

ER30-1

CRN-004 MAINTENANCE HISTORY	Repair Date	Equipment Hours at Work Order	Equipment Inspection or Maintenance Notes
Replaced power steering pump...	7-19-25	316	Found the power steering was not working no oil on the system filled steering fluid and it disappeared after ten minutes found the steering pump seal was bad putting the steering on in the engine oil. I replaced the steering pump and changed the engine oil and filter out. It had 20l extra oil in the engine we used pails to measure what came out.
HVAC motor intermittently functions...	6-19-25	220	HVAC blower motor will cut out after an extended period of driving. Has thermal breakers in fuse panel. Found blower motor breaker spec is 30 amp, 25 amp installed. Obtained 30 amp and replaced original. Terminals in fuse panel seem tight. To be tested
Tractor cab AC inop...	6-19-25	212	Tractor cab ac blowing hot. Hooked up gauges, system is charged and compressor is engaging. Found coolant taps to heater core open. Closed and re tested AC, blowing cold
Compressor is really slow to build air Boom with retract u...	6-19-25	220	Front crank seal is not leaking. No boom or crane complaints from operators - asked directly. Still has slower air pressure build time. Capped off line from air dryer to compressor. Installed gauge and shutoff on hose. Applied external air - held pressure. Unit to be taken away from running engines and checked for air leaks. I will enter a new issue for air compressor slow build time
A2B alarming...	6-13-25	9551	Disabled AUX 1 alarm as it was alarming on the crane smart screen when starting the unit. Changed out the A2B as it wasn't stopping the winch. Tested the new one and worked as intended.
A service...	4-4-25	152	Completed service sheet Repaired leaking suction fitting on power steering pump Repaired hydraulic leak at selector valve for outriggers. Replaced hydraulic line from hydraulic pump to selector valve. Fixed damaged wiring on 1st differential for temp sensor Replaced 3rd differential temp sensor and wiring.
Replaced tach/hour meter gauge...	3-8-25	0	Replaced hour meter/tach gauge -new due hours are 150, current hours are zero (ecm 9484) -set dip switches according to the instructions -monitor tach reading vs ET engine speed, matches -run unit for 15 minutes, hour meter matches.
Engine fan not turning off...	3-3-25	0	Dan would not shut off, Todd diagnosed and suspected high resistance in the wiring, I tested all wiring and tested good but still would not shut off, hooked up et and found a/c high pressure switch failed and was commanding

			<p>Troubleshoot Engine fan light always on/manual fan inop.</p> <p>-found a wiring diagram of the circuit, might not be 100% accurate but something to go off of. Attached to WO</p> <p>-found the pressure switch for the fan was wired incorrectly and plumbed in on the wrong side of the air solenoid for the fan. It was always getting pressure and wired to the NO side so the fan light was always lit. Swapped pressure switch to outlet side of the solenoid and wired it to the NC contact so that when there is no pressure on the switch (fan on) that the bulb turns on. The bulb now works properly again</p> <p>-cut back wires to pressure switch and install new terminals, one wire had 1" of bare copper showing</p> <p>Troubleshoot inop manual fan switch</p> <p>monitor inputs on ET,</p> <p>-AC high pressure switch/ AC fan input turns on Fan and functions as it should. Was told one of the AC pressure switches was bad causing the AC to come on when it wasn't supposed to, ohm'd out switches OK. They might have had the Defrost turned on which will run the AC. Read somewhere online when the ECM turns on the fan its on a timer so when the AC is turned off it will continue to run for a bit, which tests true.</p> <p>-no state change with manual switch</p> <p>-jumped pins 3 and 2b together to bypass the fan switch, fan doesnt come on, also ohm'd out the switch and it is switching those contacts when in manual. Diagram shows its a ground input to ECM, checked connection at pin 2b to ground, OK. Supplied ground to pin 3, no change.</p> <p>-turn fan solenoid on/off with ET</p> <p>-Check ECM configuration setting for manual fan override switch was set to j1/P1:41, the diagram says that engine fan override is input 7, change to j1/p1:7. Manual fan works again!!!</p> <p>-install missing screws in warning light bar</p> <p>-ziptie loose wiring on top of rear valve cover</p>
Manual fan not working, fan light on all the time...	3-1-25	29805	
Leaking hydraulic hoses...	3-1-25	29796	<p>Replaced 3 hydraulic hoses</p> <p>-2 for the scope out cylinder, between the valve bank and swivels</p> <p>-replaced one hose between the turret swivel and the valve bank</p>
Inop high beam lights...	2-26-25	29796	<p>Troubleshoot inop high beams</p> <p>-checked power and ground, ok. Install a low/high beam bulb and it functions normally. Has LED bulbs, ordered new ones. Was told these lights are new, found a date code from 2016, likely have bad High beam circuits, also found pins on the connector were corroded.</p>
18 - Lamps/Reflectors: Passenger side front clearance light ...	2-26-25	0	light is working at this time, other mech might have repaired it
A Servie, Headlights, txv valve, reciever dryer	2-20-25	9337	Replaced headlights replaced the TXV valve and receiver dryer and did a service hour meter not working ECM hourxx as are 9337 hrs
Engine fan not turning off. Dylan diagnosed as as pressure switch...	2-15-25	29795	Previously diagnosed as ac pressure switch. I installed the new switch, the fan turned off and worked as normal for an hour then stuck on again. New switch failed or we have other issues. Noticed torn intake boot on top of air to air. Replaced failed boot.
No start...	2-8-25	29781	Had to replace starter motor
Coolant leak...	12-28-24	29697	Replaced o-ring on pipe from oil cooler to water pump
Operator Cab Heater connector	11-8-24	29690	removed temporary work around, and existing plug off webasto air top and replaced with Duetsch connector. all tested okay.
coolant leak at surge tank	11-4-24	2963	coolant leaking at filler neck on surge tank. de soldered neck and soldered in new filler neck. tested for leaks. tested good
TIRES	10-29-24		1 Michelin tire installed and balanced at Kirks
coolant header tank cracked	10-15-24	29661	JB welded the header tank neck again under the rad cap.
Crane cab front wiper INOP	10-12-24	29658	Found power HI, LOW, tested okay at spade connections off the wiper motor. Noticed mounting bolt for motor mounting plate sheered off. These motors are grounded from their mounting plate direct to chassis so without bolt to hold it in place it would not function. drilled out new hole and replaced bolt all tested okay.
"A" service	9-26-24	29638	Completed "A" service
Battery box inspection	8-30-24	29581	Completed Battery box inspection
oil pressure gauge leaking	8-18-24	29545	installed new o-ring on oil pressure sensor
7pin plug	8-5-24	29493	Replaced 7Pin plug to pull jeep from one lease to another as old one was rotten.

crane winch rollers	7-29-24	29474	removed winch rollers and installed bigger rollers so the winch cable wouldn't rub on the brackets.
rear outrigger modification	7-29-24	29474	installed hose reels on back of crane for outriggers. built and installed new hoses for downriggers. tested.
CVIP	7-24-24	29445	CVIP Repairs - Replaced tank drain cords - Replaced lower steering shaft u-joint - Repaired rear work light circuit - Replaced axle 3 shocks - Replaced axle 3LH and axle 5RH wheel seals - Replaced air dryer cartridge and purge valve - Secured loose CAC mounts
replaced rear D.S downrigger hardline	7-23-24	29462	replaced hardline
Transmission oil leak	7-19-24	113801	Oil on exterior of transmission. Cleaned off. Replaced o ring on plug at side of PTO. Looks like PTO outlet shaft seal is seeping as well. Topped up transmission oil
Retorque all	7-19-24		Retorqued all. Removed and filed torque tag 001060
Replace outriggers	7-17-24		Rear outrigger replace three tubes that are bent. MEASURE AND ORDER MATERIAL TO MAKE NEW TUBES, CLEAN AND REMOVE DAMAGED TUBING. - MANUFACTURE NEW TUBES AS PER SAMPLES AND INSTALL ONTO OUTRIGGER. - PRESSURE TEST CYLINDER AND TUBES TO MAKE SURE WE HAVE NO OTHER ISSUES OR LEAKS. - EVERYTHING TESTED GOOD, CLEAN CAP FITTINGS.
TIRES	7-11-24		Flat repair sent by TYTAN
Driver side rear outrigger, replaced hoses and extension ram	7-9-24	29443	hydraulic hoses twisted steel lines on extension ram
drivers side mirror marker lights not wokring	6-22-24	29424	drivers side mirror lights don't work, found it wired incorrectly, wired it correctly and now there is 12v to the lights but both lights are burnt out. Mechanic will get some and replace them.
hyd leak	6-17-24	29411	noticed a small wet spit on the ds rear down rigger hard line. as I was inspecting, I had the op function the down rugger up and down. I saw hyd fluid pouring out between the first and second stages of the outrigger. removed the inspection plate and saw one of the lines or fitting was leaking on the up function. removed the cylinder and found both line heavily worn, routed wrong and leaking. had TME in Killam make new lines. verified proper routing of the lines and verified they wouldn't get hung up.
over heat	6-17-24	29396	lots of steam coming from engine comp. coolant spewing from over flow. main belt had broken.
Retorque steers	6-6-24	29393	tensioner bolt eas backed off making the belt slack and snap. tightened the tensioner and installed new belts.
Transmission input seal leaking	4-25-24	29387	Retorque both steer axle wheels as per tag 1009 Transmission input seal leaking. Was advised to take down and inspect clutch. Lifted unit on outriggers. Drained transmission, inspected oil, okay. Removed driveshaft, hydraulic pump, pto, transmission air and electrical. Unbolted clutch and shift lever. Removed tandem spring mount crossmember. Supported unit with transmission jack, removed bell housing bolts, lowered transmission and removed from unit, Removed flywheel, replaced seeping rear main seal. Cleaned flywheel housing. Installed new pilot bearing. Re installed flywheel, torqued. Removed and inspected clutch. Inspected pto. Dissassembled input shaft, found input bearing spacer missing upon dissassembly Installed new cross shaft bushings, input shaft, input bearing, bearing space bearing plate, clutch brake and release fork. Power washed clutch housing and transmission. Replaced worn release bearing grease hose. Re installed clutch and transmission into unit. Torqued clutch and bell housing bolts. Re installed driveshaft with new u joints x2 (greased), hydraulic pump, pto, transmission air and electrical. Re installed shift lever and tandem spring mount crossmember. Re filled transmission. Had steer tires x4 replaced at kirks. One tire saved as spare. Re installed wheels, torqued. Installed torque tag 001009. Replaced pulled out pins in AC high pressure switch. Tested AC operation and fan cut in pressure. ABS light for PS front drive modulator open. Found damaged electrical connector. Parts on order. Test drove unit in yard, verified no leaks. To be test driven fatter and re torqued in morning
TIRES	4-24-24		4 New tires installed with stems and wheel balance.
PTO	4-11-24	29381	r&r PTO and pump, set backlash to .007", refill trans, test and check for leaks
air bag replaced (middle passenger) / rear outrigger hoses passenger side	4-7-24	29383	
crane cab heater	3-7-24	29351	replaced previously diagnosed crane cab heater. It tested good.

No heat in operator cab	3-2-24	29338	Operator cab diesel heater inoperative. Hooked up with webasto software in shop. Locked out for voltage. Had battery charger on unit, would drop below 10V when fan kicked in. Checked voltage at source in cab, 10.5 volts. Voltage would increase when tractor is started. Could not get unit to start with multiple attempts, blew out combustion chamber to no avail. Heater on order. Voltage supply to operator cab should be looked at during breakup
Replaced the bad ac fan switch	2-21-24	29302	- replaced the A/C engine fan switch old one was not letting the fan turn off. working good now
engine fan not turning off	2-19-24	29292	- checked for engine fan not shutting off found the ac switch was faulty put a jumper wire in to stop the fan till the new sensor comes in.
coolant diverter solenoid	1-7-24	29281	- call for rad leak removed the fan and pinched off the leak till a new rad can get installed.
			replaced solenoid on coolant diverter cartridge. tested operation
rough running and check engine light	1-6-24	29281	Inspect for rough running found active codes for IVA number 6 coolant diverter and boost pressure sensor followed diagnostic flow chart found Iva 6 shorted replaced with used part from spare cat engine tests good orders coolant diverter solenoid when testing for boost pressure found sensor unplugged reinstalled and had unit road tested operating with peak performance at this time
torque arm	1-6-24	28280	r&r centre axle lay. torque arm D/S/M Longitudinal torque rod.
run through	1-4-24	29279	found 1st axle differential temp sensor to be broken. ordered and obtained new temp sensor and installed re crimped new end on wiring. found d.s leveling valve rod bent from hitting frame when bags dump. removed straightened and cut off 1/4" reinstalled and leveled properly from side to side.
oil pan gasket and new filters	1-3-24	29279	2nd axle longitudinal torque rod bushing moving out. ordered rod will see tomorrow
Repair Damaged tail light wiring	11-21-23	29204	oil pan gasket needed replace removed pan and gasket and old silicone. cleaned up and block surfaces and applied new silicone to 4 corners of the block where front and rear of blocks mate installed new gasket and pan torqued bolts to 20 ft/lbs in proper sequence changed oil and fuel filters and refilled oil.
no start problem	10-28-23	29200	during run up found the oil return line was loose and leaking. tightend up and reran. found no leaks
no start problem	10-28-23	29200	Repair corroded wiring to licence plate lamp and passenger rear clearance lamp. secure with zipties - towed unit in shop - checked for no start problem found the ecm not communicating with laptop. checked all power wiring to ecm everything was good. - Replaced ecm with one from 1003 unit started and ran good - cut out the front spring bumper bolt and replaced the bumper and bolt. - checked the discharge line from the compressor to dryer didn't see a problem .
cel	10-15-23	29180	- towed unit in shop - checked for no start problem found the ecm not communicating with laptop. checked all power wiring to ecm everything was good. - Replaced ecm with one from 1003 unit started and ran good - cut out the front spring bumper bolt and replaced the bumper and bolt. - checked the discharge line from the compressor to dryer didn't see a problem . cel. Engine coolant diverter current low code. Tested the circuit response by opening and shorting . Circuit did not respond. Suspect harness issue.

Inspect, replace DS rear abs modulator valve	10-10-23	105615	Greased unit, ordered PS front steer axle suspension bump stop. Rolled through unit. Replaced leaking rear drive axle ds abs modulator valve.
coolant leak	10-1-23	29147	replaced leaking heater hose at webasto .
Anti two block broken	9-16-23	29072	Anti two block broken, got new one installed and tested good.
"A" service	9-12-23	29064	"A" service completed
A2B has been damaged and needs replacement	9-3-23	29032	Sensor has been completely broken out of the housing. Parts on order. Have bypassed the alarm until parts can be installed.
Retorque	8-31-23		Retorque wheels as per tag 000726. 450 ft/ lbs
engine fan	8-3-23	28958	Replaced engine fan
Anti Two Block not working.	7-27-23	28915	repaired tension ring/spring inside block and rotate clevis eyelet 180° to stop it from catching wiring. All tested okay.
outrigger hydraulic lines	7-24-23	28902	Replaced hydraulic lines for driver side outrigger.
retorque	7-21-23		Retorque wheels as per tag 000597
PTO leak / cab fan	7-21-23	28889	resealed front cover on PTO and replaced missing fuse for fan in crane cab
			replaced front drag link and rear drag link ends. replaced main steering box and pitman arm perform air bleed procedure. verify steering wheel is straight-ok. recommend sending out for wheel alignment.
			inspect leaks and pro shaft cover- found worn groove on shaft. installed speedy sleeve and news seal. refill trans and test for leaks- no leaks.
			test for long air build time. replaced desiccant filter and retest- no change. test air line from compressor to air drier-found perforated. replaced line and retest still has slow build time. inspect and test operation of air drier and found internal check valve leaking.
cvip repairs	7-19-23	28871	replaced air drier and retest now build air fast.
			replaced all brakes shoes and drums. removed all scams and replaced seals installed all new wheel seals and filled hubs. replaced failing slack adjuster on right rear drive axle. removed front to middle and middle to rear drive axle shafts. installed 2 new unjoints in front to middle drive shaft. sent middle to rear out to get rebuilt and than reinstalled. removed rear cover from front drive axle refilled front drive axle- resealed due to leaking. replaced clear crane light. replaced left and right rear side marker lights and pigtails. replaced right side upper inner stop light. had redark come in and reeled all suspension chains. Repaired block heater cord and installed new left side step light.
CVIP Repairs	7-16-23	28871	Parts ordered to repair steering and one more step light.
CVIP	7-16-23	99300	Completed wheels off CVIP INSP
			Remove DS wheels and stairs for access.
			Remove and replace rear steering box and pitman arm. Torque retainer on pitman arm to 350ftlbs, installed antisieze as per manufacturer
			Replace drag link ends between both steering boxes.
			Remove pitman arm off main box.
Replace rear steering box, drag links	7-13-23	28873	Parts is looking for a new drag link tube between pitman arm and steering knuckle, threads are damaged. The end that was removed, center of drag link to end of tube was 93mm
Repair	7-12-23		Cut off Axle chains and properly repair.
Inspection	7-5-23		Annual Crane inspection
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			Hydraulic Swivel Replacement. (Turret Line Swivel.)
			Remove shock mounts, cut and air hammer bolts out, buff and paint frame.
			Repair, Paint and remount shock mounts with new hardware.
Repair	6-15-23		Axle 4 both torque arm bushings and Axle 5 transverse torque arm bushing replaced.

Bad brake air line	6-12-23	28840	- repaired a bad brake air line on #3 axle right side. - tied up all the loose airlines to the brake pots
Look into steering box leaks, Needs new front box	6-1-23	28828	Diagnose Steering box leaks. Found the manual relief plunger leaking. Removed plunger and replaced seal. Still leaks. ordered new manual 110 steering box.
			ac inspection. clutch would not kick in. hooked up gauges and found 78psi on high/low sides. checked clutch pigtail and found erratic 12v source. checked wiring over and found a break on one of the fan switches. installed a new plug and tested good. testing e-kill. inop. found the air line had been removed, plugged off and ziptied out of the way. I cleaned the threads in the rodadeco and installed a new pipe fitting. installed a new air line from the relay to the Roda. tested good. I cannot see why it was disabled. inspected fan hub wear. found .041"
break up list repairs	4-9-23	28798	inspected outrigger extension wear pads. no sign of rust jacking. no sign of binding while functioning the stages in and out. unit is good to return to service.
Drivers rear outrigger no function	3-11-23		Found failed relay in relay panel on passenger side beside front outrigger. Worked fine afterwards
steering lock	3-8-23	28792	- repaired the broken tilt steering wheel lock - tighten loose steering hoses
no rear throttle	2-24-23	10718	- helped the etech diagnose the problem with the no rear throttle problem found the 5v signal was good and the peddle signal voltage was good. checked in the electrical panel on passenger side and found a bad 5amp fuse replaced and everything was working.
replaced air compressor	2-20-23	28784	- Replaced the air compressor and tested. - replaced the air dryer cartridge and purg valve - replaced the fan belt and 2 Idler bearings.
back-up alarm	2-20-23	28784	replaced back up alarm and pigtail attached to it. all tested okay
Repair	2-1-23		
winch line replaced	1-27-23	28759	kink in winch line, needed to be replaced. Dakota Gackle spooled 500 ft of new line and pull tested.
Troubleshoot CRN Cab Heater, Cleaned out carbon	1-18-23	28744	-Troubleshoot CRN cab Heater not working -unit smokes a bit during start up then cuts out. Faults for code F01 no start. -check intake and exhaust for blockage, when blowing air into inlet lots of diesel came out so its not a fuel issue. -remove unit from crn cab. -Disassemble airtop, measure resistance of all sensors all in spec. -glow plug and combustion chamber full of carbon, cleaned up. -install Heater back in unit. -test, starts right up and makes good heat. Ran for 3hrs with no issues

Repair leaking outriggers, Look over unit wiper on crane cab front	1-14-23	28730	<ul style="list-style-type: none"> -Replaced down rigger cylinder extension lines from bulkhead to cylinder on passenger side rear outrigger. Function and leak test, OK -Removed outrigger ram on DS rear, hoses ripped off bulk head. send ram away to get lines repaired. Replaced damaged bulkhead -installed ram with new extension hoses, function test to see if lines would get caught up. Had to shorten hose, hose length was 77" not including fittings. -install new hoses from down rigger to bulkhead. Replaced leaking steel line on down rigger retract to counterbalance valve, replaced oring between CBvalve and cylinder -function/leak test down and outrigger, OK -top up hydraulic tank, below sight glass to half <p>Look over unit</p> <ul style="list-style-type: none"> -topped up engine oil -unit is 78hrs away from service -repaired PS tail/license plate wiring at back of unit -replaced axle flange gasket on DS front drive axle, oil level in Diff Good -replaced hub cap gasket on ds Rear steer hub. Fill with new oil -secure wiring behind front bumper
	1-9-23	28726	replaced missing wiper arm and blade for front of crane cab
Boom length Alarming and test load cell	11-19-22		<p>Cm 4 boom length alarm remained active. Not sure how it lost its calibration. called Cranesmart and went through re calibrating with Jerry operating crane.</p> <p>Also confirmed Load cell operation by lifting a know weight.</p> <p>Confirmed with Jesse and Jerry that they did not want it re calibrated to show block weight.</p> <p>To get into calibration menu i was supplied with code 111 from cranesmart.</p>
Seat switch not working	11-15-22	28619	Tested existing switch under seat and it has a wire pulled out of it. Replaced and wired into existing cabling. Tested good.
replaced ujoint and yolk	11-10-22	28634	-replaced transmission output yolk and ujoint
Replace air compressor	11-5-22	28601	Air compressor inlet fitting stripped. Removed and replaced compressor. Tested okay
Replace 500 Ft of winch line	10-28-22		Replace winch line
air bags and heater	10-5-22	28518	<ul style="list-style-type: none"> - replaced the blown air bag on #5axle right side and bad one on #4 acre left side - checked the heater blower current it was pulling 18amp at the motor found the fuse box pins were not making a good condition causing the breaker to get hot and trip after 5 min of run time. I pinched the connection together and it seems to have stopped the breaker from tripping.
A service	10-3-22	28508	<ul style="list-style-type: none"> - completed A service - greased unit - checked all fluids - replaced the air filters - checked over unit
Replaced Hydraulic Cartridges	9-28-22	28489	<ul style="list-style-type: none"> -Replaced Solenoid cartridge for hydraulic blocking valve. was leaking so hydraulics could be functioned without button in run position, the bypass on the cartridge also didn't work. Now everything is working correctly. -Replaced pressure reducing valve and am now able to adjust pilot pressure for the joysticks. set to 500psi (spec found in schematic). -pressure no longer drops off 200psi when any circuit is functioned. Can run 4 functions at one time.
Replaced Crane Cab Upper Wiper motor	9-28-22	28489	<ul style="list-style-type: none"> Replaced upper wiper motor with Toban. -swapped shorter drive stud from old motor to new. -installed a new nut on the wiper arm -tested good
repaired the webasto	9-21-22	28465	- diagnosed and repaired a broken ground wire for the Webasto engine heater repaired the wire and tested everything is working good.

Troubleshoot Inop Blower motor, troubleshoot wipers	9-16-22	28442	<p>Troubleshoot blower motor self resetting fuse repeatedly tripping. -replaced blower motor and resistor block. no change. installed original parts -replaced fan speed switch and resettable 30amp fuse. no longer trips the fuse. fuse also doesn't get nearly as hot. 40°C vs 79°C</p> <p>Installed new wiper on front of crane cab, reclocked wiper arm</p> <p>troubleshoot inop wiper motor on roof of crane cab. -has good power going to the motor for each speed. ground is good. a new motor has been ordered.</p>
Troubleshoot Slow Hydraulics	9-15-22	28442	<p>Troubleshoot Slow hydraulics with etech. -found the electronic solenoid for the joystick blocking valve intermittently working after rig moves. Inspected the wiring for the blocking valve, didn't see anything other than the connector was a bit corroded. Replaced the din Connector. Keeping an eye on it. hasn't failed since it started working two days ago, if it fails again we will have to look at the power side of that solenoid.</p> <p>When the blocking valve wasn't working correctly the pilot pressure was only reaching 200psi hence the slow hydraulics</p> <p>When the blocking valve is working 400psi is found. according to the hydraulic schematic it should be at 500psi which is controlled by a pressure reducing valve. tried adjusting the pressure and nothing happens when the set screw it adjusted in either direction. Ordered a new pressure reducing valve as 3000psi is found on the inlet side of the pressure reducing valve which is spec.</p> <p>Also noticed the hydraulics still work with the estop button in the stop position, simulating like when the blocking valve isnt working. the cartridge must be leaking by allowing flow to the pilot lines on the joy sticks. also ordered a new solenoid cartridge for the blocking valve.</p>
Functions coming on slow, blower motor tripping fuse in tractor.	9-15-22		<p>Diagnosed hvac breaker to a faulty switch on panel. Fuse would overheat on max setting but not others, mechanic grabbing new switch to install.</p> <p>Activation button in control cab of crane intermittently seems to be failing. When looking at the time, was working properly but ops have said it was running slower before. Replaced the DIN connector on the solenoid as was in rough condition. Power is good at connector and at push button. Monitoring in the mean time.</p>
Found very badly damaged solenoid.	9-10-22		Coil of solenoid had wires exposed, cracking the housing. Suggested ops not use it as this was a hazard. Fitted a different style coil until Al sent up proper one. Installed proper and working properly. Went through all other solenoids2, cleaned up cartridges and coils. Working
No crane controls inside cab.	9-10-22		Found a DIN connector in center of turret, fixed problem when wiggling around, took apart the din connector, cleaned out pins and cut back wiring a bit. Reconnected, working good.
DS FRNT outrigger	9-9-22		outrigger would not extend, mechanic and I swapped out relays and replaced two, outrigger started working- monitoring
no blower in cab	9-4-22	28381	- check the unit for no heater blower motor found that the blower motor keeps blowing the auto reset fuse and heating up the circuit when the motor was disconnected everything works good and does not heat up. I ordered a new heater blower motor and resistor for this unit.checked all wiring behind the dash could not find a bad wire anywhere.
Replace Damaged Hood signal/marker lamp assembly	9-1-22	28362	Replaced damaged signal/marker lamp assembly on passenger side of hood.

			Removed transmission from unit, removed old clutch. Cleaned up input shaft. Replaced cross shaft bushings, replaced cross shaft. Replaced flywheel, torqued flywheel bolts to 200 ft lbs. Replaced pilot bearing. Replaced clutch brake. Installed clutch onto input shaft. Installed transmission onto unit, torqued bell housing bolts to 50 ft lbs. Torqued clutch bolts to 50 ft lbs. Hooked up all air fittings and electrical connections for transmission. Installed pto and set backlash to .011" Replaced transmission output u joint.
Replace clutch	8-23-22	28315	Unit needs new transmission output yoke due to stripped threads.
Retorque	8-23-22		Retorque wheels as per tag 000608
Air to Air boot	8-22-22	28317	replaced air to air boot that had a hole in it
			Battery Cable running under oil pan to starter rubbed through and caused a fire on the LHS of the engine. The fire caused damage to the battery cables, engine wiring harness, truck side wiring harness, fuel lines and some air lines. All battery cables Replaced, Rerouted and secured properly to avoid rubbing. Engine wiring harness replaced and tied up. 1 supply and 2 return fuel lines were replaced and secured. Truck side wiring harness repaired and secured with P clamps. slightly rerouted to better spot. Air kill lines replaced. Tied up and secured loose wiring and coolant lines running along the frame. Started engine and ensured all was in proper order. One engine code appeared, calling for 385-3 Intake Valve Actuation System Oil Pressure voltage high (95) Wiring to the head lights and turn signals/markers on hood was in poor condition. Replaced harnesses and plugs to lights, and secured them properly. Wiring for the rear tail lights rubbing on air bags and in poor condition. Repaired wiring and tied up properly.
Major Repairs from Fire.	8-17-22	28315	DUE HOURS: 28523 (Sample Required)
signal flasher	8-7-22	28307	replaced previously diagnosed flasher. lights tested good.
			wheels off inspection replaced blower motor resistor replaced left rear wheel seal replaced right middle hub gasket replaced #1 brake pot repaired left and right fenders replaced mud flap anti sail brackets repaired broken bolts in right side of crane frame repaired broken bootstrap in right fender replaced left and right head light assemblies replaced 4 broken rebound clips on the suspension replaced left side 2nd suspension bump stop replaced power steering pump and test replaced 2nd steady bearing repaired 3 broken limit chains replaced axle 1 left front brake shoes replaced left rear shoes and drum slick inspection completed crane inspection
cvip	7-26-22	28253	
Angle alarm is constantly on	7-26-22		Replaced low battery and recalibrate the angle, load and reel. Tested good.
Load cell not working	7-26-22		Found that the battery was dead, replaced battery (had to use a flat washer for positive post to make contact)
Control cab fan not working	7-26-22		Wiring and 3 position switch are badly damaged. Removed and replaced all. Fan tests good now

A2B not cutting winch out	7-26-22		Troubleshoot with cranesmart tech and found that the a2b box itself is bad and needs replacement, new part ordered
Stereo not picking up radio station.	7-26-22		"P Cont" wire in harness broke at connection to plug, fixed. Antenna unplugged from back now plugged back in. Tested and working.
A2B reported to be not working	7-26-22		Opened it up the check the battery and board, all good, re installed battery and the system saw the a2b again, needed a hard reset
Outrigger wiring overhaul	7-26-22		Organized wiring in crane control panel. Counted outrigger wires in terminal strip inside panel to be in bad shape, cleaned terminals and replaced ends. Found a bunch of failing relays in the outrigger relay box on the PS, replaced 5. Found bad terminal in the same box, cleaned and now passes voltage. All solenoid tested and clean, turret ring contact block sprayed down. All functions tested after reassembly.
Front PS outrigger not extending	7-26-22		Cleaned Din connector and tested voltage to connector. All Good. Replaced coil as it was rusted. Tested Unit. All Good
Load cell reading max.	7-26-22		Recalibrated load cell.
Load cell battery dead	7-26-22		Replaced
Driver side rear outrigger would not retract	7-26-22		Verified electrical and controls, unit send home for repair
Anti 2 block needed replacement	7-26-22		Swapped out the A2B and checked the comms, OK
Anti two block switch operation not showing up on CraneSmart panel.	7-26-22		Signal strength good at panel and alarm shows up when battery removed from A2B switch. Checked battery voltage, good. Tried another battery, no change. Disassembled switch, no physical damage to board or wiring. Doug working on getting replacement switch.
New A2B not communicating with crane smart head unit.	7-26-22		New A2B sent from crane smart is for the auxiliary A2B, which is turned off in the display settings. Called crane smart and was able to change channel of Main A2B(74 to 75) and Aux A2B(75 to 74) to have A2B function proper. Bringing back failed A2B for repair. will be replacing with proper main A2B and sending back Aux A2B after repair is complete to avoid charges. ***settings will have to be changed with crane smart when replacing with proper main A2B...
A2B switch not operating.	7-26-22		Signal & battery good. Opened up & tried adjusting spring tension. Working by hand. Installed back on crane but failed again. New A2B switch on order.
CraneSmart showing alarms for "Angle Main" and "Cable Reel".	7-26-22		Checked signal input for both, nothing. Replaced battery for "Cable Reel", now had good signal for both "Angle Main" and "Cable Reel". Found that the "Cable Reel" transmitter was a 2 in 1 setup, performed both operations.
CraneSmart system showing errors, operator has to use bypass to use.	7-26-22		A2B Block Aux 1 showing alarm but we only use A2B Block Main. Showing turned off in menu. Also operator losing angle signal at times & it shows up as an alarm. Signal strength good & menu shows OK. Could not locate angle transducer on boom? Left for now, needs looking at back in Hat.
Red light on multi-coloured work light on crane not working	7-26-22		Tightened up terminals in light housing and test good.
Road side rear outrigger extract function not working.	7-26-22		Had 10.5VDC to solenoid (2A). Measured resistance of solenoid (6.8 ohm for 21W 12VDC coil) good. Pulled apart hirschman and found loose terminal. Tightened up and tested good. Clean up all cartridges, solenoids connectors and wiring to rear outrigger valve bank. Tested good.
2 way radio in crane cab not programmed for our channels.	7-26-22		Installed used 2 way in cab, with required channels.
Boom extension readings out.	7-26-22		Pulled on cable reel for indicating boom length, readings were incorrect on cab display (Crane Smart). Slippage on reel, removed & reseated reel shaft to spring tensioner & checked electronic connections inside, OK. Checked drum connection to shaft, reseated drum on shaft cam & tightened retaining screw. Performed a fully retracted (30.2') & fully extended (96.9') calibration on cable reel for boom length. Verified correct operation.
Unit needs 2 way radio	7-26-22		install 15 amp inline fuse harness, install radio and test.
Unit needs GPS	7-26-22		Install GPS behind far left DS instrumentation panel. Powered up and LED's. Submit paperwork to Dallas for activation
Retorque	7-23-22	28267	Retorque as per tag number 473
B service	7-1-22	28223	Changed engine oil, oil filter, fuel filter and fuel water separators. Did not have time to complete checklist - Air filters on the way with cross shift. Remainder of B service will need to be completed at shop
Replace engine warning light lense	6-15-22	28174	Replaced engine warning light lense on head liner
Crane inspection and repairs	6-10-22	28121	Inspected the winch cable and sheave. Cable had a small bend. No indication of twists, kink, crushing or over loading. One sheave had some damage but the cable was in no danger of being damaged. Replaced idler Bearings and both belts. Replaced front steer Ps tire. Torque tag tied to the keys.

no a/c	5-18-22	28070	unit had no refrigerant in system pressure tested and found bad oring at compressor. replaced orings and put unit on vac and tested all good. filled with refrigerant and tested all good.
replaced engine harness	5-6-22	28007	- removed the main engine harness it was full of oil replaced with new harness ad tested unit runs good.
wipers, heater and radio inop	3-21-22	27928	wipers , heater and radio inop. found no power on the whole row in the fuse panel. could not find the open in the circuit without tearing the entire dash apart. ran a jumper wire in the fuse panel . working fine for now.
			unit had no power to ign fuses ecm would not power up, diagnosed no power to 85 on ign relay to supply power traced wires out and found back connection under passenger side floor mat to e-kill box. replaced wire from ign to e-kill box and tested good had power
			-oil leak between power steering pump and front structure, - removed pump and installed new gasket and re installed. tested good.
Level A Service/repairs	3-14-22	27917	replace engine fan
			Replaced abs modulator valve on p/s # 2 axle Replaced driveline between first and second diff Replaced output seal on first diff Replaced input yoke on second diff Replaced input yoke on first diff Replaced input yoke u-joint on first diff Replaced # 1 axle differential
Replace front diff	2-9-22	27646	
retorque	1-26-22	27630	retorque as per tag number 244.
			-replaced axle 2 p/s brakepot
a-service	1-25-22	27614	-completed a-service
			Injector/Jake wiring harness was leaking oil through the pins. Replaced the injector harness' and intermediate plate gasket.
			Cruise control could not be utilized from the crane operator cab. I checked the system with ET and checked electronics in the dash and the crane module beside the passenger seat. Everything seed to act as it should, the ecm was still seeing the cruise control and when the pto.
Jake / injector harness.Remote throttle	1-15-22	27452	I installed a twist throttle in the crane can, deleting the foot pedal throttle control. I left the foot pedal and wiring ziptied in place in case the twist throttle fails, the pedal could be hooked back up.
			ps rear out rigger only retracting half way. go's in and out the first half fine. stops solid in the same place every time. the cylinder rod seems a little bent but this unit has had previous problems with the hydraulic valving. next day when it warmed up operator was able to cycle and retract it fully. will need further diagnosis.
out rigger not retracting	1-12-22	27470	
			- check the unit for no cab Heat i found bad connection at the heater blower motor it kept blowing the fuse. I clean the connection and reinstalled a new fuse seems to be working good.
no cab heat	12-16-21	27396	
			- tested the Webasto found it was air locked at the water pump got the coolant circulating and it seems to be working good.
repair taillight	12-11-21	27331	- replaced both windshield wiper blades.
			Completed A Service check sheet
A Service	12-9-21	27325	Topped up Driver side front steer hub oil
			unit had complaints of boom creeping in. -Set up crane and lifted coil injector off the ground and marked main boom cylinder and stabilizer rams. found boom was leaking down. Tightened up main boom counter balance valve 1/4 turn and tested again. unit still doing the same thing. Turned screw to 1/2 turn and let sit for an hour. unit no longer seeps down with main boom.
			-Replaced anti-2 reel on side of boom Doug's is going to zero it.
Boom Creep,Anti-2 Reel	11-19-21	27196	-Ran unit up for an hour this morning to verify temp the cooling fan would kick in and out to ensure sufficient cooling of engine. all good. kicks in at 215° F

Replace Crank Pulley, PS Rear steer wheel seal, Crane Cab lower front window, Crane Cab window turn buttons and for winter front, Voltage and Coolant Gauges	11-18-21	27189	-Replace Crank Pulley. torque bolts to spec -replaced fan belt -Replace compressor discharge line and install rubber wrap around coolant line off compressor.
power steering oil leak	11-14-21	27148	- Repaired a oil leak on the power steering reservoir found a bad orb fitting on the bottom of the tank. - check the engine fan for not cutting in found a bad connection at the solenoid for the air valve.
backup lights	10-20-21	26936	- checked the voltage gauge was reading 16 volt on the dash the battery voltage and the power supply to the gauge is only 14 volts I have ordered a new volt gauge for the dash.
jockey box repair	9-27-21	26733	replaced missing backup light and grommet.
transmission leak	9-24-21	26697	-LHS Jockey box aluminum ring had riveting break drilled out broken ones and installed self tappers into it all good. -RHS jockey box latch mechanism had a broken bolt have a different nut crossed onto stud a couple threads for now untill I can source a new piece.
Install missing reverse lamp, check lights	9-11-21	26607	-Repaired a loos bearing plate on the back of the transmittion checked transmission oil level was good. - unit got greased
A2B issues	9-6-21	26542	-Installed missing reverse lamp on driver side at rear bumper. Check operation of reverse lamps and backup alarm, Ok
retorque	8-23-21	26503	-Check operation of rest of lights, OK
CVIP	8-17-21	26479	Did a2b troubleshooting with crane smart tech, a2b was communicating but when the hook was raised it wouldn't trip out, tech concluded that the box was damaged and a replacement was needed, parts on order
A service	8-5-21	26452	retorqued entire unit as per tag number 96.
AC repairs	6-27-21	26323	Completed CVIP Replaced drive axle shock Replaced bump stop Installed limiting chains on the drives Replaced all steer tires Replaced all serp belt Bearings on the alternator belt
Rewire mirror	4-15-21	26081	Completed "A" service
Damaged airbag	3-2-21	25921	Evacuated AC system and changed out compressor, then charged with nitrogen to look for leaks. No leaks found . Charged system with 3.25lbs of refrigerant and 3 oz of oil in system. At time of test temp was 3 degrees out of vents. Changed power steering hose that was sweating from the reservoir to manifold below the tank on the frame rail. Also changed coolant line from tank to water pump old one was leaking and needed changed out.
Completed "B" Service	2-20-21	25854	Replaced/ rewire in new mirror for clearance lights/ mirror heat.
Replacements	2-6-21	25661	Replaced damaged airbag on p.s axle #1, tied up loose wiring that was getting close to the driveshaft-
D/S rear outrigger would not retract	2-1-21		Removed d/s rear outrigger cylinder. Replace extend and retract hoses. Replace cylinder up and down hoses. Replace outrigger cylinder with spare from the yard. Confirm operation
Inspect d/s outrigger operation	1-25-21	25596	D/S rear outrigger would not retract, we figure issue lies within the electric over hydraulic valve bank. Removed extend/ retract hydraulic lines and ended up having to slowly push outrigger back in. Unit will be coming home
D.S rear out rigger will not retract	1-22-21	25589	All operations are working at this time. Swapped drivers retract cartridge with p/s extend check ohms of solenoids. 7.2, letting unit sit over night to retest.
Completed "A" service.	1-19-21	25539	D.S rear out rigger will not retract . ETECH verified electrical, valve seems to be operating correctly, suspect damaged cylinder. Unhooked lines and forced in
High water temp light on	1-10-21	25457	"A" service. Units needs a "B" service completed next time it's home
Move crane power	12-29-20	25408	high water temp light and buzzer comes on even though coolant temp is 200° Hooked up and monitored , no problem found, turned off water temp buzzer in the dash.
Boom cylinder creeping down	11-17-20	25267	Move crane power to disconnect to prevent two batteries from going dead. Test and confirm repair.
Boom creeping down	11-14-20	25257	Boom cylinder creeping down, suspended load and tried to adjust counterbalance valve to hold. Boom still creeping down. Valve or piston seals have failed
			Verified complaint of boom creeping down. It is creeping down under load , no external leaks. Either the the boom cylinder lock valve is leaking down or the oil is bypassing the piston seals internally . Will need further diagnostics when it comes home.

Belt squeal	11-7-20	25186	Belt squeal, removed belts and checked idler pulleys, replaced 2 6203 bearings in main belt idler pulley, Found alternator chirped. Sourced our new alternator from Mid Plains Diesel and installed, tested. All good, no squeal
Pulleys acting up	10-9-20	25050	Removed belt and cleaned pulleys and tested seemed ok. Later on acted up again. Will need clutch inspected further at home
T/S grinding in transmission, removed auxiliary section....	8-16-20	25019	T/S grinding in transmission, removed auxiliary section. Found worn clutch teeth on bull gear and syncros. Replaced bull gear, syncros & output shaft bearing, new seals and shimmed counter shafts. Road tested good. Replaced u joint @ 1st steady bearing
Drive and check coolant temp, no issues. Grinds sometimes from H-L range. Went through tests and found 54 psi on low range line spec is 58-63. Changed regulator and no difference/ high range line tested good at 58psi. Charged A/C	8-2-20	25019	
Completed CVIP repairs.....	8-1-20	25019	Completed CVIP repairs/ adjusted both 2nd steer springs twisted p/s 1st steer and 2nd drive wheel seals & shoes. 2nd & 3rd axle drums replaced, repaired a/c lines and charged. Fix coolant leak @ water pump. D/S air bag 1st drive axle. d/s 2nd steer shock mount broken & replaced. Replaced d/s upper rad mount bushings. 2nd drive diff plug looser and leaked-tightened.
Completed CVIP inspection	7-29-20	25019	
Complaint of no A/C.....	7-25-20	25014	Complaint of no A/C. Found high & low pressure lines were against turbo and burnt through, new lines needed, ordered. Also receiver dry, to be replaced at the same time. Also complaint of grinding between 4 & 5 gear test drove and could not replicate problem. Checked air filter on regulator on transmission. All seemed good. Replaced belt for AC compressor.
Replaced idler bearings that had failed and were squealing	6-12-20	24966	
REPAIR P/S FOG LIGHT 19338HRS 214527KMS REPLACED 3rd IN DRIVERS MARKER LIGHT	4-25-20	19338	REPAIR P/S FOG LIGHT 19338HRS 214527KMS REPLACED 3rd IN DRIVERS MARKER LIGHT
R&R DRIVERS FRONT STEER WHEEL SEAL - 19338HRS 214527KMS R&R P/S REAR STEER TOP SHOCK BOLT RE	4-25-20	19338	R&R DRIVERS FRONT STEER WHEEL SEAL - 19338HRS 214527KMS R&R P/S REAR STEER TOP SHOCK BOLT REPLACED P/S REAR STEER TIRE
REPLACE AIR DRYER CARTRIDGE/PURGE VALVE - 19338HRS 214527KMS	4-25-20	19338	REPLACE AIR DRYER CARTRIDGE/PURGE VALVE - 19338HRS 214527KMS
A2B not communicating with crane smart head unit. Changed assigned channel to sensor for proper connection with head unit. Tested good	3-10-20		A2B not communicating with crane smart head unit. Changed assigned channel to sensor for proper connection with head unit. Tested good
Replaced failed 2 way radio. Tested good	3-8-20		Replaced failed 2 way radio. Tested good
LEVEL A - 24913HRS 39716KMS	3-8-20	24913	LEVEL A - 24913HRS 39716KMS
Start digging into fan not working in auto mode. Monitor all status's and sensors with computer. Sensors and switches seem to be operating normally. Coolant temp gauge in cab not accurate to computer reading - 24875HRS 39681KMS	3-1-20	24875	Start digging into fan not working in auto mode. Monitor all status's and sensors with computer. Sensors and switches seem to be operating normally. Coolant temp gauge in cab not accurate to computer reading. Gauge reads over 210f when computer reads 196f. Fan kicked in normally when ecm read 200f but gauge in cab showing around 220f. System is fine - 24875HRS 39681KMS
Order parts for failed A2B	2-23-20		Order parts for failed A2B
Verified complaint of engine fan not working. Got unit to 200* fan didn't kick in. Works fine in manual setting. Further diagnosis required. 24832HRS 39654KMS	2-23-20	24832	Verified complaint of engine fan not working. Got unit to 200* fan didn't kick in. Works fine in manual setting. Further diagnosis required. 24832HRS 39654KMS
Crane angle & cable reel alarm. Found dead battery in transmitter. Replaced & tested operation, OK	2-17-20		Crane angle & cable reel alarm. Found dead battery in transmitter. Replaced & tested operation, OK
Anti-2-Block not operating. Found defective A2B switch. New switch on order	2-17-20		Anti-2-Block not operating. Found defective A2B switch. New switch on order
Played with counter balance valve some more. Got it to where we had it booked and scoped all the way out for an hour straight and it did not scope in at all- 24742HRS 39274KMS	2-16-20	24742	Played with counter balance valve some more. Got it to where we had it booked and scoped all the way out for an hour straight and it did not scope in at all- 24742HRS 39274KMS
Boom scoped in during operation, adjusted locking valve set screw. Did not scope under our observation - 24645HRS 39055KMS	2-5-20	24645	Boom scoped in during operation, adjusted locking valve set screw. Did not scope under our observation - 24645HRS 39055KMS
A2B block alarm & angle signal being lost at times. Found A2B Aux 1 block alarm was a result of it being set to off. Must confirm if in use or not. Checked angle transducer signal & status, both good at time of inspection	2-2-20		A2B block alarm & angle signal being lost at times. Found A2B Aux 1 block alarm was a result of it being set to off. Must confirm if in use or not. Checked angle transducer signal & status, both good at time of inspection. Will need operator to run to monitor when problem occurs

Check unit for the boom creeping down, found that it is the main boom cylinder that is creeping, gone back to medicine hat for repairs - 24336HRS 38388KMS	12-1-19	24336	Check unit for the boom creeping down, found that it is the main boom cylinder that is creeping, gone back to medicine hat for repairs - 24336HRS 38388KMS
REPLACE CABINET DOOR HANDLES - 24312HRS 38148KMS	10-17-19	24312	REPLACE CABINET DOOR HANDLES - 24312HRS 38148KMS WITH NEW ONES MINOR MODIFICATIONS
RECOVER SEAT - SEWLINE	10-9-19		RECOVER SEAT - SEWLINE
CHANGED TO BOOM IN/OUT AND SWING - HYDRACO	9-30-19		CHANGED TO BOOM IN/OUT AND SWING - HYDRACO MOVE BOOM EXTEND CONTROLS FROM FOOT PEDAL ON FLOOR TO JOYSTICK TRACE OUT PILOT LINES WASH OFF VALVE UNHOOK FOOT VALVE AND REMOVE FAB FOOT VALVE PEDAL BLANK OFF PLATE, PAINT AND INSTALL UNHOOK AND REMOVE LINES (WINCH, FOOT PEDAL SUPPLY AND PILOT LINES) CAP OFF UNUSED PORTS ON CONTROL VALVE MOVE PILOT LINES TO BOOM EXTEND WASH OFF UNIT RUN UNIT TO VERIFY CORRECT JOYSTICK OPERATION-GOOD VERIFY SWING BRAKE PROPER AND HOLDING MAKE AND INSTALL LABELS FOR JOYSTICK TIE UP LINES AND ELECTRICAL RUN UP WITH CUSTOMER RELEASE UNIT CUSTOMER
10 YEAR CRANE INSP/REPAIRS - HYDRACO	9-27-19		10 YEAR CRANE INSP/REPAIRS - HYDRACO CARRY OUT REPAIRS, ORDER NEW TRAVELING BLOCK AND PARTS INSTALL NEW WINCH MOUNT BOLT WITH STOVER LOCK NUT REPLACE PRESSURE LINE FROM LARGE PUMP REPAIR LEAK ON PTO REPLACE MAIN BOOM LIFT CYLINDER LOAD HOLDING VALVE WITH NEW POLISH ALL OUTRIGGER SHAFT TO REMOVE PITTING TO CLEAN UP SHAFTS CARRY OUT WELDING REPAIRS TO BOOM SECTIONS AND HORSES HEAD REPAIR LEAK ON COOLER FITTING WRAP COOLER LINES WHERE THEY ARE RUBBING AT PICKER BASE REPAIR FAULTY PTO INDICATOR LIGHT CLEAN UP BATTERY POSTS HAVE NDT CARRIED OUT ON BOOM REPAIRS AND NEW PINS AND BUSHING IRON HORSE HAD REPLACED
we wired in the oil temp sensor and took outside for test, last thing to look at is volt gauge reading high (says were charging at over 15 V but verified 13.8 V at batteries)	9-22-19		we wired in the oil temp sensor and took outside for test, last thing to look at is volt gauge reading high (says were charging at over 15 V but verified 13.8 V at batteries)
Calibrate the crane smart - T DILLMAN/D TIBBS	9-15-19		calibrate the crane smart - T DILLMAN/D TIBBS ran boom in and out for derek tibbs so he can calibrate the crane smart. Engine oil temp gauge is fluttery, will diagnose issue more tomorrow
TROUBLESHOOT ESPAR-REPLACED WITH WEBASTO HEATER - 24302HRS 38105KMS	9-11-19	24302	TROUBLESHOOT ESPAR-REPLACED WITH WEBASTO HEATER - 24302HRS 38105KMS
MEASURED CRANE CAB FOR WINDOW COVER - SEWLINE	9-11-19	24302	MEASURED CRANE CAB FOR WINDOW COVER - SEWLINE
LEVEL B - 24302HRS 381058KMS	9-11-19	24302	LEVEL B - 24302HRS 381058KMS
REPLACE A/C BELT - 24302HRS 381058KMS	9-11-19	24302	REPLACE A/C BELT - 24302HRS 381058KMS
INSTALL FIRE EXTINGUISHER/HAZARD ID KIT - 38106KMS	9-9-19		INSTALL FIRE EXTINGUISHER/HAZARD ID KIT - 38106KMS
TIGHTENED NUTS ON HYD COOLER - 38106KMS	9-9-19		TIGHTENED NUTS ON HYD COOLER - 38106KMS
TESTED AIR TO AIR SYSTEM/REPLACED BOOTS WORN DOWN TO FIBERS - 38106KMS	9-9-19		TESTED AIR TO AIR SYSTEM/REPLACED BOOTS WORN DOWN TO FIBERS - 38106KMS
REPLACE BURNT OUT BULBS IN OVER HEAD CONSOLE - 38106KMS	9-9-19		REPLACE BURNT OUT BULBS IN OVER HEAD CONSOLE - 38106KMS
REPLACE HOOD BUSHINGS - 38106KMS	9-9-19		REPLACE HOOD BUSHINGS - 38106KMS
REPLACE CRANE CAB WASHER FLUID HOSE - 38106KMS	9-9-19		REPLACE CRANE CAB WASHER FLUID HOSE - 38106KMS

REPLACE REAR MARKER LIGHTS/TAIL LIGHTS - 38106KMS	9-9-19		REPLACE REAR MARKER LIGHTS/TAIL LIGHTS - 38106KMS AND HOUSINGS - RED ARC
REPLACE D/S REAR DRIVE AXLE AIR BAG - 38106KMS	9-9-19		REPLACE D/S REAR DRIVE AXLE AIR BAG - 38106KMS
REPLACE WHEEL SEALS FRONT AND REAR STEER AXLE D/S - 38106KMS	9-9-19		REPLACE WHEEL SEALS FRONT AND REAR STEER AXLE D/S - 38106KMS
REPLACE D/S STEP - 38106KMS	9-9-19		REPLACE D/S STEP - 38106KMS
REPLACE STEER STOPS ON REAR STEER AXLE - 38106KMS	9-9-19		REPLACE STEER STOPS ON REAR STEER AXLE - 38106KMS
REPLACE BRAKES AND DRUMS ON REAR AND MIDDLE DRIVE AXLE - 38106KMS	9-9-19		REPLACE BRAKES AND DRUMS ON REAR AND MIDDLE DRIVE AXLE - 38106KMS
			CLEANED UP DIESEL TANK ON CRANE CAB - 38106KMS AND HOOKED UP FUEL LINES REPLACED FILTER
CLEANED UP DIESEL TANK ON CRANE CAB - 38106KMS	9-9-19		
REPLACED ALL MUDFLAPS - 38106KMS	9-9-19		REPLACED ALL MUDFLAPS - 38106KM
REPLACE KINGPIN ON D/S FRONT STEER AXLE W/BUSHINGS - 38106KMS	9-9-19		REPLACE KINGPIN ON D/S FRONT STEER AXLE WITH BUSHINGS - 38106KMS
INSTALL LICENSE PLATE LIGHT ON REAR OF UNIT - 38106KMS	9-9-19		INSTALL LICENSE PLATE LIGHT ON REAR OF UNIT - 38106KMS
REPLACED SHOCKS ON REAR STEER AXLE - 38106KMS	9-9-19		REPLACED SHOCKS ON REAR STEER AXLE - 38106KMS
INSTALL BATTERY DISCONNECT - 38106KMS	9-9-19		INSTALL BATTERY DISCONNECT - 38106KMS
			REPLACE BATTERIES - 38106KMS CLEANED UP CONNECTIONS
REPLACE BATTERIES - 38106KMS	9-9-19		
REPLACE DOOR LOCKS AND IGNITION - 24302HRS 38105KMS	9-6-19	24302	REPLACE DOOR LOCKS AND IGNITION - 24302HRS 38105KMS
REPLACED MESH COVER FOR FOG LIGHT - 24302HRS 38105KMS	9-6-19	24302	REPLACED MESH COVER FOR FOG LIGHT - 24302HRS 38105KMS
FILTERED HYD OIL PUT IN NEW FILTERS - 24302HRS 38105KMS	9-6-19	24302	FILTERED HYD OIL PUT IN NEW FILTERS - 24302HRS 38105KMS
ENGINE TEMP/TRANNY TEMP GAUGES REPLACED - 24302HRS 38105KMS	9-6-19	24302	ENGINE TEMP/TRANNY TEMP GAUGES REPLACED - 24302HRS 38105KMS
			REPAIR FAN LIGHT WITH NEW HUB SWITCH - 24302HRS 38105KMS AND FIXED WIRES
REPAIR FAN LIGHT WITH NEW HUB SWITCH - 24302HRS 38105KMS	9-6-19	24302	
REPLACE HOOD BUSHINGS	9-2-19		REPLACE HOOD BUSHINGS
MFG & INSTALL BEARING BRONZE IN PULLEYS	7-26-19		MFG & INSTALL BEARING BRONZE IN PULLEYS & MFG NEW PINS - RED ARC