



When all parts are assembled the Toe features of the Bolt and Nut sections overlap as shown above.

The Washer fits between the Nut and the Nut Section of the rail clamp. It is important that the Washer is fitted: failure to do so may result in less clamp force being applied to the fish plates.

NOTE

To effect a secure temporary rail joint at least two rail clamps and two compatible fish plates are required. The fish plates must be fitted to the rail across the joint and a minimum of one rail clamp assembly must be fitted on either side of the joint as described in the Installation Instructions.

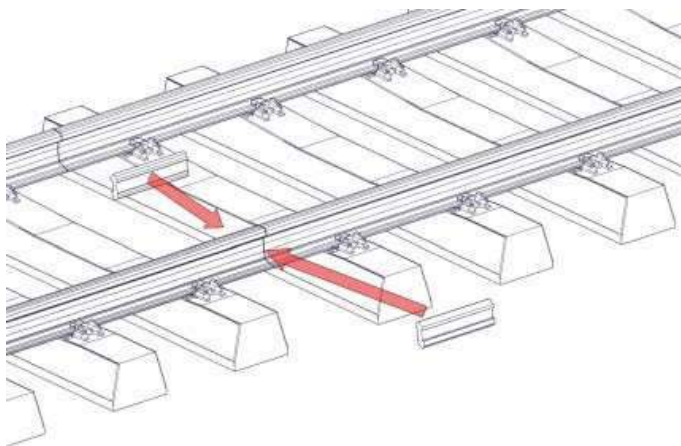
Fitting further pairs of rail clamps will increase the security of the joint and users are directed to the local rail authority certification for approved configurations.

When installing clamps with standard four hole fishplates it is advisable to locate the Jaw of the clamp over the holes drilled in to the fishplate section prior to tightening.

Installation Instructions

Codiun Rail clamps are quick and simple to install by following the directions below.

Do not install the rail clamp until you have read and understood these instructions. In case of doubt please contact the manufacturer



2: Fit the Bolt Section of the first rail clamp so that the toe passes below the rail foot and the foot feature rests on the top surface of the rail foot



3: Check that the foot of the clamp rests on the foot of the rail



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4: Fit the Nut Section of the rail clamp to the other side of the rail to press against the fishplate



5: Check that the Foot feature of the Nut Section rests on the foot of the rail



6: Check that the Bolt Section and the Nut Section of the rail clamp overlap below the rail as shown



7: Push the Bolt through the two sections of the rail clamp.
Check that the Bolt head fits below the Shoulder feature of the Bolt Section of the rail clamp.



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8: Fit the Washer and thread the lower fixing Nut (convex) onto the Bolt taking care not to cross the threads.



9: The lower fixing Nut (convex) should turn freely until it engages with the supplied washer located against the Nut section of the clamp



10: Tighten the lower fixing Nut (convex) by hand until it is finger tight against the supplied washer, this being located between the lower fixing Nut (convex) and the Nut Section of the rail clamp.



11: Repeat stages 1 to 10 above for each clamp.

Once all rail clamps are fitted as described the lower fixing Nuts (convex) must then be tightened to the specified torque of 400 Nm. Then thread the locking Nut (concave) on to each clamp bolt by hand until they become finger tight against the lower fixing Nut (convex). Finally, torque all locking Nuts (concave) to 400Nm.

Check and re-torque the Nuts after the first train has passed and after 24 hours



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Maintenance In Service

Factors such as thermal expansion and contraction of the components, breakdown of scale and debris on the fishplate and rail surfaces and vibration from passing trains can slacken the clamps in service.

Where the Codiun Rail clamp is to remain in situ for extended periods it is recommended that the tightness of the clamp Nut is checked every seven days or more frequently if they are repeatedly found to have loosened.

Checking the Nut Torque

Remove the locking Nut (concave).

To check the torque, make a vertical mark (at 12 o'clock position) with chalk on the lower fixing Nut (convex) outer face.

Undo the lower fixing Nut (convex) by one quarter to one half turn.

Re-torque the lower fixing Nut (convex) to 400Nm and examine the position of the chalk mark. If the mark is between the 11 o'clock and 1 o'clock positions then this indicates that the clamp and fish plate assembly is fully bedded-in and the maintenance intervals may be extended.

If the mark has moved further then this indicates that the rail clamp and fish plate assembly is not yet stable and maintenance periods should be reduced.

Finally replace the locking Nut (concave) and torque to 400Nm.

If in doubt about any part of this procedure please contact the manufacturer.

NOTE

RCCL Ltd provide a sensor for the rail clamp (namely the IntelliClamp) which can monitor the clamp tension in real-time and report wirelessly. This system eliminates the need for periodic inspection by alerting the user only when maintenance is actually required.

Please contact RCCL Ltd for full details of all available Sensors.

Removal

Removal of the Codiun Rail clamp is the reverse of the installation procedure.

Loosen and remove both the locking Nut (concave) and lower fixing nut (convex), remove the Washer and withdraw the Bolt.

The clamp Sections can now be removed easily. Where the rail clamp has been left in position for a long period it may be stuck in position by corrosion - in this case simply tap the Sections to release them. The Rail Clamp Company Ltd advise the use of a copper or soft- faced hammer for this operation.

Fish plates frequently become bound to the rail and it is common to have to tap them with a copper or soft-faced hammer to release them from the rail. This is normal and is not a fault.

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Care and Periodic Maintenance

The Codiun Rail clamp is a robust device designed for a long working life with minimal maintenance however the following checks should be carried out both before the clamp is fitted and after it is removed from the track.

Any defects noted should be corrected before the rail clamp is put into service. Original quality parts must always be used: when replacing damaged parts of the clamp always use manufacturers' recommended parts.

Check the Bolt

Extreme overtightening may damage the Bolt. Check the bolt for bending, stretching or distortion of the thread and excessive corrosion - particularly of the threaded section.

Check the Nuts

Extreme overtightening may damage the thread of the Nuts. Check all Nuts for distortion or stretching of the thread.

This may be indicated by unusual tightness of the nut thread on the Bolt.

Check the Washer

Extreme overtightening may crush or crack the Washer. Visually inspect the Washer for signs of damage.

Check the rail clamp Sections

Check the Bolt Section and Nut Section of the clamp for signs of cracking, distortion or other damage.

In normal use some bruising of the contact surfaces may occur. This is normal and is not a fault.

Lubrication

The clamp bolt threads should be lightly oiled before each and every application. RCCL recommend the use of Interflon HT1200 Paste (aerosol) to prevent damage to bolt threads during application and removal of the Hardlock nuts. This product can be located and procured via the Network Rail Catalogue number: 0111/120605.

Storage

If the clamp is to be stored for significant periods it should be protected from corrosion by spraying with a light oil and covered to keep rainwater from seeping into the threads.

Appendix-F**CONTACT DETAILS OF HPRC FIRMS & OEM THAT HAVE PARTICIPATED IN THESE TRIALS**

S N	Firm's name	Works address of the firm	E-mail ID and contact no. of firm	OEM firm of offered system	OEM contact persons & details
1	M/s Premier India Agencies (Prop. Rahul Premier India Agency Pvt. Ltd.)	"PREMIER HOUSE", Door No. 8-1-112, 3rd Floor, Vidyanagar, Opp. III Town Police station, Peda Waltair, Visakhapatnam-530017(A.P.), India	e-mail ID: anils@piaindi a.com Mobile No. 9958007113	M/s ROBEL Bahnbauma schinen GmbH, Industriestr. 31, D-83395 Freilassing, Germany	1. Mr. Philip Hahn, Industriestrasse 31, 83395 Freilassing, Germany. Telephone: +49-8654609415. E-mail: philip.hahn@robel.com 2. Ms. Rebecca Jobst, Industriestrasse 31, 83395 Freilassing, Germany. Telephone: +49-8654609617. E-mail: rebecca.jobst@robel.com
2	M/s Wontech Engineering Pvt. Ltd.	304, Vahini Choudhary Plaza Kartikeya Nagar, Nacharam, Hyderabad-500076 TS. India	Mail ID: wontecheng@gmail.com , info@wontech.in Mobile No. Mr. Vinay Agnihotri, Mobile no. 9701555051/9346238416	M/s Codiun Rail Limited, UK	Mr. Ian Dixon, Venture house, Calne road, Lyneham SN15 4PP Telephone: 07914 327539, 01249891440 E-mail: iandixon@railclamp.co.uk

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Appendix-G**COST COMPARISON OF HPRC CLAMPS WITH CONVENTIONAL IR CLAMPS**

SN	Types of clamps	HPRC clamps	Unit price (Excluding GST & Freight)
1	HPRC (Robel)	Robel 68.05 Ver. 06	94,390/-
2		Robel 68.05 Ver. 13	47,847/-
3	HPRC (Codiun)	Codiun MK-8	98,236/-
4		Codiun MK 2T-5848	98,236/-
5	Conventional IR clamp	-	779/-

Above cost details are taken from respective Zonal Railways as per issued purchase orders. These are just representative figures as with the increased volumes these costs may change.

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Appendix-H**LIST OF COMPATIBLE IR FISHPLATES**

SN	Drawing no. & Fishplates types	Rail section	Types of fishplates	Reference of IRS Track Manual (Revised-2024)
1	RT-3714 (1000mm long)	52kg	Normal fishplate	-
2		60kg		-
3	RT-5850 to RT-5851 (1000mm long)	52kg		RF-3 (Sheet 5 of 6)
4		60kg		RF-3 (Sheet 5 of 6)
5	RT-5915 (1000mm long)	52kg		RF-3 (Sheet 2 of 6)
6	RT-5916 (1000mm long)	60kg		RF-3 (Sheet 1 of 6)
7	RT-5551 (490mm long)	52kg	Joggled fishplate	RF-5 (Sheet 1 of 4)
8	RT-5848 (686 mm long)	52kg		RF-5 (Sheet 3 of 4)
9	RT-5849 (686 mm long)	60kg		

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भारत सरकार/GOVERNMENT OF INDIA
रेल मंत्रालय/MINISTRY OF RAILWAYS
(रेलवे बोर्ड)/ (RAILWAY BOARD)

सं/No. 2024/Track-I/8(1)/HPRC

दिनांक/Date: 09.12.2024

**PED/Infra-I,
RDSO,
Manaknagar,
Lucknow.**

**विषय/Sub:- Report on field trials of High Performance Rail Clamps
(Robel clamp & Codiun clamp) with IR fishplates (Phase-A:
Speed Potential upto 50kmph).**

संदर्भ/Ref: RDSO's letter No. CT/FF/Misc dated 02.12.2024.

In regard to the above mentioned subject, the proposal, as submitted by RDSO vide letter under reference, has been **approved** as under:-

- (i) Both the clamps (Robel & Codiun) are compatible only for Fish plates RT-5916 & RT-3714 for 60 kg. So, trial report is approved for both the clamps (Robel & Codiun) for Fish plates RT-5916 & RT-3714 for 60 kg.
- (ii) For Fish plates (52kg) & Joggled fish plates (52kg,60kg), decision would be taken after successful trial of atleast 2 vendors.

RDSO is advised to issue instructions to ZRs for specifications of these clamps for procurement and conditions to use these clamps for track restoration sites & worksites.

RDSO may take further necessary action on the same.

This issues with the approval of AM/CE, Railway Board.


(Alok Kumar)

Executive Director/Track (P&P)

Railway Board

New Delhi 110001

E-mail: alokkumar.g@gov.in

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PROFORMA FOR MONITORING PERFORMANCE OF HPRC CLAMP (MAKE.....VER.....)**General information:**

- (a) Railway/ Division.....
- (b) Section (Name of line or branch)
- (c) Traffic density (GMT).....(d) Sectional speed.....
- (e) Rail Section.....(f) Sleeper Density.....
- (g) Ballast cushion.....mm (h) Condition of ballast compaction.....
- (i) Between stations.....to.....
- (j) Kilometerage.....to.....
- (k) Straight/Curve (Degree of curvature)
- (l) Fishplate drawing no.....
- (m) High Performance Rail clamp version (as specified by OEM)
- (n) Monitoring period from date.....to.....
- (o) Total GMT passed during monitoring period.....GMT

1.0 GENERAL REMARKS (observed during field trials):**a) Regarding shifting & crack/breakage of: -**

- 1) Fishplates:.....
- 2) HPRC Clamp:.....

b) Regarding corrosion of: -

- 1) Rails:.....
- 2) Fishplates:.....

c) Other Remarks (If any):

.....

.....

.....

2.0 HPRC Clamps performance: Satisfactory/ Unsatisfactory

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Signature with seal (Zonal Railways official)