LUBRICATION

HOW TO CALCULATE THE ROI OF AN AUTOMATIC LUBRICATION SYSTEM

In order to calculate the ROI, we need to compare the cost of the automatic lubrication system (ALS) and the cost involved in manual lubrication, including the cost of downtime.

Data used in this calculation

Machine:	**Caterpillar 320 excavator**
Number of lubrication points:	**20**
Yearly machine usage:	**220 days**
Machine downtime cost:	**$ 56 per hour**

(based on the rental price of a 22-ton excavator)

Automatic lubrication system

Cost: $ 4,500

Manual labor

Lubrication: daily
Labor cost: $ 25 / hour
Lubrication cycle: 20 minutes
(1 minute per lubrication point)

STEP 1

Calculate the annual cost of manual lubrication

Machine downtime cost *($ per hour)*	56
Labor cost *($ per hour)*	+ 25
Number of lubrication points	× 20
Time to lubricate one point *(hour)*	× 1 / 60
Frequency *(1 / days between lubrication)*	× 1 / 1
Yearly machine usage *(days)*	× 220
Annual cost of manual lubrication	= **$ 5,940**

STEP 2

Compare the cost of the automatic lubrication system (ALS) and the annual cost of manual lubrication

Cost of ALS installed on machine *($)*	4,500
Annual cost of manual lubrication *($)*	5,940
Return on investment	= **0.76**

ROI = 9 months & 3 days

An investment in an automatic lubrication system for a Caterpillar 320 excavator has been **repaid after three quarters of a year**. After this period, your investment will generate nothing but profit.

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