

INFORMATION FOR OPERATORS

Hopper Wear Parts

Part 2 – S Tube & Spectacle Plate



5- S Tube

7 – Spectacle wear plate

8- Wear Ring

9- Thrust Ring

In last month's edition we discussed the wear ring and thrust ring. This month, we will be looking at the S Tube (no 5) and spectacle plate (no7) – specifically the S Tube **Final Position** and what it means.

Component: S tube (also known as the S Valve) and spectacle wear plate (its name is derived from the simple fact that, it “resembles” an old pair of “spectacles”).

Function: The spectacle wear plate is the fixed point of contact within the hopper that exposes the two openings of the chrome cylinders that the concrete will be driven out of by the delivery pistons. The S tube is essentially the valve, that during the pumping operation, will move from one opening of the spec plate to the other. Allowing the concrete to be driven continuously into the delivery line.

How it works: When adjusted and set correctly, the S Tube during operation, should move into a position that perfectly aligns over the desired outlet hole on the spec plate. This together with the wear ring & thrust ring (discussed last month) will create the sealed connection to ensure an efficient pumping operation.

Maintenance tip: Visual inspections should be carried out daily after washing out your hopper area. Check the changeover travel of the transfer tube. The tube must change over at a constant speed, without jerks or interruptions, to the correct end position (final position) on each side.

Refer to the diagrams below to assess your S tube and wearing ring:

Changeover travel correct.

The wear ring ① be coincident (lines up perfectly) with the outer edges of the spectacle plate ②.

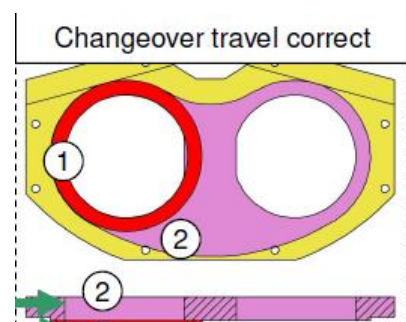


Figure 1

Changeover travel too far

Shows the S tube has over travelled. The problem here is that the system will only seal when the wear parts are 100% intact and in mint condition. The narrow sealing surface leads to corner chipping or jetting erosion on the wear ring (1) and loss of sealing between the wear ring and spectacle plate (2). This produces extreme wear and a build-up of concrete, which could create a blockage when the concrete build up (plug) breaks free during pumping operation.

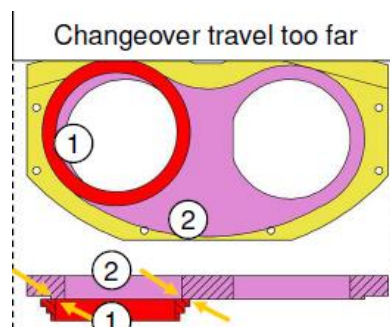


Figure 2

Changeover travel too small

Here the transfer tube has not travelled far enough. The problem described above then occurs on the opposite sealing corners of the delivery system, as represented by the inclined arrows in the diagrams.

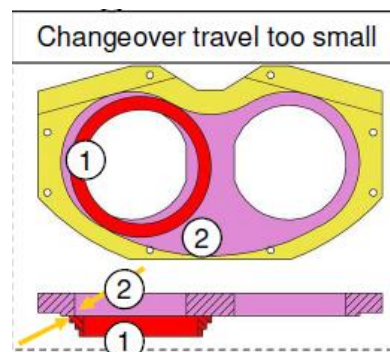


Figure 3

Sealing surface too small

Detail applicable to Figs. 2 and 3. The sealing area between the wear ring (1) and spectacle plate (2) is too small, due to the lack of overlap.

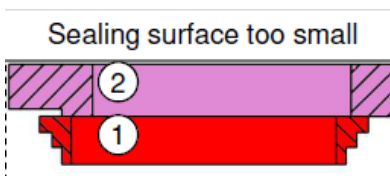


Figure 4

In addition to final S tube position, also check for:

1. Any signs of "jet wear" (jetting erosion)
2. Any concrete build up within the S tube
3. Damage or "corner chipping" on the spectacle wear plate



Safety: Never work within the hopper area of your pump, without ensuring a complete "lock out" procedure is followed. This essentially means:

- The machine is completely switched off.
- Ensure that the hydraulic pressure (particularly accumulator) has been dumped and no longer remains in the system.
- Display a sign or a "notice" of some sort that will bring peoples attention to the fact that the machine is in a "lock out" zone.
- Ensure that the key to start the equipment is not in the ignition, in fact it should be in your pocket.

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Our experienced team at CPENZ are here to help. We run detailed training courses at your premise, on your pump tailored to your requirements. These can cover:

- Operating your pump
- Health & Safety when using your pump
- Trouble-shooting
- Maintenance
- Servicing.

[CLICK HERE](#) to let us know what type of training you're wanting or contact Kelly on 0276576444 or kelly@cpenz.co.nz for more information.