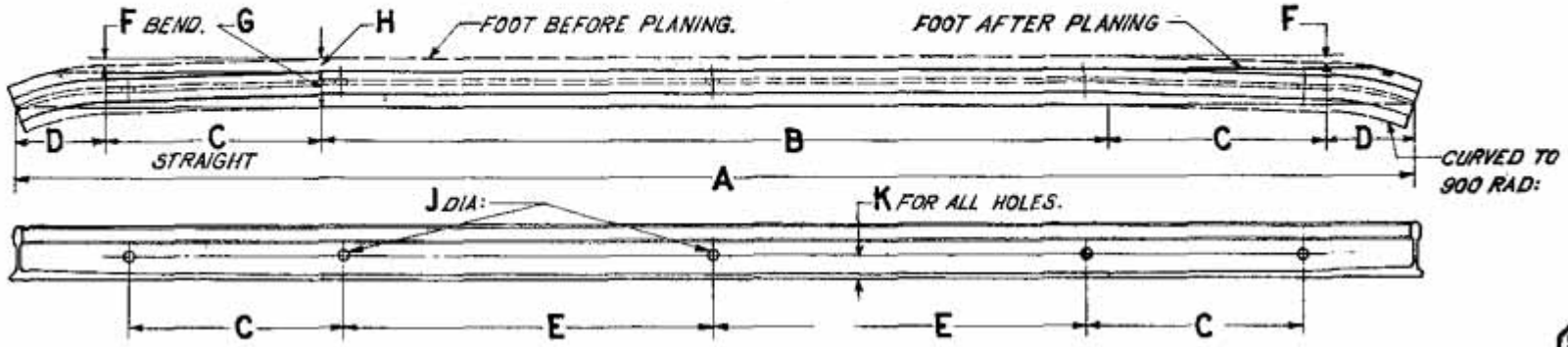
TYPICAL CHECK RAIL

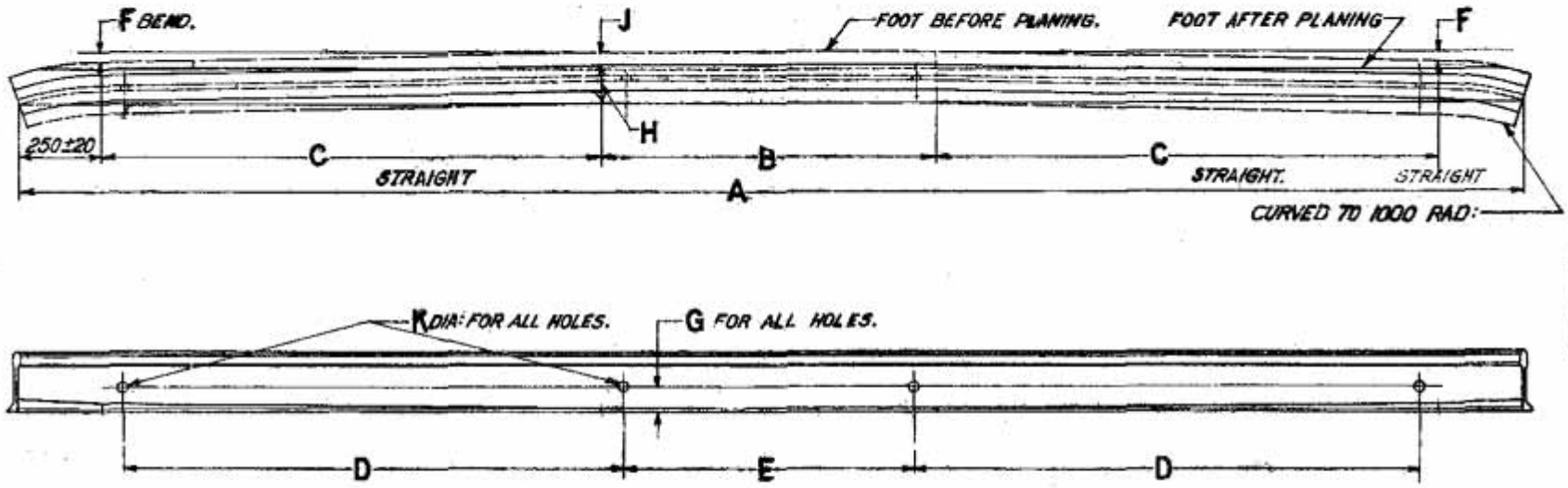


TSC. 47 SHEET 2 OF 3

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)									
			A	B	C	D	E	F	G	H	J	K
52 Kg	B.G.	T4776(M)	3965±40	2235	610	255±20	1055	20	101·5	34·5	28	67
90 R.	B.G.	T4777(M)	3965±40	2235	610	255±20	1055	20	101·6	34·9	28	60
90 R.	M.G.	T19042	3935±40	2255	610	230±20	1065	16	98·5	38	28	60
90 R.	M.G.	T19052	4700±40	2000	1120	230±20	935	16	98·5	38	28	60
75 R.	M.G.	T19003	3935±50	2255	610	230±25	1065	16	93·7	28·5	28	54
60 R.	M.G.	T19004	3935±50	2255	610	230±25	1065	16	89	20·5	25	47·5
60 R.	N.G.	T19008	3935±50	2255	610	230±25	1065	16	84	25·5	25	47·5

TYPICAL CHECK RAIL

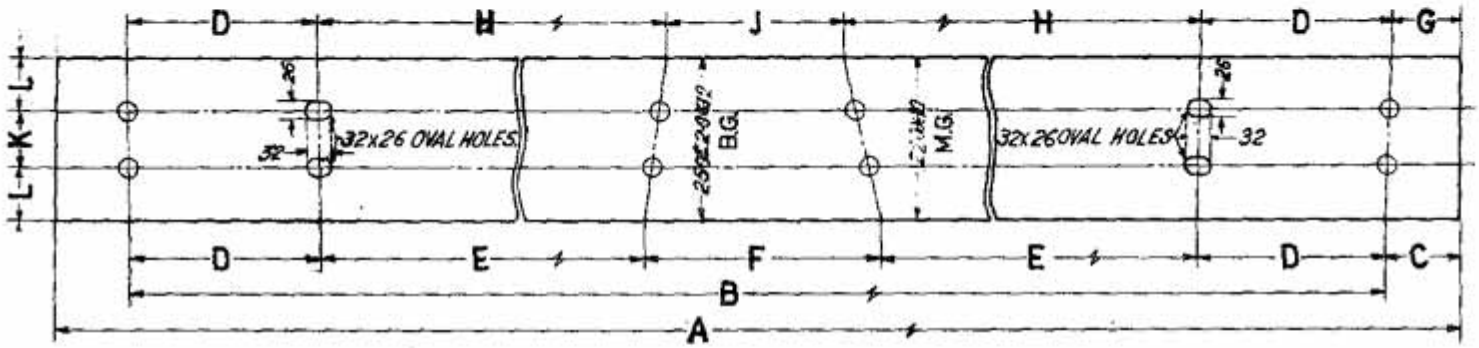


TSC 47
SHEET 30F3

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm mm)									
			A	B	C	D	E	F	G	H	J	K
UIC 60Kg.	B.G.(1676)	RDSO/T-3012	4000 ± 40	1100	1200	1200	975	20	76·25	107	48	28
UIC 60Kg.	B.G.(1673)	RDSO/T-2582	4500 ± 40	1000	1500	1500	875	22	76·25	104	46	28

TYPICAL CROSSING TIE PLATES

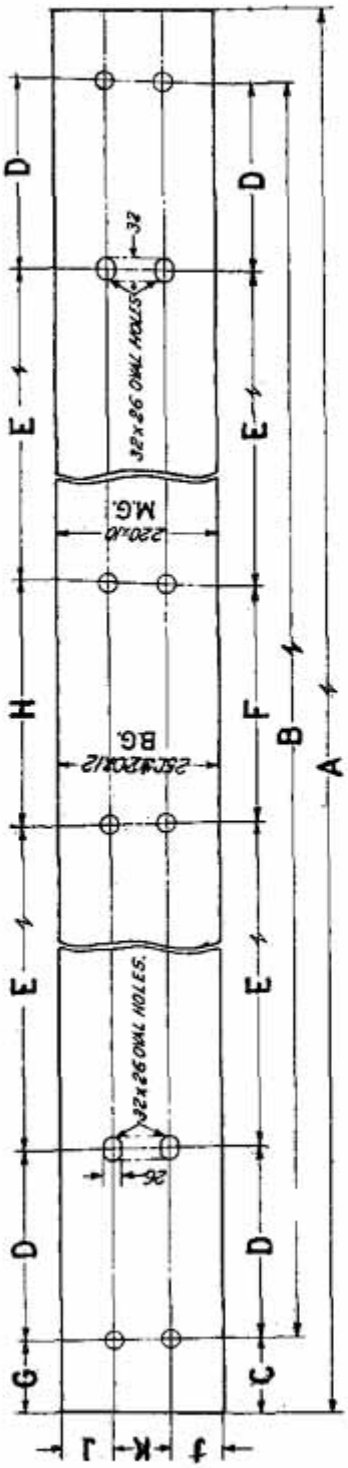


TSC 48
SHEET 1 OF 5

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	PART NUMBER	FOR CROSSING	GAUGE	DIMENSIONS (mm)										
				A	B	C	D	E	F	G	H	J	K	L
UIC 60Kg	RDSO/T-3025	1 IN 8½	B.G.	3605	3480	62·5	287	1267·5	371	48	1297	341	150	50
UIC·60Kg	RDSO/T-2598	1 IN 12	B.G.(1673)	3640±20	3520	58·5	284	1316	320	48	1336·5	300·5	150	50

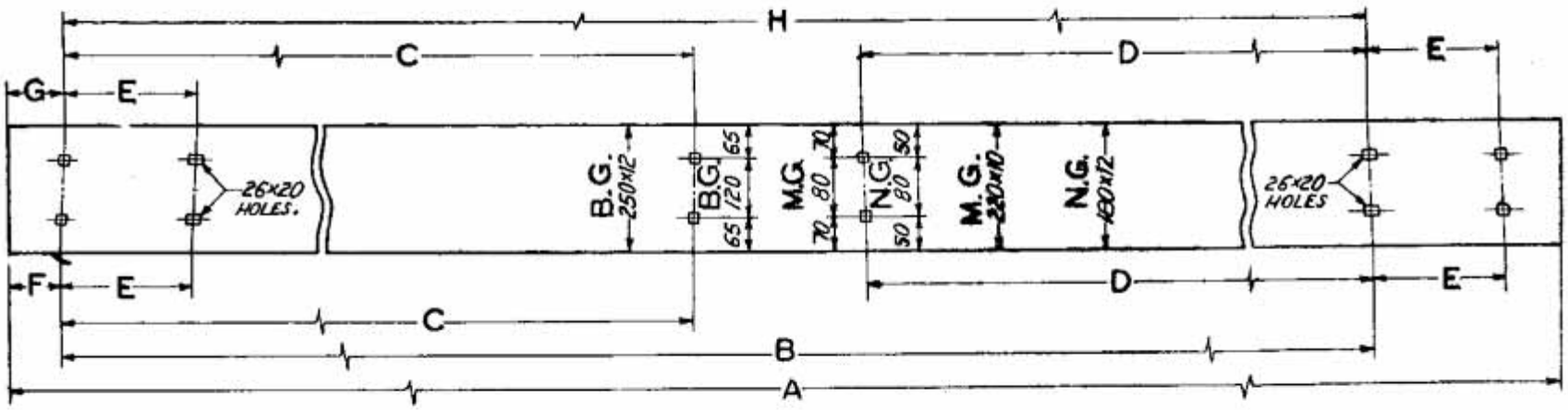
TYPICAL CROSSING TIE PLATES



PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	PART NUMBER	FOR CROSSING	GAUGE	DIMENSIONS (mm)									
				A	B	C	D	E	F	G	H	J	K
UIC 60Kg	RDSO/T-3026	1IN 8½	B.G. (1673)	3760±2·0	3632	62·5	287	1347·5	363	48	392	50	150
UIC 60Kg	RDSO/T-2597	1IN 12	B.G. (1673)	3740±2·0	3621·5	58·5	284	1349	355·5	48	376·5	50	150
90R.	T 15121	1IN 8½	M.G.	2460	2241·5	108	265·5	689	334·5	95	360·5	70	80
90R.	T 15115	1IN 12	M.G.	2460	2250	105	265	694·5	331	96	349·5	70	80
90R.	T 15208	1IN 16	M.G.	2450	2248	101	265	694·5	329	94	343	70	80

TYPICAL CROSSING TIE PLATE.



NOTE :-

ALL HOLES ARE 20 mm SQUARE EXCEPT WHERE OTHERWISE SHOWN.

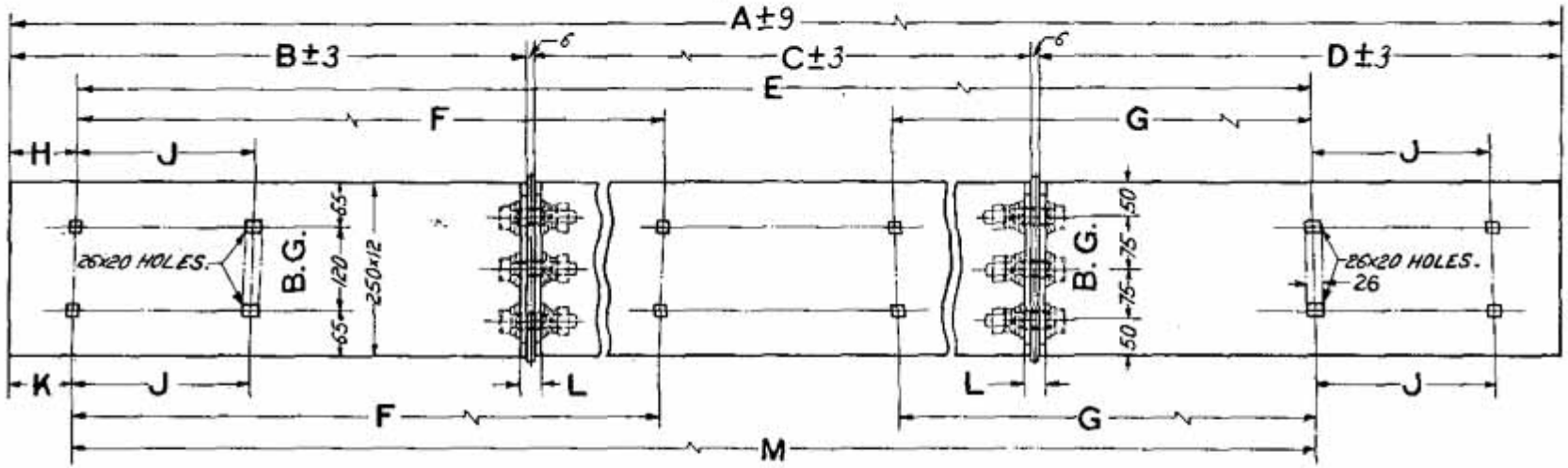
TSC 48
SHEET 4 OF 5

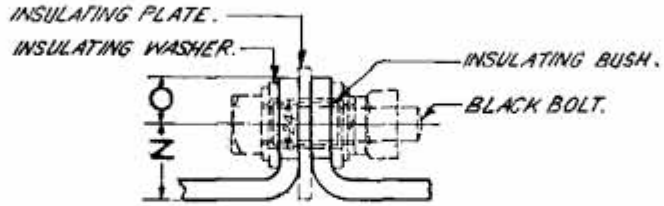
PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	PART NUMBER	FOR CROSSING	GAUGE	DIMENSIONS (mm)							
				A	B	C	D	E	F	G	H
52kg	T15038	1 IN 16	B. G.	3800	3350	1632	1372	260	95	102·5	3335
52kg	T3164(M)	1 IN 12	"	3810	3358	1632	1372	260	95	105	3337
52kg	T15003	1 IN 8½	"	3810	3371	1632	1372	260	90	105	3342
90 R.	T15017	1 IN 20	"	3810	3344	1632	1372·5	259·5	105	111	3331·5
90 R.	T15033	1 IN 16	"	3810	3348·5	1632	1372·5	259·5	101	109	3333
90 R.	T3166(M)	1 IN 12	"	3810	3357	1632	1372·5	259·5	95	105	3336
90 R.	T15011	1 IN 8½	"	3810	3369·5	1632	1372·5	259·5	90	105	3340·5
75 R.	T15004	1 IN 12	M. G.	2440	2001	959	721	238	100	109	1983
75 R.	T15008	1 IN 8½	"	2440	2012	959	721	238	95	108	1986
60 R.	T15037	1 IN 16	"	2440	1993	959	739	220	113	120	1979
60 R.	T15018	1 IN 12	"	2440	1999·5	959	739	220	110	119	1981
60 R.	T15009	1 IN 8½	"	2440	2010	959	739	220	105	118	1984·5
60 R.	T15034	1 IN 12	N. G.	1840	1527	721	506	215	50	57·5	1512
60 R.	T15036	1 IN 8½	"	1850	1539	722	507	215	50	60·5	1518

TSC 48
SHEET 5 OF 5

TYPICAL INSULATED ACUTE XING TIE PLATE.





DETAIL OF INSULATED JOINT

NOTE:- ALL HOLES ARE 20 mm SQUARE EXCEPT WHERE OTHERWISE SHOWN.

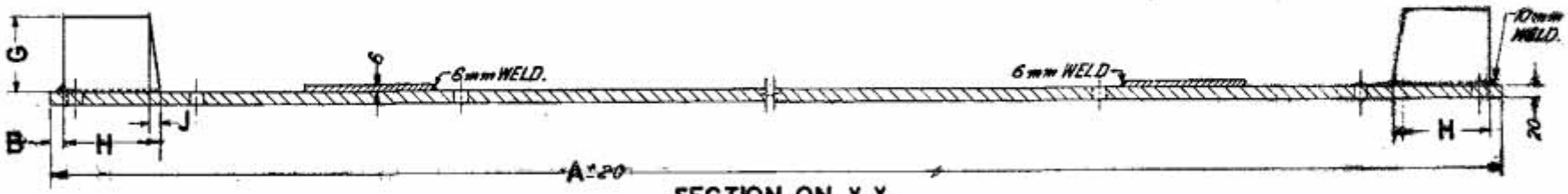
TSC 49
SHEET 1 OF 2

PART NUMBERS & MAIN DIMENSIONS

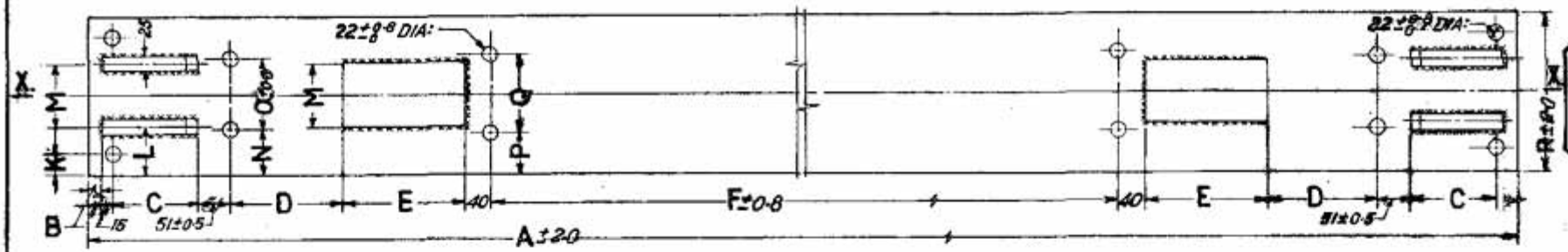
RAIL SECTION	PART NUMBER			FOR CROSSING	GAUGE	DIMENSIONS (m m)													
	LEFT PIECE	MID: PIECE	RIGHT PIECE			A	B	C	D	E	F	G	H	J	K	L	M	N	O
52kg	T 15086	T 15087	T 15088	1 IN 8½	B.G.	3810	760	2278	760	3342	1632	1372	105	260	90	30	3371	40	25
52kg	T 15083	T 15084	T 15085	1 IN 12	B.G.	3810	760	2278	760	3337	1632	1372	105	260	95	30	3358	40	25
90R.	T 15073	T 15074	T 15075	1 IN 8½	B.G.	3810	760	2278	760	3340·5	1632	1372·5	105	259·5	90	30	3369·5	40	25
90R.	T 15070	T 15071	T 15072	1 IN 12	B.G.	3810	760	2278	760	3336	1632	1372·5	105	259·5	95	30	3357	40	25

TSC 49
SHEET 2 OF 2

TYPICAL SWITCH TIE PLATE



SECTION ON X.X.



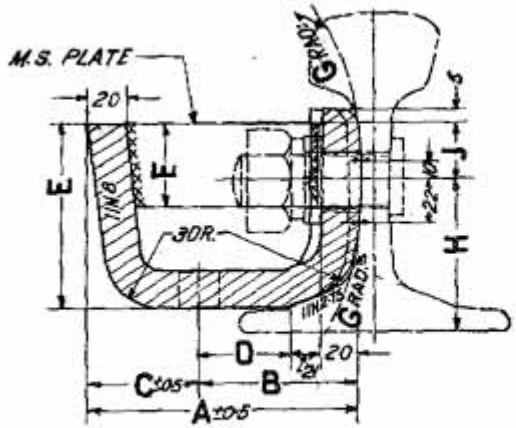
PLAN

TSC 50
SHEET 1 OF 4

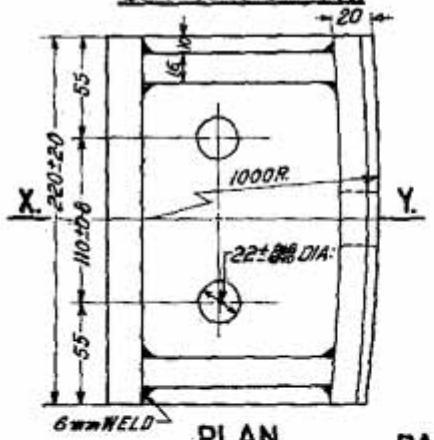
PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)																
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
UIC 60Kg	B.G.	RDSO/T-3048	2380	20	135	171	184	1145	115	150	14·5	35	75	100	70	110	65	120	250
UIC 60Kg	B.G.(1673)	RDSO/T-2630	2375	20	135	171	184	1142	115	150	14·5	35	75	100	70	110	65	120	250

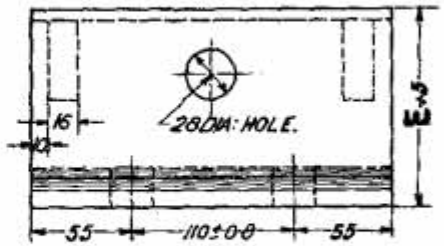
LUG FOR SLIDE CHAIR



SECTION ON X.Y.



PLAN



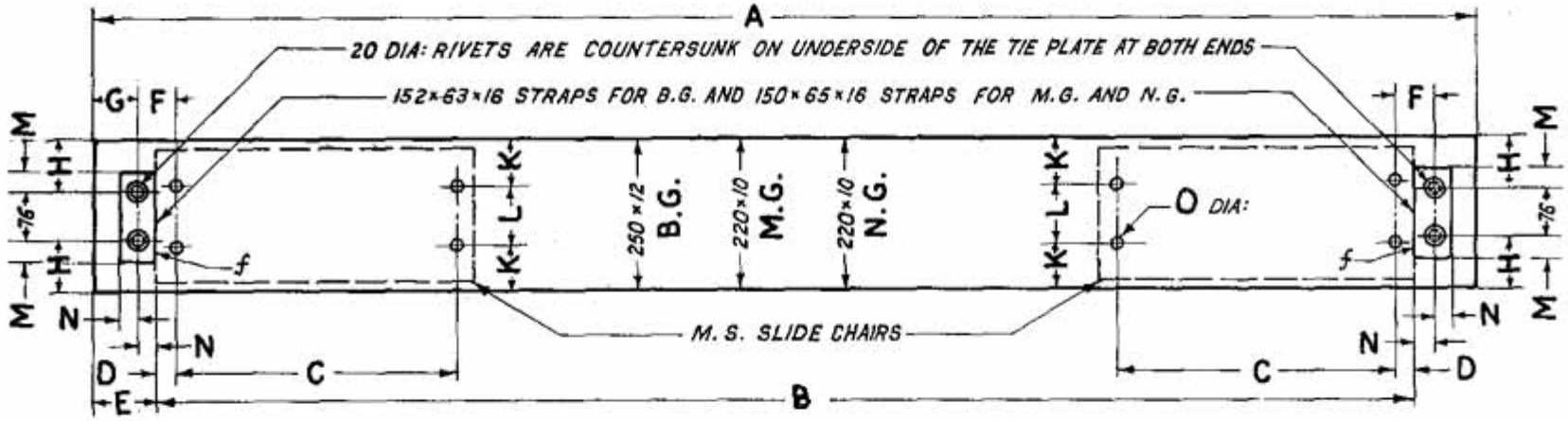
SIDE ELEVATION

TSC 50 SHEET 2 OF 2

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)								
			A	B	C	D	E	F	G	H	J
UIC 60Kg	B.G.(1673)	RDSO/T-2631	150	85	65	44	100	45	120	82·25	31·25

TYPICAL SWITCH TIE PLATE



NOTE:— MACHINED SURFACES ARE SHOWN THUS ---- f ----.

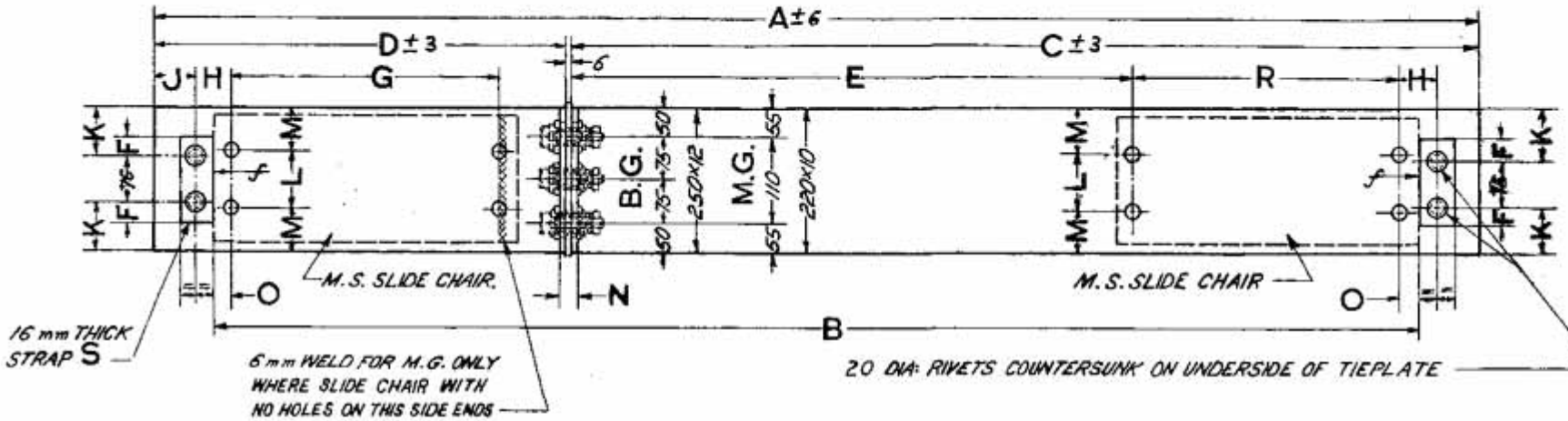
TSC 50
SHEET 3 OF 4

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)												
			A	B	C	D	E	F	G	H	K	L	M	N	O
52 kg	B.G	T 3165 (M)	2440	2221	490	38	110	69·5	78·5	87	75	100	38	31·5	22
90 R.	B.G.	T 3167 (M)	2440	2219	490	38	110	69·5	78·5	87	75	100	38	31·5	21
90 R.	M.G.	T 15114	1630	1546·5	470	40	70	72·5	37·5	72	75	70	37	32·5	22
75 R.	M.G.	T 15005	1680	1541	438	36	70	68·5	37·5	72	69	82	37	32·5	21
60 R.	M.G.	T 15010	1680	1484	438	36	100	68·5	67·5	72	69	82	37	32·5	21
60 R.	N.G.	T 15035	1450	1246	438	36	100	68·5	67·5	72	69	82	37	32·5	21

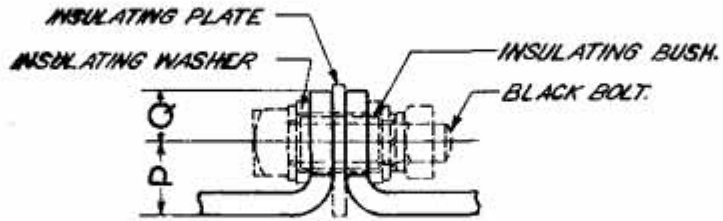
TSC 50
SHEET 4 OF 4

TYPICAL INSULATED SWITCH TIE PLATE.



TSC 51
SHEET 1 OF 2

NOTE:- MACHINED SURFACES ARE SHOWN THUS---f.
ALL HOLES ARE 21 mm DIA: EXCEPT WHERE OTHERWISE SHOWN.



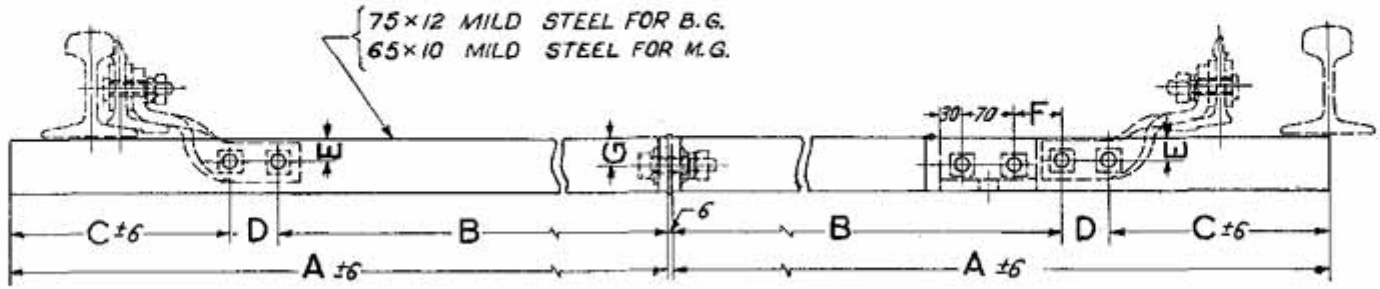
DETAIL OF INSULATED JOINT

PART NUMBERS & MAIN DIMENSIONS

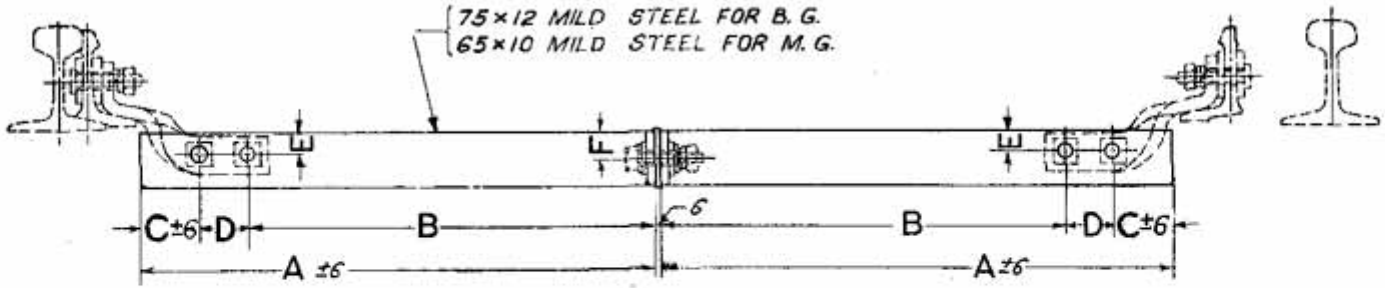
RAIL SECTION	PART NUMBER	GAUGE	DIMENSIONS (mm)																	
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
52 kg.	T 15081 & T 15082	B.G.	2440	2221	1574	760	1031	38	490	69·5	72·5	87	100	75	30	38	40	25	490	152x63
90 R.	T 15019 & T 15020	B.G.	2440	2219	1674	760	1029	38	490	69·5	72·5	87	100	75	30	38	40	25	490	152x63
75 R.	T 15023 & T 15024	M.G.	1680	1541	1034	640	491	37	429	68·5	37	72	82	69	26	36	35	25	438	150x65
60 R.	T 15025 & T 15026	M.G.	1680	1484	1034	640	464	37	399	68·5	65·5	72	82	69	26	36	35	25	438	150x65

TSC 51
SHEET 2 OF 2

TYPICAL LEADING & FOLLOWING INSULATED STRETCHER BARS



LEADING



FOLLOWING

NOTE:- ALL HOLES IN STRETCHER BAR ARE 18 mm DIA: FOR B.G. AND 16 mm DIA: FOR M.G.

TSC 52
SHEET 1 OF 2

PART NUMBERS & MAIN DIMENSIONS

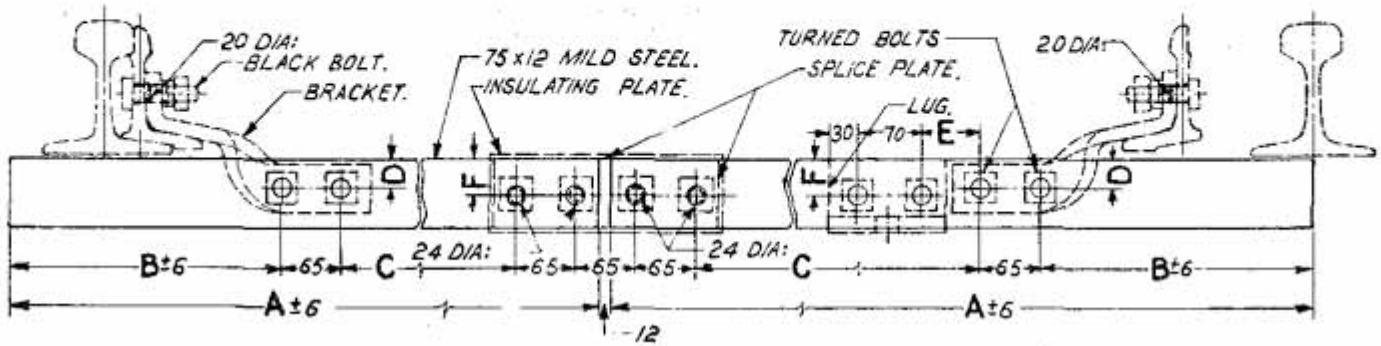
RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm)	INSULATED LEADING STRETCHER BARS								INSULATED FOLLOWING STRETCHER BARS						
			PART NUMBER	DIMENSIONS (mm)							PART NUMBER	DIMENSIONS (mm)					
				A	B	C	D	E	F	G		A	B	C	D	E	F
90R.	B.G.	6400	T10369-70	925	566·5	293·5	65	29	65	37·5	T10366	710	575	70	65	29	37·5
90R.	"	4725	T10369-70	925	567	293	65	29	65	37·5	T10366	710	578·5	66·5	65	29	37·5
75R.	M.G.	5485	T10378-79	610	276·5	278·5	55	24	60	32·5	T10374	420	284·5	80·5	55	24	32·5
75R.	"	4115	T10378-79	610	277·5	277·5	55	24	60	32·5	T10374	420	288	77	55	24	32·5
60R.	"	5485	T10378-79	610	277·5	277·5	55	26	60	32·5	T10374	420	285·5	79·5	55	26	32·5
60R.	"	4115	T10378-79	610	278·5	276·5	55	26	60	32·5	T10374	420	289	76	55	26	32·5
90R.	B.G.	※ 9750	T10574-75	922	554·5	302·5	65	31	65	37·5	T10576	922	559	298	65	※ 31	37·5
											T10577	922	571·5	285·5	65	31	37·5
											T10578	722	583	74	65	31	37·5

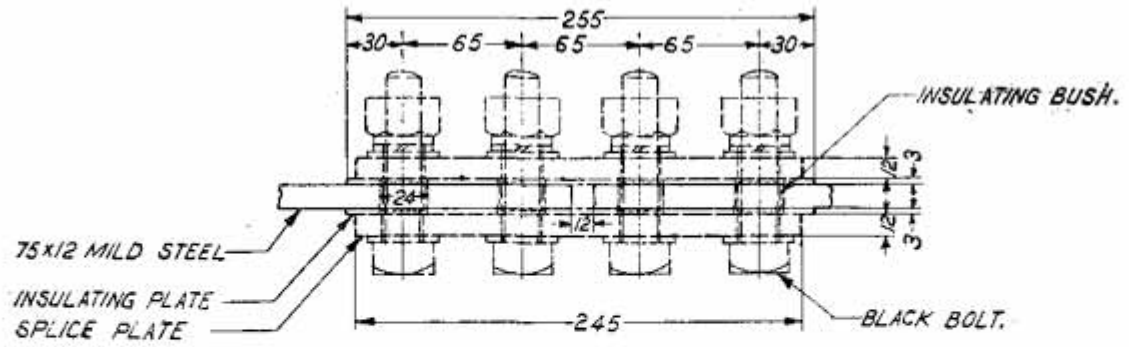
TSC 52 SHEET 2 OF 2

NOTE:-

1. STRETCHER BARS WITH REINFORCING STRAPS ARE SHOWN THUS ※
2. SERIAL ORDER OF FOLLOWING S^{TR} BARS SHOWN IN THIS TABLE IS AS PER THEIR POSITION IN ASSEMBLY DRGS.

TYPICAL ALTERNATIVE LEADING INSULATED STRETCHER BAR.





DETAIL OF JOINT.

NOTE:-
ALL HOLES ARE 18 mm DIA: EXCEPT WHERE OTHERWISE SHOWN.

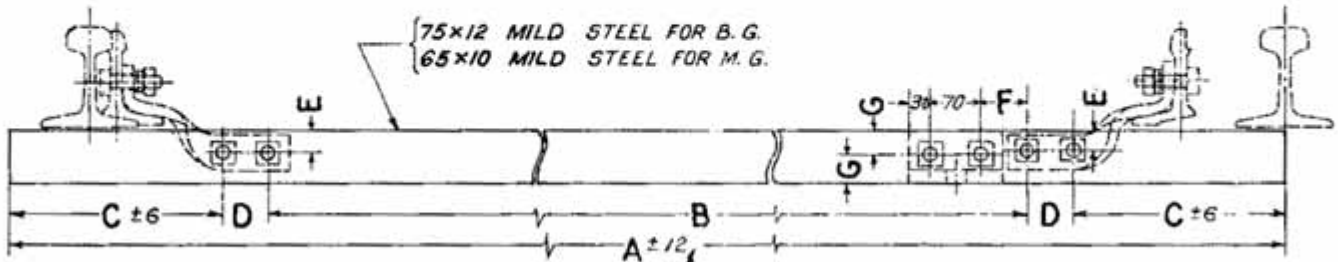
TSC 53
SHEET 1 OF 2

PART NUMBERS & MAIN DIMENSIONS

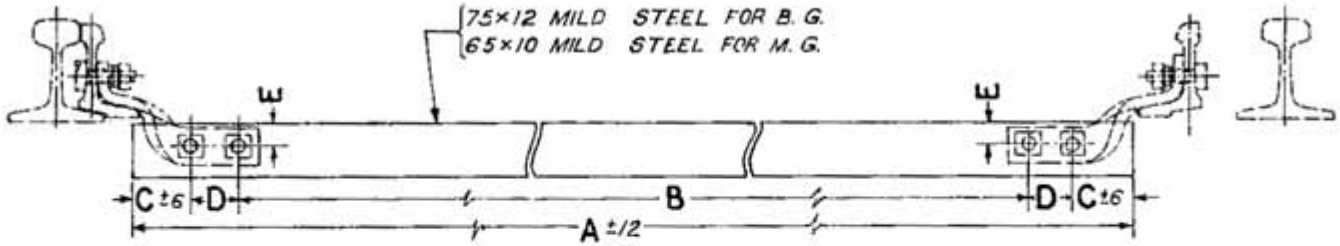
RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm)	PART NUMBER	DIMENSIONS (mm)					
				A	B	C	D	E	F
90 R.	B.G.	6400	T10381 & T10382	925	296·5	472	29	65	37·5
90 R.	B.G.	4725	"	925	296	472·5	29	65	37·5

TSC 53
SHEET 2 OF 2

TYPICAL LEADING & FOLLOWING STRETCHER BARS (ORDINARY)



LEADING



FOLLOWING

NOTE:-
ALL HOLES IN STRETCHER BAR ARE 18 m m DIA: FOR B.G. AND 16 m m DIA: FOR M.G. & N.G.

TSC 54
SHEET 1 OF 2

PART NUMBERS & MAIN DIMENSIONS

† FOR SWITCH DIAMOND

RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm)	ORDINARY LEADING STRETCHER BARS								ORDINARY FOLLOWING STRETCHER BARS					
			PART NUMBER	DIMENSIONS (mm)							PART NUMBER	DIMENSIONS (mm)				
				A	B	C	D	E	F	G		A	B	C	D	E
52 kg	B.G.	6400	T264(M)	1850	1126	297	65	34	65	37·5	T265(M)	1420	1144	73	65	34
52 kg	B.G.	4725	T264(M)	1850	1128	296	65	34	65	37·5	T265(M)	1420	1152	69	65	34
52 kg†	B.G.	4733	T264(M)†	1850	1129	295·5	65	34	65	37·5	T265(M)†	1420	1047	121·5	65	34
52 kg	B.G.	4725	T 264(M)	1850	1128	296	65	34	65	37·5	T265(M)※	1420	1158	66	65	34
90 R.	B.G.	6400	T10310	1850	1139	290·5	65	29	65	37·5	T10311	1420	1156	67	65	29
90 R.	B.G.	4725	T10310	1850	1140	290	65	29	65	37·5	T10311	1420	1163	63·5	65	29
75 R.	M.G.	5485	T10319	1220	559	275·5	55	24	60	32·5	T10320	840	575	77·5	55	24
75 R.	M.G.	4115	T10319	1220	561	274·5	55	24	60	32·5	T10320	840	582	74	55	24
75 R.†	M.G.	3142	T10656†	1220	564	273	55	24	60	32·5	T10657†	840	592	69	55	24
60 R.	M.G.	5485	T10319	1220	561	274·5	55	26	60	32·5	T10320	840	577	76·5	55	26
60 R.	M.G.	4115	T10319	1220	563	273·5	55	26	60	32·5	T10320	840	584	73	55	26
60 R.	N.G.	5485	T10433	990	323	278·5	55	26	60	32·5	T10434	800	338	176	55	26
60 R.	N.G.	4115	T10433	990	325	277·5	55	26	60	32·5	T10434	800	346	172	55	26

SERIAL ORDER OF FOLLOWING STR BARS †SHOWN IN THIS TABLE IS AS PER THEIR POSITION IN ASSEMBLY DRGS.

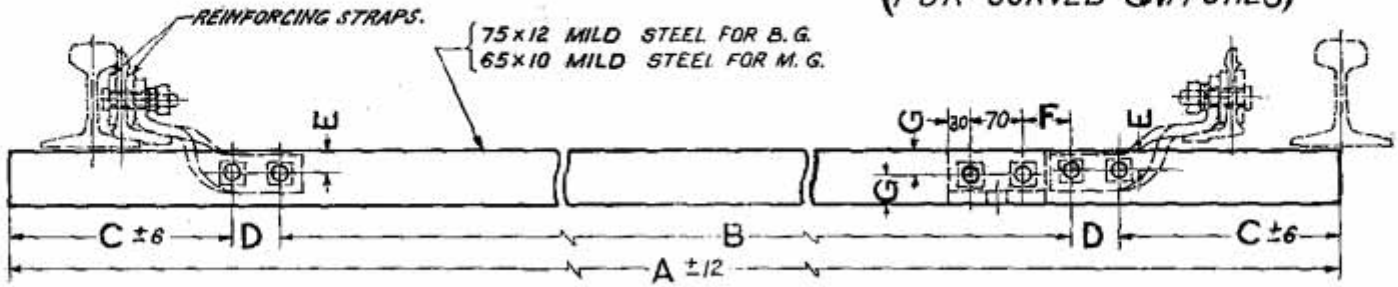
※ FOR STR BAR AT 1530mm FROM TOE OF SWITCH.

TSC 54
SHEET 2 OF 2

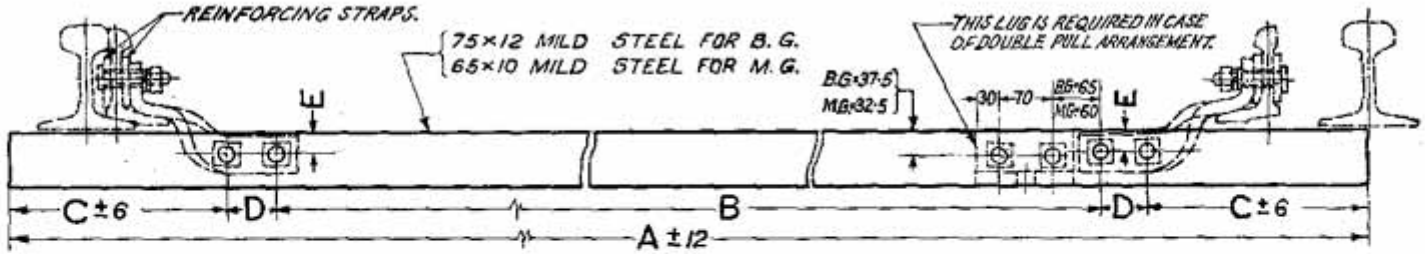
TYPICAL LEADING & FOLLOWING

STRETCHER BARS (ORDINARY)

(FOR CURVED SWITCHES)



LEADING



FOLLOWING

NOTE:-

ALL HOLES IN STRETCHER BAR ARE 18 mm DIA: FOR B.G. AND 16 mm DIA: FOR M.G.

TSC 55
SHEET 1 OF 4

PART NUMBERS & MAIN DIMENSIONS

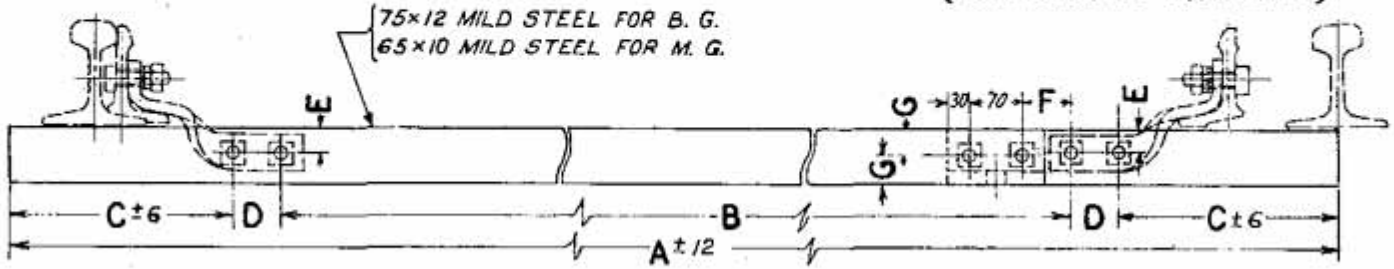
NOTE: * STRETCHER BARS WITH DOUBLE PULL ARRANGEMENT SERIAL ORDER OF FOLLOWING ST'R. BARS SHOWN IN THIS TABLE IS AS PER THEIR POSITION IN ASSEMBLY DRGS.

RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm m)	ORDINARY LEADING STRETCHER BARS								ORDINARY FOLLOWING STRETCHER BARS						
			PART NUMBER	DIMENSIONS (mm m)							PART NUMBER	DIMENSIONS (mm m)					
				A	B	C	D	E	F	G		A	B	C	D	E	
UIC60Kg	B.G. (1673)	10125	RDSQ/T-2626	1870	1097·5	321·5	65	36	65	37·5	RDSQ/T-2627	1870	1114·5	313	65	36	
											RDSQ/T-2628	1870	1136	302	65	36	
											RDSQ/T-2625	1870	1146	297	65	36	
52 Kg	B.G.	9750	T10442	1850	1106	307	65	36	65	37·5	T10443	1850	1113	303·5	65	36	
											T10444	1850	1138	291	65	36	
											T10445*	1850	1153	283·5	65	36	
52 Kg	B.G.	7703	T10505	1850	1108	306	65	36	65	37·5	T10506	1850	1126	297	65	36	
											T10507*	1850	1157	281·5	65	36	
90R.	B.G.	11150	T10337	1850	1115	302·5	65	31	65	37·5	T10338	1850	1124	298	65	31	
											T10339	1850	1150	285	65	31	
											T10340	1450	1170	75	65	31	
90R.	B.G.	9750	T10337	1850	1115	302·5	65	31	65	37·5	T10338	1850	1124	298	65	31	
											T10428	1850	1149	285·5	65	31	
											T10429*	1850	1165	277·5	65	31	
90R.	B.G.	7730	T10342	1850	1116	302	65	31	65	37·5	T10343	1850	1127	296·5	65	31	
											T10344*	1850	1169	275·5	65	31	
90R.	M.G.	7975	T10733	1220	461	314·5	65	31	65	37·5	T10734	1220	478	306	65	31	
											T10735*	1220	495	297·5	65	31	
90R	M.G.	7130	T10694	1220	453	318·5	65	31	65	37·5	T10695	840	471	119·5	65	31	
											T10696*	1220	485	302·5	65	31	
75R.	M.G.	6700	T10587	1220	544	283	55	25·5	60	32·5	T10588	840	565	82·5	55	25·5	
											T10589*	1220	582	264	55	25·5	
60R.	M.G.	7420	T10552	1220	544	283	55	27·5	60	32·5	T10553	840	559	85·5	55	27·5	
60R.	M.G.	6700	T10590	1220	546	282	55	27·5	60	32·5	T10591	840	560	85	55	27·5	
											T10592*	1220	582	264	55	27·5	

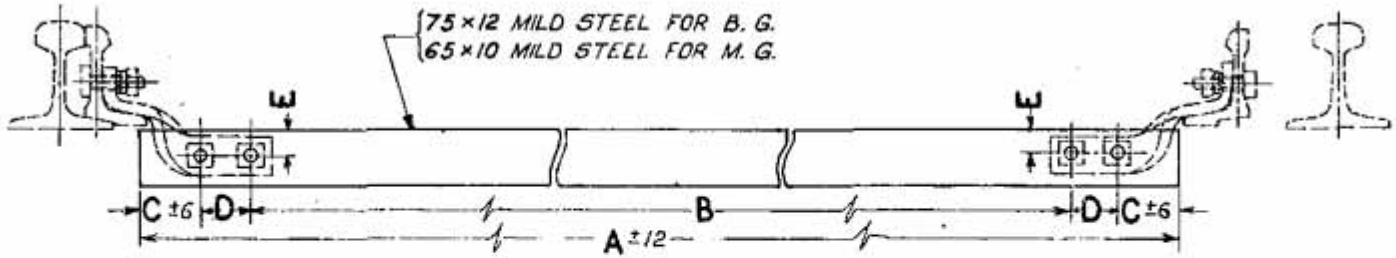
TSC 55
SHEET 2 OF 4

TYPICAL LEADING & FOLLOWING STRETCHER BARS (ORDINARY)

(FOR CURVED SWITCHES)



LEADING



FOLLOWING

NOTE:-

HOLES IN STRETCHER BARS ARE 18 mm DIA: FOR B. G. & 16 mm DIA: FOR M. G.

TSC 55
SHEET 3 OF 4

PART NUMBERS & MAIN DIMENSIONS

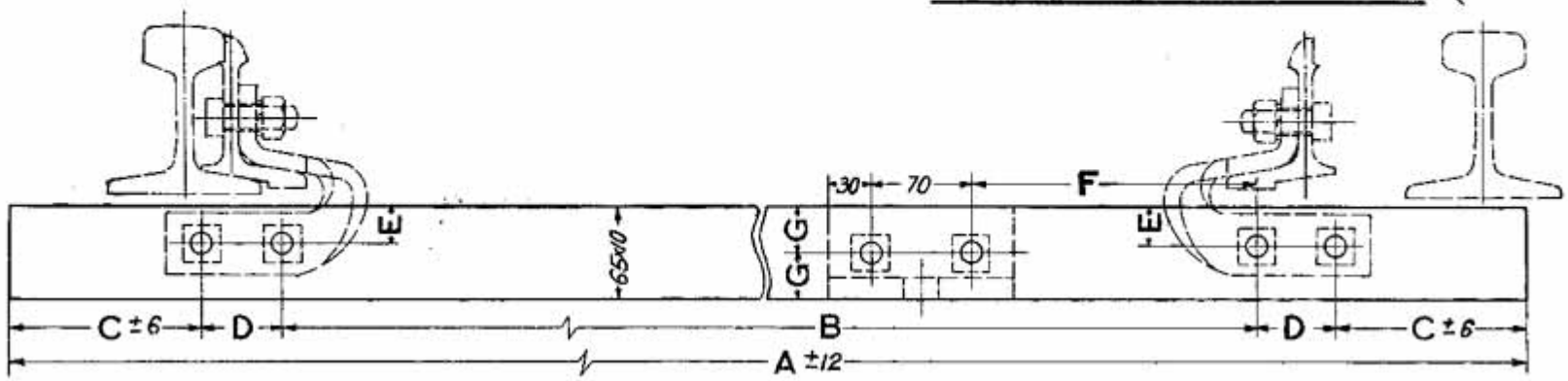
RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm)	ORDINARY LEADING STRETCHER BAR. PART NUMBER	DIMENSIONS (mm) A	B	C	D	E	F	G	ORDINARY FOLLOWING STRETCHER BARS PART NUMBER	DIMENSIONS (mm) A	B	C	D	E
UIC 60Kg	B.G.	7135	RDS60T-8545	1870	1125	310	65	36	65	37·5	RDS60T-8046	1870	1144·5	300	65	36
											RDS60T-3047	1870	1174·5	282	65	36
52Kg	B. G.	6400	T 10632	1850	1123	298·5	65	34	65	37·5	T 10633	1420	1145	72·5	65	34
											T 10634 ※	1850	1168	276·0	65	34
30 R.	B. G.	6400	T 10629	1850	1135	292·5	65	29	65	37·5	T 10630	1420	1157	66·5	65	29
											T 10631 ※	1850	1180	270·0	65	29
90R.	M.G.	5500	T 10698	1220	472	309	65	29	65	37·5	T 10699	840	490	110	65	29
											T 10700	1220	503	293·5	65	29
75 R.	M.G.	5500	T 10319	1220	557	276·5	55	24	60	32·5	T 10320	840	580	75	55	24
											T 10621 ※	1220	596	257	55	24
60 R.	M.G.	5500	T 10319	1220	561	274·5	55	26	60	32·5	T 10320	840	582	74	55	26
											T 10622 ※	1220	597	256·5	55	26

SERIAL ORDER OF FOLLOWING STR BARS SHOWN IN THIS TABLE IS AS PER THEIR POSITION IN ASSEMBLY DRAWINGS.

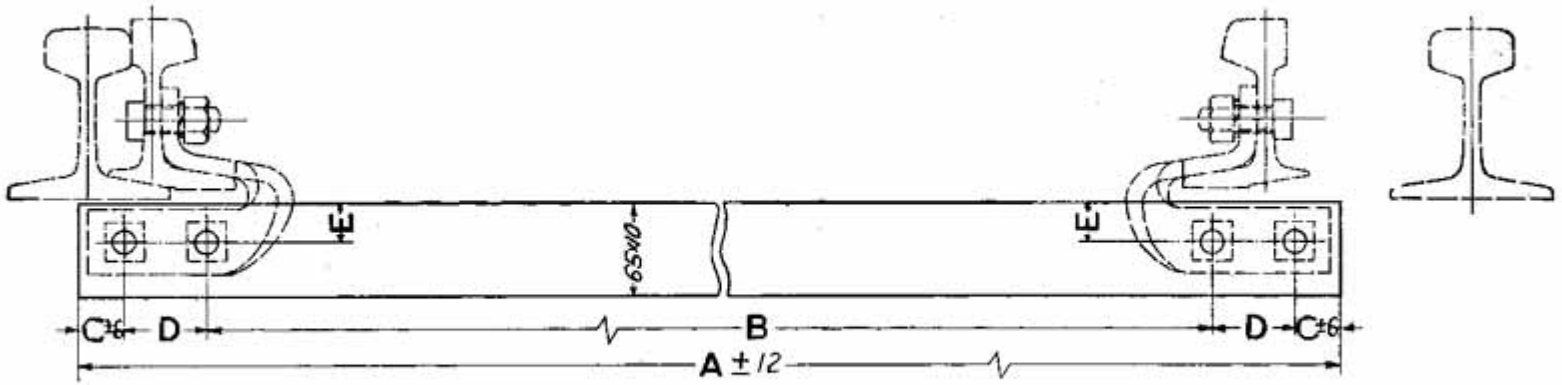
※ STRETCHER BARS WITH DOUBLE PULL ARRANGEMENT.

TSC 55
SHEET 4 OF 4

ALTERNATIVE TYPICAL LEADING & FOLLOWING STRETCHER BARS (ORDINARY)



LEADING



FOLLOWING

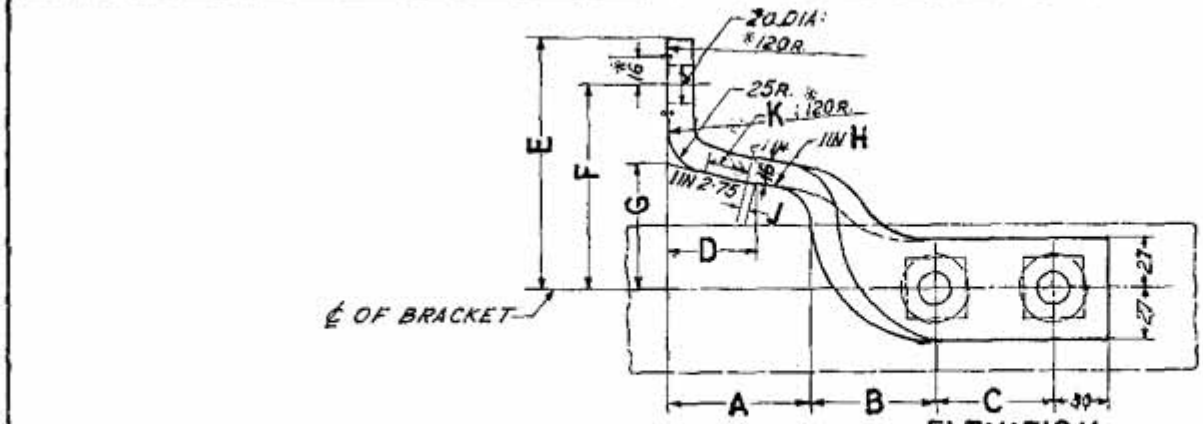
NOTE:- ALL HOLES IN STRETCHER BARS ARE 16 mm DIA:

TSC 56
SHEET 1 OF 2

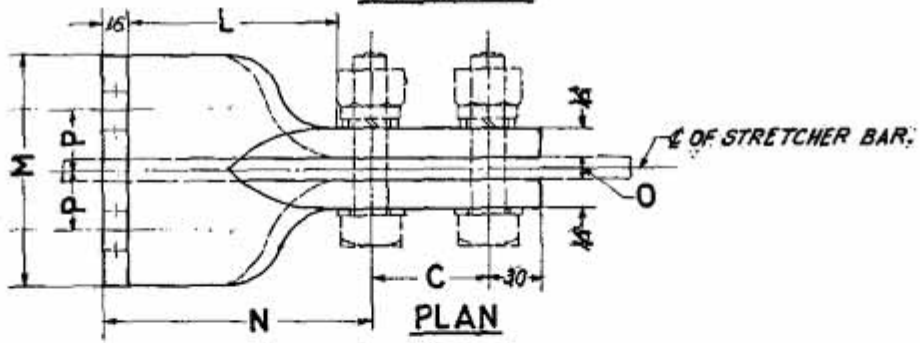
PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	FOR SWITCH LENGTH (mm)	ORDINARY LEADING STRETCHER BARS								ORDINARY FOLLOWING STRETCHER BARS					
			PART NUMBER	DIMENSIONS (mm)							PART NUMBER	DIMENSIONS (mm)				
				A	B	C	D	E	F	G		A	B	C	D	E
75 R.	M.G.	5485	T 10585	1220	839	135·5	55	24	200	32·5	T 10586	1040	855	37·5	55	24
75 R.	M.G.	4115	T 10585	1220	841	134·5	55	24	200	32·5	T 10586	1040	862	34	55	24
60R.	M.G.	5485	T 10585	1220	841	134·5	55	26	200	32·5	T 10586	1040	857	36·5	55	26
60R.	M.G.	4115	T 10585	1220	843	133·5	55	26	200	32·5	T 10586	1040	864	33	55	26
60R.	N.G.	5485	T 10435	990	603	138·5	55	26	270	32·5	T 10436	800	619	35·5	55	26
60R.	N.G.	4115	T 10435	990	605	137·5	55	26	270	32·5	T 10436	800	626	32	55	26

M. S. BRACKET FOR STRETCHER BARS



ELEVATION



PLAN

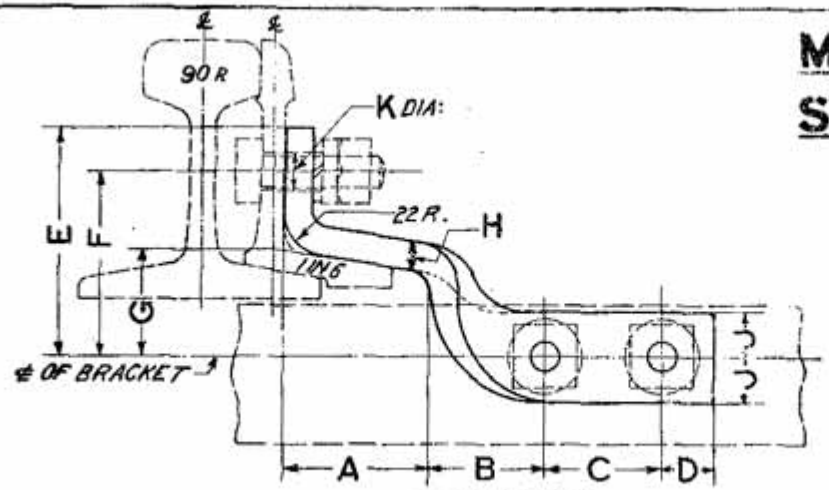
NOTE: ALL HOLES ARE 18 mm. DIA: EXCEPT WHERE OTHERWISE SHOWN.
2 * ADDITIONAL DIMENSIONS AND CURVETURE FOR T10741 ONLY.

PART NUMBERS & MAIN DIMENSIONS

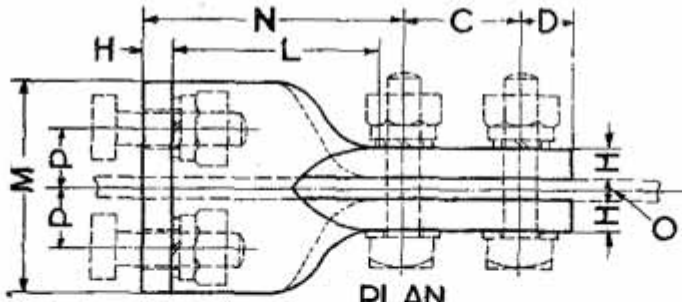
RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (in mm)															REMARKS
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	
UIC 60Kg.	B.G.	RDSO/T-2625	80	70	65	31·75	152	121	69·6	14	3	13	115	120	150	12	32·5	FOR CURVED SWITCHES WITH REINFORCING STRAP.
UIC 60Kg	B.G.	T10741	80	70	65	14	152	123	75·5	14	3	20	113	120	150	12	32·5	
52Kg.	B.G.	T263(M)	80	70	65	36·5	137	110	69	6	2·5	18	115	120	150	12	32·5	
52Kg.	B.G.	T263(M)A	80	70	65	36·5	137	112	69	6	2·5	18	115	120	150	12	32·5	FOR CURVED SWITCHES WITH REINFORCING STRAP

TSC 57
SHEET 1 OF 4

M. S. BRACKET FOR STRETCHER BARS



ELEVATION



PLAN

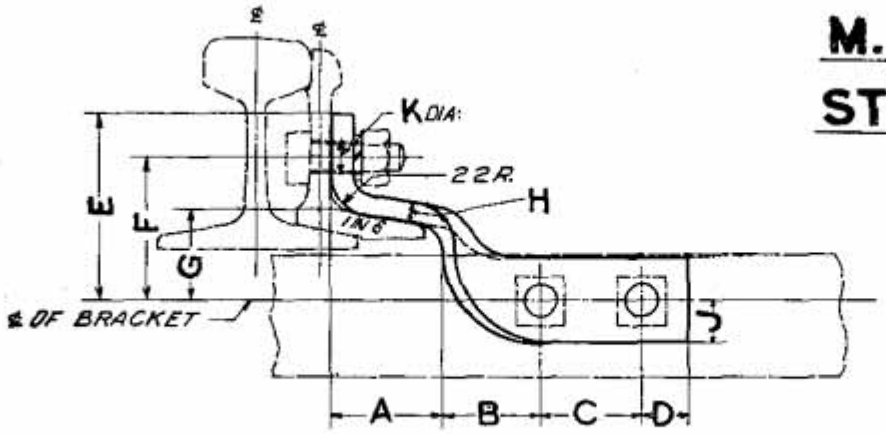
NOTE:- ALL HOLES ARE 18mm DIA: EXCEPT WHERE OTHERWISE SHOWN.

PART NUMBERS & MAIN DIMENSIONS

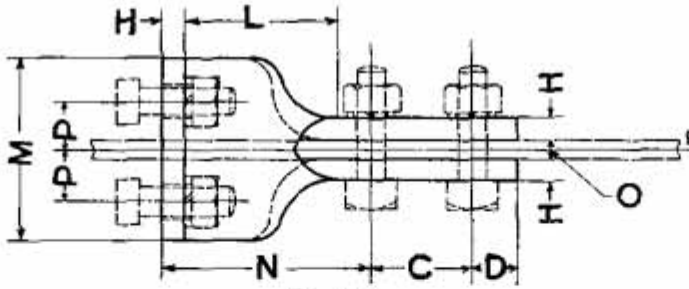
RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)														REMARKS
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	
90R.	B.G.	T10309	80	65	65	30	127	100	57	16	27	20	115	120	145	12	32·5	
90R.	B.G.	T10309/A	80	65	65	30	127	102	57	16	27	20	115	120	145	12	32·5	FOR CURVED SWITCHES WITH REINFORCING STRAP

TSC 57
SHEET 2 OF 4

M. S. BRACKET FOR STRETCHER BARS



ELEVATION



PLAN

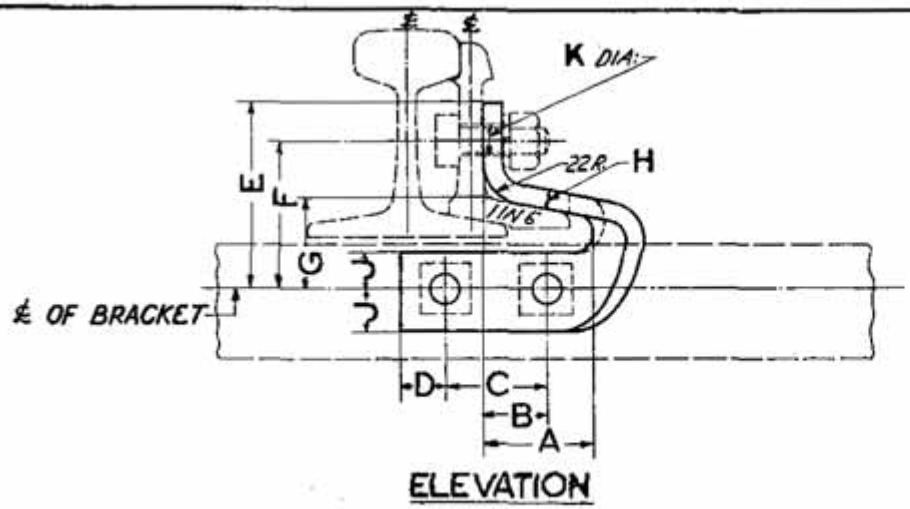
NOTE:- ALL HOLES ARE 16 m/m DIA. EXCEPT WHERE OTHERWISE SHOWN.

PART NUMBERS & MAIN DIMENSIONS

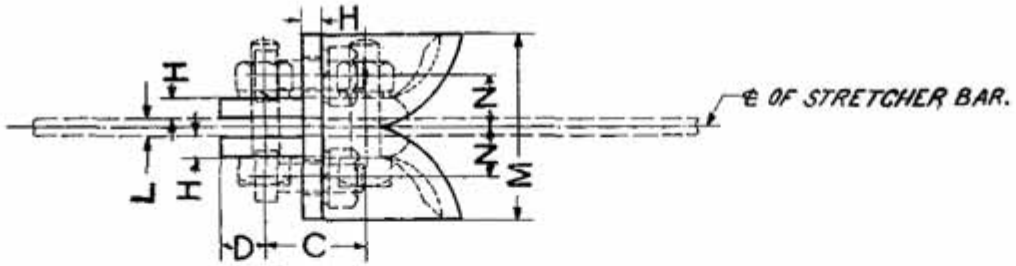
RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (m/m)														REMARKS
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	
75R. & 60R.	M.G.	T10318	60	55	55	25	104·5	81	51	12	22	18	83	100	115	10	27·5	
75R. & 60R.	M.G.	T10318/A	60	55	55	25	104·5	82·5	51	12	22	18	83	100	115	10	27·5	FOR CURVED SWITCHES WITH REINFORCING STRAP.
60R.	N.G.	T10318	60	55	55	25	104·5	81	51	12	22	18	83	100	115	10	27·5	

TSC 57
SHEET 3 OF 4

M. S. BRACKET FOR STRETCHER BARS



ELEVATION



PLAN

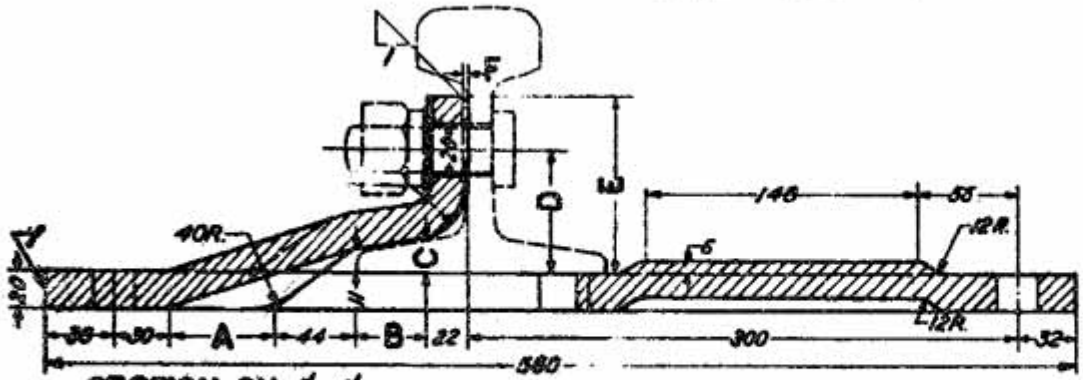
PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)													REMARKS
			A	B	C	D	E	F	G	H	J	K	L	M	N	
75R. 60R.	M.G. M.G.& N.G.	T 10380	60	30	55	25	103	81	51	12	22	18	10	100	27·5	

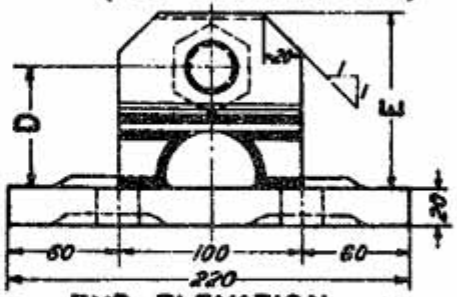
TSC 57
SHEET 1 OF 4

TYPICAL SLIDE CHAIR

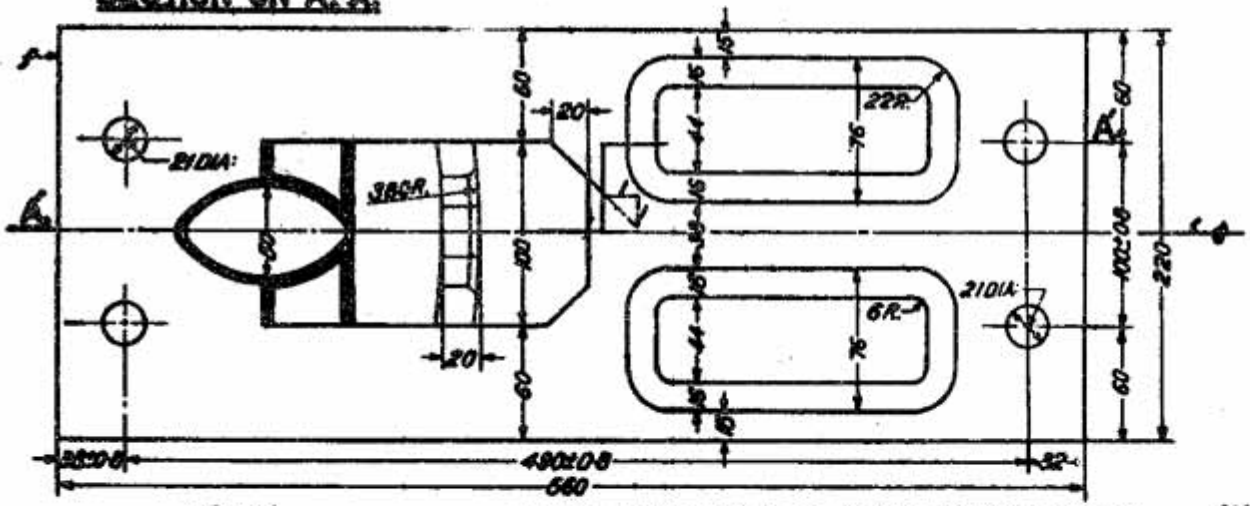
(FOR O.R. SWITCHES)



SECTION ON A. A.



END ELEVATION



PLAN

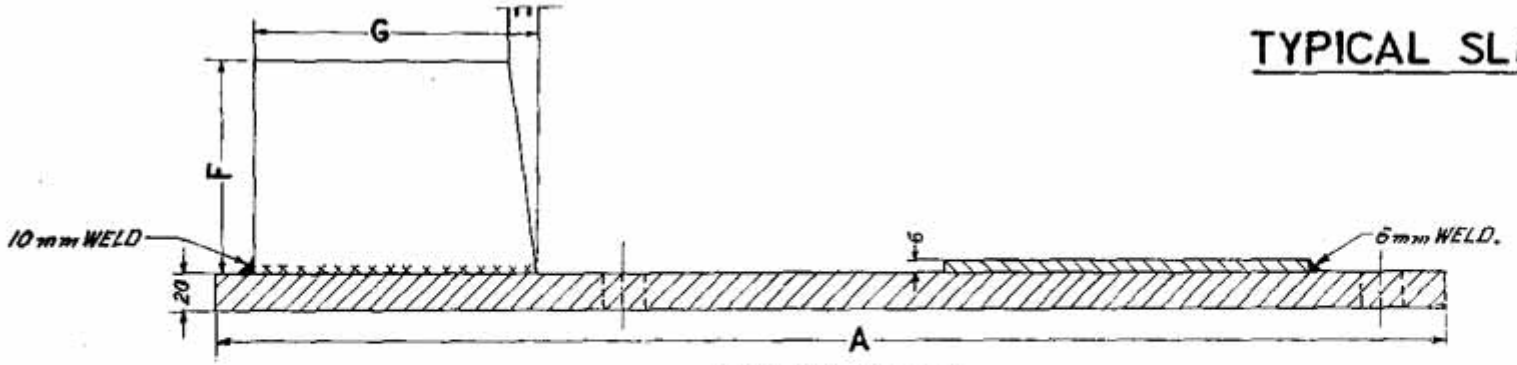
PART NUMBERS & MAIN DIMENSIONS

NOTE.. MACHINED SURFACES SHOWN THUS--

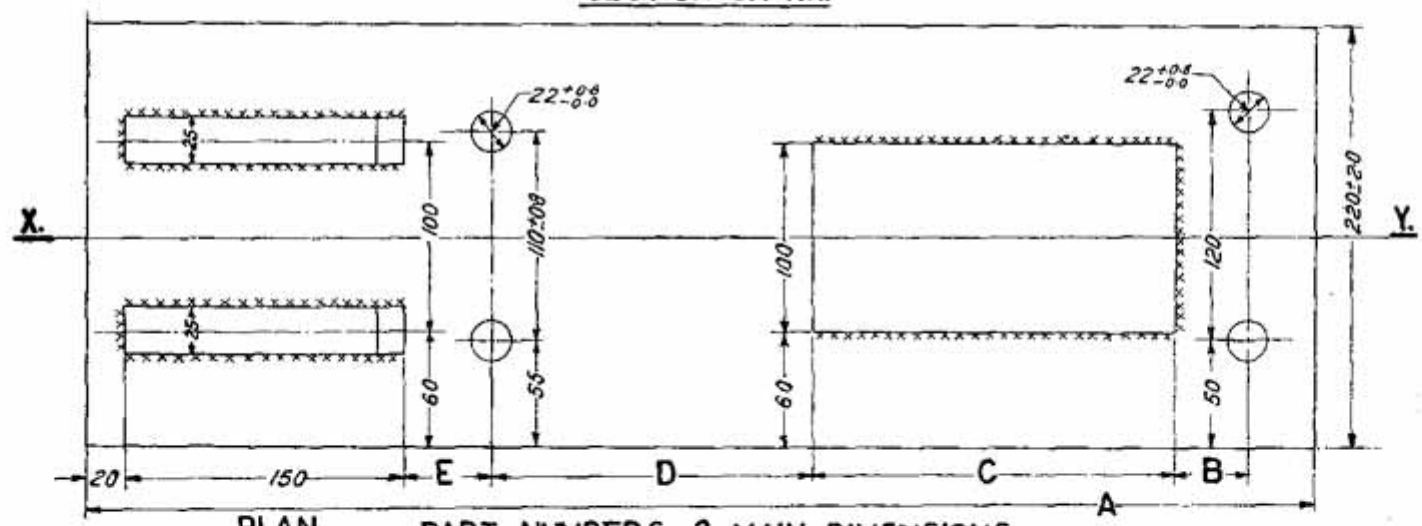
RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)					
			A	B	C	D	E	F
52 Kg	B.S.	T4930(M)R [illegible]	56	38	22	78	100	6
90R.	B.S.	T4931(M)R [illegible]	58	39	175	66	95	8

TSC 58
SHEET 1 OF 6

TYPICAL SLIDE CHAIR



SECTION ON X.Y.



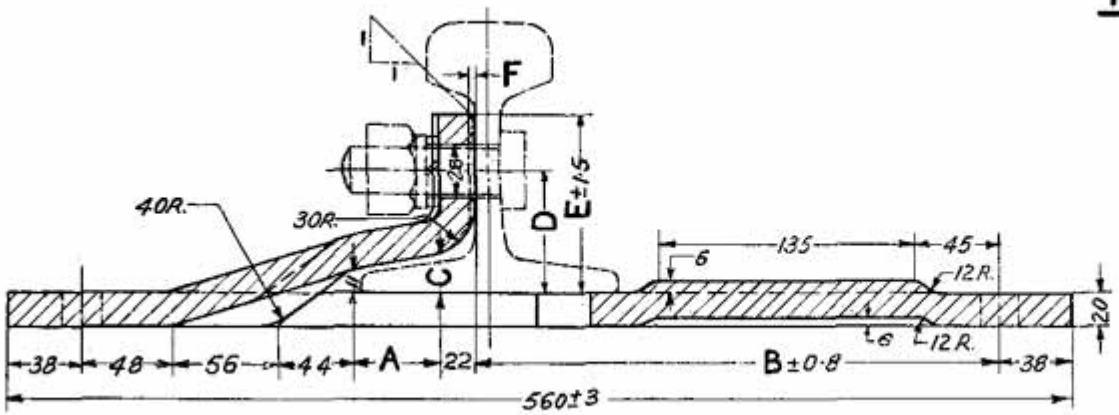
PLAN

PART NUMBERS & MAIN DIMENSIONS

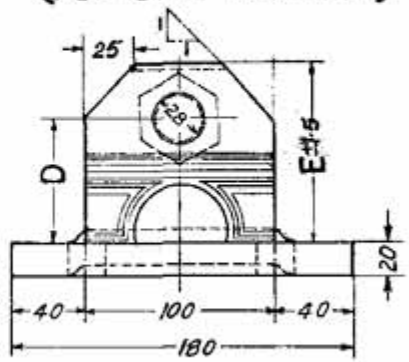
RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)							
			A	B	C	D	E	F	G	H
UIC 60Kg	B.G.(1673)	RDSO/T-2632	650±2.0	40	183	171	51±0.5	115	150	14.5

TSC 58
SHEET 2 OF 6

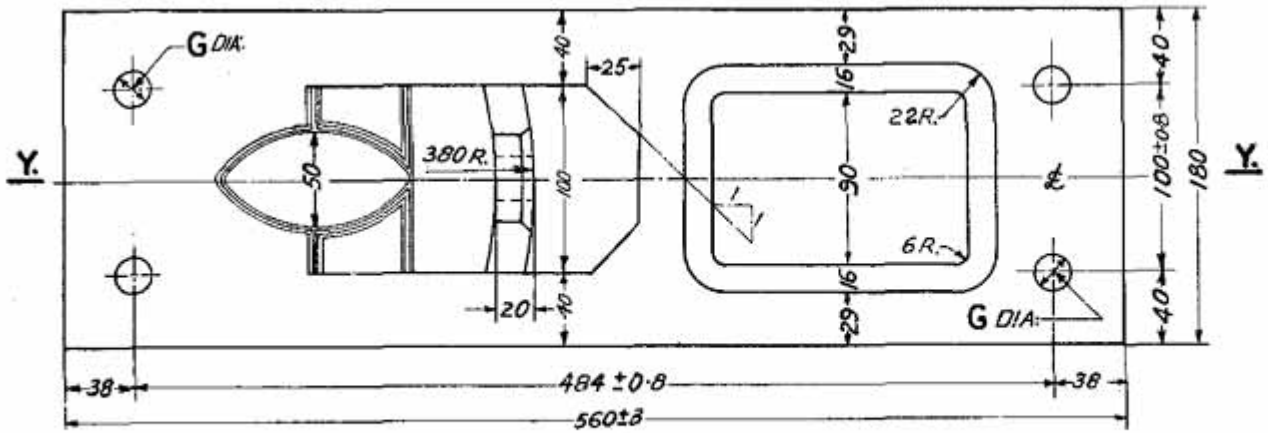
TYPICAL SLIDE CHAIR.
(FOR O. R. SWITCHES)



SECTION ON Y. Y.



END ELEVATION



PLAN

TSC 58
SHEET 3 OF 6

PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (m/m)						
			A	B	C	D	E	F	G
52 kg	B.G.	T 19501	38	276	22	73	100	6	19·5
90 R	B.G.	T 19505	39	275	17·5	66	95	3	19

TSC 58
SNELL & DES

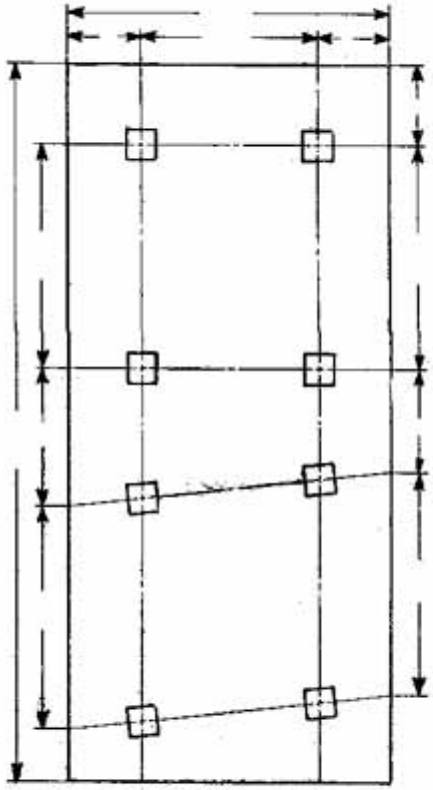
PART NUMBERS & MAIN DIMENSIONS

RAIL SECTION	GAUGE	PART NUMBER	DIMENSIONS (mm)																			
			A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V
90R.	AIS.	T 19632 R T 19632/A	650	470	40	30	55	44	39	23	280	30	3	134	50	11	17·5	28	66	95	40	70	ϕ22
75R.	AIS	T 19504 R T 19504/A	510	488	36	30	56	53	35	20	244	22	5	118	40	10	16	28	60	90	34	62	ϕ21
60R.	AIS/BNS	T 19606 R T 19606/A	510	436	36	25	50	44	30	20	269	22	6	125	65	10	15	25	53·5	80	34	62	ϕ21

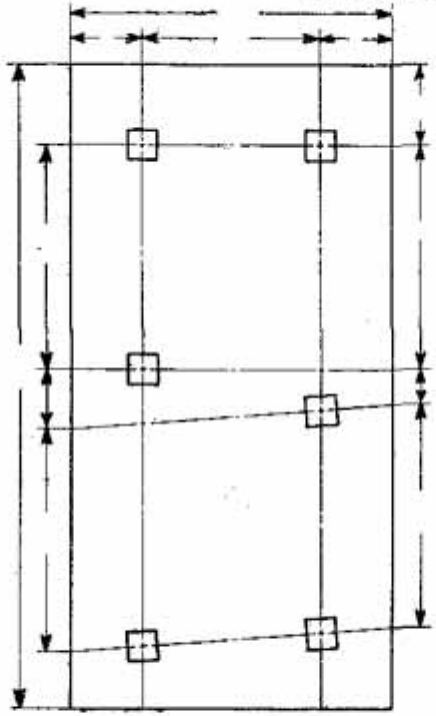
TSC 50
SHEET 6 OF 6

TYPICAL SPECIAL FLAT BEARING PLATES

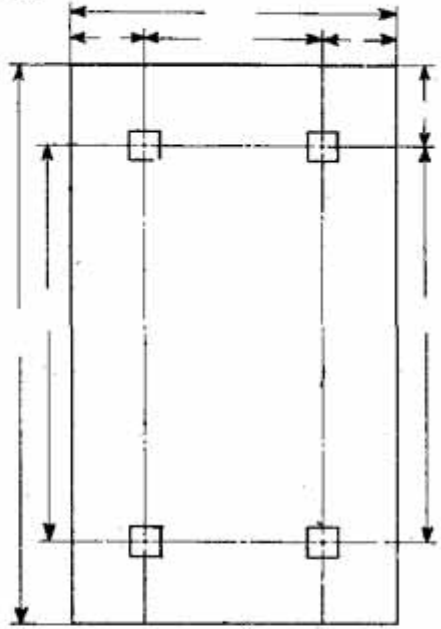
(WITH DOG SPIKES)



EIGHT HOLED TYPE



SIX HOLED TYPE



FOUR HOLED TYPE

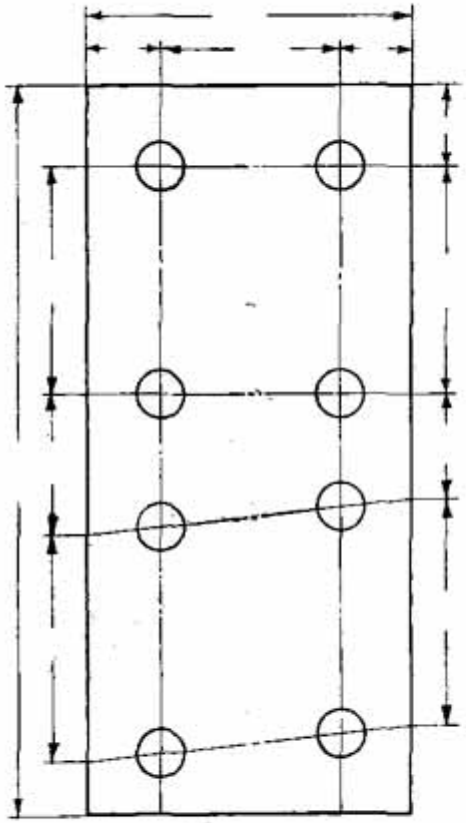
TSC 59
SHEET 1 OF 2

NOTE:-
THE ARROWING SHOWS HOW PLATES ARE DIMENSIONED.
ALL HOLES ARE SQUARE TO THE CROSS-LINES.

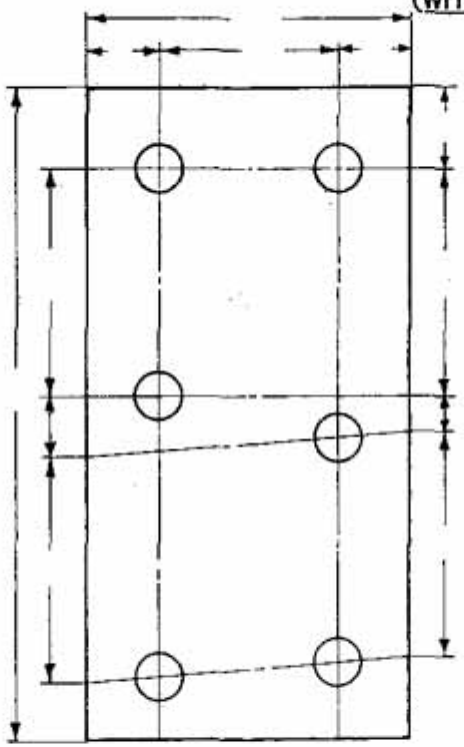
SIZES:-
LENGTH VARIES BY 10 mm.
BREADTH FOR B.G.=220 mm, M.G.=150 mm, N.G.=150 mm.
THICKNESS FOR B.G.=20 mm, M.G.=16 mm, N.G. = 16 mm.
HOLES 20 mm SQUARE FOR B.G., M.G. & N.G.

TYPICAL SPECIAL FLAT BEARING PLATES

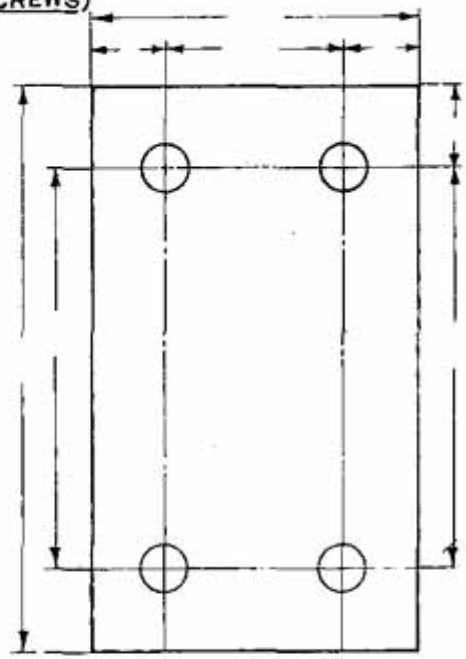
(WITH RAIL SCREWS)



EIGHT HOLED TYPE



SIX HOLED TYPE



FOUR HOLED TYPE

TSC 59
SHEET 2 OF 2

NOTE:-

THE ARROWING SHOWS HOW PLATES ARE DIMENSIONED.
THE CENTRE OF HOLES ARE AT THE INTERSECTION OF CROSS-LINES.

SIZES:-

LENGTH VARIES BY 10 mm
BREADTH FOR B.G. = 220 mm, M.G. = 150 mm
THICKNESS FOR B.G = 20 mm , M.G. = 16 mm
HOLES 26 mm DIA: FOR B.G. & M.G.

CHAPTER VI

DIAMONDS AND SLIPS

Brief notes on diamonds and slips

General definitions : When one track crosses another at an angle, a diamond is formed comprising of two acute and two obtuse crossings. page DS 1 shows the layout of a diamond crossing.

When two tracks cross one another at right angles, a square crossing is required. Square crossings are to be avoided since the gaps in the running rails for wheel flanges being opposite to each other, cause severe jolting to vehicles resulting in rapid wear of the crossings and damage to rolling-stock on account of the heavy impact.

When the angle of intersection is very acute for a diamond crossing, the possibility of a derailment becomes greater because the noses of the two obtuse crossings are nearly opposite each other and the excessive gap at the elbows causes a perceptible "drop" of the wheels running over the diamond. On the Indian Railways it has, therefore, been laid down that diamond crossings should not normally be flatter or less acute than 1 in 8½.

When a vehicle passes over a diamond crossing there is an inherent risk of a derailment owing to a large gap at the elbow of the obtuse crossing and due to the possibility of a wheel, particularly of a small diameter, being deflected to the wrong side of the nose. A method of eliminating this risk, is to make the point rails of the obtuse crossing move in the same way as the tongue rails of switches, these point rails being suitably joined together by stretcher bars. Such an arrangement is known as a movable switch diamond and is shown in page DS 1 sheet 2. The main dimensions are indicated in page DS 3. In this case, the gaps in the obtuse crossing are avoided and a continuous surface is provided for the movement of the wheel along the switch and the elbow rails.

Apart from the hazard of derailments, the location of fixed diamonds on a straight on the main line causes rough running at high speeds and consequent wear of track and rolling-stock.

The substitution of fixed diamonds by movable switch diamonds at such locations would contribute to smooth running at high speeds. With switch diamonds, it should also be possible to permit the use of diamonds flatter than 1 in 8½.

If tracks are to be so arranged that a train on one track may normally cross another track but when required, it may also be diverted to that track, an arrangement known as a diamond crossing with slips is installed. This is made possible by the inclusion of two or four pairs of switches with the connecting lead rails. When such diversion is permitted in one way, the arrangement is known as single slips and if it is permitted in both ways, the arrangement is known as double slips. Page DS 1 also shows the layout of a diamond crossing with single slips and a diamond crossing with double slips.

The standard method adopted in denoting the angle of an ordinary crossing in IRS designs is also followed in the case of diamond crossings.

The various terms defined in Chapter V of this Manual apply equally to the acute crossings of a diamond crossing and the switches of a slip. The same definitions generally apply also to the obtuse crossings but with the following slight modifications:

Theoretical nose of obtuse crossing is the theoretical point of intersection of the guage lines of a crossing which is used as a reference point for all calculations. The actual nose of the crossing is the tip of the point rail at which the thickness is adequate from considerations of manufacture and strength.

Throat of obtuse crossing is the point at which the converging elbow rail and the check rail of an obtuse crossing are closest.

Main dimensions of diamonds and slips:

The main dimensions of diamonds and slips are:

Gauge	(G)
Crossing angle	(Z)
Distance between actual noses of point rails of an obtuse crossing	(X)
Distance between theoretical noses of the acute and obtuse crossings	(A)
Distance between actual noses of the acute and obtuse crossings	(B)
Distance between actual and theoretical toes of switches in slips	(C)
Distance between theoretical nose of acute crossing and theoretical toe of the nearest pair of switches in slips	(D)
Angle of switch in slips	(Y)
Length of switch in slips	(H)
Radius of slips (outer rail)	(M)
Radius of slips (inner rail)	(N)
Distance between actual noses of the two acute crossings	(P)

These dimensions are given in pages DS 2 for diamonds and slips and DS 3 for movable switch diamonds & slips.

Rail lengths for diamonds and slips :

The lengths of rails connecting the acute and obtuse crossings of diamonds and switches in slips are given in pages DS 4, DS 5, DS 6, DS 7, DS 8, and DS 9.

Rail lengths for movable switch diamonds:

The lengths of rails connecting the acute and obtuse crossings of switch diamonds are given in pages DS 10 to DS 17.

Offsets for laying diamonds and slips:

The offsets for laying diamonds and slips are given in pages DS 18 and DS 19.

Offsets for laying movable switch diamonds:

The offsets for laying movable switch diamonds are given in pages DS 20 to DS 23.

Typical obtuse crossings BG and MG :

IRS obtuse crossings are built up of two point rails, an elbow and a check rail joined together by distance blocks and bolts. Pages DS 24, DS 25 and DS 26 illustrate the names of parts of an obtuse crossing and give for UIC 60kg, 52kg, 90R and 60R rail sections, tables of leading dimensions of BG and MG assemblies for 1 in 8½ obtuse crossings.

The salient features of the design of IRS obtuse crossings are:

(a) The thickness of the actual nose of crossing is generally kept equal to the thickness of the web of the rail section.

(b) If the path of a wheel tyre is traced across the flange way gap of an obtuse crossing, it will be seen that the contact area on the elbow rail, which is the running rail, progressively narrows and the increasing concentration of load has a tendency to cause heavy wear on the elbow rails opposite the nose. The latter also receives heavy impacts from the wheels and is quickly battered down. There is a tendency for the passing wheel to "drop in" leaving the elbow and riding on to the nose due to the 1 in 20 coning of the tyre. To counteract these tendencies, the point rails of an obtuse crossing are planed down by 6 mm at the nose and this planing is run out in a distance of 90 mm.

(c) Tie plates are provided at the nose of diamond crossing to ensure exact gauge. To reduce the number of different sizes of plates, the following sizes which

have been standardized for acute crossings, have also been standardized for obtuse crossings:

250 x 12 mm for BG and
220 x 10 mm for MG

Page DS 32 (sheets 2 to 4) give the dimensions and the number of the standard drawings for diamond crossing tie plates.

(d) To prevent the possibility of wheels mounting the obtuse crossings, the height of the inside check rail has been raised by welding a 25 mm thick steel strip on the rail table so that the length of the chord in contact with the wheel is increased and effective checking over a greater length is provided, thus preventing mounting of the wheel on the nose of the crossing.

Typical obtuse crossings for movable switch diamonds

The main components of a movable switch diamond are:

(a) Elbow rail, which is similar to the elbow rail of an ordinary crossing.

(b) Brace rail, which acts as a stock rail for the movable switch and also prevents creep of the switch rail thus obviating the use of additional anti-creep fittings.

(c) Movable point rails.

Page numbers DS 26 show details of a 1 in 8½ BG obtuse crossing with movable point rails.

Check rails : Pages DS 31 sheets 1 to 3 contain information pertaining to dimensions of typical check rails used with 1 in 8½ diamond crossing for BG & MG.

Slide chairs : Pages DS 33 to DS 43 contain information pertaining to the dimensions of typical slide chairs used in BG and MG for ordinary diamond and switch diamonds with slips. Slide chair with lug in pages DS 34 sheets 1 & 2 are used in diamond with slips for UIC 60 kg.

Tie plates : Pages DS 32 sheets 1 to 12 give the dimensions of tie plates used in 1 in 10 acute crossing BG, ordinary diamond crossing with slips BG and MG. Details of insulated tie plates used in BG obtuse crossing and switches in slips are given in pages DS 32 sheets 4 to 6 and 10. Tie plates with lug at page DS 32 sheet 9 is used in diamond and slips for UIC 60 kg.

Stretcher bars : Page DS 30 sheets 1 to 4 give the salient dimensions of ordinary and insulated leading stretcher bars used in BG and MG for diamond with double slips. Ordinary leading stretcher bars used in BG and MG for diamond with single slips and following stretcher bars used in BG and MG diamond with single and double slips are shown in pages DS 30 sheets 5 and 6. Insulating leading and following stretcher bars used in BG for diamond with single slips and for obtuse crossing are shown at pages DS 30 sheets 7 to 9.

Rail lug and centre bracket for leading stretcher bars : Pages DS 44 and DS 45 give the details of rail lug and centre bracket respectively, required for leading stretcher bars of diamonds with double slips.

Spherical washers : In certain cases viz: for 90R, 52 kg and UIC 60 kg rail sections, there is an infringement in fixing spherical washers due to the fins of fish plates. The spherical washers in such cases should be machined and used with packing pieces.

The spherical washers required to be provided in the intermediate portion of fixed heel and loose heel type switches should always be provided on the left side of the facing direction as has been shown in pages DS 24 sheets 1 & 2.

ASSEMBLIES AND SUB-ASSEMBLIES IN DIAMONDS AND SLIPS

GAUGE	CROSSING	RAIL SECTION	DESCRIPTION	ASSEMBLIES		SUB-ASSEMBLIES					
				LAY-OUT DRAWING NO.	PAGE	INTERMEDIATE PORTION DRG. NO	PAGE	OBTUSE-CROSSING DRAWING NO.	PAGE	ACUTE-CROSSING DRAWING NO.	PAGE
B.G.	1 IN 8½	UIC 60 Kg	DIAMOND CROSSING.	TA 20264	DS 4	TA 20264	DS 24 ST 7 OF 16	TA 20267	DS 24 ST 3, 4 OF 16	RDSO/T-3010	TSC 6 ST 1, 2 OF 4
			DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20265	DS 5	TA 20265	DS 24 ST 5, 10 OF 16				
			DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20266	DS 2, 6, 18	TA 20266	DS 24 ST 13, 14 OF 16				
		90 R	DIAMOND CROSSING.	TA 20144	DS 4	TA 20144	DS 24 ST. 8 OF 16	TA 20147	DS 24 ST. 5, 6 OF 16	TA 20111	
			DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20145	DS 5	TA 20145	DS 24 ST 11, 12 OF 16				
			DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20146	DS 2, 6, 18	TA 20146	DS 24 ST 15, 16 OF 16				
		52 Kg	MOVABLE SWITCH DIAMOND CROSSING.	TA 20218	DS 10	TA 20218	DS 26 ST 3, 4 OF 8	TA 20221	DS 26 ST 1, 2 OF 8	TA 20105	TSC 6 ST 7, 8 OF 4
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20219	DS 11	TA 20219	DS 26 ST 5, 6 OF 8				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20220	DS 3, 14, 20	TA 20220	DS 26 ST 7, 8 OF 8				
		90 R	MOVABLE SWITCH DIAMOND CROSSING.	TA 20134	DS 10	TA 20134	DS 26 ST 3, 4 OF 8	TA 20137		TA 20111	
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS	TA 20135	DS 11	TA 20135	DS 26 ST 5, 6 OF 8				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20136	DS 3, 14, 20	TA 20136	DS 26 ST 7, 8 OF 8				
	1 IN 10	90 R	MOVABLE SWITCH DIAMOND CROSSING.	TA 20129	DS 10	TA 20129	DS 27 ST 3, 4 OF 10	TA 20132	DS 27 ST 1, 2 OF 10	TA 20133	DS 27 ST 9, 10 OF 10
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20130	DS 11	TA 20130	DS 27 ST 5, 6 OF 10				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20131	DS 3, 14, 21	TA 20131	DS 27 ST 7, 8 OF 10				
	1 IN 12	52 Kg	MOVABLE SWITCH DIAMOND CROSSING.	TA 20214	DS 12	TA 20214	DS 28 ST 3, 4 OF 8	TA 20217	DS 28 ST 1, 2 OF 8	TA 5269(M)	TSC 11 ST. 3, 4 OF 4
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20215	DS 13	TA 20215	DS 28 ST 5, 6 OF 8				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20216	DS 3, 14, 22	TA 20216	DS 28 ST 7, 8 OF 8				
		90 R	MOVABLE SWITCH DIAMOND CROSSING.	TA 20236	DS 12	TA 20236	DS 28 ST 3, 4 OF 8	TA 20239		TA 5271(M)	
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20237	DS 13	TA 20237	DS 28 ST 5, 6 OF 8				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20238	DS 3, 14, 22	TA 20238	DS 28 ST 7, 8 OF 8				
M.G.	1 IN 8½	60 R	DIAMOND CROSSING.	TA 20422	DS 7	IT IS A PART OF OBTUSE CROSSING		TA 20425	DS 25 ST 1, 2 OF 8	TA 20428	DS 25 ST 7, 8 OF 8
			DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20423	DS 8			TA 20426	DS 25 ST 3, 4 OF 8		
			DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20424	DS 2, 9, 19			TA 20427	DS 25 ST 5, 6 OF 8		
	1 IN 12	75 R	MOVABLE SWITCH DIAMOND CROSSING.	TA 20489	DS 15	TA 20489	DS 29 ST 3, 4 OF 8	TA 20492	DS 29 ST 1, 2 OF 8	TA 20403	TSC 13 ST. 1, 2 OF 2
			MOVABLE SWITCH DIAMOND CROSSING WITH SINGLE SLIPS.	TA 20490	DS 16	TA 20490	DS 29 ST 5, 6 OF 8				
			MOVABLE SWITCH DIAMOND CROSSING WITH DOUBLE SLIPS.	TA 20491	DS 3, 17, 23	TA 20491	DS 29 ST 7, 8 OF 8				

ASSEMBLIES, SUB-ASSEMBLIES AND PARTS OF 1 IN 8½ UIC 60 Kg & 60 R M.G. ARE FOR USE WITH RAIL SCREW/PLATE SCREWS.

DS SHEET 1 OF 3

SUB ASSEMBLIES AND MAIN PARTS FOR DIAMONDS AND SLIPS

GAUGE	CROSSING	RAIL SECTION	INTERMEDIATE PORTION								OBTUSE CROSSING									ACUTE CROSSING					
			ASSEMBLY DRAWING NUMBER	TIE PLATE PAGE DS 32 ST. 1 TO 12	SLIDE CHAIR PAGE TSC 56 ST 12,5,6 OF 6	SPECIAL SLIDE CHAIR PAGE DS 34, 35 & 40	STRETCHER BARS LEADING	PAGE DS 30 ST. 1 TO 8	STRETCHER BARS FOLLOWING	PAGE DS 30 ST. 5, 6 & 9 OF 9	ASSEMBLY DRAWING NUMBER	TIE PLATE PAGE DS 32 ST. 1 OF 12	CHECK RAIL	PAGE	SPECIAL SLIDE CHAIR	PAGE	STRETCHER BARS ORDINARY/INSULATED LEADING	PAGE	FOLLOWING	PAGE	ASSEMBLY DRAWING NUMBER	ORDINARY TIE PLATE	PAGE	INSULATED TIE PLATE	PAGE	CHECK RAIL PAGE TSC 41
B.G.	1 IN 8½	UIC 60 Kg	TA 20264	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.							TA 20267	T 15214	T-19053	DS 31 ST 10 & 3	NOT REQUIRED						RDSO/T 3010	RDSO/T 3025 & RDSO/T 3026	TSC 48			RDSO/T-3012
			TA 20265	T 15213	RDSO/T 2632	—	RDSO/T 3045	DS 30	T 10737 RT 3046	DS 30															
			TA 20266			T 19647 TO T 19650	T 10736		T 10738 TO T 10739 RT 3046																
		90 R.	TA 20144	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.							TA 20147	T 15039	T 19011	DS 31 ST 10 & 3	NOT REQUIRED						TA 20111	T 15011	TSC 48	T 15073 T 15074 & T 15075	TSC 48	T 4777(M)
			TA 20145	T 15031	T 4931(M) & T 4931(A)(M)	T 19519 & T 19520	T 10310	DS 30	T 19311	DS 30															
			TA 20146			T 19519 TO T 19522	T 10579		T 10311																
		52 Kg	TA 20218	—	—	T 10742	—	—	—	—	TA 20221	T 15223 TO T 15226	NOT REQUIRED		T 19592, T 19651 TO T 19654	DS 37 DS 41 TO DS 43	T 10701 & T 10702	DS 30 ST. 7,8 OF 9	T 10703	DS 30 ST. 9 OF 9	TA 20105	T 15003	TSC 48	T 15086 T 15087 & T 15088	TSC 49	T 4776(M)
			TA 20219	T 15220 TO T 15222	T 4930(M) & T 4930(A)(M)	T 19633-34 & T 10742	T 10747-48	DS 30	T 10749	DS 30															
			TA 20220			T 19635 TO T 19637	T 10744-46		T 10749A																
		90 R	TA 20134			T 10757					TA 20137	T 15233 TO T 15236	NOT REQUIRED		T 19604, T 19655 TO T 19658	DS 37 DS 41 TO DS 43	T 10705 & T 10706	DS 30 ST. 7,8 OF 9	T 10710	DS 30 ST. 9 OF 9	TA 20111	T 15011	TSC 48	T 15073 T 15074 & T 15075	TSC 49	T 4777(M)
			TA 20135	T 15230 TO T 15232	T 19630 & T 19630(A)	T 19519 & T 19600	T 10369 & T 10370	DS 30	T 10366	DS 30															
			TA 20136			T 19519 T 19600 TO T 19603	T 10758 TO T 10760		T 10366																
	1 IN 10	90 R	TA 20129	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.							TA 20132	T 15029	NOT REQUIRED		T 19516 TO T 19518	DS 36 DS 37	T 10711 & T 10712	DS 30 ST. 7,8 OF 9	T 10713	DS 30 ST. 9 OF 9	TA 20133	T 15030	DS 32 ST. 10 OF 10			T 4777(M)
			TA 20130	T 15028	T 4931(M) & T 4931(A)(M)	T 19511 & T 19512	T 10310	DS 30	T 10311	DS 30															
			TA 20131			T 19511 TO T 19515	T 10308		T 10311																
	1 IN 12	52 Kg	TA 20214	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.							TA 20217	T 15091	NOT REQUIRED		T 19574 T 19575 & T 19576	DS 36 DS 36 DS 37	T 10641 & T 10642	DS 30 ST. 7,8 OF 9	T 10643	DS 30 ST. 9 OF 9	TA 5269(M)	T 3164(M)	TSC 48	T 15083 T 15084 & T 15085	TSC 49	T 4776(M)
			TA 20215	T 15092	T 4930(M) & T 4930(A)(M)	T 19567 & T 19568	T 2640(M)	DS 30	T 265(M)	DS 30															
			TA 20216			T 19567 TO T 19573	T 10610		T 265(M)																
		90 R	TA 20236	THESE PARTS ARE NOT REQUIRED FOR THIS SUB ASSEMBLY							TA 20239	T 15106	NOT REQUIRED		T 19626 TO T 19628	DS 37 & DS 38	T 10665 & T 10666		T 10667	DS 30 ST. 9 OF 9	TA 5271(M)	T 15109				T 4777(M)
			TA 20237	T 15106	T 4931(M) & T 4931(A)(M)	T 19619 T 19620	T 10310	DS 30	T 10311	DS 30															
			TA 20238			T 19613 TO T 19625	T 10664		T 10311																
M.G.	1 IN 8½	60 R	TA 20422	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY							TA 20425	T 15128	T 19017		NOT REQUIRED						TA 20426	T 15126	ANX-6 ST. 3			T 19004
			TA 20423	THESE ARE PART OF OBTUSE CROSSING.							TA 20426	T 15127 & T 15128			T 19630 T 19630(A) T 19629	DS 33	T 10319	DS 30 ST. 6	T 10320							
			TA 20424								TA 20427				T 19629 T 19630(A) T 19630 TO T 19632		T 10581	DS 30 ST. 1&2	T 10320	DS 30						
	1 IN 12	75 R	TA 20489	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.							TA 20492	T 15102	NOT REQUIRED		T 19611 & T 19612	DS 38	T 10319	DS 30 ST. 6 OF 9	T 10320	ST. 8 OF 9	TA 20403	T 15004	TSC 48	T 15023 & T 15024	TSC 51	T 19003
			TA 20490	T 15103	T 19504 & T 19504(A)	T 19606	T 10656	DS 30	T 10657	DS 30															
			TA 20491			T 19606 TO T 19610	T 10651		T 10657																

DS SHEET 2 OF 3

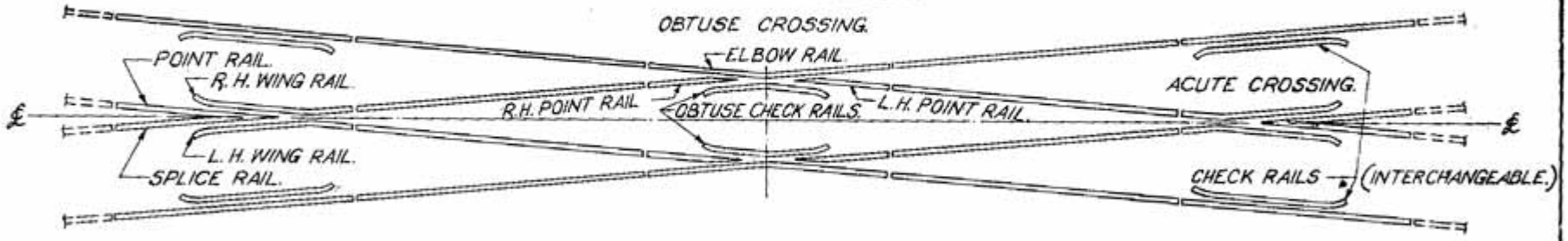
COMPARATIVE STATEMENT OF PART DRAWINGS WITH DOG SPIKES ROUND SPIKES AND RAIL SCREWS PLATE SCREWS FOR SUB ASSEMBLIES OF CHAPTER VI VOL. I

GAUGE	CROSSING	RAIL SECTION	ASSEMBLY DRAWING NUMBER (DOUBLE SLIPS)	INTERMEDIATE PORTION							OBTUSE CROSSING					ACUTE CROSSING		
				ASSEMBLY DRAWING NUMBER	TIE PLATE WITH ROUND SPIKE DRG: NR & PAGE DS 32 ST. 1 TO 12	TIE PLATE WITH PLATE SCREW DRG: NR & PAGE DS 32 ST. 1 TO 12	SLIDE CHAIR WITH ROUND SPIKE DRG: NR & PAGE TSC 56 ST. 1 & 6	SLIDE CHAIR WITH PLATE SCREW DRG: NR & PAGE	SPL: SLIDE CHAIR WITH ROUND SPIKE DRG: NR & PAGE DS 34 & 35 ST. 1, 2 & 4	SPL: SLIDE CHAIR WITH PLATE SCREW DRG: NR & PAGE DS 34 & 40	SUB-ASSEMBLY DRAWING NUMBER	TIE PLATE WITH DOG SPIKES DRG: NR & PAGE DS 22 ST. 1 TO 12	TIE PLATE WITH RAIL SCREW DRG: NR & PAGE DS 32 ST. 1 TO 12	SPL: SLIDE CHAIR WITH ROUND SPIKES DRG: NR & PAGE DS 33, 38 TO 39	SPL: SLIDE CHAIR WITH PLATE SCREWS DRG: NR & PAGE DS 37, 41 TO 43	SUB-ASSEMBLY DRAWING NUMBER	TIE PLATE WITH DOG SPIKE DRG: NR & PAGE	TIE PLATE WITH RAIL SCREW DRG: NR & PAGE
B.G.	1 IN 8½	90 R	TA 20146	TA 20144	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.						TA 20147	T 15039		NOT REQUIRED		TA 20111	T 15011 TSC 48 ST. 5	T 15122 ANX: 6 ST. 2&3
				TA 20145	T 15031		T 493(M) & T 493(A)(M)		T 19519 T 19520									
				TA 20146					T 19519 TO T 19522									
		52 Kg	TA 20220	TA 20218	—	—	—	—	—	T 10742	TA 20221		T 15223 TO T 15226		T 19592 & T 19651 TO T 19654	TA 20105	T 15003 TSC 48 ST. 5	T 15113 ANX: 6 ST. 2&3
				TA 20219	T 15031	T 15220 TO T 15222		T 19629 & T 19629/A		T 19633-34 & T 10742								
				TA 20220						T 19633 TO T 19637								
		90 R	TA 20136	TA 20134	—	—	—	—	—	T 10757	TA 20137		T 15233 TO T 15236		T 19604, T 19655 TO T 19658	TA 20111	T 15011 TSC 48 ST. 5	T 15122 ANX: 6 ST. 2&3
				TA 20135		T 15230 TO T 15232		T 19630 & T 19630/A		T 19519 & T 19600								
				TA 20136						T 19519 & T 19600 TO T 19603								
	1 IN 10	90 R	TA 20131	TA 20129	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.						TA 20132	T 15029		T 19516 TO T 19518		TA 20133	T 15030 DS 32 ST. 1	
				TA 20130	T 15028		T 493(M) & T 493(A)(M)		T 19511 & T 19512									
				TA 20131					T 19511 TO T 19515									
	1 IN 12	52 Kg	TA 20216	TA 20214	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.						TA 20217	T 15091		T 19574 TO T 19576		TA 5269(M)	T 3164(M) TSC 48 ST. 5	T 15110 ANX: 6 ST. 2&3
				TA 20215	T 15092		T 4930(M) & T 4930(A)(M)		T 19567 & T 19568									
				TA 20216					T 19567 TO T 19573									
		90 R	TA 20238	TA 20236	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.						TA 20239	T 15106		T 19625 TO T 19628		TA 5271(M)	T 3166(M) TSC 48 ST. 5	T 15109 ANX: 6 ST. 2&3
				TA 20237	T 15106		T 4931(M) & T 4931(A)(M)		T 19619 & T 19620									
				TA 20238					T 19619 TO T 19625									
M.G.	1 IN 12	75 R	TA 20491	TA 20489	THESE PARTS ARE NOT REQUIRED FOR THIS SUB-ASSEMBLY.						TA 20492	T 15102		T 19611 & T 19612		TA 20403	T 15004 TSC 48 ST. 5	T 15111 ANX: 6 ST. 2&3.
				TA 20490	T 15103		T 19504 & T 19504/A		T 19606									
				TA 20491					T 19606 TO T 19610									

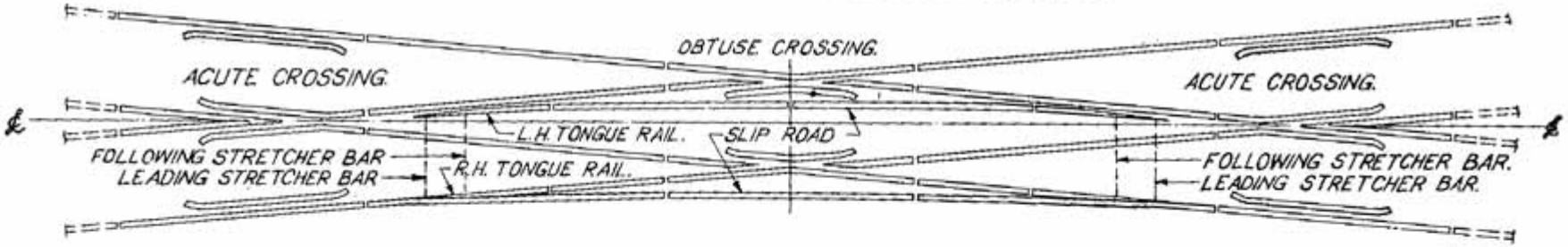
DS SHEET 3 OF 3

DEFINITIONS OF DIAMONDS & SLIPS.

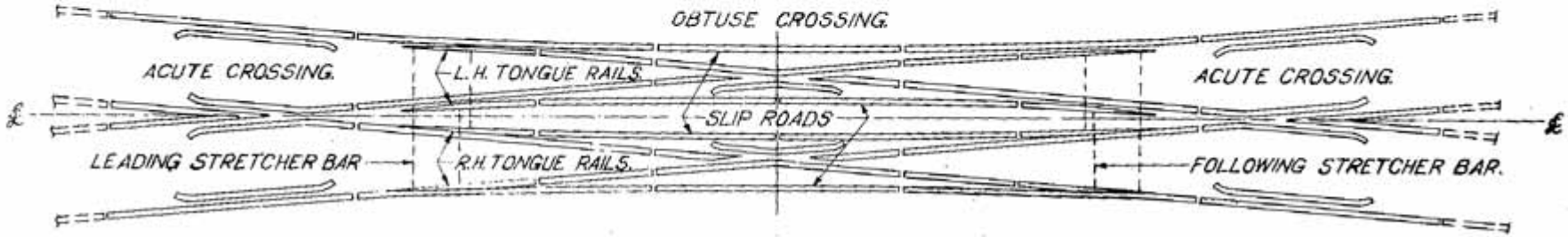
DIAMOND CROSSING.



DIAMOND CROSSING WITH SINGLE SLIPS.



DIAMOND CROSSING WITH DOUBLE SLIPS.



D51
SHEET 10F2