

APPLICATION	
NEXT ASSY	USED ON

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	RELEASED AS REVISION A.	01/14/00	
B	UPDATE OF REVISION A.	02/13/20	
C	UPDATE OF REVISION B.	09/01/20	
D	CORRECTION TO TL NUMBER FOR ITEM NO 60.	01/07/21	
E	ADD NEW ITEM NUMBERS	09/29/21	X

REV E
SHT 1
NAVSEA DRAWING NO 7085185
ESWBS 499

NOTES:

- IDENTIFICATION OF THE SUGGESTED ITEMS HEREON IS NOT TO BE CONSTRUED AS A GUARANTEE OF PRESENT OR CONTINUED AVAILABILITY.
- SUBSTITUTION OF ITEMS IS NOT ALLOWED WITHOUT APPROVAL OF THE DESIGN ACTIVITY, NAVAL SURFACE WARFARE CENTER DAHLGREN DIVISION, CODE A31.
- INDIVIDUAL ITEMS SHALL BE PROCURED USING THE VENDOR PART NUMBER. APPROVED VENDOR PART NUMBERS CAN BE OBTAINED BY CROSS REFERENCING THE LIST RECOMMENDED TOOLS ID TO THE RECOMMENDED TOOLS LIST AVAILABLE ON THE WEBSITE LISTED ON SHEET 6.
- COMPLETE KITS SHALL BE PROCURED USING THE BASE DRAWING NUMBER ONLY.
- QUANTITIES SHOWN ARE FOR THE INDIVIDUAL ITEMS AND MAY NOT CORRESPOND TO THE QUANTITY SUPPLIED FOR THE VENDOR PART NUMBER LISTED.
- ITEM 54 IS AN ALTERNATE ITEM FOR ITEM 27. EITHER ITEM 27 OR ITEM 54 IS TO BE PROVIDED.
- THIS KIT ALSO SUPPORTS THE SC CONNECTOR (TIA-604-3) AND THE LC CONNECTOR (TIA-604-10).
- LC BACKFIT KITS FOR UPGRADING PREVIOUSLY FIELDIED TOOLKITS SHALL CONTAIN ITEMS 56, 57, 58, 59 AND 60.
- ITEM 47, 48 AND 59 WILL BE SUPPLIED AS FULL CRIMPER ASSEMBLIES OR SINGLE DIE SETS WHICH ARE SWAPPABLE WITH ITEM 17.

REV STATUS OF SHEETS	REV	E	C	C	C	C	E														
	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE:	CAGE CODE CONTRACT NO.		DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND WASHINGTON, D.C. 20362-5101							
	APPROVED	D. SNODGRASS 4/29/99								
FRACTIONS +/-	DECIMALS .xx+/-	ENGINEER	G. BROWN	4/29/99	TOOL KIT, FIBER OPTIC, NAVY COMBINATION					
ANGLES P	.xxx+/-	CHECKED	L. BARNETT	4/29/99						
DO NOT SCALE DRAWING		PREPARED	D. LEONARD	4/29/99						
MATERIAL:	ACCEPTED FOR NAVSEA	G. BROWN 4/29/99		SIGNATURE DOES NOT DENOTE APPROVAL		SIZE	CAGE	ESWBS	DRAWING NO.	REV
FINISHES:	APPROVED BY NAVSEA					A	53711	499	7085185	E
		(SIGN ONLY IF ENGINEERING HAS BEEN PROVED BY MANUFACTURE AND TEST)		SCALE: NONE		UCI		WT GRP		SHEET 1 of 6

ESWBS 499
 NAVSEA DRAWING NO. 7085185
 SHT 2
 REV C

ITEM NO.	NATIONAL STOCK NUMBER	QTY REQD	① COMBINATION OF ADOPTED ITEMS	RECOMMENDED TOOLS (TL)
NA	NONE	-	NAVY COMBINATION, FIBER OPTIC TOOL KIT, COMPOSED OF:	
1	5120 00 230 6380	1	TORQUE WRENCH, 3/8" DRIVE	TL-0090
2	5120 01 144 5338	1	INSERTION TOOL, FOR MIL-T-29504	TL-0040
3	6080 01 377 4502	1	POLISHING PLATE GLASS 6x6x.25"	TL-0062
4	5120 01 419 2942	1	INSERTION/REMOVAL TOOL, MIL-T-29504 ALIGNMENT SLEEVE	TL-0042
6	5998 01 147 0198	1	REMOVAL TOOL FOR MIL-T-29504	TL-0065
7	5110 01 419 4360	1	CLEAVER, FIBER OPTIC	TL-0014
8	5110 01 419 3137	1	STRIP TOOL, CABLE JACKET	TL-0012
9	5110 01 419 4361	1	STRIP TOOL, BUFFER	TL-0079
10	5110-00-246-0975	1	STRIPPER, OFCC, 16 AWG (1.3mm)	TL-0080
11	6230 01 419 5898	1	FLASHLIGHT	TL-0034
12	5210 00 725 7347	1	SCALE, 6"	TL-0069
13	6635 01 232 9536	1	TWEEZERS	TL-0094
14	6540 01 443 7953	1	SPECTACLES, NYLON UTILITY FLEX HEAD	TL-0071
15	5120 01 145 5172	1	INSERTION TOOL 90 deg. FOR MIL-T-29504	TL-0038

SIZE A	CAGE 53711	ESWBS 499	DRAWING NO. 7085185	REV C
SCALE: NONE UCI		WT GRP	SHEET 2 of 6	

REV C
 SHT 3
 NAVSEA DRAWING NO. 7085185
 ESWBS 499

ITEM NO.	NATIONAL STOCK NUMBER	QTY REQD	① COMBINATION OF ADOPTED ITEMS	RECOMMENDED TOOLS (TL)
16	5110 01 419 5283	1	SHEARS, KEVLAR CUTTING	TL0045
17	5120 01 419 3730	1	CRIMP TOOL WITH DIE SET HAVING .0945 HEX, FOR MIL-T-29504	TL-0017
18	5120 01 419 3142	1	POLISHING TOOL, FOR MIL-T-29504	TL-0064
19	NONE	-	CURING OVEN ASSEMBLY COMPOSED OF:	TL-0028
	4430 01 419 6384	1	CURING OVEN	
	6070 01 420 7682	1	HEATER BLOCK, FOR MIL-T-29504, MIL-C-83522, TIA-604-3 AND FDDI	
	6070 01 420 0522	16	CURE ADAPTERS, FOR MIL-T-29504	
	6070 01 430 4607	1	CABLE STAND	
	5365 01 420 3692	1	CABLE STAND RING	
	5340 01 422 2168	2	CABLE CLIPS	
20	6650 00 994 6883	1	EYE LOUPE 7X FOR VIEWING FIBER	TL-0033
21	7920 01 321 6791	25	CLOTH CLEANING, WHITE	TL-0016
22	5350 01 376 9388	1	POLISHING PAPER, 1 MICRON ALUMINUM OXIDE, MYLAR BACK SHEET, 5.5"x5.5" MIN, 50 PK	TL-0057
23	5350 01 420 1454	1	POLISHING PAPER, 5 MICRON ALUMINUM OXIDE, FOAM BACK SHEET, 5.5"x5.5" MIN, 50 PK	TL-0058
24	8040 01 421 3510	6	EPOXY, BI-PACK, MIL-A-24792	TL-0032
25	NONE	32	ALCOHOL PAD, SEALED	TL-0002
26	5120 01 438 6563	5	SYRINGE WITH TWIST ON DISPENSING NEEDLES, 3mL CAPACITY FOR DISPENSING EPOXY	TL-0082

SIZE A	CAGE 53711	ESWBS 499	DRAWING NO. 7085185	REV C
SCALE: NONE UCI		WT GRP	SHEET 3 of 6	

REV C
SHT 4
NAVSEA DRAWING NO. 7085185
ESWBS 499

ITEM NO.	NATIONAL STOCK NUMBER	QTY REQD	① COMBINATION OF ADOPTED ITEMS	RECOMMENDED TOOLS (TL)
27	NONE 6650 01 420 0232 6650 01 420 0231 6650 01 420 0233 6070 01 421 1234 6240 00 155 7786	- 1 1 1 1 1	MICROSCOPE, 400X COMPOSED OF: MICROSCOPE BODY WITH IR FILTER 20X EYEPIECE 20X OBJECTIVE CONNECTOR MOUNT, 1/16"-1/4" INCANDESCENT LAMP	TL-0049
28	5120 01 355 1622	1	SOCKET, SOCKET WRENCH 1/4" HEX ADAPTER FOR 3/8" DRIVE	TL-0070
29	8125 01 428 8839	1	WATER BOTTLE, 4 oz SQUEEZE WITH CAP	TL-0097
30	6830 01 038 4517	1	CANNED AIR	TL-0013
31	9505 01 376 9398	1	125 UM CONNECTOR CLEANING WIRE (3 EA) WITH CONTAINER	TL-0001
32	NONE	1	TOOLKIT CASE, FIBER OPTIC, NAVY COMBINATION, WITH SHOULDER STRAP, WITH TOOL POUCHES, WITH MINI BOXES, 15" x 22" x 9.5" MAX	TL-0085
33	5120 01 419 3283	1	BACKSHELL WRENCH, C-TYPE	TL-0004
34	5120 01 420 2445	1	DUAL-POST, TORQUE WRENCH ADAPTER, SHELL SIZE 11	TL-0091
35	5120 01 420 2444	1	TRI-POST, TORQUE WRENCH ADAPTER, SHELL SIZE 13	TL-0092
36	5120 01 420 2446	1	TRI-POST, TORQUE WRENCH ADAPTER, SHELL SIZE 15	TL-0093
37	5120 01 424 7866	1	O-RING INSTALLATION TOOL SHELL SIZE 11	TL-0052
38	5120 01 424 7867	1	O-RING INSTALLATION TOOL SHELL SIZE 13	TL-0053
39	5120 01 424 7868	1	O-RING INSTALLATION TOOL SHELL SIZE 15	TL-0054

SIZE A	CAGE 53711	ESWBS 499	DRAWING NO. 7085185	REV C
SCALE: NONE UCI		WT GRP	SHEET 4 of 6	

REV C
SHT 5
NAVSEA DRAWING NO. 7085185
ESWBS 499

ITEM NO.	NATIONAL STOCK NUMBER	QTY REQD	① COMBINATION OF ADOPTED ITEMS	RECOMMENDED TOOLS (TL)
40	NONE	1	O-RING INSTALLATION TOOL SHELL SIZE 23	TL-0055
41	NONE	1	POLISHING PAPER, 0.1 MICRON DIAMOND, MYLAR BACK SHEET, 5.5"x5.5" MIN, 3 SHTS	TL-0060
42	NONE	1	RESILIENT PAD, 70 TO 90 DUROMETER	TL-0067
43	NONE	2	STRAP WRENCH, WITH 3/8" DRIVE ADAPTER	TL-0077
44	NONE	20	MICROCLIP	TL-0047
45	NONE	1	TEMPLATE, CUT LENGTH, MIL-C-83522	TL-0083
46	NONE	1	POLISHING TOOL, MIL-C-83522 AND TIA-604-3	TL-0063
47	NONE	1	CRIMP TOOL WITH DIE SET HAVING .090 AND .105 INDENT RING AND .190 HEX, FOR MIL-C-83522	TL-0018
48	NONE	1	CRIMP TOOL WITH DIE SET HAVING .195, .140, AND .110 CIRCULAR CAVITIES, FOR TIA-604-3	TL-0019
49	NONE	20	CURE ADAPTER, FOR MIL-C-83522	TL-0024
50	NONE	6	CURE ADAPTER, FOR TIA-604-3	TL-0025
51	NONE	1	MIL-C-83522 BOOT RING TOOL	TL-0051
52	NONE	1	MARKING PEN, PERMANENT	TL-0046
53	NONE	1	TEMPLATE, CUT LENGTH, TIA-604-3	TL-0084

SIZE A	CAGE 53711	ESWBS 499	DRAWING NO. 7085185	REV C
SCALE: NONE UCI		WT GRP	SHEET 5 of 6	

REV E
SHT 6
NAVSEA DRAWING NO. 7085185
ESWBS 499

ITEM NO.	NATIONAL STOCK NUMBER	QTY REQD	① COMBINATION OF ADOPTED ITEMS	RECOMMENDED TOOLS (TL)
54	NONE	-	ALTERNATE MICROSCOPE, 400X, COMPOSED OF:	TL-0050
	NONE	1	MICROSCOPE BODY WITH IR FILTER	
	6650 01 420 0231	1	20X EYEPIECE	
	6650 01 420 0233	1	20 OBJECTIVE	
	NONE	1	INCANDESCENT LAMP	
55	NONE	3	POLISHING PAPER, ULTRAFINE, MYLAR BACK SHEET, 5.5"X5.5" MIN	TL-0061
56	3120 01 620 1655	1	POLISHING TOOL, (PUCK), LC CONNECTOR	TL-0121
57	6060 01 620 1658	12	CURE ADAPTERS, LC CONNECTOR (TIA-604-10) 1.25 mm	TL-0117
58	6060 01 643 9207	1	LC 400x SCOPE ADAPTER	TL-0146
59		1	CRIMP TOOL WITH DIE SET HAVING 0.113", -0.120" HEX FOR LC	TL-0116
60	NONE	1	TEMPLATE, CUT LENGTH, TIA-604-10	TL-0154
61	NONE	1	CONNECTOR CLEANING TAPE CASSETTE, REEL CLEANER TYPE	TL-0115
62		2	ADAPTER, MIL-C-83522 (ST TO ST)	TL-0156
63		2	ADAPTER, TIA-604-10 (LC TO LC)	TL-0155

FOR A COMPLETE LIST OF VENDORS APPROVED TO MANUFACTURE AND SELL, PLEASE SEE THE NAVY APPROVED FIBER OPTIC TOOLS LIST ON THE NAVY SHIPBOARD FIBER OPTIC WEBSITE LOCATED AT <http://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/What-We-Do/Navy-Shipboard-Fiberoptics/>, OR EMAIL DLGR_NSWC_foweb@navy.mil. VENDOR PART NUMBERS ARE ALSO LOCATED ON THE WEBSITE.

SIZE A	CAGE 53711	ESWBS 499	DRAWING NO. 7085185	REV E
SCALE: NONE UCI		WT GRP	SHEET 6 of 6	