

- c) It should indicate prominently the direction of movement and also the names of stations in rear and advance of the accident site.
- d) It should cover a length of about 300 metres behind the point of mount and almost an equal distance in front.
- e) Each track of the permanent way must be denoted by a pair of lines.
- f) The position of level crossings, OHE posts, bridges, tunnels, gradient posts with gradient symbols, curves demarking the beginning and end giving details of degree of curvature prescribed, super elevation and length of transitions should be indicated.
- g) It should also indicate:-
  - i. The position of all derailed vehicles and the marks left by them either on sleepers, rails or ballast.
  - ii. Point of Mount with position of rail joints on either side.
  - iii. Point of Drop.
  - iv. The pair of wheels of the first derailing vehicle.
  - v. The position in which every displaced rail/wagon or part of a rail/wagon and detachable components were found.
  - vi. In all cases dimensions from nearest kilometre post and centre line of track should be given.
- h) In cases of accidents within station limits, sufficient details about the station layout should be shown in order to fully explain the movement of the affected train in relation to the topography of the place. The signal aspects at the time of accident should be correctly depicted.
- i) The distance of the site of accident from a permanent structure to show the site of accident precisely should be indicated.
- j) The distances should be indicated to show the extent of the disturbance caused in the permanent way or train composition on account of the accident.
- k) A good sketch should always accompany the proceedings duly signed by the President of the enquiry committee. If necessary more than one sketch should be enclosed, one clarifying the yard layout and the system of working and the other giving details such as, position of wheels, wheel marks etc. In the former, one line should be used to represent both the rails of a track and as much portion of the station yard (in case of accidents within station limits) should be covered as may be necessary. All necessary details relevant to the issue should be embodied in the sketch. The terminal station in the down direction should be mentioned on the right extremity of the sketch, the terminal station in the up direction being mentioned on the left extremity. If the accident takes place within station limits, the shorter sketch should be based on the diagram of the Station Working Rules.
- l) Any other details considered necessary.

Note: Typical sketch of the Accident site is given at 508. (Item No.5 of AS-6)

#### **504 Pro-forma to be filled up in case of Derailment:**

The relevant paras in this pro-forma are required to be filled in by the Inspectors/Officers of the respective departments before leaving the site of the accident and the complete pro-forma should be countersigned by the senior most Officer present at the site of the accident.

This pro-forma should form part of the proceedings of the inquiry and should be sent along with the proceedings.

**504.1 Pro-forma for Track Measurement (PART-A) (Item No.8 of AS-6)**

Soil			Type of formation	Rain fall	Ballast		
S. No	Type (Sandy/Loamy/clay, Moorum Black Cotton etc.)	Condition (firm/, wet, slushy etc.)			Type (Stone, Moorum Sand, Ash etc.)	Depth below sleeper bottom in centimetres, stating whether clean or caked.	Drainage
1	2	3	4	5	6	7	8

Ballast (contd.)				Sleepers				
Width of shoulders in cms. from outside of..				Type (wooden CST-9, steel trough, PSC etc.)	Condition (New, Second hand, damaged, unserviceable etc)	Density	Square or not	Packing (Loose or sound)
Rails		Sleeper end						
Left	Right	Left	Right	13	14	15	16	17
9	10	11	12					

Rails			Rail fastenings	
			Dog/Screw spikes, keys, tie bars coppers, loose jaws etc.	
Weight (60 Kg/ 52kg/90R/75Retc) (Year of Manufacturing)	Condition of wear (attach rail profile if wear heavy)	GMT Carried	Number per sleeper seat	Condition: (Tight or loose or missing in each sleeper)
18	19	20	21	22

Rail Joints			General remarks about cracks or fracture of flash-plates, fish bolts and other components	Description of anti-sabotage measures like reverse jaws, welded rails etc.
Condition: (Hogged, battered, low etc.)	Staggered or square	Creep - direction and extent of creep, type of creep anchors used with numbers per rail in the affected section)		
23	24	25	26	27

To Be Jointly Signed by		
SSE/SE(C&W)	TI/SS(Traffic)	SSE/SE(P.Way)

Location of point of mount		Location of point of Derailment	
whether on straight, curve or transition	whether on a falling grade, level, or rising grade and/or on sag	whether on straight, curve or transition	whether on a falling grade, level or rising grade and /or on sag
28	29	30	31

- Note:
- (1) Left and right are with respect to direction of the train movement;
  - (2) The data in Col.2 to 26 need not be collected when the defect is obviously and indisputably on account of sabotage and/or obstruction on track;
  - (3) Only broken track material which is not indisputably to be broken after the accident should be included in Col.26 and should be preserved;
  - (4) Col.27 needs to be filled in only when there is a suspicion about sabotage being the cause of derailment and
  - (5) Sag extends 90 metres on either side of theoretical junction of the grade lines columns 29 and 31.

To be jointly signed by		
Supervisor (P.Way)	Supervisor (Traffic)	Supervisor (C&W)

**504.2 Pro-forma for Track Measurement (PART-B)**

Station No.	Distance apart (metres)	Gauge slack or tight from the exact in loaded condition	Cross level (mm) Under Loaded condition	Marks on sleeper or rail top	Grinding or rubbing marks on rails	Examination of alignment for perceptible kinds of track distortion in the vicinity of the point of mount and drop
1	2	3	4	5	6	7

Subsidence of track	Versine in mm in loaded condition		Remarks regarding length of transition, degree of curve and specified super elevation general alignment etc.	Longitudinal level to be recorded in the case of MG and NG and in case of sags or curves
	On 20M. or 10M. chord depending on the practice prevalent on the Railway for flat curves more than 600 M. radius.	On 10M. or such shorter Chords as considered necessary for sharp curves (less than 600M. radius on B.G. and M.G.)		
8	9	10	11	12

- Note: (1) The point of mount should be marked with station number '0' and the stations shall be numbered serially as (+) for measurements ahead of site of derailment and (-) for measurements in rear.
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- In case of sudden derailment point of drop will be considered as '0' station. In case of gradual derailment point of mount will be treated as '0' station.
- (2) The cross level will be measured on the left rail only as determined from the direction of movement.
- (3) Normally measurement will be taken at stations three meters apart for a distance of 45 metres on either side of '0' station if the cause of derailment is indisputably known, otherwise they will be taken for a distance of 100 metres in rear and 45 meters ahead of zero station.
- (4) Where necessary, measurement for columns 3, 4 and 5 may be taken additionally at individual sleepers up to 9 mts in rear of point of derailment.
- (5) This Pro-forma need not be filled when the cause of derailment is obviously established as due to sabotage, obstruction on track, broken axle, and/or spring having fallen off prior to point of derailment, etc.
- (6) Longitudinal levels should be recorded for 300 metres in rear and 100 metres in front, in case of straights at the middle of each rail and at versine recording points on curves at @ 20/10 metres intervals.
- (7) \*If the locomotive has also derailed, then one supervisor from loco branch will also sign the measurement pro-forma/sheet.
- (8) Site sketch of the derailment/accident location shall be prepared giving due care that all the relevant items are included along with the dimensions. A sample sketch is given in the following page for the guidance.

To be jointly signed by			
Supervisor (P.Way)	Supervisor (Traffic)	Supervisor (C&W)	*Loco Inspector (when loco derails)