Riley Superclamp – Safe Use of Fixed Jaw Beam Clamps

SUPER CLAMP

SAFE USE OF BEAM CLAMPS

11.0 Beam clamps provide a simple and portable means of attaching a hoist to a runway or lifting beam. They should not be used on any beam other than those designed, tested and marked as a runway beam (or lifting beam) with the exception that they may be used on a beam forming part of a structure where a specific design check for this purpose has been made.

SELECTION

11.1 Beam clamps are available in two basic designs, the permanently fixed type and the more popular adjustable type. (fig 11.1)

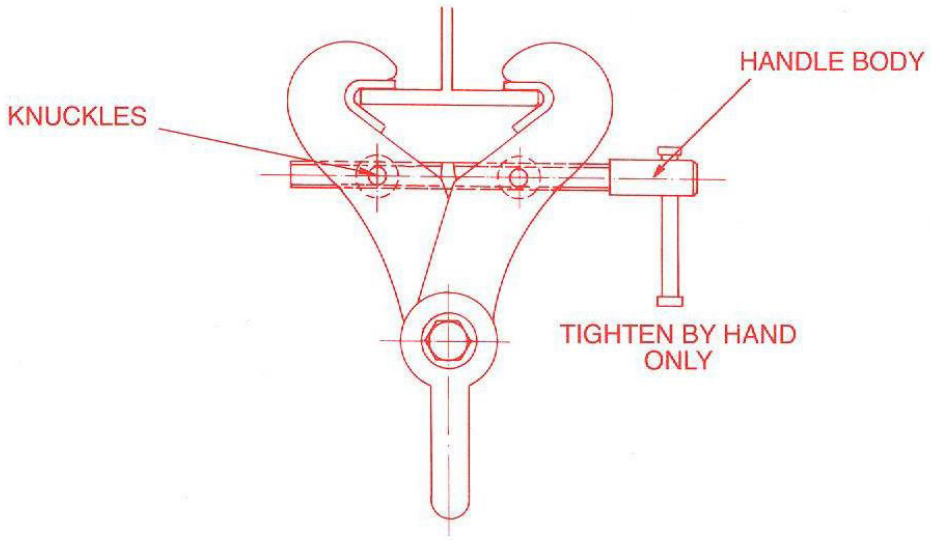

Fig 11.1

The main consideration when selecting the clamp is the required W.L.L. i.e. the load to be lifted plus the weight of the hoisting unit.

11.2 The width and thickness of the beam flange must also be considered and may well lead to the selection of a clamp in excess of the desired W.L.L. to be compatible with the beam dimensions. The range and adjustability are indicated on the clamp s identification plate.

11.3 The majority of clamps are designed for in-line i.e. the line of force must be at right angles to the flange of the beam to which it is attached (see fig 11.2)

PRE-USE EXAMINATION

11.4 Before using a beam clamp, it is the responsibility of the individual to ensure that the clamp is in good working order and in a safe condition. The following checks should be made:-

i) The W.L.L. is adequate for the load.
ii) The colour coding (where applicable) is current and the clamp has a plant number/ID mark.
iii) Examine suspension shackle and check for wear, stretch or distortion.
iv) Examine load bar and check for wear, stretch or distortion.
v) Examine inner clamp half and check for wear, distortion and cracking check jaws for deformation.
vi) Examine outer clamp half and check for wear, distortion and cracking check jaws for deformation.

NOTE:
Where swivel jaws are fitted, ensure they are free to rotate.

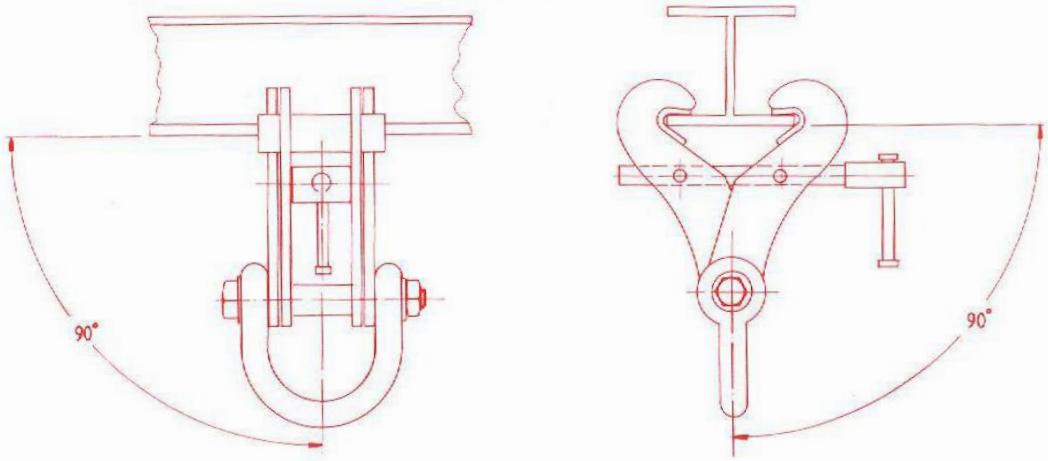

Fig 11.2

vii) Operate adjusting bar and check straightness and function. Check threads for wear and stretch.

viii) Examine female screwed spigots (in each clamp half) and ensure they are not deformed due to over/under tightening of clamps on the beam.

ix) Check tommy bar handle and ensure it is not bent or has any damage which may be injurious to your hands.

ERECTION OF BEAM CLAMPS

11.5 Where possible, position the beam flange directly above the load to be lifted (to avoid / minimize any angular loading).

11.6 Hand tighten the clamp onto the flange by means of the screwed bar and handle and ensure it has sealed correctly. Do not use an extension pipe on the handle as over tightening causes undue pressure on the clamp knuckles and can result in the clamp failing.

WARNING

Under tightening results in the load being transferred to clamp knuckles and can result in the clamp failing.

ALWAYS

11.7 Ensure the correct clamp is selected to suit the beam flange and the weight of the load to be lifted.

11.8 Ensure the beam or structure from which the clamp is to be suspended is adequate for the loading.

11.9 Ensure the hoisting unit is correctly seated in the suspension shackle.

NEVER

11.10 Subject the clamp to side loadings without the manufacturers recommendation.

11.11 Overload the clamp.

11.12 Throw or drop clamps onto the floor or deck.