OPERATING A WINDER HOISTING MEN AND ROCK CHANGING CONVEYANCES

Because men are hoisted from different levels, the driver will have to clutch from one level to another. The method of operating a winder is the same in an incline or vertical shaft.

If it is assumed that the driver is hoisting men from 10 level and that the driver will have to clutch for 12 level later,

The driver must:-
Check the winder
Continue hoisting men from 10 level.
Reply the signal 3 from the onsetter.
Obtain or request a clear signal from the banksman.
Acknowledge the bank signal from the onsetter.
Pause at least 10 seconds after receiving the signal 1 from the onsetter.
Apply sufficient current to raise the bottom conveyance.
Ease off the brakes.
Check that the drums revolve in the correct direction.
Increase the speed of the winder to the correct hoisting speed.
Check the speed, coiling, depth indicator and amp meter.
Retard the AC winder at the point of balance, DC winder for the signal destination. (DC controlled).
Reduce the speed when approaching the bank.
Stop on the bank mark, apply the brake lever, and make sure that the brakes are applied by means of the brake indicator and pressure gauge, move the control lever to neutral.
Check that you stopped on the correct station marks.

Signal 3 to the banksman.

Await further signals from the onsetter.
Continue to hoist men as described above until it is time to clutch for 12 level.
The driver must: -
Receive the clutching signal 4-4-4, 12 level station signal and a clear signal 2-2 from the onsetter.
Receive the clear signal 2-2 from the banksman.
Test both brakes separately and if satisfactory, unclutch the conveyance at the bank. (See module PCT).
Lower the bottom conveyance to 12 level at a reduced speed, not faster than 2.5 m/sec (drum bushes)
Stop a half tooth above the 12 level station mark. (Backlash).
Clutch in, and test both brakes separately if satisfactory run one complete trip down and up the shaft, if necessary. (Refer to Reg. 16.72)
Return the conveyance to the onsetter at 10 level station.
Signal the clutching completed signal 4-4-4 to the onsetter.
Reply the signal 3 received from the onsetter.
Acknowledge the signal 3-3-3 received from the onsetter.
Reply the 12 level destination signal received from the onsetter.
Pause at least 10 seconds after the onsetter has signalled 2 to lower.
Move the control lever in the correct direction.
Ease off the brakes.
Check that the drums are revolving in the correct direction.
Control and observe the speed, coiling of the rope, depth indicator and amp meter.
Prevent shocks when approaching the signal destination.
Stop at 12 level station, apply the brakes, make sure the brakes are on by means of the brake indicator, move the control lever to neutral
Ensure yourself that you stopped on the correct drum mark.
Signal 3 to the onsetter.
Act on further signals received from the onsetter and banksman.
Continue as described above, hoisting men from 12 level.

HOISTING ROCK

On some shafts it may be necessary to hoist rock from boxes at different levels. The procedures and actions differ from vertical to incline shafts and each shaft will be explained below.

On most mines the skips are clutched above the bank, when the winder has been stopped for long periods, e.g. Saturday nights. This is done to prevent the skips interrupting the ventilation and for rope protection. The following procedures deals with a driver coming on shift on a Sunday night and the winder will hoist rock from 10 level and later from 12 level box.

(i) VERTICAL SHAFT

The driver must: -

Check the winder
Acknowledge the signal 6-6-6 from the banksman.
Obtain the clutching signal 4-4-4, 10 level box signal and a clear signal from the banksman.
Select the man/rock switch to the rock position.
Position one skip 2 turns below the tip and stop on tip mark. (Rope stretch and headgear clearance)
Test both brakes separately and if satisfactory, unclutch the top skip.
Lower the other skip at a reduced speed to one turn above 10 level box mark. (Not exceeding 2,5 m/sec. to protect the drum busses).
Stop on the box mark.
Clutch in and test both brakes separately if satisfactory,
Signal the clutching completed signal 4-4-4 to the banksman.
Receive the clear signal 2-2 from the banksman.
Lower the skip to the box when signalled by the onsetter.
Stop when signalled 1 by the onsetter on the box mark.

When signalled, raise the loaded skip to mid-wind and stop the loaded skip on the box mark.
Test both brakes separately and if satisfactory, unclutch the empty skip.
Raise the loaded skip one turn and stop a half tooth above the box mark.
Clutch in, test both brakes separately and if satisfactory,
Continue hoisting rock.

VERTICAL SHAFT

On some mines the onsetter and his helpers are lowered to 10 level by means of a skip.

The driver must: **-**
Check the winder
Acknowledge the signal 6-6-6 from the banksman.
Obtain a clutching signal 4-4-4, 10 level station signal and clear signal 2-2 from the banksman.
Lower one skip to the bank and stop on the bank mark. (Conveying persons)
Select the man/rock switch to the man position.
Test both brakes separately and if satisfactory, unclutch the skip at the bank.
Lower the other skip at a reduced speed (2,5 m/sec) to 10 level station.
Stop on 10 level station mark.
Clutch in, test both brakes separately and if satisfactory, run one complete trip up and down the shaft.
Signal the clutching completed signal 4-4-4 to the banksman.
Reply the signal 7 to the banksman.

The banksman will prepare the skip to convey persons (Hood or cover, and safety pin.).

The driver must: -

Acknowledge the signal 7-7 from the banksman.
Reply the signal 3 from the banksman to load the onsetter and his helpers.
Receive the signal 2 to lower and pause at least 10 seconds.
Lower the skip to 10 level station.
Stop on 10 level station mark, brake on and control lever in neutral.
Check that you stopped on the correct station mark.

Signal 3, the onsetter and his helpers may leave the skip.
Reply the signal 7 to the onsetter.
The onsetter will remove the hood, cover and safety pin from the skip.

The driver must: -
Acknowledge the signal 7-7 to the onsetter.
Receive the clutching signal 4-4-4, 10 level box signal and clear signal 2-2 from the onsetter.
Select the man/rock switch to the rock position.
Clutch for hoisting rock as explained in section in **(**I) Vertical shaft.
When 10 level box is empty,
The driver must: -
Obtain the clutching signal 4-4-4, 12 level station signal and a clear signal 2-2 from the onsetter.
Lower the skip at the tip to the bank mark.
Select the man/rock switch to the man position.
Test both brakes separately and if satisfactory, unclutch the skip at the bank.
Lower the bottom skip at a reduced speed to 12 level station. (Not exceeding 2,5 m/sec. to protect the drum bushes).
Stop on the correct mark.
Clutch in, test both brakes separately and if satisfactory, run at least one complete trip up and down the shaft.
Return the skip to the onsetter at 10 level station.
Signal clutching completed signal 4-4-4 to the onsetter.
Reply the signal 7 to the onsetter, to secure the hood, cover, platform and safety pin.
Acknowledge the signal 7-7 to the onsetter.
Reply the signal 3 to the onsetter.
Acknowledge the signal 3-3-3 to the onsetter..
Reply the 12 level station signal to the onsetter.
Receive the signal 2 to lower and pause at least 10 seconds.
Move the control lever in the correct direction and ease off the brakes.Check that the drums are revolving in the correct direction.
Control and observe the speed, coiling of the rope, depth indicator and amp meter.
Prevent shocks when approaching the signal destination. (Refer to regulation 16.86.4).
Retard the winder to stop on 12 level station.
Stop on the correct mark at 12 level station.
Signal 3, the onsetter and his helpers may leave the skip.
Reply the signal 7 to the onsetter. (he will remove the hood or cover and Safety pin from the skip).
Acknowledge the signal 7-7 to the onsetter.
Clutch correctly for the tip and 12 level box, as explained above, after receiving the clutching signal, 12 level box signal and a clear signal from the onsetter.
Continue hoisting rock from 12 level box as described above.

INCLINE SHAFT

The method of hoisting rock on an incline shaft differs slightly from a vertical shaft. On some mines spillage doors are installed below each box to prevent spillage obstructing the shaft. To reduce any danger the onsetter must examine the shaft for at least 2 levels below the box, which has just been emptied. This is done by walking down the shaft. **The operation of a winder on an incline shaft is the same as described on a vertical shaft.**
Assuming that rock has been hoisted from 10 level and the box is empty, the onsetter intends hoisting rock from 12 level box.

The driver must: **-**
Raise the skip after receiving the signal 4-1 from the onsetter.
Stop the skip when signalled 1 from the onsetter.
Reply the signal 7 to the onsetter to prepare skip.(Hood or cover)
Acknowledge the signal 7-7 to the onsetter.
Acknowledge the signal 6-6 (Compartments locked) signal to the onsetter who will then open the spillage doors and examine the shaft **to 12 level station**.
Acknowledge the signal 6-6-6 to the onsetter. (Compartments re-opened)
Receive a clutching signal 4-4-4, 12 level box signal and a clear signal from the onsetter.
Lower the top skip 2 turns below the tip and stop on the tip mark.
Test both brakes separately and if satisfactory, unclutch the skip.

Lower the other skip at a reduced speed to 1 turn above 12 level box. (Not exceeding 2,5 m/sec. to protect the drum busses).
Stop on the 12 level box mark.
Clutch in, test both brakes separately and if satisfactory,
Position the skip at 12 level station.
Signal clutching completed signal 4-4-4 to the onsetter.
Reply the signal 7 to the onsetter who will then remove the hood or cover and the safety pin from the skip.
Acknowledge the signal 7-7 to the onsetter.
Lower the skip to the box when signalled 4-2 from the onsetter.
Stop when signalled 1 by the onsetter.
Raise the loaded skip to mid-wind after receiving the signal 1 from the onsetter.
Stop on the box mark and test both brakes separately if satisfactory,
Unclutch the empty skip and raise the loaded skip one turn and stop.
Clutch in and test both brakes separately if satisfactory,
Resume hoisting rock from 12 level box as described above.