



METRIC CONVERSION: 1 inch=25.4mm, 1 foot=304.8mm			
No.	Date	Revision	By
1	18/07/27	ADDED IMPERIAL TO METRIC CONVERSION NOTE	
Standard			
No. 20 EQUILATERAL TURNOUT-136 LB. RAIL			
63 3/4" POWER OPERATED-SAMSON POINT SWITCH			
UNIFORM RISER DESIGN-ALL WELDED			
W.H.M. FROG-WOOD TIES			
Drawn	Checked	Approved	
RL	JR		
Date	SEPT 15/2017	Plan Number	GTS-0277
Rev			1
REFERENCE:	TS-0277_R2	Sheet	1 OF 1

BILL OF MATERIALS FOR GTS-0277

ITEM	DESCRIPTION	STANDARD DRAWING	MARK NO.	QUANTITY	
				A	B
SWITCH PACK					
1	1st GAUGE PLATE C/W INSULATION PLATE 136	GTS-0523	GP100/GP100	1	1
2	2nd GAUGE PLATE ASSEMBLY	GTS-0523	GP161/GP101	1	-
	2nd GAUGE PLATE C/W INSULATION PLATE 100/132	GTS-0522	GP141/GP143	-	1
3	3rd GAUGE PLATE ASSEMBLY	GTS-0523	GP162/GP101	1	-
	3rd GAUGE PLATE C/W INSULATION PLATE 100/132	GTS-0522	GP142/GP144	-	1
4	MILD STEEL STRAP	GTS-0356C	356C	2	2
5	SWITCH ROD	GTS-0344G	344G	1	1
6	SWITCH ROD	GTS-0344C	344C	6	6
7	SWITCH ROD	GTS-0344D	344D	1	1
8	RIGHT SAMSON CURVED POINT RAIL	GTS-0371A	371A	1	1
9	LEFT SAMSON CURVED POINT RAIL	GTS-0371B	371B	1	1
10	SWITCH PLATE	GTS-0508	SP315	26	26
11	SWITCH PLATE	GTS-0530	SP363	30	30
12	SWITCH PLATE	GTS-0530	SP198	4	4
13	SWITCH PLATE (RIGHT HAND)	GTS-0639	SP659R	1	1
14	SWITCH PLATE (LEFT HAND)	GTS-0639	SP659L	1	1
15	SWITCH PLATE (RIGHT HAND)	GTS-0639	SP659R	1	1
16	SWITCH PLATE (LEFT HAND)	GTS-0639	SP659L	1	1
17	SWITCH PLATE (RIGHT HAND)	GTS-0639	SP660R	1	1
18	SWITCH PLATE (LEFT HAND)	GTS-0639	SP660L	1	1
19	SWITCH PLATE (RIGHT HAND)	GTS-0640	SP661R	1	1
20	SWITCH PLATE (LEFT HAND)	GTS-0640	SP661L	1	1
21	SWITCH PLATE (RIGHT HAND)	GTS-0640	SP662R	1	1
22	SWITCH PLATE (LEFT HAND)	GTS-0640	SP662L	1	1
23	SWITCH PLATE (RIGHT HAND)	GTS-0640	SP663R	1	1
24	SWITCH PLATE (LEFT HAND)	GTS-0640	SP663L	1	1
25	SWITCH PLATE (RIGHT HAND)	GTS-0640	SP664R	1	1
26	SWITCH PLATE (LEFT HAND)	GTS-0640	SP664L	1	1
27	SWITCH PLATE	GTS-0641	SP665	1	1
28	SWITCH PLATE	GTS-0641	SP666	1	1
29	SWITCH PLATE	GTS-0641	SP667	1	1
30	SWITCH PLATE	GTS-0642	SP668	1	1
31	SWITCH PLATE	GTS-0642	SP669	1	1
32	SWITCH PLATE	GTS-0642	SP670	1	1
33	SWITCH PLATE	GTS-0642	SP671	1	1
34	SWITCH PLATE	GTS-0642	SP672	1	1
35	SWITCH PLATE	GTS-0643	SP673	1	1
36	SWITCH PLATE	GTS-0643	SP674	1	1
37	SWITCH PLATE	GTS-0643	SP675	1	1
38	SWITCH PLATE	GTS-0644	SP676	1	1
39	SWITCH PLATE	GTS-0644	SP677	1	1
40	SWITCH PLATE	GTS-0644	SP678	1	1
41	SWITCH PLATE	GTS-0644	SP679	1	1
42	SWITCH PLATE	GTS-0644	SP680	1	1
43	SWITCH PLATE	GTS-0609	SP380	108	108
44	SWITCH PLATE (FOR INSULATED JOINTS)	GTS-0609	SP381	4	4
45	RAIL PAD - DUAL DURROMETER DOUBLE DIMPLE (4D)	GTS-0519	-	4	4
46	INSULATOR PANDROL - TYPE 2204 (FOR INSULATED RAIL JOINTS)	GTS-1206	-	8	8
47	PANDROL CLIP - 6203 (FOR INSULATED JOINTS)	GTS-1322	-	8	8
48	HEEL BLOCK - SYMMETRICAL	GTS-0383	CN383	2	2
49	1 - 1/8" DIA. - 7 UNC SQ. HD. BOLT X 4-1/2" LG. C/W SQ. NUT	GTS-1309/31	-	4	4
50	SPRING WASHER for 1 - 1/8" DIA. BOLT	GTS-1301	-	4	4
51	LOCKNUT FOR 1 - 1/8" DIA. - 7 UNC BOLT	GTS-1302	-	4	4
52	HEADWASHER FOR 1-3/16" DIA. BOLT (NOT BEVELLED)	GTS-0837Q	837Q	4	4
53	ADJUSTABLE RAIL BRACE	GTS-0354	132M-14	32	32
54	7/8" DIA. 9 UNC SQ. HD. BOLT X 3-3/4" LG.	GTS-1308/5	-	64	64
55	SPRING WASHER for 7/8" DIA. BOLT	GTS-1301	-	64	64
56	DOUBLE WASHER	GTS-0354	M-10	32	32
57	DOUBLE NUT	GTS-0354	M-9	32	32
58	HOLD DOWN CLIP	GTS-1334	FS156	20	20
59	1" DIA. - 8 UNC SQ. HEAD SW. NECK CARRIAGE BOLT X 3-1/2" LG.	GTS-1307/1	-	20	20
60	SPRING WASHER for 1" DIA. BOLT	GTS-1301	-	20	20
61	LOCKNUT FOR 1 - 1/8" DIA. - 8 UNC BOLT	GTS-1302	-	20	20
62	PANDROL CLIP - PR 631A	GTS-1322	-	420	420
63	TIE SCREW - Ss5	GTS-1315	-	900	900
	DOUBLE SPRING WASHER - TYPE FE6	GTS-1310	-	900	900
64	BENT UNDERCUT STOCK RAIL - R/H - 136 LB. R.E. 78" - 0" LG.	GTS-1109X	1109X	1	1
	BENT UNDERCUT STOCK RAIL - L/H - 136 LB. R.E. 78" - 0" LG.	GTS-1109Y	1109Y	1	1
FROG					
65	#20-136 LB. RAIL BOUND MANGANESE STEEL FROG	D-11922 NOR		1	1
FROG PACK					
66	FROG PLATE	GTS-0559	FP607	1	1
67	FROG PLATE	GTS-0559	FP608	1	1
68	FROG PLATE	GTS-0559	FP609	1	1
69	FROG PLATE	GTS-0559	FP610	1	1
70	FROG PLATE	GTS-0558	FP611	1	1
71	FROG PLATE	GTS-0558	FP612	1	1
72	FROG PLATE	GTS-0557	FP613	1	1
73	FROG PLATE	GTS-0557	FP614	1	1
74	FROG PLATE	GTS-0602	FP606	1	1
75	FROG BASE PLATE	GTS-0646	FP471	1	1
76	FROG PLATE	GTS-0605	FP506	1	1
77	FROG PLATE	GTS-0601	FP507	1	1
78	FROG BASE PLATE	GTS-0647	FP475	1	1
79	FROG PLATE	GTS-0601	FP508	1	1
80	1" DIA. - 8 UNC SQ. HEAD SW. NECK CARRIAGE BOLT X 3-1/2" LG. C/W SQ. NUT	GTS-1307/1	-	16	16
81	SPRING WASHER for 1" DIA. BOLT	GTS-1301	-	16	16
82	PLATE WASHER for 1" DIA. BOLT	GTS-1337	-	16	16
83	INSULATION PLATE	GTS-0526	136	4	4
84	FROG PLATE	GTS-0555	FP462	1	1
85	FROG PLATE	GTS-0648	FP463	1	1
86	FROG BASE PLATE	GTS-0649	FP472	1	1
87	FROG BASE PLATE	GTS-0645	FP473	1	1
88	FROG PLATE	GTS-0555	FP615	1	1
89	FROG PLATE	GTS-0555	FP467	1	1
90	FROG PLATE	GTS-0557	FP468	1	1
91	FROG PLATE	GTS-0557	FP487	1	1
92	FROG PLATE	GTS-0558	FP488	1	1
93	FROG PLATE	GTS-0558	FP489	1	1
94	FROG PLATE	GTS-0559	FP490	1	1
95	FROG PLATE	GTS-0559	FP491	1	1
96	FROG PLATE	GTS-0559	FP492	1	1
97	FROG PLATE	GTS-0559	FP493	1	1
98	SWITCH PLATE	GTS-0609	SP380	32	32
99	PANDROL CLIP - PR 631A	GTS-1322	-	145	145
100	TIE SCREW - TYPE Ss5	GTS-1315	-	320	320
	DOUBLE SPRING WASHER - TYPE FE6	GTS-1310	-	320	320
GUARD RAIL PACK					
101	GUARD RAIL ASSEMBLY (RIGHT SIDE FOR RIGHT HAND TURNOUT)	GTS-1116G	1116G	1	1
102	GUARD RAIL ASSEMBLY (RIGHT SIDE FOR LEFT HAND TURNOUT)	GTS-1117H	1117H	1	1
103	GUARD RAIL PLATE	GTS-0548	FP420	1	1
104	GUARD RAIL PLATE	GTS-0548	FP421	16	16
105	GUARD RAIL PLATE	GTS-0549	FP422	18	18
106	SWITCH PLATE	GTS-0609	SP380	70	70
107	ADJUSTABLE RAIL BRACE	GTS-0354	132M-14	22	22
108	7/8" DIA. 9 UNC SQ. HD. BOLT X 4-3/4" LG.	GTS-1308/9	-	44	44
109	SPRING WASHER for 7/8" DIA. BOLT	GTS-1301	-	44	44
110	DOUBLE WASHER	GTS-0354	M-10	22	22
111	DOUBLE NUT	GTS-0354	M-9	22	22
112	1" DIA. - 8 UNC SQ. HEAD SW. NECK CARRIAGE BOLT X 5" LG.	GTS-1307/3	-	4	4
113	SPRING WASHER for 1" DIA. BOLT	GTS-1301	-	4	4
114	LOCKNUT FOR 1 - 1/8" DIA. - 8 UNC BOLT	GTS-1302	-	4	4
115	PANDROL CLIP - PR 631A	GTS-1322	-	195	195
116	TIE SCREW - Ss5	GTS-1315	-	424	424
	DOUBLE SPRING WASHER - TYPE FE6	GTS-1310	-	424	424
**CRANK ASSIST MECHANISM SHOWN IS REQUIRED ON THIS T/O AND MUST BE ORDERED THROUGH THE SIGNAL & COMMUNICATION FUNCTION **					

TURNOUT NUMBER	TURNOUT PACKAGES DESCRIPTION	QUANTITY PER TURNOUT			
GTS- 277A	FROC RBM 20 - 136	1			
GTS- 277E	SW-PK INS 63'-3" SAM PO NO. 20E - 136 LBS.	1			
	GR-PK VANGUARD 136	1			
	FR-PK RBM 20 - 136	1			
GTS- 277F	FROC RBM 20 - 136	1			
	SW-PK INS 63'-3" SAM PO NO. 20F - 136 LBS.	1			
	GR-PK VANGUARD 136	1			
	FR-PK RBM 20 - 136	1			
ABBREAVATIONS					
SW - PK - SWITCH PAK		SAM - SAMSON		SGM - SELF GUARD MANGANESE	
FR - PK - FROC PAK		HO - HAND OPERATED		RBM - RAIL BOUND MANGANESE	
GR - PK - GUARD RAIL PAK		SO - SPRING OPERATED			
INS - INSULATED		PO - POWER OPERATED			
NOTE:					
1 - For a new installation, necessary rail, bonded insulated joints, splice bars, bolts, washers, rail anchors, connecting rod, switch stand, target and reflectorized target kit may be required in addition to the materials listed above					
BILL OF SWITCH TIES FOR HAND AND SPRING OPERATION					
TIES 180 X 230 mm (7" X 9")					
LENGTH			LENGTH		
METRES	FEET/INCHES	NO. OF PIECES	METRES	FEET/IN	NO. OF PIECES
2.8	9' - 0"	29	2.8	9' - 0"	29
3.1	10' - 0"	25	3.1	10' - 0"	25
3.4	11' - 0"	20	3.4	11' - 0"	20
3.7	12' - 0"	13	3.7	12' - 0"	13
4.0	13' - 0"	12	4.0	13' - 0"	12
4.3	14' - 0"	12	4.3	14' - 0"	14
4.6	15' - 0"	12	4.6	15' - 0"	12
4.9	16' - 0"	13	4.9	16' - 0"	13
5.5	18' - 0"	2			
TOTAL NUMBER OF TIES - 138			TOTAL NUMBER OF TIES - 138		