

**INSPECTION CHECK SHEET  
OF  
FABRICATED SWITCHES**

**SPECIFICATION: IRS/T-10 – 2000**

# QUALITY ASSURANCE/CIVIL DIRECTORATE

## RDSO, LUCKNOW

### Inspection Check Sheet for Fabricated Switches

**Specification:** Indian Railway Standard Specification for fabricated Switches: IRS/T-10-2000.

**STR :** Document No. TDG 0018, 0019 & 0020 Rev. '0'

S.N	Clause/Para No.	Description of Item	Observation/Remarks ( Yes/No)
Inspection Gauges:			
1	Para no. 2.1 of IRS/T-10-2000	All inspection gauges/templates duly checked & stamped by RDSO is available.	
2		Approval certificate for inspection gauges/templates issued by RDSO is available.	
3		Approved copy of Quality Assurance Programme (QAP) is available.	
Measuring Instruments;			
4		Measuring & testing instruments/machines have valid calibration.	
5		Instruments which are required to be cross checked with test pieces or by weight, have been checked.	
6		USFD M/C used is from RDSO approved sources.	
7		USFD M/C is checked with standard test pieces.	
Rails:			
8	Para no. 3.1.1 of IRS/T-10-2000	Details of rails (Markings) provided by the purchaser is verified.	
9		Record of ultrasonic testing maintained by the manufacturer before start of manufacturing is satisfactory.	

10		Cold bending methodology of rails available with firm is satisfactory. (No Hot Working is done).	
11		Facilities for proper handling of rails are available and being used.	
12		All the dimension has been measured and recorded and are within specified limit.	
<b>Switches:</b>			
13	Para no. 3.3.1 & 3.3.2 of IRS/T-10	Machining and cutting of tongue rails have been checked and are as per drawing.	
14		Curvature of the tongue rails have been checked and recorded. There is no sign of hot bending.	
15		There is no sign of gas cutting and drilling of holes with gas cutting.	
16		Holes in the tongue rails are as per drawings and chamfering has been done	
17		Magnetic particle test of tongue rail has been done and results are satisfactory.	
<b>Stock Rail:</b>			
18	Para no. 3.3.1 & 3.3.2 of IRS/T-10	Machining and cutting of stock rails have been checked and are as per drawing	
19		Curvature of the stock rails have been checked and recorded. There is no sign of hot bending	
20		There is no sign of gas cutting and drilling of holes with gas cutting M/C.	
21		Holes in the stock rails are as per drawings and chamfering has been done	
22		Magnetic particle test of stock rail has been done and result is satisfactory.	
23		USFD testing of stock rails have been done and results are satisfactory.	
24		Dimensional checking as per specification/drawing has been done and is satisfactory.	
<b>Check Rails:</b>			
25		Machining and cutting of check rails have been checked and are as per drawing	
26		USFD testing of check rails have been done and results are satisfactory	
27		There is no sign of gas cutting and drilling of holes with gas cutting M/C.	
28		Holes in the check rails are as per drawings and chamfering has been done	
29		Dimensional checking as per specification/drawing has been done and is	

		satisfactory.	
<b>Components:</b>			
<b>Single coil spring washer:</b>			
30	Para no. 3.1.4 of IRS/T-10-2000 & IRS/T-42	Single coil spring washer is procured from RDSO approved source.	
31		Physical and Chemical tests has been done for Single coil spring washer and result confirms to specification.	
<b>Heel &amp; distance blocks:</b>			
32	Para no. 3.1.3 of IRS/T-10-2000 and IS-210	Physical test on heel & distance blocks has been done and confirm specification	
33		All blocks are having cast part no., month/year of manufacture & firms insignia on them.	
34		Dimensions and hole position have been checked and recorded. The results are satisfactory.	
<b>Bearing plates, slide chairs &amp; tie plates:</b>			
35	Para no. 3.1.5 of IRS/T-10-2000 and IS: 2062, Grade 'B'	Bearing plates, slide chairs & tie plates are conforming to the requirements of Gr.- B to IS: 2062/1999.	
36		Dimensions and hole position have been recorded. The results are satisfactory.	
<b>Track bolts, nuts&amp; rivets:</b>			
37	Para no. 3.1.6, 3.1.7 of IRS/T-10-2000 and IS: 1875, IS: 1148 & IRS/T-23	Physical and Chemical tests of Track bolts, nuts& rivets have been conducted and are meeting the requirements.	
38	Para no. 3.1.8 of IRS/T-10-2000	Test certificate for Spring washers are conforming to IS: 3063/1991 with material designated as 55Si7 to IS: 4072/75 Grade 7 is available	
39	Para no. 3.1.9 of IRS/T-10-2000	Test certificate for Ordinary washers are conforming to IS 2016/91 (Plain washers) having material Grade B of IS: 2062/1999 is available.	
<b>Check during assembled position:</b>			
40	Para no. 4.1.3 of IRS/T-10-2000	Maximum Clearance between switch & stock rails at different locations in assembled position checked as per drawing/specification. Results are satisfactory.	
41	Para no. 4.1.4 of IRS/T-10-2000	Switch stops: Horizontal distance between holes & height of stop is correct as per drawing/specification.	
42	Para no. 4.1.6 of IRS/T-10-2000	Heel divergence i.e. the offset has been measured between the gauge faces of stock & tongue rails is exact as per drawing.	

43		Blocks are in contact with the web of rails throughout.	
44	Dimensional check sheet	All dimensional parameters checked with the help of inspection gauges, measuring tape, scale etc, recorded and found satisfactory as per inspection check sheet.	