

6.2 SCREW COUPLING





Draw Gear components (BG Coaching stocks)

- Draw bar yoke
- Draw bar
- Draft key
- Screw coupling
- Draw hook beam
- Draw hook

Draw Bar Yoke



Draw bar Yoke

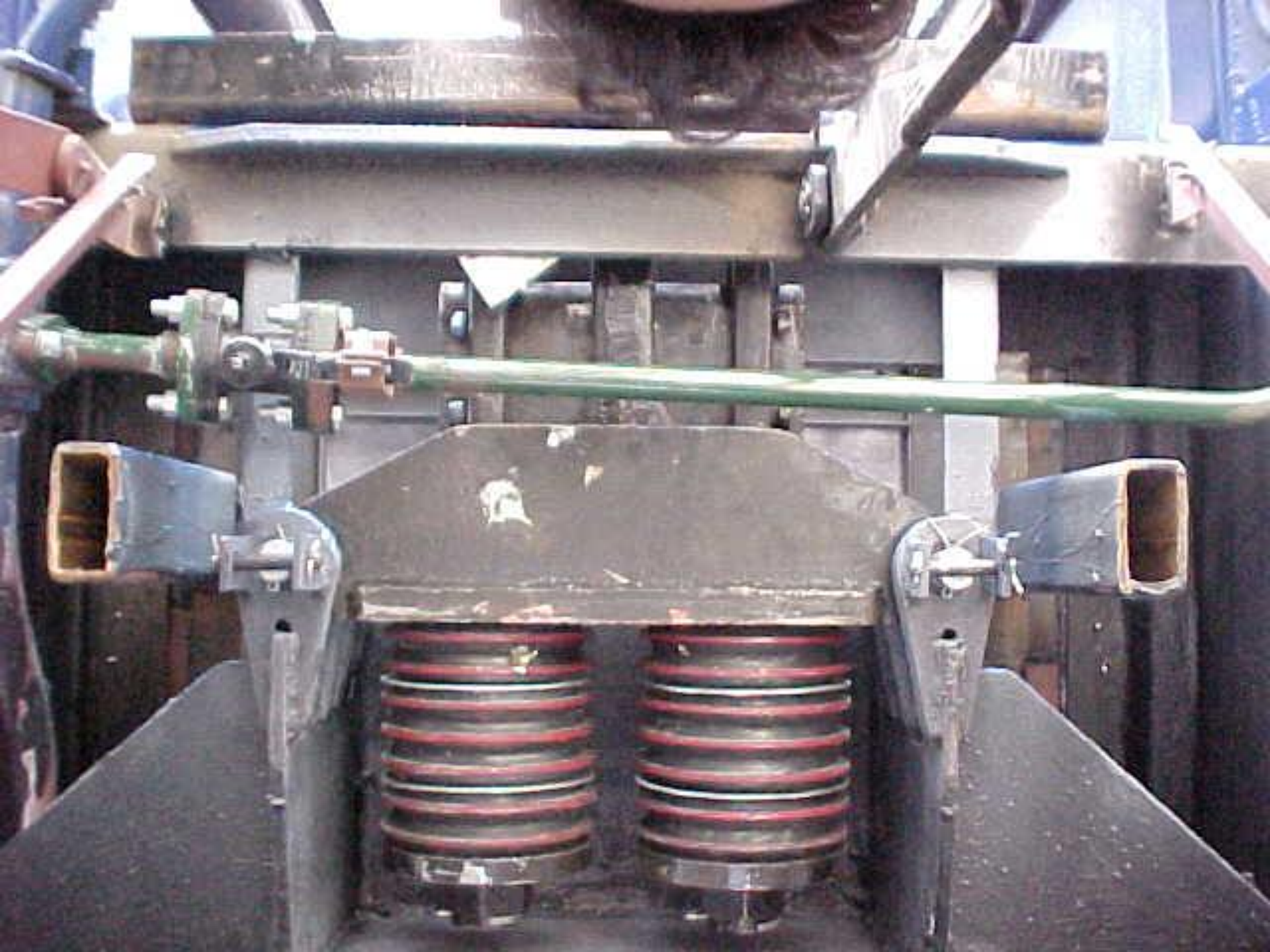
Component	Wear location	Wear limit	Suggested No Go gauges
Draft Yoke	45 mm dia hole	3mm	48 mm flat
Bush	32 mm dia hole	1mm	33 mm flat

Draw Bar yoke (Repair)

- Rebuild the 45mm dia hole by welding and drilling to the nominal size, if required. Ensure that the minimum distance between the inner edges of the 2 holes is $171^{+0.5}_{-0.0}$ mm.
- Replace corroded, cracked or worn bushes.

Draw Bar





Draw Bar (Inspection)

- Check the draw bar for dimensional distortions and damaged threads.
- Also check for wear on the following locations :-

Draw Bar

Location of wear	Wear limit	Suggested no go gauge
155 mm draft key slot	9 mm	164 mm snap
39 mm shank body	3 mm	36 mm snap
Slot width 38 mm	2 mm	40 mm flat
Thread M 39 x 3	1 mm	Thread profile

Draw Bar (Inspection)

- Reject draw bars failing these standards. In acceptable draw bars, clean the threads and ease them. Round off the roots of threads at the slot.
- Check the castle nuts for damaged threads, worn nut faces and threads visually. Replace castle nuts if so.

Draw Bar (Repair)

- Stress relieve draw bars.
- Test all draw bars by magna-glow equipment for surface cracks.
- Load test draw bar (Stc. 60.61) at 39.5 t and those of (IS 5517 Gr. 35Mn6Mo3) at 60t. There should not be any permanent deformation.

Draft Key

Draft key (Inspection)

Check draft key for bending and for wear as given below

Draft Key

Location of wear	Wear limit	Suggested no go gauge
Draw bar seating 139 mm	4 mm	Profile gauge with 5 mm adjustable projection
Draw hook seating 139 mm	4 mm	Profile gauge with 5 mm adjustable projection
Thickness 36 mm	4 mm	32 mm snap
Cotter hole 14 mm dia	2 mm	16 mm plug

Draft key (Repair)

- Stress relieve draft key.
- Renew worn, misshaped draft keys. In acceptable draft keys, round off the contact area with the draw bars & draw hook to remove ridges, pitting, etc. if any.

Screw Coupling



Screw Coupling (Inspection)

- Cut off rivets at both ends of screw and also rivets on trunnion for straight links and remove screw and straight links.

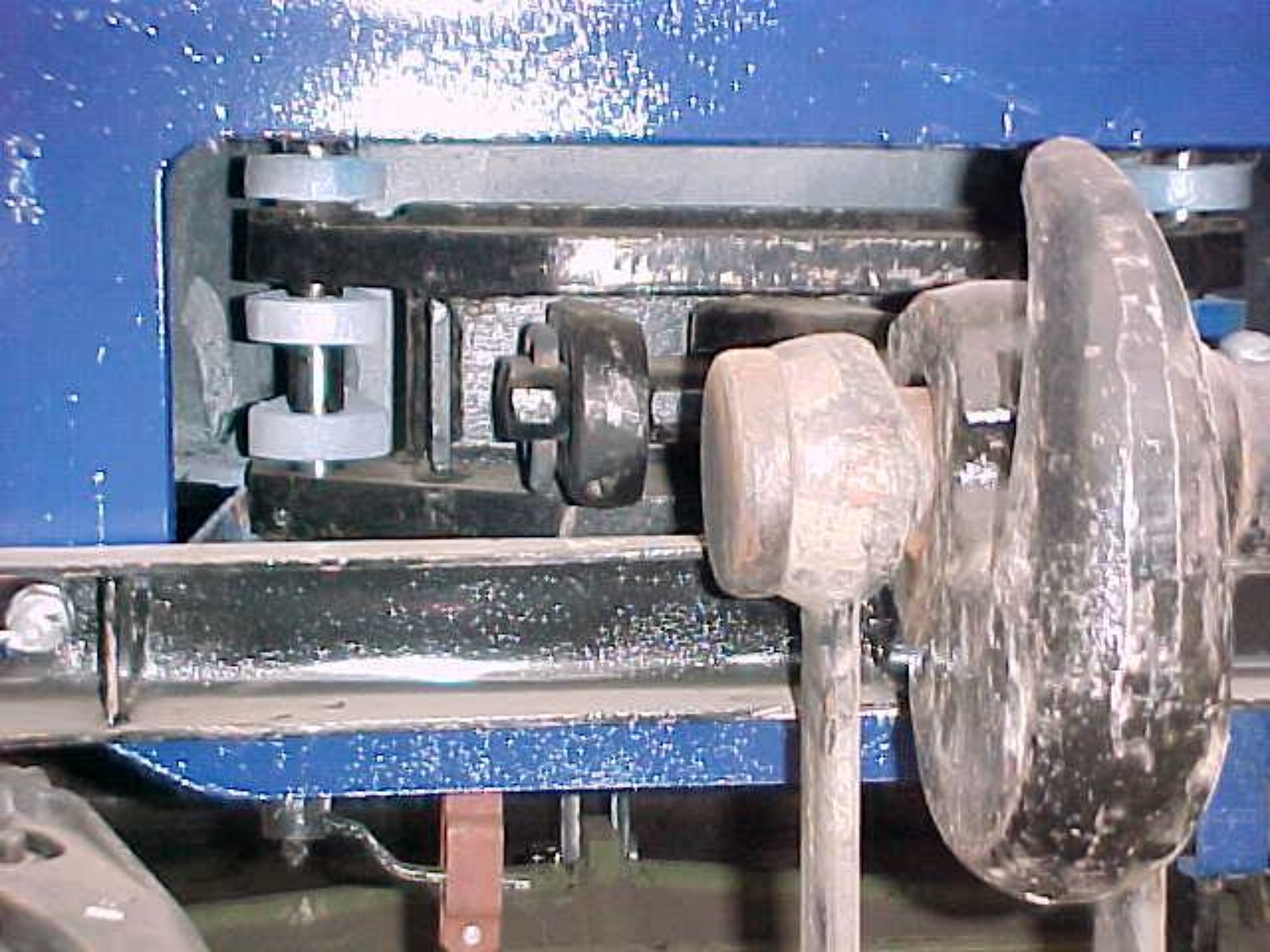
Screw Coupling (Inspection)

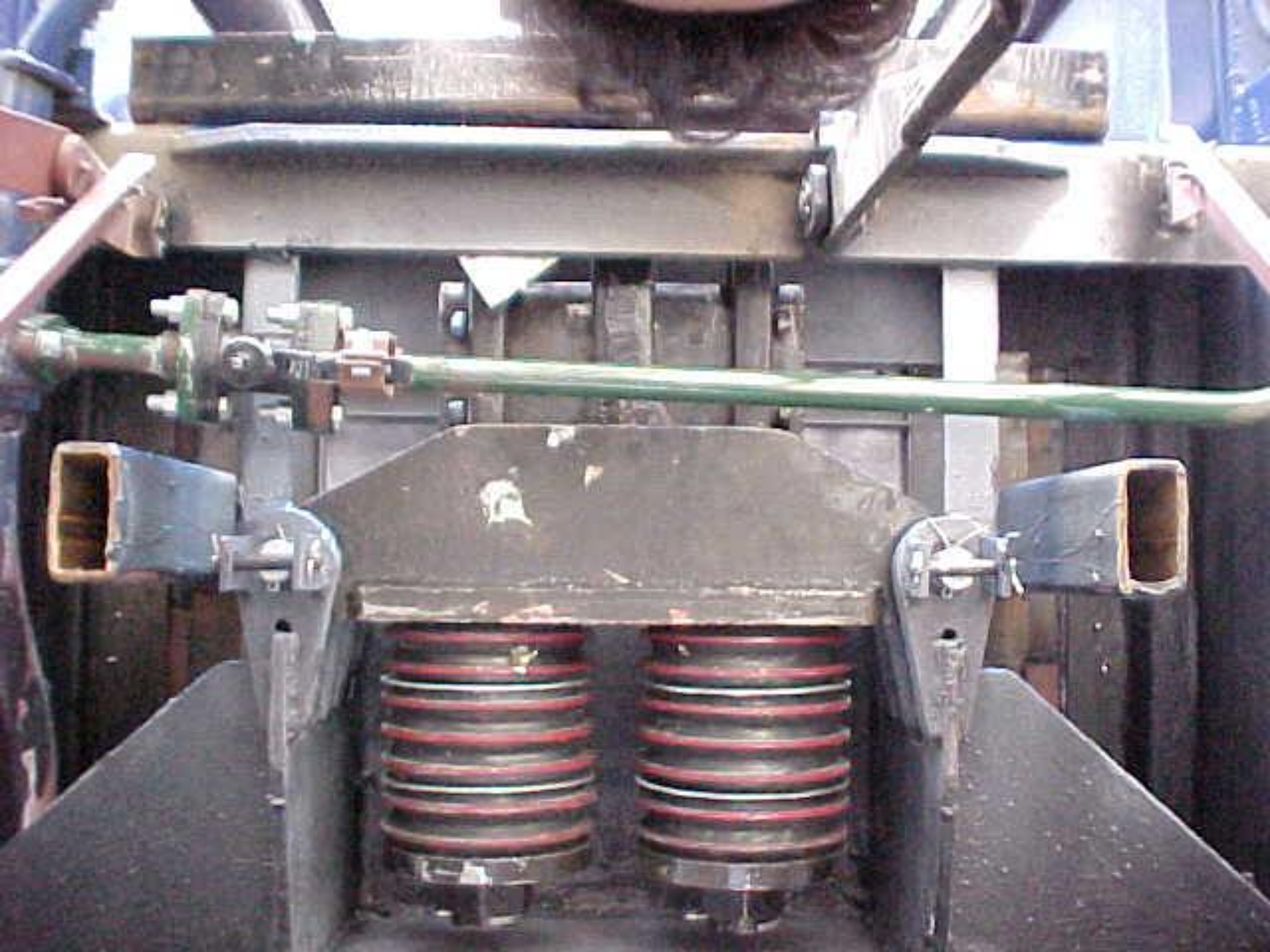
- Inspect the components for distortion, cracks or wear exceeding the limits below. In case of doubt, dye-penetrant tests may be used for confirming the presence/absence of cracks.

Component	Wear location	Wear limit	Suggested No Go gauge
Straight link	61 mm dia hole	2 mm	63 mm flat
Straight link	47 mm dia hole	2 mm	49 mm flat
Bent link	42 mm dia stem	3 mm	39 mm flat
Bent link	47 mm dia hole	2 mm	49 mm flat
Bent link	78 mm 'U' gap	3 mm on each arm	77 mm to go 85 mm no go gauge
Pin on draw hook	60 mm dia	2 mm	58 mm flat

Component	Wear location	Wear limit	Suggested No Go gauge
Screw	55 x 6.35 mm k/thread	1 mm	K thread profile gauge
Trunnion LH / RH Knuckle	Thread 55.635 x 6.35 K / thread	1 mm	K thread profile gauge
Trunnion LH / RH Knuckle	76 mm thickness	4 mm	72 mm snap
Trunnion LH / RH Knuckle	46 mm dia pin	2 mm	44 mm snap

Draw Hook Beam





Check the following locations for wear

Wear location	Wear Limit	Suggested No Go Gauge
Wearing piece	6 mm	Snap gauge 12 mm thick
Locating pins 25 m dia	6 mm	19 mm snap

Draw Hook Beam (Repair)

The wearing piece on the draw hook beam should be replaced if worn or cracked.

Draft Hook



Draw Hook (Inspection)

Remove the scale, rust, work hardened layers and surface cracks, if any, by light grinding/filing. Take care so that no grinding cracks or sharp edges are generated which could act as stress raisers. Use dye-penetrant test for checking surface cracks in case of doubts.

Draw Hook (Inspection)

Inspect the draw hook for deformations & cracks. The neck, its pin hole, and the slot are vulnerable locations. Draw hooks worn beyond the maximum permissible wear laid down in the table below should be scrapped

Draw Hook (Repair)

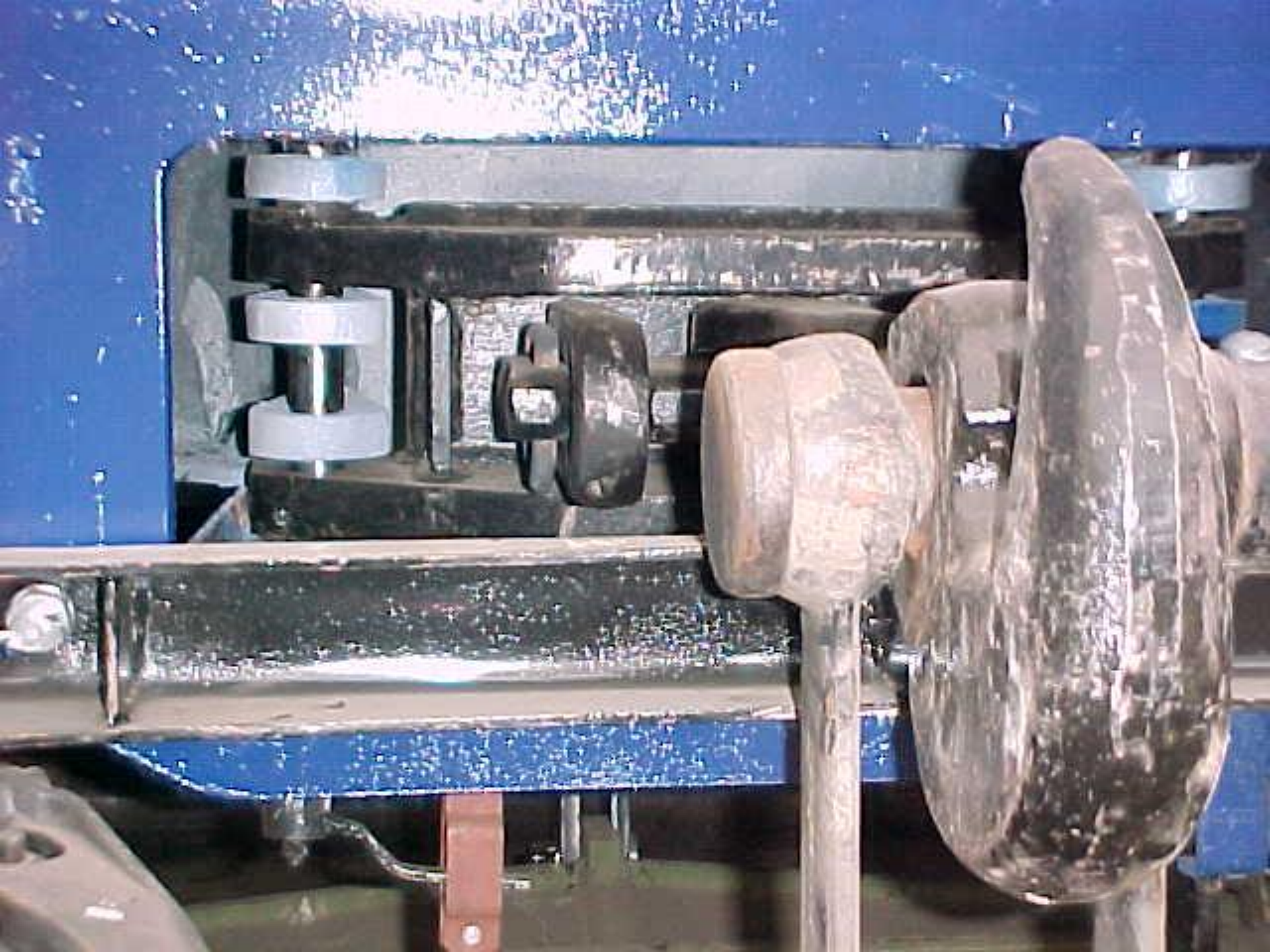
- Stress relieve the draw hooks.
- Load Test draw hooks (Stc. 60-61) at 60 t and those of IS: 5517 Gr. 35Mn6Mo3 at 70 t respectively. There should be no permanent set after release of load.

Draw Hook

Location of wear	Wear limit	Suggested no go gauge
Root of hook near point of contact with bent link	13 mm	Profile gauge with 15 mm adjustable projection
62 mm dia pin hole	3 mm	65 mm flat
Bottom side of shank 56 mm height	15 mm	41 mm snap
Draft key slot (159 mm)	13 mm	173 mm flat
38 mm width	2 mm	40 mm flat
Hook opening 48 mm	5 mm	46 mm go 53 mm no go plug



Draw gear & Locating Pin



Locating pins

The locating pins provided to restrict sideways movement of the draw hook, should be replaced if deficient, cracked or worn.

Draw gear pin

Replace pins, found damaged, bent or worn more than 1 mm anywhere on the nominal diameter (31-mm).

Castle Nuts



Castle nuts

Replace castle nuts i.e. for damaged threads, worn nut faces and threads.