



REPAIR OPTIONS

HYDRAULIC CYLINDERS

THE INVISIBLE THIEF: CONTAMINATION

75% TO **85%** OF HYDRAULIC SYSTEM FAILURES CAN BE TRACED TO CONTAMINATION



1 TEASPOON OF DIRT

CONTAMINATES



55 GALLONS OF OIL

One of the most common entry points for contamination is on the surface of a cylinder rod. If cylinder seals are leaking or there is pitting, scoring, dents or bending of the rod, contaminants can easily enter the hydraulic system via these imperfections as the rod extends from and retracts into the cylinder tube. If contamination is not addressed early, extensive component failure can occur and spread additional contaminants throughout the system. This can create a significant amount of downtime and cost to clean the system.

CONTAMINATION CAN CAUSE **20%** EFFICIENCY LOSS BEFORE OPERATOR NOTICES



LOSS IN EFFICIENCY

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1 LOST DAY OF PRODUCTION EVERY 5 DAYS

Machine productivity and efficient hydraulics go hand in hand. If a hydraulic system isn't performing at peak efficiency, it's robbing the machine of performance. Efficiency losses usually occur slowly and can reach 20% before the operator detects a problem. This translates to one day of lost production in a five-day work week. Hydraulic efficiency losses also increase fuel consumption, which translates to higher operating costs.

CAT® DEALERS ADHERE TO A COMPREHENSIVE **CONTAMINATION CONTROL PROGRAM** TO ENSURE HYDRAULIC SYSTEM CLEANLINESS IS MAINTAINED.



To ensure repairs and component rebuilds are performed contaminant-free and hydraulic system cleanliness is maintained, Cat® dealers adhere to a comprehensive Contamination Control program that aims to mitigate the potential for contaminant entry through the use of clean fluids, parts, processes, specialized tooling and certified clean repair facilities. As a result, Cat dealers have a unique ability to perform repairs and meet fluid cleanliness targets set at the factory, unlike most competitors.

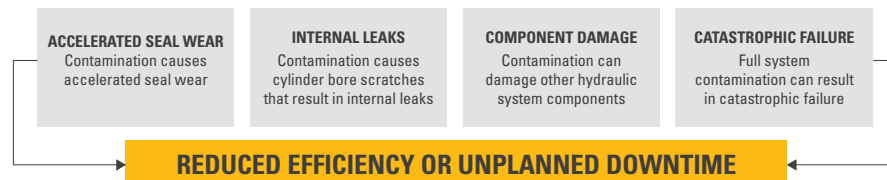
CONSIDERATIONS & REPAIR OPTIONS



LEAKS?

CYLINDER LIGHT HONE/RESEAL	Avoids reduced efficiency or unplanned downtime	Seals against external contaminants	Repair-before-failure option
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LEAKS = CONTAMINATION IS ENTERING YOUR HYDRAULIC SYSTEM



LIGHT HONING

WITH A CYLINDER RESEAL OPTIMIZES SEAL PERFORMANCE AND EXTENDS CYLINDER LIFE



BROKEN?

DEALER REBUILD/ EXCHANGE	Core available	Reconditioned to like-new performance	Time dependent on exchange availability
REMAN	Core available	Remanufactured to exact OEM specification	Fast turnaround time
NEW	Core not available	Cat genuine new component	Fast turnaround time



CHOOSE THE BEST OPTION FOR YOUR REPAIR



LEAKS?

PRICE

TURNAROUND TIME



BROKEN?

CYLINDER LIGHT HONE/RESEAL			
←----- \$ -----→			
DEALER REBUILD/ EXCHANGE	REMAN	NEW	

*Dealer Rebuild = Scheduled Turnaround Time. Dealer Exchange = Fast Turnaround Time.

GUARANTEED TO LAST

Genuine Cat new and Reman parts are backed by our **12-MONTH WARRANTY**, so you can feel confident selecting a repair option through your Cat dealer.

Additionally, if one of the genuine Cat new or Reman parts used in your repair is proven to be defective and the cause of any resultant damage, not only would the Cat new or Reman part be replaced, but any resultant damage to other Cat parts would also be covered. Competitors typically only warranty the part they replace regardless of whether or not the part has caused resultant damage.

**CONTACT YOUR CAT DEALER
TO DISCUSS A RANGE OF SOLUTIONS
THAT CAN BE TAILORED TO MEET
YOUR NEEDS.**

