

NEW EQUIPMENT & SYSTEM APPROVAL PROFORMA

Ref: 08-08-11-121

Note: the prompts given below are only a guide to the information required for approval. Dependent on the type of equipment or system that requires approval delete any section that is not applicable or include additional information if necessary. **Mandatory** fields are marked with an asterisk (*).

1 Equipment or System to be approved *

Low weight measuring trolley KRAB-LIGHT for the track geometry.

2 Originator *

Name: Hassan Elaina

Company: ARTC

3 Introduction *

The KRAB-LIGHT system has been designed to measure track geometry values, in much the same way as larger measuring cars. It is ideally to be used on secondary routes, sidings, switch points and for new track acceptance.

Note: Due to its lack of appreciable weight and dynamic loading of track, the results from the Krab trolley cannot be directly compared with the measurements from the AK Car, which has an axle load of about 13 tonnes.

4 Determination of Need *

-The measuring trolley KRAB-LIGHT is portable lightweight equipment which measures gauges, alignment, cant and top of the tracks.

-The trolley is supplied with adjustable nominal gauge in range 1000-1668mm.

-Weights app. 35kg. Maximum speed 15kph.

-It can be loaded/unloaded by one person and operated by two persons. So it is of considerable value between AK Car runs and for checking short lengths of repaired track.

-It is supplied with the measuring, communication and evaluation software installed on the PDA class measuring computer.

--Measured track geometry results are evaluated by sections and by local irregularities. Both modules have been made to European railways requirements; however they have been changed to any requirements you may need i.e. ARTC Base Operating Condition Standards of Track Geometry.

-This Krab trolley negates the need for a track inspector to carry combination of track gauge and cant stick as well as tape and string. Measuring some parameters like twist is very difficult without a trolley like this.

5 Significant Change or Not

This change in equipment or system is assessed as MINOR

6 Review Panel *

- John Furness - Manager Standards
- Neil Orange, AK Car Manager E-W
- Alice Weatherford, Track and Civil Standards Engineer
- Tim Calver, Track Standards and Technical Services Engineer.

7 Safety

The operation of this trolley is within the parameters of Australian Standard AS4292 2006. Only to be operated by competent staff who have appropriate training and safeworking for the jurisdiction involved.

The use of this trolley will result in better measurements of track than can be achieved manually.

8 Performance and Suitability

The measuring trolley is used mostly for acceptance of the finished construction works on the corridors for operational checks of the regional tracks, station tracks, switches, etc.

- A) the general track,
- B) the tracks with holding rails,
- C) for switches of all shapes,

(i) Use in other rail networks

In Australia: John Holland Rail, Fluor Daniel, Leighton plus infrastructure in Port Headland and Port Augusta.

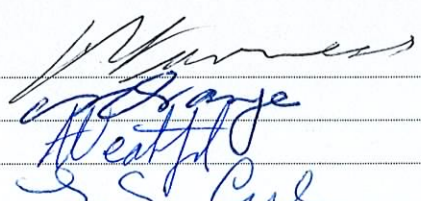
Overseas: Germany, Spain, Portugal, Czech Republic, Slovenia, Slovakia, Sweden, Turkey, Denmark, Holland, Columbia, Chile, South Africa, Burundi, China, Taiwan and more.

(ii) Use in the ARTC network

To be approved for use across the entire ARTC network.

(iii) Issues arising from usage of the equipment/system

Conversion factors calculated and supplied by Standards and Compliance sections to be used.

(iv)	Changes required to infrastructure or systems for use of the equipment						
	Recording system for results of measuring runs.						
9	Reliability						
	Proven equipment as used in many other railway systems.						
10	Maintainability						
	<ul style="list-style-type: none"> -The surface finish of the painted parts must be protected against mechanical damage. -Zinc plated parts and circumferential surfaces of wheels must be dried and cleaned after each measurement. -Special lubrication oil for linear ball bearings and sliding rod mechanism must be used. -Don't over-tightened bolts as this may damage the arresting mechanism. -Both mechanical and electrical part is repaired by the manufacturer. -Annually the Krab trolley requires full calibration which requires the use of special frame. This is available in Australia through the manufacturer. -Auto calibration should be done at least every month at least or before the first measuring of the day. Auto calibration is to be made to check and adjust zero values of the alignment, top, twist and cant. Auto calibration must be carried out on the straight track of minimum length 50m. 						
11	Approval *						
	Krab-Light Low Weight Measuring Trolley. Model 6vNET only.						
12	Conditions of Approval *						
	<ul style="list-style-type: none"> -Krab-Light is to be operated in accordance with the supplier Manual. - Software to be captive to each trolley and to remain with it at all times. -Manual for assembly and maintenance, quick reference manual, programme SWITCH for evaluation of switches, theoretical overview, measuring software details and evaluating program details are supplied. -Five days of operator training is provided by the manufacturer. Only trained staff (As approved by Team Manager or equivalent) are to operate the Krab trolley -Annually full calibration of the Krab trolley is to be undertaken and certified by the manufacturer. - Auto calibration to be completed and recorded before the first measuring each day when in regular use or each month when not in regular use - as per manufacturer's instructions. If outside acceptable limits, use of trolley to be suspended until repairs completed and it is recalibrated. 						
13	Does the Originator accept the additional Conditions of Approval as set by the Review Panel:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
14	Sign off	ARTC office use only					
	Review Panel:						
	John Furness					Date: 31/3/09.	
	Neil Orange					Date: 31/3/09	
	Alice Weatherford					Date: 31/03/09	
	Tim Calver					Date: 31/3/09	