

1. Methods

The video sequence shows the following methods:

- Step ahead method
- Partial web cut
- Auto sequence of each 2nd support
- Bidirectional cut

This method is mainly used with fast shearer travel and offers the following advantages:

- even load of the hydraulic
- even load of the conveyor and belts
- low load of the shearer motors
- no double cut at face ends
- better roof support

1.1 Initial Situation

The shearer is located in the head end. The longwall is equipped with 200 supports. The end ranges are defined as follows (ca.):

Head end range: support 1 - support 20

Tail end range: support 180 - support 200

The functional distances and ranges behind the shearer are:

BP Distance: ca. 20 supports

ASQ Distance: ca. 30 supports

The advance rate for the base line for each moving direction is:

to tail end: ca. 35 cm

to head end: ca. 55 cm

The "ram" graph shows that each even numbered support in face range had pushed the conveyor and had advanced. The stroke of even numbered supports is < 10 cm. This stroke is the result of the slack elimination automatic which pushes after the auto sequence for the slack measured. The odd numbered supports had a stroke of < 10 cm and pushed the conveyor to ca. 55 cm.

Both end ranges are completely advanced. In automatic mode the end ranges always push to the full stroke and each support performs an auto sequence. In this video sequence the automatic auto sequence is not allowed in end ranges. In the tail end range the bankpush is not allowed also.

1.2 Shearer run to tail end

The mode "enhanced incremental bankpush + auto sequence" is active.

The operators push the conveyor and advance the supports manually. Only the head end support and the 1st neighbors remain unadvanced.

In face range 1st the conveyor is pushed by 35 cm. In doing so the odd numbered supports push from ca. 55 cm up to ca. 90 cm. The even numbered supports push from ca. < 10 cm to 35 cm. Further behind the shearer the auto sequences of the odd

numbered supports follow.

Once the functions are finished, the odd supports have a stroke of < 10 cm. The even supports have a stroke of ca. 35 cm.

The ram cylinder of support 145 is completely extended. This support is advanced by the operators ahead the shearer.

1.3 Shearer stop in tail end range

The supports push the conveyor and run the auto sequence up to the specified distance behind the shearer. After shearer stop in head end the operators advance the supports as close as possible to the snake. Then all odd supports behind the "BP distance" have advanced.

The bankpush finishes ca. at support 180 because the "BP distance" is set on ca. 20 supports.

1.4 Shearer run to head end range

The mode "enhanced incremental bankpush" is active.

Even the tail end range is processed manually.

In the face range the even supports push the conveyor from ca. 35 cm to 90 cm. The odd numbered supports push the conveyor from ca. < 10 cm to 55 cm. Afterward the auto sequence of the even supports is done.

Once the functions are finished the even supports have a stroke of < 10 cm. The odd supports have a stroke of ca. 55 cm.

While the shearer approaches the head end, the tail end range is advanced by the operators.

1.5 Shearer stop in head end range

The process is identical to the tail end range.

The bankpush finished at ca. support 20. This is a consequence of parameter setting (BP distance = ca. 20 supports).