Estimating ROI for a Die Lubrication System

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Overview:

Customers who have installed Pax in-die type lubrication systems have typically realized costs savings and increased profitability one or all of the following areas:

Increased Production Speeds and Part Consistency
Increased Die Life
Reduced Lubrication Usage.
Increased Safety and OSHA Compliance as a reult of better controlling, containing, and collecting lubricant

The increased profitability/savings realized varies greatly depending upon the type of stamping application being performed and the method in which the lubrication system is installed. Typical savings for each of these categories are briefly outlined below and the attached "Sample Worksheet" can be used to estimate the ROI that you may be able to achieve in your specific application.

Increased Die Life, Production Speeds and Part Consistency:

These are the areas where Pax customers have achieved the greatest ROI. By reducing either the friction and/or the heat at a specific station or stations, customers have consistently increased both their production speeds and die life by factors of 2 to 3X. This is especially true for longer dies, dies that have gulling issues, and dies that are doing heavy draw work.

Savings from Decreased Lubrication Usage:

Although this is typically the smallest amount of savings achieved from a system installation, this is the savings that many customers will attempt to use for project justification. While the savings from reduced lubrication usage may not always be great, they are typically easy to estimate. Customers who have implemented in-die lubrication systems but have not implemented a recycling system, have typically seen lubrication usage reductions ranging from 20% to 70%. Customers who have also installed systems that recapture and reuse the lubricant typically see lubrication usage reduced by 80% or more. If you know how much lubrication you currently use and the cost of this lubrication, it is fairly easy to estimate the potential cost reduction that can be achieved. Unfortunately, in most cases, ROI's that are based solely on lubrication savings will not be sufficient to justify the project.

ENTER ESTIMATES FOR YOUR SPECIFIC APPLICATION IN THE FIELDS HIGHLIGHTED IN YELLOW.
YOUR RESULTING ROI WILL BE SHOWN AT THE BOTTOM OF THE PAGE

Appication Information	**Minimum**	**Maximum**
Lubrication Information		
Cost, per gallon, of current Lubricant	$18.00	$25.00
# of gallons of water mixed with each gallon of concentrated lube (Enter 0 if not diluted)	10	11
Amount (gallons) of diluted lubricant currently used per Shift	10	12
Estimated % Reduction Estimated with New system	20%	50%
Die Information		
Number of 8 hr shifts that the die can be run prior to requiring repair	150	200
Expected Increase in Die Life (%) that can be achieved with Improved Lubrication	20%	300%
Average Cost to Repair and/or Sharpen Die (at end of typical run)	$200	$1,000
Typical Number of 8 hour shifts run per day	2	3
Typical nyumber of days run per week	5	7
Typical number of weeks run per year	48	50
Part Information		
Estimated Cost per part	$0.05	$1.75
Estimated Profit per part	$0.01	$0.07
Number of parts made per stroke (number out)	3	1
Current, typical Production Speed (Strokes Per Minute)	70	20
Typical uptime per shift	50%	40%
Speed that can be achieved with improved lubrication	75	30
Quality & Down Time Information		
Typical # of down time hours per week due to quality issues resulting from incorrect lubrication	1	0.5
Typical # of down time hours per week due issues with currently lubrication equipment	0.2	4
Estimated hourly cost of Down Time	$100	$500
Number of parts rejected per week due to incorrect lubrication	0	15
Cost of System to be Installed		
Purchase Price	$3,000	$10,000
Installation Costs	$0	$5,000

Calculating Savings and Increased Profit Based On Above Data:	**Minimum**	**Maximum**
Yearly Savings From Reduced Lubrication Usage	$1,571	$13,125
Yearly Savings From Increased Die Life	$128	$15,750
Yearly Savings from Reduced Down Time	$5,760	$112,500
Yearly Savings from Improved Quality	$0	$1,313
Increased Annual Profit from Increased Production Speeds	$8,640	$141,120
Estimated Savings due to reduction of Enviromental hazards		
Total Estimated Savings and Increased Profit per Year =	$16,099	$283,808
ESTIMATED ROI (number of years required to reclaim investment)	**0.19**	**0.03**