

Inter Company Correspondence

To--Name & Department	Telephone	Date	CIMS Number
M. SCALES	8-869-7745	6-15-92	
R. KAPSA			
From--Name & Department			CIMS Number
M. SCALES	AREA MANAGER/DEPT.82	MOUND ROAD ENGINE	446-10-00
R. KAPSA	MFG. ENG. MANAGER	MOUND ROAD ENGINE	446-10-00
TOM PIETRAS	TOOL ENGINEERING	MOUND ROAD ENGINE	446-10-00

Subject: TEST RESULTS FOR DYNA-BLUE TREATED LOCKSLOT CUTTERS IN DEPT. 82
2899063-T-42 (86-300-0124)

I HAVE BEEN TESTING DYNA-BLUE TREATED CONN. ROD LOCKSLOT CUTTERS IN DEPT.82, OP.75, SINCE 3/2/92.

THE RESULTS OF THESE TESTS ARE AS FOLLOWS:

THE DYNA-BLUE TREATED CUTTERS ACHIEVED APP. A 35% IMPROVEMENT IN PIECES RUN EACH TIME THEY WERE USED ON THE MACHINE, WHILE STILL HOLDING GAGE SPECIFICATIONS.

DYNA-BLUE TREATED CUTTERS - 5185 PCS.AVERAGE TOOL CHANGE FREQUENCY
EXISTING CUTTERS - 3800 PCS. AVERAGE TOOL CHANGE FREQUENCY

WE WERE ALSO ABLE TO REGRIND THE DYNA-BLUE TREATED CUTTERS ONE (1) ADDITIONAL TIME, FIVE (5) TOTAL, AND STILL HOLD GAGE SPECIFICATIONS. (SEE SHEET 3 FOR COMPLETE TOOL PERFORMANCE AND COST SAVINGS)

I WILL MAKE THE NECESSARY CHANGES TO OUR PRINT AND THE OPERATION SHEETS SHOULD BE CHANGED TO REFLECT A 5100 PIECE TOOL CHANGE FREQUENCY. I WILL ALSO SEND OUT ALL OUR EXISTING CUTTERS TO BE DYNA-BLUED. IN ORDER TO TRACK THE TOOLS PROPERLY CUTTER GRIND SHOULD MARK THE TOOLS AFTER EACH REGRIND. THIS WILL HELP IDENTIFY WHEN A CUTTER HAS REACHED THE END OF ITS USABLE LIFE.

I WOULD ALSO LIKE TO NOTE, THAT I FOUND SOME MECHANICAL PROBLEMS ON THIS MACHINE THAT PREVENTED ME FROM BEING ABLE TO RUN THESE LOCKSLOT CUTTERS ON THE MACHINE AFTER THE SIXTH (6TH) REGRIND. THE PROBLEMS FOUND WERE:

- 1) ALL FOUR (4) CLAMPS DID NOT ACTUATE TO CLAMP THE PALLET.
- 2) BOTH SHOT PINS DID NOT ENGAGE, THEREFORE THE PALLET WAS NOT PROPERLY LOCATED.

BECAUSE OF THE TWO (2) LISTED PROBLEMS, THE MILLING STATION ACTUALLY MOVED THE PALLETS AS IT WAS FEEDING INTO THE PARTS. THIS CAUSED THE DEPTH OF THE LOCKSLOT TO BE SHALLOW (OUT OF GAGE SPEC.). IF THIS CONDITION IS CORRECTED WE WILL BE ABLE TO USE THESE CUTTERS ON THE MACHINE AFTER THE SIXTH (6TH) REGRIND AND STILL BE WITHIN OUR GAGE SPECIFICATION.

TOOL PERFORMANCE REPORT

DEPT. - 82

OPERATION 75

CURRENT

TOOL NO. - 2899063-T-42

CODE NO. 86-300-0142

TEST DYNA-BLUE TREATED

TOOL NO. - 2899063-T-42

TOOL TYPE - LOCKSLOT CUTTER

PART NAME - CONN. ROD

MATERIAL - STEEL FORGING MS - 405

RPM - 115

SFM - 68

IPM - 3.62

TOOL PERFORMANCE	NORMAL	TEST
A. AVERAGE NO. PIECES PER GRIND/INDEX	3800	5185
B. NO. OF GRINDS/INDEXES PER TOOL	4	5
C. TOTAL PIECES PER TOOL (A x B)	15200	25925
D. REQUIRED PARTS (CONN.RODS) PER YEAR	1728000	1728000
E. REQ.TLS./ PER YEAR (D / C)	114	67
CUTTER GRIND COSTS		
F. LABOR RATE (\$ / HR.)	\$26.09	\$26.09
G. TIME TO REGRIND (1 TOOL)	0.5	0.5
H. TOTAL SHARPENING/LABOR HOURS (B x G)	2	2.5
I. TOTAL LABOR COST (F x H)	\$52.18	\$65.23
TOOL COSTS		
J. PRICE OF (1) TOOL	\$93.00	\$93.00
K. COST FOR DYNA-BLUE TREATMENT		\$2.10
L. ADDITIONAL TREATMENTS REQUIRED		0
M. TOTAL COST PER TOOL (I + J + K + L)	\$145.18	\$160.33
N. COST PER PIECE (CONN.RODS) (M / C)	\$0.0096	\$0.0062

TOTAL TOOL COST PER YEAR	\$16,504.67	\$10,686.27
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TOOL SAVINGS PER YEAR	\$5,818.40	
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PERCENT OF SAVINGS	35.3%	
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VENDOR:
 DYNAMIC METAL TREATING, INC. VC33222
 7857 RONDA DRIVE
 CANTON MICH. 48187