

How do battery-swapping trucks transport materials in open-pit mines?

In the battery-swapping truck transportation model for open-pit mines, multiple shovel points, crushing stations, and battery-swapping stations are involved. The battery-swapping trucks need to transport materials among these shovel points, crushing stations, and battery-swapping stations, as illustrated in Figure 1.

What are the parameters of the open-pit coal mine battery-swapping truck scheduling model?

Model Parameters The open-pit coal mine battery-swapping truck scheduling model can be described with the following specific mathematical parameters: The production system includes 5 shovel points, 4 crushing stations, 30 battery-swapping trucks of the same model, and 3 battery-swapping stations, each with 15 available batteries.

What is a battery-swapping prompt?

A battery-swapping prompt is triggered when the remaining battery level falls below the minimum percentage of the battery capacity. The truck's initial battery level is reduced by the energy consumed during both heavy-load and no-load operations.

What is a good battery capacity for 300 km a day?

At 300 km daily mileage, profits exceeding 1.0 CNY/kWh necessitate a low battery capacity that preserves cargo weight (point A). Battery capacities above 400 kWh yield profits below 0.9 CNY/kWh (point B). Increasing battery replacements maximizes profits when maintaining daily mileage, particularly with turnovers less than 8 (line C).

How many batteries can a truck swap during a shift?

After arriving at a battery-swapping station, a truck leaves fully charged (100%) after swapping the battery, with no limit on the number of battery swaps during a single shift. The maintenance costs due to truck malfunctions during a shift are determined based on the transportation distance.

Can a mining truck transport materials from one battery-swapping station to another?

It is not allowed for any mining truck to transport materials directly from one battery-swapping station to another battery-swapping station. The working time for each shift in the mine is 8 h, and the trucks do not have any rest time during a single shift. At the beginning of each shift, all trucks are fully charged.

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The PitBoss+ System requires a 12V Deep Cycle Battery (not included), 40 amp/hr minimum, 75 amp/hr or higher recommended. SLA/AGM Battery strongly recommended. ... become ...

The utility model discloses a supporting seat, upset platform and centre gripping subassembly's effect has solved highly being difficult to when current battery upset and has adjusted, the angle...

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two individuals: a battery arranger and a pit arranger. Though it can be valuable to have multiple minds working toward a common goal, this can result in a product that is fragmented in terms ...

From cold, very slow turnover. Battery prob? Thread starter kev1974; Start date Nov 16, 2011; Forums. Audi Forums A3 Series. A3/S3/Sportback (8P Chassis) . kev1974 ...

This case study presents and illustrates the methods and techniques used at the Boddington Gold mine during bench turnover (BTO) works, how pit walls are evaluated and approved, and what ...

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