



901 West 94th Street
 Minneapolis MN 55420-4236



MINNESOTA 952-888-4121 800-352-2812
 IOWA 515-957-3800 800-342-7002
 MISSOURI 515-957-3800 800-342-7002
 WISCONSIN 515-957-3800 800-342-7002

Sold To: NEW COOPERATIVE - PIERSON
 ATTN A/P 93090
 PO BOX 818
 FORT DODGE IA 50501-0818

Invoice Number: SW540105069
 Date: 1/27/18
 Account No.: 0081250

Ship To:

Invoice Information			
WO Number:	WS84404	Make:	AG-CHEM
WO Date:	12/07/17	Model:	8103
Store:	SIOUX CITY	Serial:	83011798
Payment Terms:	CHARGE	PIN:	
P/O Number:	105/908	Id No:	
Ship Via:		Cust Unit:	908
Invoice Type:	1A1A1A	Meter:	4869.0

Invoice Summary			
Parts:	575.98		
Labor:	5,738.05		
Misc:	3,023.69		
Taxes:	582.18	Amount Due:	\$9,919.90
Invoice Total:	9,919.90		

DUE BY 10TH OF THE NEXT MONTH
 A service charge of 1 1/2 % per month will be assessed on all past due accounts.

To ensure proper credit, please detach this portion, at the perforation, and return with remittance.



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Account Number: 0081250
 Invoice Number: SW540105069
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Approved			
By dutesch			
1/31/2018			

Please remit to:
ZIEGLER INC.
 SDS 12-0436
 PO BOX 86
 MINNEAPOLIS, MN 55486-0436

Amount Due:

\$9,919.90

Amount Enclosed:



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Quantity	Item	N/R	Description	Unit Price	Extended
REPAIR HOOD SUPPORT CUSTOMER COMPLAINT: REPAIRED HOOD SUPPORT PIERSON, IA (WOODBURY CO.) CAUSE OF FAILURE: HOOD SUPPORT SHOCKS WEAK/FLAT RESULTANT DAMAGE: NONE REPAIR PROCESS COMMENTS: DURING REPAIR OF ENGINE, NOTICED HOOD SHOCKS WERE VERY WEAK/FLAT AND WOULD NOT HOLD THE HOOD UP ANYMORE. ORDERED NEW HOOD SUPPORT SHOCKS AND REMOVED CLIPS FROM EXISTING SHOCKS, REMOVED SHOCKS. SHOCKS WERE CORRODED ONTO BALL MOUNTS. CLEANED BALL MOUNTS AND INSTALLED NEW SHOCKS. ALIGNED NOSE PORTION OF HOOD TO FRAME AND APPLIED ANTI-SEIZE TO NOSE MOUNTING BOLTS. INSTALLED MOUNTING BOLTS AND CLOSED HOOD AND TIGHTENED WING NUT. HOOD HELD IN UPRIGHT POSITION PROPERLY. REPAIR HOOD SUPPORT COMPLETE.					
2	AG517207		SPRING/GAS 12 PSI S5	50.30	100.60
			TOTAL PARTS	SEG. 01	100.60 *
			TOTAL LABOR	SEG. 01	89.25 *
			SEGMENT 01 TOTAL		189.85 T

REPAIR BRACKET CUSTOMER COMPLAINT: REPAIR BRACKET (AIR CLEANER STACK) CAUSE OF FAILURE: STRAP NOT UNINSTALLED FROM STACK BEFORE CAB BEING LIFTED FOR ENGINE HEAD REMOVAL RESULTANT DAMAGE: NONE REPAIR PROCESS COMMENTS: DURING ENGINE HEAD REMOVAL (SEG. #20), CAB HAD TO BE LIFTED. THE CLAMP SECURING THE AIR CLEANER STACK TO THE BRACKET/STRAP ON THE SIDE OF THE CAB WAS NOT LOOSENED. WHEN THE CAB WAS RAISED, THE STRAP THEN GOT BENT/TWISTED. STRAP NEEDED TO BE REMOVED, STRAIGHTENED, AND REINSTALLED ONTO MACHINE. LOOSENED AND REMOVED CLAMP. REMOVED STRAP MOUNTING BOLTS/NUTS AND PUT STRAP IN VISE AND BENT BACK STRAIGHT. INSTALLED STRAP AND MOUNTING BOLTS AND TIGHTENED BOLTS/NUTS. INSTALLED CLAMP AROUND AIR CLEANER STACK AND ONTO BRACKET, TIGHTENED CLAMP. REPAIR BRACKET/STRAP COMPLETE.					
			TOTAL LABOR	SEG. 02	89.25 *
			SEGMENT 02 TOTAL		89.25 T

REPAIR AIR CONDITIONER LINES CUSTOMER COMPLAINT: REPAIR AIR CONDITIONER LINES CAUSE OF FAILURE: A/C HOSE RUBBING ON ENGINE BRACKET RESULTANT DAMAGE: NONE					



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REPAIR PROCESS COMMENTS: NOTICED DURING REPAIR ENGINE SEGMENT (SEG. #20), THERE WAS AN A/C LINE HAD RUBBED THROUGH ON THE BRACKET ON TOP OF THE ENGINE THE HOSES CLAMP TO. DETERMINED A NEW HOSE WAS NEEDED. HOSE RAN FROM THE OUTLET OF THE RECEIVER/DRYER TO THE EVAPORATOR AT THE BOTTOM RIGHT REAR SIDE OF CAB. WHEN REMOVING HOSE FROM RECEIVER//DRYER, NOTICED THE MOUNTING CLAMP FOR THE RECEIVER/DRYER WAS BROKEN. ORDERED NEW CLAMP AND ALSO ORDERED RECEIVER/DRYER DUE TO SYSTEM BEING OPENED. CUT ZIP-TIES FROM LENGTH OF HOSE TO BOTTOM RIGHT REAR CORNER OF CAB. REMOVED RIGHT SIDE TOOL BOX FROM UNDER CAB AND REMOVED NODE MOUNTING BRACKET. REMOVED HOSE GUARD FROM HOSES AND REMOVED HOSE FROM UNDER CAB. CONNECTED EXISTING HOSE TO NEW HOSE WITH TAPE AND PULLED HOSE THROUGH TO RUN TO NEW HOSE. REMOVED BAD HOSE AND DISCARDED. RAN HOSE UP TO RECEIVER/DRYER IN NOSE OF MACHINE. MOUNTED NEW RECEIVER/DRYER WITH NEW CLAMP AND REMOVED WIRING FROM OLD RECEIVER/DRYER PRESSURE SWITCH. HAD TO REMOVE PROTECTIVE SILICONE FROM SWITCH WIRING AND INSTALLED WIRING ONTO NEW SWITCH ON TOP OF RECEIVER/DRYER. REMOVED CAP FROM RECEIVER/DRYER. INSTALLED NEW O-RING ONTO NEW HOSE FITTING AND CONNECTED HOSE TO RECEIVER/DRYER AND TIGHTENED. INSTALLED NEW O-RING ONTO OTHER SIDE OF HOSE AND INSTALLED UNDER RIGHT REAR CORNER OF CAB. APPLIED ZIP-TIES TO LENGTH OF HOSE TO SECURE AND INSTALLED HOSE GUARD TO A/C HOSES THAT SIT ABOVE TOOL BOX. INSTALLED NODE MOUNTING PLATE AND TOOL BOX MOUNTS AND INSTALLED TOOL BOX. CONNECTED OTHER A/C LINES THAT HAD BEEN REMOVED IN ORDER TO REMOVE ENGINE COMPONENTS AND INSTALLED NEW O-RINGS ONTO EACH HOSE BEFORE CONNECTING. MADE SURE ALL A/C COMPONENTS AND LINES/HOSES WERE TIGHT. PUT SYSTEM ON A VACUUM FOR ABOUT 30 MINUTES. NO SIGNS OF LEAKS DETECTED. FILLED SYSTEM WITH NEW F108 (4 LBS.) AND AFTER ENGINE REPAIR WAS COMPLETE AND ALL COMPONENTS INSTALLED, RAN MACHINE AND TESTED FUNCTIONALITY OF A/C. A/C WORKING PROPERLY AND BLOWING 42° AIR OUT OF VENTS AND PRESSURES WERE WITHIN OPERATING RANGE. SHUT OFF MACHINE. REMOVED A/C GAUGE SET AND INSTALLED CAPS ONTO A/C LINE PORTS. REPAIR AIR CONDITIONER LINES COMPLETE.						
20	6K-0806		TIE	S5	.29	5.80
1	AG236819		HOSE/ASY-A/C-6X165N5	S5	78.80	78.80
5	AG518525		RING	S5	1.14	5.70
5	AG518526		RING	S5	.67	3.35
1	593052D2		AC RECEIV. DRIER	S5	60.30	60.30
			TOTAL PARTS	SEG. 03		153.95 *
			TOTAL LABOR	SEG. 03		297.50 *
64.00			R134A FREON (OZ)			23.68
			TOTAL MISC CHGS	SEG. 03		23.68 *
			SEGMENT 03 TOTAL			475.13 T

REPAIR ELECTRIC SYSTEM CUSTOMER COMPLAINT: REPAIRED ELECTRIC SYSTEM						



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Quantity	Item	N/R	Description	Unit Price	Extended
<p>CAUSE OF FAILURE: HAD TO REMOVE NOSE PORTION OF HOOD GROUND WIRE SPLICED FOR FRONT WORK LIGHTS PREVIOUSLY; WIRE NEEDED TO BE CUT TO REMOVE NOSE RESULTANT DAMAGE: NONE REPAIR PROCESS COMMENTS: FRONT NOSE PORTION OF HOOD WHICH CONTAINED THE HEADLIGHTS/WORK LIGHTS HAD TO BE REMOVED DURING REPAIR ENGINE SEGMENT (SEG. #20). HEADLIGHT/WORK LIGHT HARNESS HAD A GROUND WIRE THAT HAD TO BE REPAIRED PREVIOUSLY. WIRE WAS REPAIRED WITH A BUTT CONNECTOR. WIRE HAD TO BE CUT TO REMOVE THE NOSE OF THE HOOD. ONCE NOSE PORTION WAS INSTALLED ONTO FRONT OF MACHINE AFTER ENGINE REPAIR, HARNESS WAS RECONNECTED. GROUND WIRE NEEDED TO BE REPAIRED. WIRE WAS NOT LONG ENOUGH IN CURRENT STATE DUE TO PAST REPAIRS. CUT A PIECE OF WIRE TO ADD INTO HARNESS. CRIMPED ON TWO HEAT SHRINK BUTT CONNECTORS TO PIECE OF WIRE AND BOTH ENDS OF HARNESS ON MACHINE. APPLIED HEAT TO SHRINK TUBE TO SEAL WIRE CONNECTIONS AND LOWERED HOOD. WENT TO CAB AND TESTED FRONT HEADLIGHTS/WORK LIGHTS, LIGHTS WORKING PROPERLY. REPAIR ELECTRIC SYSTEM COMPLETE.</p>					
			TOTAL LABOR	SEG. 04	59.50 *
			SEGMENT 04 TOTAL		59.50 T

<p>REPAIR ENGINE CUSTOMER COMPLAINT: REPAIR ENGINE CAUSE OF FAILURE: TURBOCHARGER INTERNAL FAILURE RESULTANT DAMAGE: NONE REPAIR PROCESS COMMENTS: FIELD TECHNICIAN 4988 COMPLETED MOST OF ENGINE REPAIR AND WAS UNABLE TO FINISH REPAIR. ENGINE HEAD HAD ALREADY BEEN REINSTALLED. MOUNTED THE A/C COMPRESSOR AND HEAT SHIELD AND TIGHTENED MOUNTING BOLTS/NUTS. INSTALLED ALTERNATOR AND CONNECTED POWER AND GROUND CABLES TO ALTERNATOR AND TIGHTENED NUTS. INSTALLED BELT PULLEY ON FRONT OF ENGINE, PULLEY PREVIOUSLY REMOVED FOR REMOVAL OF HEAD. INSTALLED FAN BELT AND ALIGNED BELT AND APPLIED TENSIONER TO BELT. INSTALLED AIR TUBING/HOSES FROM AIR-TO-AIR COOLER TO AIR INLET MANIFOLD AND FROM TURBO TO AIR CLEANER, ADJUSTED TUBING FOR PROPER ALIGNMENT AND TIGHTENED ALL CLAMPS. TIGHTENED BONNET ON TURBO ONCE PROPERLY ALIGNED WITH INLET TUBING. INSTALLED UPPER RADIATOR HOSE AND TIGHTENED CLAMPS. REMOVED AIR COMPRESSOR HOSE, EXISTING HOSE WAS VERY HARD AND BRITTLE. CUSTOMER REQUESTED THAT HOSE BE REPLACED. REMOVED CLAMP FROM HOSE ON AIR COMPRESSOR FITTING, REMOVED HOSE. CUT NEW HOSE TO SAME LENGTH AS EXISTING HOSE. INSTALLED NEW HOSE AND INSTALLED HOSE ONTO PIPE COMING FROM AIR CLEANER, BY TURBO. TIGHTENED HOSE CLAMPS AND CHECKED ENGINE OIL LEVEL, OIL FULL. FILLED RADIATOR WITH NEW COOLANT AND APPLIED ZIP-TIES TO HOSES AND WIRING TO SECURE. WENT TO CAB AND</p>					



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<p>CRANKED ON STARTER TO BLEED AIR FROM FUEL INJECTORS AND LINES. TIGHTENED FITTINGS ON INJECTORS ONCE LINES WERE BLED AND MADE SURE ALL COMPONENTS WERE TIGHT AND INSTALLED CORRECTLY. STARTED ENGINE WHILE WATCHING FOR OIL PRESSURE. OIL PRESSURE GOOD AND ENGINE RUNNING PROPERLY. CHECKED FOR LEAKS, NO LEAKS PRESENT. SHUT OFF ENGINE. CHECKED FLUID LEVELS AND TOPPED OFF. CLEANED ENGINE OF OIL AND COOLANT RESIDUE FROM DISASSEMBLY AND ASSEMBLY AND STARTED ENGINE AGAIN AND LET RUN FOR ABOUT 30 MINUTES. EVERYTHING LOOKED GOOD EXCEPT FOR NOTICED THAT COOLANT TEMPERATURE WAS NOT RISING ON THE DASH BAR GAUGE. REMOVED ALL TOOLS AND PARTS FROM MACHINE AND TOOK MACHINE OUT AND DROVE FOR ABOUT 5 MILES. COOLANT TEMPERATURE NEVER ROSE. GOT OUT AND CHECKED WIRING ON NEW COOLANT TEMPERATURE SENDER THAT HAD BEEN INSTALLED. SWITCHED WIRING FROM EACH SPADE. WENT TO CAB AND CHECKED COOLANT TEMPERATURE. COOLANT TEMPERATURE NOW READING AROUND 180 DEGREES, DROVE MACHINE BACK TO SHOP TO INSTALL HOOD AND FINISH UP MACHINE. INSTALLED HOOD AND APPLIED ANTI-SEIZE TO HOOD MOUNTING BOLTS. INSTALLED BOLTS AND TIGHTENED. DID FINAL CHECK OF ENGINE AND COMPONENTS FOR LEAKS AND NO LEAKS WERE PRESENT. FLUID LEVELS GOOD. ADVISED CUSTOMER TO CHECK FLUID LEVELS IN MORNING BEFORE RUNNING, PUT TOOLS AWAY AND RETURNED PARTS. REPAIR ENGINE COMPLETE.</p> <p>CUSTOMER COMPLAINT: MACHINE IS LOCATED INSIDE CITY LIMITS OF PIERSON IOWA---WOODBURY COUNTY CAUSE OF FAILURE: THE TURBO BLEW UP CAUSING METAL TO GET INTO THE INTAKE SYSTEM</p> <p>REPAIR PROCESS COMMENTS: DRAINED THE COOLANT AND REMOVED THE EXHAUST MANIFOLD AND THE INTAKE MANIFOLD. REMOVED THE INJECTORS AND LINES. REMOVED THE VALVE COVER AND REMOVED ALL OF THE HEAD BOLTS. REMOVED THE CYLINDER HEAD AND HAD IT SENT OFF TO HAVE IT PLANED AND PRESSURE CHECKED. REMOVED AND CHECK ALL VALVES FOR DAMAGE. REMOVED THE SHROUD AND COOLING PACKAGE. FLUSHED THE AIR TO AIR COOLER BACK AND FORTH SEVERAL TIMES TO GET ALL THE PIECES OF METAL OUT OF IT. REMOVED THE FLOOR MAT AND THE FOUR CAB MOUNT BOLTS AT THE FRONT OF THE CAB AND LIFTED THE FRONT OF THE CAB TO HAVE ENOUGH ROOM TO REINSTALLED HEAD AND PUSH RODS. WHEN THE HEAD RETURNED, SET BACK IN PLACE. CLEANED UP THE TOP OF THE BLOCK AND ALL CYLINDERS. REINSTALLED THE CYLINDER HEAD AND TORQUED ALL THE HEAD BOLTS AND ADJUSTED THE VALVES. REINSTALLED THE INJECTORS AND LINES AND INSTALLED NEW THERMOSTATS AND BOLTED THE THERMOSTAT HOUSING IN PLACE. REINSTALLED THE FAN, BELTS, INTAKE AND EXHAUST MANIFOLD AND THE NEW TURBO. REINSTALLED THE COOLING PACKAGE. LET THE CAB BACK DOWN AND REINSTALLED THE FRONT CAB MOUNTS.</p>					
4	AG510939		HOSE/HYD .37 BULK S5	3.83	15.32
9	AG511528		HOSE/1. 2BRD EPDM S5	1.60	14.40
2	AG514637		HOSE/ENGINE COOLANN5	24.80	49.60
3	AG516516		HOSE/2.5 N5	34.90	104.70
1	AG520216		SENDER/TEMPERATURENS	111.00	111.00



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Quantity	Item	N/R	Description	Unit Price	Extended
1	AG561025		CLAMP/HOSE 0.47-0.85	1.15	1.15
2	AG561213		CLAMP/0.81-1.50 HOS5	.68	1.36
4	AG561232		CLAMP/1.56-2.50 HOS5	.67	2.68
4	AG561234		CLAMP/2.06-3.00 HOS5	1.03	4.12
1	AG704540		CLAMP/BRACKET DRIEN5	12.10	12.10
5	3010471X1		O-RING S5	1.00	5.00
			TOTAL PARTS	SEG. 20	321.43 *
				F/R LBR	4165.00 *
4.00			SCREW		6.52
1.00			GASKET		8.44
4.00			WASHER		2.04
1.00			GASKET		4.68
1.00			TURBOCHARGER REM		1575.82
6.00			REBUILT NOTZZLE		703.80
6.00			CORE CHARGE		159.96
6.00-			CORE RETURN		159.96-
6.00			O-RING		4.62
6.00			WASHER		19.26
1.00			ADAPTER FITTING		45.28
2.00			THERMOSTAT		27.72
1.00			YELLOW SPRAY PAI		12.25
1.00			GASKET KIT		375.39
1.00			375 PARTS FREIGH		28.46
1.00			SEAL		11.04
1.00			GASKET		4.77
1.00-			GASKET		8.44-
1.00-			GASKET		4.68-
1.00-			CORE FOR TURBO		166.63-
1.00-			YELLOW SPRAY PAI		12.25-
			TOTAL MISC CHGS	SEG. 20	2638.09 *
			SEGMENT 20 TOTAL		7124.52 T

PRESSURE TEST CYLINDER HEAD ASSEMBLY					
REPAIR PROCESS COMMENTS:					
CLEANED AND INSPECTED CYL HEAD. MAGNAFLUXED HEAD,					
NO CRACKS FOUND. CLEANED ALL GASKET SURFACES.					
CLEANED INJ BORES. PRESSURE TESTED HEAD 40 PSI					
FOR 1 HOUR, TESTED GOOD. DEBURRED AND FINAL					
CLEANED. SENT HEAD BACK.					
CLH					
			TOTAL LABOR	SEG. 21	270.00 *
			SEGMENT 21 TOTAL		270.00 T

TRAVEL TO/FROM MACHINE					
				F/R LBR	767.55 *
68.00			TRAVEL MILEAGE		68.00
			TOTAL MISC CHGS	SEG. 99	68.00 *
			SEGMENT 99 TOTAL		835.55 T

			SERVICE SUPPLIES AND		
			ENVIRONMENTAL CHARGES		293.92 T



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			IOWA SALES TAX - 6%		521.62 T
			IA LO LABOR WOODBURY		60.56 T
			DUE BY 10TH OF THE NEXT MONTH		
			INVOICE TOTAL		9,919.90