium laureth-13 carboxylate  
 Methyl Paraben  
 Propyl paraben

**Weight:**

0.6 lbs

**Volume or Measurements:**

8 oz or 2oz

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A



**Restraint:**

Velcro hook fastener

**Stowage:**

Crew PHK

**Limited Life:**

3 years from date of manufacture

**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

New items (-302 and -312) have modified formulas for compliance with ISS ECLSS requirements.

Vendor: No Rinse Laboratories, Springboro, OH

Vendor P/N: 00100-N [-301 (8 oz)]

Vendor P/N: 00120-N [-311 (2 oz)]

Vendor P/N: 00100-NS [-302 (8 oz)]

Vendor P/N: 00120-NS [-312 (2 oz)]

**Reference Documents:**

GCAR G4393

CR SSCN 5289

SSCN 5289 Rev A

Cert./Proj. Req. JSC27301D

Materials MATL-02-120

MATL-06-018

MUA S04

ESCG-005

**Contact:**

Patricia Barrett

Processing responsibility for -301, -311, -302, and -312 transferred to USA/FCE

**PERSONAL HYGIENE KIT**  
**PART NO. 10103-10003-05**  
**PERSONAL HYGIENE CONTAINER**  
**PART NO. SED12100619-301**

---

**DESCRIPTION:**

Personal Hygiene Container (SED12100619-301)

- Made of flame retardant blue nomex with nylon velcro contained within container
- Various sized pouches are available to hold personal items.

Personal Hygiene Kit (PHK) (10103-10003-05)

- PHK is a crew-requested hardware, rolling dash number from -04 to -05. Kit contains new personal hygiene container plus previously certified personal hygiene items.

**Weight:**

Crewmember dependent

**Volume or Measurements:**

3" x 7.5" x 10"

**Type:**

Outfitted (Container)  
Consumable (Hygiene Items)

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook and pile fasteners

**Stowage:**

Standard stowage trays

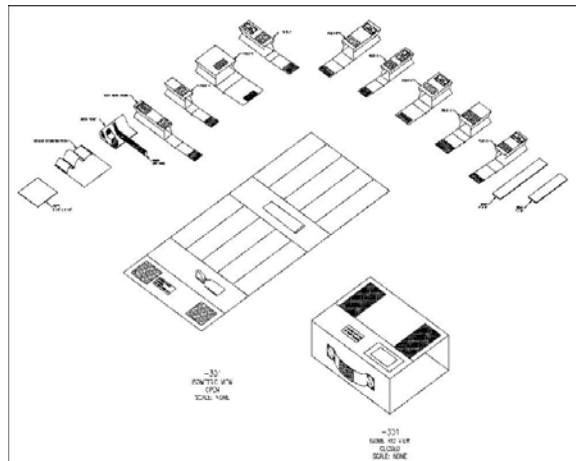
**Limited Life:**

The hardware is certified for 100 missions or 15 years.

**Lineage:**

A new container designed and developed for NASA by Lockheed Martin Space Operations Corp.

Note: Replaces prior Personal Hygiene Kit P/N 10101-10003-04



**Reference Documents:**

GCAR	G4264
CR	G3579
SAR	26

**Contact:**

Bum Jacinto

## **PERT PLUS FOR KIDS (PP4K) ASSY PART NO. SEZ33114285-301**

---

### **DESCRIPTION:**

- Rinse-out shampoo

### **Weight:**

N/A

### **Volume or Measurements:**

8 oz

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD Modified off-the-shelf product

Vendor: Proctor & Gamble, Cincinnati, OH

Vendor P/N: BCS295.016

### **Reference Documents:**

GCAR G4391

CR SSCN 5289 RevA

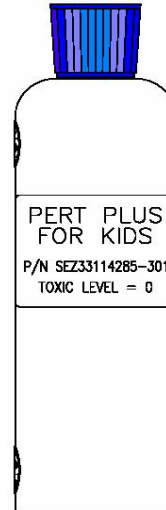
Cert./Proj Req. JSC27301D

Materials MATL-02-121

MUA S04

### **Contact:**

Patricia Barrett





**SLEEP HAT  
PART NO. SLZ33113457**

- 001 SLEEP HAT, POLARTEC, MED**
- 003 SLEEP HAT, POLARTEC, LG**
- 005 SLEEP HAT, WIGWAM**

---

---

**DESCRIPTION:**

- -005 Polyester sleeping cap
- -001, -003 Polartec<sup>®</sup> sleeping cap

**Weight:**

- 001, -003  
.86 oz
- 005  
1.19 oz

**Volume or Measurements:**

- 001, -003  
10 ¼" x 7 ½" x ½"
- 005  
9" x 8 ½" x ¾"



**Type:**

Outfitted

**-001, -003**

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hats will be stowed when not in use

**Stowage:**

Stowed Clothing Assy



**Limited Life:**

N/A

**Lineage:**

JSC CTSD off-the-shelf item for ISS

-001, -003

Vendor: Patagonia, Reno, NV

Vendor P/N 28953

-005

Vendor: REI, Sumner, WA

Vendor P/N WW614779

**Reference Documents:**

GCAR            G3560  
Materials        MATL-00-142A

**Contact:**

Patricia Barrett

**SPEAKER KIT ASSY.  
PART NO. SED33114461-301**

---

**DESCRIPTION:**

- The portable crew speaker system consists of a commercial off the shelf Sony SRS-T77 and after configuring for flight will be designated as P/N SED33114461-301.
- This unit can be powered passively or with four (4) AA alkaline batteries.
- The stowed dimensions are 5.5" x 1" x 5".
- The portable crew speaker system will interface with any audio device with a 1/8" headphone jack, including the CD Player, DVD Player, cassette recorder, and laptop.

**Weight:**

0.65 lbs

**Volume or Measurements:**

8.75" x 1" x 5" (open)

5.5" x 1" x 5" (closed)

**Type:**

Outfitted

**Power:**

Four (4) AA Alkaline Batteries

**Fuse:**

N/A

**Restraint:**

Hook fastener

**Stowage:**

Standard stowage tray

**Limited Life:**

Certified for 100 missions or 15 years

AA Alkaline Batteries: 3 years from date of manufacture

**Lineage:**

JSC CTSD modified off-the-shelf hardware for ISS

Vendor: Sony, Inc

Vendor P/N: SRS-T77

**Reference Documents:**

GCAR G4264

Materials MATL-02-061

**Contact:**

Bum Jacinto



## **TIMEX IRONMAN TRIATHLON WATCH PART NO. SEG12100476-803**

---

### **DESCRIPTION:**

- Data Link system, which allows it to be pre-programmed with the use of a computer (certified feature)
- 100-hour Chronograph with lap and split times
- 50-lap memory recall with best lap calculation
- 5 Multi-Mode Countdown Timers with 100-hour capacity
- 10 Alarms for Appointments, Anniversaries or Reminders
- Phone Number/Personal Information storage
- INDIGLO night-light with NIGHT-MODE.
- 2nd time zone with date
- Up to 38 phone numbers with 15-character messages
- Daily, monthly or yearly alarm settings with 15-character messages
- Chronograph label and lap storage requirements
- World-wide time zone settings and watch options
- Requires a Timex Notebook Adapter for compatibility with Windows
- Teflon on face of watch for compliance with fracture control

### **Weight:**

1.3 oz.

### **Volume or Measurements:**

Length (including strap) - 10"

Width - 1 3/4"

Thickness - 7/16"

### **Type:**

Outfitted

### **Power:**

3-volt watch battery (CR2025)

### **Fuse:**

N/A

### **Restraint:**

Wristband wraps around crewmembers' arm. A wristband extender, P/N SED33105589-701 (small), -703 (medium), -705 (large), or -707 (xlarge), is required if wearing the watch outside the wrist area of the orange launch suits.

### **Stowage:**

Watch may be worn on the outside of the orange launch suit, when wristband extender is used. This watch may also be soft stowed in crewmember's luggage, in a pocket, or in a mid-deck locker. It MAY NOT be worn inside/under the orange launch suit.

### **Limited Life:**

Battery has a life span of 2-3 years.



**Lineage:**

JSC CTSD modified off-the-shelf hardware for ISS

Vendor: Timex Corp

Vendor P/N: 78041

**Reference Documents:**

GCAR G4107 Rev.B

CR G08645

ARM JSC 47642

VM JSC 47654

RAESR JSC 47701

Materials MATL-01-212

MATL-03-0373

MUA LM/ISS-120

**Contact:**

Bum Jacinto

## **VASELINE INTENSIVE CARE LOTION (WATER RESISTANT) PART NO. 528-41042-3**

---

### **DESCRIPTION:**

- This product was certified for compliance with the alcohol ban.
- Vaseline Intensive Care Lotion (Water Resistant) is manufactured by Cheeseborough Ponds USA.
- Composition is water, glycerin, distearyldiammonium chloride, cetyl alcohol, methyl palmitate, caprylic/capric triglyceride, steareth-21, dimethicone, tocopheryl acetate, retinyl palmitate, sunflower (helianthus annus) oil, polyquaternium-7, butylenes glycol, BHT, fragrance, corn oil, sodium chloride, DMDM hydantoin, iodopropynyl butylcarbamate, and titanium dioxide.
- Expected usage rate on orbit- as needed.

### **Weight:**

0.81 lb

### **Volume or Measurements:**

3.3" x 7.5" x 1.5"

**Type:** Consumable

**Power:** N/A

**Fuse:** N/A

**Restraint:** N/A

**Stowage:** Locker stowed for launch and landing; SSP and ISS operational location- crew cabin

**Limited Life:** N/A

### **Lineage:**

Commercial Off-the-Shelf (COTS) hardware

Vendor: Cheeseborough Ponds USA

### **Reference Documents:**

FCE CCB CR G08745

ISS Program CR 006982

GCAR G4732

Material-only certification: MATL-03-107, MATL-03-122,

Toxicology certification: HMST 11849

### **Contact:**

Patricia Barrett



**X-STATIC CLOTHING**

<b>PART NO.</b>	<b>SLG33114899</b>	<b>-001</b>	<b>Socks, Gray Crew</b>
		<b>-003</b>	<b>Socks, Navy Crew</b>
		<b>-005</b>	<b>Socks, Gray Tube</b>
		<b>-007</b>	<b>Socks, Navy Tube</b>
	<b>SLG33114900</b>	<b>-001</b>	<b>T-Shirt, Women's Gray</b>
		<b>-003</b>	<b>T-Shirt, Women's Navy</b>
		<b>-005</b>	<b>T-Shirt, Men's Gray</b>
		<b>-007</b>	<b>T-Shirt, Men's Navy</b>

**DESCRIPTION:**

- COTS clothing items that contain a silver fiber which reduces odor, static build-up and enhances thermal properties.

**Weight:**

Varies

**Volume or Measurements:**

Varies

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Stowed in crew clothing when not in use.

**Stowage:**

Standard stowage trays or CTB

**Limited Life:**

N/A

**Lineage:**

Commercial Off-the-Shelf products



**Reference Documents:**

GCAR	G4508
CR	G08581R1
Materials	MATL-03-007
MUA	LM/ISS-08

**Contact:**

Patricia Barret



## NO RINSE BODY BATH POUCH ASSY PART NO. SED32103194-302

**NOTE: THE -302 HARDWARE IS RETIRED.**

### DESCRIPTION:

- No rinse body wash (packaged in beverage pouch at USA/FEPC)
- Pouch Beverage Pkg, P/N SDD48101683-001
- Septum Adapter Assy, P/N SED48101796-301
- Straw Assy, P/N SED48101596-302
- Composition:
  - -302:

H2O		84.43%
Triethanolamine Lauryl Sulfate		10.29%
Cocodiethanolamide		2.96%
Propylene Glycol		1.53%
Gaermaben II		0.50%
	Diazolidinyl Urea - 30%	
	Methylparaben - 11%	
	Propylparaben - 3%	
	Propylene Glycol - 56%	
Fragrance		0.30%
Citric Acid		0.05%

**Weight:** 0.04 lbs

### Volume or Measurements:

.25 oz as flown  
6 oz hot water and 2 oz cold water  
added prior to use

### Type:

Consumable

### Power:

N/A

### Fuse:

N/A

### Restraint:

Hook Fastener

### Stowage:

Crew PHK

### Limited Life:

4 years from date of manufacture



**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: No Rinse Laboratories, LLC, Springboro, OH

Vendor P/N: 00900-N (bath concentrate)

Vendor P/N: 00100-NS [new formula No Rinse Body Wash Assy, P/N SEZ33114283-302 (8 OZ), P/N SEZ33114283-312 (2 OZ)]

**Reference Documents:**

GCAR G3106

CR G2996

**Contact:**

Patricia Barrett

## 1.3 EXERCISE EQUIPMENT

### **DEFINITION:**

Equipment, softgoods, and consumables to support ISS exercise and strength maintaining activities.

NOTE: Treadmill, TVIS, CVIS, and other non-portable exercise equipment are provided by Wyle Biomedical Systems Division and are not included in this document.

### **END-ITEMS:**

EGGSERCIZER .....	85
EXCERISE TUBING ASSEMBLY .....	87
FINGER EXERCISER .....	89
FOAM BALL.....	90
GRIP MASTER .....	91
GRIP STRENGTH DYNAMOMETER.....	92
PINCH GAUGE.....	93
POWER STICK .....	94
POWER WEB.....	95

## EGGSERCIZER PART NO. SDD33111962-001

---

### **DESCRIPTION:**

- Foam egg is placed in palm of hand and squeezed to maintain muscle tone in fingers and hand

### **Weight:**

3.16 oz

### **Volume or Measurements:**

1.5" x 2.8" x 3.0"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Health for Life

Vendor P/N: EC0009

### **Reference Documents:**

GCAR G3231

Materials MATL-99-142

### **Contact:**

Terry Wille



## **EXERCISE SURFACE BOOTIES PART NO. 9770R**

---

### **DESCRIPTION:**

- Black, 100% Nylon Bootie for use with contingency exercise device
  - Slips over running shoe to create a slick surface for running in place / slide exercise
- 1" elastic band around opening for secure fit

### **Weight:**

2.72 oz

### **Volume or Measurements:**

12" long, 6" wide

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: MF Athletic Company

Vendor P/N: 9770R

### **Reference Documents:**

GCAR G3947

Materials MATL-01-159

CR SSCN 5333

### **Contact:**

Terry Wille



## **EXCERISE TUBING ASSEMBLY**

### **P/N: SEZ33112286-301**

---

#### **DESCRIPTION:**

- Stretch Latex Tubing used for strength training.

#### **Weight:**

1.893 lbs

#### **Volume or Measurements:**

Envelope Dimensions:

12" x 14" x 2.5" (od)

Each tube is 20ft. long with diameters:

Black: 0.438" (od)

Blue: 0.375" (od)

Green: 0.25" (od)

Red: 0.188" (od)

Yellow: 0.125" (od)

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Velcro

#### **Stowage:**

Packed with crew preference items

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD COTS for ISS



**Reference Documents:**

GCAR G3255

Vendor: Integrated Medical Inc.

Part numbers:

Black: HYG03318 Blue: HYG3319

Green: HYG3320 Red: HYG3321

Yellow: HYG3322

**Contact:**

Terry Wille

## **FINGER EXERCISER**

### **PART NO. SDD33111963-001**

---

#### **DESCRIPTION:**

- Rubber membrane surrounded by plastic frame
- The finger exerciser is used by placing the thumb through the hole and all four fingers on the rubber membrane
- This equipment is used to maintain muscle tone

#### **Weight:**

2.77 oz

#### **Volume or Measurements:**

5.8" x 7.4" x 0.5"

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Stowed when not in use

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Abilitations

Vendor P/N: 1-78657-194

#### **Reference Documents:**

GCAR G3231

Materials MATL-99-142

#### **Contact:**

Terry Wille





## FOAM BALL

**PART NO. SDD33111961    -001 YELLOW 7" DIA**  
**-003 GREEN    6.25" DIA**

---

### DESCRIPTION:

- These foam balls are used by squeezing with each hand
- The green and yellow balls provide varied resistance for maintaining hand strength

### **Weight:**

-001 2.6 oz  
-003 2.27 oz

### **Volume or Measurements:**

See Heading

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Standard Stowage Tray

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Sportime

P/N: -001 1-52986-191

-003 1-07650-191

### **Reference Documents:**

GCAR G3231

Materials MATL-99-142

### **Contact:**

Terry Wille



**GRIP MASTER**  
**PART NO. SDD33111967-001 (RED)**  
**-003 (BLACK)**

---

**DESCRIPTION:**

- Individual finger buttons
- Rubber grip
- Used to maintain grip strength

**Weight:**

2.76 oz

**Volume or Measurements:**

3.6" x 3.0" x 0.9"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Stowed when not in use

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Health for Life

Vendor P/N: GM0009

**Reference Documents:**

GCAR G3231 (Red)

G3926 (Black)

Materials MATL-99-142

CR SSCN 005073 (Black)

**Contact:**

Terry Wille



## GRIP STRENGTH DYNAMOMETER PART NO. SDD33111968-001

---

### DESCRIPTION:

- Grip strength measured from 0-100 kgf

### **Weight:**

1.37 lbs

### **Volume or Measurements:**

9.5" x 2.3" x 6.0"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed when not in use

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Takei Scientific Instruments Co.

Vendor P/N: TKK5001 Grip-A

### **Reference Documents:**

GCAR	G3453 (New) (Grandfathered for use on ISS)
GCAR	G3421 (Old) (Original certification for use on SS)
CR	G05338
Cert. Proj. Req.	JSC17038
SAR	SAR-42
Materials	MATL-00-005

### **Contact:**

Terry Wille



## **PINCH GAUGE**

### **PART NO. SDD33111965-001**

---

#### **DESCRIPTION:**

- Measures pinch strength from 0-60 lbf or 0-25 kgf.

#### **Weight:**

5.42 oz

#### **Volume or Measurements:**

1.5" x 3.4" x 1.0"

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Wrist tether, stowed when not in use

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Creative Health Products

Vendor P/N: T-2T

#### **Reference Document:**

GCAR G3231

Materials MATL-99-142

#### **Contact:**

Terry Wille



## **POWER STICK**

### **PART NO. SDD33111966-001**

---

#### **DESCRIPTION:**

- Increase / decrease resistance by turning ends for multiple levels of workout
- Foam grips
- Used for wrist and forearm exercise

#### **Weight:**

4.62 lbs

#### **Volume or Measurements:**

17.0" x 2.0" dia

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Stowed when not in use

#### **Stowage:**

Standard Stowage Trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Health for Life

Vendor P/N: PK0009

#### **Reference Documents:**

GCAR G3231

Materials MATL-99-142

#### **Contact:**

Terry Wille



## **POWER WEB**

### **PART NO. SDD33111964-001**

---

#### **DESCRIPTION:**

- Rubber web held in shape by metal ring.
- The power web is used by placing the fingers of one hand in the holes and squeezing.
- This equipment is used to maintain dexterity and muscle tone in the fingers and hands.

#### **Weight:**

13.58 oz

#### **Volume or Measurements:**

0.5" x 14.0" dia

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Stowed when not in use

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD off-the-shelf for ISS

Vendor: Sportime

Vendor P/N: 1-42890-194

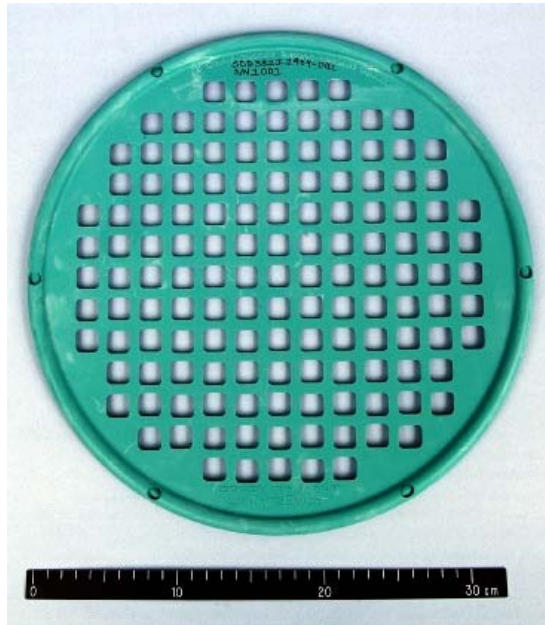
#### **Reference Documents:**

GCAR G3231

Materials MATL-99-142

#### **Contact:**

Terry Wille



## **1.4 INVENTORY MANAGEMENT**

### **DEFINITION:**

Equipment to support identification of consumables and loose equipment.

### **END-ITEMS:**

BAR CODE READER ..... 97

## **BAR CODE READER (BCR)** **Part NO. SEG33109788-302**

---

### **DESCRIPTION:**

- Replaces -301 Configuration
- Portable LASER scanner to read bar codes for on-orbit inventory control
- 8 MB RAM
- Class II LASER (640-680 nm wavelength, 1.0 MW maximum output)
- Transfers data to computer via data cable (SEG33109789-301)
- Mobile Base Assembly (SEG33111319-301) charging time: 4 hours from 0%, trickle charge at 100%
- Rechargeable NiMH Battery
- Eliminates need for direct cable interface by incorporating RF mode to transmit data to a laptop

### **Weight:**

0.9 lbs

### **Volume or Measurements:**

7 3/16" x 2 5/8" x 2 3/16"

### **Type:**

Outfitted

### **Power:**

Dolphin NiMH Battery Pack Assy, P/N SEG33109788-321  
3.6 V, 1500 mAh: 10 hours of operation on fully charged battery

Bar Code Reader Cable Assy, P/N SEG33109789-302

Battery Charged in BCR Mobile Base Assy, P/N  
SEG33111319-301

Mobile Base Assy powered via 28V PEEK or Shuttle  
Connector using Power Cable, P/N SEG33109789-302

### **Fuse:**

Thermal Fuse 0.5A in mobile base

### **Restraint:**

Velcro hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

Replace Battery after 5 years



Mobile Base Assy



**Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Hand Held Products

BCR P/N: 90021080

Batt P/N: 200-00233

JSC CTSD New Development for ISS

Mobile Base Assy

**Reference Documents:**

GCAR	G3597
Materials	MATL-00-035A
CR	G05453
MUA	LM/ISS-35
Cert./Proj. Req.	JSC17038

**Contact:**

Craig Perez

## 1.5 PORTABLE ILLUMINATION

### **DEFINITION:**

Portable task lighting to support nominal work activities.

### **END ITEMS:**

COMBINATION LIGHT ASSEMBLY .....	100
CREW MEMBER FLASHLIGHT .....	102
FIBER-OPTIC PENLIGHT ADAPTER ASSEMBLY .....	104
HEADBAND PENLIGHT HOLDER ASSEMBLY .....	105
HEADLAMP LIGHT SOURCE ASSY .....	106
IVA PORTABLE UTILITY LIGHT ASSEMBLY .....	107
LED HEADLAMP ASSEMBLY .....	109
SNAKELIGHT ASSY .....	110

**COMBINATION LIGHT ASSEMBLY**  
**OPS NOM: ARC WHITE FLASHLIGHT (AWFL)**  
**PART NO. SEZ33115753-301 (WITH BATTERIES INSTALLED)**  
**PART NO. SEZ33115753-303 (WITHOUT BATTERIES INSTALLED)**

---

**DESCRIPTION:**

- The Arc White Flashlight (AWFL) consists of a commercial off-the-shelf Energizer Arc White from Eveready, part number CFL420.
- This flashlight runs on four (4) AA Alkaline Batteries.
- It is a dual purpose flashlight, which provides incandescent or fluorescent illumination for the crewmember.

**Weight:**

0.4 lb with batteries installed  
0.2 lb without batteries

**Volume or Measurements:**

5.90" x 2.20" x 1.85"

**Type:**

Outfitted



**Power:**

Four (4) AA Alkaline Batteries, P/N 528-41350-3, will be supplied by USA/FCE. The batteries are non-rechargeable.

**Fuse:**

N/A

**Restraint:**

Velcro hook

A wrist tether may be attached utilizing the following:

- Book, Tether Assembly (12") SEC32100180-313
- Book, Tether Assembly (24") SEC32100180-314
- Book, Tether Assembly (36") SEC32100180-315

**Stowage:**

The AWFL is locker stowed except for on-orbit use.

**Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

**Lineage:**

JSC modified Commercial-Off-the-Shelf (COTS) for STS and ISS

Vendor: Eveready

P/N: CFL420

**Reference Documents:**

GCAR	G4637
ARM	JSC60366
VM	JSC60367
RAESR	JSC60418
Materials	MATL-03-087

**Contact:**

Craig Perez

**CREW MEMBER FLASHLIGHT**

<b>PART NO. 528-20084</b>	<b>-3</b>	<b>Clear Lens</b>
	<b>-4</b>	<b>Red Lens</b>
	<b>-5</b>	<b>Clear Lens w/ Lanyard</b>
	<b>-6</b>	<b>Red Lens w/ Lanyard</b>

---

**DESCRIPTION:**

- Provides 2200 Peak Beam Candlepower light (clear lens)
- Fits into Headband Penlight Holder Assy (SEG33112399-301) for hands-free light
- 4.5 hours to 25% initial light output
- Bulb life: 20 hours
- Spare bulb in end cap
- Spare bulbs (P/N 107-000-003) found in Spare Bulb Kit (P/N 528-21064-2)
- Adjustable beam width

**Weight:**

3.78 oz.

**Volume or Measurements:**

5 ¾" x 1" dia

**Type:**

Outfitted

**Power:**

Two (2) AA Alkaline Batteries (non-rechargeable)

**Fuse:**

N/A

**Restraint:**

Hook fastener

**Stowage:**

Standard Stowage Trays / Crew Preference Bag

**Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: Maglite

P/N: Mini Maglite AA

Bulb P/N: LM2A001

107-000-227

107-000-003

**Reference Documents:**

GCAR            G4385  
Materials       ES5-86-112L  
                     ES5-88-087M

**Contact:**

Craig Perez

## **FIBER-OPTIC PENLIGHT ADAPTER ASSEMBLY PART NO. SEG33109827-301**

---

### **DESCRIPTION:**

- One of two Penlight Accessories developed for the ISS
- Directs STS developed penlight beam to tight and hard to reach places
- 13 inch length

### **Weight:**

0.1 lbs

### **Volume or Measurements:**

36 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Screws into penlight housing

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

P/N: 6545352

### **Reference Documents:**

EIS SSP50345

GCAR G3282

### **Contact:**

Fatonia Rivera



## **HEADBAND PENLIGHT HOLDER ASSEMBLY PART NO. SEG33112399-301**

---

### **DESCRIPTION:**

- One of two Penlight Accessories developed for the ISS
- Allows the crewmembers to hold and position the STS-developed penlight with minimum use of their hands

### **Weight:**

0.1 lbs

### **Volume or Measurements:**

27 cu in

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Wraps around crewmember's head while securing light.

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

Vendor P/N: 11525T85

### **Reference Documents:**

EIS SSP50345

GCAR G3282

### **Contact:**

Fatonia Rivera



## **HEADLAMP LIGHT SOURCE ASSY PART NO. SJZ33114010-301**

---

### **DESCRIPTION:**

- Provide hands-free light source for crew member
- Head strap adjusts to fit various size heads
- Bulb life: 14 hours
- Spare bulbs (P/N SEZ33114030-501) found in Spare Bulb Kit Assy (P/N SJZ33114014-301)

### **Weight:**

5 oz.

### **Volume or Measurements:**

3" x 2" x 2.5"

### **Type:**

Outfitted



### **Power:**

Two (2) AA Alkaline Batteries (non-rechargeable) 5-hour battery life

### **Fuse:**

N/A

### **Restraint:**

Velcro hook fastener

Elastic headband used to secure headlamp light source assembly to crew member's head.

### **Stowage:**

Standard stowage trays / Crew Preference Bag

### **Limited Life:**

AA Alkaline batteries have shelf life of 3 years from manufacture

### **Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: L.L. Bean Inc., supplied by Scott Resources, Inc.

P/N: OAN68-12

### **Reference Documents:**

EIS JSC40103

SAR JSC29222

GCAR G3783

Materials MATL-01-053

### **Contact:**

Fatonia Rivera

## **IVA PORTABLE UTILITY LIGHT ASSEMBLY**

### **PART NO. SEG33107306-301**

### **-303**

---

#### **DESCRIPTION:**

- Allows in-site lamp change out
- Equipped with a handle (for two fingers) on the back of the unit translation
- Equipped with a dimmer to control light intensity
- Internal fan for cooling
- 14 foot power cable (non-removable)
- On-orbit 35-watt spare bulb can convert the on-orbit spare -301 configuration to a -303 configuration by replacing the -301 50-watt bulb with the 35-watt spare bulb.
- The -301 configuration is not to be used with any UOP without GFCI protection. The -301 currently on orbit will be configured to -303 if the current TeSS light needs to be replaced.
- **-303 Configuration:**
  - Modified for use only in Temporary Sleep Stations (TeSS) by the installation of an on-orbit external ground wire to meet shock hazard requirements.
  - 35-watt bulb beam spread is 40 degrees
  - A 35-watt bulb contained in the lens housing

#### **Weight:**

3.84 lbs

#### **Volume or Measurements:**

198.4 cu in

#### **Type:**

Outfitted

#### **Power:**

120 VDC UOP, .5 amps

Lamp Assembly, SEG33111358-303, nominally provides 3500 hours of life

#### **Fuse:**

1.0 amp fuse

#### **Restraint:**

The Portable Utility Light has a Camera Shoe interface (Shuttle Part No.SED33105356-303) that allows the light assembly to interface with either the ISS Flexible Bracket or the ISS Multi-use Bracket for attachment to the Seat Track. A Spring Clamp is also provided to allow the Portable Utility Light to interface with the ISS structure where Hand Rails are provided. The light also has a fabric handle.

#### **Stowage:**

Standard stowage tray

#### **Limited Life:**

N/A



**Lineage:**

PUL

EIS No. JSC 27199, JSC CTSD New Development for ISS

Bulb

Vendor: GE Lighting

P/N -303 35MR16/Q/40/TL

P/N -301 50MR16/Q/60/TL

**Reference Documents:**

EIS JSC27199

Materials MATL-98-186 (Original Configuration)

MATL-01-155 (TeSS Configuration)

Training Manual LMSMSS 32707

Stress HDID-SAS-98-0233

SAR JSC 28434

GCAR G3933 (TeSS)

PDA Procedure JSC-28462

ISS EMEP TIA#0792

**Contact:**

Feng Li

**LED HEADLAMP ASSEMBLY**  
**PART NO. SEZ33103989-301 (WITH BATTERIES INSTALLED)**  
**-303 (WITHOUT BATTERIES INSTALLED)**

---

**DESCRIPTION:**

- The LED Headlamp Assy. consists of a commercial off-the-shelf Tikka Headlamp from Petzl, Inc., part number E43P.

**Weight:**

.07 kg with batteries installed  
 .04kg without batteries installed

**Volume or Measurements:**

4" x 2.5" x 2.75"

**Type:**

Outfitted



**Power:**

Three (3) AAA Alkaline batteries are required. They are provided by United Space Alliance (USA) Flight Crew Equipment (FCE) and are non-rechargeable.

**Fuse:**

N/A

**Restraint:**

Crew-worn

**Stowage:**

The LED Headlamp Assy. is locker stowed except for on-orbit use.

**Limited Life:**

AAA Alkaline Battery: 3 years from date of manufacture

**Lineage:**

JSC modified Commercial-Off-the-Shelf (COTS) for ISS

Vendor: Petzl, Inc.

Vendor P/N: E43P

**Reference Documents:**

CR	SSCN 7397
ARM	JSC 60314 CTSD-SS-2671
VM	JSC 60315 CTSD-SS-2672
Materials	MATL-03-055
HA (Short)	JSC 60325 CTSD-SS-2676
Battery Memo	EP-03-02
GCAR	G4582

**Contact:**

Fatonia Rivera

## **SNAKELIGHT ASSY PART NO. SED3311320-301**

---

### **DESCRIPTION:**

- Small Flexible Light
- Powered by two (2) Alkaline AA Batteries
- Spare bulbs found in Spare Bulb Kit (P/N 528-21064-3)

### **Weight:**

.395 lb

### **Volume or Measurements:**

7.4" x 2.3" x 1.1"

### **Type:**

Outfitted



### **Power:**

Two (2) AA Alkaline Batteries (non-rechargeable)

Replace bulb (P/N 173618-00) at failure. Specifications require a minimum bulb life of 8 hours at 2.4 VDC.

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

AA Alkaline Batteries: 3 years from date of manufacture

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Black & Decker

P/N: SLM1

Bulb P/N: 173618-00

### **Reference Documents:**

EIS JSC17038

Materials MATL-00-0027

SAR G3446

GCAR G3446

**Contact:** Craig Perez

## 1.6 RESTRAINTS AND MOBILITY AIDS

### **DEFINITION:**

Portable intravehicular activity (IVA) crew and equipment translation and restraint devices.

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### **3 - INCH BUNDLING WRAP ASSEMBLY PART NO. SEG33109828-301**

---

**DESCRIPTION:**

- Teflon helical bundling ties used to organize and secure data cables and wires 5/16"-3" dia.

**Weight:**

.4 lbs, 10 foot lengths

**Volume or Measurements:**

54 cu in

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Self secure to wire/data cable

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

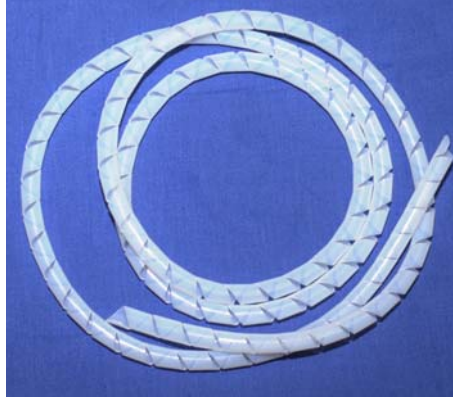
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**Reference Documents:**

GCAR G3508

**Contact:**

Keshla Johnson



## **8 - INCH BUNDLING WRAP ASSEMBLY PART NO. SEG33112403-301**

---

### **DESCRIPTION:**

- Teflon helical bundling ties used to organize and secure data cables and wires 15/16"-8" dia.

### **Weight:**

1.2 lbs, 10 foot lengths

### **Volume or Measurements:**

144 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Self secure to wire/data cable

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

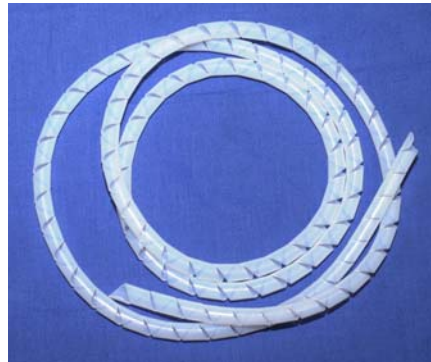
P/N: 70085K71

### **Reference Documents:**

GCAR G3508

### **Contact:**

Keshla Johnson





## LARGE ADJUSTABLE BUNGEE

PART NO. SEG33107626

- 302 with Goretex sleeving
  - 304 without Goretex sleeving
  - 306 redesign without Goretex sleeving
  - 308 per MIL-C-5651D
- 
- 

### DESCRIPTION:

- 36-72 inch bungee (measured from hook end to hook end, unloaded)
- 1 spring closed stainless steel hook at each end, and a third hook used for length adjustment.
- Used to restrain miscellaneous items (elastically tie down).
- Designed to interface with the Seat Track Stud and other bungees.
- -302, - 304 certifications rescinded for design flaw, elastic loop could not hold bungee clips under loading
- -306 was redesign, comes only without Goretex sleeving
- -308 was redesigned to manufacture the bungee cord per MIL-C-5651D

### **Weight:**

4.8 oz

### **Volume and Measurements:**

32 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track Stud and/or Bungee Ring

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS



**Reference Documents:**

GCAR	G3072 (-302)
	G3232 (-304)
	G3855A (-306)
CR	G05961 (-308)
EIS	JSC27167B (-302,-306)
Materials	MATL-98-121 (-302)
	MATL-99-136 (-304)
	MATL-01-087 (-306)
MUA	LM/ISS-14R1 (-306)
PMP	SSP50158 (-302,-306)
PDA Procedure	JSC-28462
RAESR	JSC28427 (-302,-306)

**Contact:**

Keshla Johnson

## LARGE NON-ADJUSTABLE BUNGEE

**PART NO. SEG33107625**     **-302 with Goretex sleeving**  
   **-304 without Goretex sleeving**  
   **-306 redesign without Goretex sleeving**  
   **-308 per MIL-C-5651D**

---

---

### DESCRIPTION:

- 14 inch bungee (measured from hook end to hook end, unloaded)
- 1 spring closed stainless steel hook at each end.
- Used to restrain miscellaneous items (elastically tie down).
- Designed to interface with the Seat Track Stud and other bungees.
- -302, - 304 certifications rescinded for design flaw, elastic loop could not hold bungee clips under loading
- -306 was redesign, comes only without goretex sleeving
- -308 was redesigned to manufacture the bungee cord per MIL-C-5651D

### **Weight:**

4 oz

### **Volume or Measurements:**

14 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track Stud and/or Bungee Ring

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3072 (-302)
	G3232 (-304)
	G3855A (-306)
CR	G05961 (-308)



EIS	JSC27167B (-302)
	JSC27167B (-306)
Materials	MATL-98-121 (-302)
	MATL-99-136 (-304)
	MATL-01-087 (-306)
PMP	SSP50158 (-302)
RAESR	JSC28427 (-302)

**Contact:**  
Keshla Johnson

## SMALL ADJUSTABLE BUNGEE

PART NO. SEG33107626

- 301 with Goretex sleeving
  - 303 without Goretex sleeving
  - 305 redesign without Goretex sleeving
  - 307 per MIL-C-5651D
- 

### **DESCRIPTION:**

- 18-36 inch bungee (measured from hook end to hook end, unloaded)
- 1 spring closed stainless steel hook at each end, and a third hook used for length adjustment.
- Used to restrain miscellaneous items (elastically tie down).
- Designed to interface with the Seat Track Stud and other bungees.
- -301, - 303 certifications rescinded for design flaw, elastic loop could not hold bungee clips under loading
- -305 was redesign, comes only without Goretex sleeving
- -307 was redesigned to manufacture the bungee cord per MIL-C-5651D.

### **Weight:**

3.52 oz

### **Volume or Measurements:**

24 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track Stud and/or Bungee Ring

### **Stowage:**

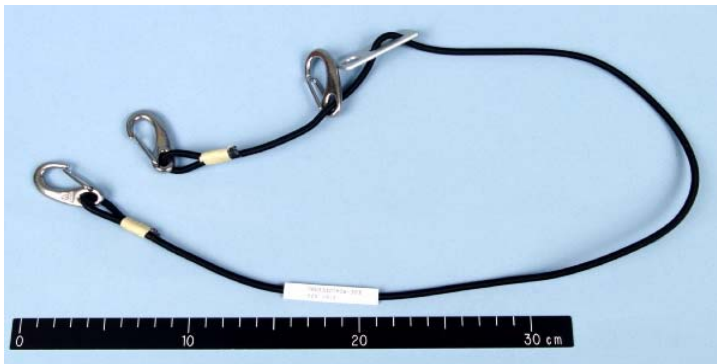
Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS



**Reference Documents:**

GCAR	G3072 (-301)
	G3232 (-303)
	G3855A (-305)
EIS	JSC27167B (-301,-305)
PMP	SSP50158 (-301,-305)
MUA	LM/ISS-14 Rev1 (-305)
RAESR	JSC28427 (-301)
	JSC28427A (-305)
Materials	MATL-98-121 (-301)
	MATL-99-136 (-303)
CR	G05961 (-307)
PDA Procedure	JSC-28462

**Contact:**

Keshla Johnson

**SMALL NON-ADJUSTABLE BUNGEEES**  
**PART NO. SEG33107625-303 without Goretex sleeving**  
**-305 new design without Goretex sleeving**  
**-307 per MIL-C-5651D**

---

**DESCRIPTION:**

- 8 inch bungee (measured from hook end to hook end, unloaded)
- 1 spring closed stainless steel hook at each end.
- Used to restrain miscellaneous items (elastic tie-down).
- A stainless steel ring is attached to one of the ends, next to a hook to allow attachment of another bungee.
- Designed to interface with the Seat Track Stud and other bungees.
- -301, - 303 certifications rescinded for design flaw, elastic loop could not hold bungee clips under loading
- -305 was redesigned, comes only without Goretex sleeving
- -307 was redesigned to manufacture the bungee cord per MIL-C-5651D.

**Weight:**

1.6 oz

**Volume or Measurements:**

8 cu in

**Type:**

Outfitted



**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Seat Track Stud and/or Bungee Ring

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3072 (-301)
	G3232 (-303)
	G3855A (-305)
CR	G05961 (-307)
EIS	JSC27167B (-301)
	JSC27176A (-305)
Materials	MATL-98-121 (-301)
	MATL-99-136 (-303)
	MATL-01-087 (-305)
PMP	SSP50158 (-301)
	SSP50158 (-305)
RAESR	JSC28427 (-301)
	JSC28427A (-305)
MUA	LM/ISS-14 Rev1 (-305)
PDA Procedure	JSC-28462 (-305)

**Contact:**

Keshla Johnson



**MPLM BUNGEE KIT (36"-72")**  
**PART NO. SEG33107626-306**  
**PART NO. SEG33110621-003**

---

**DESCRIPTION:**

- Series of Adjustable Bungees that crisscross to form webbing that interfaces with seat track studs that attach to the seat track.
- Designed to provide temporary on orbit stowage.
- Certified to launch in place.
- Not certified to restrain anything during launch or landing.

**Weight:**

80.8 oz.

**Volume or Measurements:**

517.5 cu

**Type:**

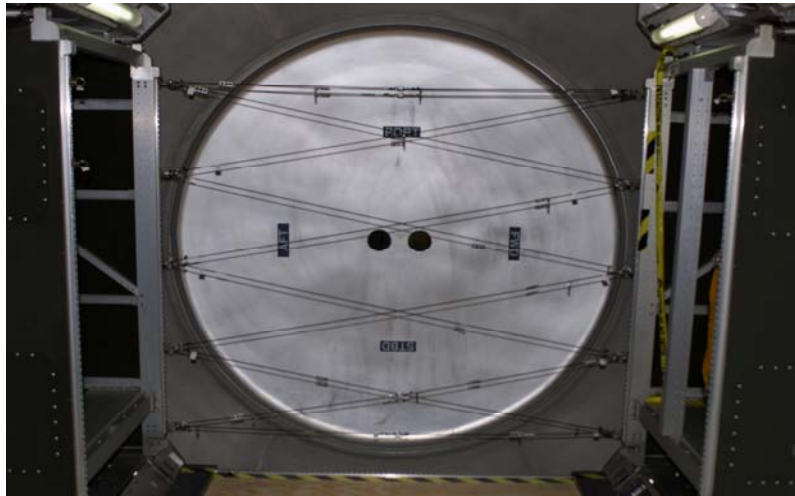
Outfitted

**Power:**

N/A

**Fuse:**

N/A



**Restraint:**

Seat Track

**Stowage:**

Launch Installed

**Limited Life:**

N/A

**Lineage:**

JSC Modified Shuttle for ISS

**Reference Document:**

GCAR	G4329
GCAR	G4330
Proj. Req.	JSC27167
PMP	SSP50158
SAR	JSC28427A
Materials	MATL-01-087
MUA	LM/ISS-14 Rev1
CR	SSCN5871A

**Contact:**

Keshla Johnson

## **CABLE RESTRAINT PART NO. SDG33107627-001**

---

### **DESCRIPTION:**

- 1.75" ID spring loaded stainless steel pass through that restrains wires and cables against the seat track interface.
- Provides a means of restraining cables and wires.
- Designed to interface with seat track.

### **Weight:**

.32 oz

### **Volume or Measurements:**

6.76 cu in

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC Modified Shuttle for ISS

### **Reference Documents:**

GCAR	G3073
PDA Procedure	JSC-28462
Proj. Req.	JSC27167
PMP	SSP50158
SAR	JSC28428
Materials	MATL-98-119
EIS	JSC27167B

### **Contact:**

Feng Li

**CABLE TRAY ASSY**  
**PART NO. SEG33113708**      **-301 1.5" TRAY**  
**-303 2.0" TRAY**

---

**DESCRIPTION:**

- Each cable tray provided is 2 foot length
- Removable cover that slides or snaps onto the channel to retain wires & cables
- Cable trays may be installed using double-sided tape or Velcro
- Clear polycarbonate material

**Weight:**

1.5" Tray - .64 lb ea

2.0" Tray - .72 lb ea

**Volume or Measurements:**

1.5"/2.0" x 1.5" x 3'

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook fastener or double-sided tape (not included)

**Stowage:**

Standard stowage trays

**Limited Life:**

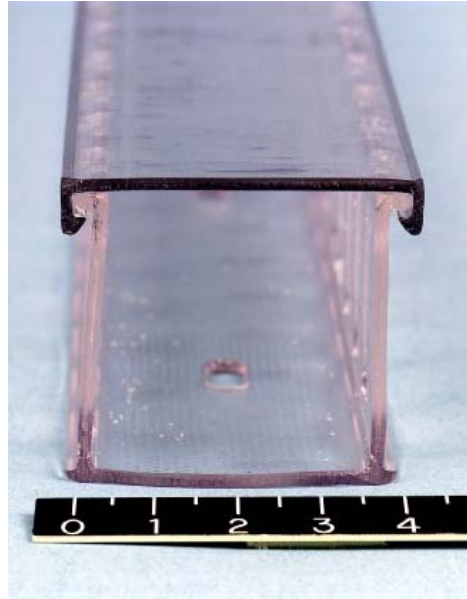
N/A

**Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Panduit

P/N:	PC2CL6	Cable Tray Cover
P/N:	PE2.0x1.5CL6	Cable Tray
P/N:	PC1.5CL6	Cable Tray Cover
P/N:	PE1.5x1/5CL6	Cable Tray



**Reference Documents:**

GCAR	G3565
Cert. Req.	JSC40013
CR	G05724
Materials	MATL-00-173
Proj. Req.	JSC29061
RAESR	JSC29074

**Contact:**

Feng Li

## **FLEXIBLE BRACKET PART NO. SEG33107630-301**

---

### **DESCRIPTION:**

- Similar to the current Shuttle LocLine Bracket with the exception that it is adapted to interface with the seat track.
- Consists of a series of flexible hose segments which fit together to form a flexible bracket.
- A camera shoe interface (female) is provided on the Flexible Bracket. Attaching hardware must have a male camera shoe interface or have Part No. SDD33103310-001 (Stainless Steel) or SDD33103310-002 (Aluminum) incorporated as part of the equipment's assembly in order to attach to the Flexible Bracket.

### **Weight:**

.7 lbs

### **Volume or Measurements:**

112.5 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

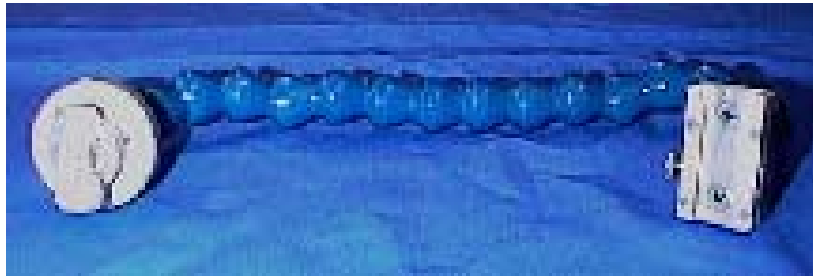
EIS No. JSC 27170, JSC CTSD Modified Shuttle for ISS

### **Reference Documents:**

GCAR	G1722
EIS	JSC27167B
CR	SSP54101-2
Materials	MATL-98-042
Stress	HDID-SAS-98-0036
PDA Procedure	JSC-28462

### **Contact:**

Keshla Johnson



## **ISS HANDRAIL CLAMP ASSY. PART NO. SEG33107633-301**

---

### **DESCRIPTION:**

- Attaches to a standard U.S. only Hand Rail in order to provide a seat track interface at that location.

### **Weight:**

.54 lbs

### **Volume or Measurements:**

11 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Handrail

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

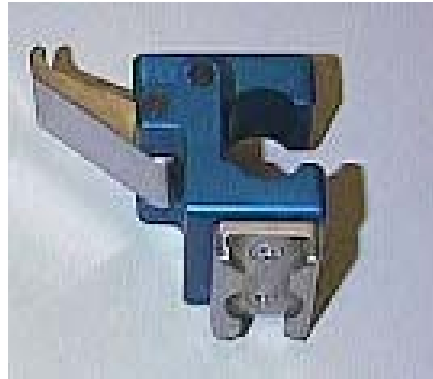
EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G1723	EIS	JSC27167B
PDA Procedure	JSC-28462	Materials	MATL-98-041
CR	SSP54101-2	Stress	HDID-SAS-98-0062

### **Contact:**

Feng Li



## **LONG DURATION CREW MEMBER RESTRAINT PART NO. SEG33107621-301**

---

### **DESCRIPTION:**

- Provides support at the toe, ankle, and calf areas and can provide comfort for long duration tasks.
- Adjustable support designed to hold a crew member's body in a semi sitting position
- Has 4 foam support pads that provide support to the top and bottom of feet.
- Pads slip over the CFE provided rails and can be used with and without the knee support.
- Attaches to the Contractor Furnished Equipment (CFE) Long Duration Foot Restraint Rail Assembly, Part number G11F5008-1 of the CFE Long Duration Foot Restraint, Part number G11F5000-1.
- Two foam support pads provide support behind the knee.

### **Weight:**

11.1 lbs

### **Volume or Measurements:**

1 cu ft

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Attaches to the Contractor Furnished Equipment (CFE) Long Duration Foot Restraint Rail Assembly, Part number G11F5008-1 of the CFE Long Duration Foot Restraint, Part number G11F5000-1.

### **Stowage:**

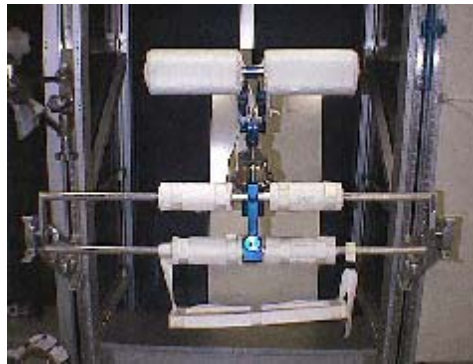
Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS



**Reference Documents:**

GCAR	G3069
PDA Procedure	JSC-28462
EIS	JSC27167
PMP	SSP50158
SAR	JSC28429
Materials	MATL-98-122
Stress	HDID-SAS-98-0241

**Contact:**

Feng Li



## **MULTIUSE BRACKET PART NO. SEG33107631-301**

---

### **DESCRIPTION:**

- Similar to the current Shuttle Multiuse Bracket with the exception that it is adapted to interface with the seat track.
- A mechanical arm with a central elbow and ball joints on each end.
- A single knob at the elbow joint tightens all joints.
- A camera shoe interface (female) is provided on the Multiuse Bracket. Attaching hardware must have a male camera shoe interface or have Part No. SDD33103310-001 (Stainless Steel) or SDD33103310-002 (Aluminum) incorporated as part of the equipment's assembly in order to attach to the Multiuse Bracket.

### **Weight:**

2.5 lbs

### **Volume or Measurements:**

180 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD Modified Shuttle for ISS

### **Reference Documents:**

GCAR	G1724	Materials	MATL-98-040
PDA Procedure	JSC-28462	Stress	HDID-SAS-97-0270
EIS	JSC27167B	FW&T	JSC65529
CR	SSP54101-2		

### **Contact:**

Feng Li



## PANEL COVERS

### PART NO. SEG33107639-301

---

#### **DESCRIPTION:**

- A 16" x 41" Aluminum panel that attaches to a rack front and provides workspace and pile fastener attachment points. (The panel spans the width of an ISS rack and covers approximately ¼ of the rack front.)
- 2" x 2" squares of pile fasteners are attached to the panel front at 2" intervals.
- The panel attaches to the seat track on either side of a rack front with the aid of four (4) Standoff Assemblies.

#### **Weight:**

6.62 lbs

#### **Volume or Measurements:**

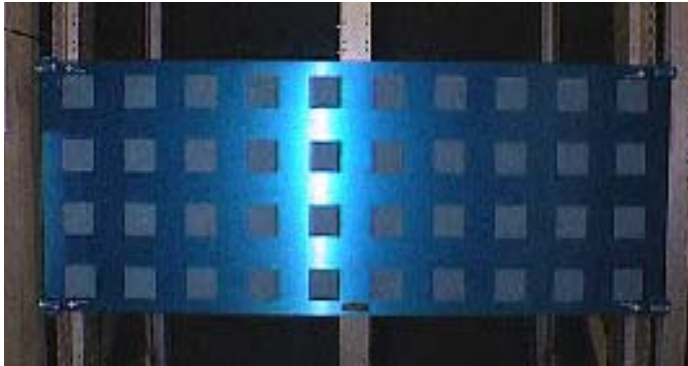
120 cu in

#### **Type:**

Outfitted

#### **Power:**

N/A



#### **Fuse:**

N/A

#### **Restraint:**

Seat Track

#### **Stowage:**

Strapped in STS or Resupply Stowage Platform

#### **Limited Life:**

N/A

#### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

#### **Reference Documents:**

GCAR	G3090	SAR	JSC28430
PDA Procedure	JSC-28462	Materials	MATL-98-126
Proj. Req.	JSC27167	Stress	HDID-SAS-99-0084
PMP	SSP50158		

#### **Contact:**

Feng Li

## **PILE FASTENER RESTRAINT PART NO. SEG33107628-301**

---

### **DESCRIPTION:**

- A small stud which attaches to the seat track.
- On the top of the small stud is a flat section of pile fastener which can be used to hold miscellaneous items including tools.

### **Weight:**

.64 oz

### **Volume or Measurements:**

1.69 cu in

### **Type:**

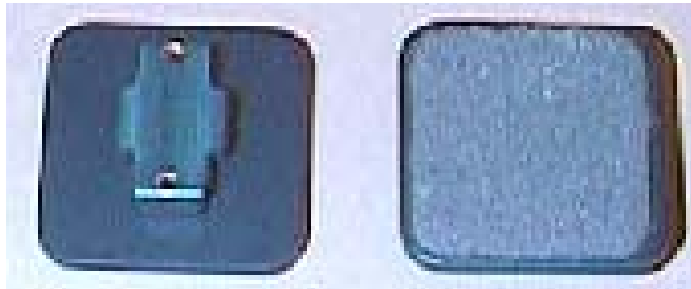
Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

Seat Track

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3070	SAR	JSC28431
PDA Procedure	JSC-28462	Materials	MATL-98-120
PMP	SSP50158		

### **Contact:**

Feng Li

## **PMA RETENTION NET**

### **PART NO. SEG33113429-301**

---

#### **DESCRIPTION:**

- Made of Nomex netting, with the use of webbing around the outside circumference. This webbing houses a small thin metal wire used to help the PMA Retention Net retain its shape when in use. The Nomex netting is reinforced with 1" webbing going across both sides of the face of the netting. The PMA Retention Net uses four Velcro (T-strap), webbing attachment handles to mount to the four PMA handrails along the interior of the PMA.
- Protects PMA hatch when PMA is used for storage.

#### **Weight:**

2.52 lbs

#### **Volume or Measurements:**

66.6 cu. in.

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Handrails in the PMA

#### **Stowage:**

Cargo Transfer Bag (CTB) MLE

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD New Development for ISS

#### **Reference Documents:**

GCAR	G3648
Cert. Req.	JSC29042
SAR	JSC28933
Materials	MATL-00-154
Stress	HDID-SAS-98-0062

#### **Contact:**

Keshla Johnson



## **QUICK TWIST WIRE MOUNT ASSEMBLY PART NO. SEG33112402-301**

---

### **DESCRIPTION:**

- Quick twist clip for securing data cables/wires

### **Weight:**

1.6 oz per 25

### **Volume or Measurements:**

50 cu in per 25

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Adhesive back

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster Carr

Vendor P/N: 70535K65

### **Reference Documents:**

GCAR G3282

### **Contact:**

Feng Li

## **RACK FRONT RESTRAINT ASSY (SPIDER STRAP) PART NO. SEG33115135-301**

---

### **DESCRIPTION:**

- The RFRA was designed to respond to a need to return from ISS packing foam and softgoods.
- The RFRA attaches to the front of a Resupply Stowage Rack (RSR) using its seat tracks to restrain a single Triple sized Crew Transfer Bag (CTB)
- Up to two Triple CTBs may be attached to an RSR
- Stowage requirements and limitations plus installation instructions are sewn onto the face of the RFRA

### **Weight:**

4 lbs

### **Volume or Measurements:**

2" x 33" x 11.5" +/- 0.5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

- Each RFRA is to be used with a single Triple Sized Crew Transfer Bag filled a minimum of 2/3 full of foam and softgoods only.
- The maximum weight of the packed single 3CTB is 80lbs.
- If two RFRA are attached to an RSR, the combined weight of the 3 CTBs and RFRA's must not exceed 100lbs.

### **Stowage:**

The RFRA is to be soft stowed on launch, installed on orbit and installed for landing.

### **Limited Life:**

N/A

### **Lineage:**

Designed and developed for NASA by Lockheed Martin Space Operations Corp.

**Reference Documents:**

GCAR	G4544
CR	6725 Rev1
VM	JSC47907
ARM	JSC47906
SAR	JSC47934
Materials	MATL-03-026
MUA	LM/ISS-114
Stress	MSAD-03-0020

**Contact:**

Feng Li

## **RACK RETENTION NET PART NO. SEG33107623-301**

---

### **DESCRIPTION:**

- Restrain soft goods within large and small zipper pockets on the front of a rack face.
- Spans width of rack and covers 1/2 of rack front (32" x 38" in.)
- Is attached to the seat tracks, via the Rack Seat Track Studs, on both sides of the rack at the four corners.
- Net has 7 zippered pockets with all but the largest having Velcro
- There are 4 - 8"x8" pockets, 2 - 8"x16" pockets, and 1 - 16"x36" pocket.

### **Weight:**

1.86 lbs

### **Volume or Measurements:**

720 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

Attaches to Rack Seat Track Stud,  
Part No. SDG33116021-301 or -303

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3074	PMP	SSP50158
PDA Procedure	JSC-28462	SAR	JSC28432
EIS	JSC27167	Materials	MATL-98-123

### **Contact:**

Keshla Johnson



**RACK SEAT TRACK STUD****PART NO. SDG33110621****-001****-003 Modified for ZSR Seat Track****DESCRIPTION:**

- Attaches to any seat track or seat track button larger than 2"
- Provides the Crew with a 1.12 in. inner diameter ring for hardware restraint attachment.
- Can also be used as an attachment point for bungees, and the rack retention net.

**Weight:**

2.08 oz

**Volume or Measurements:**

3.75 cu in

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Seat Track

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

**Reference Documents:**

(-001)		(-003)	
GCAR	G3071	GCAR	G4379A
EIS	JSC27167B	EIS	JSC27167
SAR	JSC28433	SAR	JSC28433
Materials	MATL-98-173	Materials	MATL-98-123
PMP	SSP50158	PMP	SSP50158
		CR	G08038R7

**Contact:**

Keshla Johnson

## **RING CLIP ASSEMBLY SEG33111332-301**

---

### **DESCRIPTION:**

- Ring Clip Assembly used to interface with the Russian Bungees to provide a placement for them to attach.

### **Weight:**

.24 oz

### **Volume or Measurements:**

1.38" x 1.00" x .06"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Livelock Fastener, P/N CA18184T-6

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS

Clip

P/N: SDG33111331-001

JSC CTSD Modified off-the-shelf for ISS

Ring

Vendor: Rome Fasteners

Vendor P/N: 12S202

### **Reference Documents:**

GCAR G05724

Cert. Req. JSC40013

Proj. Req. JSC29061

RAESR JSC29074

Materials MATL-00-173

### **Contact:**

Keshla Johnson



## RSR TRAY LINERS/DIVIDERS ASSY.

PART NO. SED39135691 -301

-303 thru -309

-311

-313 thru -319

-321

-323 thru -327

-329 thru -335

-337 thru -355

-357 thru -365

-367 thru -373

Single Tray Liner, front/back

Single Tray Liner, left/right

Double Tray Liner, front/back

Double Tray Liner, left/right

Triple Tray Liner, front/back

Triple Tray Liner, left/right

Tray Liner, bottom

Tray Divider, vertical

Tray Divider, vertical

Tray Divider, vertical

### DESCRIPTION:

- Consists of liners, dividers and a restraint net (SED39135692-305) for various RSR Tray sizes
- Cover bottom and sides of tray to provide a cushion for hardware being stowed in RSR Trays
- Vertical dividers divide tray into vertical components

### Weight:

Varies

### Volume or Measurements:

-301	4" x 17" x 1/2"	-303	4" x 9 1/2" x 1/2"
-305	4" x 16 1/2" x 1/2"	-307	4" x 29 1/2" x 1/2"
-309	4" x 33 1/2" x 1/2"	-311	9 1/4" x 17" x 1/2"
-313	9 1/4" x 9 1/2" x 1/2"	-315	9 1/4" x 16 1/2" x 1/2"
-317	9 1/4" x 29 1/2" x 1/2"	-319	9 1/4" x 33 1/2" x 1/2"
-321	14 1/2" x 17" x 1/2"	-323	14 1/2" x 16 1/2" x 1/2"
-325	14 1/2" x 29 1/2" x 1/2"	-327	14 1/2" x 33 1/2" x 1/2"
-329	17" x 9 1/2" x 1/2"	-331	17" x 16 1/2" x 1/2"
-333	17" x 29 1/2" x 1/2"	-335	17" x 33 1/2" x 1/2"
-337	16 3/4" x 4" x 1/2"	-339	16 3/4" x 4 1/2" x 1/2"
-341	4 5/8" x 4" x 1/2"	-343	7 7/8" x 4" x 1/2"
-345	14 3/8" x 4" x 1/2"	-347	16 3/8" x 4" x 1/2"
-349	4 3/8" x 4 1/2" x 1/2"	-351	7 7/8" x 4 1/2" x 1/2"
-353	14 3/8" x 4 1/2" x 1/2"	-355	16 3/8" x 4 1/2" x 1/2"
-357	9 1/4" x 16 3/4" x 1/2"	-359	9 1/4" x 4 3/8" x 1/2"
-361	9 1/4" x 7 7/8" x 1/2"	-363	9 1/4" x 14 3/8" x 1/2"
-365	9 1/4" x 16 3/8" x 1/2"	-367	14 1/2" x 16 3/4" x 1/2"
-369	14 1/2" x 7 7/8" x 1/2"	-371	14 1/2" x 14 3/8" x 1/2"
-373	14 1/2" x 16 3/8" x 1/2"		

### Type:

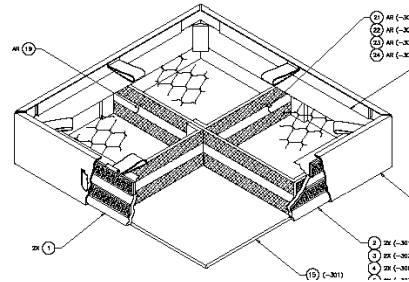
Outfitted

### Power:

N/A

### Fuse:

N/A



**Restraint:**

Inserted into RSR tray

**Stowage:**

RSR Tray

**Limited Life:**

N/A

**Lineage:**

JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3665
CR	SSCN4183
Materials	MATL-00-208

**Contact:**

Feng Li

## **VELCRO CABLE STRAPS**

### **PART NO. 528-43074-1**

---

#### **DESCRIPTION:**

- The Velcro Cable Straps are used to restrain pre-routed cables for various powered hardware, video equipment, etc.
- The Velcro Cable Strap is capable of holding up to 1lb in a 1-G environment.
- Velcro Cable Straps must be installed with a minimum of 1.5" overlap.
- Can only hold cables bundles of 1.75" or less.

#### **Weight:**

0.004 lbm

#### **Volume or Measurements:**

1" x 8" x 0.1"

#### **Type:**

Consumable

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

N/A

#### **Stowage:**

N/A



#### **Limited Life:**

Velcro Cable Straps are to be replaced after 1 mission when they are installed in shuttle during pre-launch

#### **Lineage:**

FCE CCB CR# G08663R1, G08663R2, G09414

#### **Reference Documents:**

GCAR	G5417B
CR	G09414
Materials	MATL-98-185

#### **Contact:**

Keshla Johnson

**VOLUME E BAG ASSY**  
**PART NO. SED33117573-801**

---

**DESCRIPTION:**

- The Volume E Bag Assembly is used to hold Public Affairs Office (PAO) items and is stowed inside the Volume E locker on the Shuttle middeck.

**Weight:**

4.0 lbs

**Volume or Measurements:**

24.25" x 15.75" x 27.75"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

N/A

**Stowage:**

Locker stowed

**Limited Life:**

N/A

**Lineage:**

CR G08881

**Reference Documents:**

GCAR	G5404
CR	G08881
Materials	6230-SGA-98-117R1

**Contact:**

Daniel Molina



**WICKET SAFETY CAP**  
**PART NO. SED33119893-301 (DOUBLE)**  
**-302 (SINGLE)**

---

**DESCRIPTION:**

- The Wicket Safety Caps are a crew preference item for IVA use only.
- They are a crew preference item used on switch guards to provide additional protection to a switch from being inadvertently moved.

**Weight:**

0.050 lbs (-301)

0.035 lbs (-302)

**Volume or Measurements:**

2.10" x 1.04" x 1" (-301)

1.18" x 1.04" x 1" (-302)

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook fastener

**Stowage:**

Locker stowed

**Limited Life:**

N/A

**Lineage:**

JSC CTSD development for Shuttle

**Reference Documents:**

GCAR G5514

CR G08703R5

ARM JSC 65297

VM JSC 65302

Materials MATL-06-073

**Contact:**

Keshla Johnson



**WINDOW OBSERVATIONAL RESEARCH FACILITY (WORF)  
SMALL CAMERA BRACKET ASSY.  
PART NO. SEG33114959-301**

---

**DESCRIPTION:**

- Provides a stable mount for crew Earth observations out of the USL nadir window
- Consists of one Ball Stack Assy (P/N SEG33106870-702), two interface plates, one Adjustable Camera Mount Assy w/ screws, one camera shoe.
- IVA cameras with standard camera attachment can be attached to the bracket via the Camera Mount Adapter Assy

**Weight:**

7.749 lbs

**Volume or Measurements:**

6" x 6" x 19"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Mounted to the Lower Payload Support Shelf of the WORF Rack via 4ea 0.190-32 bolts

**Stowage:**

WORF Rack Stowage Drawer



**Limited Life:**

N/A

**Lineage:**

JSC CTSD New Development for ISS  
Modification to Ball Stack Assy

**Reference Documents:**

GCAR	G4473A	VM	JSC 47859
RAESR	JSC 47866	Materials	MATL-02-172
Limited Life	LLIL-WCBA-001	MUA	ISS/LM-104
ARM	JSC 47848	Procedures	MGUEWORF014
Stress	MSAD-02-0319		MGUEWORF015

**Contact:**

Feng Li



## **WIRE MOUNT CLIP ASSEMBLY PART NO. SEG33112401-301**

---

### **DESCRIPTION:**

- Clip requiring manual actuation for securing data cables/wires

### **Weight:**

.5 lbs per 25

### **Volume or Measurements:**

75 cu in per 25

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Adhesive back

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

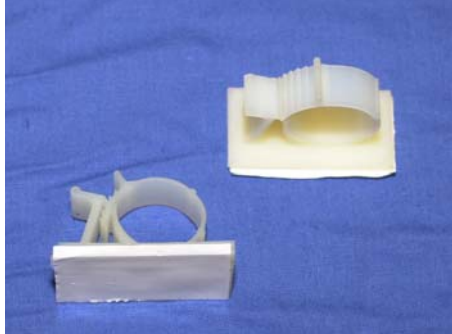
Vendor P/N: 7565K49

### **Reference Documents:**

GCAR G3282

### **Contact:**

Feng Li



## **WIRE MOUNT SELF CLOSING CLIP ASSEMBLY PART NO. SEG33112400-301**

---

### **DESCRIPTION:**

- Self closing clip for data cables/wires

### **Weight:**

6.4 oz per 25

### **Volume or Measurements:**

75 cu in per 25

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Adhesive back

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

Vendor P/N: 7565K64

### **Reference Documents:**

GCAR G3282

### **Contact:**

Feng Li



## 1.7 TOOLS AND DIAGNOSTIC EQUIPMENT

### DEFINITION:

A Maintenance Work Area, tools, diagnostic and maintenance test equipment to support routine maintenance, the identification of failed systems, isolation of failures, and replacement of defective devices

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## ACOUSTIC METER PART NO. SEG33108707-301

---

### DESCRIPTION:

- Portable, hand-held unit
- Capable of sound level measurements, octave band analysis, and vibration analysis
- Can measure sound insulation, sound distribution, and acoustic properties of enclosures
- Microphone:
  - Type 4188 prepolarized free-field ½” condenser microphone
  - Sensitivity: -30 dB re 1V/Pa ±2 dB
  - Frequency range: 8 Hz to 12.5 kHz
  - Capacitance: 12 pico Farads
- Measuring Ranges: 20 dB to 140 dB (10 dB to 140 dB w/ filter selected)
- Band-pass filters: Eight 1/1-octave filters at 1/1-octave intervals (base 10)
- Center frequencies: 31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000 Hz
- Detectors:
  - Simultaneous RMS and peak with independent frequency weightings
  - Linearity range: 80 dB
  - Pulse range: 83 dB
  - Non-linear distortion: Negligible
  - Peak detector rise time: <50µs

### **Weight:**

2.0 lbs

### **Volume or Measurements:**

9.3" x 3.5" x 1.5"

### **Type:**

Outfitted

### **Power:**

Four (4) AA alkaline batteries

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Locker

### **Limited Life:**

AA Alkaline battery life: 12 hours



**Lineage:**

JSC CTSD modified off-the-shelf hardware for ISS

Vendor: Bruel and Kjaer

P/N: 2236C

**Reference Documents:**

GCAR G3016

Cert. Req. SSP50345

Proj. Req. SLG33111382

PMP TTA49

SAR JSC284200

Procedures LMSMSS32741

Materials MATL-98-191

MUA S02

Stress HDID-SAS-98-0245

**Contact:**

Fatonia Rivera

## ARIS TOOLS

### PART NO. SEG33109848-301

---

#### DESCRIPTION:

- Set of Ball Tip Hex Bits, one (1) Standard Socket (-313), one (1) Hex Tip Bit (-315)
- The ARIS Tools are categorized as hand tools and are not certified to interface with any powered tools.
- They will be used to fasten hard to reach cap head screws.
- See measurements below for sizes.

#### **Weight:**

Varies

#### **Volume or Measurements:**

- 301 1/4" Drive, 3/16" Ball-tip Hex Driver, 5" long
- 303 1/4" Drive, 5/16" Ball-tip Hex Driver, 6" long
- 305 1/4" Drive, 3/32" Ball-tip Hex Driver, 6" long
- 307 1/4" Drive, 5/32" Ball-tip Hex Driver, 6" long
- 309 3/8" Drive, 3/8" Ball-tip Hex Driver, 5" long
- 311 1/4" Drive, 9/64" Ball-tip Hex Driver, 6" long
- 313 1/4" Drive, 9/16", 6 point Standard Socket
- 315 1/4" Drive, 7/64" Hex Driver, 6" long
- 317 1/4" Drive, 7/64" Ball-tip Hex Driver, 6" long

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Velcro hook

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: Snap-On

P/N:

-301	TMAB6E5TL	-303	TMAB10E6TL
-305	TMAB3E6TL	-307	TMAB5E6TL
-309	FAB12E5TL	-311	TMAB4.5E6TL
-313	TM18	-315	TMAL3.5E2
-317	TMAB3.5E1.8P		



**-301    -303    -309    -313    -317**

**Reference Documents:**

GCAR	G3784	ARM	JSC47720
Proj. Req.	SSP50345	VM	JSC47721
Materials	MATL-00-071		

**Contact:**

Fatonia Rivera



## **BATTERY TESTER ASSY**

### **PART NO. SEG33114630-301**

---

#### **DESCRIPTION:**

- Used to test batteries. sizes include: AA, AAA, C, D, 9V
- Circuits are fused to protect crew and hardware from harm.

#### **Weight:**

3 oz

#### **Volume or Measurements:**

5.5" x 2.2" x 1.75"

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

1/8 amp fuse

3/8 amp fuse

#### **Restraint:**

Velcro hook fastener

#### **Stowage:**

Soft stowed

#### **Limited Life:**

N/A

#### **Lineage:**

New Hardware for ISS

#### **Reference Documents:**

GCAR: G4359

Materials: MATL-02-073

#### **Contact:**

Craig Perez



## **CABLE CUTTER/POUCH ASSY**

### **PART NO. SEG33113153-301**

---

#### **DESCRIPTION:**

- USA Cable Cutters (528-20145-30) in orange Nomex pouch (SEG33113152-301) used to cut drag-through cables in case of emergency module isolation.

#### **Weight:**

3 oz

#### **Volume or Measurements:**

2.4" x 4" x .25" (pouch)

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Velcro strap loops around  
D-rings and handrails

#### **Stowage:**

Will be strapped to D-ring with Velcro strap for easy access

#### **Limited Life:**

N/A

#### **Lineage:**

JSC CTSD New Development for ISS

#### **Reference Documents:**

GCAR            G3585  
Materials        MATL-00-169

#### **Contact:**

Fatonia Rivera



## **CAPTURE/CENTERING DEVICE ASSY. PART NO. SEG33108573-301**

---

### **DESCRIPTION:**

- Used for capturing and centering slotted screws and fasteners while using power tools.
- Retains the fastener during removal or installation.
- Fastener head diameter may not exceed .36 inches.

### **Weight:**

2.4 oz

### **Volume or Measurements:**

.98 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

1/4 inch hex shank

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS  
Vendor: Vermont American, Lincolnton, NC  
Vendor P/N: 29077

### **Reference Documents:**

GCAR	G3508 (April 2000)
GCAR	G3306 (September 1999)
Proj. Req.	SSP50345
Materials	MATL-99-200

### **Contact:**

Craig Perez



## **CLAMP & BRACKET KIT PART NO. SJG33112385-301**

---

### **DESCRIPTION:**

- Contains: (See list on next page for sizes)
  - Various sizes stainless steel washers
  - Various sizes aluminum sheet stock
  - Aluminum angle stock
  - Various sizes stainless steel hex nuts
  - Various sizes stainless steel screws
  - 1/4" & 3/8" Pop Rivets
  - Stainless Steel Wire, .025" dia
  - Hand Punch
  - Pop Rivet Gun
  - Vise Grips
  - Tin Snips
- For contingency use as needed



Consumables Kit

### **Weight:**

11 lbs

### **Volume or Measurements:**

17" x 10" x 7"

### **Type:**

Contains two kits:

- Consumable Kit (Consumable)
- Tool Kit (Outfitted)



Tool Kit

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro hook

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS

**Reference Documents:**

GCAR                G3509  
 Proj. Req.        SSP50345  
 SAR                JSC39366  
 Materials        MATL-00-071

**Contact:**

Fatonia Rivera

## List of Clamp and Bracket Kit Components

Description	Part Number	Qty per Assy	Assy per Kit
1/4" Pop Rivet, .125" dia, Assy	SEG33113014-301	20	13
3/8" Pop Rivet, .125" dia, Assy	-303	20	13
4-40 Screw Assy	-305	50	1
6-32 Screw Assy	-307	50	1
8-32 Screw Assy	-309	50	1
10-24 Screw Assy	-311	50	1
1/4-20 Screw Assy	-313	50	1
4-40 Hex Nut Assy	-315	50	1
6-32 Hex Nut Assy	-317	50	1
8-32 Hex Nut Assy	-319	50	1
10-24 Hex Nut Assy	-321	50	1
1/4-20 Hex Nut Assy	-323	50	1
4-40 Washer Assy	-325	100	1
6-32 Washer Assy	-327	100	1
8-32 Washer Assy	-329	100	1
10-24 Washer Assy	-331	100	1
1/4-20 Washer Assy	-333	100	1
Aluminum Angle Stock	SDG33112988-001	1	8
Aluminum Sheet Stock .030" x 2.0" x 12.0"	-003	1	8
Aluminum Sheet Stock .030" x 4.0" x 12.0"	-005	1	8
Aluminum Sheet Stock .030" x 6.0" x 12.0"	-007	1	8
Aluminum Sheet Stock .030" x 1.0" x 15.0"	-009	1	8
Cres Wire, .025 dia	SJG3311285-501	100 ft	1

## **COLDPLATE WIREWAY KIT ASSY. PART NO. SJG33111361-301**

---

### **DESCRIPTION:**

- Teflon sheets
- Provides a means for protecting coldplates on ISPR racks from damage during ORU removal or installation.
- Prevents snagging and tangling of wires during ORU removal and installation.

### **Weight:**

15.5 lbs

### **Volume or Measurements:**

744 cu in

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Nomex bag

### **Stowage:**

Standard stowage trays



### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3330
Cert. Req.	SSP50345
SAR	JSC39295
Materials	MATL-00-003

### **Contact:**

Craig Perez

## COMBINATION WRENCH ASSEMBLY

P/N: SEG33116079      -301 1-1/4"      OEX40B  
                                 -303 1-5/8"      OEX44B

---

### **DESCRIPTION:**

- Originally certified for the removal and replacement (R&R) of the Node 2 CCAA Heat Exchanger flex lines scheduled for 12A-1.
- Standard chrome finished open end- box end combination wrench.

### **Weight:**

2.2 lbs each

### **Volume or Measurements:**

17" x 2-9/16" x 3/4"

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro hook for temporary stowage

### **Stowage:**

Standard stowage tray

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: Snap-On

Vendor part no: See above

### **Reference Documents:**

CR: SSCN 7959

Materials: MATL-03-131

GCAR: G4763

### **Contact:**

Fatonia Rivera



**CROWFOOT WRENCHES**

<b>PART NO. SEG33114112</b>			
	<b>-301</b>	<b>2-1/2"</b>	<b>FC80A</b>
	<b>-303</b>	<b>1-3/4"</b>	<b>FC56A</b>
	<b>-305</b>	<b>1-3/16"</b>	<b>FC38A</b>
	<b>-307</b>	<b>1"</b>	<b>FC32B</b>
	<b>-001</b>	<b>5/16"</b>	<b>TMRX10</b>
	<b>-003</b>	<b>7/16"</b>	<b>FC14B</b>
<b>SEG33114127</b>	<b>-301</b>	<b>1-1/4"</b>	<b>FC64A</b>
	<b>-303</b>	<b>2"</b>	<b>FC40A</b>
<b>SEG33114218</b>	<b>-301</b>	<b>1-3/8"</b>	<b>FC44A</b>
<b>SEG33113226</b>	<b>-301</b>	<b>1-5/8"</b>	<b>FC52A</b>

**DESCRIPTION:**

- Set of crowfoot wrenches for nominal and contingency on-orbit use

**Weight:**

SEG33114112-301	1.07 lbs
-303	.36 lbs
-305	.19 lbs
-001	.027 lbs
-003	.057 lbs
SEG33114127-301	.24 lbs
-303	.67 lbs
SEG33114218-301	.29 lbs
SEG33111764-301	.32 lbs

**Volume or Measurements:**

SEG33114112-301	4 1/8" x 4" x 3/4"
-303	2 3/4" x 2 1/2" x 5/8"
-305	1 7/8" x 2" x 5/8"
-001	1/2" x 1 3/4" x 1/4"
-003	13/16" x 1 5/16" x 1/2"
SEG33114127-301	2 1/8" x 2 1/8" x 5/8"
-303	3 3/8" x 3" x 3/4"
SEG33114218-301	2 9/16" x 2 3/8" x 5/8"
SEG33111764-301	2 5/8" x 2 1/2" x 9/16"

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook fastener

**Stowage:**

Standard stowage trays / IVA Hand Tool Kit



**Limited Life:**

N/A

**Lineage:**

JSC CTSD Modified off-the-shelf for ISS

Vendor: Snap-On

Vendor part no: See above

**Reference Documents:**

(SEG33114112-301, -303, -305, -307, -001, -003)

GCAR	G3959
ARM	JSC40191
RAESR	JSC28952B
Materials	MATL-01-122
VM	JSC40192

(SEG33114127-301, -303)

GCAR	G4179 (-301)
	G3820 (-303)
SAR	JSC47677 (-301)
RAESR	JSC28952 (-303)
Materials	MATL-01-225 (-301)
	MATL-01-086 (-303)

(SEG33114218-301)

GCAR	G3959
Proj. Req.	JSC40191
RAESR	JSC28952B
Materials	MATL-01-122
VM	JSC40192

(FC52A)

GCAR	G3500
RAESR	JSC28952
Materials	MATL-99-161B

**Contact:**

Fatonia Rivera

## **DIAL TORQUE WRENCH ASSY PART NO. SEG33116504-301**

---

### **DESCRIPTION:**

- Provides torque between 0-30 in/lbs within +/- 2% when calibrated
- Allows crewmember to read the amount of torque being applied
- Chrome finish with plastic dial cover, no lubricant

### **Weight:**

1.05 lbs

### **Volume or Measurements:**

10" x 10" x .75"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro hook

### **Stowage:**

Standard stowage tray

### **Limited Life:**

The Dial Torque Wrench has a calibration cycle of 1 year.

### **Lineage:**

N/A

### **Reference Documents:**

CR:	SSCN 8357
PR&VD	JSC 60488
V&VD	JSC 60489
RAESR	JSC 60491
Materials:	MATL-04-012 MUA# LM/ISS-25
GCAR:	G4769

### **Contact:**

Fatonia Rivera

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**DOUBLE-SIDED FOAM TAPE**

<b>PART NO. SLG33114216</b>	<b>-001</b>	<b>4016-1/4"</b>
	<b>-003</b>	<b>4016-3</b>
	<b>-005</b>	<b>4016-1/2"</b>
	<b>-007</b>	<b>4016-3/4"</b>
	<b>-009</b>	<b>4016-1"</b>
	<b>-011</b>	<b>4016-1 1/2"</b>
	<b>-013</b>	<b>4016-2"</b>

**DESCRIPTION:**

- Double-sided Urethane Foam tape with acrylic adhesive for nominal and contingency on-orbit use
- Originally requested for attaching hardware such as Cable Tray Assys (SED33113708-301) to non-flat surfaces
- Operational from 0°C to 40°C

**Weight:**

0.54 lbs

**Volume or Measurements:**

12 1/2" dia

See widths above

**Type:**

Consumable

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Stowed when not in use

**Stowage:**

Standard stowage trays

**Limited Life:**

Two (2) years from date of manufacture

**Lineage:**

JSC CTSD

Modified off-the-shelf for ISS

CR# G4973



**Reference Documents:**

GCAR	G3884
CR	GCCB4973
Materials	MATL-01-111
MUA	S04

**Contact:**

Craig Perez

## **DRIVER/DRILL BIT POUCH KIT PART NO. SJG33114294-301**

---

### **DESCRIPTION:**

- Provides a safe method of containing some of the more commonly used driver bits and sockets.
- Wraps around drill handle.

### **Weight:**

2.6 oz (with bits/sockets)

### **Volume or Measurements:**

3 1/4" x 4 1/8" x 1/2"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

Strap with D-ring for attaching to drill



### **Stowage:**

Standard stowage tray

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS

Driver Drill Bit Pouch

JSC CTSD off-the-shelf for ISS

- 1 ea. 1/4" Socket Adapter  
Vendor: Makita USA, Inc.  
P/N: 785516-A
- 1 ea. 3/8" Socket Adapter  
Vendor: Makita USA, Inc.  
P/N: 785517-A
- 1 ea. #2 Phillips/double-ended bit:  
Vendor: Makita USA, Inc.  
P/N: 7846140
- 1 ea. #3 Phillips/double-ended bit: Snap-On Tools, Inc.  
Vendor: Snap-On Tools, Inc.  
P/N: SDMD 2173

**Reference Documents:**

GCAR	G3980
CR	5039
Materials	MATL-01-170
Proj. Req.	JSC47623
RAESR	JSC47638
VM	JSC47634

**Contact:**

Fatonia Rivera

## **ETHERNET REPAIR KIT PART NO. SJG33110638-301**

---

### **DESCRIPTION:**

- Used for repairing bad or damaged cables that interface with the vehicle Ethernet bus via the RJ-45 connector.
- Consists of a wire crimper and ten (10ea) RJ-45 connectors.

### **Weight:**

1.22 lbs

### **Volume or Measurements:**

103.5 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Softgoods bag

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Ideal Tools Sycamore, IL

Parts available as kit P/N: 87916

Ethernet Crimp Tool P/N: 30-496

Connectors P/N: RJ-45

### **Reference Documents:**

GCAR G3303

Cert. Req. SSP50345

Proj. Req. LMSEAT33132

SAR JSC39295

Materials MATL-99-180

### **Contact:**

Craig Perez



## **FIBERSCOPE KIT PART NO. SJG33116129-301**

---

### **DESCRIPTION:**

The Fiberscope Kit hardware, which is housed in a foam-lined soft goods pouch, is used to remotely view inaccessible areas (behind racks/panels) and retrieve small articles with mechanically grasping tools. The Fiberscope Kit consists of:

- Extractors that can be threaded along scope tube to reach items.
- Lens adapter for Minicam (528-20946-1)

### **Part Number**

1) SDG33117913-301

2) SDG33117343-301

3) SDG33117343-302

4) SDG33117342-301

5) SDG33117344-301

6) SDG33117346-301

7) SDG33117902-301

8) SDG33117927-301

a) SDG33117925-301

b) 1150020

c) 1150047

d) 1150045

e) 1150021

f) 1150048

g) 1150046

10) SJG33117926-301

a) SDG33117926-301

b) SEG33117345-307

c) SEG33117345-306

d) SEG33117345-305

e) SEG33117345-304

f) SEG33117345-303

g) SEG33117345-302

h) SEG33117345-301

11) MB-99400

12) 3030733AC or JCRM12V50W

13) 7648A713

### **Part Name**

Fiberscope Pouch Assy

Fiberscope Layer Foam Assy

Power System Foam Assy

Light Source Power System Assy

Fiberscope Assy

Light Source Assy

Lens Adaptor Assy

Viewing Tips Kit

Viewing Tips Pouch Assy

AT60S/NF

AT100D/NF

AT60D/NF

AT60S/FF

AT100D/FF

AT60D/FF

Extraction Tools Kit

Extraction Tool Album Assy

Guide Tube Tips Assy

Guide Tube Kit-Extraction Tool

Snare Loop Extraction Tool

3-Prong Grasper Forceps Extraction Tool

4-Wire Basket Extraction Tool

Magnet Extraction Tool

Alligator Jaw Forceps Extraction Tool

Eye Cup

Light Bulb

Kapton Tape

### **Weight:**

13.6 lbs.

### **Volume or Measurements:**

22" x 12.5" x 5.5"

### **Type:**

Outfitted





**Power:**

IVA 12V NiMH Battery (SEG33111376-301, -302)

Bulb should last 50-100 hours and should be replaced when failed

**Fuse:**

6A fuse in the power supply base

**Restraint:**

Hook Fastener

**Stowage:**

Locker Stowed

**Limited Life:**

Kapton tape has a shelf life of 2-years for the adhesive

**Lineage:**

Commercial Off-The-Shelf (COTS)

Manufacturer: Olympus

P/Ns:

Fiberscope: 7110821

Light Source Assy: KLS-131

Lens Adapter Assy: 1150196 w/ LO-999CMT C-mount adapter

Snare Loop Extraction Tool: 7203S

3-Prong Grasper Forceps Extraction Tool: 7203G

4-Wire Basket Extraction Tool: 7203B

Magnet Extraction Tool: 7203M

Alligator Jaw Forceps Extraction Tool: 7203A

Light Source Power Supply is modified from the Soldering Iron Base (SEG33110603) design to accommodate power via the IVA 12V NiMH Battery

**Reference Document:**

GCAR G5017

CR SSCN 7961 & 8461

Materials MATL-05-021

Stress MSAD-04-0175

**Contact:**

Craig Perez

## FOAM APPLICATOR ASSEMBLY PART NO. SED33119859-301

---

### DESCRIPTION:

- The Foam Applicator Assembly is IVA-only hardware designed to fill a crack of 1/64" by 3/4" with a depth of 3/8" that separates a pressure differential range of 0-15.9 psi for 16 days in order to prevent leakage of crew cabin air through that area.
- The Foam Applicator Assembly consists of a COTS Foam Applicator Cartridge (P/N SED33119859-701) containing a two-part silicone rubber RTV foam and a Cartridge Nozzle, both enclosed within two COTS zip lock bags.
- To operate, properly mix the foam mixture using the COTS handle, and then immediately eject the foam material into the pre-determined area.
- The Foam Applicator is one-time use.

### **Weight:**

0.30 lb

### **Volume or Measurements:**

10" x 10" x 2"

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

N/A

### **Stowage:**

Locker stowed

### **Limited Life:**

12 Months

### **Lineage:**

Modified COTS hardware

### **Reference Document:**

GCAR	G5401B
CR	G09275R1
Materials	MATL-05-032A
ARM	JSC 62318B
RAESR	JSC 62353B

**Contact:** Bum Jacinto



## **FOLDING HONE KIT PART NO. SEG33112396-301**

---

### **DESCRIPTION:**

- Used for sharpening dull knives and scissors.
- Has two (2) sharpening surfaces, course and fine.
- Folding covers that form a handle when not deployed for use.

### **Weight:**

2.72 oz

### **Volume or Measurements:**

3.75 cu in

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Ziploc bag

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: McMaster-Carr

P/N: 4598A8

### **Reference Documents:**

GCAR G3508 (New)

GCAR G3341 (Old)

Cert. Req. SSP50345

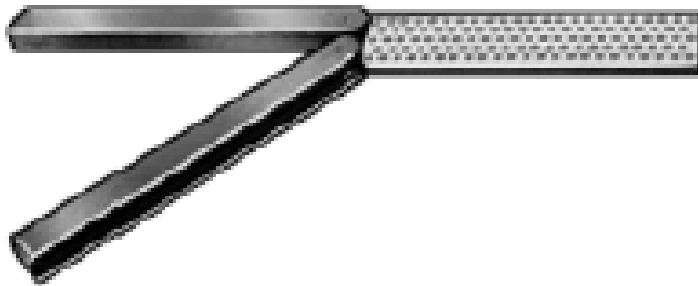
SAR JSC39365

Materials MATL-00-006

MUA S02

### **Contact:**

Craig Perez



## **HIGH TORQUE LOCKER TOOL PART NO. SDZ33114002-001**

---

### **DESCRIPTION:**

- Provides a means for on-orbit locker removal and replacement
- Tip of the tool is a 3/16" hex head male that interfaces with locker fasteners
- The drive is a 1/4" hex head that can be driven by a ratchet or driver.
- Rated to a torque of 115 in-lbs
- Made of MP35N

### **Weight:**

0.64 lbs

### **Volume or Measurements:**

28" x .312" dia

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

This hardware will be stowed when not in use.

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS  
Modified from Locker Tool Kit (SJG331110363-301)  
CR# 4493

### **Reference Documents:**

GCAR	G3803
CR	SSCN 4493
ARM	JSC 29187
VM	JSC 29188
Materials	MATL-01-067
ICD	LMSEAT 33577
Stress	MSAD-01-0102
RAESR	JSC 29288

### **Contact:**

Craig Perez

## **IMPACT DRIVER KIT PART NO. SJG33110640-301**

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### **DESCRIPTION:**

- 1/4" hex shank
- No Load Speed: 0-2200 RPM
- Impacts per Minute: 0-3000 IPM
- Maximum Torque: 870 in-lbs

### **Weight:**

3.7 lbs with battery

### **Volume or Measurements:**

6-15/16 long

### **Type:**

Outfitted

### **Power:**

Uses 12 VDC NiMH or NiCAD battery packs  
(SEG33111376-301, -302 or SEG33111352-301)  
Batteries charged using SMPA / Battery Charger  
(SEG33111349-303)

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS  
Vendor: Makita  
P/N: 6914DWAE



**Reference Documents:**

GCAR	G3512
Cert. Req.	SSP50345
SAR	JSC39294
Materials	MATL-00-001
MUA	S01

**Contact:**

Fatonia Rivera

## ISS PIN KIT PART NO. SJG33110644-301

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### **DESCRIPTION:**

- Designed to be used for minor electrical repairs and maintenance.
- Consists of a Nomex bag and several jumper assemblies in 12, 16, 20, and 22 GA sizes as well as spare electrical parts and test leads.

### **Weight:**

6.287 lbs

### **Volume or Measurements:**

10" x 10" x 3"

### **Type:**

Consumable

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Softgoods bag, which will be stowed when not in use.



### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS  
CR# 4934

### **Reference Documents:**

GCAR	G3958
VM	JSC47617
Proj. Req.	JSC47615
SAR	JSC39296
Materials	MATL-01-145
CR	SSCN4934

### **Contact:**

Fatonia Rivera

## List of Pin Kit Components

P/N	Description	Qty
7-52935-1	Spade Terminals - #6 Hole 16Ga	5
7-52937-1	Spade Terminals - #10 Hole 16Ga	5
8-31890-1	Ring Terminals - #8 Hole 20-22Ga	5
8-320565-1	Ring Terminals - #8 Hole 16Ga	5
8-320619-1	Ring Terminals - #6 Hole 16Ga	5
8-35108-1	Ring Terminals - #8 Hole 10-12Ga	5
8-35149-2	Ring Terminals - #6 Hole 10-12 Ga	5
8-36152-1	Ring Terminals - #6 Hole 20-22 Ga	5
8-36154-1	Ring Terminals - #10 Hole 20-22 Ga	5
8-36160-1	Ring Terminals - #10 Hole 16Ga	5
8-52929-1	Spade Terminals - #6 Hole 20-22 Ga	5
8-52930-1	Spade Terminals - #8 Hole 20-22 Ga	5
8-52931-1	Spade Terminals - #10 Hole 20-22 Ga	5
8-35109-1	Ring Terminals - #10 Hole 10-12Ga	5
8-52936-1	Spade Terminals - #8 Hole 16Ga	5
8-52941-2	Spade Terminals - #6 Hole 10-12 Ga	5
8-52942-1	Spade Terminals - #8 Hole 10-12 Ga	5
8-52943-1	Spade Terminals - #10 Hole 10-12 Ga	5
FVC1210	Butt Splices - 12 Ga	8
FVC1614	Butt Splices - 14-16 Ga	8
FVC2216	Butt Splices - 20-22 Ga	16
3560-0	Test Adapter - 20 Ga Socket	2
3561-2	Test Adapter - 20 Ga Pin	2
3562-0	Test Adapter - 16 Ga Socket	2
3563-2	Test Adapter - 16 Ga Pin	2
3564-0	Test Adapter - 12 Ga Socket	2
3565-2	Test Adapter - 12 Ga Pin	2
4690-0	Test Adapter - 22 Ga Socket	2
4691-2	Test Adapter - 22 Ga Pin	2
SEG33114372-301	Test Connectors - Minigrabber 24"	4
SEG33114372-303	Test Connectors - Minigrabber 48"	4
1437-2	Alligator Clips	8
M23053/11-201-C	Insulation Tubing - 5" 22 Ga	6
M23053/11-202-C	Insulation Tubing - 5" 20 Ga	6
M23053/11-109-C	Insulation Tubing - 5" 12-16 Ga	10
SEG33112714-301	24" Pin/Socket -12GA	8
SEG33112714-303	24" Pin/Socket -16GA	8
SEG33112714-305	24" Pin/Socket -20GA	8
SEG33112714-307	24" Pin/Socket -22GA	8
SEG33112715-301	5" Pin/Pin -12GA	6
SEG33112715-303	5" Pin/Pin -16GA	6
SEG33112715-305	5" Pin/Pin -20GA	6
SEG33112715-307	5" Pin/Pin -22GA	6
SEG33112716-301	5" Pin/Socket -12GA	6



<b>P/N</b>	<b>Description</b>	<b>Qty</b>
SEG33112716-303	5" Pin/Socket -16GA	6
SEG33112716-305	5" Pin/Socket -20GA	6
SEG33112716-307	5" Pin/Socket -22GA	6
SEG33112717-301	5" Socket/Socket -12GA	6
SEG33112717-303	5" Socket/Socket -16GA	6
SEG33112717-305	5" Socket/Socket -20GA	6
SEG33112717-307	5" Socket/Socket -22GA	6
SEG33112718-301	Pin/3Socket -22GA	1
SEG33112718-303	Pin/3Socket -20GA	1
SEG33112719-301	Pin/4Socket -22GA	1
SEG33112719-303	Pin/4Socket -20GA	1
SEG33112720-301	Pin/5Socket -22GA	1
SEG33112720-303	Pin/5Socket -20GA	1
M39029/56-350	22GA socket	24
M39029/56-353	12GA socket	12
M39029/57-357	20GA socket	24
M39029/57-358	16GA socket	24
M39029/58-360	22GA pin	24
M39029/58-363	20GA pin	24
M39029/58-364	16GA pin	24
M39029/58-365	12GA pin	12
M22759/11-22-9	22 Ga wire	50 ft
M22759/11-20-9	20 Ga wire	50 ft
M22759/11-16-9	16 Ga wire	50 ft
M22759/11-12-9	12 Ga wire	50 ft

**IVA 12V NIMH BATTERY (MAKITA BATTERY)**  
**PART NO. SEG33111376 -301 2.2AH**  
**-302 3.0AH**

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**DESCRIPTION:**

- This 12V battery was originally certified with the IVA Driver/Drill Kit, but has since been used to power the Impact Driver, Soldering Iron, and Fiberscope.
- The battery is charged on orbit via a battery pack adapter for the SMPA/Battery Charger (SEG33111349-303)
- Battery is Makita standard sonically welded battery pack with 2ea polyswitches and 1 ea thermistor and absorbent added to each pack.
- Because battery is modified, regular Makita chargers will not charge battery on the ground. Makita quick-chargers are available in the Class III lockers and are labeled as modified. Flight and Class III SMPA can also be used to charge batteries on the ground.
- Battery should be completely depleted prior to charging whenever possible and should not be left in the charger when it is not in use. Battery can be cycled to clear memory, if one is developed.

**Weight:**

1.47 lb

**Volume or Measurements:**

75 cu in

**Type:**

Outfitted

**Power:**

10 Ea 1.2V, 3Ah NiMH Sanyo Sub C cells

**Fuse:**

2 ea LR4-730 Polyswitch

1 ea 103AT-2 Thermistor

**Restraint:**

Hook fastener

**Stowage:**

Standard locker

**Limited Life:**

10-years from manufacture

(5/24/06 is the -302 lot date of manufacture)



**Lineage:**

Modified COTS development for ISS

-301 Makita Cell Pack p/n 1233

-302 Makita Cell Pack p/n 1235

**Reference Documents:**

GCAR #G3284

CR for -302 CR#9729

SAR #70

Materials Cert #MATL-98-160, MATL-99-053

**Contact:**

Feng Li

## **IVA DRIVER/DRILL KIT PART NO. SJG33109829-303**

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### **DESCRIPTION:**

- Portable hand-held unit
- 3/8 inch keyless chuck
- No Load Speed: Low, 0-450 RPM High, 0-1400 RPM
- 17 Torque settings in both speed settings

### **Weight:**

4.2 lbs with battery

### **Volume or Measurements:**

75 cu in

### **Type:**

Outfitted

### **Power:**

12 VDC NiMH or NiCad battery pack  
(SEG33111376-301, -302 or SEG33111352-301)

Batteries charged using SMPA / Battery Charger (SEG33111349-303)



### **Fuse:**

N/A

### **Restraint:**

Hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Makita

P/N: 6213DWAE

### **Reference Documents:**

GCAR	G3284
CR	G05189
Cert./Proj. Req	SSP50345
EIS	JSC17038
SAR	SAR-70
Materials	MATL-98-053
	MATL-98-166
PDA Procedure	JSC-28480

### **Contact:**

Feng Li

## **IVA HAND TOOLS PART NO. SEG33109820-301**

*IVA Hand Tool Box Assy P/N SEG33113668-301 replaces this soft stowed Tool Kit.*

### **DESCRIPTION:**

- Supports the ISS function of providing approved on-orbit Organizational and Intermediate maintenance equipment, tools, spares and material, as required, to sustain the on-orbit system Hand Tools. The standard tool list is comprised of tools to be used for ORU removal and replacement.

### **Weight:**

115 lbs

### **Volume or Measurements:**

8 cu ft

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook fastener and straps

### **Stowage:**

Kits

### **Limited Life:**

Note: All items listed below must be launched with at least 6 months of life remaining.

Silicone Lubricant (1204K12): 3 years from date of manufacture

Kapton Tape (7648A32): 2 years from date of manufacture

Aluminum Tape (3M425): 2 years from date of manufacture

Shuttle Gray Tape (PC21F): 2 years from date of manufacture

Flame Retardant Cloth Tape (225FR-1,-2): 3 years from date of manufacture

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

See following kit information for vendor P/N.



**Reference Documents:**

GCAR	G3212 (New)
GCAR	G3820 (Old)
SAR	JSC28952
Materials	MATL-01-086

**Contact:**

Fatonia Rivera

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
Tool Kit Bag Assembly / Hand Tools - IVA	IVA Hand Tool Box Assembly	00000001		
<b><u>KIT A: Combination, Crowfoot, Adjustable Wrenches</u></b>	KIT A: Combination/Crowfoot/Adjustable Wrenches	00000002		
1. Combination Wrench, 12 Point, 1 5/16"	1 5/16" Combination Wrench	000002-1	SO115	OEX42B
2. Combination Wrench, 12 Point, 1"	1" Combination Wrench	000002-2	SO 114	SOEX32
3. Combination Wrench, 12 Point, 15/16"	15/16" Combination Wrench	000002-3	SO 114	SOEX30
4. Combination Wrench, 12 Point, 7/8"	7/8" Combination Wrench	000002-4	SO 114	SOEX28
5. Combination Wrench, 12 Point, 13/16"	13/16" Combination Wrench	000002-5	SO 114	SOEX26
6. Combination Wrench, 12 Point, 3/4"	3/4" Combination Wrench	000002-6	SO 114	SOEX24
7. Combination Wrench, 12 Point, 11/16"	11/16" Combination Wrench	000002-7	SO 114	SOEX22
8. Combination Wrench, 12 Point, 5/8"	5/8" Combination Wrench	000002-8	SO 114	SOEX20
9. Combination Wrench, 12 Point, 9/16"	9/16" Combination Wrench	000002-9	SO 114	SOEX18
10. Combination Wrench, 12 Point, 1/2"	1/2" Combination Wrench	00002-10	SO 114	SOEX16
11. Combination Wrench, 12 Point, 7/16"	7/16" Combination Wrench	00002-11	SO 114	SOEX14
12. Combination Wrench, 12 Point, 7/16"	7/16" Combination Wrench	00002-12	SO 114	SOEX14
13. Combination Wrench, 12 Point, 3/8"	3/8" Combination Wrench	00002-13	SO 114	SOEX12
14. Combination Wrench, 12 Point, 11/32"	11/32" Combination Wrench	00002-14	SO 115	OEX11B
15. Combination Wrench, 12 Point, 5/16"	5/16" Combination Wrench	00002-15	SO 115	OEX10B
16. Combination Wrench, 12 Point, 1/4"	1/4" Combination Wrench	00002-16	SO 115	OEX8B
17. Miniature Wrench, 6 Point, 5/32" X 3/16"	5/32"X3/16" Combination Wrench	00002-17	Techni-Tool	322WR132
18. Miniature Wrench, 6 Point, 3/16" X 5/32"	3/16"X5/32" Combination Wrench	00002-18	Techni-Tool	322WR132
19. Miniature Wrench, 12 Point, 13/64" X 7/32"	13/64"X7/32" Combination Wrench	00002-19	Techni-Tool	322WR132
20. Miniature Wrench, 12 Point, 7/32" X 15/64"	7/32"X15/64" Combination Wrench	00002-20	Techni-Tool	322WR132
21. Miniature Wrench, 12 Point, 15/64" X 1/4"	15/64"X1/4" Combination Wrench	00002-21	Techni-Tool	322WR132
22. Miniature Wrench, 12 Point, 1/4" X 9/32"	1/4"X9/32" Combination Wrench	00002-22	Techni-Tool	322WR132
23. Miniature Wrench, 12 Point, 9/32" X 5/16"	9/32"X5/16" Combination Wrench	00002-23	Techni-Tool	322WR132
24. Miniature Wrench, 12 Point, 5/16" X 11/32"	5/16"X11/32" Combination Wrench	00002-24	Techni-Tool	322WR132
25. Miniature Wrench, 12 Point, 11/32" X 3/8"	11/32"X3/8" Combination Wrench	00002-25	Techni-Tool	322WR132
26. Miniature Wrench, 12 Point, 3/8" X 7/16"	3/8"X7/16" Combination Wrench	00002-26	Techni-Tool	322WR132
27. Crowfoot, 3/8" Drive, 3/8"	3/8" Crowfoot, 3/8" Drive	00002-27	SO71	FCO12
28. Crowfoot, 3/8" Drive, 9/16"	9/16" Crowfoot, 3/8" Drive	00002-28	SO71	FC18A
29. Crowfoot, 3/8" Drive, 11/16"	11/16" Crowfoot, 3/8" Drive	00002-29	SO71	FC22A
30. Crowfoot, 3/8" Drive, 3/4"	3/4" Crowfoot, 3/8" Drive	00002-30	SO71	FC24A
31. Crowfoot, 3/8" Drive, 13/16"	13/16" Crowfoot, 3/8" Drive	00002-31	SO71	FC26A
32. Crowfoot, 3/8" Drive, 7/8"	7/8" Crowfoot, 3/8" Drive	00002-32	SO71	FC28A
33. Pipe Wrench	Pipe Wrench	00002-33	SO 132	PWA10A
34. Adjustable Wrench, 6" Long	6" Adjustable Wrench	00002-34	SO132	AD6
35. Adjustable Wrench, 10" Long	10" Adjustable Wrench	00002-35	SO132	AD10
36. Wrench, 15 Deg Offset 3/4"-13/16", Low Torque	Offset 3/4"x 13/16" Wrench	00002-36	SO124	LTA2426

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
<b>KIT B: L-Wrenches</b>	KIT B: L-Wrench Kit	00000003		
1. Folding L-Wrench Set; .05", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", and 3/16"	0.05"-3/16" Folding L-Wrench Set	000003-1	SO 129	AW9K
2. Folding L-Wrench Set; 3/16", 7/32", 1/4", 5/16", and 3/8"	3/16"-3/8" Folding L-Wrench Set	000003-2	SO 129	AW5K
3. L-Wrenches, .028", .035", .05", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16"	0.028"-9/16" L-Wrench Set	000003-3	SO 130	AW1020K
<b>KIT C: Sockets, 3/8" Drive</b>	KIT C: Socket Kit, 3/8" Drive	00000004		
1. Deep Socket, 3/8" Drive, 12 Point, 1/4"	1/4" Deep Socket, 3/8" Drive	000004-1	SO 66	SF081
2. Deep Socket, 3/8" Drive, 12 Point, 5/16"	5/16" Deep Socket, 3/8" Drive	000004-2	SO 66	SF101
3. Deep Socket, 3/8" Drive, 6 Point, 11/32"	11/32" Deep Socket, 3/8" Drive	000004-3	SO 66	SFS111
4. Deep Socket, 3/8" Drive, 12 Point, 3/8"	3/8" Deep Socket, 3/8" Drive	000004-4	SO 66	SF121
5. Deep Socket, 3/8" Drive, 12 Point, 7/16"	7/16" Deep Socket, 3/8" Drive	000004-5	SO 66	SF141
6. Deep Socket, 3/8" Drive, 12 Point, 1/2"	1/2" Deep Socket, 3/8" Drive	000004-6	SO 66	SF161
7. Deep Socket, 3/8" Drive, 12 Point, 9/16"	9/16" Deep Socket, 3/8" Drive	000004-7	SO 66	SF181
8. Deep Socket, 3/8" Drive, 12 Point, 19/32"	19/32" Deep Socket, 3/8" Drive	000004-8	SO 66	SF191
9. Deep Socket, 3/8" Drive, 12 Point, 5/8"	5/8" Deep Socket, 3/8" Drive	000004-9	SO 66	SF201
10. Deep Socket, 3/8" Drive, 12 Point, 11/16"	11/16" Deep Socket, 3/8" Drive	00004-10	SO 66	SF221
11. Deep Socket, 3/8" Drive, 12 Point, 3/4"	3/4" Deep Socket, 3/8" Drive	00004-11	SO 66	SF241
12. Deep Socket, 3/8" Drive, 12 Point, 13/16"	13/16" Deep Socket, 3/8" Drive	00004-12	SO 66	SF261
13. Deep Socket, 3/8" Drive, 12 Point, 7/8"	7/8" Deep Socket, 3/8" Drive	00004-13	SO 66	SF281
14. Deep Socket, 3/8" Drive, 12 Point, 15/16"	15/16" Deep Socket, 3/8" Drive	00004-14	SO 66	SF301
15. Deep Socket, 3/8" Drive, 12 Point, 1"	1" Deep Socket, 3/8" Drive	00004-15	SO 66	SF321
16. Standard Socket, 3/8" Drive, 12 Point, 1/4"	1/4" Socket, 3/8" Drive	00004-16	SO 65	F081
17. Standard Socket, 3/8" Drive, 12 Point, 5/16"	5/16" Socket, 3/8" Drive	00004-17	SO 65	F101
18. Standard Socket, 3/8" Drive, 12 Point, 11/32"	11/32" Socket, 3/8" Drive	00004-18	SO 65	F111
19. Standard Socket, 3/8" Drive, 12 Point, 3/8"	3/8" Socket, 3/8" Drive	00004-19	SO 65	F121
20. Standard Socket, 3/8" Drive, 12 Point, 7/16"	7/16" Socket, 3/8" Drive	00004-20	SO 65	F141
21. Standard Socket, 3/8" Drive, 12 Point, 7/16"	7/16" Socket, 3/8" Drive	00004-21	SO 65	F141
22. Standard Socket, 3/8" Drive, 12 Point, 1/2"	1/2" Socket, 3/8" Drive	00004-22	SO 65	F161
23. Standard Socket, 3/8" Drive, 12 Point, 9/16"	9/16" Socket, 3/8" Drive	00004-23	SO 65	F181
24. Standard Socket, 3/8" Drive, 12 Point, 19/32"	19/32" Socket, 3/8" Drive	00004-24	SO 65	F191
25. Standard Socket, 3/8" Drive, 12 Point, 5/8"	5/8" Socket, 3/8" Drive	00004-25	SO 65	F201
26. Standard Socket, 3/8" Drive, 12 Point, 11/16"	11/16" Socket, 3/8" Drive	00004-26	SO 65	F221
27. Standard Socket, 3/8" Drive, 12 Point, 3/4"	3/4" Socket, 3/8" Drive	00004-27	SO 65	F241
28. Standard Socket, 3/8" Drive, 12 Point, 13/16"	13/16" Socket, 3/8" Drive	00004-28	SO 65	F261
29. Standard Socket, 3/8" Drive, 12 Point, 7/8"	7/8" Socket, 3/8" Drive	00004-29	SO 65	F281
30. Standard Socket, 3/8" Drive, 12 Point, 15/16"	15/16" Socket, 3/8" Drive	00004-30	SO 65	F301



PART NAME	OPS NAME	IMS NUMBER	VENDOR	VENDOR PART
			(SO=Snap-on & pg # in Catalog)	NUMBER
31. Standard Socket, 3/8" Drive, 12 Point, 1"	1" Socket, 3/8" Drive	00004-31	SO 65	F321
<b><u>KIT D: Hex Head Drivers, Hex Shanks</u></b>				
1. Hex Head Driver, 1/2" Drive, 7/16"	7/16" Hex Head, 1/2" Drive	000005-1	SO 88	SA14E
2. Hex Head Driver, 3/8" Drive, 1/8"	1/8" Hex Head, 3/8" Drive	000005-2	SO 72	FA4E
3. Hex Head Driver, 3/8" Drive, 9/64"	9/64" Hex Head, 3/8" Drive	000005-3	SO 72	FA4.5E
4. Hex Head Driver, 3/8" Drive, 5/32"	5/32" Hex Head, 3/8" Drive	000005-4	SO 72	FA5E
5. Hex Head Driver, 3/8" Drive, 5/32"	5/32" Hex Head, 3/8" Drive	000005-5	SO 72	FA5E
6. Hex Head Driver, 3/8" Drive, 3/16"	3/16" Hex Head, 3/8" Drive	000005-6	SO 72	FA6E
7. Hex Head Driver, 3/8" Drive, 7/32"	7/32" Hex Head, 3/8" Drive	000005-7	SO 72	FA7E
8. Hex Head Driver, 3/8" Drive, 1/4"	1/4" Hex Head, 3/8" Drive	000005-8	SO 72	FA8E
9. Hex Head Driver, 3/8" Drive, 5/16"	5/16" Hex Head, 3/8" Drive	000005-9	SO 72	FA10E
10. Hex Head Driver, 3/8" Drive, 3/8"	3/8" Hex Head, 3/8" Drive	00005-10	SO 72	FA12E
11. Hex Head Driver, 3/8" Drive, 3/8", 6" Long	6", 3/8" Hex Head Driver, 3/8" Drive	00005-11	SO72	FA12LE
12. Hex Head Driver, 3/8" Drive, 5/32", 6" Long	6", 5/32" Hex Head Driver, 3/8" Drive	00005-12	SO72	FA5LE
13. Hex Head Driver, 1/4" Drive, 1/16"	1/16" Hex Head, 1/4" Drive	00005-13	SO 49	TMA2E
14. Hex Head Driver, 1/4" Drive, 5/64"	5/64" Hex Head, 1/4" Drive	00005-14	SO 49	TMA2.5E
15. Hex Head Driver, 1/4" Drive, 3/32"	3/32" Hex Head, 1/4" Drive	00005-15	SO 49	TMA3E
16. Hex Head Driver, 1/4" Drive, 7/64"	7/64" Hex Head, 1/4" Drive	00005-16	SO 49	TMA3.5E
17. Hex Head Driver, 1/4" Drive, 1/8"	1/8" Hex Head, 1/4" Drive	00005-17	SO 49	TMA4E
18. Hex Head Driver, 1/4" Drive, 9/64"	9/64" Hex Head, 1/4" Drive	00005-18	SO 49	TMA4.5E
19. Hex Head Driver, 1/4" Drive, 5/32"	5/32" Hex Head, 1/4" Drive	00005-19	SO 49	TMA5E
20. Hex Head Driver, 1/4" Drive, 3/16"	3/16" Hex Head, 1/4" Drive	00005-20	SO 49	TMA6E
21. Hex Head Driver, 1/4" Drive, 7/32"	7/32" Hex Head, 1/4" Drive	00005-21	SO 49	TMA7E
22. Hex Head Driver, 1/4" Drive, 1/4"	1/4" Hex Head, 1/4" Drive	00005-22	SO 49	TMA8E
23. Ball Tip Hex Head Driver, 1/4" Drive, 1/8"	1/8" Ball Tip Hex Head 1/4" Drive	00005-23	SO 49	TMAB4E
24. Hex Shank - 1/4" Drive	Hex Shank 1/4" Drive	00005-24	SO 52	GMB3042
25. Hex Shank - 1/4" Drive	Hex Shank 1/4" Drive	00005-25	SO 52	GMB3042
26. Hex Shank - 3/8" Drive	Hex Shank 3/8" Drive	00005-26	SO 77	A3081A
<b><u>KIT E: Extensions, Adapters, Ratchets, Handles, Accessories, 1/4" and 3/8" Drive</u></b>				
1. Extension, 3/8" Drive, 4" Long	4" Ext 3/8" Drive	000006-1	SO 64	FXX4
2. Extension, 3/8" Drive, 6" Long	6" Ext 3/8" Drive	000006-2	SO 64	FXX6
3. Extension, 3/8" Drive, 11" Long	11" Ext 3/8" Drive	000006-3	SO 64	FXX11
4. Ratchet, 3/8" Drive, 7-3/8" Long, Sealed	Ratchet 3/8" Drive	000006-4	SO 62	F830
5. Driver Handle, 3/8" Drive	Driver Handle 3/8" Drive	000006-5	SO 64	F50A
6. Breaker Bar, 3/8" Drive	Breaker Bar 3/8" Drive	000006-6	SO 64	F12L
7. Adapter, 3/8" Female to 1/4" Male	3/8" to 1/4" Adapter	000006-7	SO 44	TM1
8. Adapter, 3/8" Female to 1/2" Male	3/8" to 1/2" Adapter	000006-8	SO 64	A2A
9. Universal Joint, 3/8" Drive	Univ Joint 3/8" Drive	000006-9	SO 64	FU8A
10. Extension, 1/4" Drive, 2" Long	2" Ext 1/4" Drive	00006-10	SO45	TMXX2
11. Extension, 1/4" Drive, 4" Long	4" Ext 1/4" Drive	00006-11	SO 45	TMXX4
12. Extension, 1/4" Drive, 6" Long	6" Ext 1/4" Drive	00006-12	SO 45	TMXX60

PART NAME	OPS NAME	IMS NUMBER	VENDOR	VENDOR PART NUMBER
			(SO=Snap-on & pg # in Catalog)	
13. Extension, 1/4" Drive, 10" Long	10" Ext 1/4" Drive	00006-13	SO 45	TMXK100
14. Ratchet, 1/4" Drive, 4-1/2" Long, Sealed	Ratchet 1/4" Drive	00006-14	SO 43	TM830
15. Speed Handle Assembly	Speed Handle Assy	00006-15	JSC/RI/FEPC	
16. Driver Handle, 1/4" Drive	Driver Handle 1/4" Drive	00006-16	SO 44	TM4B
17. Universal Joint, 1/4" Drive	Univ Joint 1/4" Drive	00006-17	SO 44	TMU8
18. Adapter, 1/4" Female to 3/8" Male	1/4" to 3/8" Adapter	00006-18	SO 44	TA3
19. Adapter, 1/4" Female to 3/8" Male	1/4" to 3/8" Adapter	00006-19	SO 44	TA3
20. Ratchet, 1/4" Drive, 6" Long, Flex Handle	Flex Handle Ratchet, 1/4" Drive	00006-20	SO43	TM831
21. Ratchet, 3/8" Drive, 6" Long, Flex Handle	Flex Handle Ratchet, 3/8" Drive	00006-21	SO62	FM711
<b><u>KIT F: Sockets, 1/4" Drive</u></b>	KIT F: Sockets, 1/4" Drive	00000007		
1. Deep Socket, 1/4" Drive, 6 Point, 1/8"	1/8" 6 Pt Deep Socket, 1/4" Drive	000007-1	SO 47	STM04
2. Deep Socket, 1/4" Drive, 6 Point, 5/32"	5/32" 6 Pt Deep Socket, 1/4" Drive	000007-2	SO 47	STM05
3. Deep Socket, 1/4" Drive, 12 Point, 3/16"	3/16" Deep Socket, 1/4" Drive	000007-3	SO 47	STMD6
4. Deep Socket, 1/4" Drive, 12 Point, 7/32"	7/32" Deep Socket, 1/4" Drive	000007-4	SO 47	STMD7
5. Deep Socket, 1/4" Drive, 12 Point, 1/4"	1/4" Deep Socket, 1/4" Drive	000007-5	SO 47	STMD8
6. Deep Socket, 1/4" Drive, 12 Point, 9/32"	9/32" Deep Socket, 1/4" Drive	000007-6	SO 47	STMD9
7. Deep Socket, 1/4" Drive, 12 Point, 5/16"	5/16" Deep Socket, 1/4" Drive	000007-7	SO 47	STMD10
8. Deep Socket, 1/4" Drive, 12 Point, 11/32"	11/32" Deep Socket, 1/4" Drive	000007-8	SO 47	STMD11
9. Deep Socket, 1/4" Drive, 12 Point, 3/8"	3/8" Deep Socket, 1/4" Drive	000007-9	SO 47	STMD12
10. Deep Socket, 1/4" Drive, 12 Point, 7/16"	7/16" Deep Socket, 1/4" Drive	00007-10	SO 47	STMD14
11. Deep Socket, 1/4" Drive, 12 Point, 1/2"	1/2" Deep Socket, 1/4" Drive	00007-11	SO 47	STMD16
12. Deep Socket, 1/4" Drive, 12 Point, 9/16"	9/16" Deep Socket, 1/4" Drive	00007-12	SO 47	STMD18
13. Standard Socket, 1/4" Drive, 6 Point, 1/8"	1/8" 6 Pt Socket, 1/4" Drive	00007-13	SO 46	TM04
14. Standard Socket, 1/4" Drive, 6 Point, 5/32"	5/32" 6 Pt Socket, 1/4" Drive	00007-14	SO 46	TM05
15. Standard Socket, 1/4" Drive, 12 Point, 3/16"	3/16" Socket, 1/4" Drive	00007-15	SO 46	TMD6
16. Standard Socket, 1/4" Drive, 12 Point, 7/32"	7/32" Socket, 1/4" Drive	00007-16	SO 46	TMD7
17. Standard Socket, 1/4" Drive, 12 Point, 1/4"	1/4" Socket, 1/4" Drive	00007-17	SO 46	TMD8
18. Standard Socket, 1/4" Drive, 12 Point, 9/32"	9/32" Socket, 1/4" Drive	00007-18	SO 46	TMD9
19. Standard Socket, 1/4" Drive, 12 Point, 5/16"	5/16" Socket, 1/4" Drive	00007-19	SO 46	TMD10
20. Standard Socket, 1/4" Drive, 12 Point, 11/32"	11/32" Socket, 1/4" Drive	00007-20	SO 46	TMD11
21. Standard Socket, 1/4" Drive, 12 Point, 3/8"	3/8" Socket, 1/4" Drive	00007-21	SO 46	TMD12
22. Standard Socket, 1/4" Drive, 12 Point, 7/16"	7/16" Socket, 1/4" Drive	00007-22	SO 46	TMD14
23. Standard Socket, 1/4" Drive, 12 Point, 1/2"	1/2" Socket, 1/4" Drive	00007-23	SO 46	TMD16
24. Standard Socket, 1/4" Drive, 12 Point, 9/16"	9/16" Socket, 1/4" Drive	00007-24	SO 46	TMD18
25. Standard Socket, 1/4" Drive, 6 Point, 5/8"	5/8" 6 Pt Socket, 1/4" Drive	00007-25	SO 46	TM20
<b><u>Kit G: Torque Limiting Driver, Torque Wrenches</u></b>	Kit G: Trq Driver/Wrenches	00000008		
1. Torque Limiting Driver, 1/4" Drive (5 - 35 Inch-Pounds)	(5-35 inlbs) Trq Driver, 1/4" Drive	000008-1	SO 207	QTS135
2. Torque Wrench, 3/8" Drive (150 - 1000 Inch-Pounds)	(150-1000 inlbs) Trq Wrench 3/8" Drive	000008-2	SO 205	QJR284E
3. Torque Wrench, 3/8" Drive (30 - 200 Inch-Pounds)	(30-200 inlbs) Trq Wrench, 3/8" Drive	000008-3	SO 205	QJR217D

<b>PART NAME</b>	<b>OPS NAME</b>	<b>IMS NUMBER</b>	<b>VENDOR (SO=Snap-on &amp; pg # in Catalog)</b>	<b>VENDOR PART NUMBER</b>
<b><u>KIT H: Files, Cutting Tools, Saws</u></b>	KIT H: Files, Cutting Tools/Saws	0000009		
1. Hacksaw	Hacksaw	000009-1	SO 224	HS5
2. Replacement Blades	Hacksaw Blades	000009-2	McMASTER	4047A12
3. Scissors, 2" Cut Length, 8-1/4" Long	Scissors, 2" Cut, 8-1/4" Long	000009-3	MCMaster	36875A12
4. File Set, Small (Round, Half-Round, Flat, Crossing, Knife, Square, 3-Square, Equaling, Barrette, Joint, Slitting, and Marking)	File Set, Small	000009-4		
			SO 227	HBFN120
5. File Set, Large (Hand, Warding, Half-Round, Square, Round, and Slim Taper)	File Set, Large	000009-5		
			SO 226	HB100
6. Saw Hand, Finger Grip (Bone Saw)	Bone Saw	000009-6	Bestway Prod.	NSN5110-00-570-6896
7. Saw Hand, Finger Grip (Replacement Blades-qty 3)	Bone Saw Blades	000009-7	Bestway	NSN5110-00-570-6896
<b><u>KIT I: Screwdrivers</u></b>	KIT I: Screwdrivers	0000010		
1. Jewelers Screwdriver Set, Flat Tip (6 Piece Set)	Jewelers Screwdriver Set Flat Tip	000010-1	Radio Shack	641948
2. Jewelers Screwdriver, Phillips Head, 000	Jewelers Screwdriver Phillips 000	000010-2	McMaster Carr	7026A23
3. Jewelers Screwdriver, Phillips Head, 00	Jewelers Screwdriver Phillips 00	000010-3	McMaster Carr	7026A22
4. Jewelers Screwdriver, Phillips Head, 0	Jewelers Screwdriver Phillips 0	000010-4	McMaster Carr	7026A18
5. Jewelers Screwdriver, Phillips Head, 1	Jewelers Screwdriver Phillips 1	000010-5	McMaster Carr	7026A19
6. Phillips Head Driver, 3/8" Drive, #2, 4-1/32" Long	Phillips #2 3/8" Drive 4-1/32"	000010-6	SO 73	FP24E
7. Phillips Head Driver, 3/8" Drive, #3, 4-1/32" Long	Phillips #3 3/8" Drive 4-1/32"	000010-7	SO 73	FP34E
8. Phillips Head Driver, 3/8" Drive, #4, 2-9/16" Long	Phillips #4 3/8" Drive 2-9/16"	000010-8	SO 73	FP42E
9. Torq Set, Apex Bit, #2 long	#2 Torq Tip Bit Long	000010-9	APEX	273B-2
10. Torq Set, Apex Bit, #4 long	#4 Torq Tip Bit Long	000010-10	APEX	273B-4
11. Torq Set, Apex Bit, #6 long	#6 Torq Tip Bit Long	000010-11	APEX	273B-6
12. Torq Set, Apex Bit, #8 long	#8 Torq Tip Bit Long	000010-12	APEX	273B-8
13. Torq Set, Apex Bit, #10 long	#10 Torq Tip Bit Long	000010-13	APEX	273B-10
14. Common Tip Screwdriver, Short (0.018" X 1/8" X 3")	Common Tip Screwdriver 3"	000010-14	SO 145	SSDE43B
15. Common Tip Screwdriver, Long (0.037" X 1/4" X 4")	Common Tip Screwdriver 4"	000010-15	SO 148	UDS104
16. Common Tip Screwdriver, Long (0.037" X 1/4" X 4")	Common Tip Screwdriver 4"	000010-16	SO 148	UDS104
17. Common Tip Screwdriver, Long (0.037" X 1/4" X 4")	Common Tip Screwdriver 4"	000010-17	SO 148	UDS104
18. Common Tip Screwdriver, Long (0.037" X 1/4" X 4")	Common Tip Screwdriver 4"	000010-18	SO 148	UDS104
19. Phillips Head Screwdriver, #0, 3" Long Blade	Phillips Screwdriver #0	000010-19	SO 146	SSDEP30B

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
20. Phillips Head Screwdriver, #1, 10" Long Blade	Phillips Screwdriver #1	00010-20	SO 146	SSDEP61B
21. Flat Tip Head Driver, 3/8" Drive, 1/4" X 1/32"	Small Flat Tip Driver, 3/8" Drive	00010-21	SO 73	F23E
22. Flat Tip Head Driver, 3/8" Drive, 3/8" X 1/16"	Large Flat Tip Driver, 3/8" Drive	00010-22	SO 73	F31E
<b><u>KIT J: Pliers, Wire Cutters, Wire Strippers, Crimp Tools, Strap Wrench, and Retaining Ring Tools</u></b>	KIT J: Pliers, Cutters/Strippers, Crimp, Strap Wrench, Retaining Ring Tools	00000011		
1. Combination Pliers	Combination Pliers	000011-1	SO 158	45
2. Needle Nose Pliers, Small	Small Needle Nose Pliers	000011-2	SO 168	94BCP
3. Needle Nose Pliers, Large	Large Needle Nose Pliers	000011-3	SO 160	95ACP
4. Pliers, Vise Grip, Jaw Grip	Vise Grips	000011-4	SO 164	VP7WR
5. Adjustable Joint Pliers, 7" Straight Jaw	Adjustable Joint Pliers, Straight Jaw	000011-5	Craftsman	45028
6. Adjustable Joint Pliers	Adjustable Joint Pliers, Curved	000011-6	Craftsman	45029
7. Retaining Ring Tool	Retaining Ring Tool Straight	000011-7	SO 162	PR12A
8. Retaining Ring Tool	Retaining Ring Tool 90 Deg	000011-8	SO 162	PRH129
9. Connector Pliers	Connector Pliers	000011-9	SO 167	PWC52A
10. Connector Pliers	Connector Pliers	00011-10	SO 167	PWC52A
11. Crimp Tool	Crimp Tool	00011-11	DMC	MH860
12. Mini-Pliers, Straight, 6" Long	Mini Pliers Straight 6"	00011-12	SO 171	MPS6
13. Splice Crimp Tool	Spliced Crimp Tool	00011-13	GE	WT 111-M
14. Wire Cutters	Wire Cutters	00011-14	SO161	184BCP
15. Wire Stripper	Wire Stripper	00011-15	Hisco	45181
16. Strap Wrench	Strap Wrench	00011-16	Daniel	BT-BS-630
<b><u>KIT K: Hammer, Chisel, Punch, Pry Bar</u></b>	KIT K: Hammer/Chisel/Punch/Pry Bar	00000012		
1. Dead Blow, Ball Peen Hammer	Dead Blow Ballpeen Hammer	000012-1	SO 222	HBD16
2. Chisel, 1/2" Point Edge, 6" Long	Chisel Set 1/2" Pt 6" Long	000012-2	SO 220	PPC816A
3. Long Tapered Punch, 8" Long	Flat Head Punch 8" Long	000012-3	SO 220	PPC205A
4. Center Punch	Center Punch	000012-4	SO220	PPC6A
5. Pry Bar	Pry Bar	000012-5	SO219	1515
<b><u>KIT L: Screw Extractor Set (25 Piece Set)</u></b>	KIT L: Screw Extractor Set	00000013	SO258	E1020
KIT M: Tap and Die Set (24 piece set)	KIT M: Tap and Die Set	00000014	SO240	TD2400A
<b><u>Kit N: Limited Area Tool Kit</u></b>	Kit N: Limited Area Tool Kit	00000015		
1. Wrench, Ratcheting Box, 1/4"-5/16"	1/4"X5/16" Ratcheting Box, Wrench	000015-1	SO121	R810SA
2. Bit, Phillips, #0	#0 Phillips Bit	000015-2	SO155	SDM220A
3. Bit, Phillips, #1	#1 Phillips Bit	000015-3	SO155	SDM321B
4. Bit, Phillips, #2	#2 Phillips Bit	000015-4	SO155	SDM322B
5. Bit, Phillips, #3	#3 Phillips Bit	000015-5	SO155	SDM323B
6. Bit, Torq Set, #2 short	#2 Short Torq Bit	000015-6	APEX	170-2
7. Bit, Torq Set, #4 short	#4 Short Torq Bit	000015-7	APEX	170-4

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
8. Bit, Torq Set, #6 short	#6 Short Torq Bit	000015-8	APEX	170-6
9. Bit, Torq Set, #8 short	#8 Short Torq Bit	000015-9	APEX	170-8
10. Bit, Torq Set, #10 short	#10 Short Torq Bit	00015-10	APEX	170-10
<b><u>KIT O: Sockets, Hex Head Drivers, Metric; 1/4" Drive</u></b>	KIT O: Metric Sockets/Hex Head Drivers, 1/4" Drive	00000016		
1. Metric Shallow Socket, 1/4" Drive, 6 Point, 4 mm	4 mm Socket, 1/4" Drive	000016-1	SO 46	TMM4
2. Metric Shallow Socket, 1/4" Drive, 6 Point, 5 mm	5 mm Socket, 1/4" Drive	000016-2	SO 46	TMM5
3. Metric Shallow Socket, 1/4" Drive, 6 Point, 5.5 mm	5.5 mm Socket, 1/4" Drive	000016-3	SO 46	TMM5.5
4. Metric Shallow Socket, 1/4" Drive, 6 Point, 6 mm	6 mm Socket, 1/4" Drive	000016-4	SO 46	TMM6
5. Metric Shallow Socket, 1/4" Drive, 6 Point, 7 mm	7 mm Socket, 1/4" Drive	000016-5	SO 46	TMM7
6. Metric Shallow Socket, 1/4" Drive, 6 Point, 8 mm	8 mm Socket, 1/4" Drive	000016-6	SO 46	TMM8
7. Metric Shallow Socket, 1/4" Drive, 6 Point, 9 mm	9 mm Socket, 1/4" Drive	000016-7	SO 46	TMM9
8. Metric Shallow Socket, 1/4" Drive, 6 Point, 10 mm	10 mm Socket, 1/4" Drive	000016-8	SO 46	TMM10
9. Metric Shallow Socket, 1/4" Drive, 6 Point, 11 mm	11 mm Socket, 1/4" Drive	000016-9	SO 46	TMM11
10. Metric Shallow Socket, 1/4" Drive, 6 Point, 12 mm	12 mm Socket, 1/4" Drive	00016-10	SO 46	TMM12
11. Metric Shallow Socket, 1/4" Drive, 6 Point, 13 mm	13 mm Socket, 1/4" Drive	00016-11	SO 46	TMM13
12. Metric Shallow Socket, 1/4" Drive, 6 Point, 14 mm	14 mm Socket, 1/4" Drive	00016-12	SO 46	TMM14
13. Metric Deep Socket, 1/4" Drive, 6 Point, 4 mm	4 mm Deep Socket, 1/4" Drive	00016-13	SO47	STMM4
14. Metric Deep Socket, 1/4" Drive, 6 Point, 5 mm	5 mm Deep Socket, 1/4" Drive	00016-14	SO47	STMM5
15. Metric Deep Socket, 1/4" Drive, 6 Point, 5.5 mm	5.5 mm Deep Socket, 1/4" Drive	00016-15	SO47	STMM5.5
16. Metric Deep Socket, 1/4" Drive, 6 Point, 6 mm	6 mm Deep Socket, 1/4" Drive	00016-16	SO47	STMM6
17. Metric Deep Socket, 1/4" Drive, 6 Point, 7 mm	7 mm Deep Socket, 1/4" Drive	00016-17	SO47	STMM7
18. Metric Deep Socket, 1/4" Drive, 6 Point, 8 mm	8 mm Deep Socket, 1/4" Drive	00016-18	SO47	STMM8
19. Metric Deep Socket, 1/4" Drive, 6 Point, 9 mm	9 mm Deep Socket, 1/4" Drive	00016-19	SO47	STMM9
20. Metric Deep Socket, 1/4" Drive, 6 Point, 10 mm	10 mm Deep Socket, 1/4" Drive	00016-20	SO47	STMM10
21. Metric Deep Socket, 1/4" Drive, 6 Point, 11 mm	11 mm Deep Socket, 1/4" Drive	00016-21	SO47	STMM11

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
22. Metric Deep Socket, 1/4" Drive, 6 Point, 12 mm	12 mm Deep Socket, 1/4" Drive	00016-22	SO47	STMM12
23. Metric Deep Socket, 1/4" Drive, 6 Point, 13 mm	13 mm Deep Socket, 1/4" Drive	00016-23	SO47	STMM13
24. Metric Deep Socket, 1/4" Drive, 6 Point, 14 mm	14 mm Deep Socket, 1/4" Drive	00016-24	SO47	STMM14
25. Metric Folding Hex Key Set (2 X 51, 2.5 X 57, 3 X 62, 4 X 66, 5 X 57, 6 X 97, and 8 X 104 mm)	Metric Folding Hex Key Set	00016-25	SO 129	AWEM7K
26. Metric Standard Hex Head Driver, 1/4" Drive, 2 mm	2mm Hex Head, 1/4" Drive	00016-26	SO 49	TMAM2E
27. Metric Standard Hex Head Driver, 1/4" Drive, 2.5 mm	2.5 mm Hex Head, 1/4" Drive	00016-27	SO 49	TMAM2.5
28. Metric Standard Hex Head Driver, 1/4" Drive, 3 mm	3 mm Hex Head, 1/4" Drive	00016-28	SO 49	TMAM3E
29. Metric Standard Hex Head Driver, 1/4" Drive, 4 mm	4 mm Hex Head, 1/4" Drive	00016-29	SO 49	TMAM4E
30. Metric Standard Hex Head Driver, 1/4" Drive, 5 mm	5 mm Hex Head, 1/4" Drive	00016-30	SO 49	TMAM5E
31. Metric Standard Hex Head Driver, 1/4" Drive, 6 mm	6 mm Hex Head, 1/4" Drive	00016-31	SO 49	TMAM6E
<b><u>Kit P: Sockets, Hex Head Drivers, Crowfoot Wrenches.</u></b>	Kit P: Metric Sockets/Hex Head Drivers/	00000017		
1. Metric Shallow Socket, 3/8" Drive, 6 Point, 8 mm	8 mm Socket, 3/8" Drive	000017-1	SO 65	FSM81
2. Metric Shallow Socket, 3/8" Drive, 6 Point, 8 mm	8 mm Socket, 3/8" Drive	000017-2	SO 65	FSM81
3. Metric Shallow Socket, 3/8" Drive, 6 Point, 9 mm	9 mm Socket, 3/8" Drive	000017-3	SO 65	FSM91
4. Metric Shallow Socket, 3/8" Drive, 6 Point, 10 mm	10 mm Socket, 3/8" Drive	000017-4	SO 65	FSM101
5. Metric Shallow Socket, 3/8" Drive, 6 Point, 10 mm	10 mm Socket, 3/8" Drive	000017-5	SO 65	FSM101
6. Metric Shallow Socket, 3/8" Drive, 6 Point, 11 mm	11 mm Socket, 3/8" Drive	000017-6	SO 65	FSM111
7. Metric Shallow Socket, 3/8" Drive, 6 Point, 12 mm	12 mm Socket, 3/8" Drive	000017-7	SO 65	FSM121
8. Metric Shallow Socket, 3/8" Drive, 6 Point, 12 mm	12 mm Socket, 3/8" Drive	000017-8	SO 65	FSM121
9. Metric Shallow Socket, 3/8" Drive, 6 Point, 13 mm	13 mm Socket, 3/8" Drive	000017-9	SO 65	FSM131
10. Metric Shallow Socket, 3/8" Drive, 6 Point, 14 mm	14 mm Socket, 3/8" Drive	00017-10	SO 65	FSM141
11. Metric Shallow Socket, 3/8" Drive, 6 Point, 15 mm	15 mm Socket, 3/8" Drive	00017-11	SO 65	FSM151
12. Metric Shallow Socket, 3/8" Drive, 6 Point, 16 mm	16 mm Socket, 3/8" Drive	00017-12	SO 65	FSM161

PART NAME	OPS NAME	IMS NUMBER	VENDOR (SO=Snap-on & pg # in Catalog)	VENDOR PART NUMBER
13. Metric Shallow Socket, 3/8" Drive, 6 Point, 17 mm	17 mm Socket, 3/8" Drive	00017-13	SO 65	FSM171
14. Metric Shallow Socket, 3/8" Drive, 6 Point, 18 mm	18 mm Socket, 3/8" Drive	00017-14	SO 65	FSM181
15. Metric Shallow Socket, 3/8" Drive, 6 Point, 19 mm	19 mm Socket, 3/8" Drive	00017-15	SO 65	FSM191
16. Metric Shallow Socket, 3/8" Drive, 22 mm	22 mm Socket, 3/8" Drive	00017-16	SO 65	FSM221
17. Metric Shallow Socket, 3/8" Drive, 24 mm	24 mm Socket, 3/8" Drive	00017-17	SO 65	FSM241
18. Metric Deep Socket, 3/8" Drive, 6 Point, 8 mm	8 mm Deep Socket, 3/8" Drive	00017-18	SO 66	SFSM8
19. Metric Deep Socket, 3/8" Drive, 6 Point, 9 mm	9 mm Deep Socket, 3/8" Drive	00017-19	SO 66	SFSM9
20. Metric Deep Socket, 3/8" Drive, 6 Point, 10 mm	10 mm Deep Socket, 3/8" Drive	00017-20	SO 66	SFSM10
21. Metric Deep Socket, 3/8" Drive, 6 Point, 10 mm	10 mm Deep Socket, 3/8" Drive	00017-21	SO 66	SFSM10
22. Metric Deep Socket, 3/8" Drive, 6 Point, 11 mm	11 mm Deep Socket, 3/8" Drive	00017-22	SO 66	SFSM11
23. Metric Deep Socket, 3/8" Drive, 6 Point, 12 mm	12 mm Deep Socket, 3/8" Drive	00017-23	SO 66	SFSM12
24. Metric Deep Socket, 3/8" Drive, 6 Point, 12 mm	12 mm Deep Socket, 3/8" Drive	00017-24	SO 66	SFSM12
25. Metric Deep Socket, 3/8" Drive, 6 Point, 13 mm	13 mm Deep Socket, 3/8" Drive	00017-25	SO 66	SFSM13
26. Metric Deep Socket, 3/8" Drive, 6 Point, 14 mm	14 mm Deep Socket, 3/8" Drive	00017-26	SO 66	SFSM14
27. Metric Deep Socket, 3/8" Drive, 6 Point, 15 mm	15 mm Deep Socket, 3/8" Drive	00017-27	SO 66	SFSM15
28. Metric Deep Socket, 3/8" Drive, 6 Point, 16 mm	16 mm Deep Socket, 3/8" Drive	00017-28	SO 66	SFSM16
29. Metric Deep Socket, 3/8" Drive, 6 Point, 17 mm	17 mm Deep Socket, 3/8" Drive	00017-29	SO 66	SFSM17
30. Metric Deep Socket, 3/8" Drive, 6 Point, 18 mm	18 mm Deep Socket, 3/8" Drive	00017-30	SO 66	SFSM18
31. Metric Deep Socket, 3/8" Drive, 6 Point, 19 mm	19 mm Deep Socket, 3/8" Drive	00017-31	SO 66	SFSM19
32. Metric Standard Hex Head Driver, 3/8" Drive, 4 mm	4 mm Hex Head, 3/8" Drive	00017-32	SO 72	FAM4E
33. Metric Standard Hex Head Driver, 3/8" Drive, 5 mm	5 mm Hex Head, 3/8" Drive	00017-33	SO 72	FAM5E
34. Metric Standard Hex Head Driver, 3/8" Drive, 6 mm	6 mm Hex Head, 3/8" Drive	00017-34	SO 72	FAM6E
35. Metric Standard Hex Head Driver, 3/8" Drive, 7 mm	7 mm Hex Head, 3/8" Drive	00017-35	SO 72	FAM7E
36. Metric Standard Hex Head Driver, 3/8" Drive, 8 mm	8 mm Hex Head, 3/8" Drive	00017-36	SO 72	FAM8E
37. Metric Standard Hex Head Driver, 3/8" Drive, 9 mm	9 mm Hex Head, 3/8" Drive	00017-37	SO 72	FAM9E

<b>PART NAME</b>	<b>OPS NAME</b>	<b>IMS NUMBER</b>	<b>VENDOR (SO=Snap-on &amp; pg # in Catalog)</b>	<b>VENDOR PART NUMBER</b>
38. Metric Standard Hex Head Driver, 3/8" Drive, 10 mm	10 mm Hex Head, 3/8" Drive	00017-38	SO 72	FAM10E
39. Metric Standard Socket, 3/8" Drive, 12 Point, 6 mm	6 mm Socket, 3/8" Drive	00017-39	SO 65	FM6
40. Metric Standard Socket, 3/8" Drive, 12 Point, 7 mm	7 mm Socket, 3/8" Drive	00017-40	SO 65	FM7
41. Metric Standard Socket, 3/8" Drive, 12 Point, 8 mm	8 mm Socket, 3/8" Drive	00017-41	SO 65	FM8
42. Metric Standard Socket, 3/8" Drive, 12 Point, 9 mm	9 mm Socket, 3/8" Drive	00017-42	SO 65	FM9
43. Metric Standard Socket, 3/8" Drive, 12 Point, 10 mm	10 mm Socket, 3/8" Drive	00017-43	SO 65	FM10
44. Crowfoot, 3/8" Drive, 10 mm	10 mm Crowfoot, 3/8 Drive	00017-44	SO71	FCOM10
45. Crowfoot, 3/8" Drive, 12 mm	12 mm Crowfoot, 3/8 Drive	00017-45	SO71	FCOM12
46. Crowfoot, 3/8" Drive, 13 mm	13 mm Crowfoot, 3/8 Drive	00017-46	SO71	FCOM13
47. Crowfoot, 3/8" Drive, 14 mm	14 mm Crowfoot, 3/8 Drive	00017-47	SO71	FCOM14
48. Crowfoot, 3/8" Drive, 15 mm	15 mm Crowfoot, 3/8 Drive	00017-48	SO71	FCOM15
<b><u>KIT Q: Metric Combination Wrenches</u></b>	KIT Q: Metric Combination Wrenches	00000018		
1. Metric Combination Wrench, 6 Point, 7 mm	7 mm Combination Wrench	000018-1	SO115	OSHM70B
2. Metric Combination Wrench, 12 Point, 8 mm	8 mm Combination Wrench	000018-2	SO115	OEXM80B
3. Metric Combination Wrench, 12 Point, 9 mm	9 mm Combination Wrench	000018-3	SO115	OEXM90B
4. Metric Combination Wrench, 12 Point, 10 mm	10 mm Combination Wrench	000018-4	SO 114	SOEXM10
5. Metric Combination Wrench, 12 Point, 10 mm	10 mm Combination Wrench	000018-5	SO 114	SOEXM10
6. Metric Combination Wrench, 12 Point, 11 mm	11 mm Combination Wrench	000018-6	SO 114	SOEXM11
7. Metric Combination Wrench, 12 Point, 12 mm	12 mm Combination Wrench	000018-7	SO 114	SOEXM12
8. Metric Combination Wrench, 12 Point, 12 mm	12 mm Combination Wrench	000018-8	SO 114	SOEXM12
9. Metric Combination Wrench, 12 Point, 13 mm	13 mm Combination Wrench	000018-9	SO 114	SOEXM13
10. Metric Combination Wrench, 12 Point, 14 mm	14 mm Combination Wrench	00018-10	SO 114	SOEXM14
11. Metric Combination Wrench, 12 Point, 15 mm	15 mm Combination Wrench	00018-11	SO 114	SOEXM15
12. Metric Combination Wrench, 12 Point, 16 mm	16 mm Combination Wrench	00018-12	SO 114	SOEXM16
13. Metric Combination Wrench, 12 Point, 17 mm	17 mm Combination Wrench	00018-13	SO 114	SOEXM17
14. Metric Combination Wrench, 12 Point, 18 mm	18 mm Combination Wrench	00018-14	SO 114	SOEXM18
15. Metric Combination Wrench, 12 Point, 19 mm	19 mm Combination Wrench	00018-15	SO 114	SOEXM19
16. Metric Combination Wrench, 22 mm	22 mm Combination Wrench	00018-16	SO 115	OEXM220B



<b>PART NAME</b>	<b>OPS NAME</b>	<b>IMS NUMBER</b>	<b>VENDOR (SO=Snap-on &amp; pg # in Catalog)</b>	<b>VENDOR PART NUMBER</b>
17. Metric Combination Wrench, 24 mm	24 mm Combination Wrench	00018-17	SO 115	OEXM240B
<b><u>KIT R: Special Provisioning Tools</u></b>	KIT R: Special Provisioning Tools	00000019		
1. 7/16" Socket	7/16" EVA Socket, 3/8" Drive	000019-1	JSC	SEG33106931-301
2. 5/32" Hex Driver	5/32" Stubby Hex Head, 1/4" Drive	000019-2	SO 49	TMAXS5E
3. 3/16" Hex Driver - 6"	6", 3/16" Hex Head Driver, 3/8" Drive	000019-3	SO 73	FABL6E
4. 6" Flex Extension	6" Flex Extension, 1/4" Drive	000019-4	SO 42	TM61A
5. 11/16" Crowfoot (modified)	11/16" Modified Crowfoot, 3/8" Drive	000019-5	SO 71	FCO22A.195TH
6. 11/16" Open End Wrench, Offset (modified)	11/16" Open End Wrench, Modified	000019-6	SO 124	VS22B.195TH
7. 11/16" Open End Wrench, Offset (modified)	11/16" Open End Wrench, Modified	000019-7	SO 124	VS22B.195TH
<b><u>IVA Tool Box, Lid #2</u></b>	IVA Tool Box, Lid #2	00000020		
1. Electrical Tape	Electrical Tape	000020-1	McMaster-Carr	7648A32
2. Tape, Aluminum	Aluminum Tape	000020-2	3M	3M425
3. Tape, Utility (qty 3 rolls)	Grey Tape, 2" width	000020-3	Polyken Kendall	225FR-2
	Grey Tape, 2" width	000020-4	Polyken Kendall	225FR-2
	Grey Tape, 1" width	000020-5	Polyken Kendall	225FR-1
4. Caliper, Dial Type	Caliper, Dial Type	000020-6	SO 236	PMF134
5. Inspection Mirror	Insp Mirror	000020-7	McMaster-Carr	1016T2
6. Lubricant, Silicone tube	Lubricant Silicone	000020-8	McMaster-Carr	1204K12
7. Tablecloth, Tool	Tool Tablecloth	000020-9	JSC-FEPC	528-20158-1
<b><u>IVA Tool Box, Lid #1</u></b>	IVA Tool Box, Lid #1	00000021		
1. Feeler Gauge, nonmetallic	Nonmetallic Feeler Gauge	000021-1	McMaster-Carr	82755A11
2. Feeler Gauge	Feeler Gauge	000021-2	SO 233	FB335
3. Thread Gauge	Thread Gauge	000021-3	SO239	TD1040
4. Magnifying Glass (7X)	Magnifying Glass (7X)	000021-4	Fairfield Scientific	81-23-63
5. Mechanical Finger, 17-1/2" Long	Mech Finger	000021-5	SO261	GA353A
6. Tape Measure, 10 Feet Long (English/Metric)	Tape Measure	000021-6	Lufkin	PC-10
7. Steel Rule, 12"/300 mm	Steel Rule	000021-7	SO232	YA120A
8. Tweezer Kit	Tweezer Kit	000021-8	SO 171	YA456
9. Eye Protection, Glasses	Eye Protection	000021-9	McMaster-Carr	5405T12
10. Static Wrist Tether	Static Wrist Tether	00021-10	Richmond SC	6060X776

## IVA HAND TOOL BOX ASSY PART NO. SEG33113668-301

*This replaces the soft-stowed Tool Kit P/N SEG33109820-301.*

### **DESCRIPTION:**

- Replaces the ISS Tool Kit previously in Node 1 locker location NOD1D4\_G2 as the primary tool and accessory stowage.
- Capable of installation in a Node 1 triple-size locker or other locker with similar dimensions (34" deep, 17.75" wide, 15.75" tall). This tool box enables the crew to access or return a single tool more quickly than with the current ISS Tool Kit, as well as decrease the crew time performing a post-work inventory of the tools.
- Consists of five Tray Assemblies (SEG33113668-321, -323, -325, -327, -329) inserted into two Wedge Assemblies (SEG33113669-301 and -303) hard-docked on either side of the locker. The trays measure 32.5" x 14.25" x 2.5" and weigh approximately 7.25 lbs before population of the tools. Each tray is fitted with foam inserts that securely hold the tools in place and are also removable in order to accommodate tool replacement and substitution. These inserts have tool silhouettes cut into them for individual tool stowage (the depth of the cut depends on the tool) and each tool will be individually labeled on the foam. The contents of each tray are clearly labeled on the face of the trays.
- At launch, the trays and wedges will be soft stowed in foam. The trays will launch fully stocked with tools.
- Each tray has the capability of being inserted face "up" or face "down" and also pivots, ensuring clear visibility and accessibility of all tools. Each tray is also removable for transport to the worksite and will have Velcro on the backside so it can be attached flat to the wall.
- Two tray soft covers (SEG33113670-301) are available to cover the trays while they are away from the toolbox for extended periods of time.
- The following pages list the contents of the ISS IVA Tool Box. NOTE: The item number at the right of the table is the item number on the SEG33113668 drawing for quick reference.

**Weight:**  
165 lbs

**Volume or Measurements:**  
17.75" x 34.0" x 15.5"

**Type:**  
Outfitted

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Hard-docked in a triple-size locker



**Stowage:**

Soft stowed in foam (launch)  
Hard-docked in a triple-size locker  
(ISS)

**Limited Life:**

N/A

**Lineage:**

Designed and developed for NASA by  
Lockheed Martin Space Operations Corp.

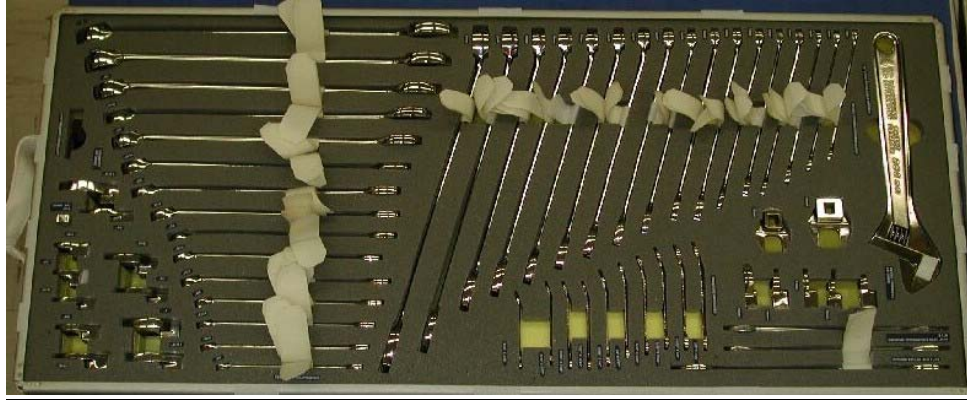
Note: Replaces prior Soft ISS Tool Kit

**Reference Documents:**

GCAR	G4116
ARM	JSC29014
RAESR	JSC29016
Materials	MATL-01-089
Stress	MASD-01-0206
CR	SSCN5351
NCR	ITB-NCR-001
VM	JSC29015
Training	LMSEAT33426
Manual	

**Contact:**

Fatonia Rivera

**TRAY 1: Combination, Crowfoot, and Wrenches**

PART NAME	PART NUMBER	VENDOR (SO=Snap-on pg # in 300 Catalog)	VENDOR PART NUMBER	QTY	ITEM #
<b>TRAY 1: Combination, Crowfoot, Wrenches</b>					
1. Adjustable Wrench, 10" Long	SKG33117562-913	SO 132	AD10	1	11
2. 11/16" Open End Wrench, Offset (modified)	SKG33117562-904	SO 124	VS22B.195TH	2	12
3. Wrench, 15 Deg Offset 3/4"-13/16", Low Torque	SKG33117562-337	SO 124	LTA2426	1	13
4. Metric Combination Wrench, 6 Point, 7 mm	SKG33117562-315	SO 115	OSHM70B	1	14
5. Metric Combination Wrench, 12 Point, 8 mm	SKG33117562-316	SO 115	OEXM80B	1	15
6. Metric Combination Wrench, 12 Point, 9 mm	SKG33117562-317	SO 115	OEXM90B	1	16
7. Metric Combination Wrench, 12 Point, 10 mm	SKG33117562-301	SO 114	SOEXM10	2	17
8. Metric Combination Wrench, 12 Point, 11 mm	SKG33117562-302	SO 114	SOEXM11	1	18
9. Metric Combination Wrench, 12 Point, 12 mm	SKG33117562-303	SO 114	SOEXM12	2	19
10. Metric Combination Wrench, 12 Point, 13 mm	SKG33117562-304	SO 114	SOEXM13	1	20
11. Metric Combination Wrench, 12 Point, 14 mm	SKG33117562-308	SO 145	SOEXM14	1	21
12. Metric Combination Wrench, 12 Point, 15 mm	SKG33117562-309	SO 114	SOEXM15	1	22
13. Metric Combination Wrench, 12 Point, 16 mm	SKG33117562-310	SO 114	SOEXM16	1	23
14. Metric Combination Wrench, 12 Point, 17 mm	SKG33117562-311	SO 114	SOEXM17	1	24
15. Metric Combination Wrench, 12 Point, 18 mm	SKG33117562-312	SO 114	SOEXM18	1	25
16. Metric Combination Wrench, 12 Point, 19 mm	SKG33117562-313	SO 114	SOEXM19	1	26
17. Metric Combination Wrench, 22 mm	SKG33117562-314	SO 115	OEXM220B	1	27
18. Metric Combination Wrench, 24 mm	SKG33117562-305	SO 115	OEXM240B	1	28
19. Crowfoot, 3/8" Drive, 19 mm	SEG33114495-303	SO 165	FCOM19A	1	29
20. Crowfoot, 3/8" Drive, 17 mm	SEG33114495-301	SO 165	FCOM17A	1	30
23. Crowfoot, 3/8" Drive, 15 mm	SKG33117562-752	SO 71	FCOM15	1	31
24. Crowfoot, 3/8" Drive, 14 mm	SKG33117562-755	SO 71	FCOM14	1	32
25. Crowfoot, 3/8" Drive, 13 mm	SKG33117562-756	SO 71	FCOM13	1	33
26. Crowfoot, 3/8" Drive, 12 mm	SKG33117562-001	SO 71	FCOM12	1	34
27. Crowfoot, 3/8" Drive, 10 mm	SKG33117562-002	SO 71	FCOM10	1	35
28. Miniature Wrench, 12 Point, 3/8" X 7/16"	SKG33117562-510	Techni-Tool	322WR132	1	36
29. Miniature Wrench, 12 Point, 11/32" X 3/8"	SKG33117562-509	Techni-Tool	322WR132	1	37
30. Miniature Wrench, 12 Point, 5/16" X 11/32"	SKG33117562-508	Techni-Tool	322WR132	1	38
31. Miniature Wrench, 12 Point, 9/32" X 5/16"	SKG33117562-507	Techni-Tool	322WR132	1	39

PART NAME	PART NUMBER	VENDOR (SO=Snap-on pg # in 300 Catalog)	VENDOR PART NUMBER	QTY	ITEM #
32. Miniature Wrench, 12 Point, 1/4" X 9/32"	SKG33117562-506	Techni-Tool	322WR132	1	40
33. Miniature Wrench, 12 Point, 15/64" X 1/4"	SKG33117562-505	Techni-Tool	322WR132	1	41
34. Miniature Wrench, 12 Point, 7/32" X 15/64"	SKG33117562-504	Techni-Tool	322WR132	1	42
35. Miniature Wrench, 12 Point, 13/64" X 7/32"	SKG33117562-503	Techni-Tool	322WR132	1	43
36. Miniature Wrench, 6 Point, 3/16" X 5/32"	SKG33117562-502	Techni-Tool	322WR132	1	44
37. Miniature Wrench, 6 Point, 5/32" X 3/16"	SKG33117562-501	Techni-Tool	322WR132	1	45
38. Combination Wrench, 12 Point, 1"	SKG33117562-318	SO 114	SOEX32	1	46
39. Combination Wrench, 12 Point, 15/16"	SKG33117562-319	SO 114	SOEX30	1	47
40. Combination Wrench, 12 Point, 7/8"	SKG33117562-320	SO 114	SOEX28	1	48
41. Combination Wrench, 12 Point, 13/16"	SKG33117562-321	SO 114	SOEX26	1	49
42. Combination Wrench, 12 Point, 3/4"	SKG33117562-322	SO 114	SOEX24	1	50
43. Combination Wrench, 12 Point, 11/16"	SKG33117562-323	SO 114	SOEX22	1	51
44. Combination Wrench, 12 Point, 5/8"	SKG33117562-324	SO 114	SOEX20	1	52
45. Combination Wrench, 12 Point, 9/16"	SKG33117562-306	SO 114	SOEX18	1	53
46. Combination Wrench, 12 Point, 1/2"	SKG33117562-307	SO 114	SOEX16	1	54
47. Combination Wrench, 12 Point, 7/16"	SKG33117562-325	SO 114	SOEX14	2	55
49. Combination Wrench, 12 Point, 3/8"	SKG33117562-326	SO 114	SOEX12	1	56
50. Combination Wrench, 12 Point, 11/32"	SKG33117562-327	SO 115	OEX11B	1	57
51. Combination Wrench, 12 Point, 5/16"	SKG33117562-328	SO 115	OEX10B	1	58
52. Combination Wrench, 12 Point, 1/4"	SKG33117562-329	SO 115	OEX8B	1	59
53. Crowfoot 11/16" (modified)	SKG33117562-946	SO 71	FCO22A.195TH	1	60
54. Crowfoot, 3/8" Drive, 1 5/16"	SEG33112392-301	SO 71	FC42A	1	61
55. Crowfoot, 3/8" Drive, 3/4"	SKG33117562-757	SO 71	FC24A	1	62
56. Crowfoot, 3/8" Drive, 13/16"	SKG33117562-758	SO 71	FC26A	1	63
57. Crowfoot, 3/8" Drive, 7/8"	SKG33117562-759	SO 71	FC28A	1	64
58. Crowfoot, 3/8" Drive, 1"	SKG33117562-307	SO 164	SEG33114112-307	1	65
59. Crowfoot, 3/8" Drive, 1 3/16"	SKG33117562-305	SO 164	SEG33114112-305	1	66
60. Crowfoot, 3/8" Drive, 7/16"	SKG33117562-003	SO 164	SEG33114112-003	1	67
61. Crowfoot, 3/8" Drive, 3/8"	SKG33117562-760	SO 71	FCO12	1	68
62. Crowfoot, 3/8" Drive, 9/16"	SKG33117562-761	SO 71	FC18A	1	69
63. Crowfoot, 3/8" Drive, 5/8"	SEG33112392-301	SO 164	FC20B	1	70
64. Crowfoot, 3/8" Drive, 11/16"	SKG33117562-762	SO 71	FC22A	1	71
65. Crowfoot, 1/4" Drive, 5/16"	SEG33114112-001	SO 163	TMRX10	1	72

## **TRAY 2: Sockets, Drivers, Torque Wrenches, and Ratchets**



<b>PART NAME</b>	<b>PART NUMBER</b>	<b>VENDOR</b>	<b>VENDOR P/N</b>	<b>QTY</b>	<b>ITEM #</b>
1. Metric Standard Hex Head Driver, 3/8" Drive, 4 mm	SKG33117562-608	SO 72	FAM4E	1	73
2. Metric Standard Hex Head Driver, 3/8" Drive, 5 mm	SKG33117562-609	SO 72	FAM5E	1	74
3. Metric Standard Hex Head Driver, 3/8" Drive, 6 mm	SKG33117562-610	SO 72	FAM6E	1	75
4. Metric Standard Hex Head Driver, 3/8" Drive, 7 mm	SKG33117562-611	SO 72	FAM7E	1	76
5. Metric Standard Hex Head Driver, 3/8" Drive, 8 mm	SKG33117562-612	SO 72	FAM8E	1	77
6. Metric Standard Hex Head Driver, 3/8" Drive, 9 mm	SKG33117562-601	SO 72	FAM9E	1	78
7. Metric Standard Hex Head Driver, 3/8" Drive, 10 mm	SKG33117562-602	SO 72	FAM10E	1	79
8. Metric Standard Hex Head Driver, 1/4" Drive, 2 mm	SKG33117562-603	SO 49	TMAM2E	1	80
9. Metric Standard Hex Head Driver, 1/4" Drive, 2.5 mm	SKG33117562-604	SO 49	TMAM2.5	1	81
10. Metric Standard Hex Head Driver, 1/4" Drive, 3 mm	SKG33117562-613	SO 49	TMAM3E	1	82
11. Metric Standard Hex Head Driver, 1/4" Drive, 4 mm	SKG33117562-614	SO 49	TMAM4E	1	83
12. Metric Standard Hex Head Driver, 1/4" Drive, 5 mm	SKG33117562-615	SO 49	TMAM5E	1	84
13. Metric Standard Hex Head Driver, 1/4" Drive, 6 mm	SKG33117562-616	SO 49	TMAM6E	1	85
14. Metric Deep Socket, 1/4" Drive, 6 Point, 4 mm	SKG33117562-617	SO 47	STMM4	1	86
15. Metric Deep Socket, 1/4" Drive, 6 Point, 5 mm	SKG33117562-618	SO 47	STMM5	1	87
16. Metric Deep Socket, 1/4" Drive, 6 Point, 5.5 mm	SKG33117562-619	SO 47	STMM5.5	1	88
17. Metric Deep Socket, 1/4" Drive, 6 Point, 6 mm	SKG33117562-620	SO 47	STMM6	1	89
18. Metric Deep Socket, 1/4" Drive, 6 Point, 7 mm	SKG33117562-621	SO 47	STMM7	1	90
19. Metric Deep Socket, 1/4" Drive, 6 Point, 8 mm	SKG33117562-622	SO 47	STMM8	1	91
20. Metric Deep Socket, 1/4" Drive, 6 Point, 9 mm	SKG33117562-623	SO 47	STMM9	1	92
21. Metric Deep Socket, 1/4" Drive, 6 Point, 10 mm	SKG33117562-624	SO 47	STMM10	1	93
22. Metric Deep Socket, 1/4" Drive, 6 Point, 11 mm	SKG33117562-606	SO 47	STMM11	1	94
23. Metric Deep Socket, 1/4" Drive, 6 Point, 12 mm	SKG33117562-607	SO 47	STMM12	1	95
24. Metric Deep Socket, 1/4" Drive, 6 Point, 13 mm	SKG33117562-647	SO 47	STMM13	1	96



PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
25. Metric Deep Socket, 1/4" Drive, 6 Point, 14 mm	SKG33117562-648	SO 47	STMM14	1	97
26. Metric Shallow Socket, 1/4" Drive, 6 Point, 4 mm	SKG33117562-640	SO 46	TMM4	1	98
27. Metric Shallow Socket, 1/4" Drive, 6 Point, 5 mm	SKG33117562-641	SO 46	TMM5	1	99
28. Metric Shallow Socket, 1/4" Drive, 6 Point, 5.5 mm	SKG33117562-642	SO 46	TMM5.5	1	100
29. Metric Shallow Socket, 1/4" Drive, 6 Point, 6 mm	SKG33117562-643	SO 46	TMM6	1	101
30. Metric Shallow Socket, 1/4" Drive, 6 Point, 7 mm	SKG33117562-644	SO 46	TMM7	1	102
31. Metric Shallow Socket, 1/4" Drive, 6 Point, 8 mm	SKG33117562-645	SO 46	TMM8	1	103
32. Metric Shallow Socket, 1/4" Drive, 6 Point, 9 mm	SKG33117562-646	SO 46	TMM9	1	104
33. Metric Shallow Socket, 1/4" Drive, 6 Point, 10 mm	SKG33117562-657	SO 46	TMM10	1	105
34. Metric Shallow Socket, 1/4" Drive, 6 Point, 11 mm	SKG33117562-658	SO 46	TMM11	1	106
35. Metric Shallow Socket, 1/4" Drive, 6 Point, 12 mm	SKG33117562-659	SO 46	TMM12	1	107
36. Metric Shallow Socket, 1/4" Drive, 6 Point, 13 mm	SKG33117562-660	SO 46	TMM13	1	108
37. Metric Shallow Socket, 1/4" Drive, 6 Point, 14 mm	SKG33117562-637	SO 46	TMM14	1	109
38. Metric Standard Socket, 3/8" Drive, 12 Point, 6 mm	SKG33117562-638	SO 65	FM6	1	110
39. Metric Standard Socket, 3/8" Drive, 12 Point, 7 mm	SKG33117562-639	SO 65	FM7	1	111
40. Metric Standard Socket, 3/8" Drive, 12 Point, 8 mm	SKG33117562-693	SO 65	FM8	1	112
41. Metric Standard Socket, 3/8" Drive, 12 Point, 9 mm	SKG33117562-694	SO 65	FM9	1	113
42. Metric Standard Socket, 3/8" Drive, 12 Point, 10 mm	SKG33117562-695	SO 65	FM10	1	114
43. Metric Deep Socket, 3/8" Drive, 6 Point, 8 mm	SKG33117562-625	SO 66	SFSM8	1	115
44. Metric Deep Socket, 3/8" Drive, 6 Point, 9 mm	SKG33117562-626	SO 66	SFSM9	1	116
45. Metric Deep Socket, 3/8" Drive, 6 Point, 10 mm	SKG33117562-627	SO 66	SFSM10	2	117
47. Metric Deep Socket, 3/8" Drive, 6 Point, 11 mm	SKG33117562-628	SO 66	SFSM11	1	118
48. Metric Deep Socket, 3/8" Drive, 6 Point, 12 mm	SKG33117562-629	SO 66	SFSM12	2	119
50. Metric Deep Socket, 3/8" Drive, 6 Point, 13 mm	SKG33117562-630	SO 66	SFSM13	1	120
51. Metric Deep Socket, 3/8" Drive, 6 Point, 14 mm	SKG33117562-631	SO 66	SFSM14	1	121
52. Metric Deep Socket, 3/8" Drive, 6 Point, 15 mm	SKG33117562-632	SO 66	SFSM15	1	122
53. Metric Deep Socket, 3/8" Drive, 6 Point, 16 mm	SKG33117562-633	SO 66	SFSM16	1	123
54. Metric Deep Socket, 3/8" Drive, 6 Point, 17 mm	SKG33117562-634	SO 66	SFSM17	1	124
55. Metric Deep Socket, 3/8" Drive, 6 Point, 18 mm	SKG33117562-635	SO 66	SFSM18	1	125
56. Metric Deep Socket, 3/8" Drive, 6 Point, 19 mm	SKG33117562-636	SO 66	SFSM19	1	126
57. Deep Socket, 3/8" Drive, 12 Point, 1/4"	SKG33117562-705	SO 66	SF081	1	127
58. Deep Socket, 3/8" Drive, 12 Point, 5/16"	SKG33117562-706	SO 66	SF101	1	128
59. Deep Socket, 3/8" Drive, 6 Point, 11/32"	SKG33117562-707	SO 66	SFS111	1	129
60. Deep Socket, 3/8" Drive, 12 Point, 3/8"	SKG33117562-708	SO 66	SF121	1	130
61. Deep Socket, 3/8" Drive, 12 Point, 7/16"	SKG33117562-709	SO 66	SF141	1	131
62. Deep Socket, 3/8" Drive, 12 Point, 1/2"	SKG33117562-685	SO 66	SF161	1	132
63. Deep Socket, 3/8" Drive, 12 Point, 9/16"	SKG33117562-686	SO 66	SF181	1	133
64. Deep Socket, 3/8" Drive, 12 Point, 19/32"	SKG33117562-687	SO 66	SF191	1	134
65. Deep Socket, 3/8" Drive, 12 Point, 5/8"	SKG33117562-688	SO 66	SF201	1	135
66. Deep Socket, 3/8" Drive, 12 Point, 11/16"	SKG33117562-689	SO 66	SF221	1	136
67. Deep Socket, 3/8" Drive, 12 Point, 3/4"	SKG33117562-690	SO 66	SF241	1	137

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
68. Deep Socket, 3/8" Drive, 12 Point, 13/16"	SKG33117562-691	SO 66	SF261	1	138
69. Deep Socket, 3/8" Drive, 12 Point, 7/8"	SKG33117562-692	SO 66	SF281	1	139
70. Deep Socket, 3/8" Drive, 12 Point, 15/16"	SKG33117562-714	SO 66	SF301	1	140
71. Deep Socket, 3/8" Drive, 12 Point, 1"	SKG33117562-715	SO 66	SF321	1	141
72. Metric Shallow Socket, 3/8" Drive, 6 Point, 8 mm	SKG33117562-605	SO 65	FSM81	2	142
74. Metric Shallow Socket, 3/8" Drive, 6 Point, 9 mm	SKG33117562-649	SO 65	FSM91	1	143
75. Metric Shallow Socket, 3/8" Drive, 6 Point, 10 mm	SKG33117562-650	SO 65	FSM101	2	144
77. Metric Shallow Socket, 3/8" Drive, 6 Point, 11 mm	SKG33117562-651	SO 65	FSM111	1	145
78. Metric Shallow Socket, 3/8" Drive, 6 Point, 12 mm	SKG33117562-652	SO 65	FSM121	2	146
80. Metric Shallow Socket, 3/8" Drive, 6 Point, 13 mm	SKG33117562-653	SO 65	FSM131	1	147
81. Metric Shallow Socket, 3/8" Drive, 6 Point, 14 mm	SKG33117562-654	SO 65	FSM141	1	148
82. Metric Shallow Socket, 3/8" Drive, 6 Point, 15 mm	SKG33117562-655	SO 65	FSM151	1	149
83. Metric Shallow Socket, 3/8" Drive, 6 Point, 16 mm	SKG33117562-656	SO 65	FSM161	1	150
84. Metric Shallow Socket, 3/8" Drive, 6 Point, 17 mm	SKG33117562-661	SO 65	FSM171	1	151
85. Metric Shallow Socket, 3/8" Drive, 6 Point, 18 mm	SKG33117562-662	SO 65	FSM181	1	152
86. Metric Shallow Socket, 3/8" Drive, 6 Point, 19 mm	SKG33117562-663	SO 65	FSM191	1	153
87. Metric Shallow Socket, 3/8" Drive, 22 mm	SKG33117562-664	SO 65	FSM221	1	154
88. Metric Shallow Socket, 3/8" Drive, 24 mm	SKG33117562-665	SO 65	FSM241	1	155
89. Standard Socket, 3/8" Drive, 12 Point, 1/4"	SKG33117562-725	SO 65	F081	1	156
90. Standard Socket, 3/8" Drive, 12 Point, 5/16"	SKG33117562-726	SO 65	F101	1	157
91. Standard Socket, 3/8" Drive, 12 Point, 11/32"	SKG33117562-727	SO 65	F111	1	158
92. Standard Socket, 3/8" Drive, 12 Point, 3/8"	SKG33117562-728	SO 65	F121	1	159
93. Standard Socket, 3/8" Drive, 12 Point, 7/16"	SKG33117562-729	SO 65	F141	2	160
95. Standard Socket, 3/8" Drive, 12 Point, 1/2"	SKG33117562-730	SO 65	F161	1	161
96. Standard Socket, 3/8" Drive, 12 Point, 9/16"	SKG33117562-731	SO 65	F181	1	162
97. Standard Socket, 3/8" Drive, 12 Point, 19/32"	SKG33117562-732	SO 65	F191	1	163
98. Standard Socket, 3/8" Drive, 12 Point, 5/8"	SKG33117562-733	SO 65	F201	1	164
99. Standard Socket, 3/8" Drive, 12 Point, 11/16"	SKG33117562-710	SO 65	F221	1	165
100. Standard Socket, 3/8" Drive, 12 Point, 3/4"	SKG33117562-711	SO 65	F241	1	166
101. Standard Socket, 3/8" Drive, 12 Point, 13/16"	SKG33117562-712	SO 65	F261	1	167
102. Standard Socket, 3/8" Drive, 12 Point, 7/8"	SKG33117562-713	SO 65	F281	1	168
103. Standard Socket, 3/8" Drive, 12 Point, 15/16"	SKG33117562-734	SO 65	F301	1	169
104. Standard Socket, 3/8" Drive, 12 Point, 1"	SKG33117562-735	SO 65	F321	1	170
105. Extension, 3/8" Drive, 4" Long	SKG33117562-773	SO 64	FXX4	1	171
106. Extension, 3/8" Drive, 6" Long	SKG33117562-774	SO 64	FXX6	1	172
107. Extension, 3/8" Drive, 11" Long	SKG33117562-775	SO 64	FXX11	1	173
108. Driver Handle, 3/8" Drive	SKG33117562-942	SO 64	F50A	1	174
109. EVA Socket, 3/8" Drive, 7/16"	SEG33106931-301			1	175
110. 6" Flex Extension, 1/4" Drive	SKG33117562-772	SO 42	TM61A	1	176
111. Torque Wrench, 3/8" Drive 30-200 In-lbs	SEG33117289-302	SO 205	QC2R200	1	177
112. Hex Head Driver, 3/8" Drive, 1/8"	SKG33117562-722	SO 72	FA4E	1	178
113. Hex Head Driver, 3/8" Drive, 9/64"	SKG33117562-723	SO 72	FA4.5E	1	179
114. Hex Head Driver, 3/8" Drive, 5/32"	SKG33117562-767	SO 72	FA5E	2	180
116. Hex Head Driver, 3/8" Drive, 3/16"	SKG33117562-746	SO 72	FA6E	1	181
117. Hex Head Driver, 3/8" Drive, 7/32"	SKG33117562-747	SO 72	FA7E	1	182



PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
118. Hex Head Driver, 3/8" Drive, 1/4"	SKG33117562-748	SO 72	FA8E	1	183
119. Hex Head Driver, 3/8" Drive, 5/16"	SKG33117562-749	SO 72	FA10E	1	184
120. Hex Head Driver, 3/8" Drive, 3/8"	SKG33117562-750	SO 72	FA12E	1	185
121. Driver Handle, 1/4" Drive	SKG33117562-941	SO 44	TM4B	1	186
122. Ratchet, 3/8" Drive, 7-3/8" Long, Sealed	SKG33117562-938	SO 62	F830	1	187
123. Ratchet, 1/4" Drive, 4-1/2" Long, Sealed	SKG33117562-939	SO 43	TM830	1	188
124. Ratchet, 1/4" Drive, 6" Long, Flex Handle	SKG33117562-940	SO43	TM831	1	189
125. Ratchet, 3/8" Drive, 6" Long, Flex Handle	SKG33117562-336	SO62	FM711	1	190
126. Adaptor, 3/8" Female to 1/4" Male	SEG33117595-301	SO 44	TM1	2	191
128. Adaptor, 3/8" Female to 1/2" Male	SEG33117595-302	SO 64	A2A	1	192
129. Torque Limiting Driver, 1/4" Drive, 5-35 In-lbs	SEG33117289-301	SO 207	QTS135	1	193
130. Torque Wrench, 1/4" Drive, 40-200 In-lbs	SEG33112394-301	SO 262*	QC1R200	1	194
131. Torque Wrench, 1/4" Drive, 10-50 In-lbs	SEG33112395-301	SO 262*	QC1R50	1	195
132. Universal Joint, 3/8" Drive	SKG33117562-905	SO 64	FU8A	1	196
133. Extension, 1/4" Drive, 2" Long	SKG33117562-763	SO45	TMXK2	1	197
134. Extension, 1/4" Drive, 4" Long	SKG33117562-764	SO 45	TMXK4	1	198
135. Extension, 1/4" Drive, 6" Long	SKG33117562-765	SO 45	TMXK60	1	199
136. Extension, 1/4" Drive, 10" Long	SKG33117562-766	SO 45	TMXK100	1	200
137. Hex Shank - 1/4" Drive	SKG33117562-008	SO 52	GMB3042	2	201
139. Hex Shank - 3/8" Drive	SKG33117562-009	SO 77	A3081A	1	202
140. Universal Joint, 1/4" Drive	SKG33117562-010	SO 44	TMU8	1	203
141. Ball Tip Hex Head Driver, 1/4" Drive, 1/8"	SKG33117562-666	SO 49	TMAB4E	1	204
142. Adaptor, 1/4" Female to 3/8" Male	SEG33117595-303	SO 44	TA3	2	205
144. Hex Head Driver, 1/4" Drive, 1/16"	SKG33117562-736	SO 49	TMA2E	1	206
145. Hex Head Driver, 1/4" Drive, 5/64"	SKG33117562-737	SO 49	TMA2.5E	1	207
146. Hex Head Driver, 1/4" Drive, 3/32"	SKG33117562-738	SO 49	TMA3E	1	208
147. Hex Head Driver, 1/4" Drive, 7/64"	SKG33117562-739	SO 49	TMA3.5E	1	209
148. Hex Head Driver, 1/4" Drive, 1/8"	SKG33117562-740	SO 49	TMA4E	1	210
149. Hex Head Driver, 1/4" Drive, 9/64"	SKG33117562-741	SO 49	TMA4.5E	1	211
150. Hex Head Driver, 1/4" Drive, 5/32"	SKG33117562-742	SO 49	TMA5E	1	212
151. Hex Head Driver, 1/4" Drive, 3/16"	SKG33117562-743	SO 49	TMA6E	1	213
152. Hex Head Driver, 1/4" Drive, 7/32"	SKG33117562-744	SO 49	TMA7E	1	214
153. Hex Head Driver, 1/4" Drive, 1/4"	SKG33117562-748	SO 49	TMA8E	1	215
154. Deep Socket, 1/4" Drive, 6 Point, 1/8"	SKG33117562-696	SO 47	STM04	1	216
155. Deep Socket, 1/4" Drive, 6 Point, 5/32"	SKG33117562-673	SO 47	STM05	1	217
156. Deep Socket, 1/4" Drive, 12 Point, 3/16"	SKG33117562-674	SO 47	STMD6	1	218
157. Deep Socket, 1/4" Drive, 12 Point, 7/32"	SKG33117562-675	SO 47	STMD7	1	219
158. Deep Socket, 1/4" Drive, 12 Point, 1/4"	SKG33117562-676	SO 47	STMD8	1	220
159. Deep Socket, 1/4" Drive, 12 Point, 9/32"	SKG33117562-677	SO 47	STMD9	1	221
160. Deep Socket, 1/4" Drive, 12 Point, 5/16"	SKG33117562-678	SO 47	STMD10	1	222
161. Deep Socket, 1/4" Drive, 12 Point, 11/32"	SKG33117562-679	SO 47	STMD11	1	223
162. Deep Socket, 1/4" Drive, 12 Point, 3/8"	SKG33117562-680	SO 47	STMD12	1	224
163. Deep Socket, 1/4" Drive, 12 Point, 7/16"	SKG33117562-681	SO 47	STMD14	1	225
164. Deep Socket, 1/4" Drive, 12 Point, 1/2"	SKG33117562-682	SO 47	STMD16	1	226
165. Deep Socket, 1/4" Drive, 12 Point, 9/16"	SKG33117562-704	SO 47	STMD18	1	227
166. Standard Socket, 1/4" Drive, 6 Point, 1/8"	SKG33117562-716	SO 46	TM04	1	228

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
167. Standard Socket, 1/4" Drive, 6 Point, 5/32"	SKG33117562-717	SO 46	TM05	1	229
168. Standard Socket, 1/4" Drive, 12 Point, 3/16"	SKG33117562-718	SO 46	TMD6	1	230
169. Standard Socket, 1/4" Drive, 12 Point, 7/32"	SKG33117562-719	SO 46	TMD7	1	231
170. Standard Socket, 1/4" Drive, 12 Point, 1/4"	SKG33117562-720	SO 46	TMD8	1	232
171. Standard Socket, 1/4" Drive, 12 Point, 9/32"	SKG33117562-721	SO 46	TMD9	1	233
172. Standard Socket, 1/4" Drive, 12 Point, 5/16"	SKG33117562-697	SO 46	TMD10	1	234
173. Standard Socket, 1/4" Drive, 12 Point, 11/32"	SKG33117562-698	SO 46	TMD11	1	235
174. Standard Socket, 1/4" Drive, 12 Point, 3/8"	SKG33117562-699	SO 46	TMD12	1	236
175. Standard Socket, 1/4" Drive, 12 Point, 7/16"	SKG33117562-701	SO 46	TMD14	1	237
176. Standard Socket, 1/4" Drive, 12 Point, 1/2"	SKG33117562-702	SO 46	TMD16	1	238
177. Standard Socket, 1/4" Drive, 12 Point, 9/16"	SKG33117562-703	SO 46	TMD18	1	239
178. Standard Socket, 1/4" Drive, 6 Point, 5/8"	SKG33117562-724	SO 46	TM20	1	240

\*denotes pg# in the Snap-on 500 Catalog

### **TRAY 3: Screwdrivers, Bits, Crowsfeet, Transfer Net**



PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
1. Phillips Head Driver, 3/8" Drive, #3, 4-1/32" Long	SKG33117562-915	SO 72		3	241
2. Speed Handle Assembly	528-20169-1	JSC/RI/FEPC		1	242
3. Steel Rule, 12"/300 mm	SKG33117562-911	SO 232	YA120A	1	243
2. Adjustable Wrench, 6" Long	SKG33117562-912	SO 132	AD6	1	244
4. Torque Wrench, 3/8" Drive, 200-1000 In-lbs	SEG33117289-303	SO 205	QC2R1000	1	245
5. Inspection Mirror	SKG33117562-923	McMaster-Carr	1016T2	1	246
6. Mechanical Finger, 17-1/2" Long	SKG33117562-931	SO261	GA353A	1	247
7. Crowfoot, 3/8" Drive, 1-1/4"	SEG33114127-301	SO 164	FC40A	1	248

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
8. Crowfoot, 3/8" Drive, 1-3/8"	SEG33114218-301	SO 164	FC44A	1	249
9. Crowfoot, 3/8" Drive, 1-5/8"	SEG33113226-301	SO 164	FC52A	1	250
10. Crowfoot, 3/8" Drive, 1 3/4"	SEG33114112-303	SO 164	FC56A	1	251
11. Crowfoot, 3/8" Drive, 2"	SEG33114127-303	SO 164	FC64A	1	252
12. Crowfoot, 3/8" Drive, 2 1/2"	SEG33114112-301	SO 164	FC80A	1	253
13. Ratcheting Bit Set	SJG33114298-301			1	254
14. Hex Head Driver, 3/8" Drive, 3/8", 6" Long	SKG33117562-751	SO 72	FA12LE	1	255
15. Hex Head Driver, 3/8" Drive, 5/32", 6" Long	SKG33117562-768	SO 72	FA5LE	1	256
16. 3/16" Hex Driver - 6"	SKG33117562-917	SO 73	FABL6E	1	257
17. 5/32" Hex Driver	SKG33117562-918	SO 49	TMAXS5E	1	258
18. Jewelers Screwdriver Set, Flat Tip (6 Piece Set)	641948	Radio Shack	641948	1	259
19. Phillips Head Driver, 3/8" Drive, #2, 4-1/32" Long	SKG33117562-914	SO 73	FP24E	2	260
20. Phillips Head Driver, 3/8" Drive, #4, 2-9/16" Long	SKG33117562-784	SO 73	FP42E	1	261
21. Flat Tip Head Driver, 3/8" Drive, 1/4" X 1/32"	SKG33117562-785	SO 73	F23E	1	262
22. Flat Tip Head Driver, 3/8" Drive, 3/8" X 1/16"	SKG33117562-786	SO 73	F31E	1	263
23. Hex Head Driver, 1/2" Drive, 7/16"	SKG33117562-919	SO 88	SA14E	1	264
24. Torq Set, Apex Bit, #2 long	SKG33117562-330	APEX	273B-2	1	265
25. Torq Set, Apex Bit, #4 long	SKG33117562-331	APEX	273B-4	1	266
26. Torq Set, Apex Bit, #6 long	SKG33117562-332	APEX	273B-6	1	267
27. Torq Set, Apex Bit, #8 long	SKG33117562-333	APEX	273B-8	1	268
28.. Torq Set, Apex Bit, #10 long	SKG33117562-334	APEX	273B-10	1	269
29.. Phillips Head Screwdriver, #0, 3" Long Blade	SKG33117562-792	SO 146	SSDEP30B	1	270
30. Phillips Head Screwdriver, #1, 6" Long Blade	SKG33117562-901	SO 146	SSDEP61B	1	271
31. Common Tip Screwdriver, Short, 0.018" X 1/8" X 3"	SKG33117562-902	SO 145	SSDE43B	1	272
32. Common Tip Screwdriver, Long, 0.037" X 1/4" X 4"	SKG33117562-903	SO 148	UDS104	4	273
33. 3/8" Ball Tip Hex Head, 3/8" Drive, 5" Long	SEG33109848-309	SO 104	FABL5E	1	274
34. 5/32" Ball Tip Hex Head, 3/8" Drive, 5" Long	SEG33109848-321	SO 104	FABL12E	1	275
35. Spanner Wrench	683-13419	Boeing		1	276

**TRAY 4: L-Wrenches, Pliers, Crimp Tools, Wire Cutters**

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
1. L-Wrench, .028 "	SKG33117562-776	SO 131	AW028	1	277
2. L-Wrench, .035 "	SKG33117562-777	SO 132	AW035	1	278
3. L-Wrench, .05 "	SKG33117562-778	SO 133	AW050	1	279
4. L-Wrench, 1/16 "	SKG33117562-779	SO 134	AW2	1	280
5. L-Wrench, 5/64 "	SKG33117562-780	SO 135	AW2-1/2	1	281
6. L-Wrench, 3/32 "	SKG33117562-781	SO 136	AW3	1	282
7. L-Wrench, 7/64 "	SKG33117562-782	SO 137	AW3-1/2	1	283
8. L-Wrench, 1/8 "	SKG33117562-783	SO 138	AW4	1	284
9. L-Wrench, 9/64 "	SKG33117562-753	SO 139	AW4-1/2	1	285
10. L-Wrench, 5/32 "	SKG33117562-754	SO 140	AW5	1	286
11. L-Wrench, 3/16 "	SKG33117562-007	SO 141	AW6	1	287
12. L-Wrench, 7/32 "	SKG33117562-793	SO 142	AW7	1	288
13. L-Wrench, 1/4 "	SKG33117562-794	SO 143	AW8	1	289
14. L-Wrench, 5/16 "	SKG33117562-795	SO 144	AW10	1	290
15. L-Wrench, 3/8 "	SKG33117562-796	SO 145	AW12	1	291
16. L-Wrench, 7/16 "	SKG33117562-797	SO 146	AW14	1	292
17. L-Wrench, 1/2 "	SKG33117562-798	SO 147	AW16	1	293
18. L-Wrench, 9/16 "	SKG33117562-799	SO 148	AW18	1	294
19. L-Wrench, 5/32" Modified	SEG33113213-301		SEG33113213-301	1	295
20. Folding L-Wrench Set; (.05", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 1/4", 5/16", and 3/8")	SKG33117562-789	SO 129	AW9K	1	296
21. Metric Folding Hex Key Set (2 X 51, 2.5 X 57, 3 X 62, 4 X 66, 5 X 57, 6 X 97, and 8 X 104 mm)	SKG33117562-791	SO 129	AWEM7K	1	298
22. Connector Pilers	SKG33117562-930	SO 167	PWC52A	2	299
23. Vise Grips	SKG33117562-947	SO 164	VP7WR	1	300
24. Strap Wrench	SKG33117562-925	Daniels		1	301
25. Mini-Pliers, Straight, 6" Long	SKG33117562-943	SO 171	MPS6	1	302
26. Splice Crimp Tool	SKG33117562-929	GE	WT 111-M	1	303
27. Adjustable Joint Pliers, Curved	SKG33117562-944	Craftsman	45029	1	304

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
28. Crimp Tool	SKG33117562-769	Daniels	MH860	1	305
locator for MS27490-16	SKG33117562-003	Daniels		1	306
locator for MS27490-20	SKG33117562-004	Daniels		1	307
locator for M24308/12-1	SKG33117562-005	Daniels		1	308
29. Wire Stripper	SKG33117562-927	Hisco	45181	1	309
30. Adjustable Joint Pliers, 7" Straight Jaw	SKG33117562-945	Craftsman	45028	1	310
31. Retaining Ring Tool, Straight	SKG33117562-936	SO 162	PR12A	1	311
32. Needle Nose Pliers, Small	SKG33117562-770	SO 168	94BCP	1	312
33. Needle Nose Pliers, Large	SKG33117562-771	SO 160	95ACP	1	313
34. Combination Pliers	SKG33117562-928	SO 158	45	1	314
35. Wire Cutters	SKG33117562-926	SO 161	184BCP	1	315
36. Retaining Ring Tool, 90 Degrees	SKG33117562-937	SO 162	PRH129	1	316

**TRAY 5: Wrenches, Files, Saws, Tethers, Punches**

PART NAME	PART NUMBER	VENDOR	VENDOR P/N	QTY	ITEM #
1. Combination Wrench, 12 Point, 1 5/16"	SKG33117562-338	S115	OEX42B	1	317
2. Pipe Wrench	SKG33117562-933	SO 132	PWA10A	1	318
3. Caliper, Dial Type	SKG33117562-922	SO 236	PMF134	1	319
4. File Handle, Large	SDG33114300-013	SO 227	HF613BL	1	320
5. Feeler Gauge	FB335	SO 233	FB335	1	321
6. Hacksaw	SKG33117562-787	SO 224	HS5	1	322
7. Snap-On or HSBM1024B Replacement Blades	SKG33117562-006	McMaster Carr	4047A12	3	323
8. Saw Hand, Finger Grip (Bone Saw)	SKG33117562-788	Bestway Prod.	NSN5110-00-570-6896	1	324
9. Tape Measure, 10 Feet Long (English/Metric)	SKG33117562-920	Lufkin	PC-10 OR 2210-10	1	325
10. Breaker Bar, 3/8" Drive	SKG33117562-916	SO 64	F12L	1	326
11. Thread Gauge	SKG33117562-921	SO 239	TD1040	1	327
12. Feeler Gauge, nonmetallic	SKG33117562-910	McMaster Carr	82755A11	1	328
13. File Set, Small (Round, Half-Round, Flat, Crossing, Knife, Square, 3-Square, Equaling, Barrette, Joint, Slitting, Marking, and Handle)	SJG33114296-301	SO 227	HBFN120	1	329
14. Static Wrist Tether	SKG33117562-335	Richmond SC	6060X776	2	330
15. Magnifying Glass (7X)	SKG33117562-924	Fairfield Scientific	81-23-63	1	331
16. Scissors, 2" Cut Length, 8-1/4" Long	SKG33117562-934	McMaster	3687A12	1	332
17. Dead Blow, Ball Peen Hammer	SKG33117562-932	SO 222	HBD16	1	333
18. Chisel, 1/2" Point Edge, 6" Long	SKG33117562-907	SO 222	PPC816A	1	334
19. Pry Bar	SKG33117562-908	SO 219	I515	1	335
20. Center Punch	SKG33117562-906	SO 220	PPC6A	1	336
21. Long Tapered Punch, 6" Long	SKG33117562-907	SO 220	PPC205A	1	337
22. Hand File, Large	SDG33114300-001	SO 226	HB4MA	1	338
23. Warding File, Large	SDG33114300-003	SO 226	HB4W	1	339
24. Half-round File, Large	SDG33114300-005	SO 226	HB4HR	1	340
25. Square File, Large	SDG33114300-007	SO 226	HB4SQ	1	341
26. Round File, Large	SDG33114300-009	SO 226	HB4R	1	342
27. Slim Taper File, Large	SDG33114300-011	SO 226	HB4T	1	343



## **LARGE GAUGE PIN KIT PART NO. SJG33115400-301**

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### **DESCRIPTION:**

- The Large Gauge Pin Kit consists of electrical jumpers and accessories for 0, 4 and 8 gauge maintenance and repair applications.
- The kit also includes step-down jumpers for 0-4Ga, 4-8Ga and 8-12 Ga step-down applications.
- The jumpers and accessories in these kits are contained in an existing CTB and bundled with Velcro tie-wraps (P/N: 528-43074-1)
- Hardware part numbers are documented to fly as subassemblies as required. See consumables listing on following page.

**Weight:**  
46 lbs

### **Volume or Measurements:**

1.87 cu ft

**Type:**  
Consumable

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Velcro Hook on ziplocks

**Stowage:**  
Standard stowage trays



**Limited Life:**  
Electrical Tape (250-5S): 1 year from date of manufacture

**Lineage:**  
JSC CTSD New Development for ISS  
CR# SSCN6922

### **Reference Documents:**

GCAR	G4904
VM	JSC47957
Proj. Req.	JSC47956
RAESR	JSC60394
Materials	MATL-04-001

**Contact:**  
Fatonia Rivera

## Large Gauge Pin Kit Contents (1/2)

## STANDARD JUMPERS

Part Number	Part Name	Qty
SEG33115401-301	6 inch 0 ga Pin-Skt	6
SEG33115401-302	6 inch 4 ga Pin-Skt	6
SEG33115401-303	6 inch 8 ga Pin-Skt	6
SEG33115402-301	6 inch 0 ga Pin-Pin	6
SEG33115402-302	6 inch 4 ga Pin-Pin	6
SEG33115402-303	6 inch 8 ga Pin-Pin	6
SEG33115403-301	6 inch 0 ga Skt-Skt	6
SEG33115403-302	6 inch 4 ga Skt-Skt	6
SEG33115403-303	6 inch 8 ga Skt-Skt	6
SEG33115404-301	36 inch 0 ga Pin-Skt	3
SEG33115404-302	36 inch 4 ga Pin-Skt	3
SEG33115404-303	36 inch 8 ga Pin-Skt	3
SEG33115405-301	36 inch 0 ga Pin-Pin	3
SEG33115405-302	36 inch 4 ga Pin-Pin	3
SEG33115405-303	36 inch 8 ga Pin-Pin	3
SEG33115406-301	36 inch 0 ga Skt-Skt	3
SEG33115406-302	36 inch 4 ga Skt-Skt	3
SEG33115406-303	36 inch 8 ga Skt-Skt	3



Part Number	Part Name	Qty
S-1/0	0-4ga Split Bolt Connector	18
S-4	4-8ga Split Bolt Connector	18
GB26	0-4ga Bus Bar w/ Set Screw	2
GB4C	4-8ga Bus Bar w/ Set Screw	2
727	Cable Cutter	1
250-5S	Electrical Tape	2

## STEP DOWN JUMPERS

Part Number	Part Name	Qty
SEG33115409-301	0-4ga Pin-Pin Step Down	6
SEG33115409-302	4-8ga Pin-Pin Step Down	6
SEG33115409-303	8-12ga Pin-Pin Step Down	6
SEG33115410-301	0-4ga Pin-Skt Step Down	6
SEG33115410-302	4-8ga Pin-Skt Step Down	6
SEG33115410-303	8-12ga Pin-Skt Step Down	6
SEG33115411-301	0-4ga Skt-Pin Step Down	6
SEG33115411-302	4-8ga Skt-Pin Step Down	6
SEG33115411-303	8-12ga Skt-Pin Step Down	6
SEG33115412-301	0-4ga Skt-Skt Step Down	6
SEG33115412-302	4-8ga Skt-Skt Step Down	6
SEG33115412-303	8-12ga Skt-Skt Step Down	6

## **LOCKER TOOL KIT PART NO. SJG33111363-301**

---

### **DESCRIPTION:**

- Provide a means for on-orbit locker removal and replacement.
- Tip of the tool is a 3/16" hex head male that interfaces with locker fasteners.
- The drive is a 3/8" square which can be driven by a ratchet or driver.
- Rated to a torque of 30 in-lbs.
- Folds in middle for stowage

### **Weight:**

1 lb

### **Volume or Measurements:**

104 cu in

### **Type:**

Outfitted

### **Power:**

N/A



### **Fuse:**

N/A

### **Restraint:**

Nomex softgoods bag

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR           G3293  
Materials       MATL-99-129

### **Contact:**

Craig Perez

## LOGIC ANALYZER KIT PART NO. SJG33110645-301

---

### **DESCRIPTION:**

- Consists of LABVIEW interface accessories and a LABVIEW Logic Analyzer software card.
- Labview software analyzes digital and analog data from circuit boards.
- Kit Contains:
  - 1 Shielded Cable Assy (SEG33111954-301)
  - 2 Daqcard / Adapter Cable Assemblies (SEG33111951-301)
  - 3 Test Lead Assemblies (SEG33111955-301)

### **Weight:**

N/A

### **Volume or Measurements:**

12.5" x 5"x 2"

### **Type:**

Outfitted

### **Power:**

PCMCIA card plugs into laptop and draws power from computer  
Software: LABVIEW (supplied by others)

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

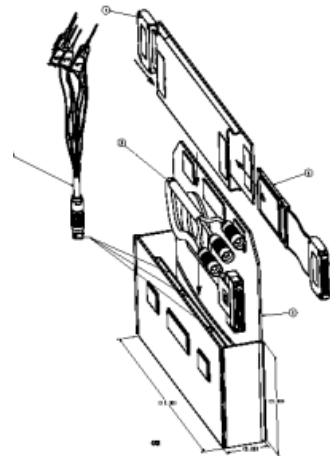
JSC CTSD Modified-off-the-shelf for ISS

Vendor: LABVIEW

Vendor part no: Data Acquisition Card DIO-24

### **Reference Documents:**

GCAR	G3281
CR	SSP50345
EIS	JSC27166B
PMP	TTA49
SAR	JSC28423
Procedures	LMSMSS32746B
Materials	MATL-98-171



MUA MATL-98-192  
S01 (Pressure Probe)  
S03 (Logic Analyzer kit, Pressure Probe kit, Scopemeter Downlink Cable)  
Stress HDID-SAS-98-0244  
HDID-SAS-98-0249

**Contact:**  
Craig Perez

## **MAGNIFYING VISOR ASSY PART NO. SEG33112398-301**

---

### **DESCRIPTION:**

- Headband adjusts with Velcro.
- Two(2) plastic magnifying lenses; one fixed and one adjustable.

### **Weight:**

0.3 lbs

### **Volume or Measurements:**

10" x 10" x 2"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

Ziplock

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS  
Vendor: Electronics Parts Outlet, Webster, TX  
P/N: LP-23II

### **Reference Documents:**

GCAR	G3508 (New)
GCAR	G3307 (Old)
Proj. Req.	SSP50345
Materials	MATL-99-200

### **Contact:**

Craig Perez

## **MAINTENANCE WORK AREA PART NO. (SEE DESCRIPTION)**

---

### **DESCRIPTION:**

- The Maintenance Work Area (MWA) is used to provide a portable and collapsible work bench system to support on-orbit maintenance activities.
- Includes a Work Surface with seat track
- The work surface (P/N SEG33110270-301) can also be rotated to the rack face in 15 degree increments within a 180 degree range.
- Includes Rack Mounting Hardware (P/N SEG33110280-301, left and P/N SEG33110280-302, right) that attaches system to seat track.
- Includes a Utility Strip (P/N SEG33108463-301)
  - 6 amp fuse
  - Utility Outlet Panel (UOP) style input connector
  - 4 UOP style output connectors with individual on/off switch
  - Fuse holder incorporated into bottom of plate holds 10 fuses
  - Tethered protective caps for connectors
  - LED indicator illuminates for power input status, each power output, and fuse status.
  - Uses any 120V UOP power cable
- Includes a Utility Kit (P/N SJG33110310-301)
  - Provides the ability to attach various ORUs to the work surface assembly
  - Standard clamp adapters
  - Velcro pile fasteners
  - Circuit board holders
  - Track restraint assembly
  - Bar clamp assembly
  - 14 inch removable seat track
  - Tool restraint
  - Electrical pass thru connector
  - Track Lock Assy
  - Vacuum hose adapter
  - 1', 3', 5' ground cords
- Includes a Debris Containment System (P/N SEG33110290-301)
  - Provides an internal work volume (i.e., closed tent)
  - Transparent walls are made of Aclar/Polyester Laminate (a flame resistant material), which is supported by five horizontal removable rods
  - Baseplate with 8 clamps
  - Four glove ports.
  - Two utility ports for the utility strip or for the vacuum cleaner.
  - Viewing window
  - 40 micron wire mesh air intake
  - ORU access zipper
  - Three glove sizes available
- Utilizes the ISS Vacuum Cleaner for the capture and disposal of any 6 microns (0.3 microns if HEPA filter is used) or larger particulates or liquids that may be generated within the work volume during maintenance procedures.

**Weight:**

50 lbs

**Volume or Measurements:**

4723.16 cu in (with tent)

**Type:**

Outfitted

**Power:**

Vacuum, 120 VDC, 2.2 Amps

Utility Strip, 120 VDC, 6 Amps

**Fuse:**

Vacuum Cleaner, 3.0 amp

Utility Strip, 6.0

**Restraint:**

Seat Track

**Stowage:**

Standard stowage trays

**Limited Life:**

N/A

**Lineage:**

EIS No. JSC 27/65, JSC CTSD

New Development for ISS

**Reference Documents:**

GCAR 3320

JSC 28462

JSC 28424

JSC 27162

MATL-99-207A

MATL-99-002

MATL-98-208

WSTF-97-30614

WSTF-96-30324

WSTF-96-30315

WSTF-96-29940

WSTF-96-30316

HDID-SAS-98-0015

HDID-SAS-98-0230

HDID-SAS-98-0031

HDID-SAS-98-0029

HDID-SAS-97-0320

HDID-SAS-99-0055

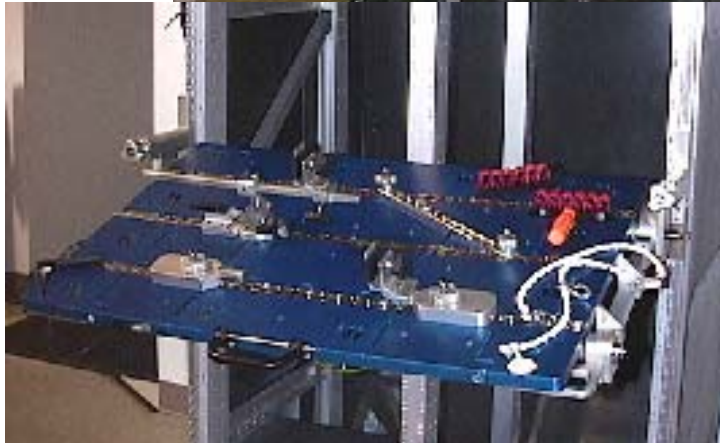
HDID-SAS-99-0053

HDID-SAS-98-0229

HDID-SAS-99-0080

TPS#6N9820170

TPS#6N9820428



**Contact:**

Craig Perez

## **MULTIPLEXER/DEMULTIPLEXER (MDM) REPLACEMENT CARD KIT PART NO. SJG3311778-301**

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### **DESCRIPTION:**

- Provides physical and electrostatic discharge (ESD) protection during stowage, transportation, insertion, extraction, and translation of the MDM Cards in the STS and ISS programs.
- Two sizes of ESD carriers (SEG3311779-301, SEG3311780-301) shall be provided, one (1) Card Puller Assembly (SEG3311774-301 or -303) and a Stowage Pouch (SEG3311775-301), which shall contain the tool and Card Carriers in a stowage locker.
- The Card Puller Assembly is used to remove, install, and transport cards in and out of the MDM chassis and the Card Carrier.
- An Extractor Adapter (P/N SLG33114631-301), although not part of the MDM CCA kit, is used exclusively with the kit. It aids in the installation and removal of 5 V Power Supply cards. It provides an interface between the Card Puller Assembly and the 5 V Power Supply card.

### **Weight:**

27 lbs (Kit - empty carriers)

55 lbs (Kit – full carriers)

4 oz Extractor Adapter

### **Volume or Measurements:**

1.53 cu ft – Kit

2.42 cu in – Extractor Adapter

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Nomex softgoods bag

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A





**Lineage:**

JSC CTSD New Development for ISS

EIS No. JSC-28455, Stand. ICD No. JSC-28513

**Reference Documents:**

GCAR	G3328
Cert. Req.	SSP50345
EIS	JSC 28455
ICD	JSC 28513
Materials	MATL-99-210 (MDM Kit) MATL-03-006 (Extractor Adapter) MATL-03-029 (Card Puller Assy)
Stress	HDID-SAS-99-0274
SAR	JSC 39297
HA (Short)	JSC 60341
Training	
Manual	JSC 60369
Pre-Flight	
Funct. Rqmts	LMSEAT 33220
Cert/Verif	LMSEAT 33221
PMP	TTA49

**Contact:**

Fatonia Rivera

## **POCKET MAGNIFIER ASSEMBLY PART NO. SEG33112397-301**

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### **DESCRIPTION:**

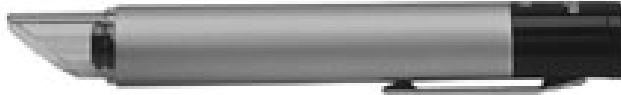
- Handheld, 25X magnifier

### **Weight:**

1.6 oz

### **Volume or Measurements:**

27 cu in



### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Pen clip

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: MIL Corporation, Aurora, IL

P/N 183-201

### **Reference Documents:**

GCAR G3282

### **Contact:**

Craig Perez

## **POWER SUPPLY (120 VDC) PART NO. SEG33110150-301**

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### **DESCRIPTION:**

- The DC Power Supply supplies 0 to 150 Volts DC and 0 to 7 amps of current; use of calibrated multimeter is required to verify output before use.
- The DC Power Supply displays the current and voltage supplied to a system under test.
- The voltage protection (OVP) and temperature shutdown (latching) circuits protect the item under test.
- Standard analog control
- Optional internal computer control (GPIB or RS232)
- Standard over voltage protection (OVP)
- Power is provided to the unit from the ISS 120 Volt DC source (UOP).
- The DCPS is designed for air-cooling.
- The DCPS includes a panel display with seven (7) segment indicators for simultaneous voltage and current display and OVP set point, and one (1) rocker ON/OFF Main Power Switch.
- The outlet connectors are in the form of standard banana jacks and are readily accessible by the crew for use with auxiliary equipment.
- An Accessory Kit, P/N SJG633110142-301, is also provided with the unit.
- GSE Cable SEG33110144-301 is required to power on this hardware for ground testing
- Acceptable Minimum Operational Pressure: 11.56 PSI

### **Weight:**

28 lbs

### **Volume or Measurements:**

1.16 cu ft

### **Type:**

Outfitted



### **Power:**

120 VDC UOP, 15A outlet with internal power factor correction, 7 Amps

### **Fuse:**

Two (2) 10 amp fuses are provided on the input and output lines of the DCPS.

### **Restraint:**

The DCPS assembly is mounted to the seat track through the use of clamps and brackets from the Maintenance Work Area parts kit. It also may be tethered to the seat track through the use of D-rings on the Power Supply.

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

**Lineage:**

EIS No. JSC 27165, JSC CTSD modified off-the-shelf for ISS

Vendor: Xantrex

Vendor P/N: XHR 150-7 M21/M22/M25

**Reference Documents:**

GCAR G3103

EIS JSC27165

SAR JSC28422

Procedures LMSMSS32742

Materials MATL-99-002A

PMP TTA49

Stress HDID-SAS-98-0246

HDID-SAS-98-0286

HDID-SAS-98-0258

**Contact:**

Craig Perez

## **POWER SUPPLY ACCESSORY KIT PART NO. SJG33110142-301**

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### **DESCRIPTION:**

- Kit Contains:
  - Power Supply Probes Kit (SJG33110149-301)
  - Jaw Clamp Assy, MWA (SEG33110172-301)
  - Cable Assy, Power Supply (SEG33111384-301)
  - Cable Assy, UOP (SEG33108825-303)
  - Handle Assy (SEG33110146-701)

These accessories are used to restrain Power Supply and to facilitate use from inside the MWA.

### **Weight:**

10 lbs

### **Volume or Measurements:**

1.16 cu ft

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

10 amp ceramic fuse

### **Restraint:**

Clips to D-Rings on Power Supply

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR	G3103
EIS	JSC27165
SAR	JSC28422
Procedures	LMSMSS32742
Materials	MATL-99-064
	MATL-98-178
	MATL-98-207A

### **Contact:**

Craig Perez



## REMOVABLE POCKET ASSY PART NO. SED13101631-303

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### **DESCRIPTION:**

- Provides storage for tools, utensils, and other small crew provisioning hardware
- May be attached to crewmember's clothing to for transport
- -303 consists of -305 and -307 attached via hook and loop fastener
- NOTE: Pocket Assy does not include items shown in picture.

### **Weight:**

0.461 pounds (-303)

0.255 pounds (-305)

0.206 pounds (-307)

### **Volume or Measurements:**

7" x 10" x 2"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook fastener

Can be strapped onto crewmember's pants via loops on back of Pocket Assy.  
Pocket Assy will not attach directly to COTS clothing.

### **Stowage:**

Standard stowage trays or Crew Preference Bag.

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD New Development for ISS

### **Reference Documents:**

GCAR G3835

Materials MATL-01-095

### **Contact:**

Fatonia Rivera



-305



-307

## SCOPEMETER LOAD AND CONNECTOR KIT (SLaCK) PART NO. SJG33120108-301

---

### DESCRIPTION:

- The Scopemeter Load and Connector Kit (SLaCK) will provide the crewmember the ability to convert BNC cables with male plugs to stackable banana plugs for versatility during signal measurement as well as to provide a resistive load of 600 ohms.

### **Weight:**

0.10 lbs

### **Volume or Measurements:**

10" x 10" x 0.75"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

N/A

### **Stowage:**

Locker Stowed

### **Limited Life:**

N/A

### **Lineage:**

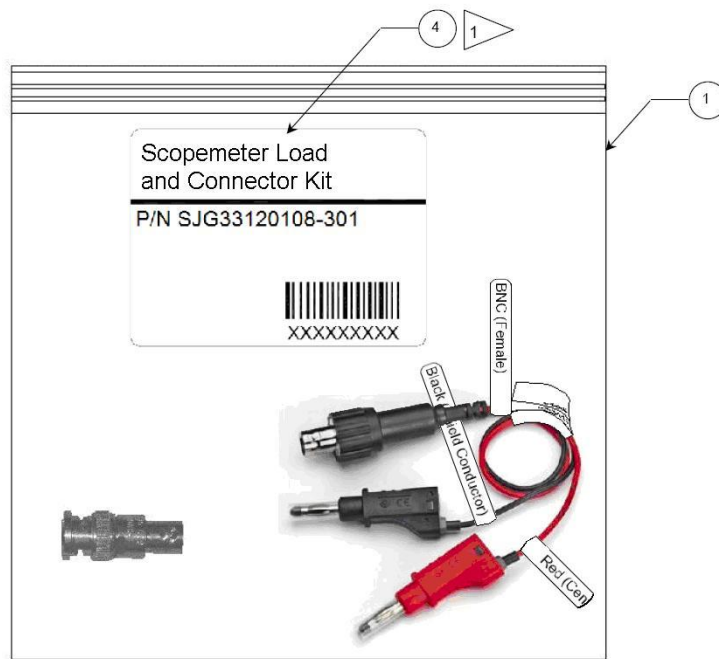
SSCN 010340

### **Reference Documents:**

GCAR	G5519
Materials	MATL-07-035
RAESR	JSC 65509
PRVD	JSC 65496

### **Contact:**

Craig Perez



-301

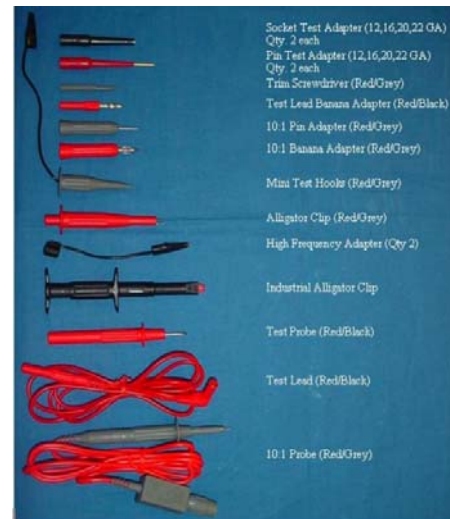
## SCOPEMETER KIT PART NO. SJG33115340-301

*(This Scopemeter Kit replaces Scopemeter and Accessories Kit SEG39130246-301, -303; the last old kit was returned on ULF1.1.)*

### **DESCRIPTION:**

The Kit contains the following hardware:

- Fluke Scopemeter (SEG39129678-301 (with Alkaline Batteries), -303 (with Fluke rechargeable battery pack)
  - Functions both as a digital multimeter and an oscilloscope with specialized probes for measuring values such as temperature, pressure, and current.
  - Displays state and timing diagrams of digital signals.
  - Stores and downloads digital or analog signals of a device under test to a computer via Scopemeter downlink cable (P/N: SEG33111952-301 which is found in Pressure/Downlink Kit, P/N: SEG39130251-301).
- 2 ea 22, 20, 16, and 12 GA Socket Test Adapters
- 2 ea 22, 20, 16, and 12 GA Pin Test Adapters
- 2 ea Test Lead (red/black)
- 2 ea Alligator Clip (red/grey)
- 1 ea Industrial Alligator Clip
- 2 ea high Frequency Adapters
- 2 ea Mini Test Hooks (red/grey)
- 2 ea Trim Screwdrivers (red/grey)
- 2 ea 10:1 Pin Adapters (red/grey)
- 2 ea 10:1 Banana Adapters (red/grey)
- 2 ea 10:1 Probe (red/grey)
- Also available for Scopemeter (not included in kit):
  - Temperature Probe Assy (SEG39130243-301)
  - Pressure / Vacuum Module Assy (Pressure Probe) (SEG39130244-301)
  - Current Probe (SEG39130242-301)



**Weight:**  
2 lbs

**Volume or Measurements:**  
10.4" x 5" x 1.9"

**Type:**  
Outfitted

### **Power:**

- 4 C-cell alkaline batteries provide two to three (2-3) hours of operation.
- 4.8 Volt NiCad Fluke rechargeable battery pack (PM9086/011) which is recharged within the Scopemeter by the SMPA / Battery Charger Kit (SEG33111349-303.) provides four (4) hours of operation
- Can be powered for use by the SMPA / Battery Charger Kit.
- A 3 Volt lithium battery is used for memory retention of the last parameter settings used. This battery is not replaceable except by the vendor.



**Fuse:**



Raychem LTP070 Polyswitch

VMax Interrupt	15V	Trip Current	1.5A
Max Current	100A	Time to Trip	5.0sec @ 3.5A
Hold Current	.7A		

**Restraint:**

Hook Fastener

**Stowage:**

Standard stowage trays

**Limited Life:**

5 yr rechargeable battery pack useful life

1 yr Calibration Life

**Lineage:**

JSC CTSD Modified off-the-shelf for ISS – certified as part of the Diagnostic Caddy.

Vendor: Fluke Instruments

Vendor part no: 105B Scopemeter

**Reference Documents:**

GCAR	G3873		
CR	SSP50345	Materials	MATL-98-171
EIS	JSC27166		MATL-98-207A
PMP	TTA49		MATL-98-192
SAR	JSC28423		MATL-99-080
Stress	HDID-SAS-98-0244	Procedures	LMSMSS32746A
	HDID-SAS-98-0249		

**Contact:**

Craig Perez



## SCOPEMETER TEMPERATURE PROBE KIT

### PART NO. SEG39130249-301

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#### **DESCRIPTION:**

- The Scopemeter Temperature Probe Kit consists of a Nomex pouch with a surface temperature probe (SEG39130243-301).
- The temperature probe is capable of measuring -50 to +150 deg C or -58 to +302 deg F.
- The temperature probe switch has three settings: deg F, Off, and deg C
- The two prongs on the probe are plugged into the Scopemeter banana jacks and the Scopemeter converts each mV into one degree (Celsius or Fahrenheit).
- Celsius Measurements Ambient Temp (at data module) Accuracy
  - 15 to 35 C
    - $\pm 1$  C from 0 to 100 C decreasing linearly to  $\pm 3$  C at -50 to 150 C
  - 0 to 15 C and 35 to 50 C
    - $\pm 2$  C from 0 to 100 C decreasing linearly to  $\pm 4$  C at -50 to 150 C
- Fahrenheit Measurements Ambient Temp Accuracy
  - 59 to 95 F
    - $\pm 1.8$  F from 32 to 212 F decreasing linearly to  $\pm 5.4$  F at -58 to 302 F
  - 32 to 59 F and 95 to 122 F
    - $\pm 3.6$  F from 32 to 212 F decreasing linearly to  $\pm 7.2$  F at -58 to 302 F

#### **Weight:**

.66 lbs

#### **Volume or Measurements:**

7" x 4" x 1"

#### **Type:**

Outfitted

#### **Power:**

A 9 Volt alkaline battery provides 1600 hours of operation

#### **Fuse:**

N/A

#### **Restraint:**

Hook fastener

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

1 yr Calibration



#### **Lineage:**

Originally certified as part of the Diagnostic Caddy (which never flew)

Manufacturer: Fluke

P/N: 80T-150U

**Reference Documents:**

GCAR# G3281

**Contact:**

Craig Perez

## SCOPEMETER PRESSURE / DOWNLINK KIT

### PART NO. SEG39130251-301

---

#### **DESCRIPTION:**

- The Scopemeter Pressure / Downlink Kit consists of a Nomex pouch with one Scopemeter Downlink Cable (SEG33111952-301) and one Scopemeter Pressure Probe (SEG39130244-301).
- The downlink cable has an RS232 (serial) connector on one end (and also comes with an RS232 to parallel adapter). The cable allows data to be output from the Scopemeter to a computer or printer. It requires FlukeView software, which is available on the MPSD load on ISS laptops.
- The Scopemeter Pressure Probe is made up of the Crystal MultiCal Pressure Module modified with both male and female QDs. The female QD allows ambient pressures to be taken without the use of the ECLS Internal Sampling Adapter (ISA). When the female QD is removed (SEG39130244-302 configuration), the male QD is compatible with the ISA and can be used interchangeably with the ECLS pressure probe, P/N: 1525,760mmHgA/30PSIA.
- The Crystal MultiCal Pressure Module is capable of measuring pressures up to 50 PSIA, however, the Scopemeter Pressure Probe is only certified to measure pressures up to 15 PSIA.
- The two prongs on the probe are plugged into the Scopemeter banana jacks and the Scopemeter converts each mV into one mmHg.
- The Pressure Probe performs best with a 10MOhm digital multimeter such as the STS Fluke 87 Multimeter, but is used on orbit with the Scopemeter. The pressure probe itself has an accuracy of +/- (0.098% of reading + 0.2 mmHgA) or +/- (0.08% of reading + 0.01 PSIA).

#### **Weight:**

1.5 lbs

#### **Volume or Measurements:**

5.5" x 4.75" x 3.75"

#### **Type:**

Outfitted

#### **Power:**

A 9 Volt alkaline battery provides 400 hours of operation

#### **Fuse:**

N/A

#### **Restraint:**

Hook fastener

#### **Stowage:**

Standard stowage trays



**Limited Life:**

1 yr Calibration

9V Battery needs to be replaced annually

**Lineage:**

Originally certified as part of the Diagnostic Caddy (which never flew)

Manufacturer: Crystal

P/N: 1525, 760mmHgA/30PSIA

**Reference Documents:**

GCAR# G3281

**Contact:**

Craig Perez

## SCOPEMETER CURRENT PROBE KIT

### PART NO. SEG39130250-301

---

#### **DESCRIPTION:**

- Current Probe Kit consists of a Nomex pouch and AC/DC current probe (P/N SEG39130242-301).
- The current probe is capable of measuring from 50mA to 100A with the following accuracy:
 

0 to 10A @ 100 mV/A	+/- 3% of reading +50mA
0 to 40A @ 10 mV/A	+/- 4% of reading +50 mA
40 to 80A @ 10 mV/A	+/- 12% of reading +50 mA
80 to 100A @ 10 mV/A	+/- 15% of reading

For accurate readings, center the wire in the jaws, avoid letting the wire touch the clamp.

- Selectable output of 10 millivolts per 1 amp for the 100 A range, and 100 millivolts per 1 amp for the 10 A range.
- The probe measures the magnetic field created by electric current. This field's strength and polarity are dependant on the magnitude and direction of the current.
- Measure current flow through one wire at a time: If current is flowing through two wires in the same direction, the magnetic fields add together. If the current is flowing in the opposite directions in two wires, the fields will subtract from one another and only their difference will be measured.
- The probe clamp's arrow indicates the positive flow direction of current. A negative reading will result if the probe is clamped on the wire "backwards." No damage or loss of accuracy will result from a negative reading.

#### **Weight:**

1 lb

#### **Volume or Measurements:**

10.6" x 4" x 1"

#### **Type:**

Outfitted

#### **Power:**

A 9 Volt alkaline battery provides 55 hours of operation

#### **Fuse:**

N/A

#### **Restraint:**

Hook fastener

#### **Stowage:**

Standard stowage trays



**Limited Life:**

1 yr Calibration

9V Battery needs to be replaced annually.

**Lineage:**

Originally certified as part of the Diagnostic Caddy (which never flew)

**Reference Documents:**

GCAR# G3281

**Contact:**

Craig Perez

## SCOPEMETER POWER ADAPTER (SMPA) / BATTERY CHARGER KIT PART NO. SJG3311349-303

### DESCRIPTION:

- Charges Modified Makita 12V Batteries (SEG33111376-301, -302 & SEG33111352-301)
- Integrated circuit monitors battery temperature and charge.
- Reduces to trickle-charging when battery is fully charged.
- 5 LEDs indicate operation status (Power, No Battery, Charging, Ready, Temp Fault)
- Supplies 12VDC 1Amp to the Fluke Scopemeter (SEG39129678-301) via the 4' Scopemeter Adapter Cable (P/N: SEG33113009-301)
- Also charges HRF Common Batteries via LEMO female plug
- 21 hours are needed to charge the Scopemeter battery pack
- 45 minutes are needed to charge a 2.2 Ah Makita battery (SEG33111376-301) and 1 hour 45 minutes for the 3.0 Ah Makita battery (SEG33111376-302)
- Tool Battery Charging Adapter (P/N: SEG33110639-302)
- SMPA Charger (blue box) (P/N: SEG33110643-303)

### **Weight:**

4.5lb

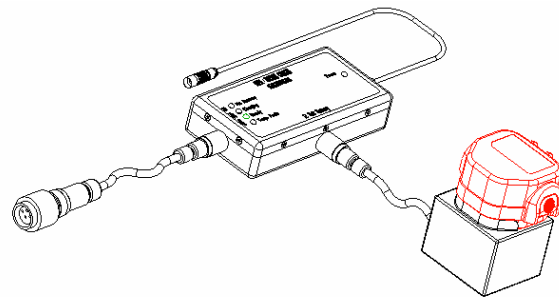
### **Volume or Measurements:**

SMPA / Battery Charger without cables:

7" x 4" x 2"

Softgoods Bag:

11 3/4" x 6 1/2" x 3 1/4"



### **Type:**

Outfitted

### **Power:**

Vehicle-provided 28 VDC power

### **Fuse:**

Automatic resettable 3 Amp Fuse

### **Restraint:**

Velcro Hook on base of Unit

### **Stowage:**

Standard stowage tray within softgoods bag

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD new development for ISS

Manufacturer: Summit Products

P/N: PRC-1003





**Reference Documents:**

GCAR	G3393
Cert. Req.	SSP50345
Proj. Req.	LMSEAT33244
ICD	LMSEAT33433
RAESR	JSC28956
Materials	MATL-00-127
MUA	S01

**Contact:**

Craig Perez

## SCREW EXTRACTOR MASTER KIT PART NO. SJG33116581-301

---

### DESCRIPTION:

- This kit enhances the capability of the existing Kit L Screw Extractor Set (SJG33109849-301), which has various sizes of hardened steel drill bits, drill guides, and separate extractors.
- The Screw Extractor Master Kit contains cobalt, left-handed drill bits, which should back a stripped screw out without any additional work. However, if required, the kit also contains flute-shaped extractor bits and two types of tap handle.
- Gel or water should be placed at the site to catch shavings during drilling.
- This kit is manifested for its first flight on 12A.1.
- This kit contains:
  - 1ea Kit L Screw Extractor Set
  - Locations to contain the existing 1/8", 3/16", 1/4" and 5/16" drill bits
  - 1ea 4-Jaw Tap Handle with Velcro tab
  - 1ea Screw-Type Tap Handle with velcoin
  - 1ea #1 Fluted Extractor Bit for fasteners 3/32" to 5/32"
  - 1ea #2 Fluted Extractor Bit for fasteners 5/32" to 7/32"
  - 1ea #3 Fluted Extractor Bit for fasteners 7/32" to 9/32"
  - 1ea #4 Fluted Extractor Bit for fasteners 9/32" to 3/8"
  - 1ea #5 Fluted Extractor Bit for fasteners 3/8" to 5/8"
  - 1ea Cobalt Left-Handed Drill Bits in sizes 5/64", 7/64", 5/32", 1/4", 19/64". These bits are a gold color and are also marked with white stamping ink on the blunt end.

### **Weight:**

3.35 lb

### **Volume or Measurements:**

11" x 7-1/2" x 1-7/8"



### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Nomex softgoods bag

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A



**Lineage:**

ISS CR SSCN 8213 to improve the capability of the existing screw extractor kit

**Reference Documents:**

GCAR	G4966
Cert. Req.	JSC28484
Proj. Req.	JSC62000
PDA Req.	JSC62001
SAR	JSC62082
Materials	MATL-04-058

**Contact:**

Fatonia Rivera

## SEWING KIT PART NO. SJG33110642-301

---

### **DESCRIPTION:**

- Provide a variety of needles, threads, and threaders for on-orbit sewing and mending of clothing and fabric.
- Kit contains
  - Built-in pin cushion
  - 4ea spools 40 wt Rayon embroidery thread
    - 2-250yd spools each, Gold and Blue
  - 3 ea Thimbles
  - 3 ea Needle Threaders
  - 10 ea Size 1 Safety Pins
  - 10 ea Size 2 Safety Pins
  - 3 ea of 3 different size needles
  - 5-1/4" Blunt-Point Shears (2-1/4" cut length, forged steel with chrome over nickel plating)
  - 4-1/2" Flat Pliers
  - 5" Bent Pliers
  - 6" Filament holder, slotted, grooved tip, locking (Tweezers)

### **Weight:**

1.5 lb

### **Volume or Measurements:**

176 cu in

### **Type:**

Outfitted



### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Nomex softgoods bag

### **Stowage:**

Standard stowage trays



### **Limited Life:**

N/A

### **Lineage:**

EIS No. JSC 27170, JSC CTSD New Development for ISS

**Reference Documents:**

GCAR	G3508 (April 2000)
GCAR	G3272 (August 1999)
Cert. Req.	SSP50345
Proj. Req.	LMSEAT33133
SAR	JSC39295
Materials	MATL-99-154

**Contact:**

Fatonia Rivera

## SHARP SCIENTIFIC CALCULATOR ASSY PART NO. SEG33113711-301

---

### DESCRIPTION:

- Performs basic and scientific calculations
- Display is LCD

### **Weight:**

3.52 oz

### **Volume or Measurements:**

5.7" x 3.3" x 0.65"

### **Type:**

Outfitted

### **Power:**

Two (2) 1.5V silver oxide batteries  
USA P/N:528-41875-4

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

Silver Oxide Battery, 1.5V (528-41875-4): shelf life of approximately 1 year.

### **Lineage:**

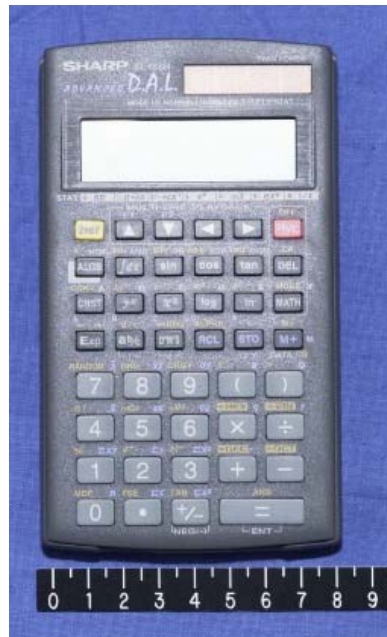
JSC CTSD modified off-the-shelf for ISS

Vendor: Sharp

P/N: EL 506 RB

### **Reference Documents:**

GCAR	G3682
RAESR	JSC40091
Materials	MATL-00-236
MUA	S04
VM	JSC29144
CR	G05746R1



**Contact:**  
Craig Perez

## **SMALL GAUGE CRIMP TOOL**

### **P/N: SEG33116078-301**

---

#### **DESCRIPTION:**

- Comprised of a tool frame and screw-mounted turret head
- Crimp tool is capable of crimping 12, 16, and 20 gauge pins/sockets to 12-26 gauge wire
- Turret heads are interchangeable with an Allen wrench; only the 12, 16, 20 gauge head is certified/provided at this time
- Crimp tool is not calibrated; crew must check each crimp via an inspection and pull test
- Certified for launch/landing/use on both US and Russian vehicles/segments

#### **Weight:**

1.35 lbs

#### **Volume or Measurements:**

9.75" x 1.4" x .7"

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Velcro hook tab for temporary stowage

#### **Limited Life:**

N/A

#### **Stowage:**

Standard stowage trays

#### **Lineage:**

JSC CTSD unmodified off-the-shelf for ISS

Manufacturer: Daniels Manufacturing Corp

Turret Head P/N: TH163

Tool Frame P/N: AF8



**Reference Documents:**

CR: SSCN 7960

Materials: MATL-03-130

GCAR: G4762

**Contact:**

Fatonia Rivera



## **SOLDERING IRON KIT PART NO. SJG33110598-301**

---

### **DESCRIPTION:**

- Battery operated soldering iron for use on ISS or STS
- Safety guard around soldering iron stand to prevent burns
- This hardware is certified to operate up to 600F. A temperature runaway failure can occur if the barrel is covered during use.
- Kit contains:
  - Two spare cleaning sponges
  - Two rolls of Desoldering Wick
  - Two 1 lb. Rolls of 60/40 Alloy Solder
    - This solder is a high activity RA core flux designed for excellent instant wetting action. Although it is a RA-based material, the residues are non-corrosive if not cleaned. Per J-STD-004 is classified as ROM1 flux.
  - 2 Heat Sink Clips
  - Spare Soldering Tips
- Must be used in MWA containment tent while soldering.

**Weight:**  
6.8 lb

**Volume or Measurements:**  
Soldering Iron:  
7" x 4" x 4"  
Kit Within Softgoods Bag:  
12" x 7.8" x 5.5"

**Type:**  
Outfitted

**Power:**  
12 VDC NiMH or NiCad battery pack  
(SEG33111376-301, -302 or SEG33111352-301)  
Batteries charged using SMPA / Battery Charger (SEG33111349-303)

**Fuse:**  
5 Amp Manual Resettable Breaker

**Restraint:**  
Hook Velcro

**Stowage:**  
Standard stowage trays

**Limited Life:**  
N/A

**Lineage:**  
JSC CTSD new development for ISS



**Reference Documents:**

GCAR	G3393
Cert. Req.	SSP50345
SAR	JSC3929
Materials	MATL-00-034
MUA	LM/ISS-32

**Contact:**

Craig Perez

## TAP AND DIE SET (KIT M) PART NO. SJG33109850-301

### DESCRIPTION:

The Tap and Die Set may be used for a variety of different applications:

- Dies may be used to restore damaged threads of fasteners, loose screws, or threaded studs. Die may also be used to cut external threads in metal, plastic, or hard rubber.
- Taps: Clean/repair damaged internal threads, such as threaded inserts or captive nuts utilizing the tap from the Tap and Die Set. Tap may also be used to cut threads into a newly drilled hole.
- See following pages for more detailed information.

**Weight:**  
3.36 lbs

**Volume or Measurements:**  
21.25" x 10.375"

**Type:**  
Outfitted

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Hook Velcro

**Stowage:**  
Locker Stowed

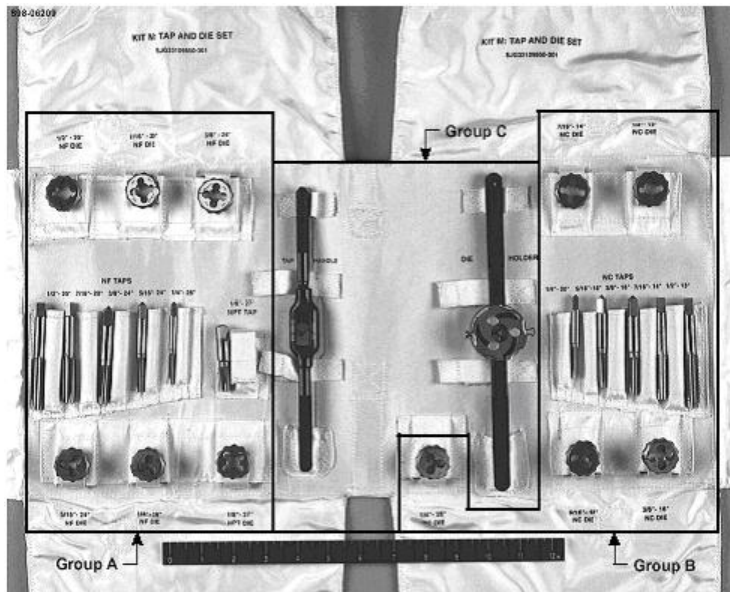
**Limited Life:**  
N/A

**Lineage:**  
Flt 02A IDR D SSP 54101-02/FCSD CCP

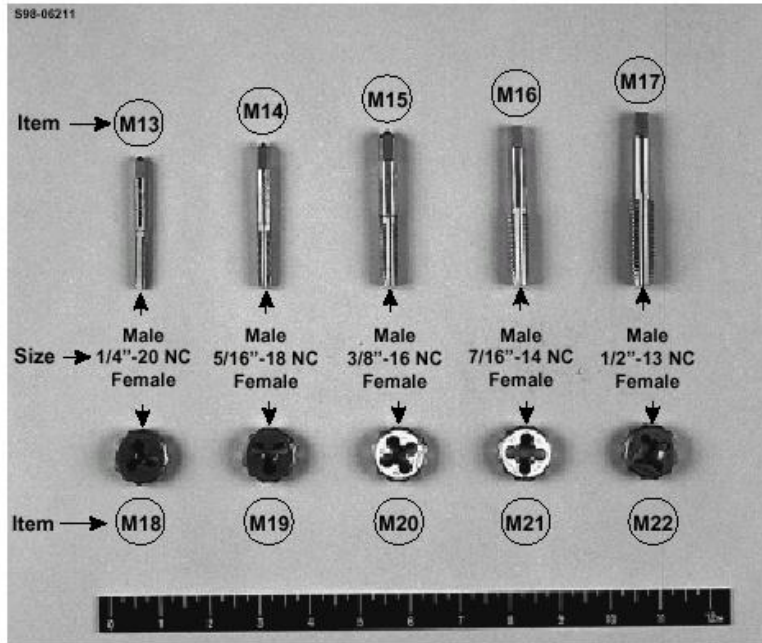
### **Reference Documents:**

GCAR	G3212
SODF Procedures	IFM A.2.11 Tap Set Usage
	IFM A.2.12 Die Set Usage

**Contact:**  
Fatonia Rivera



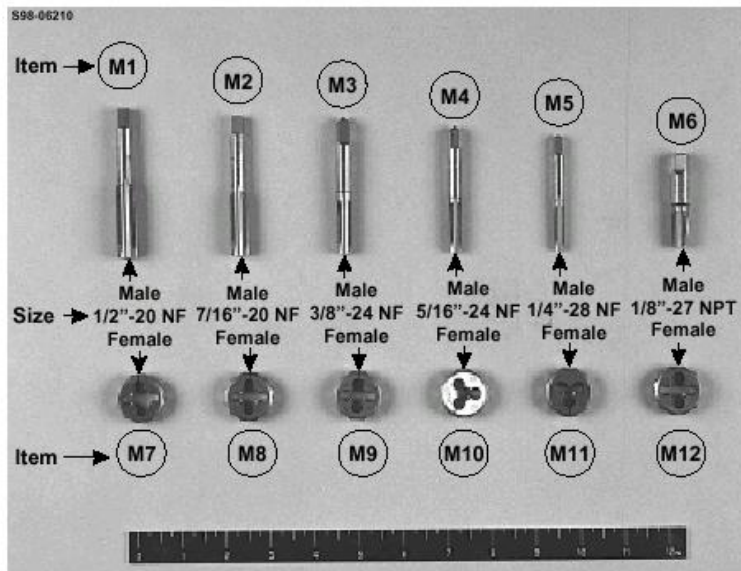
**Group B - NC Taps and Dies**



<i>Kit M, items M13-M22 - Tool dimensions</i>				
Item		Thread size (in.)	Manuf. part no. (male tap)	Manuf. part no. (female die)
Male	Female			
M13	M18	1/4 - 20 NC	T100	D010*
M14	M19	5/16 - 18 NC	T101	D011*
M15	M20	3/8 - 16 NC	T102	D012*
M16	M21	7/16 - 14 NC	T103	D013
M17	M22	1/2 - 13 NC	T104	D014

\*1-inch double hex adjustable.

## Group A - NF and NPT Taps and Dies



Kit M, items M1-M12 - Tool dimensions				
Item		Thread size (in.)	Manuf. part no. (male tap)	Manuf. part no. (female die)
Male	Female			
M1	M7	1/2 - 20 NF	T109	D019*
M2	M8	7/16 - 20 NF	T108	D018*
M3	M9	3/8 - 24 NF	T107	D017*
M4	M10	5/16 - 24 NF	T106	D016*
M5	M11	1/4 - 28 NF	T105	D015*
M6	M12	1/8 - 27 NPT	T110	DO20**

\*1-inch double hex adjustable.

\*\*1-inch double hex nonadjustable.

This Kit Contains one of each of the following:

Acronyms:

NC-National Coarse Thread Series

NF-National Fine Thread Series

NPT-National Form Taper Pipe Thread

Die Holder	TD10A
Tap Handle	TD88A
<b>Dies</b>	
1/2" - 20 NF Die	D019
7/16" - 20 NF Die	D018
3/8" - 24 NF Die	D017
5/16" - 24 NF Die	D016
1/4" - 28 NF Die	D015
1/4" - 20 NC Die	D010
5/16" - 18 NC Die	D011
3/8" - 16 NC Die	D012
7/16" - 14 NC Die	D013
1/2" - 13 NC Die	D014
1/8" - 27 NPT Die	D020
<b>Taps</b>	
1/2" - 20 NF Tap	T109
7/16" - 20 NF Tap	T108
3/8" - 24 NF Tap	T107
5/16" - 24 NF Tap	T106
1/4" - 28 NF Tap	T105
1/4" - 20 NC Tap	T100
5/16" - 18 NC Tap	T101
3/8" - 16 NC Tap	T102
7/16" - 14 NC Tap	T103
1/2" - 13 NC Tap	T104
1/8" - 27 NPT Tap	T110

## **TORQUE ANALYZER KIT PHASE I PART NO. SJG33115179-301**

---

### **DESCRIPTION:**

- The Torque Analyzer Kit Phase I (TAK1) is the Handheld PDA with a module which connects to seat track; used to measure and display the torque produced by a torque input device. The TAK1 Kit contains the following:

Part Number	Part Name
SEG33115176-301	TA Handheld Assy (2 ea)
SEG33115180-301	Torque Analyzer Assy (2 ea)
SDG33115175-301	Pouch Assy. (2 ea)
SDG33115177-701	Foam Block Assy
062974	Run down Adapter (2 ea)
065145-WD5	Cable (2 ea)
SEG33117595-301	3/8" to 1/4" Adapter

- Each S/N PDA module is calibrated with a specific S/N transducer and they must be used together. The PDA must be set up to work with the transducer each time it is turned on.
- During calibration, a calibration factor is established and documented on the transducer calibration sticker. This is the factor that needs to be input into the PDA during setup.

### **Weight:**

5.2 lbs.

### **Volume or Measurements:**

12" x 6.5" x 7.5"

### **Type:**

Outfitted

### **Power:**

PDA's are powered by 4ea AAA Alkaline batteries

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

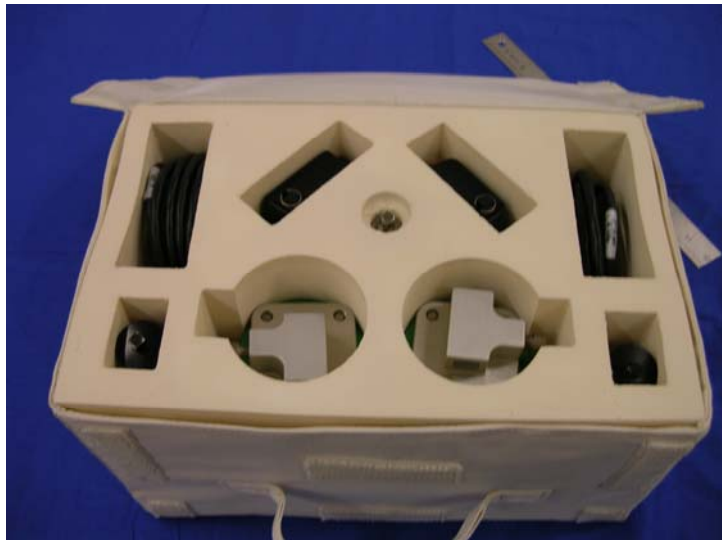
Locker Stowed

### **Limited Life:**

2 yr. calibration life

### **Lineage:**

Modified Commercial off-the-shelf  
Manufacturer: Mountz Inc.



**Reference Documents:**

GCAR

G4550 US

G4996 Russian

Materials

MATL-02-197

Stress

MSAD-02-0536

EMI

EV4-10/02-071

**Contact:**

Fatonia Rivera



**TORQUE WRENCH ASSY****P/N: SEG33117289****-301 5-35 IN LBS, 1/4" DRIVE****-302 40-200 IN LBS, 3/8" DRIVE****-303 200-1000 IN LBS, 3/8" DRIVE****DESCRIPTION:**

- Each dash number is a chrome-finished click type torque wrench configured with Velcro in a Ziplock bag labeled with a Sharpie. Torque Wrenches must be zeroed when not in use in order to maintain calibration. Previously certified as part numbers QTS135, QJR217D, and QJR284E corresponding to -301, -302, and -303 respectively:

**Weight:**

-301 0.85 lbs

-302 1.8 lbs

-303 2.2 lbs

**Volume or Measurements:**

-301 7" x 1-1/4" dia

-302 11-1/16" x 7/8" dia

-303 15-9/16" x 1-5/32" dia

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Velcro hook fastener

**Stowage:**

ISS IVA Toolbox

**Limited Life:**

1-year Calibration Life

**Lineage:**

Modified COTS for ISS

Manufacturer: Snap-On

-301 QTS135

-302 QJR217D or QC2R200

-303 QJR284E or QC2R1000



**Reference Documents:**

GCAR G3266

(previously certified under G2033)

CR SSCN 8571

**Contact:**

Fatonia Rivera

## **UTILITY KNIFE PART NO. SLG33113712-001**

---

### **DESCRIPTION:**

- 3.5" black stainless steel blade
- 5" carbon fiber handle
- Blade locks open and closed
- Belt clip attached to handle
- NOTE: Reverse hook and NASA Meatball added to SPECWAR model

### **Weight:**

4.24 oz

### **Volume or Measurements:**

8.4" x 1.4" x 0.5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Standard stowage trays

### **Limited Life:**

N/A

### **Lineage:**

JSC CTSD modified off-the-shelf for ISS

Vendor: Emerson Knives Inc.

Vendor P/N: NSE2B

Model: SPECWAR

### **Reference Documents:**

GCAR G3676

Materials MATL-00-195

### **Contact:**

Craig Perez



## WISE ASSY. PANAVISE PART NO. SEG33114312-301

---

### DESCRIPTION:

- This Pana Vise will only be used for IVA tasks aboard ISS.
- This tool is a simple bench clamped vise used to secure components.
- This tool is manufactured by Pana Vise, is made of coated steel, and will be soft stowed for launch and landing.
- This tool is categorized as a hand tool and during on-orbit use it will not interface with any powered tools.
- There are no safety critical uses where the structural failure of this tool, due to the presence of flaws, will cause a catastrophic hazard. In the event of structural failure of these tools, there are redundant tools to perform the function.

**Weight:**  
5.3 lbs.

**Volume or Measurements:**  
Unstowed configuration of the end item.

**Type:**  
Outfitted

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Hook fastener

**Stowage:**  
Standard stowage tray

**Limited Life:**  
N/A

**Lineage:**  
JSC CTSD modified off-the-shelf hardware for ISS  
Vendor: Pana Vise Inc.  
Vendor P/N: Model 301 (-310)  
Model 311 (-311)

### **Reference Documents:**

GCAR G4245  
ARM JSC47649  
Materials MATL-01-210  
VM JSC47759



**-310**



**-311**

*SEG33114312-301 is -310 and -311 combined*

**Contact:**  
Craig Perez

## 1.8 STOWAGE EQUIPMENT

### **DEFINITION:**

The Resupply Stowage Platform Stowage System provides the capability to transport unconditioned, pressurized cargo to and from ISS in an MPLM to support resupply of the ISS.

NOTE: The Cargo Transfer Bags (CTBs) provide for protection, preservation, and stowage of hardware during launch, ascend, on-orbit, descent, and landing. The RSPSS may be configured into 57 different configurations, which may transport M-01, M-02, or M-03 bags or CTBs.

NOTE: Responsibility for this hardware has been transferred to the Lockheed Martin Cargo Mission Contract (CMC).

### **END ITEMS:**

CARGO TRANSFER BAG.....	238
CDRA/5MLE BAG MOUNTING PLATES .....	240
RESUPPLY STOWAGE PLATFORM STOWAGE SYSTEM (RSPSS).....	242

## **CARGO TRANSFER BAG**

**PART NO. SEG33111836-303, HALF SIZE, NO WINDOWS**

**PART NO. SEG33111837-303, FULL SIZE, W/ WINDOWS**

**PART NO. SEG33111838-303, FULL SIZE, NO WINDOWS**

**PART NO. SEG33111839-303, DOUBLE SIZE, NO WINDOWS**

---

### **DESCRIPTION:**

- Size units are in Middeck Locker Equivalents
- Designed to stow in the SpaceHab Forward Bulkhead, SpaceHab Aft Bulkhead, SpaceHab Aft Subfloor, SpaceHab Single Rack, SpaceHab Double Rack, Shuttle Middeck Lockers and MPLM.
- Accessories include the following:
  - SEG33111841-301 thru -331, Optional dividers
  - SEG33111842-301, Pocket Assembly
  - SEG33111843-305, -307 Velcro straps with D-Ring for CTB restraint in the FGB and Unity Node Module (available in 58 ½" and 78") -301 and -303 certs revoked due to offgassing odor

### **Weight:**

Half Size, 2.2 lbs

Full Size, w/ windows, 3.7 lbs

Full Size, no windows, 4.0 lbs

Double Size, 4.0 lbs

Triple Size, 6.2 lbs



without window

with window

### **Volume or Measurements:**

Half Size, 1.0 cu ft

Full Size, w/ windows, 1.87 cu ft

Full Size, no windows, 1.87 cu ft

Double Size, 3.59 cu ft

Triple Size, 5.31 cu ft

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Stowed except SEG33111843-301, 303, 305, 307 for CTB restraint in the FGB and Unity Node Module.

### **Stowage:**

SpaceHab Forward Bulkhead, SpaceHab Aft Bulkhead, SpaceHab Aft Subfloor, SpaceHab Single Rack, SpaceHab Double Rack, Shuttle Middeck Lockers and MPLM.

**Limited Life:**

N/A

**Lineage:**

EIS No. JSC 39207, JSC CTSD New Development

**Reference Documents:**

GCAR	G4604
CR	SSCN007763
Cert. Req.	JSC39207G
Proj. Req.	SSP50432
ICD	JSC39233
SAR	JSC47763A
Materials	MATL-03-083
MUA	AG396E, RevA
Stress	LMSMSS33039
	HDID-SAS-99-0074
	MSAD-00-0086
	MSAD-01-0562
	MSAD-03-0146

**Contact:**

Fatonia Rivera

## **CDRA/5MLE BAG MOUNTING PLATES**

### **PART NO. SEG33114744-301/-303; SEG33114745-302/-304**

---

#### **DESCRIPTION:**

- Consists of two half-inch aluminum (6061-T6) mounting plates (SDD39135984-701, -702) that are an interface between the shuttle program's 5MLE bag/straps and the Resupply Stowage Platform.
- Includes four aluminum (6063-T6) L-brackets, two that are approximately 12 inches long (SDD39135986-001) and two that are approximately 40 inches long (SDD39135985-001, -002). The L-brackets are for alignment purposes only. They are guides to center the 5MLE bag on the mounting plates.
- Hardware Function – This mounting system allows the Resupply Stowage Platform (RSP) in the MPLM to have the ability to transport a shuttle program provided 5MLE bag.
- The system is an interface plate between a Shuttle middeck 5MLE bag, straps, bracket, mounting hardware and a RSP. The 5MLE bag is centrally aligned using the short L-brackets along the top and bottom and the long L-brackets along the sides of the bag.

#### **Weight:**

80 lbs (weight of plates and straps)  
185 lbs (weight of assy. and CDRA ORU, packing foam and Bag)

#### **Volume or Measurements:**

57.10" x 17.13" x 0.50" - Each plate  
57.10" x 37.06" x 17.50"  
– Plates and 5MLE Bag

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A



#### **Restraint:**

Hard mounted to the Resupply Stowage Platform (RSP)

#### **Stowage:**

Hard mounted to the Resupply Stowage Platform (RSP)

#### **Limited Life:**

N/A



**Lineage:**

Designed and developed for NASA by Lockheed Martin Space Operations Corp.

Note: Designed specifically to restrain a shuttle program 5MLE bag containing the CDRA ORU to an RSP.

**Reference Documents:**

(SEG33114744-301, -303)

GCAR	G4298	Materials	MATL-02-079A
VM	JSC47785	Stress	MSAD-02-0090
ARM	JSC47784	Fracture Plan	JSC25863
ICD	ISS-MPLM-IDD-006	CR	25-669-002025-001B
RevB	JSC28169A	Fracture	TM-SA-99-010
SAR	LMSEAT33897	Analysis	

**Contact:**

Fatonia Rivera

## **RESUPPLY STOWAGE PLATFORM STOWAGE SYSTEM (RSPSS) PART NO. SJG33111610-9XX (See Drawing)**

---

### **DESCRIPTION:**

- Serves as a carrier system for transporting unconditioned pressurized cargo to and from the space station in an MPLM.
- May be configured in 57 different configurations that are documented in the ICD for ISS RSP 1 Stowage System to Cargo Providers, SSP 50751.
- Designed to carry M-01 bags, M-02 bags, M-03 bags and cargo transfer bags.
- Can accommodate hard mounted payloads that comply with the ICD JSC28169
- Contains:
  - Resupply Stowage Platform Structure
  - Resupply Stowage Platform Fence Assemblies

### **Weight:**

195 pounds w/o Fences and Straps  
500 lbs maximum cargo

### **Volume or Measurements:**

Occupies one rack space equivalent

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Secured to the MPLM by 4 mounting pins  
(A, B, C, and D fittings)



### **Stowage:**

Installed in the MPLM for launch, on-orbit, and for landing.  
RSPSS may be used on-orbit in a USOS segment with ISS Program approval.

### **Limited Life:**

N/A

### **Lineage:**

ICD JSC 28169

**Reference Documents:**

GCAR	G4090
CR	G005530
Cert. Req.	SSP41000E
Proj. Req.	JSC27942C
ICD	JSC28169A
SAR	JSC39309
Limited Life	JSC39371B
	JSC39310
Materials	MATL-00-024
MUA	JE/ISS-1 Rev2
	ISS/JE2
	ISS/JE3
	ISS/JE4
Stress	JSC39336A

**Contact:**

Fatonia Rivera

## 1.9 PAYLOAD EQUIPMENT RESTRAINT SYSTEM (PERS)

### **DEFINITION:**

A modular system of equipment designed to aid the crew in transferring and restraining loose equipment. The five elements of the PERS are the H-Strap, Single Strap, Tool Page Case, Belly Pack, and Laptop Restraint Belt. They are designed to work in concert with Restraints and Mobility (R&MA), Laptops, and Cargo Transfer Bags (CTBs).

These items were developed according to the requirements in Marshall Space Flight Center (MSFC) document, PERS-RQMT-0035A, Payload Equipment Restraint System (PERS) Design Requirements, Verification, and Compliance (RVC).

### **END ITEMS:**

BELLY PACK .....	245
H-STRAP .....	246
LAPTOP RESTRAINT BELT (LRB) .....	247
SINGLE STRAP .....	248
TOOL PAGE CASE .....	249

**BELLY PACK**  
**PART NO. 96M71040-1 (PERS0031)**

---

**DESCRIPTION:**

- 9”(height) x 12” (width) x 9.5” (Depth)
- Can be worn around the waist for transporting and restraining small equipment and tools.
- Also, can be mounted to the H-Strap for stowage at the work-site.

**Weight:**

1.7 lbs.

**Volume or Measurements:**

513 cubic inches

**Type:**

Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook fastener or Steel Hooks

**Stowage:**

Standard Stowage Trays

**Limited Life:**

N/A

**Lineage:**

PERS-RQMT-0035A, MSFC FPD

New Development for ISS

**Reference Documents:**

PERS-DOC-0047

PERS-RQMT-0035A

**Contact:**

Fatonia Rivera



## **H-STRAP PART NO. 96M70977-1A (PERS0042)**

---

### **DESCRIPTION:**

- Has (5) 6in. by 9in. mesh pockets with elastic openings.
- Provides a portable work surface with multiple interfaces for restraining a variety of loose equipment and tools.
- Uses ISS Rack Seat Track Stud interfaces for setup.
- Has four attachment interfaces: Velcro strips, cable tie wraps, D-rings, and elastic bands that the user can utilize.

### **Weight:**

4.6 lbs.

### **Volume or Measurements:**

83.5-91" x 10" x .5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

PERS-RQMT-0035A, MSFC FPD New Development for ISS

### **Reference Documents:**

Safety Cert. G3837

PERS-DOC-0047

PERS-RQMT-0035A

### **Contact:**

Fatonia Rivera



## **LAPTOP RESTRAINT BELT (LRB) PART NO. 96M71030-0 (PERS0032)**

---

### **DESCRIPTION:**

- Provides restraint for the Station Support Computer (SSC), the Portable Computer System (PCS), and the Payload Laptop.
- Can mount to the H-Strap for further restraining of the SSC at the work-site.
- Has a Velcro interface that can be used to restrain small objects.

### **Weight:**

1.4 lbs.

### **Volume or Measurements:**

6" x 12" x 8.75"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener or Steel Hooks

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

PERS-RQMT-0035A, MSFC FPD New Development for ISS

### **Reference Documents:**

PERS-DOC-0047

PERS-RQMT-0035A

### **Contact:**

Fatonia Rivera



## **SINGLE STRAP PART NO. 96M70977-1 (PERS0041)**

---

### **DESCRIPTION:**

- Portable multiple interface restraint device.
- Used to restrain a variety of loose equipment and tools.
- Uses ISS Rack Seat Track Stud interfaces for setup.
- Has four attachment interfaces: Velcro strips, cable tie wraps, D-rings, and elastic bands that the user can utilize.
- Utilizes a “floating” Rack Seat Track Stud, which can allow for multiple configurations.

### **Weight:**

1.7 lbs.

### **Volume or Measurements:**

81.0-92.5” x 2” x .5”

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Seat Track

### **Stowage:**

Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

PERS-RQMT-0035A, MSFC FPD

New Development for ISS

### **Reference Documents:**

PERS-DOC-0047

PERS-RQMT-0035A

### **Contact:**

Fatonia Rivera





## **TOOL PAGE CASE PART NO. 96M70982-1 (PERS0033)**

---

### **DESCRIPTION:**

- Contains two removable Tool Pages held within the case by Velcro.
- Each Tool Page provides multiple interfaces to restrain tools and small equipment.
- Serves as a portable containment bag for restraining and transporting to/from a work-site.
- Have three interfaces: Velcro strips, elastic bands, and a snap-on, which can be utilized by the user.
- Can mount to the H-Strap for further restraining at the work-site.
- In a closed configuration, the zippered closure provides added containment of tools.

### **Weight:**

2.4 lbs.

### **Volume or Measurements:**

23" x 10.75" x 1"



### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener or Steel Hook

### **Stowage:**

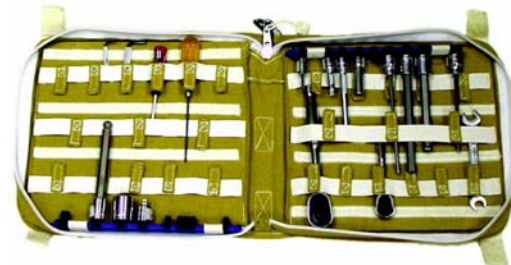
Standard Stowage Trays

### **Limited Life:**

N/A

### **Lineage:**

PERS-RQMT-0035A, MSFC FPD New Development for ISS



### **Reference Documents:**

PERS-DOC-0047

PERS-RQMT-0035A

### **Contact:**

Fatonia Rivera

## **2.0 ENVIRONMENTAL CONTROL AND LIFE SUPPORT SYSTEM (ECLSS)**

### **DEFINITION:**

Hardware certified by EC3 but operationally supported by ECLSS.

### **END-ITEMS:**

20-MICRON CONDENSATE FILTER.....	251
AMMONIA RESPIRATOR KIT (ARK) .....	253
IVA AMMONIA DETECTION KIT (IVA ADK).....	255
MOISTURE REMOVAL KIT (MRK).....	256
OXYGEN SENSOR (7OX-V).....	257

## **20-MICRON CONDENSATE FILTER PART NO. SEG33117584-301**

---

### **DESCRIPTION:**

- The 20-micron is a polypropylene case with polypropylene filter media that connects between a Russian EDV and electric pump and a US CWC to filter large particulates from collected condensate prior to processing through the Russian SRV-K.
- The filter is wrapped in aluminum tape for flammability reasons and is stowed on the water wall when not in use.
- The filter can only be installed in one direction since there is one female and one male 3/8" water QD.
- The filter is flown wet with silver biocide to prevent microbial growth prior to first use.
- Each filter is certified for 1000 L of condensate per year.

**Weight:**  
1.05 lbs.

**Volume or Measurements:**  
10"L x 3" dia

**Type:**  
Consumable

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
Filter is not structurally mounted and is free floating when in use; when not in use, filter is packed in foam for stowage.

**Stowage:**  
Water wall

**Limited Life:**  
2 years after first wetted (generally at PDA)  
1 year after first use, or remainder of initial 2-year shelf life, whichever is shorter

**Lineage:**  
CR SSCN 9232 – New development for ISS based on EMU 3-Micron Filter design.



**Reference Documents:**

GCAR G5317  
CR SSCN 009232/VCB  
Materials MATL-06-017  
RAESR JSC 62496  
Requirements JSC 62495

**Contact:**

Darren Riggle

**AMMONIA RESPIRATOR KIT (ARK)**  
**PART NO. SJG33119908-301**      **SMALL**  
   **-302**                    **MEDIUM**  
   **-303**                    **LARGE**

---

**DESCRIPTION:**

- The Ammonia Respirator is designed to be worn as a secondary response unit during an ammonia event.
- The Ammonia Respirator is designed to protect crewmembers for up to 8 hours in an environment where ammonia concentration is linearly decreasing from 1200 to 300 ppm ammonia.
- Fresnel Lenses are supplied for users that require corrective vision
- Ziplock bags are supplied for used Ammonia Cartridges

**Weight:**  
8.00 lbs

**Volume or Measurements:**  
16.5" x 12" x 6"

**Type:**  
Outfitted

**Power:**  
N/A

**Fuse:**  
N/A

**Restraint:**  
N/A

**Stowage:**  
Soft stowed



**Limited Life:**

Ammonia Cartridge Assy (SEG33119910-301): 5 year shelf life

Ammonia Respirator (SEG33119909-301, -302, -303): 5 year shelf life

**Lineage:**

ISS CR# SSCN 10021

**Reference Documents:**

GCAR            G5487

CR                SSCN 10021

Materials        MATL-07-006

**Contact:**

Daniel Molina



## **IVA AMMONIA DETECTION KIT (IVA ADK) PART NO. SJD33119795-301**

---

### **DESCRIPTION:**

- The Ammonia Detection Kit (ADK) has the capability to detect ammonia on the Space Shuttle as well as the ISS.
- The Draeger tubes have the capability to detect ammonia from ranges of 5 to 700 ppm using Draeger tubes 2/a (10 tubes) and 5/a (20 tubes).
- In order to take an accurate reading the crewmember shall actuate the air sampling pump 5 times when using the 2/a Draeger tubes and 10 times when using the 5/a Draeger tubes.

### **Weight:**

4.0 lbs

### **Volume or Measurements:**

4.5" x 14" x 8"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

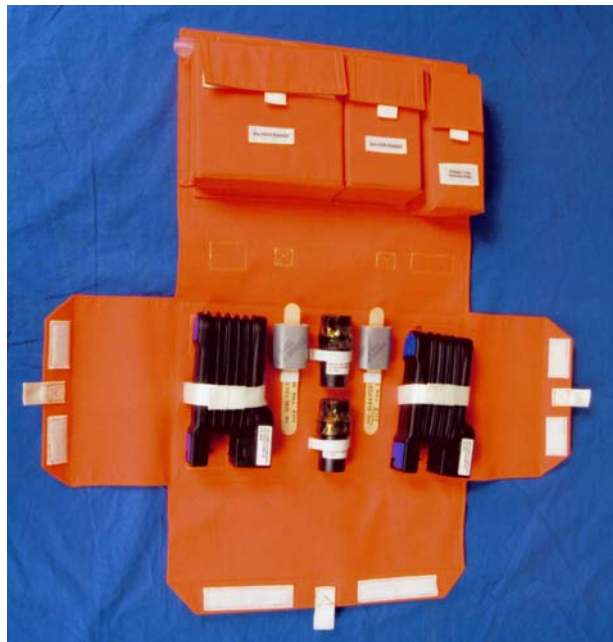
N/A

### **Restraint:**

N/A

### **Stowage:**

Soft Stowed



### **Limited Life:**

Replace Draeger Tube Assy. (P/N SED33119793-701, -702) after 2 years.

### **Lineage:**

FCE CCB CR# G09174, G09340

### **Reference Documents:**

GCAR	G5369B
CR	G09174
	G09340
Materials	MATL-06-031
PRVD	JSC 65184
PDA Procedure	JSC 65196

### **Contact:**

Michael Li

## **MOISTURE REMOVAL KIT (MRK) PART NO. SEG11100311-305**

---

### **DESCRIPTION:**

- The Moisture Removal Kit (MRK) is used to reduce the dewpoint in ISS modules and for contingency ventilation.
- The Caframo Fan Assembly (SEG11100291-701, -703, -705) shall produce an output of no less than 50 SCFM over a 24 hour period.
- The MRK is designed for an operation temperature of 60°F to 90°F and a stowage temperature of 35°F to 120°F.

### **Weight:**

9 lbs (w/o batteries)

### **Volume or Measurements:**

Assy: 23" x 23" x 14"

Caframo Fan Assembly (P/N SEG11100291-701, -703, -705): 6" x 6" x 5"

Desiccant Bag Assembly (P/N SEG1110310-301): 23" x 23" x 3"

### **Type:**

Outfitted

### **Power:**

Four D-cell batteries

### **Fuse:**

1.0A slow blow fuse

### **Restraint:**

Flex Bracket Assy. (P/N SEG33107630-301)  
connects the MRK to the Seat Track

### **Stowage:**

Locker Stowed

### **Limited Life:**

Desiccant Bag Assembly (P/N SEG1110310-301): maximum 1 year shelf life when dried and vacuum packaged

### **Lineage:**

JSC CTSD New Development for ISS

### **Reference Documents:**

PTRS            CTSD-ADV-231 Rev. A

### **Contact:**

Daniel Molina





## **OXYGEN SENSOR (7OX-V) PART NO. 1705-0129**

---

### **DESCRIPTION:**

- 7OX-V oxygen sensor is a commercial off-the-shelf, self-powered, diffusion limited metal-air electrochemical type sensor.
- This oxygen sensor is used in the handheld Compound Specific Analyzer - Combustion Products (CSA-CP) for general oxygen monitoring and Compound Specific Analyzer - Oxygen (CSA-O2) for general oxygen monitoring and EVA Pre-Breathe support.

### **Weight:**

33.5 grams

### **Volume or Measurements:**

0.65" x 1.25" dia

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Installed in CSA-CP

### **Stowage:**

Locker Stowed

### **Limited Life:**

Manufacturer suggested shelf life is 1 ½ years from manufacture date  
Certified shelf life is 15 months.

### **Lineage:**

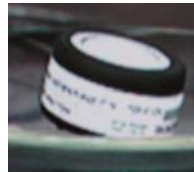
Commercial off-the-shelf  
Manufacturer: City Tech

### **Reference Documents:**

GCAR            G5214  
CR                G09041R1  
Materials        MATL-05-085

### **Contact:**

Daniel Molina



### **3.0 ACTIVE THERMAL CONTROL SYSTEM (ATCS)**

#### **DEFINITION:**

Hardware certified by EC3 but supported operationally by ATCS

#### **END-ITEMS:**

COOLANT QUALITY MONITORING KIT (CQMK).....	259
NON-INTRUSIVE FLOW METER KIT .....	261

## **COOLANT QUALITY MONITORING KIT (CQMK)**

### **PART NO. SEG46118274-304**

---

#### **DESCRIPTION:**

- The CQMK is used to test 5ml samples of ITCS coolant for ammonia, pH, and Ortho-phthalaldehyde to check for micro leaks between the high-pressure ammonia and lower pressure water-based coolant loops. 250ml samples can also be taken for analysis on the ground to check fluid composition and look for any microbial growth.
- Containment bags were redesigned with a new HD300 material to prevent permeation of water vapor and CO<sub>2</sub> through the sample. These contaminants can prematurely activate the test strip and contaminate the return sample.
- Consumable piece parts can be resupplied via kit configuration SEG46118247, which is flown in a large ziplock bag.
- The Kit consists of the following:
  1. 1 ea Nomex CQMK container (SEG46118275-703) which restrains all kit components
  2. 1 ea Laminated ammonia test card (SDG46118276-701) is a laminated test strip bottle label and allows the crew to quantify the results from the test strip color change
  3. 1 each Laminated pH test card (SDG46118277-701) is a laminated test strip card and allows the crew to quantify the results from the test strip color change
  4. 1 each Laminated OPA test card (SDG46121582-701) is a laminated test strip card and allows the crew to quantify the results from the test strip color change
  5. Max 18 ea Port Flush Bag Assys (SEG46118252-302) are Teflon 35 ml bags within a polyethylene ziplock containment bag. The Teflon bag interfaces with the IATCS sampling port and is used to flush the stagnant water from the sampling tool. This sample is discarded.
  6. Max 18 ea NH<sub>3</sub> Test Strip Bag Assys (SEG46118255-303) are Teflon 5 ml bags within an HD300 containment bag sealed with double-sided tape prior to launch. The bag, with the test strip inside, is filled from the ITCS sampling port. The test strip changes color, the crewmember removes the strip from the bag and compares it to the test card. Max. 18 ea pH Test Strip Bag Assys (SEG46118257-302) are Teflon 5 ml bags within a polyethylene ziplock bag sealed prior to launch. The bag with the test strip inside, is filled from the ITCS sampling port. The test strip changes color, the crewmember removes the strip from the bag and compares it to the test card. Max 18 ea OPA Test Strip Bag Assys (SEG46121580-301) are Teflon 5 ml bags stored within an HD300 containment bag sealed with double-sided tape prior to launch. The bag with the test strip inside, is filled from the ITCS sampling port. The test strip changes color, the crewmember removes the strip from the bag and compares it to the test card.
  7. Max 18 ea Fluid Sample Bag Assys (SEG46118249-302) is a 150ml Teflon bag stored within an open HD300 containment bag, which is sealed once the sample is collected. The Teflon bags are filled with coolant when ammonia is detected in the system, or when the system owner wants a sample to test on the ground.
  8. For return from orbit, the fluid sample Bag Assy are kept within a (max 8ea per kit) Return Ziplock Bag Assy (SEG46118278-703). This is a 12" x 12" polyethylene ziplock bag (previously Teflon) with the same size

Pigmat absorbent square inside it to collect any fluid that escapes from any of the other sample bags.

**Weight:**

5.8 lbs.

**Volume or Measurements:**

18" x 9.25" x 6"

**Type:**

1-4 listed above - Consumable  
5-6 listed above – Outfitted

**Power:**

N/A

**Fuse:**

N/A

**Restraint:**

Hook Fastener on all bags



**Stowage:**

Locker Stowed

**Limited Life:**

Fluid sample bags – 2 years from tape manufacture.  
NH<sub>3</sub> Test strip bags – 2 years from test strip manufacture.  
pH strip bags – 2 years from test strip manufacture  
Ortho-phthalaldehyde (OPA) – 2 years from test strip manufacture

**Lineage:**

New development for ISS

**Manufacturer:**

Containment Bags – PacTech  
Teflon Sample Bags – American Fluoroseal Corporation (AFC)

**Reference Documents:**

GCAR            G4998 Rev. B  
CR                SSCN 008605/VCB  
Materials        MATL-02-072, MATL-04-060, MATL-05-064

**Contact:**

Terry Wille

## **NON-INTRUSIVE FLOW METER KIT PART NO. SJG33117585-301**

---

### **DESCRIPTION:**

- The Non-Intrusive Flow Meter Kit will be used to measure the flow rate of the coolant in the Moderate Temperature Loop (MTL).
- The flow meter will provide flow feedback to the crewmember enabling them to correctly adjust the Manual Flow Control Valve (MFCV) in several locations.
- The flow meter clamps to the outside of a pipe and uses ultrasonic technology to measure the fluid flow rate.
- The Non-Intrusive Flow Meter Kit provides the capability for a battery powered system to measure flow of a 1/2" titanium pipe for a flow range of 150-400 lbm/hr with an accuracy of  $\pm 10$  lbm/hr.

### **Weight:**

18.2 lbs

### **Volume or Measurements:**

15.5" x 18.5" x 8.0"

### **Type:**

Outfitted

### **Power:**

HRF Battery (P/N SEG33119789-301)  
Sanyo 3V Internal Battery (internal to flow meter, installed by vendor)

### **Fuse:**

0.7A

### **Restraint:**

Velcro fastener

### **Stowage:**

Soft stowed

### **Limited Life:**

HRF Battery (P/N SEG33119789-301): 5 year shelf life

Flow Meter – internal battery (SEG33117586-301): 4 year service life once installed in flow meter; 8 year shelf life

### **Lineage:**

ISS CR# G08846

### **Reference Documents:**

GCAR	G5515
CR	G08846
Materials	MATL-06-061
PRVD	JSC 65121E

**Contact:** Daniel Molina



## **4.0 WATER TRANSFER SYSTEM (WTS)**

### **DEFINITION:**

Hardware certified by EC3 but operationally supported by WTS.

### **END-ITEMS:**

CONTINGENCY WATER CONTAINER (CWC).....	263
PAYLOAD WATER CONTAINER (PWR) .....	264
OXYGEN GENERATION SYSTEM PAYLOAD WATER CONTAINER (OGS PWR) .....	265
ACTIVATED CARBON/ ION EXCHANGE FILTER ASSEMBLY (ACTEX).....	266

## **CONTINGENCY WATER CONTAINER (CWC) PART NO. SEG33113140-305**

---

### **DESCRIPTION:**

- The CWC is a soft container used for a variety of fluid collection and stowage applications on Shuttle and ISS systems. The Primary application of the CWC is as a container for the transport and resupply of potable water from the Shuttle to the ISS.

### **Weight:**

2.95lbs. (empty)

### **Volume or Measurements:**

16" Dia. X 21 ½" Lg. (full)

### **Type:**

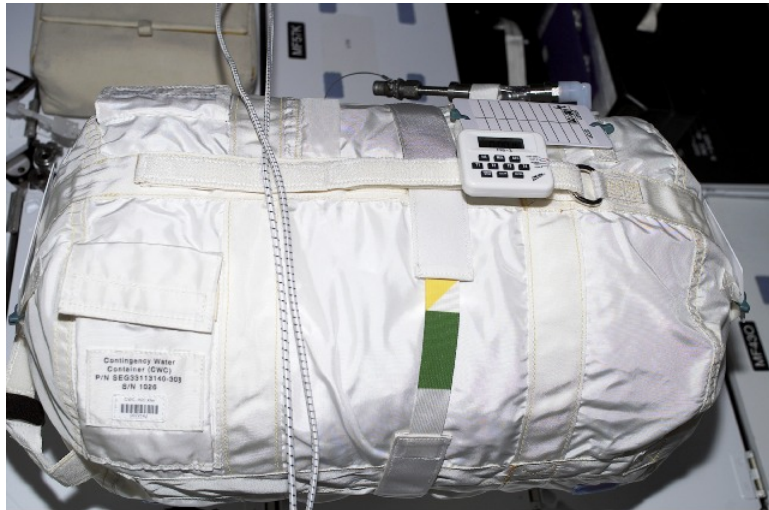
Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

(1) strap on each end, (1) strap lengthwise, 2" X 2" Velcro patches

### **Stowage:**

Stowed empty in Shuttle Middeck Locker, MPLM, or equivalent.

### **Limited Life:**

(16) washings of restraint bag

(50) Fill/empty cycles

### **Lineage:**

### **Reference Documents:**

GCAR G4367 REV G

CR SSCN 009524A/VCB

Materials MATL-02-026

Stress ESCG-4450-06-STAN-DOC-0001

Requirements JSC 39375B

### **Contact:**

Adam J. Shepherd

## PAYLOAD WATER RESEVOIR (PWR) PART NO. SEG46117689-301

### DESCRIPTION:

- The PWR is a soft container used for a variety of fluid collection and stowage applications on ISS systems. The Primary application of the PWR is as a container for the supply of iodinated water used to flush the EMU servicing/flushing coolant lines and reservoir.
- The PWR can also hold Internal Active Thermal Control System coolant, launched on the Shuttle in a special stowage configuration, to deliver replacement coolant fluid for ISS coolant loop servicing

### **Weight:**

1.3 lbs. (empty)  
22.3 lbs (full)

### **Volume or Measurements:**

24" long X 13.3" wide X 1.0" high(empty)  
19" long X 13.0" wide X 8.0" high(full)

### **Type:**

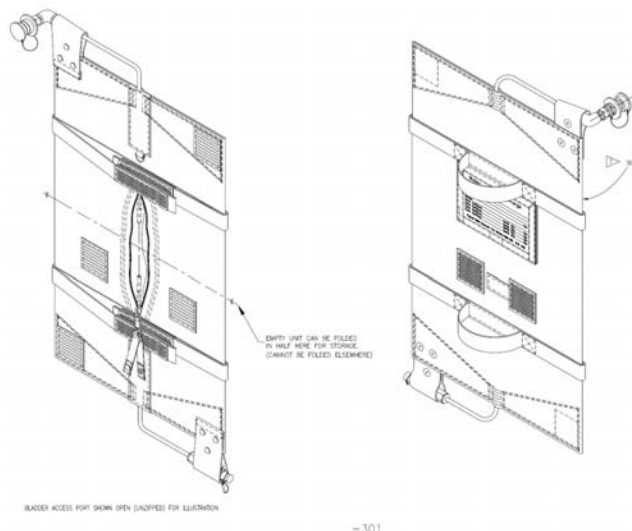
Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

(2) straps across width of bag, using Velcro patches, 2" X 2" Velcro Hook patches on opposing corners

### **Stowage:**

Stowed empty in Shuttle Middeck Locker, MPLM, or equivalent. Stowed full in middeck location, surrounded with Pyrell foam and inside 2 sealed poly bags.

### **Limited Life:**

(13) Fill/empty cycles

### **Reference Documents:**

GCAR	G3925 Rev D
CR	TTA JSC-235
Materials	MATL-06-020B
Stress	MSAD-01-0228
Limited Life Items List	JSC-47609 Rev C
Requirements	JSC 40177C

### **Contact:**

Darren Riggle



## **OXYGEN GENERATION SYSTEM PAYLOAD WATER CONTAINER (OGS PWR) PART NO. SEG46117689-302**

---

### **DESCRIPTION:**

- The OGS PWR is a soft container used for stowage of Iodinated water ISS systems. The Primary application of the PWR is as a container for the supply of iodinated water used to supply the ISS Oxygen Generation System rack with water needed for oxygen generation.

### **Weight:**

3.1 lbs. (empty)

25.1 lbs (full)

### **Volume or Measurements:**

24" long X 13.3" wide X 1.0" high(empty)

19" long X 13.0" wide X 8.0" high(full)

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

(2) straps across width of bag, using Velcro patches, 2" X 2" Velcro Hook patches on opposing corners

### **Stowage:**

Stowed empty in Shuttle Middeck Locker, MPLM, or equivalent.

### **Limited Life:**

(13) Fill/empty cycles

### **Reference Documents:**

GCAR	G3925 Rev D
CR	TTA JSC-235
Materials	MATL-06-020B
Stress	MSAD-01-0228, ESCG-4450-06-STAN-DOC-105
Limited Life Items List	JSC-47609 Rev C
Requirements	JSC 40177C

### **Contact:**

Darren Riggle

## ACTIVATED CARBON/ ION EXCHANGE FILTER ASSEMBLY (ACTEX) PART NO. SEG11100313-307

### DESCRIPTION:

- The purpose of the ACTEX unit is to remove both iodine and iodide from the Space Shuttle or Space Station water tanks prior to consumption. The ACTEX cartridge consist of a stainless steel vessel containing activated carbon and resin. The inlet to the ACTEX is to be a 1/4-inch male quick-disconnect (QD) coupling, and the outlet is to be a 3/8-inch female QD. An orifice will be located just inside the inlet that will ensure proper contact time of the water with the carbon and with the ion exchange resin.
- The ACTEX unit will remove iodine (I<sub>2</sub>) and iodide (I<sup>-</sup>) from water provided by the Orbiter fuel cells. Silver and/or minerals can be injected into the water at the injection port, which is downstream from the ACTEX cartridge. The treated water can then be transferred to the ISS via a CWC, Russian water container, or other portable container.
- The ACTEX shall remove up to 3.5±.5 mg/L of iodine (I<sub>2</sub>) and 1.5±.5 mg/L of iodide (I<sup>-</sup>) to less than detectable limits (0.1 mg/L) of both when utilizing the Leuco Crystal Violet (LCV) method for detection.

### **Weight:**

4.0 lbs. (wetted)

### **Volume or Measurements:**

16.5" long X 2.4" diameter

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

(2) 1" X 1" Velcro Hook patches

### **Stowage:**

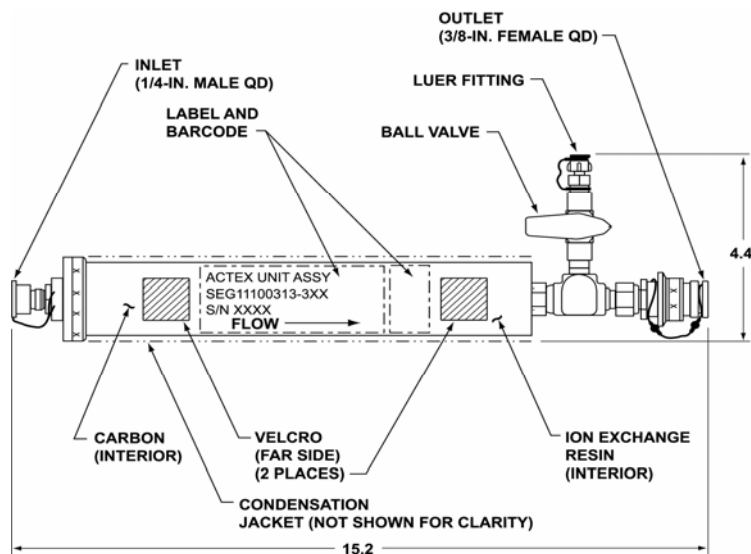
Stowed in Shuttle Middeck Locker, MPLM, or equivalent.

### **Limited Life:**

4000 lbs of Iodinated Water Throughput

### **Reference Documents:**

GCAR	G4368 Rev F
CR	FCE Board G05384R1 & R2
Materials	MATL-99-091



Stress HDID-SAS-98-0199  
Requirements JSC 39084 Rev E

**Contact:**  
Darren Riggle

## 5.0 OTHER

### **DEFINITION:**

Hardware that EC3 certified, but operationally supported by groups noted.

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## EDUCATIONAL PAYLOAD

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### DETAILED SUPPLEMENTARY OBJECTIVE - 802

<u>STS 97:</u>	<u>Part Name</u>	<u>Part Number</u>
	Tomatosphere – Educational Prop	SED33113646-301

<u>STS 114:</u>	<u>Part Name</u>	<u>Part Number</u>
	Infrared Remote Control	SED33115162-301
	Infrared Remote Control w/out batteries	SED33115162-303
	Propeller Unit	SED33115162-305
	Spinning Top Assembly	SED33115337-301
	Top Handle	SED33115337-501
	Top	SED33115337-503
	Pull Starter	SED33115337-505
	Connector	SED33115337-507
	Origami Paper Packet	SED33115338-501
	Origami Bird	SED33115338-503
	Origami Swan	SED33115338-505
	Origami Frog	SED33115338-507
	Origami Control Moment Gyro (CMG)	SED33115338-509

### EDUCATION PAYLOAD OPERATIONS

<u>EPO4:</u>	<u>Part Name</u>	<u>Part Number</u>
	EPO4 Kit	SJG33114386-301
	Weight Bag Assembly	SJG33114386-321

<u>EPO5:</u>	<u>Part Name</u>	<u>Part Number</u>
	Hand Toys Kit	SJG33114634-301
	Density Wand	SJG33114634-501
	Flipping Bear	SJG33114634-502
	Kendama	SJG33114634-503
	Pecking Hens	SJG33114634-504
	Hand String Toys Kit	SJG33114635-301
	Astro Jacks	SJG33114635-501
	Yo-Yo, RPM	SJG33114635-502
	Yo-Yo, Clutch	SJG33114635-503
	Jump Rope	SJG33114635-504
	Climbing Bear	SJG33114635-505
	Spinning Toys Kit	SJG33114636-301
	Boomerang	SJG33114636-501
	Origami Flipper	SJG33114636-502
	Pull String Top	SJG33114636-503
	Hand Helicopter, large	SJG33114636-504
	Hand Helicopter, small	SJG33114636-505
	Soccer/Marbles Kit	SJG33114637-301
	Marble, Low Density	SJG33114637-501

Marble, High Density	SJG33114637-502
Small Wood Marble	SJG33114637-503
Large Wood Marble	SJG33114637-504
Soccer Ball	SJG33114637-505
Lacrosse Kit	SJG33114638-301
Lacrosse Stick	SJG33114638-501
Lacrosse Ball	SJG33114638-502
Hockey Kit	SJG33114639-301
Hockey Stick	SJG33114639-501
Hockey Puck	SJG33114639-502
Vibrating Woodpecker	SDG33114614-501
Whimmy Diddle	SDG33114614-502
Whirly Gig	SDG33114614-503
Butterfly	SDG33114614-504
Balloon	SDG33114614-505

<u>EPO8:</u>	<u>Part Name</u>	<u>Part Number</u>
	Crazy Maze	SDG33115172-501
	Bits and Pieces Puzzle	SDG33115174-501
	Blues Harp	SDG33115169-501
	Chicken Shake	SDG33115171-501
	Balsa Airplane Assembly	SDG33115166-301
	Starfire Glider Assembly	SDG33115167-301
	Tools Block	SDG33115168-501
	Pu'ili	SDG33115349-501
	Wright Flyer Model	SDG33115350-501
	Paper Airplane Book Assembly	SDG33115351-301

<u>EPO9:</u>	<u>Part Name</u>	<u>Part Number</u>
	Tomatosphere II Assembly	SEG33115347-301

**Contact:**  
Fatonia Rivera

## **EMU WATER PROCESSING KIT (A/L Coolant Loop Recovery)**

### **P/N: SJG33118469-301**

---

#### **DESCRIPTION:**

- The EMU A/L CLR Kit contains two complete EMU A/L CLR Units. The kit contains both EMU A/L CLR Units, packed in foam, and stored in a common Cargo Transfer Bag (CTB).
- The A/L CLR uses four different techniques for controlling particulate formation, activated carbon, ion exchange resin, filtration, and iodination. The EMU Ion Filter contains activated carbon which removes organic contaminants and ion exchange resin which removes ionic contaminants, the EMU 3-Micron Filter is flown wet and removes precipitates and suspended biomass, and the EMU Biocide Filter provides an iodine level of 1 to 4 ppm I<sub>2</sub> to control biomass growth. The A/L CLR can be used in two basic configurations, one with the EMU Ion filter, which contains the activated carbon and ion exchange resin, and the EMU 3-Micron Filter in series which provides a method to clean the loop of particulates larger than 3 microns in size. The second configuration is with the biocide filter which provides a method of iodinating the loop.
- The EMU A/L CLR Unit is capable of processing at least 4,000 ml of the attached ionic and organic load down to an organic concentration of 5.0 ppm or less total organic carbon and a conductivity of 5.0 micro-siemens/cm or less within a 1 hour period.

<b>Hardware Part Name</b>	<b>Part Number</b>
EMU Water Processing Kit	SJG33118469-301
2ea. Jumper Assembly, EMU Water Processing	SEG33118468-301
2ea. EMU Ion Filter	SEG33118472-301
4ea. EMU 3-Micron Filter	SEG33118473-301
2ea. EMU Biocide Filter	SEG33118474-301
2ea. EMU Water Processing Kit Foam	SDG33118486-301
2ea. Ziplock Bag, 24" x 24"	528-50000-8
2ea. Ziplock Bag, 8" x 8"	528-50000-3

#### **Weight:**

~23 lbs.

#### **Volume or Measurements:**

1 Cargo Transfer Bag

#### **Type:**

Consumable

#### **Power:**

N/A

#### **Fuse:**

N/A

**Restraint:**

Stowed in foam inserts when not connected to the EMU cooling loop

**Stowage:**

Standard Locker

**Limited Life:**

2-Yrs from JSC fabrication

**Lineage:**

New Development for ISS

EVA CCB, CR No. EVA 0034 Rev 3, EMU Support Equipment List

**Reference Documents:**

GCAR G5087

CARD JSC 62294A

RAESR JSC 62352

Fracture Plan JSC25863A

Material Memo MATL-05-084

Stress Analysis: ESCG-6400-05-MEMO-0083

Crew Procedure No. 1.527

**Contact:**

Javier Jimenez





## **INNER HATCH WINDOW SHIELD KIT PART NO. SJD33117564-301**

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### **DESCRIPTION:**

- The Inner Hatch Window Shield is designed to be installed and aligned on all active Common Berthing Mechanism (CBM) hatch windows to protect them from damage during nominal IVA operations.
- The Inner Hatch Window Shield Assembly allows Centerline Berthing Camera System (CBCS) fittings to stay in place while protecting the window of the CBM.

### **Weight:**

2.5 lbs

### **Volume or Measurements:**

14.5" (diameter) x 0.375" (thickness)

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Velcro fastener

### **Stowage:**

Soft stowed

### **Limited Life:**

N/A

### **Lineage:**

ISS CCB CR# 8014

### **Reference Documents:**

GCAR	G5293
Materials	MATL-05-138
RAESR	JSC 65021
PRVD	JSC 62266

### **Contact:**

Daniel Molina



## ISS QD TRAINER ASSY P/N: SEG43121903-301

---

### **DESCRIPTION:**

- The ISS QD Trainer was developed to provide on-orbit refresher training on EVA QDs for crew members who had not had training several months prior to an ISS EVA.
- Male QDs in three sizes ( $\frac{3}{4}$ ", 1" and 1.5") are mounted to an aluminum plate that is attached with Velcro to a Panel Cover Assembly.
- The crew uses this mockup to practice using the EVA Spool Positioning Device, Locking Collar, and mating Female QDs.
- Included in the kit are:
  - SEG43121903-302: On-Board Trainer (OBT) 1.0 In QD SPD Assembly
  - SEG43121903-303: OBT 1.5 In QD SPD Assembly
  - SEG43121939-301: OBT 0.75 Female QD w/ Locking Collar
  - SEG43121939-302: OBT 1.5 Female QD

### **Weight:**

8.6 lbs

### **Volume or Measurements:**

4.5" x 6.0" x 16.0"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A



### **Restraint:**

Velcro attaches it to a Panel Cover Assy, which attached to a rack via seat track

### **Stowage:**

Soft Stowed, The kit is delivered as piece parts and is assigned stowage at USA/FCE.

### **Limited Life:**

N/A

### **Lineage:**

New Development for ISS utilizing existing EVA Male (BOE 1F45540-505, 1F45540-503, 1F70135-1) and Female (BOE XN 1F45541-503, XN 1F70136-1) QDs, QD Tools - Spool

Positioning Device (SEG33114973-301, SEG33114974-301) and Locking Collar, and Panel Cover Assembly (SED33105467-304)

**Reference Documents:**

CR# SCN 9470

GCAR# G5346

Material Memo# Matl-06-026

Stress Memo# ESCG-4450-05-STAN-DOC-0118

**Contact:**

Terry Wille

## **PGT TORQUE ANALYZER KIT PHASE 2 (TAK2) PART NO. SJG33115454-301**

---

### **DESCRIPTION:**

- The PGT Torque Analyzer Kit (TAK) is manufactured by Mountz, used to measure and display the torque produced by a Pistol Grip Tool (PGT).
- Same as TAK1, but includes stabilizing adapter that interfaces with PGT and reduces extraneous loading.

The PGT TAK Kit contains the following:

Part Number	Part Name
SEG33115176-301	TA Handheld Assy.
SEG33115423-301	PGT Torque Analyzer Assy.
SDG33115175-325	Pouch Assy., PGT Torque Analyzer
SDG33115493-701	Foam Block Assy. PGT Torque Analyzer
SJG33115454-001	ID Card, PGT TAK
065145-WD5	TA Adapter Cable
SJG33115454-501	Marking Pen (2ea.)

### **Weight:**

6.1 lbs.

### **Volume or Measurements:**

12"x 6.5" x 7.5"

### **Type:**

Outfitted

### **Power:**

EP-02-022 Battery

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener

### **Stowage:**

Locker Stowed

### **Limited Life:**

2 yr calibration life

### **Lineage:**

Commercial off-the-shelf Torque Transducer (as certified in TAK1, SJG33115179-301) with New NASA/JSC development to accommodate PGT interface.



**Reference Documents:**

GCAR	G4668
Materials	MATL-03-080
Stress	MSAD-03-0086
EMI	EV4-10/02-071
Battery Memo	EP-02-022

**Contact:**

Fatonia Rivera

## TREADMILL HARNESS ASSY PART NO. SEG46120250-301

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### DESCRIPTION:

- The Treadmill Harness Assembly is a Nomex belt with shoulder straps that is worn by the crewmember when using the Treadmill Vibration Isolation and Stabilization (TVIS) or Russian BD-1.

### **Weight:**

5.0 lbs.

### **Volume or Measurements:**

17"x 13"x 6"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Crew worn

### **Storage:**

Soft Stowed

### **Limited Life:**

N/A

### **Lineage:**

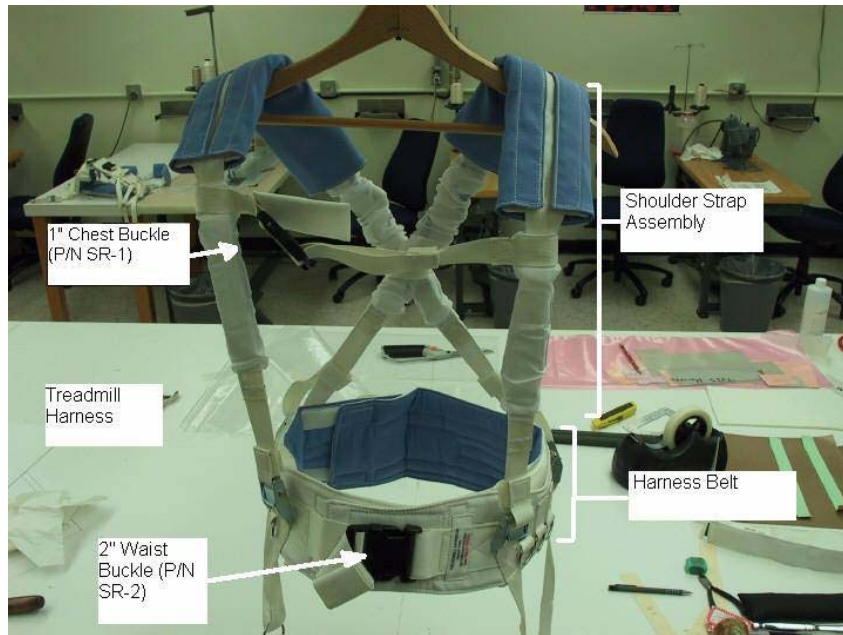
JSC CTSD for ISS

### **Reference Documents:**

GCAR	G4986
Russian	G5008
CR	SSCN 8344
Materials	MATL-05-002
Stress	MSAD-05-0006

### **Contact:**

Fatonia Rivera



## TVIS GYRO REPAIR TOOL KIT

### P/N: SJG33116475-301

#### **DESCRIPTION:**

Tool kit originally certified to perform IFM on failed TVIS gyroscope during 13P stage. Kit contains the following items contained within labeled Ziplock bags:

- 1 set ea Helical Insert Tools for sizes 4-40, 8-32, 10-24, 10-32
- 1 ea 3-Jaw Pressure Screw
- 10 ea 1"x12", 220 and 400 grit emery paper
- 1 ea 12 pt, 1/2" drive, 1-3/8" socket

#### **Weight:**

3.23 lb

#### **Volume or Measurements:**

13" x 18" x 5"

#### **Type:**

Outfitted

#### **Power:**

N/A

#### **Fuse:**

N/A

#### **Restraint:**

Velcro Hook

#### **Stowage:**

Standard stowage trays

#### **Limited Life:**

N/A





**Lineage:**

JSC CTSD off-the-shelf for ISS

NASA P/N	Description	Vendor	Vendor P/N
SEG33116472-301	Bearing Removal Tool	Snap-On	CG243
SEG33116473	Abrasive Cloth		
-301		Metalite	MH61- R0126271
-303		Metalite	MH61- R0126267
SEG33116503-301	Standard Socket Assy	Snap-On	SW441
SEG33116474-301	Helical Insert Tools #4-40		
	Insert Extraction Tool	Heli-Coil	1227-06
	Tang Break-off Tool	Heli-Coil	3695-04
	Helical Inserting Tool	Heli-Coil	7551-04
SEG33116474-303	Helical Insert Tools #8-32		
	Tang Break-off Tool	Heli-Coil	3695-2
	Helical Inserting Tool	Heli-Coil	7551-2
SEG33116474-305	Helical Insert Tools #10-24		
	Tang Break-off Tool	Heli-Coil	3695-3
	Helical Inserting Tool	Heli-Coil	7551-3
SEG33116474-307	Helical Insert Tools #10-32	Heli-Coil	
	Tang Break-off Tool	Heli-Coil	1227-6
	Helical Inserting Tool	Heli-Coil	7552-3



**Reference Documents:**

CR	SSCN 8357
PR&VD	JSC 60488
V&VD	JSC 60489
Materials	MATL-04-010
RAESR	JSC 60491
GCAR	G4769

**Contacts:**

Fatonia Rivera

## **TVIS MAINTENANCE TOOLS KIT PART NO. SJG33117580-301**

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### **DESCRIPTION:**

- TVIS Maintenance Tools Kit were certified for periodic maintenance of the TVIS, enabling appropriate adjustments without having to remove the unit from the pit
- The Kit consists of the following tools, stowed in individually-labeled ziplock bags :

Part Number	Part Name
SEG33117570-301	TVIS Phillips Socket Driver Assy
SEG33117570-701	#0 Phillips Socket Driver, 1/4" drive
SEG33117570-702	#1 Phillips Socket Driver, 1/4" drive
SEG33117577-301	TVIS Tension Locking Nut Crowfoot Assy, 1-1/16"
SEG33117578-301	TVIS Torque Screw Driver Assy, 20-100 in-oz, 1/4" drive
SEG33117579-301	TVIS Toque Driver Assy, 0-96 in-oz, 1/4" drive
SEG33117581-301	TVIS Break-Over Torque Wrench Assy, 65 in-lbs, 3/16" Hex
SEG33117582-301	TVIS 3/16" Hex Key Assy (3/16" hex, .25" x 1.5" x 6")

### **Weight:**

Kit - 2.3 lbs

### **Volume or Measurements:**

13"x 18"x 5"

### **Type:**

Outfitted

### **Power:**

N/A

### **Fuse:**

N/A

### **Restraint:**

Hook Fastener on each tool as well as each ziplock

### **Stowage:**

Soft stowed

### **Limited Life:**

The Torque Screwdriver and Torque Driver each have a 1-year calibration life.

### **Lineage:**

Commercial off-the-shelf

TVIS Phillips Socket Driver Assy

Vendor: Snap-On

#0 P/N: TMP01E

#1 P/N: TMP12E  
TVIS Tension Locking Nut Crowfoot Assy, 1-1/16"  
Vendor: Snap-On  
P/N: FC34B

TVIS Torque Screw Driver Assy, 20-100 in-oz, 1/4" drive  
Vendor: Precision Tools  
P/N: 61SM

TVIS Torque Driver Assy, 0-96 in-oz, 1/4" drive  
Vendor: Precision Tools  
P/N: DS1F96CZH

TVIS Break-Over Torque Wrench Assy, 65 in-lbs, 3/16" Hex  
Vendor: Mountz  
P/N: 20315/61449  
(Hex Head is P/N: 61449, Handle is P/N: 20315, received as 20315/61449)

TVIS 3/16" Hex Key Assy  
Vendor: Mountz  
P/N: 61390

**Reference Documents:**

GCAR G5233  
Russian U0914  
CR 9194 Rev A  
Materials MATL-05-083B

**Contact:** Fatonia Rivera



Break-Over Torque Wrench  
65 in-lb, 3/16" Hex



Torque Driver  
0-96 in-oz, 1/4" Drive



#0 Phillips Socket



#1 Phillips Socket



1-1/16" Crowfoot



Torque Screwdriver, 20-100 in – oz, 1/4" Drive



3/16" L-Style Hex Key

## ULD AUDIO CABLE ASSY PART NO. SEG33117591-301

### DESCRIPTION:

- The ULD Audio Cable Assy connects the ULD Receiver (CS.412231.002) to the Camcorder Assembly (SEZ16103293-301) for the purpose of recording the audio output of the ULD Receiver
- Hardware shall interface between the audio-out of the ULD Receiver (600 Ohm impedance) and the audio-in of the PD100A Camcorder (6800 Ohm impedance).
- Hardware design shall allow the recording of the ULD Receiver audio on the PD100A Camcorder.
- Hardware shall not interfere with the connection of a headphone jack to the PD100A Camcorder.

### Weight:

4.0 lbs

### Volume or Measurements:

60" x 2.0" x 2.0"

### Type:

Outfitted

### Power:

N/A

### Fuse:

N/A

### Restraint:

N/A

### Stowage:

Soft stowed

### Limited Life:

N/A

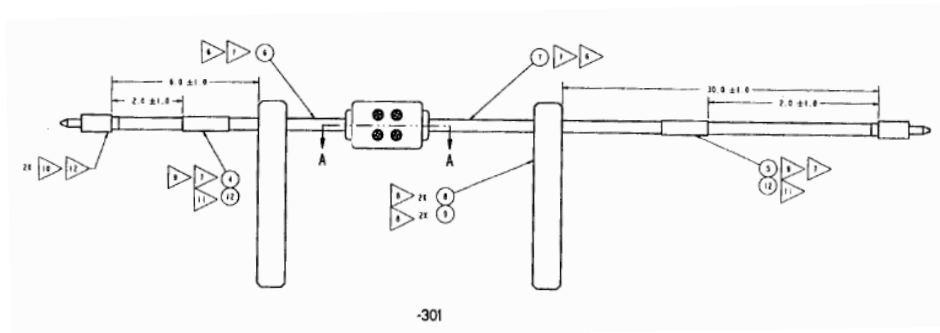
### Lineage:

CR SSCN #009764

### Reference Documents:

GCAR	G5516
CR	009764
ARM	JSC 65222
RAESR	JSC 65258
Materials	MATL-07-009
VM	JSC 65271

**Contact:** Keshla Johnson



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