

## Subject: Fastening Hardware

### Overview

During a recent visit to several U-Scan installations it was found that in many systems have loose or missing hardware (screws, nuts, etc). During the service of a U-Scan system, a quick inspection should be performed to make sure all fastening hardware is tight and that any missing hardware is replaced. This practice is not unique to U-Scan as all Fujitsu equipment would benefit from this additional level of care during a service call. The data below is also generic enough to apply to all Fujitsu products.

It is recommended that anytime a screw is installed or replaced that a drop of Loctite (either 222 or 242) be placed on the threads. This will help keep the screw from loosening again due to use/vibration.

Description	Baan/PDM #	D1 #
Loctite 222		7160585900
Loctite 242	11002388	

In addition to the mechanical fasteners (target of this bulletin), the items below should also be used liberally to secure all cables and small devices within the U-Scan system. Whenever securing cables make sure there is enough slack to allow all proper movement without stress to any connector. These parts are also all available in most local hardware stores.





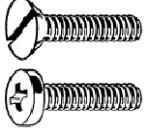
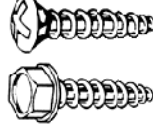
Description	Baan/PDM #	D1 #	Comments
Reclosable Fastener (Velcro), Loop, Black, 1.0"x75'	11000622	USA0218753	
Reclosable Fastener (Velcro), Hook, Black, 1.0"x75'	11000623	USA0218754	
Cable Tie Mounting Base, 1" Square, Adhesive Back	11000540	USA0219283	
Cable Tie, Nylon, 12"	11001786	MIS-1009	D1 shows 15" Length
Cable Tie, Nylon, 4"	11001791	MIS-1003	

### Types of Fasteners

First some general information regarding fasteners. While much of this information is not new and may be well known to many, I have included it here for reference and level setting.

#### Screws

In most cases, screws used on Fujitsu products will have Phillips heads rather than straight slot. There are also 3 different screw head types used: Flat Head, Pan Head and Round Head. In many cases these can be interchanged, in other cases a specific type of head is needed for clearance (especially for the Flat Head). A SEMS screw may also be called out. The SEMS screw simply has captive washers as opposed to requiring separate washers. While the majority of screws used are Machine Screws, some Self-Tapping Screws are also used.

					
Flat Head	Pan Head	Round Head	Button Head	Machine Screw	Self-Tapping / Sheet Metal Screw

<b>INQUIRIES TO:</b>		DATE
Fujitsu Frontech North America		
Exchange:	Sustaining Engineering	_____
Mail:	Fujitsu USA04, Sustaining Engineering	_____
FAX:	858-731-4781 (7888-4781)	_____
Internet:	<a href="mailto:SustainingEngineering@us.fujitsu.com">SustainingEngineering@us.fujitsu.com</a>	_____
FTP:	<a href="ftp://ftp.ftxs.fujitsu.com/">ftp://ftp.ftxs.fujitsu.com/</a>	_____
Original signature copies maintained by Sustaining Engineering.		






**Screw Sizes**

Screws are available in either SAE (typically used in the US) or Metric. The screw size is designated by 3 numbers, (Metric has a leading ‘M’). The first specifies the shaft size, the second specifies the thread pitch, and the third is the length.

SAE example:	#6-32x1/2	#6 = Gauge (width) of the screw shaft 32 = Thread pitch (threads per inch) 1/2 = Screw length (inches)
Metric example:	M4x0.7x8mm	M4 = Diameter of the screw shaft (mm) 0.7 = Thread pitch (mm), this number is sometimes omitted for common sizes 8mm = Screw length (mm if not stated)





**Nuts**

Hex Nut fasteners have a similar size measurement as the mating screw, example a #6-32 Nut, will fit a #6-23 screw. Many nuts will also have a captive lock washer, these are called KEPS nuts. A Self-Locking nut will have a plastic or nylon insert that prevents the nut from vibrating loose. These are sometimes call Ny-Lock in reference to one of the common manufactures.

				
Hex Nut	Self-Locking Nut	KEPS Nut	Jam Nut	Acorn Nut

**Washers**

Most fastening hardware will also have one or more washers installed. To aid production, these are often ‘captive’ on the screw (SEMS) or nut (KEPS). For field replacement, if the SEMS or KEPS version are not available, the equivalent can be accomplished by using discreet components.

			
Flat Washer	Split Lock Washer	External Tooth Lock Washer	Internal Tooth Lock Washer



**Part Numbers**

Below are some of the common Fastening Hardware used during production. This is not an all-encompassing list but is intended to list the commonly used fastening hardware. Unless otherwise stated fasteners are typically Zinc plated. The comments of where used is not a complete list but simply an indication of a common use.

Description	Size	Baan/PDM #	D1 #	Comments
Nut, Acorn Cap, Stainless	1/2-33	11001578		Carousel/Mini-Carousel
Nut, Acorn Cap, Stainless, Reduced Height	1/2-33	11002925		Carousel/Mini-Carousel w/Green Bin
Nut, Hex	3/8-16	11003145		
Nut, Hex	1/4-20	HDW-1049		
Nut, Hex	#6-32	HDW-1006		
Nut, Hex	#6-32x5/16"	NUT-1001		
Nut, Hex	#8-32	NUT-1011		
Nut, Hex	M3x0.5	F6-N13-111	USA0214582	U-Serv & F53
Nut, Hex	M4x0.7	F6-N14-111		
Nut, Hex	M5x0.8	F6-N15-111		
Nut, Hex	M6x1.0	F6-N16-111		
Nut, Hex	M8x1.25	F6-N18-111		
Nut, Hex KEPS	1/4-20	11001231		
Nut, Hex KEPS	#10-32	11001179		
Nut, Hex KEPS	#6-32	11001178	SCR-1002	
Nut, Hex KEPS	#8-32	11001976	11001976	
Nut, Hex KEPS	M10	11001014		
Nut, Hex KEPS	M3x0.5	11002162		
Nut, Hex KEPS	M4x0.7	11002163		
Nut, Hex KEPS	M5x0.8	11002164		
Nut, Hex KEPS	M6x1.0	11002165		
Nut, Hex KEPS, Stainless	1/4-20	11001304		
Nut, Hex KEPS, Stainless	#4-40	11001194		
Nut, Hex KEPS, Stainless	#8-32	NUT-1000		
Nut, Hex, Compression with Washer	M4x0.7	11001016		U-Serv
Nut, Hex, Compression with Washer	M8x1.25	11001288		U-Serv
Nut, Hex, Jam	M6x1.0	11003157	11003157	Coin Dispenser
Nut, Hex, Jam, Stainless	1/2-33x5/16"	NUT-1006		
Nut, Hex, Self Locking	M4x0.7	90001543		
Nut, Hex, Stainless	#8-32	NUT-1007		
Washer, External Tooth	1/4"	HDW-1107		
Washer, External Tooth	3/8"	HDW-1108		
Washer, External Tooth, Stainless	#8	11002927		
Washer, Flat	#6	11000633		
Washer, Flat	#8	HDW-1109		
Washer, Flat	1/4"	HDW-1133		
Washer, Flat	M10	F6-WM10-111		
Washer, Flat	M16	11001788	11001788	
Washer, Flat	M3	11001294	USA0300529	
Washer, Flat	M4	F6-WM4-111	USA0214993	
Washer, Flat	M6	F6-WM6-111		
Washer, Flat	M8	F6-WM8-111	USA0211960	
Washer, Flat, Stainless	1/2"	11001579		Carousel/Mini-Carousel
Washer, Flat, Stainless	M4	161-1003	161-1003	
Washer, Internal Tooth	M4	161-1002	161-1002	
Washer, Split Lock	#6	11000632		
Washer, Split Lock	#8	11003131		
Washer, Split Lock	M16	11001787	11001787	
Washer, Split Lock	M3	11002030		



Description	Size	Baan/PDM #	D1 #	Comments
Screw, Button Head, Hex Drive, Nylon Patch	M4x0.7x6mm	11002208	11002208	Genesis Door latch
Screw, Button Head, Phillips, Stainless	M4x0.7x20mm	F6-SBD4-20200	USA0214992	
Screw, Button Head, Phillips, Stainless	M4x0.7x6mm	F6-SBD4-06200	USA0215018	
Screw, Button Head, Phillips, Stainless	M6x1.0x6mm	F6-SBD6-06200		
Screw, Flat Head, Phillips	#8-32x1/2"	11001975		
Screw, Flat Head, Phillips	M3x0.5x12mm	11001342		
Screw, Flat Head, Phillips	M3x0.5x5mm	F6-SSA3-05111	USA0214837	
Screw, Flat Head, Phillips	M3x0.5x6mm	11000592		
Screw, Flat Head, Phillips	M3x0.5x8mm	11000593	11000593	
Screw, Flat Head, Phillips	M4x0.7x10mm	F6-SSA4-10111		
Screw, Flat Head, Phillips	M4x0.7x45mm	11001497		
Screw, Flat Head, Phillips	M4x0.7x6mm	F6-SSA4-06111		
Screw, Flat Head, Phillips	M4x0.7x8mm	11001022	USA0215081	
Screw, Flat Head, Phillips, Black	M4x0.7x35mm	11003440		
Screw, Flat Head, Phillips, Nickel	M3x0.5x6mm	11001020		
Screw, Flat Head, Phillips, Nickel	M5x0.8x40mm	F6-SSA5-40121		
Screw, Flat Head, Phillips, Stainless	M3x0.5x6mm	F6-SSA3-06100		
Screw, Flat Head, Phillips, Stainless	M4x0.7x35mm	F6-SSA4-35100	USA0300213	
Screw, Flat Head, Phillips, Stainless	M4x0.7x45mm	F6-SSA4-45100		
Screw, Flat Head, Phillips, Stainless	M4x0.7x6mm	F6-SSA4-06200		
Screw, Flat Head, Phillips, Stainless	M5x0.8x8mm	F6-SSA5-08200		
Screw, Pan Head, Phillips	#10-32x1/2"		USA0300985	Telequip Coin Cup
Screw, Pan Head, Phillips	#10-32x3/8"	SCR-1010		
Screw, Pan Head, Phillips	#6-32x1/2"	160-1034		
Screw, Pan Head, Phillips	#6-32x1/4"	11000631		
Screw, Pan Head, Phillips	#6-32x3/8"	SCR-1008		
Screw, Pan Head, Phillips	#8-32x1/2"	11003147		
Screw, Pan Head, Phillips	#8-32x1/4"	11003149		
Screw, Pan Head, Phillips	#8-32x5/16"	11003150		
Screw, Pan Head, Phillips	1/4-20x1"	11001973		
Screw, Pan Head, Phillips	1/4-20x1/2"	SCR-1011		
Screw, Pan Head, Phillips	1/4-20x3/4"	SCR-1012		
Screw, Pan Head, Phillips	M3x0.5x6mm	F6-SBD3-06111		
Screw, Pan Head, Phillips	M4x0.7x10mm	11003240		
Screw, Pan Head, Phillips	M4x0.7x12mm	F6-SBD4-12111		
Screw, Pan Head, Phillips	M4x0.7x16mm	160-1011	160-1011	
Screw, Pan Head, Phillips	M4x0.7x5mm	160-1020	160-1020	
Screw, Pan Head, Phillips	M4x0.7x6mm	F6-SBD4-06111		
Screw, Pan Head, Phillips	M4x0.7x8mm	F6-SBD4-08111	USA0219864	
Screw, Pan Head, Phillips	M6x1.0x6mm	F6-SBD6-06111		
Screw, Pan Head, Phillips, Self Tapping	#10x1"	11001974		
Screw, Pan Head, Phillips, Self Tapping	#4x3/8"	160-1032		
Screw, Pan Head, Phillips, Self Tapping	#8x1/2"	SCR-1009		
Screw, Pan Head, Phillips, Self Tapping	M3x16mm	11001272		
Screw, Pan Head, Phillips, Self Tapping	M4.8x19mm	11000045		
Screw, Pan Head, Phillips, SEMS	#2-56x3/8"	11001176		
Screw, Pan Head, Phillips, SEMS	#2-56x5/8"	11001331		
Screw, Pan Head, Phillips, SEMS	#4-40x3/8"	11001177		
Screw, Pan Head, Phillips, SEMS	#6-32x1/2"	11001275		
Screw, Pan Head, Phillips, SEMS	#6-32x1/4"	11002012		
Screw, Pan Head, Phillips, SEMS	#6-32x5/16"	11001999		
Screw, Pan Head, Phillips, SEMS	1/4-20x1/2"	11001233		
Screw, Pan Head, Phillips, SEMS	1/4-20x3/8"	11003228	11003228	
Screw, Pan Head, Phillips, SEMS	M2.5x0.45x10mm	F6-SW2NR5-10111	USA0211022	
Screw, Pan Head, Phillips, SEMS	M2.5x0.45x6mm	11001270		
Screw, Pan Head, Phillips, SEMS	M2.5x0.45x8mm	F6-SW2N2R5-08111	USA0214760	



Description	Size	Baan/PDM #	D1 #	Comments
Screw, Pan Head, Phillips, SEMS	M2x0.4x2.5mm	11000591	11000591	
Screw, Pan Head, Phillips, SEMS	M2x0.4x5mm	F6-SW2N2-05111		
Screw, Pan Head, Phillips, SEMS	M3x0.5x10mm	11000597	USA0211797	
Screw, Pan Head, Phillips, SEMS	M3x0.5x12mm	11000630	USA0211020	
Screw, Pan Head, Phillips, SEMS	M3x0.5x18mm	11001023		
Screw, Pan Head, Phillips, SEMS	M3x0.5x20mm	F6-SW2N3-20111	USA0213569	
Screw, Pan Head, Phillips, SEMS	M3x0.5x25mm	11002170	11002170	
Screw, Pan Head, Phillips, SEMS	M3x0.5x30mm	F6-SW2N3-30111	USA0213570	
Screw, Pan Head, Phillips, SEMS	M3x0.5x35mm	F6-SW2N3-35111		
Screw, Pan Head, Phillips, SEMS	M3x0.5x5mm	11000594	11000594	
Screw, Pan Head, Phillips, SEMS	M3x0.5x6mm	11000595	USA0211019	
Screw, Pan Head, Phillips, SEMS	M3x0.5x8mm	11003448		
Screw, Pan Head, Phillips, SEMS	M4x0.7x10mm	11001026	11001026	
Screw, Pan Head, Phillips, SEMS	M4x0.7x12mm	11001027		
Screw, Pan Head, Phillips, SEMS	M4x0.7x14mm	11001028		
Screw, Pan Head, Phillips, SEMS	M4x0.7x16mm	F6-SW2N4-16111		
Screw, Pan Head, Phillips, SEMS	M4x0.7x18mm	11002037		
Screw, Pan Head, Phillips, SEMS	M4x0.7x20mm	F6-SW2N4-20111		
Screw, Pan Head, Phillips, SEMS	M4x0.7x25mm	F6-SW2N4-25111		
Screw, Pan Head, Phillips, SEMS	M4x0.7x45mm	F6-SW2N4-45111		
Screw, Pan Head, Phillips, SEMS	M4x0.7x4mm	160-1010		
Screw, Pan Head, Phillips, SEMS	M4x0.7x6mm	11001024	USA0217354	U-Serv & F53
Screw, Pan Head, Phillips, SEMS	M4x0.7x8mm	11001025	USA0219825	U-Serv Printer
Screw, Pan Head, Phillips, SEMS	M5x0.8x10mm	11000598		
Screw, Pan Head, Phillips, SEMS	M5x0.8x12mm	11000663	11000663	
Screw, Pan Head, Phillips, SEMS	M5x0.8x14mm	F6-SW2N5-14111		
Screw, Pan Head, Phillips, SEMS	M5x0.8x30mm	F6-SW2N5-30111		
Screw, Pan Head, Phillips, SEMS	M5x0.8x6mm	F6-SW2N5-06111		
Screw, Pan Head, Phillips, SEMS	M5x0.8x8mm	F6-SW2N5-08111		
Screw, Pan Head, Phillips, SEMS	M6x0.7x16mm	160-1019	160-1019	
Screw, Pan Head, Phillips, SEMS	M6x1.0x10mm	F6-SW2N6-10111		
Screw, Pan Head, Phillips, SEMS	M6x1.0x12mm	F6-SW2N6-12111		
Screw, Pan Head, Phillips, SEMS	M6x1.0x16mm	F6-SW2N6-16111		
Screw, Pan Head, Phillips, SEMS	M6x1.0x8mm	11003210		
Screw, Pan Head, Phillips, SEMS, Nickel	#10-32x1/2"	11001302		
Screw, Pan Head, Phillips, SEMS, Nickel	#4-40x1/4"	11001355		
Screw, Pan Head, Phillips, SEMS, Nickel	M3x0.5x12mm	F6-SW2N3-12121		
Screw, Pan Head, Phillips, SEMS, Nickel	M3x0.5x6mm	F6-SW2N3-06121	USA0217488	
Screw, Pan Head, Phillips, SEMS, Nickel	M3x0.5x8mm	F6-SW2N3-08121	USA0217119	
Screw, Pan Head, Phillips, SEMS, Nickel	M4x0.7x20mm	11001293		
Screw, Pan Head, Phillips, SEMS, Nickel	M6x1.0x20mm	11003130		
Screw, Pan Head, Phillips, SEMS, Stainless	M4x0.7x16mm	11002363		
Screw, Pan Head, Phillips, Stainless	M4x0.7x8mm	F6-SBD4-08200		

## Local Purchasing

Much of this type of hardware can be locally purchased. Below are examples of hardware that can be purchased from a couple large national hardware stores. Some of these may not be exactly the same as specified above (example may have straight slot instead of Phillips, or the nuts do not have captive lock washers so separate lock washers are needed) but can easily be used and may be easier and cheaper to procure. If screws of the correct length are not available and a longer screw cannot be used (causes interference), the longer screw can be cut to length using the Crimp Tool that is standard in the FE tool kit.

The examples listed below are combined kits of screws and nuts. Individual packages are also available, as well as packages with larger quantities. These are simply examples that are available and is not meant to be an exclusive list. Metric sizes may not be as readily available in a standard hardware store (US), but can typically be found in an auto parts store.

### Lowes

Part Number	Description	Size	Qty
491275	Round Head Screws and Nuts	#4-40x1/2"	14
490410	Flat Head Screws and Nuts	#6-32x1/2"	14
491281	Round Head Screws and Nuts	#6-32x3/4"	12
491288	Round Head Screws and Nuts	#8-32x1/2"	10
491289	Round Head Screws and Nuts	#8-32x3/4"	10
491306	Round Head Screws and Nuts	#10-32x1/2"	10
491307	Round Head Screws and Nuts	#10-32x3/4"	8
490427	Flat Head Screws and Nuts	#10-32x1/2"	10
490428	Flat Head Screws and Nuts	#10-32x3/4"	8
490686	Flat Washer	#10	24
490685	Flat Washer	#8	36
490687	Flat Washer	1/4"	16
491368	Internal Tooth Lock Washer	#10	24

### Home Depot

Part Number	Description	Size	Qty
27441	Round Head Screws and Nuts	#4-40x1/2"	8
27461	Round Head Screws and Nuts	#4-40x3/4"	8
27501	Round Head Screws and Nuts	#6-32x1/2"	8
28331	Flat Head Screws and Nuts	#6-32x3/4"	8
27621	Round Head Screws and Nuts	#8-32x1/2"	8
27641	Round Head Screws and Nuts	#8-32x3/4"	8
19801	Flat Washer	#8	30
19811	Flat Washer	#10	30
19821	Flat Washer	1/4"	12
20371	Internal Tooth Lock Washer	#6	20
20381	Internal Tooth Lock Washer	#8	20
20391	Internal Tooth Lock Washer	#10	18
20401	Internal Tooth Lock Washer	1/4"	18