भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
EPBX (0522) 2451200
Fax (0522) 2458500

Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310

PROVISIONAL SPEED CERTIFICATE FOR OPERATION

No.	TM/HM/11/34/UTV

Date	As signed

महाप्रबन्धक (इंजीनियरिंग),

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई– 400 001
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता– 700 001
3. उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली– 110 001
4. पूर्वोत्तर रेलवे, गोरखपुर– 273 001
5. पूर्वोत्तर फ्रन्टियर रेलवे, मालीगॉव, गुवाहाटी– 781 011
6. दक्षिण रेलवे, एनेक्सी, पार्क टाऊन, चेन्नई– 600 003
7. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद– 500 071
8. दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता– 700 043
9. पश्चिम रेलवे, चर्चगेट, मुम्बई– 400020
10. उत्तर मध्य रेलवे, प्रयागराज– 211 001
11. उत्तर पश्चिम रेलवे, जयपुर– 302 006
12. पूर्व मध्य रेलवे, हाजीपुर– 844 101
13. पूर्व तट रेलवे, रेलवे कॉम्पलेक्स, भुवनेश्वर– 751 023
14. दक्षिण पश्चिम रेलवे, हुबली– 580 023
15. पश्चिम मध्य रेलवे, जबलपुर– 482 001
16. दक्षिण पूर्व मध्य रेलवे, बिलासपुर– 495 004

Sub.	Provisional Speed Certificate for Utility Track Vehicle,Transportation Code CUTV/TA supplied by M/s Trident Auto Components Pvt. Ltd., Kanpur.
Ref.	(i) Provisional speed certificate No. TM/HM/11/34/UTV dated 22.09.2017. (ii) Railway Board's letter No. 87/M(C)/202/10 Vol(iv)Part(ii) dated 18.04.2018. (iii) North Central Railway letter No JHS/W/TT/UTV Trident dated 27.09.2022.

1.0 IMPORTANT PARAMETERS RELATED TO ROLLING STOCK

Type	**Final / Provisional / Oscillation Trial / COCR Movement**	Provisional

Validity/ Period or Permanent	**IR / Sectional**	5 yrs /IR

Stock Name	Utility Track Vehicle

Max. Axle Load (Empty)	15t

Max. Axle Load (Loaded)	20t

Transportation Code	CUTV/TA	**GA Drg. No.**	TACPL/UTV-001

Bogie arrangement Drg. No.	NA	**Suspension arrangement Drg. No.**	TACPL/UTV/SA/15/001/13

Commodity	**Coal / Ore / Steel /Bagged / Oil /etc.**	NA	**Gauge**	BG	

Type of Bogie	NA	**Type of Coupler**	High Tensile Transition CBC coupler	**Wheel Dia.(mm)**	New: 915 / Worn: 860

Rake / Train consist for COCR / Oscillation Trial	NA

Max. Permissible Speed	**Own Power**	50 kmph	**Train Formation**	60 kmph

2.0	**INTRODUCTION**

2.1	Utility Track Vehicle is a self propelled vehicle supplied by M/s Trident Auto Components Pvt. Ltd., Kanpur , as per their drawing No TACPL/UTV-001. The machine is used for picking up leftover material like sleepers,rails etc. from the work site.Transportation Code of the Utility Track Vehicle is CUTV/TA as per Railway Board's letter No. 87/M(C)/202/10 Vol(iv)Part(ii) dated 18.04.2018.
2.2	The maximum axle load and wheel diameter of machine are 20t and 915mm respectively. The design speed of machine is 80 kmph when running on its own power and 90 kmph when running in train formation as a dead vehicle. The dynamic simulation results of Utility Track Vehicle are found satisfactory upto speed of 80 kmph.
2.3	The Utility Track Vehicle, supplied by M/s Trident Auto Components Pvt. Ltd., Kanpur to Drg. No. TACPL/UTV-001 & Annexure-A was permitted to run provisionally at a maximum speed of 50 kmph when running on its own power and 60 kmph when running in train formation as a dead vehicle vide RDSO's speed certificate TM/HM/11/34/UTV dated 22.09.2017. The Zonal Railway had submitted the performance of vehicle and stated that the vehicle is running safely.

3.0	Based on design features of Utility Track Vehicle to their drawing No. TACPL/UTV-001 supplied by M/s Trident Auto Components Pvt. Ltd., Kanpur as given in Annexure-A and above, may be permitted provisionally to run at a maximum speed of 50 kmph when running on its own power and 60 kmph when running in train formation as a dead vehicle, subject to the following conditions:

3.1	**TRACK**
3.1.1	**Track structure Details & Speed**
	The track shall be to a minimum standard of-

	Rail Section	Sleeper Density	Ballast Cushion	Max. Speed (own power)	Max. Speed (train formation)
	52 kg (72 UTS)	1540 Nos./km	250mm (100mm clean & rest in caked up on compact and stable formation)	50 kmph	60 kmph

3.1.2	Track Geometry standards shall be maintained to as per provisions of Indian Railways Permanent Way Manual, June-2020, containing track geometry standards under Para 522.
3.1.3	For track maintained to lower standard than that mentioned above, the Chief Engineer shall decide the lower maximum permissible speed on the basis of maintenance condition. In this connection, instructions issued by Railway Board letter no. 65/WDO/SR/26 dated 19/20.10.1966 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending upon the local conditions.
3.1.4	The maximum permissible speed on curves shall be decided on the basis of the existing provisions of the Indian Railways Permanent Way Manual, June-2020.
3.1.5	The welds shall be protected by joggled fish plates as per provisions of USFD Manual and Indian Railways Permanent Way Manual, June-2020 and other policy instructions of Railway Board. The maintenance of rails and rail joints shall be ensured as per provisions of Indian Railways Permanent Way Manual, June-2020. In addition, wherever condition warrants on account of corrosion on rail/weld collar, wear on rail, cupping of welds etc., necessary precautions shall be taken for fish plating/joggled fish plating.
3.1.6	Zonal Railways may ensure further detailed examination of track as deemed fit based on age cum condition basis, overdue renewal and condition of formation etc. as per provisions of Indian Railways Permanent Way Manual, June-2020, regarding permanent way renewals and may suitably restrict maximum speed of operation based on such examination.

3.2	**BRIDGE STIPULATIONS:**

3.2.1	The clearance refers to “Standard RDSO Spans” bridges with standard design of girders, slabs, pipe culverts, piers and abutments etc. issued by RDSO for BGML, RBG, MBG and 25t-2008 standard loadings.
3.2.2	Superstructures & Bearings of “Special Spans” (designed and constructed by Zonal Railways based on site requirements), Arches and sub-structures (including foundation) of all bridges (Standard RDSO spans & Special Spans) are to be got examined by the Chief Bridge Engineer and certified safe with respect to current Indian Railway Standard Codes with up to-date correction slips.
3.2.3	The clearance is subject to the following parameters of Utility Track Vehicle:

Rolling Stock	**Maximum axle load** (t)	**Maximum tractive effort** (t)	**Maximum braking force at rail level per axle**(t)	**Maximum CG height from rail level** (mm)
Utility Track Vehicle	20.0	1.05	2.96	965

3.2.4	All Standard RDSO spans of BGML, RBG, MBG and 25t-2008 loading are fit for proposed speed of 50 kmph when running on its own power and 60 kmph in train formation.

3.2.5	During operation of Utility Track Vehicle with single/multiple locomotives and other rolling stocks the speed certificate issued by RDSO of the single/multiple locomotives /rolling stocks in empty/loaded condition shall be strictly complied with. Therefore, speed certificate of each single/multiple locomotive and rolling stocks in train formation shall be examined carefully & speed restriction /strengthening / prohibition /any other restriction shall be imposed according to most restrictive rolling stock/locomotive/multiple locomotives in train formation.
3.2.6	Location of bridges on which speed restrictions are imposed should be notified by the Railways and incorporated in the working timetable.
3.2.7	The above clauses have been arrived at considering bridges are in physically sound condition. In case the bridges are not in satisfactory physical condition, necessary speed restriction to be imposed by Chief Bridge Engineer of Zonal Railway on condition basis.

3.3	**SIGNALLING STIPULATIONS:**

3.3.1	Provisions of GR, SR, IRSOD, SEM & all extant instructions issued from time to time as applicable shall be complied with.
3.3.2	In case of locomotive/rolling stocks /train (having this machine in its composition) having EBD of more than 1 km and non-provision of second distant signal/4 Aspect Automatic signalling in the section, action as per para 7.8.9 of IRSEM (issue July 2021) shall be taken.
3.3.3	While running through a station yard, speed of the Rolling stock shall be restricted to the maximum permissible speed as per standard of interlocking provided at the station or any other speed restriction whichever is severe.

3.4	**TRACTION STIPULATIONS:**

3.4.1	In 25KV AC traction area, the Principal Chief Electrical Engineer of the concerned Railway shall have to ensure that the minimum height of contact wire and electrical clearances as stipulated in provisions of Chapter-V and V-A, Electric Traction 'Schedule of Dimensions of 1676mm Gauge (BG) revised 2022' with latest Addendum & Corrigendum Slips is not violated and strictly followed to ensure its safe running.
3.4.2	In addition to above, the Principal Chief Electrical Engineer of the concerned Railway may impose any temporary speed restriction on the basis of personal knowledge, experience of the sectional OHE and the field conditions prevailing on the particular section.
3.4.3	During the Movement of the Vehicle, Crane locking shall be ensured by following: a) Main crane switch (MCB) of the driver desk should be switch off condition during Vehicle track movement. b) Both side outrigger should be properly in the outrigger box and properly locked with locking which are provided on both side outrigger box. c) All opening booms should be closed and main crane boom should be in zero rest position ensuring proper locking. d) The crane fix boom should be locked on both side with pin locking ensuring restriction of the crane boom rotation.

	e) All crane's working levers of down side & up side panels should be covered with panel cover for safe crane closing.

3.5	**ROLLING STOCK STIPULATIONS:**

3.5.1	Before operation of the Utility Track Vehicle, the Chief Engineer/Track Machine of the concerned Railway shall certify track worthiness and safety of the rolling stock. He shall ensure the proper maintenance of the rolling stock.
3.5.2	Brakes of the Utility Track Vehicle shall be in perfect working condition during the operation.

3.6	**GENERAL STIPULATIONS:**

3.6.1	The working of Maintenance Machine shall be as per provision of Indian Railways Permanent Way Manual, June-2020.
3.6.2	All the permanent and temporary speed restrictions in force and those that shall be imposed from time to time due to track, bridges, curves, signalling and interlocking etc. shall also be observed. In this connection, the speed on curve shall be in accordance with para 3.1.4 of this speed certificate.
3.6.3	The design of Utility Track Vehicle, M/s Trident Auto Components Pvt. Ltd., Kanpur , infringes clauses 15, 19(a) and 20(a) of Chapter IV (A) of Indian Railways Schedule of Dimensions (BG) Revised, 2004. Railway Board has condoned the infringements vide letter No. 2017/CEDO/SD/RS/04 dated 25.04.2017.
3.6.4	The movement of the machine in case of failure in block sections, the instructions of the para 708(4) of Indian Railways Track Machine Manual, September -2019 shall be followed.
3.6.5	Competent track machine staff who can apply the machine brakes in case of train parting shall escort the machine while running in train formation as a dead vehicle.
3.6.6	When the machine is being moved either on its own power or hauled in a train, it shall be ensured that all the protruding parts are withdrawn and suitably locked, so that during the run there is no possibility of any infringement occurring to the standard moving dimensions.
3.6.7	This provisional speed certificate for Utility Track Vehicle manufactured by M/s Trident Auto Components Pvt. Ltd., Kanpur, shall remain valid upto 5 years from date of issue or before date of issuance of relevant final speed certificate, whichever is earlier.

ENCLOSURES / संलग्नक :

i)	Annexure-A
ii)	M/s Trident Auto Drg. No. TACPL/UTV-001
iii)	Railway Board's letter No. 2017/CEDO/SD/RS/04 dated 25.04.2017
iv)	Railway Board's letter 87/M(C)/202/10 Vol(iv)Part(ii) dated 18.04.2018
v)	Railway Board's letter No.65/WDO/SR/26 dated 19/20.10.1966
vi)	Para 708(4) of Indian Railways Track Machine Manual, September -2019
vii)	North Central Railway letter No JHS/W/TT/UTV Trident dated 27.09.2022

NITIN MEHROTRA
Digitally signed by NITIN MEHROTRA
Date: 2023.04.26 10:10:46 +05'30'

(नितिन मेहरोत्रा)
कार्यकारी निदेशक मानक / चालन शक्ति

प्रतिलिपि:

1. सचिव, {यांत्रिक / विद्युत / इंजीनियरिंग(जी)}, रेलवे बोर्ड, रेल भवन, नई दिल्ली– 110001
2. मुख्य रेल संरक्षा आयुक्त, अशोक मार्ग, लखनऊ–226001
3. महाप्रबन्धक (यांत्रिक / विद्युत / संचालन / संकेत एवं दूरसंचार)

i) मध्य रेलवे, छत्रपति शिवाजी टर्मिनस मुम्बई– 400 001
ii) पूर्व रेलवे, फेयरली प्लेस, कोलकाता– 700 001
iii) उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली– 110001
iv) पूर्वोत्तर रेलवे, गोरखपुर– 273001
v) पूर्वोत्तर फ्रन्टियर रेलवे, मालीगॉव ,गुवाहाटी– 781 011
vi) दक्षिण रेलवे, एनेक्सी, पार्क टाऊन, चेन्नई– 600 003
vii) दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद– 500 071
viii) दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता– 700 043
ix) पश्चिम रेलवे, चर्चगेट, मुम्बई– 400020
x) उत्तर मध्य रेलवे, प्रयागराज– 211 001
xi) उत्तर पश्चिम रेलवे, जयपुर– 302 006
xii) पूर्व मध्य रेलवे, हाजीपुर– 844 101
xiii) पूर्व तट रेलवे, रेलवे कॉम्पलेक्स, भुवनेश्वर– 751 023
xiv) दक्षिण पश्चिम रेलवे, हुबली– 580 023
xv) पश्चिम मध्य रेलवे, जबलपुर– 482 001
xvi) दक्षिण पूर्व मध्य रेलवे, बिलासपुर– 495 004

4. **अध्यक्ष एवं प्रबन्ध निदेशक, कोंकण रेलवे कारपोरेशन लिमिटेड, बेलापुर भवन, सेक्टर–11, सी.बी.डी.बेलापुर नवी मुम्बई–400 614.**

ENCLOSURES / संलग्नक :

i)	Annexure-A
ii)	M/s Trident Auto Drg. No. TACPL/UTV-001

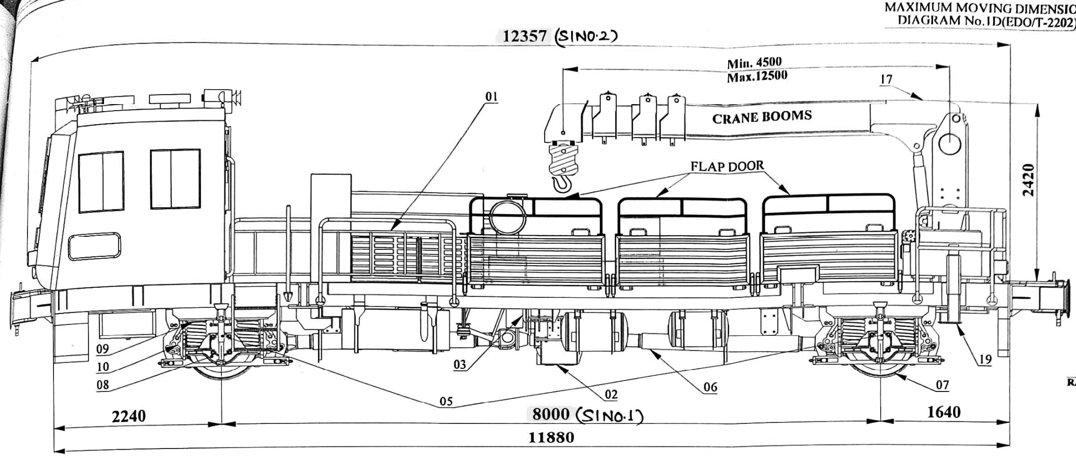
iii)	Railway Board's letter No. 2017/CEDO/SD/RS/04 dated 25.04.2017
iv)	Railway Board's letter 87/M(C)/202/10 Vol(iv)Part(ii) dated 18.04.2018
v)	Railway Board's letter No.65/WDO/SR/26 dated 19/20.10.1966
vi)	Para 708(4) of Indian Railways Track Machine Manual, September -2019
vii)	North Central Railway letter No JHS/W/TT/UTV Trident dated 27.09.2022

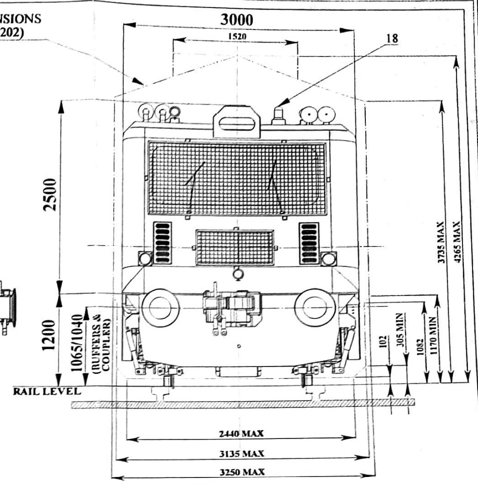
(**Signed**)
(नितिन मेहरोत्रा)
कार्यकारी निदेशक मानक/चालन शक्ति

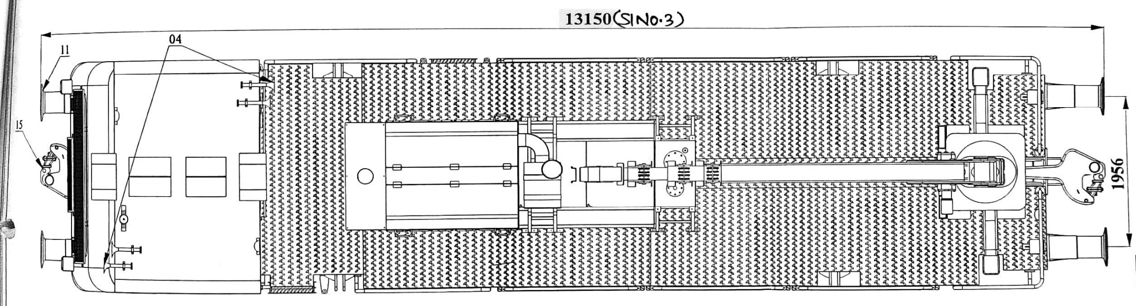
Annexure-A

Technical Details of Utility Track Vehicle, M/s Trident Auto Components Pvt. Ltd., Kanpur.

S.No.	Description	Details
1.	Principal dimensions of rolling stock	Drg. No. TACPL/UTV-001 a) Length over buffers :13150 mm b) Bogie centre distance : NA c) Wheel base : 8000 mm d) Max. axle load :20.0 t e) Max. design speed- i) Own power :80 kmph ii) train formation :90 kmph f) Weight Gross weight :40t Tare weight :30t
2.	Wheel details	Wheel dia : New : 915mm Worn out : 860mm
3.	Suspension arrangement	Drg. No. TACPL/UTV/SA/15/001/13
4.	Brake system details	Pneumatic brake & Mechanical Hand Brake
5.	Details of coupler and buffer	IR Standard- Coupler : High Tensile Transition CBC coupler Buffer : RDSO WA/BD-211
6.	Engine	Make- Cummins,Model-NTA 855 L,430hp
7.	Transmission	CRT 5633 (AVTEC LTD.)
8.	Safety Items	a) Fire extinguisher :one b) Hooter (manual) :two c) Jack (10t) :two d) Wooden Blocks :four e) Crow bars :four f) Hydraulic hand pump :one g) Emergency pneumatic/ Hydraulic hose with end fittings : one h) Flasher light i) Head light







APPROVED
REF UTV APP. Drgs FFFF2
DATE 22/12/16
TRIDENT AUTO COMP. (P.) LTD.
KANPUR-208022 (U.P.)

10	BRAKE RG. ASSY.	TA/UTV-01-06-03	20	MARKER LIGHT	------
09	SUSPENSION ASSY.	TA/SA-01-06-02	19	OUT RIGGERS	------
08	AXLE BOX	TAWA004	18	FLASH REVL. LIGHT	------
07	WHEELS AXLE ASM	TA/WA-01-08	17	CRANE ARRGT.	TA/UTV-01-07
06	CARDAN SHAFT	TA/CS-01-03-02	16	AXLE DRIVE GEAR HOUSING	TAWA003
05	SHOCK ABSORBER ARRANGMENT	TA/SAA-01-06-01	15	C.B.C. COUPLERS	SK.DL-3430
04	HORNS	------	14	CAB DOOR ASM	TA/UTV-01-02-11
03	TRANSMISSION	TA/TS-01-03-05	13	CONTROL PANEL	TA/UTV-01-02-03
02	DROP DOWN GEAR HOUSING	TA/DDGH-01-03-02	12	DRIVER SEAT	------
01	ENGINE ARRGT.	TA/EA-01-03-03	11	BUFFERS	SK.DL-4561
S. No.	PARTNAME	DRAWING NO.	S. No.	PARTNAME	DRAWING NO.

TECHNICAL SPECIFICATION

S.NO.	DESCRIPTION	SPECIFICATION & DIMENSIONS	S.NO.	DESCRIPTION	SPECIFICATION & DIMENSIONS
01	ENGINE	NTA 855-L (CUMMINS)	14	ENGINE POWER	430 HP
02	TRANSMISSION	CRT 5633 (AVTEC LTD.)	15	CURVE	10 ° & 176 MTR RADIUS
03	CARDAN SHAFT	TWO (L1-2850MM & L2-3120MM)	16	GRADEABILITY	1% (at 30 KMPH speed)
04	OVERALL VEHICLE LENGTH	13150 MM (over Buffer)	17	CRANE	PALFINGER SPS 16000
05	OVERALL WIDTH	3000 MM	18	CRANE LIFTING CAPACITY	1500 KG AT 7.5 METER FROM BUFFER END
06	OVERALL HEIGHT	3700 MM	19	MAX.CRANE LIFTING HEIGHT	14.4 METER
07	WHEEL BASE	8000 MM	20	MAX. OUTREACH OF BOOM	12.2 METER
08	FLOOR HEIGHT	1145 MM (Gross)	21	MAX. LIFTING CAPACITY	16 MT
09	FLOOR HEIGHT	1200 MM (Tare)	22	OUTRIGGER CLOSING DISTANCE	2280 MM
10	TRACK GAUGE	1676 MM BG	23	OUTRIGGER SPREAD	5200 MM
11	NO. OF AXLES	02 (Both Powered Axles)	24	SLIWING ANGLE	ENDLEASS OR 0°
12	WHEEL DIAMETER (new)	915 MM	25	CRANE WEIGHT	2230 KG
13	WHEEL DIAMETER(Fully worn)	860MM	26	HYDRAULIC TANK CAPACI.	140 LITRE

Director (Track Machines-III)
R.D.S.O. (Ministry of Rlys.)
Manak Nagar, Lucknow-226011

REV. No.	REV. DATE	REVISION DETAILS
03	21.12.2016	MODYFIED THE MMD TOTAL HIGHT 4265 mm INSTEAD OF 4246mm AND WHEEL DIAMETER (Fully worn) 813 mm INSTEAD OF 805 mm.
02	17.11.2016	MODYFIED THE ALL OVER DIMENSION 13150mm INSTEAD OF 13160mm WITH ELIMINATING THE TOLERANCES
01	07.11.2016	MAX.MOVING DIMENSION DIAGRAM ADDED

UNSPECIFIED TOLERANCES ARE AS PER TRIDENT INSPECTION STANDARD PLEASE ASK IF IN DOUBT ALL DIMENSIONS ARE IN MM. REMOVE SHARP EDGES UNLESS SPECIFIED.

	NAME/SIGN	DATE
App.By		22/12/16
Chk'dBy		22.12.16
Prep.By		22/12/16
Weight (in kg)		
Mfg.For/Proj.Name		

TITLE :- UTILITY TRACK VEHICLE (GENERAL ARRANGEMENT 15MT CRANE)

ALTERATION No. 01 02 03

DWG NO.:- TACPL/UTV- 001

SCALE 1:20

TRIDENT AUTO COMPONENTS PVT. LTD
B-16, UDYOG KUNJ, SITE-V, PANKI, KANPUR-208022

SHEET 1 OF 1 | ALL DIMENSIONS ARE IN mm. | PAPER SIZE : A

भारत सरकार Government Of India
रेल मंत्रालय Ministry Of Railways
(रेलवे बोर्ड) (Railway Board)

सं. 2017/CEDO/SD/RS/04 **New Delhi, Dated 25.04.2017**

The Director General,
RDSO, Manak Nagar,
Lucknow.

विषय : Condonation of infringements to maximum moving dimensions for Utility Track Vehicle, supplied by M/s Trident Auto Components Pvt. Ltd.' Kanpur.

संदर्भ : Your office letter no. CT/TMM/General, dated 02.03.2017.

In reference to above, sanction of Ministry of Railways, Railway Board is hereby communicated for condonation of infringements to maximum moving dimensions for Utility Track Vehicle, supplied by M/s Trident Auto Components Pvt. Ltd.' Kanpur to IRSOD (BG) Revised, 2004.

The design of above Utility Track Vehicle infringes :

(i) Maximum rigid wheel base for four wheeled vehicles; is 8000mm instead of 6100mm (i.e. infringement of 1900mm) (**Ref :Clause 15**)

(ii) Maximum length of body or roof for 4- wheeled vehicles; is 12357mm instead of 8540mm (i.e. infringement of 3817mm) {**Ref : Clause 19(a)**}

(iii) Maximum length of side buffers for 4- wheeled vehicles; is 13150mm instead of 9810mm (i.e. infringement of 3340mm){ **Ref : Clause 20(a)**}

of Chapter-IV(A) of Indian Railway Schedule of Dimensions (B.G.), Revised, 2004 as per Annexure-I, drawing & other details accompanying above referred letter.

अनिल कुमार 26/4/17
(अनिल कुमार)
निदेशक/सिविल इंजीनियरिंग(जी)/रेलवे बोर्ड
[Phone : 030-47598 (Rly.); 011-23047598 (MTNL); 09717647611 (CUG Mobile)]
e-mail address : dcegrb@gmail.com

सं. 2017/CEDO/SD/RS/04 **New Delhi, Dated 25.04.2017**

Copy forwarded for information to :

(i) The Chief Commissioner of Railway Safety, Office Compound of DRM/NER, Ashok Marg, Lucknow w.r.t. his endorsement no. क्यू. 14011/05/2016-17 - त.वि., dated 28.03.2017.
(ii) General Manager, All Indian Railways.
(iii) Commissioner of Railway Safety, All Circles.
(iv) Executive Director (Track-1), RDSO, Lucknow.
(v) EDTk/Mc, Railway Board, Rail Bhawan, New Delhi.

अनिल कुमार 26/4/17
(अनिल कुमार)
कृते सचिव, रेलवे बोर्ड

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 87/ M(C) /202/10 Vol (iv) pt (ii) New Delhi, dated 18.04.2018

The Executive Director (Carriage),
RDSO, Lucknow.

Sub: Allotment of transportation code for Utility Track Vehicle manufactured and supplied by M/s Trident Auto Components Pvt .Ltd. Kanpur

Ref: RDSO's letter No.MC/TW dated 16.3.2018

Reference to above, RDSO has requested to allot transportation code for Utility Track Vehicle manufactured and supplied by M/s Trident Auto Components Pvt .Ltd. Kanpur and layout drawing no. TACPL/UTV-001 submitted by RDSO.

The following unique transportation code is allotted.

Type of coach	Layout Drawing Number	Transportation code
Utility Track Vehicle manufactured and supplied by M/s Trident Auto Components Pvt .Ltd. Kanpur	Layout drawing no. TACPL/UTV-001.	CUTV/TA

This is for your kind information.

18-4-18

(Navaid Talib)
Dir. Mech Engg.(Chg.)
Railway Board

Copy to : ED/Track Machine, Railway Board

No.65/WDO/SR/26 (Railway Board) New Delhi, October 19/20, 1966

To

The General Managers,
All Indian Railways.

The G.M. & Chief Engineer,
Railway Electrification project, Calcutta.

The Chief Administrative Officer,
B.B.K. Railway Projects, Waltair.

Sub: Use of new type of Rolling Stock.

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Use of new type of rolling stock on existing Railway systems is governed by the Rules laid down in Chapter VI of the Rules for opening of a Railway. In terms of para 5 of this Chapter, applications for use of new type of rolling stock are required to be accompanied by a certificate to be signed by the Chief Engineer and Chief Mechanical Engineer of a Railway in a form specified therein.

2. The Board wish to point out that this certificate by the Chief Engineer and the Chief Mechanical Engineer (and Chief Electrical Engineer in case of electrical stock) is a positive act of certification in regard to track and locomotive maintenance standards for the speed indicated and a statutory obligation. The Officers signing the certificate are required to decide, on the basis of their personal knowledge and experience of the maintenance conditions of the track, locomotives or rolling stock, with due regard to relevant information available and the maintenance requirements of the new type of rolling stock, as to whether the operation of the particular type of locomotive or rolling stock on the relevant section of the Railway is safe and practicable with the facilities available on the Railway system. The RDSO merely recommend the maximum speed at which locomotives and rolling stock could be permitted to run on standard track under average maintenance conditions and this recommendation is made only on the basis of design features of the particular type of locomotive, rolling stock and assessment of their suitability from oscillation and other tests conducted by the RDSO. These certificates for speed issued by RDSO are meant merely to assist the CEs and CMEs/CEEs in deciding on the speed at which these engines/rolling stock may be permitted to run on their Railway system for the maintenance conditions obtaining on their Rlys.

3. A note on the subject prepared by the DG/RDSO is enclosed herewith in quadruplicate for guidance of your officers.

4. Receipt of this letter may please be acknowledged.

Sd/-
(B.S.D. Baliga)
Director, Civil Engineering,
Railway Board
New Delhi, October 19/20, 1966,

DA: As above.

No.65/WDO/SR/26

Copy to D.G. RDSO, Alambagh, Lucknow with reference to his letter No.MRA/573 of 16.8.1966.

Sd/-
(B.S.D. Baliga)
Director, Civil Engineering.
Railway Board.

Enclosure to Board's letter No.65/WDO/SR/26 dated 19-10-66.

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Use of new types of Rolling Stock.

The rules for use of new types of rolling stock on existing railways are laid down in Chapter VI of the Rules for Opening of a Railway. According to para 5 of this Chapter, applications for use of new type of rolling stock arerequired to be accompanied by a certificate to be signed by the Chief Engineer and the Chief Mechanical Engineer of the Railway in the form specified in para 5(a)(ii). It should be clearly understood that this certificate by the Chief Engineer and the Chief Mechanical Engineer(Chief Electrical Engineer in the case of Electrical Stock) is a positive act of certification and a statutory obligation.

2. The Chief Engineers and Chief Mechanical Engineers (Chief Electrical Engineers in the case of electric stock) are required to decide on the basis of their personal knowledge and experience of track, locomotives or rolling stock with due regard to relevant information available of track and rolling stock and their maintenance requirements, as to whether the operation of particular locomotive or rolling stock is safe and practicable with the facilities provided on the railway system. It may be emphasized that respective Heads of Departments are required to certify annually regarding the sound condition of the track and rolling stock in operation in terms of para 1822 of Indian Railway Code for Accounts department.

3. Prior to the setting up of testing facilties on the Indian Railways, the safety certificate for operation of locomotives and rolling stock was issued by the Chief Engineer and Chief Mechanical Engineers on the basis of their personal knowledge and experience and on the basis of the recommendation for speed limit by the consulting engineers, who available. With the build up of increased design and testing facilities in RDSO, due recommendation is made by RDSO on the basis of design features of particular stock and assessment of their stability from oscillation tests conducted on main line track in normal state of maintenance and not subjected to speed restriction.

4. R.D.S.O. advises the Railway of the speed at which different types of locomotive and rolling stock can be permitted to run on different track structures. This is done in two stages:

(a) preliminary speed; and

(b) final maximum speed.

The preliminary speed is based on a study of the design characteristics of the vehicle and experience of performance of similar designs in India and/or abroad. Such speed would be generally lower than the sectional maximum speed and it would not be difficult for CEs and CMEs to arrive at a decision in issuing the Safety Certificate. Further, it is up to the CEs to decide whether any particular sections or routes require the imposition of a restriction on a generally sanctioned speed. Such a decision has to be based purely on the personal knowledge and experience of the engineers of the zonal railways.

5. It is, however, necessary to keep a watch on the performance of vehicles permitted on such preliminary speed limit to gather experience for guidance in determination of the final maximum speed both by RDSO and Railways the former taking this aspect into account along with the review of the oscillation test, and the latter while issuing the certificate for the final maximum speed. The final maximum speed is determined by the RDSO on review of the oscillation tests generally conducted for new designs and on confirmation of the suitability of the stock from the point of view of strength of track and bridges, although such investigation is made even at the initial stage of design. The oscillation trials are conducted with a view to obtaining data relating to the riding characteristics of the vehicle at the specified speeds. Such tests include aspects, such as, vertical wheel/axle load and lateral force ratio and vertical and lateral acceleration of the vehicle. The studies are aimed at assessing the possibilities of track distortion, wheel mounting, riding comforts etc. For conducting these tests, a section of main line track is selected over which there are no temporary restrictions and which is considered by the railway as being in a generally run down condition for main line standards but without speed restriction. The vehicle is tested generally for new and worn clearance conditions and also where relevant for operation in the forward or back-ward direction. The vehicle selected is one of those in average condition of normal maintenance. The tests are conducted on speeds usually 10% higher than that to which it is proposed to be certified.

On the basis of the theoretical as well studies and investigations of the tests as indicated and the analysis of the test results, the RDSO recommends the maximum speeds up to which a vehicle may be permitted in normal traffic operation. The certificate of the RDSO though issued by the Director Standards(Mech.) is the final result of studies conducted by the various concerned

Directorates such as Civil Engineering, Carriage and Wagon Motive Power etc. This recommendation of the RDSO is meant to be used as guidance by the CEs and CMEs of the zonal railways in formulating their own certificates to be furnished to the ACRS. It is upto Chief Engineer, Chief Mechanical Engineers and Chief Electrical Engineers to consider on the basis of their personal knowledge and experience of track locomotive and rolling stock and their maintenance requirements whether the conditions prevailing are such as to require a reduction in the speed of the vehicles in normal traffic operation.

6. In the case of certification of speeds by the CEs and CMEs up to 105 Km/hr., it is neither feasible nor it is considered necessary that any more guidance than that at present being given by RDSO should be available to them in normal cases in arriving at their conclusions in the matter of formulation of their certificates to the ACRS. In the case of operation at higher speeds, it is proposed that in addition to the data at present being furnished, copies of track recording charts of the track over which the tests were conducted would also be incorporated in the test reports and made available for reference to the CEs and CMEs. It has already been accepted by the Board that in the case of high speed track (speed above 105 km/hr) track recording would be done at intervals of about 6 months. A comparison of the track recording for the test track with the track recording of the routes over which the high speeds are to be run would be an additional guidance to the CEs and CMEs in the formulation of their certificates.

In conclusion, it may be pointed out that the statutory obligation of certification of speeds is that of the CEs and CMEs/ and CEEs of the zonal railways. In discharging these functions, the CEs and CMEs/CEEs are assisted by the RDSO. The extent of such assistance would normally depend on the speeds involved and the facilities available with the RDSO [illegible]. The procedures, at present, followed are considered satisfactory for speeds upto 105 km/hr. For higher speeds, recording of characteristics of the test track would also be made available to the zonal railways for purpose of comparison with the actual track conditions prevailing from time to time.

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involve large number of labour working with the machine. Hence, extra care is necessary as detailed below, to ensure safety of workers.

(b) Hooters should be provided on the track machines. These hooters should be used to warn the staff working on/around the track machine about approaching train on adjoining track. Remote controlled hooters shall also be deployed as an added precaution by SSE/JE/P.Way so that lookout man standing around 150 m away from the track machine can also operate the hooter to warn the staff suitably. SSE/JE/TM shall also put on the flasher light on as an added precaution till the train on adjacent line has passed the site of work.

(c) Caution order of 30 to 50 kmph with instructions to whistle freely should be imposed on the adjacent line, during the duration of block, for the safety of workmen, depending upon the site conditions and visibility.

(8) **Checking Infringement After Work -** The vertical and lateral clearance for OHE, signal post and any other structure should be checked and adjusted before clearing the block. It shall be ensured by SSE/JE (P.Way) working with track machine that there should be no infringement to signal post, OHE and any other structure as per schedule of dimensions.

708 Failure and Accidents of Track Machines

(1) **Protection in case of Breakdown -** In the event of breakdown, the track machines shall be protected as per GR 6.03 and SR there to by the machine staff, as directed by machine in-charge.

(2) **Failures in Block Section -** Failures in block sections of the track machines will be treated as accident under class 'J – Equipment failure'.

(3) **Accidents involving Track Machine -** Accidents involving track machines shall be treated as train accidents under the appropriate class and action shall be taken as per the rules in force.

(4) **Action in case of Failure in Block -** In case of failure of track machine in block section, immediate information with details should be conveyed to the ADEN/DEN/Sr.DEN of the section and the AXEN/XEN/Dy.CE/Line/TM. SE/JE/TM should decide in consultation with SSE/JE (P. Way), the action to be taken to clear the section. They may decide to push the disabled unit to the nearest station provided the brake power is in good condition. Otherwise, intimation shall be sent to the nearest Station Master asking for a light engine to tow the unit.

(5) **Request for ART/Breakdown -** In case, SSE/JE (P. Way) and/or SSE/JE/TM feels clearance of section is going to take long time, the assistance of Road Break-down or Accident Relief Train shall be asked for immediately. Meanwhile SSE/JE/TM in-charge on the machine shall take necessary action to rectify the defect(s). SSE/JE (P. Way) shall provide all necessary assistance.

North Central Railway

Office of The
Dy CE (TMC) Line
DRM Office Complex, Jhansi.

No. JHS/W/TT/UTV Trident
Date- 27.09.2022

CE/TMC/PRYJ

Sub: Revalidation of Provisional Speed Certificate of the Utility Vehicle supplied by M/S Trident Auto Components, Pvt Ltd, Kanpur running over IR

Ref: HQ letter no- 219-W/TMC/NCR/ Utility vehicle, dt – 23.09.2022

With reference to above, two nos Utility Vehicles no-UTV 8001 & UTV 0001 machines were allotted to NCR and commissioned on 24.04.19 & 22.01.2021 respectively.

A detailed list of failures and attention done by OEM.of both the machines (since commissioning) is attached as annexure. Performance of machine in running and working is satisfactorily. No failure on account of speed has been taken place till now. Driving and braking system are functioning smoothly.

This is for your kind information please.

DA: Failures list

27/09/22
Dy CE/TMC/L/JHS

Digitally Signed by Nitin Mehrotra
Date: 26-04-2023 10:07:41
Reason: Approved