MT INSTRUCTION
DRIFTER ALIGNMENT SIMBA RHS 27D and 27E

DOCUMENT	**MT SIMBA DRIFTER ALIGNMENT**
MACHINE/ GROUP	**ALL SIMBA DRILLS WITH RHS 17/27 CAROUSEL**
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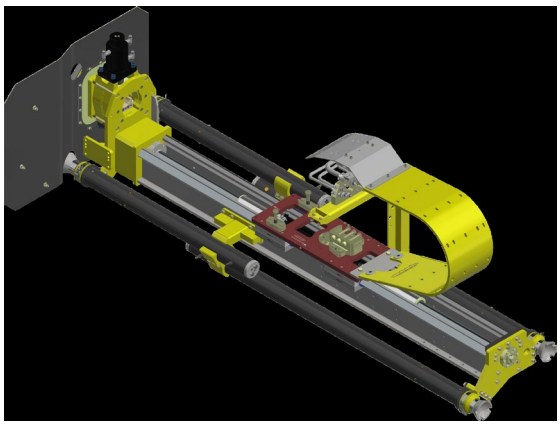
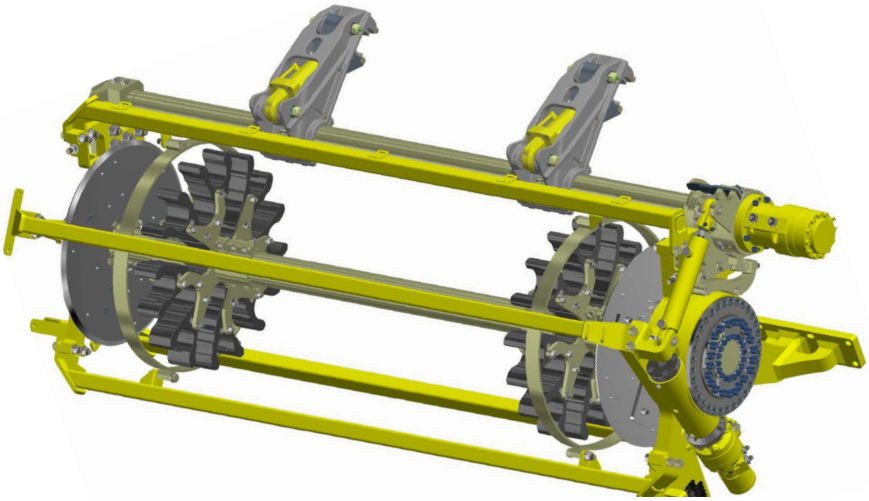
DATE	**01/07/2023**



Background

Correct alignment of the rock drill is critical to obtaining optimal drilling performance. Incorrect alignment can cause deviation of holes, poor penetration rates, incorrect or inaccurate collaring, premature rock drill wear and increased consumable wear.

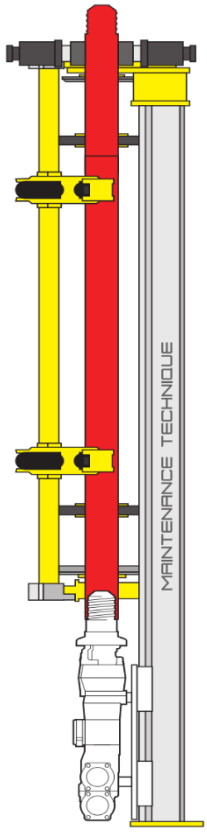
FOLLOW ALL SITE SAFETY AND ISOLATION PROCEDURES BEFORE MAKING ANY ADJUSTMENTS



Step 1. Rotate the feeder to the up hole position and close the BSH jaws to hold the short rod in position. Grab a second rod and thread it onto the shank, and into the short rod. Move the gripper arms into the park position away from the rod. (FIG 1)

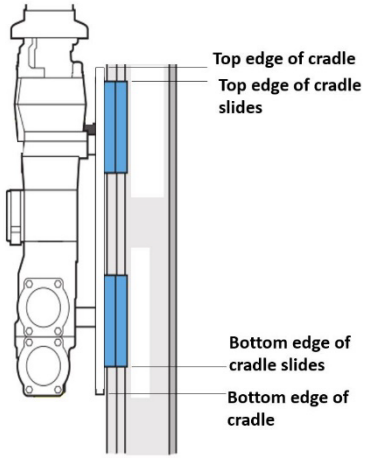
WARNING Damage or injury can occur to components or personnel whilst rod handling, caution must be taken.

FIG 1



Step 2. The rockdrill will now be pointing directly along the rail due to the rods aligning it. Adjust each cradle slide until there is a slight gap between the plastic wear piece and the clip-on. Once all the bolts are tightened, the cradle slides must have a 0.5 - 1mm gap between the plastic wear piece and the clip-on to avoid over tensioning and feed problems.
Both the left and right upper cradle slides should have an even distance between the top edge of the cradle and the top edge of the cradle slides. Both left and right lower cradle slides should also have an even distance between the bottom edge of the cradle and bottom edge of the lower cradle slides (FIG2).
Ensuring these measurements are the same will ensure that rockdrill is centred to the feed rail.

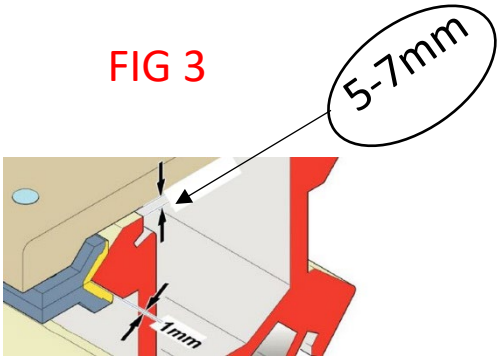
FIG 2



Slides are usually adjusted so they are even as shown above in Fig 2.

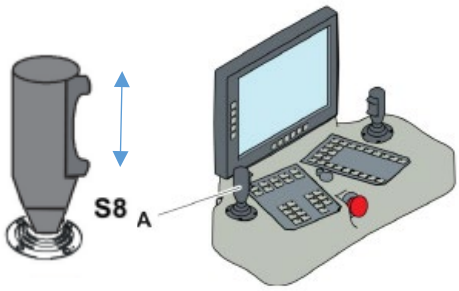
Step 3. Tighten all the bolts and check the gap between the bottom of the cradle and the feed rail as shown in FIG 3.The gap should be between 5-7mm as shown. This will maintain correct alignment with the BSH jaws.

FIG 3



Step 4. Carefully load both rods back into the carousel and ensure the feeder is still pointing up.
With no rods on the shank and with the hydraulic oil at operating temperature, select drilling mode and activate threading (RCS 4 see FIG 4, RCS 5 see FIG 5). Thread the rockdrill all the way from the bottom of the rail to the top of the rail while watching the feed pressure gauge on the RCS screen. (Repeat several times) .Feed pressure should stay below 50-55 bar. If the feed pressure increases or spikes whilst travelling along the feedrail or when the drifter cradle approaches the end of the feed rail. The cradle slide blocks are too tight to the rail and the 1mm clearance will need to be checked.
Note-Always use threading to check the pressure required to move the drifter cradle along the rail as it sends a set amount of flow to the feed pressure valve allowing for accurate checking of the cradle slide tension.
FIG 6 shows the feed pressure gauge on RCS 4 Rigs and
FIG 7 shows the feed pressure gauge on RCS 5 rigs.

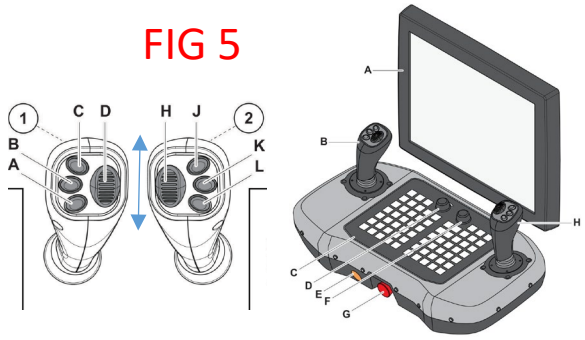
FIG 4 RCS 4 Threading



Left lever S8 to activate threading

RCS 5 Threading

FIG 5



Right lever button H to activate threading

FIG 6

RCS 3/4 Feed Pressure

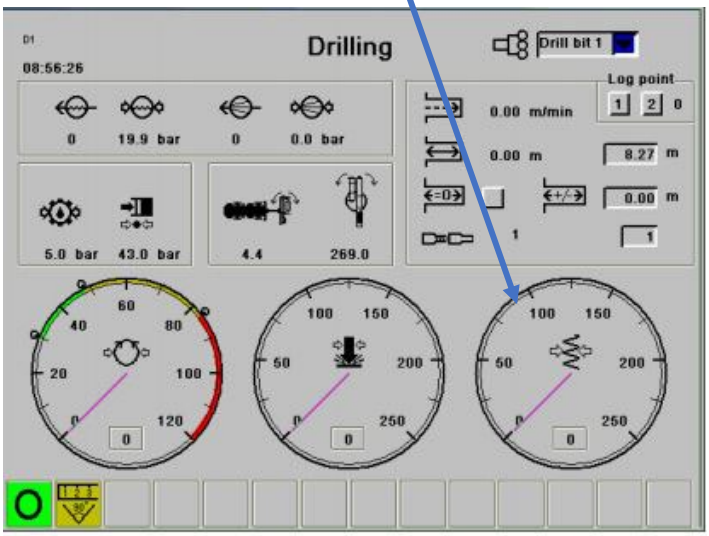


FIG 7

RCS 5 Feed Pressure

Step 5. Position the feeder with the rockdrill in the down hole position as shown in FIG 8 and FIG 9. Attach a short rod or Fishing tool to the rockdrill shank and move the rockdrill down so the outer diameter is inside the BSH jaws.
Note – Ensure the short rod or Fishing Tool is tight on the Rockdrill shank.

FIG 8

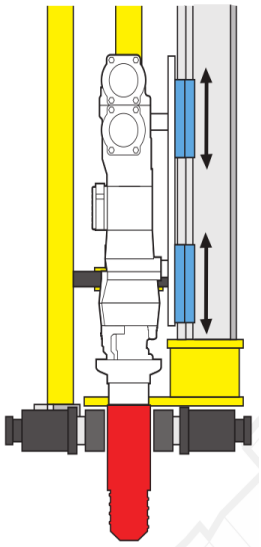
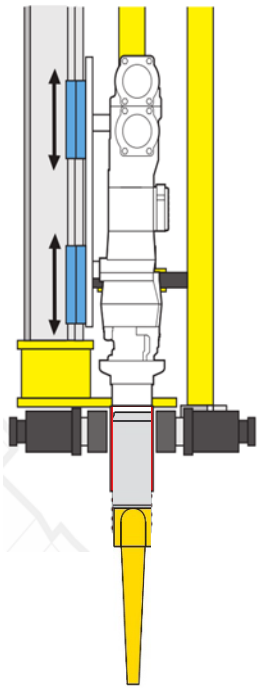
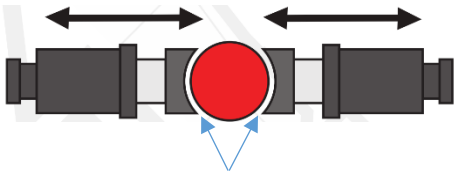


FIG 9



Step 6. Activate the guide position and check the clearance between the short rod or fishing tool and each jaw. The clearance between the rod and the jaws should be even and between 2-4mm. (FIG 10) Adjust (as per MT procedure) if needed.
Note- BSH adjustments are hydraulic, and cylinders will need to be cycled after adjustment to get accurate clearance.

FIG 10

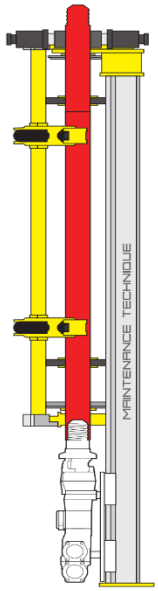


2-4mm clearance

Step 7. Reload both the short rod and a long rod back onto the rockdrill shank. Ensure all joints are threaded tight together and gripped in the BSH jaws, as shown in FIG 11

WARNING Damage or injury can occur to components or personnel whilst rod handling, caution must be taken.

FIG 11



Step 8. Move the gripper arms from the park position to drill centre and check the gap between the fixed jaw and the drill steel, this gap should be 1mm. (See FIG 13)
Adjust by loosening the bearing block bolts shown in FIG 12 (H) and adjust AXIS 'A' using the jacking bolt (J) shown in FIG 12 and 13.

Note- Once this adjustment is done it should not need to be adjusted again unless the spherical bearings or jaws have excessive wear.

Step 9. Drill centre is adjusted by loosening the arms and rotating them on the shaft. Before adjusting the arms on the shaft, it is important to set the adjustable end of the Park cylinder to have 8-10mm of thread showing as shown in FIG 14 for E series carousels and FIG. (This allows for fine adjustment after the arms are tightened to the shaft)

Move the arms to the "drill centre" position. Loosen the gripper arms on the shaft and adjust so that the fixed jaw of the gripper arm has a 1mm gap to the rod as shown in FIG 13. Tighten the gripper arms to shaft and then swing the arms from drill centre to park. Check that the fixed jaw is not touching the drill steel, and then open and close the gripper arm jaws and ensure that the gripper arm shaft does not flex. It is not necessary to loosen the gripper arms from the shaft to make fine adjustments to drill centre. You can now relieve the pressure from the park cylinder by cracking the hydraulic hoses and loosening the 8mm cap screws that locks the rod end in place. Adjust the length of the cylinder as shown in FIG 14(E-series) FIG 15(D-series) to fine tune the drill centre position.(note the difference between E series and D series fine adjustment position)
The final step is to reset the gripper arm position parameters in the RCS system. Refer to the separate procedure if you are not familiar with adjusting these parameters.
The system will need to be placed in "gripper arm emergency mode" to set these parameters.
WARNING Damage or injury can occur to components or personnel whilst machine in 'gripper arm emergency mode', caution must be taken.

FIG 12

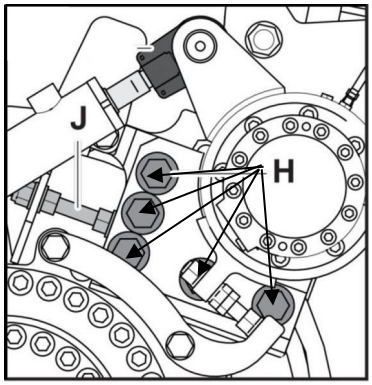
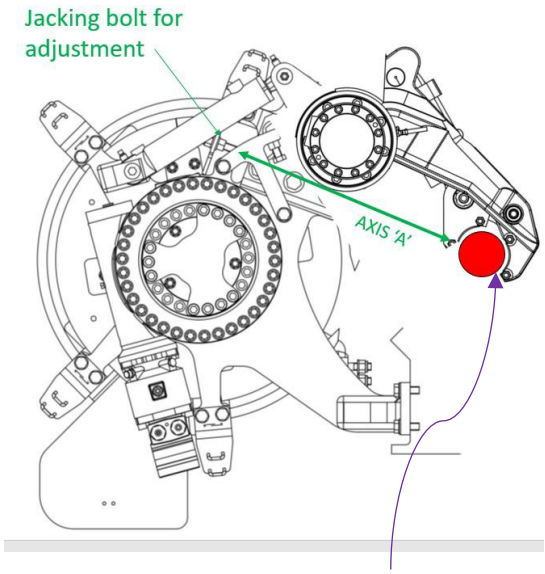
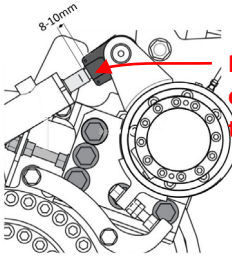


FIG 13



E SERIES CAROUSEL

FIG 14



D SERIES CAROUSEL

FIG 15