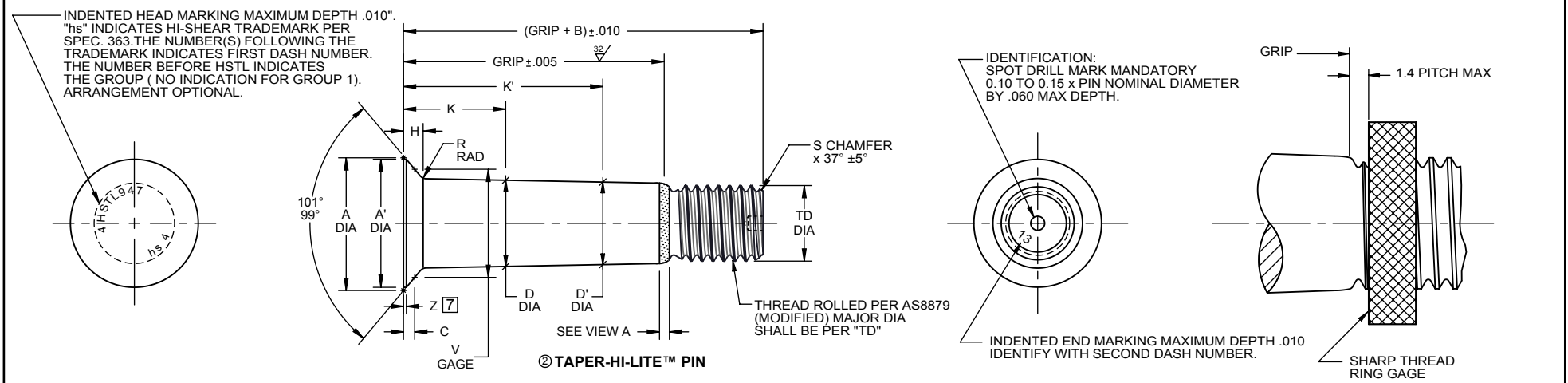
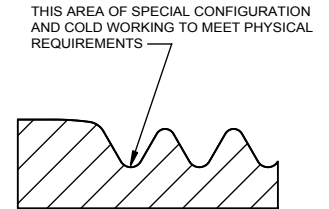




① ⑨ TABLE 1 ⑦

FIRST DASH NO.	PIN NOM DIA	GROUP NO.	A DIA MAX	A' DIA MIN	B (REF)	C		F	H MAX	K +.040 -.000	R RAD +.010 -.000	S MAX	V GAGE +.0002 -.0000	X	Y	Z MAX	THREAD	TD DIA	DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM	TENSION-TENSION FATIGUE LBS. MAX.
						NOM	TOL.														
3	3/16	3	.366	.318	.290	.0330	±.0020	.007	.063	.0885	.020	.027	.2808	.002	.0045	.015	.1900-32 UNJF-3A	.1840 .1810	5380	2800	1000
		4	.377	.328		.0376															
		5	.388	.338		.0421															
4	1/4	3	.476	.426	.320	.0381	±.0023	.008	.079	.1075	.020	.031	.3776	.002	.0045	.015	.2500-28 UNJF-3A	.2440 .2410	9300	5100	1800
		4	.489	.439		.0435															
		5	.502	.452		.0489															
5	5/16	3	.578	.528	.380	.0384	±.0025	.009	.094	.1245	.030	.035	.4788	.002	.0045	.015	.3125-24 UNJF-3A	.3060 .3020	14600	7800	2700
		4	.592	.541		.0440															
		5	.606	.555		.0499															
6	3/8	3	.687	.635	.420	.0456	±.0028	.010	.112	.1415	.030	.035	.5696	.003	.0060	.015	.3750-24 UNJF-3A	.3680 .3640	21000	11700	4100
		4	.702	.649		.0517															
		5	.717	.664		.0580															
7	7/16	3	.808	.737	.485	.0587	±.0030	.011	.133	.1700	.040	.040	.6580	.004	.0060	.022	.4375-20 UNJF-3A	.4310 .4260	28600	15100	5300
		4	.826	.755		.0663															
		5	.844	.772		.0736															
8	1/2	3	.906	.833	.525	.0682	±.0033	.012	.144	.1790	.040	.040	.7324	.004	.0060	.022	.5000-20 UNJF-3A	.4930 .4880	37300	20200	7100
		4	.927	.853		.0768															
		5	.948	.874		.0856															
9	9/16	3	1.040	.962	.600	.0582	±.0035	.014	.162	.2175	.060	.045	.8900	.005	.0060	.024	.5625-18 UNJF-3A	.5550 .5500	47200	25500	8900
		4	1.071	.992		.0710															
		5	1.102	1.022		.0838															
10	5/8	3	1.158	1.073	.640	.0600	±.0038	.014	.181	.2175	.060	.045	1.0026	.005	.0060	.026	.6250-18 UNJF-3A	.6180 .6120	58300	32200	11300
		4	1.192	1.107		.0743															
		5	1.226	1.139		.0882															
12	3/4	3	1.436	1.336	.895	.1012	±.0040	.016	.239	.3050	.070	.045	1.1800	.005	.0060	.030	.7500-16 UNJF-3A	.7430 .7370	83900	46300	16200
		4	1.475	1.374		.1175															
		5	1.514	1.414		.1336															

THREAD FUNCTIONALITY



VIEW A
 HI-LITE™ THREAD TRANSITION AREA
 SEE SPECIFICATION FOR INSPECTION

② "TAPER-HI-LITE", AND "HI-KOTE", ARE TRADEMARKS OF LISI AEROSPACE		② TITLE TAPER-HI-LITE™ PIN 100° FLUSH SHEAR HEAD TAPER SHANK, TITANIUM 1/16 GRIP VARIATION, 2nd OVERSIZE	
DRAWN BY J.F.OBISPO	DATE 2004-04-13	APPROVED M.CAWLEY	DATE 2004-04-28
REVISION ②	DATE F.CARINGELLA 2019-05-30	DRAWING NUMBER HSTL947 1 OF 6	

① ⑨ **TABLE 1 (CONTINUED)** ⑦

FIRST DASH NO.	PIN NOM DIA	GROUP NO.	A DIA MAX	A' DIA MIN	B (REF)	C		F	H MAX	K + .040 - .000	R RAD + .010 - .000	S MAX	V GAGE + .0002 - .0000	X	Y	Z MAX	THREAD	TD DIA	DOUBLE SHEAR POUNDS MINIMUM	TENSION POUNDS MINIMUM	TENSION- FATIGUE LBS. MAX.
						NOM	TOL.														
14	7/8	-	-	-	1.000	-	±.0045	.016	.273	.3205	.070	.050	1.3600	.006	.0080	.034	.8750-14 UNJF-3A	.8680 .8610	107000	61900	21700
		3	1.669	1.558		.1229															
		4	1.716	1.604		.1426															
		5	1.763	1.650		.1625															
16	1	-	-	-	1.160	-	±.0048	.016	.280	.3050	.070	.050	1.5730	.006	.0080	.034	1.0000-12 UNJF-3A	.9930 .9860	140000	73400	25700
		3	1.8242	1.7755		.0995															
		4	1.8763	1.8276		.1212															
		5	1.9284	1.8797		.1432															

②

- GENERAL NOTES:**
- ① Head edge out of roundness shall not exceed F.
 2. Concentricity: Conical surface of head to and taper shank at K to be within X values FIM.
Taper shank at K' and thread pitch diameter to be within Y values FIM.
 3. H is dimensioned from maximum D diameter.
 4. Dimensions are in inches and to be met after finish and prior to application of lubricant.
 5. Surface texture per ASME B46.1.
 6. Top of head to be flat to .0025 max convex. Concave condition not allowed.
 - ⑦ Curved or flat edge manufacturer's option.
 8. Oversize replacement for HSTL945 and HSTL946.
 - ⑨ For -3 grip length the tolerance on "K" and "K' " is -.000/+ .030, and for -4 grip length the tolerance on "K" and "K' " is -.000/+ .035.

MATERIAL: 6Al-4V titanium alloy per AMS4928 or AMS4967.

HEAT TREAT: 160,000 psi tensile minimum and 95,000 psi shear minimum for sizes up to 3/4.
150,000 psi tensile minimum and 90,000 psi shear minimum for sizes up to 7/8 and larger.

FINISH: HSTL947BM()-() = HI-KOTE™ 1 NC aluminum coating per Hi-Shear Spec. 294, with color white on the thread end, and cetyl alcohol lube per Hi-Shear Spec. 305.

SPECIFICATION: HI-LITE™ Product Specification 414. ②

CODE: First dash number indicates nominal diameter in 1/16ths.
Second dash number indicates maximum grip in 1/16ths.
See Finish note for explanation of code letters.

**HOW TO ORDER
EXAMPLE:**

Pin Part Number
 HSTL947BM4-13

└─ 13/16 Maximum Grip Length
 └─ 1/4 Nominal Diameter Pin
 └─ Finish Code
 └─ Pin Basic Part Number

HSTL947

DRAWING NUMBER

HSTL947

2 OF 6

DRAWING NUMBER
HSTL947
 3 OF 6
 ©2019 Hi-Shear Corporation

TABLE 2 (CONTINUED)

SECOND DASH NO.	1/2"				9/16"												
	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.				
5	.5609	.2550	.5593	3	.6542	-	-	3	-	.7167	-	-	5				
6		.3175	.5580			.3175	.6521		65		4.0050	.6378					
7		.3800	.5567			.3800	.6508		66		4.0675	.6365					
8		.4425	.5554			.4425	.6495		67		4.1300	.6352					
9		.5050	.5541			.5050	.6482		68		4.1925	.6339					
10		.5675	.5528			.5675	.6469		69		4.2550	.6326					
11		.6300	.5515			.6300	.6456		70		4.3175	.6313					
12		.6925	.5502			.6925	.6443		71		4.3800	.6300					
13		.7550	.5485			.7550	.6430		72	4.4425	.6287						
14		.8175	.5476			.8175	.6417										
15		.8800	.5463			.8800	.6404										
16		.9425	.5450			.9425	.6391										
17		1.0050	.5645			1.0050	.6378										
18		1.0675	.5632			1.0675	.6365										
19		1.1300	.5619			1.1300	.6352										
20		1.1925	.5606			1.1925	.6339										
21	1.2550	.5593	1.2550	.6326													
22	1.3175	.5580	1.3175	.6313													
23	1.3800	.5567	1.3800	.6300													
24	1.4425	.5554	1.4425	.6287													
25	.5817	1.5050	.5541	4		1.5050	.6586	4									
26		1.5675	.5528			1.5675	.6573										
27		1.6300	.5515			1.6300	.6560										
28		1.6925	.5502			1.6925	.6547										
29		1.7550	.5485			1.7550	.6534										
30		1.8175	.5476			1.8175	.6521										
31		1.8800	.5463			1.8800	.6508										
32		1.9425	.5450			1.9425	.6495										
33		2.0050	.5645			2.0050	.6482										
34		2.0675	.5632			2.0675	.6469										
35		2.1300	.5619			2.1300	.6456										
36		2.1925	.5606			2.1925	.6443										
37		2.2550	.5593			2.2550	.6430										
38		2.3175	.5580			2.3175	.6417										
39		2.3800	.5567			2.3800	.6404										
40		.6025	2.4425			.5554	5		.6854	2.4425	.6391	5					
41	2.5050		.5541	2.5050	.6378												
42	2.5675		.5528	2.5675	.6365												
43	2.6300		.5515	2.6300	.6352												
44	2.6925		.5502	2.6925	.6339												
45	2.7550		.5485	2.7550	.6326												
46	2.8175		.5476	2.8175	.6313												
47	2.8800		.5463	2.8800	.6300												
48	2.9425		.5450	2.9425	.6287												
49	3.0050		.5645	3.0050	.6586												
50	3.0675		.5632	3.0675	.6573												
51	3.1300		.5619	3.1300	.6560												
52	3.1925		.5606	3.1925	.6547												
53	3.2550		.5593	3.2550	.6534												
54	3.3175		.5580	3.3175	.6521												
55	3.3800		.5567	3.3800	.6508												
56	.6234	3.4425	.5554	6	.7167	3.4425	.6495	6									
57		3.5050	.5541			3.5050	.6482										
58		3.5675	.5528			3.5675	.6469										
59		3.6300	.5515			3.6300	.6456										
60		3.6925	.5502			3.6925	.6443										
61		3.7550	.5485			3.7550	.6430										
62		3.8175	.5476			3.8175	.6417										
63		3.8800	.5463			3.8800	.6404										
64		3.9425	.5450			3.9425	.6391										

		5/8"											
SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.				
5	.7252	-	-	3	-	.7929	-	-	5				
6		-	-		-		-						
7		.3800	.7217		53		3.2550	.7295					
8		.4425	.7204		54		3.3175	.7282					
9		.5050	.7191		55		3.3800	.7269					
10		.5675	.7178		56		3.4425	.7256					
11		.6300	.7165		57		3.5050	.7243					
12		.6925	.7152		58		3.5675	.7230					
13		.7550	.7139		59		3.6300	.7217					
14		.8175	.7126		60		3.6925	.7204					
15		.8800	.7113		61		3.7550	.7191					
16		.9425	.7100		62		3.8175	.7178					
17		1.0050	.7087		63		3.8800	.7165					
18		1.0675	.7074		64		3.9425	.7152					
19		1.1300	.7061		65		4.0050	.7139					
20		1.1925	.7048		66		4.0675	.7126					
21		1.2550	.7035		67		4.1300	.7113					
22		1.3175	.7022		68		4.1925	.7100					
23		1.3800	.7009		69		4.2550	.7087					
24		1.4425	.6996		70		4.3175	.7074					
25		1.5050	.6983		71		4.3800	.7061					
26		1.5675	.6970		72		4.4425	.7048					
27		.7591	1.6300		.7295		4	73			4.5050	.7035	
28			1.6925		.7282			74			4.5675	.7022	
29			1.7550		.7269			75			4.6300	.7009	
30			1.8175		.7256			76			4.6925	.6996	
31	1.8800		.7243	77	4.7550	.6983							
32	1.9425		.7230	78	4.8175	.6970							
33	2.0050		.7217										
34	2.0675		.7204										
35	2.1300		.7191										
36	2.1925		.7178										
37	2.2550		.7165										
38	2.3175		.7152										
39	2.3800		.7139										
40	2.4425		.7126										
41	2.5050		.7113										
42	2.5675		.7100										
43	2.6300		.7087										
44	2.6925		.7074										
45	2.7550		.7061										
46	2.8175		.7048										
47	2.8800		.7035										
48	2.9425		.7022										
49	3.0050		.7009										
50	3.0675		.6996										
51	3.1300		.6983										
52	3.1925		.6970										

HSTL947

DRAWING NUMBER

HSTL947

4 OF 6

TABLE 2 (CONTINUED)

3/4"																
SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.							
5	.8657	-	-	3	-	.9438	-	-	5							
6		-	-		-		-									
7		-	-		-		-									
8		.4425	.8628		65		4.0050	.8667								
9		.5050	.8615		66		4.0675	.8654								
10		.5675	.8602		67		4.1300	.8641								
11		.6300	.8589		68		4.1925	.8628								
12		.6925	.8576		69		4.2550	.8615								
13		.7550	.8563		70		4.3175	.8602								
14		.8175	.8550		71		4.3800	.8589								
15		.8800	.8537		72		4.4425	.8576								
16		.9425	.8524		73		4.5050	.8563								
17		1.0050	.8511		74		4.5675	.8550								
18		1.0675	.8498		75		4.6300	.8537								
19		1.1300	.8485		76		4.6925	.8524								
20		1.1925	.8472		77		4.7550	.8511								
21		1.2550	.8459		78		4.8175	.8498								
22		1.3175	.8446		79		4.8800	.8485								
23		1.3800	.8433		80		4.9425	.8472								
24		1.4425	.8420		81		5.0050	.8459								
25		1.5050	.8407		82		5.0675	.8446								
26		1.5675	.8394		83		5.1300	.8433								
27		1.6300	.8381		84		5.1925	.8420								
28		1.6925	.8368		85		5.2550	.8407								
29		1.7550	.8355		86		5.3175	.8394								
30		1.8175	.8342		87		5.3800	.8381								
31		.9048	1.8800		.8719		88	5.4425		.8368						
32	1.9425		.8706	89	5.5050	.8355										
33	2.0050		.8693	90	5.5675	.8342										
34	2.0675		.8680													
35	2.1300		.8667													
36	2.1925		.8654													
37	2.2550		.8641													
38	2.3175		.8628													
39	2.3800		.8615													
40	2.4425		.8602													
41	2.5050		.8589													
42	2.5675		.8576													
43	2.6300		.8563													
44	2.6925		.8550													
45	2.7550		.8537							4						
46	2.8175		.8524													
47	2.8800		.8511													
48	2.9425		.8498													
49	3.0050		.8485													
50	3.0675		.8472													
51	3.1300		.8459													
52	3.1925		.8446													
53	3.2550		.8433													
54	3.3175		.8420													
55	3.3800		.8407													
56	3.4425		.8394													
57	3.5050		.8381													
58	3.5675		.8368													
59	3.6300		.8355													
60	3.6925		.8342													
61	3.7550		.8719													
62	3.8175		.8706													
63	.9438		3.8800							.8693	5					
64			3.9425							.8680						

7/8"									
SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROU NO.
5	.9684	-	-	2	-	-	-	-	3
6		-	-		65	1.0153	4.0050	.9385	
7		-	-		66	4.0675	.9372		
8		-	-		67	4.1300	.9359		
9		.5050	.9646		68	4.1925	.9346		
10		.5675	.9633		69	4.2550	.9333		
11		.6300	.9620		70	4.3175	.9320		
12		.6925	.9606		71	4.3800	.9307		
13		.7550	.9593		72	4.4425	.9294	4	
14		.8175	.9580		73	4.5050	.9750		
15		.8800	.9567		74	4.5675	.9737		
16		.9425	.9554		75	4.6300	.9724		
17		1.0050	.9541		76	4.6925	.9711		
18		1.0675	.9528		77	4.7550	.9698		
19		1.1300	.9515		78	4.8175	.9685		
20		1.1925	.9502		79	4.8800	.9672		
21		1.2550	.9489		80	4.9425	.9659		
22		1.3175	.9476		81	5.0050	.9646		
23		1.3800	.9463		82	5.0675	.9633		
24		1.4425	.9450		83	5.1300	.9620		
25		1.5050	.9437		84	5.1925	.9606		
26		1.5675	.9424		85	5.2550	.9593		
27		1.6300	.9411		86	5.3175	.9580		
28		1.6925	.9398		87	5.3800	.9567		
29		1.7550	.9385		88	5.4425	.9554		
30		1.8175	.9372		89	5.5050	.9541		
31		1.8800	.9359		90	5.5675	.9528		
32	1.9425	.9346	91	5.6300	.9515				
33	2.0050	.9333	92	5.6925	.9502				
34	2.0675	.9320	93	5.7550	.9489				
35	2.1300	.9307	94	5.8175	.9476				
36	2.1925	.9294	95	5.8800	.9463				
37	2.2550	.9750	96	5.9425	.9450				
38	2.3175	.9737	97	6.0050	.9437				
39	2.3800	.9724	98	6.0675	.9424				
40	2.4425	.9711	99	6.1300	.9411				
41	2.5050	.9698	100	6.1925	.9398				
42	2.5675	.9685	101	6.2550	.9385				
43	2.6300	.9672	102	6.3175	.9372				
44	2.6925	.9659	103	6.3800	.9359				
45	2.7550	.9646	104	6.4425	.9346				
46	2.8175	.9633	105	6.5050	.9333				
47	2.8800	.9620	106	6.5675	.9320				
48	2.9425	.9606	107	6.6300	.9307				
49	3.0050	.9593	108	6.6925	.9294				
50	3.0675	.9580							
51	3.1300	.9567							
52	3.1925	.9554							
53	3.2550	.9541							
54	3.3175	.9528							
55	3.3800	.9515							
56	3.4425	.9502							
57	3.5050	.9489							
58	3.5675	.9476							
59	3.6300	.9463							
60	3.6925	.9450							
61	3.7550	.9437							
62	3.8175	.9424							
63	3.8800	.9411							
64	3.9425	.9398							

HSTL947

DRAWING NUMBER

HSTL947

5 OF 6

TABLE 2 (CONTINUED)

1"									
SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.	SECOND DASH NO.	D DIA	K' +.040 -.000	D' DIA	GROUP NO.
5	-	-	-	3	-	-	-	-	4
6	-	-	-		65	4.0050	1.1322	-	
7	-	-	-		66	4.0675	1.1309	-	
8	-	-	-		67	4.1300	1.1296	-	
9	-	-	-		68	4.1925	1.1283	-	
10	.5675	1.1518	-		69	4.2550	1.1270	-	
11	.6300	1.1505	-		70	4.3175	1.1257	-	
12	.6925	1.1492	-		71	4.3800	1.1244	-	
13	.7550	1.1479	-		72	4.4425	1.1231	-	
14	.8175	1.1466	-		73	4.5050	1.1218	-	
15	.8800	1.1453	-		74	4.5675	1.1205	-	
16	.9425	1.1439	-		75	4.6300	1.1192	-	
17	1.0050	1.1426	-		76	4.6925	1.1179	-	
18	1.0675	1.1413	-		77	4.7550	1.1166	-	
19	1.1300	1.1400	-		78	4.8175	1.1153	-	
20	1.1925	1.1387	-		79	4.8800	1.1140	-	
21	1.2550	1.1374	-		80	4.9425	1.1127	-	
22	1.3175	1.1361	-		81	5.0050	1.1635	-	5
23	1.3800	1.1348	-		82	5.0675	1.1622	-	
24	1.4425	1.1335	-		83	5.1300	1.1609	-	
25	1.5050	1.1322	-		84	5.1925	1.1596	-	
26	1.5675	1.1309	-		85	5.2550	1.1583	-	
27	1.6300	1.1296	-		86	5.3175	1.1570	-	
28	1.6925	1.1283	-		87	5.3800	1.1557	-	
29	1.7550	1.1270	-		88	5.4425	1.1544	-	
30	1.8175	1.1257	-		89	5.5050	1.1531	-	
31	1.8800	1.1244	-		90	5.5675	1.1518	-	
32	1.9425	1.1231	-		91	5.6300	1.1505	-	
33	2.0050	1.1218	-		92	5.6925	1.1492	-	
34	2.0675	1.1205	-		93	5.7550	1.1479	-	
35	2.1300	1.1192	-		94	5.8175	1.1466	-	
36	2.1925	1.1179	-		95	5.8800	1.1453	-	
37	2.2550	1.1166	-		96	5.9425	1.1439	-	
38	2.3175	1.1153	-		97	6.0050	1.1426	-	
39	2.3800	1.1140	-		98	6.0675	1.1413	-	
40	2.4425	1.1127	-		99	6.1300	1.1400	-	
41	2.5050	1.1635	-	4	100	6.1925	1.1387	-	
42	2.5675	1.1622	-		101	6.2550	1.1374	-	
43	2.6300	1.1609	-		102	6.3175	1.1361	-	
44	2.6925	1.1596	-		103	6.3800	1.1348	-	
45	2.7550	1.1583	-		104	6.4425	1.1335	-	
46	2.8175	1.1570	-		105	6.5050	1.1322	-	
47	2.8800	1.1557	-		106	6.5675	1.1309	-	
48	2.9425	1.1544	-		107	6.6300	1.1296	-	
49	3.0050	1.1531	-		108	6.6925	1.1283	-	
50	3.0675	1.1518	-		109	6.7550	1.1270	-	
51	3.1300	1.1505	-		110	6.8175	1.1257	-	
52	3.1925	1.1492	-		111	6.8800	1.1244	-	
53	3.2550	1.1479	-		112	6.9425	1.1231	-	
54	3.3175	1.1466	-		113	7.0050	1.1218	-	
55	3.3800	1.1453	-		114	7.0675	1.1205	-	
56	3.4425	1.1439	-		115	7.1300	1.1192	-	
57	3.5050	1.1426	-		116	7.1925	1.1179	-	
58	3.5675	1.1413	-		117	7.2550	1.1166	-	
59	3.6300	1.1400	-		118	7.3175	1.1153	-	
60	3.6925	1.1387	-		119	7.3800	1.1140	-	
61	3.7550	1.1374	-		120	7.4425	1.1127	-	
62	3.8175	1.1361	-		-	-	-	-	
63	3.8800	1.1348	-		-	-	-	-	
64	3.9425	1.1335	-		-	-	-	-	

DRAWING NUMBER

HSTL947

6 OF 6