

## INDIAN RAILWAYS



सत्यमेव जयते

JD/CD

### TECHNICAL REQUIREMENTS FOR PURCHASE AND ACCEPTANCE OF HIGH TENSILE AAR 'H' TYPE TIGHT LOCK COUPLER WITH TRANSITION SCREW COUPLING FOR FITMENT ON BG PASSENGER COACHES OF INDIAN RAILWAYS

(May-2012)

S.No.	Month/Year of issue	Revision/Amendment	Page No.	Reason for Amendment/Revision
1.	November-2009	0	NA	First issue
2.	May-2012	Revision1. Ref documents, Cl.2.1 & 3.0-ref. spec. changed Cl.2.2- deletion of reference standard	3,4	New specification. RDSO/2011/CG-03 added in place of C-K009 Rev.2  Deletion of Standard S-166 as in new spec. there is no mention of it

**Issued by**

**RESEARCH DESIGNS AND STANDARDS ORGANISATION**

**Manak Nagar, LUCKNOW - 226011**

Signature			
Name & Designation	Prepared By: (O.P.Verma)/JE	Checked By: (S.P.Awasthi)/SSE	Approved By: (A.K.Dikshit)/JD(CD)

Ref: CGW 0001 (Rev.- 5)	Page 2 of 4	Date of issue: May-2012	SPECIFICATION No.RDSO/2009/CG-22 Rev.1
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## SCOPE

This specification covers the technical provisions relating to material, purchase and acceptance requirements for high tensile tight lock centre buffer coupler with transition screw coupling and its associated components including AAR 'H' Type coupler head with provision for, fitment of transition screw coupling, yokes, draft gear, front and rear carrier plates, coupler operating mechanism with mounting brackets and coupler carrier for fitment on Broad Gauge passenger coaches of Indian Railways.


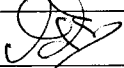
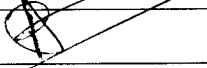
With the introduction of coaches fitted with 'H' type tight lock CBCs on Indian Railways, problem has been arisen to attach the screw coupling fitted coaches with CBC fitted coaches. As the most of the inspection cars, TRC, staff cars and oscillograph cars are fitted with screw coupling and cannot attach with CBC rake hence, the need of a appropriately designed 'H' type tight lock coupler with provision of transition screw coupling is arising for fitment in such type of coaches. The fitment of 'H' type tight lock CBC with transition screw coupling in these coaches is required to be attach with rolling stock fitted with tight lock 'H' type couplers as well as other rolling stock fitted with screw couplings and 'E' type couplers.

RDSO has made a specification of High tensile tight lock coupler with transition screw coupling to address this. The new coupler shall conform to the guidelines and clauses given in AAR manual in respect to design, material, manufacturability, testing and repair etc.

## IMPORTANT

Tenderers are advised to go through the documents carefully. In case they need clarification regarding any of the clauses of the documents they should contact Director General (Carriage), RDSO Manak Nagar Lucknow-226 011 (INDIA).

**FAX No.-91-0522-2450679**




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Ref: CGW 0001 (Rev.- 5)	Page 3 of 4	Date of issue: May-2012	SPECIFICATION No.RDSO/2009/CG-22 Rev.1
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# **TECHNICAL REQUIREMENTS FOR DESIGN, PURCHASE AND ACCEPTANCE OF HIGH TENSILE AAR 'H' TYPE TIGHT LOCK COUPLER WITH TRANSITION SCREW COUPLING FOR FITMENT ON BG PASSENGER COACHES OF INDIAN RAILWAYS**

## **LIST OF DOCUMENTS AND REFERENCES**

- 1.Specification RDSO/2011/CG-03 - Schedule of Technical Requirements for purchase and acceptance of high tensile tight lock centre buffer coupler with AAR "H' Type head and Balanced Draft Gear for fitment on BG passenger coaches of Indian Railways
- 2.SKDL-2494 - Revised arrangement of Transition screw coupling  
For Centre buffer coupler
- 3.SKDL-2495 - Details of modified transition screw coupling for Centre buffer  
coupler
- 4.SKDL-2496 - Clevis for modified transition screw coupling for CBC of  
Broad gauge locomotives

Signature			
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## TECHNICAL REQUIREMENTS FOR DESIGN, PURCHASE AND ACCEPTANCE OF HIGH TENSILE AAR 'H' TYPE TIGHT LOCK COUPLER WITH TRANSITION SCREW COUPLING FOR FITMENT ON BG PASSENGER COACHES OF INDIAN RAILWAYS

### 1.0 FOREWORD

- 1.1 This specification is intended to cover the technical provisions relating to design, material, manufacture and tests.
- 1.2 Whenever there is a conflict among the stipulations in the present specification, drawings or any of the relevant specifications, the most stringent requirement will apply. All specifications and drawings shall be of latest revision / alteration.
- 1.3 This schedule covers the technical provisions relating to design, purchase and acceptance requirements for an high tensile tight lock transition centre buffer coupler and its associated components including AAR 'H' type coupler head with provision for fitment of transition screw coupling, clevis with pin and washer, coupler operating mechanism with mounting brackets and coupler carrier for fitment on broad gauge coaches of Indian Railways.

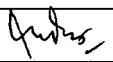
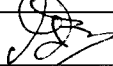
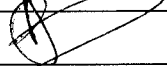
### 2.0 PARTICULAR REQUIREMENTS

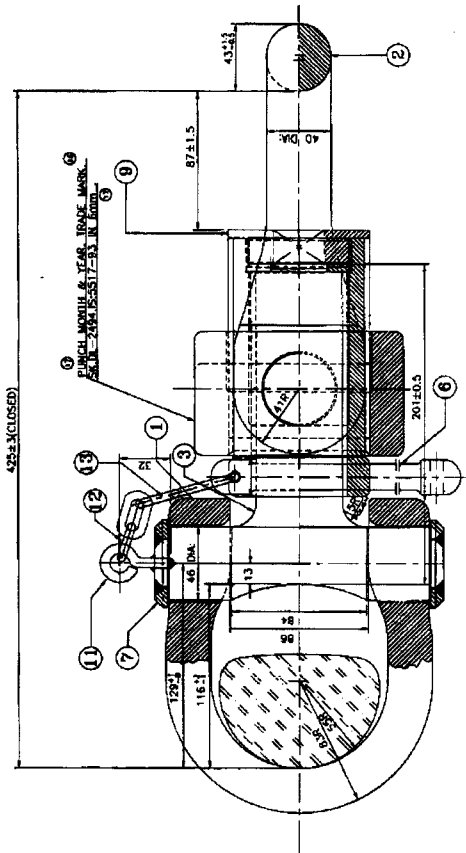
- 2.1 The coupler shall be of transition type and shall be couplable with coaching stock fitted with screw coupling arrangement as well as "H" type tight lock couplers and also with E Type couplers as mentioned in specification RDSO/2011/CG-03. Design parameters and operating conditions shall be as per the specification RDSO/2011/CG-03 or latest. Strength of theses couplers shall be determined by that of transition screw coupling as per specification No.MP-0.41.00.01 (Rev.01) or latest.
- 2.2 Coupler head shall be to AAR "H" type tight lock with the provision for fitment of transition screw coupling and contour shall be to APTA-SS-M-002-98 (S-168).
- 2.3 Clevis shall have proof load of 750 KN and the existing design of transition screw coupling to drawing no. SKDL-2494 & 2495. Clevis shall be suitably designed to fit into modified coupler head and shall remain properly engaged with the knuckle during starting of train and also in traction, buff and braking modes while hauling coaching stock with screw couplings.
- 2.4 All components of the coupler shall be interchangeable with corresponding parts of other couplers.
- 2.5 The contractor shall submit requisite drawings with important controlling dimensions and tolerances thereon with the surfaces and dimensions necessary to be gauged.

### 3.0 OTHER REQUIREMENTS

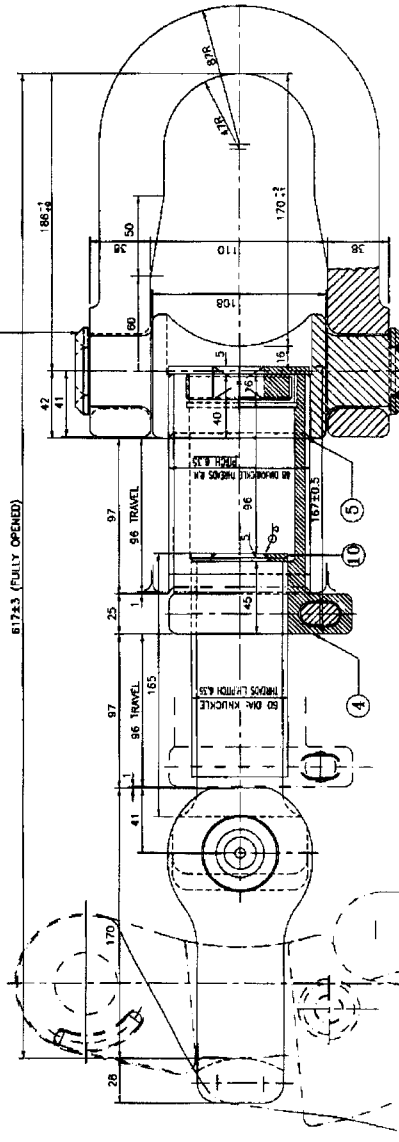
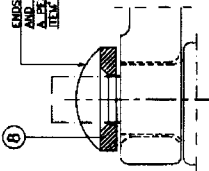
All the clauses of RDSO specification RDSO/2011/CG-03 will be applicable to tight lock coupler with transition screw coupling except as mentioned above.

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Signature			
Name & Designation	Prepared By: (O.P.Verma)/JE	Checked By: (S.P.Awasthi)/SSE	Approved By: (A.K.Dikshit)/JD(CD)



ENDS HEATED AFTER ASSEMBLY  
AND NOT RIVETED OVER WASHER.  
A EXCESSIVE ALTERNATIVE TO  
ITEM 7 FOR LONG SHOCKLE ONLY



# OPERATING INSTRUCTIONS:-

1. FOR INSERTION OF CLEVIS IN THE SHORT SHOCKLE IT IS NECESSARY TO ROTATE BY 180 THE SHOCKLE OR CLEVIS IDE.
2. COUPLING SHOULD BE SET WITH LONG SHOCKLE ON SUSPENSION HOOK TO DRAG SKIN-31.8 WHEN NOT IN USE TO PREVENT BENDING IN SERVICE.
3. TO LOCK THE CLEVIS, LET THE COUPLING SLIGHTLY UP.
4. TRANSITION SCREW COUPLING SHOULD BE FULLY OPENED BEFORE PUTTING ON HOOK.

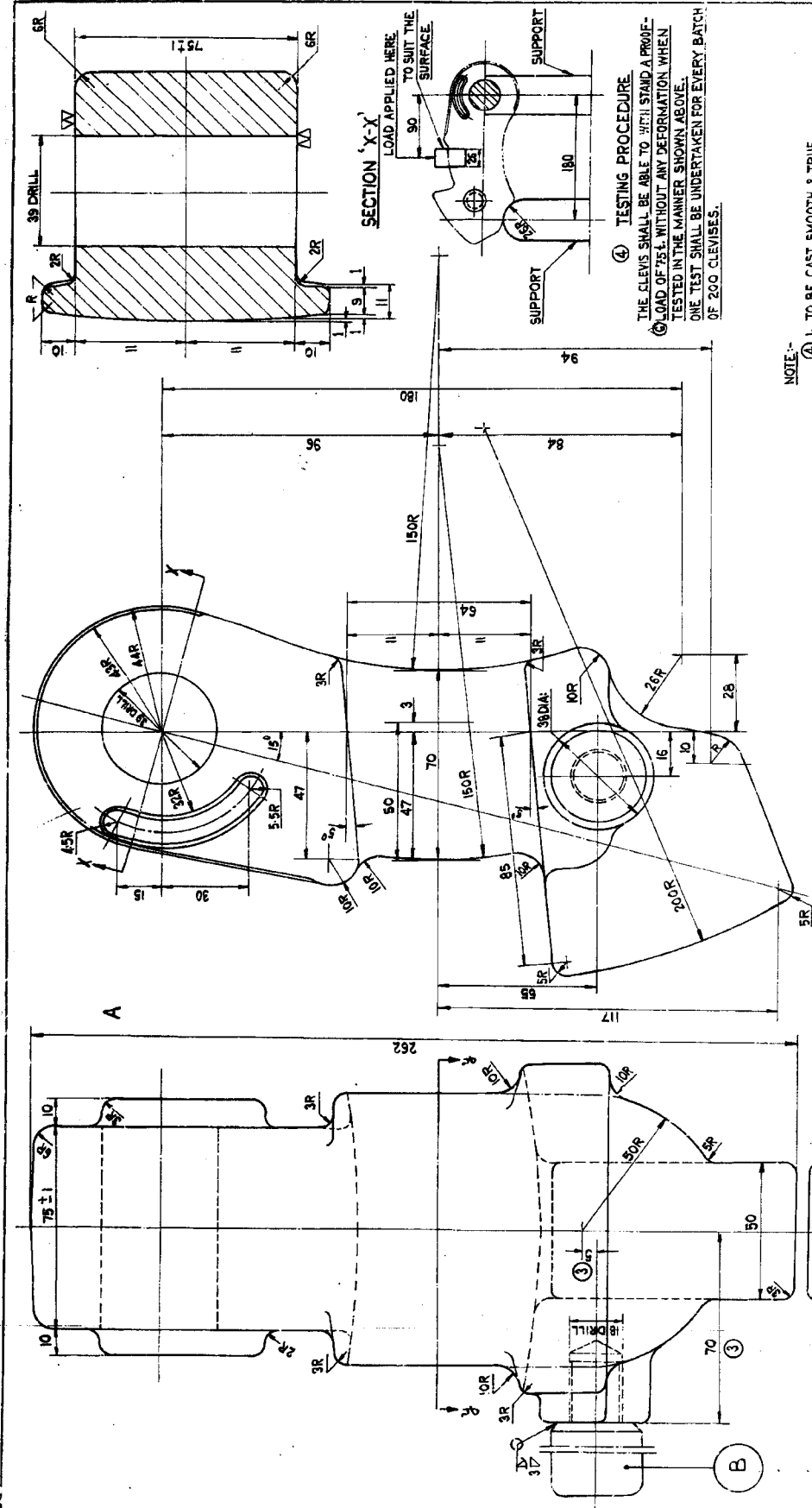
## NOTES:-

1. FOR DETAILS REFER TO DRG. NO. SK-DL-2493.
2. FOR DETAILS REFER TO DRG. NO. SK-DL-2494.
3. FOR OTHER REQUIREMENTS REFER TO STR. MENTIONED IN DETAIL REQUIREMENTS SPECIFICATION NO. MP-0.41.00.01. REV. 01 OF APRIL 2003.

ITEM NO.	DESCRIPTION	QTY	UNIT	REMARKS
ITEM-13	HOOK	1	SET-200	
ITEM-12	CHAM WIRE 5 DIA. 150 LONG APPROX.	1	SET-200	
ITEM-11	EYE HOOK	1	SET-200	
ITEM-10	WASHER ( FOR TRANSITION SCREW)	1	SET-200	
ITEM-9	STOP WASHER (FOR SCREW)	1	SET-200	
ITEM-8	WASHER ( FOR TRANSITION NUT)	2	SET-200	
ITEM-7	WASHER FOR TRANSITION SCREW	4	SET-200	
ITEM-6	OPERATING HANDLE COMPLETE	1	SET-200	
ITEM-5	TRANSITION NUT	1	SET-200	
ITEM-4	SCREW	1	SET-200	
ITEM-3	TRANSITION SCREW	1	SET-200	
ITEM-2	SHOCKLE LONG	1	SET-200	
ITEM-1	SHOCKLE SHORT	1	SET-200	
REF. NO.	ITEM NO.	DESCRIPTION	QTY	REMARKS
APPLICABLE FOR	B.C. 0005	REVISED ARGGT. OF TRANSITION SCREW COUPLING FOR CENTRE BUFFER COUPLER		
SCALE	REF. 000-212 & 213			
INDIAN RLYS.	DRG. SK.DL-2494			
R.D.S.O (M.P.)	NO.			
PREPARED BY	8/20			
SUPERVISOR				
CHECKED BY				

NO.	DATE	REVISION	DESCRIPTION
1	12-08-03	1	INITIAL DESIGN
2	12-08-03	2	REVISION 1
3	12-08-03	3	REVISION 2
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5	12-08-03	5	REVISION 4
6	12-08-03	6	REVISION 5
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234	12-08-03		

ALT. NO.	ITEM	ZONE	DESCRIPTION	DATE	AUTH.	SIG.
6	A & B		REVISIONS	21-12-04	L-2-911	Smr
			REVISIONS	21-12-04	L-2-911	Smr



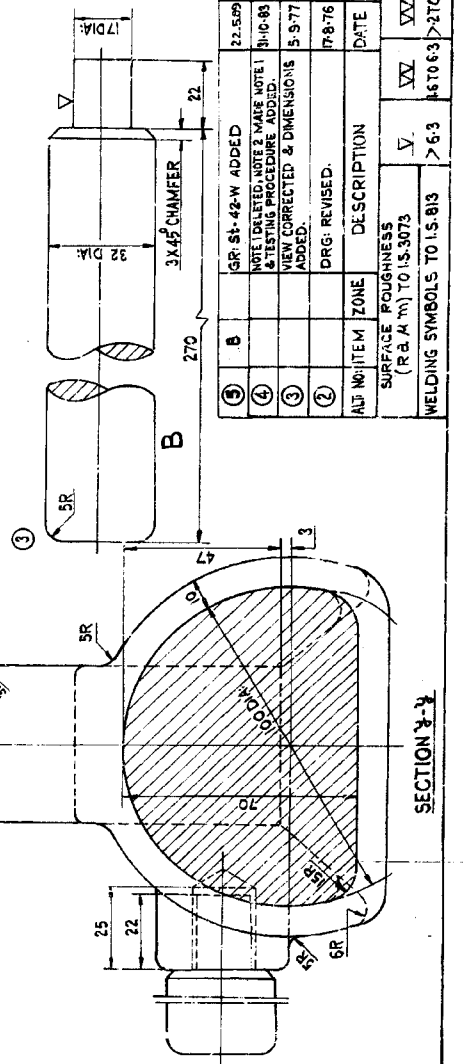
THIS DRG: SUPERSEDES D.D.O-215.  
 \* M.T.L. - AARV-20 (HIGH TENSILE) GRADE C.  
 STEEL CASTING HEAT TREATED. (QUENCHED AND TEMPERED) ⑥

NOTE:-  
 ④ 1. TO BE CAST SMOOTH & TRUE.

④ TESTING PROCEDURE  
 THE CLEVIS SHALL BE ABLE TO WITH STAND A PROOF-  
 LOAD OF 75 T. WITHOUT ANY DEFORMATION WHEN  
 TESTED IN THE MANNER SHOWN ABOVE.  
 ONE TEST SHALL BE UNDERTAKEN FOR EVERY BATCH  
 OF 200 CLEVISES.

ITEM	I.R.	PART NO.	DESCRIPTION	NO. OFF	W. EACH	M.T.L. & SPEC.
B			HANDLE	1		STEEL IS: 205-20
A			CLEVIS	1		STEEL IS: 205-20

ALT. NO.	ITEM	ZONE	DESCRIPTION	DATE	AUTH.	SIG.
1	B		GR. S1-42-W ADDED	22-5-09	R.D.S.O.	347
2			NOTE DELETED, NOTE 2 MADE NOTE 1	21-12-04	R.D.S.O.	347
3			VIEW CORRECTED & DIMENSIONS	21-12-04	R.D.S.O.	347
4			ADDED.	21-12-04	R.D.S.O.	347
5			DRG. REVISED.	21-12-04	R.D.S.O.	347
6			DRG. REVISED.	21-12-04	R.D.S.O.	347



SECTION X-X

INDIAN RAILWAYS STANDARDS  
 CLEVIS FOR MODIFIED  
 TRANSITION SCREW COUPLING  
 FOR E.S.C.C.B. COUPLER - B.G. LOGOS  
 R.D.S.O. [MP] DRG. NO. SKDL-2496

