

## Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
12/27/2017	Starting Problem	#185 Starting Problem – 12/27/17 2,955 Hours- The machine would not start again. A heater was placed under the machine and the machine eventually started up. It might be the start or solenoid (Kevin).	
12/26/2017	Battery (Jump)	#185 Battery (Jump) – 12/26/17 2,955 Hours- The machine would not start. The access door for the batteries had a broken latch on it. The stud had to be cut on the latch to get the door open. One of the batteries were jumped and the machine started up (Kevin).	
10/5/2017	Check-Over	#185 Check-Over – 10/5/17 2,942 Hours- The excavator was checked over. The batteries were tested and were weak but do not need to be replaced just yet. The alternator was checked and 27.49 volts were put out. All of the fluid levels were checked (Kevin).	
10/17/2016	Standard Service (Field)/Drive Motor/Thrust Washer	#185 Standard Service (Field)/Drive Motor/Thrust Washer – 10/17/16 2,912 Hours- A standard service was performed in the field where the engine oil, engine oil filter, both of the fuel filters, and the outer air filter were all changed. The drive motor had failed and was removed and sent in to E&E Hydraulics. E&E had sent the motor out to Rex Roth where it was rebuilt with a new housing. The drive motor was re-installed and the thrust washer in the planetary cover was replaced with a new washer (Troy).	1 CNH Thrust Washer 73170047
9/16/2016	Batteries	#185 Batteries – 9/16/16 2,854 Hours- The excavator would not start. Found that the problem was due to the batteries were both dead. Both of the old batteries were removed and two new batteries were installed. The charging system was checked and 27.54 volts were put out (Kevin).	2 AcDelco 31 Stud Type Battery 31-900 CT
9/13/2016	Bucket Cylinder/Loop Hoses/Bucket Install	#185 Bucket Cylinder Hose/Loop Hose/Bucket Install – 9/13/16 2,854 Hours- The bucket cylinder was re-installed on to the excavator. Two new loop hoses were installed on the side of the boom. The batteries were installed and the charging system was checked. The five-foot bucket was installed on the dipper arm (Kevin, Troy).	2 Superior Hydraulic Loop Hose 2220791
8/29/2016	Hydraulic Hose	#185 Hydraulic Hose 8/29/16 2,807 Hours- The crowd cylinder hose blew. The hose was no longer available. The hose was removed and was taken to Pirtek where a JIC male ends had to be welded onto the ends of the old fittings that were in the middle of the hose (Mike).	
5/20/2016	1,000 Hour Service/Windows/Hose s/Latch Assembly/Rollers/Crow d Cylinder	#185 1,000 Hour Service/Windows/Hoses/Latch Assembly/Rollers/Crowd Cylinder - 5/20/16 2,714 Hours- A 1,000 hour service was performed where the engine oil, engine oil filter, both of the fuel filters, both of the hydraulic filters, both of the pilot filters, coolant filter, hydraulic oil, swing gear box oil, and final drive oil were all changed. The front cab windshield is cracked. The windshield was removed and was replaced with a new piece of glass. The front cab lower window was broken out. The rest of the glass was removed and a new piece was installed. The window on the roof of the cab was removed and replaced as well. The hose for the fan drive motor was leaking. The leaking hose was removed and was replaced with a new hose. One of the swing motor hoses was removed and replaced with a new hose. The left hand fan compartment door latch was broken. The broken latch was removed and was replaced with a new latch assembly. Three lower track rollers were removed and were replaced with new rollers. The air conditioner was not working. Found that the problem was due to the condenser fins were clogged. The crown cylinder eye was pulled off of the rod. The cylinder was removed and was sent to E&E Hydraulics for repair and was re-installed. All of the items on the 1,000 hour service checklist were checked off and completed (Rick).	1 CNH Front Cab Upper Window Glass 1446166 (73177451) 1 CNH Top Cab Window Plastic 1480124 (73177540) 1 CNH Front Cab Lower Window Glass 1446167 (73177540) 1 CNH Fan Motor To Fan Pump Hose 73175222 1 CNH Swing Motor To Swing Pump Hose 1284179 (73172328) 1 CNH Fan Door Latch Assembly 2292133 (73170233) 3 Roland Lower Track Rollers LH90
4/13/2016	Adapter	#185 Adapter – 4/13/16 No Hours On Ticket- There was a broken adapter fitting on the swing motor hose that was welded back on. The hydraulic oil was topped off in the reservoir (Troy).	
4/7/2016	Hydraulic Hose	#185 Hydraulic Hose – 4/7/16 No Hours On Ticket- There was a blown hydraulic hose that went to the pump. The blown hose was removed; a new hose was made at Crest and was installed. The hydraulic oil was topped off in the reservoir (Troy).	1 Perteck Hydraulic Hose S2262136.001
3/28/2016	Standard Service (Field)	#185 Standard Service (Field) – 3/28/16 2,637 Hours- A standard service was performed in the field where the engine oil, engine oil filter, both of the fuel filters, and the outer air filter were all changed. The crowd cylinder is leaking and bleeding off and will need to be fixed at a later date (Troy).	
3/7/2016	Hydraulic Hose	#185 Hydraulic Hose – 3/7/16 10,464 Hours- There was a blown crowd cylinder hose on top of the boom. The blown hose was removed and taken to Pirtek where a new hose was made. The new hose was taken back to the jobsite and installed (Troy).	1 Pirteck Hose Assembly S2244953.001
2/25/2016	Teeth/Keepers/Plates	#185 Teeth/Keepers/Plates – 2/25/16 2,528 Hours- Four of the teeth were removed and replaced with four new teeth. New keepers were used to secure the teeth to the bucket. Some plates were welded onto the shanks to help secure the teeth in place (Mike).	4 Dura Teeth X450
12/11/2015	Tooth/Pin	#185 Tooth/Pin – 12/11/15 2,334 Hours- A new tooth and keeper was installed on the three foot bucket. Two covers were welded over the keeper pin (Kevin).	
11/18/2015	Bucket Teeth Retainer	#185 Bucket Teeth Retainer – 11/18/15 2,276 Hours – All of the bucket's teeth retainers were looking a little rough and welded pieces of plate over them (Kevin).	
11/12/2015	Fuel Filters	#185 Fuel Filters – 11/12/15 2,266 Hours- There was a problem with the engine dying. The fuel filters were removed and replaced with new ones. Also, the fuel system was bled and new fuel was added to the fuel tank. Everything seems to be running fine at this time (Kevin).	
10/15/2015	Hydraulic Oil Leak	#185 Hydraulic Oil Leak – 10/15/15 2,120 Hours- There was a hydraulic oil leak that was near the bucket cylinder barrel end tee block. Found that the leak was caused from a blown o-ring on the gland end hose at the tee block. A new o-ring was installed and the hydraulic oil was topped off in the reservoir (Kevin).	
10/8/2015	E.L.C. Actuator	#185 E.L.C. Actuator – 10/8/15 2,106 Hours- There was a problem with the engine dying. Found that the problem was due to the e.l.c actuator was bad. A new actuator was ordered from Cummins South and was installed (Kevin).	1 Cummins E.L.C Actuator 3048324
9/22/2015	Standard Service (Field)	#185 Standard Service (Field) – 9/22/15 2,086 Hours- A standard service was performed in the field where the engine oil, engine oil filter, fuel filter, and outer air filter were all changed. The alternator/charging system was checked and 28.41 volts were put out. The anti-freeze was topped off in the reservoir. The track bolt was tightened back up. The final drives were checked as well. All items on the field service work order form were checked off and completed (Mike, Kevin).	
9/11/2015	Hydraulic Hose	#185 Hydraulic Hose – 9/11/15 2,033 Hours- There was hydraulic oil leak that was due to a blown hose on the right side of the swing pump to the front connection on the swing drive motor. The blown hose was removed and taken to Pirtek where a new hose assembly was made. The new hose assembly was installed on the machine and the hydraulic oil was topped off in the reservoir (Kevin).	1 Pirtek Hydraulic Hose #S2158129.001

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8/31/2015	Hydraulic Hose	#185 Hydraulic Hose – 8/31/15 1,999 Hours- There was a hydraulic oil leak that was found on the case drain line from the swing pump to the hydraulic reservoir. The old hose was removed; a new hose was made and installed in the field (Kevin).	
8/13/2015	Hydraulic Oil Leak	#185 Hydraulic Oil Leak – 8/13/15 1,931 Hours- There was a hydraulic oil leak that was coming from the swing motor area. Found that the block off plate on the hose side of the main control valve is where the leak was coming from. Two new o-rings were picked up from the shop and were installed on the block off plate and was tested for leaks. The hydraulic oil was topped off in the reservoir (Kevin).	
6/3/2015	Tube-line	#185 Tube-line – 6/3/15 1,873 Hours- There was a pinhole sized leak on the tub-line that is located on the back of the boom that goes to the rod end of the crowd cylinder. The tube-line was cleaned up and the leak was welded. The leak seems to be fixed at this time (Troy).	
4/8/2015	1,000 Hour Service/Injectors/Air Conditioner Drier & Switch Assembly/Door Shocks/Holset Turbo/Exhaust Flexpipe	#185 1,000 Hour Service/Injectors/Air Conditioner Drier & Switch Assembly/Door Shocks/Holset Turbo/Exhaust Flexpipe – 4/8/15 1,840 Hours- A 1,000 hour service was performed where the engine oil, engine oil filter, inner air filter, outer air filter, both of the fuel filters, both of the transmission filter, both of the pilot filters, hydraulic oil, ant-freeze, and gear oil were all changed. All six of the fuel injectors were removed and rebuilt. The pressure and operation of the injectors were all checked. The oil drain lines from the injectors were all resealed. There was a really bad engine oil leak coming from the engine front cover. The front of the engine was completely resealed. The radiator was removed and cleaned out. There was a lot of black smoke being blown out while the excavator was being ran. One of the bolts were broken but all of the bolts were not really tight. Also, there was a bad manifold gasket. All of the bolts, spacers, gaskets, gasket intakes, and o-rings were all replaced. There was an occasional problem with the fuel pick-up from the fuel tank. While the excavator was still in the field air was blown into the filter hose back to the tank for a temporary fix. The fuel tank's top cover was removed and there were two banjo bolt assemblies at the top of the tank, but the one that was the pick-up had no screen to protect it and debris was trapped in the fitting. A screen was made to protect the pick-up tube. The turbo air in-impeller was damaged by an unknown material. A new turbo assembly and a rebuilt alternator were installed and new belts on the air conditioner and alternator. The air conditioner drier/switch assembly was replaced and the system was recharged with freon. All items on the 1,000 hour service checklist were checked off and completed (Rick).	6 Taylor Diesel Fuel Injectors 3406604 1 Taylor Diesel Holset Turbo 3537037 1 CNH Air Conditioner Drier & Switch Assembly 3008485 1 CNH Door Shock 73170196 1 CNH Door Shock 73172286
1/27/2015	Bucket Pin	#185 Bucket Pin – 1/27/15 1,779 Hours- The main bucket pin was replaced with another pin that was taken from the shop. The pin was lubed very well when it was installed (Kevin).	
8/7/2014	Bolt/Lock Nut	#185 Bolt/Lock Nut – 8/7/14 No Hours on Ticket- There was a bolt that was missing in the side link on the bucket linkage. A new bolt and nut replaced the missing one (Troy).	
6/18/2014	Dog Ear	#185 Dog Ear – 6/18/14 1,615 Hours- The dog ear on the mam bucket pin had broke off. The area where the ear broke off was grounded out and re-welded (Troy).	
5/2/2014	Standard Service (Field)/Muffler	#185 Standard Service (Field)/Muffler – 5/2/14 1,543 Hours- A standard service was performed in the field where the engine oil, engine oil filter, and air filter were all changed. A new muffler was installed. The rear hose on the swing motor that went to the pump was replaced. The grab handle on the inside of the walk way door was tightened. The lube fitting on the stick for the bucket was replaced. The mirror on the left side of the cab was replaced as well. The mirror on the right side by the tool box was replaced. The alternator/charging system was checked and put out 27.74 volts. All items on the field service work order form were all checked off and completed. (Kevin, Troy).	1 CNH Muffler 2291632 1 CNH Hose Assembly 1284181
4/23/2014	Engine Power Failure	#185 Engine Power Failure – 4/23/14 1,517 Hours- The engine was having a problem with losing power. Both of the fuel filters were changed out and blew back through the suction line to the tank (Kevin).	
9/9/2013	Crowd Cylinder	#185 Crowd Cylinder Rod Eye Pin 9/9/13 1,339 Hours- The crowd cylinder rod eye pin had an ear broken off. A new piece was made and welded to retain the pin. The radiator was dirty; it was blown out (Troy).	
5/6/2013	Standard Service - Field	#185 Standard Service – Field 5/6/13 1,202 Hours- A standard service was performed where the engine oil, engine oil filter, fuel filter, and air filter were all changed. The lower front windshield rubber, bumper, and anti-rattle strip were replaced on the bottom. The machine was looked over and all of the items on the field service checklist were completed (Kevin). 2 CNH Bumpers 1482196 1 CNH Gasket 1480073	
4/17/2013	Install Windshield	#185 Install Lower windshield 4/17/13 1,164 Hours- The lower front windshield was installed. The latches were transferred to the new windshield. The old window sealant was removed on the upper cab roof window. The new windshield was re-sealed with silicone (Kevin). 1 CNH Lower windshield 1446167 3 Tubes of Crest Silicone	
4/5/2013	Install Coolant Hose	#185 Install Coolant Hose 4/5/13 1137 or 9024 Hours- The coolant hose was installed on the after cooler tube line (Kevin).	
4/4/2013	Hose leaks anti-freeze	#185 Anti-freeze leak 4/4/13 1,152 Hours- There was a silicone hose that was leaking anti-freeze on the front of the engine. The hose position was shifted which stopped the leak for now. The anti-freeze was topped off at this time. New hose was ordered and will be installed upon arrival (Troy).	
11/27/2012	Standard Service - Field	#185 Standard Service Field 11/27/12 847 Hours- A standard service was performed where the engine oil, engine oil filter, fuel filter, and outer air filter were all changed. An access door latch was installed. The machine was looked over and all of the items on the work order checklist were completed (Kevin). 1 CNH Latch Assembly B170812	
10/22/2012	Replaced Joy-stick	No. 185 Replaced Joy-stick 10/23/12 8,625 Hours- The left joystick was broken. It was replaced at this time (Jamie). 1 CNH Left Joystick 245-8294 2 CNH Buttons 1474782 1 CNH Button 1474783	

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9/30/2012	Cylinder work	No.185 Cylinder work/Hydraulic oil leak 10/1/12 679 Hours-There was a hydraulic oil leak on this machine. It was found that there was a crowd cylinder leaking externally. The cylinder was removed and sent to E+E Hydraulics to be re-built with our parts. The cylinder was re-installed and had a problem bleeding off. The secondary relief and cylinder was re-tested and the cylinder was removed again and sent to E+E Hydraulics again. They found that the piston seals and wear ring were charred black from high voltage and the piston was melted. The piston was repaired and the necessary seals were re-installed. The cylinder was re-installed and the hydraulic oil was topped off in the reservoir (Kevin). 1 CNH Rod Eye 2157993 1 CNH Seal Piston 2142730 1 Piston Wear Ring 2796959 1 Complete Seal Kit 71377861	
7/22/2012	Blow out radiator + condenser	No.185 Condenser/Radiator 7/23/12 608 Hours-The AC condenser and radiator was blown out at this time (Kevin).	
7/22/2012	WONo. 05397 Blow out radiator + condenser	Date Received: 7/23/2012 Date Assigned: 7/23/2012 Date Completed: 7/23/2012 Action: No.185 Condenser/Radiator 7/23/12 608 Hours-The AC condenser and radiator was blown out at this time (Kevin).	-
7/17/2012	WONo. 05378 Standard Service	Date Received: 7/18/2012 Date Assigned: 7/18/2012 Date Completed: 7/18/2012 Action: No.185 Standard Service - Field 7/18/12 602 Hours-A standard service was performed on this machine. The engine oil, engine oil filter, fuel filter, and air filter (outer) were all changed. A check was done to see why the machine was blowing out a large amount of smoke, it was found that the turbo compressor side shaft was broken and the seal was leaking. Parts were picked up from Broadway; the turbo was installed along with all related parts. The center section of the turbo was relocked. Everything seemed to be working fine at this time (Kevin).	-
7/17/2012	Standard Service	No.185 Standard Service - Field 7/18/12 602 Hours-A standard service was performed on this machine. The engine oil, engine oil filter, fuel filter, and air filter (outer) were all changed. A check was done to see why the machine was blowing out a large amount of smoke, it was found that the turbo compressor side shaft was broken and the seal was leaking. Parts were picked up from Broadway; the turbo was installed along with all related parts. The center section of the turbo was relocked. Everything seemed to be working fine at this time (Kevin).	
4/19/2012	High side a/c line bad	No.185 Check A/C 4/20/12 506 Hours-The A/C was check. The high side line from the compressor to the condenser was bad. A new line was made up and installed; the system was vacuumed down and recharged. There were no leaks at this time. A binary switch was installed on the receiver/dryer, the auxiliary hydraulic system was flow tested at this time. The results on the flow test are on the back of the ticket. All new louvers were installed on the HVAC ports. The radiator and condenser area was washed out. All of the panels were re-installed at this time (Kevin).	
4/19/2012	High side A/C line bad	No.185 Check A/C 4/20/12 506 Hours-The A/C was check. The high side line from the compressor to the condenser was bad. A new line was made up and installed; the system was vacuumed down and recharged. There were no leaks at this time. A binary switch was installed on the receiver/dryer, the auxiliary hydraulic system was flow tested at this time. The results on the flow test are on the back of the ticket. All new louvers were installed on the HVAC ports. The radiator and condenser area was washed out. All of the panels were re-installed at this time (Kevin).	
4/19/2012	WONo. 05131 High side A/C line bad	Date Received: 4/20/2012 Date Assigned: 4/20/2012 Date Completed: 4/20/2012 Action: No.185 Check A/C 4/20/12 506 Hours-The A/C was check. The high side line from the compressor to the condenser was bad. A new line was made up and installed; the system was vacuumed down and recharged. There were no leaks at this time. A binary switch was installed on the receiver/dryer, the auxiliary hydraulic system was flow tested at this time. The results on the flow test are on the back of the ticket. All new louvers were installed on the HVAC ports. The radiator and condenser area was washed out. All of the panels were re-installed at this time (Kevin).	-
2/19/2012	WONo. 04868 Standard Service - Field	Date Received: 2/20/2012 Date Assigned: 2/20/2012 Date Completed: 2/20/2012 Action: No.185 Standard Service - Field 2/20/12 391 Hours-A standard service was performed where the engine oil, engine oil filter, fuel filter and outer air filter were all changed. Straps were installed to the top and the bottom of the teeth. Also, a bracket was put on the boom for the flag to sit in (Mike).	-
2/19/2012	Standard Service - Field	No.185 Standard Service - Field 2/20/12 391 Hours-A standard service was performed where the engine oil, engine oil filter, fuel filter and outer air filter were all changed. Straps were installed to the top and the bottom of the teeth. Also, a bracket was put on the boom for the flag to sit in (Mike).	
10/4/2011	Bad Grease fittings	No.185 Replaced bad grease fittings 10/5/11 204 Hours-There were several bad grease fittings that were replaced. Separate grease lines need to be run to the top of both lift cylinders and the barrel end of the crowd cylinder (Kevin).	
10/4/2011	WONo. 04498 Bad Grease fittings	Date Received: 10/5/2011 Date Assigned: 10/5/2011 Date Completed: 10/5/2011 Action: No.185 Replaced bad grease fittings 10/5/11 204 Hours-There were several bad grease fittings that were replaced. Separate grease lines need to be run to the top of both lift cylinders and the barrel end of the crowd cylinder (Kevin).	-
9/7/2011	WONo. 04372 Power Problem	Date Received: 9/8/2011 Date Assigned: 9/8/2011 Date Completed: 9/8/2011 Action: No.185 No Power 9/8/11 145 Hours-There was a complaint of a power problem with this machine. The fuel filters were replaced and the outer air filter was cleaned (Troy).	-
9/7/2011	Power Problem	No.185 No Power 9/8/11 145 Hours-There was a complaint of a power problem with this machine. The fuel filters were replaced and the outer air filter was cleaned (Troy).	
6/14/2011	Hydraulic Oil leak	No.185 Hydraulic Oil leak 6/15/11 97 Hours-There was a hydraulic oil leak on this machine. It was found that there was a blown right hand bucket loop hose. The new hose was picked up from superior eq. company and installed. The reservoir was filled up at this time. The machine was tested for leaks, and was fine. The missing pun retainer bolt and washer was replaced at this time (Kevin). 1 Superior Invoice No.2025503, total \$484.72 140 quarts of Rando 68	
6/14/2011	WONo. 04059 Hydraulic Oil leak (Add 7880 to hour meter)	Date Received: 6/15/2011 Date Assigned: 6/15/2011 Date Completed: 6/15/2011 Action: No.185 Hydraulic Oil leak 6/15/11 97 Hours-There was a hydraulic oil leak on this machine. It was found that there was a blown right hand bucket loop hose. The new hose was picked up from superior eq. company and installed. The reservoir was filled up at this time. The machine was tested for leaks, and was fine. The missing pun retainer bolt and washer was replaced at this time (Kevin). 1 Superior Invoice No.2025503, total \$484.72 140 quarts of Rando 68	-

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4/5/2011	WONo. 03886 A/C not working/Low pressure switch bad	Date Received: 4/6/2011 Date Assigned: 4/6/2011 Date Completed: 4/6/2011 Action: No.185 A/C Not working 4/6/11 12 Hours-The A/C was not working but the compressor was running. The full amount of Freon 134A was added. The system was out but the low pressure switch was not cutting the compressor out, meaning the low pressure switch is bad (Rick). ordered parts need to install. 1 Dryer 73186213 3LB 12oz. Freon 134A	-
4/5/2011	A/C not working/Low pressure switch bad	No.185 A/C Not working 4/6/11 12 Hours-The A/C was not working but the compressor was running. The full amount of Freon 134A was added. The system was out but the low pressure switch was not cutting the compressor out, meaning the low pressure switch is bad (Rick). 1 Dryer 73186213 3LB 12oz. Freon 134A	
1/16/2011	Bad tee on control valve	No.185 Hydraulic oil leak 1/17/11 7878 Hours-There was a hydraulic oil leak on this machine, it was found that there is a bad run tee on the left side of the control valve. The correct parts were ordered. The left track drive motor had a broken housing. All of the related hydraulic lines were capped or plugged and the broken drive motor was removed (Kevin).	
1/16/2011	1,000 Hour Service/Replaced hoses	No.185 1,000 Hour Service 1/17/11 7880 Hours-A 1,000 hour service was performed where the engine oil, engine oil filter, and fuel filter were all changed. The hydraulic filters, final drive oil, and swing motor oil were all changed. It was difficult to read the dash monitor so an hour meter was installed in the side of the console. There was a fire extinguisher that was missing, so it was replaced. 5 of the 6 large hoses that were behind the boom were replaced; one of them had blown already. The left drive motor was replaced because it was split apart (it may have been frozen to the ground). The leaking "T" fitting on the control valve was leaking. There was a wiring harness problem to the air filter warning circuit, the problem was in the harness along the side of the engine block. This harness was removed and repaired; it was then re-located to run along the frame of the machine. The engine after cooler/intake manifold gasket was pushing out so it was replaced. One of the counter weight bolts was broken and needs to be fixed; it is hard to get out. All other items on the work order checklist were completed (Rick). 45 Qts. 15W40 Engine Oil 1 New Holland Run Tee Fitting (LH side of main control valve 73180426 1 Hourmeter SM10003 5 New Holland Hoses behind the boom 1589811 1 Used 5lb fire extinguisher 1 New Holland Hydraulic Drive motor assembly 73170127 9 gallons gear oil 85/140 36 gallons Rando 68 Hydraulic oil	
1/16/2011	WONo. 03636 Bad tee on control valve	Date Received: 1/17/2011 Date Assigned: 1/17/2011 Date Completed: 1/17/2011 Action: No.185 Hydraulic oil leak 1/17/11 7878 Hours-There was a hydraulic oil leak on this machine, it was found that there is a bad run tee on the left side of the control valve. The correct parts were ordered. The left track drive motor had a broken housing. All of the related hydraulic lines were capped or plugged and the broken drive motor was removed (Kevin).	-
1/16/2011	WONo. 03790 1,000 Hour Service/Replaced hoses/ Hourmeter	Date Received: 1/17/2011 Date Assigned: 1/17/2011 Date Completed: 1/17/2011 Action: No.185 1,000 Hour Service 1/17/11 7880 Hours-A 1,000 hour service was performed where the engine oil, engine oil filter, and fuel filter were all changed. The hydraulic filters, final drive oil, and swing motor oil were all changed. It was difficult to read the dash monitor so an hour meter was installed in the side of the console. There was a fire extinguisher that was missing, so it was replaced. 5 of the 6 large hoses that were behind the boom were replaced; one of them had blown already. The left drive motor was replaced because it was split apart (it may have been frozen to the ground). The leaking "T" fitting on the control valve was leaking. There was a wiring harness problem to the air filter warning circuit, the problem was in the harness along the side of the engine block. This harness was removed and repaired; it was then re-located to run along the frame of the machine. The engine after cooler/intake manifold gasket was pushing out so it was replaced. One of the counter weight bolts was broken and needs to be fixed; it is hard to get out. All other items on the work order checklist were completed (Rick). 45 Qts. 15W40 Engine Oil 1 New Holland Run Tee Fitting (LH side of main control valve 73180426 1 Hourmeter SM10003 5 New Holland Hoses behind the boom 1589811 1 Used 5lb fire extinguisher 1 New Holland Hydraulic Drive motor assembly 73170127 9 gallons gear oil 85/140 36 gallons Rando 68 Hydraulic oil	-
1/12/2011	WONo. 03589 Changed Air Filters	Date Received: 1/13/2011 Date Assigned: 1/13/2011 Date Completed: 1/13/2011 Action: No.185 Filter change 1/13/11 7,866 Hours-There was a light coming on inside of the cab. The air filters were installed at this time (Mike). 1 Air filter PA2562 1 Air filter PA2563	-
1/12/2011	Changed Air Filters	No.185 Filter change 1/13/11 7,866 Hours-There was a light coming on inside of the cab. The air filters were installed at this time (Mike). 1 Air filter PA2562 1 Air filter PA2563	
12/16/2010	Hyd. Oil Leak	No.185 Hydraulic Oil Leak 12/17/10 7,763 Hours-A check was done on this machine to check a hydraulic oil leak. Also the crowd cylinder rod end pin was checked, it was found that there was a bad hydraulic hose on the PI port that was on the control valve. A 4 wire hose was made at crest. A hose was ordered from New Holland, the bad part of the pin was cut off and a large thick washer was welded onto it. A grease fitting was installed in the crowd rod end and lubricated (Kevin). 72 Quarts Rando 68 1 Crest Invoice No.CRX9388 Invoice total \$94.74.	
12/16/2010	WONo. 03469 Hyd. Oil Leak	Date Received: 12/17/2010 Date Assigned: 12/17/2010 Date Completed: 12/17/2010 Action: No.185 Hydraulic Oil Leak 12/17/10 7,763 Hours-A check was done on this machine to check a hydraulic oil leak. Also the crowd cylinder rod end pin was checked, it was found that there was a bad hydraulic hose on the PI port that was on the control valve. A 4 wire hose was made at crest. A hose was ordered from New Holland, the bad part of the pin was cut off and a large thick washer was welded onto it. A grease fitting was installed in the crowd rod end and lubricated (Kevin). 72 Quarts Rando 68 1 Crest Invoice No.CRX9388 Invoice total \$94.74.	-

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11/30/2010	WONo. 03414 New Tiger Teeth	Date Received: 12/1/2010 Date Assigned: 12/1/2010 Date Completed: 12/1/2010 Action: No.185 New Tiger Teeth 12/1/10 Hours N/A-New tiger teeth were installed on the 3' bucket. 2 of the single tigers were installed and 2 of the twin tigers were installed. The top piece of lexan window in the roof was cleaned out and re-glued, then screwed down at the corners to keep it from coming loose. (Troy). 2 Twin Tiger Teeth X450 2 Single Tiger teeth X450 4 Keepers 450	-
11/30/2010	New Tiger Teeth	No.185 New Tiger Teeth 12/1/10 Hours N/A-New tiger teeth were installed on the 3' bucket. 2 of the single tigers were installed and 2 of the twin tigers were installed. The top piece of lexan window in the roof was cleaned out and re-glued, then screwed down at the corners to keep it from coming loose. (Troy). 2 Twin Tiger Teeth X450 2 Single Tiger teeth X450 4 Keepers 450	
11/12/2010	Standard Service	No.185 Standard Service 11/13/10 7700 Hours-A standard service was performed where the engine oil, engine oil filter, fuel filter, and air filter were all changed. There was a hydraulic oil leak at the crowd cylinder. All other items on the work order checklist were completed (Kevin).	
11/12/2010	WONo. 03361 Standard Service	Date Received: 11/13/2010 Date Assigned: 11/15/2010 Date Completed: 11/13/2010 Action: No.185 Standard Service 11/13/10 7700 Hours-A standard service was performed where the engine oil, engine oil filter, fuel filter, and air filter were all changed. There was a hydraulic oil leak at the crowd cylinder. All other items on the work order checklist were completed (Kevin).	-
9/26/2010	WONo. 03231 No.185 Air Sensor/Air Filters	Date Received: 9/27/2010 Date Assigned: 9/27/2010 Date Completed: 9/27/2010 Action: No.185 Air Sensor 9/27/10 7,641 Hours-The air sensor was cleaned off and the outer + inner air filter were both changed (Mike).	-
9/26/2010	No.185 Air Sensor/Air Filters	No.185 Air Sensor 9/27/10 7,641 Hours-The air sensor was cleaned off and the outer + inner air filter were both changed (Mike).	
8/22/2010	Install Short Stick	7,593 Hours Removed the bucket cylinder from the short stick and installed it on the long stick. (Kevin + Mike)	-
6/9/2010	WONo. 02938 Bucket Loop Hoses	Date Received: 5/24/2010 Date Assigned: 5/24/2010 Date Completed: 5/24/2010 Action: 7509 Hours-Both of the bucket loop hoses (6Wire) were changed (Kevin/Ed).	-
		Had the hoses made at Crest	
5/23/2010	Bucket Loop Hoses	7509 Hours-Both of the bucket loop hoses (6Wire) were changed (Kevin/Ed).	
		Had the hoses made at Crest	
1/13/2010	St Service (Field)	7,264 Hours-Preformed a St Service the engine oil and filter, fuel filter/screens, and outer/inner air filters were changed. The centrifugal oil filter was not changed at this time. The LED panel is going bad and will need to be replaced. The upper window needs to be sealed. All other items on the work order checklist were complete (Kevin).  Parts Used: 46 Qts. Engine Oil 15W40	
1/13/2010	WONo. 02699 St Service (Field)	Date Received: 1/14/2010 Date Assigned: 1/14/2010 Date Completed: 1/14/2010 Action: 7,264 Hours-Preformed a St Service the engine oil and filter, fuel filter/screens, and outer/inner air filters were changed. The centrifugal oil filter was not changed at this time. The LED panel is going bad and will need to be replaced. The upper window needs to be sealed. All other items on the work order checklist were complete (Kevin).  Parts Used: 46 Qts. Engine Oil 15W40	-
12/27/2009	WONo. 02671 Engine was looping and smoking	Date Received: 12/28/2009 Date Assigned: 12/28/2009 Date Completed: 12/28/2009 Action: 7,213 Hours-Check why the engine was looping and smoking at a low idle speed. It was found that the STS solenoid and control module were bad, the parts were ordered and installed (parts were ordered from (Cummins Midsouth invoice No.021-77204). All else seems to be fine at this time (Kevin).	-
12/27/2009	Engine was looping and smoking	7,213 Hours-Check why the engine was looping and smoking at a low idle speed. It was found that the STS solenoid and control module were bad, the parts were ordered and installed (parts were ordered from (Cummins Midsouth invoice No.021-77204). All else seems to be fine at this time (Kevin).	
12/10/2009	Engine was dying / Has no electric power	7,161 Hours- Check why the engine was dying. Also the machine has no electric power. Both batteries were found to be bad, the starter was locked up, and the master switch was fused together. All of the bad parts were removed; a starter was picked up from Milligan. The new parts were installed and the machine was test run. Then next day the machine was tested because it wouldn't run properly. It was found that there was a low fuel level from the tank. All else seems to be functioning properly at this point in time (Kevin). The line was removed and air was blown back through the suction hose, the line was open. Air was then blown through the suction port of the fuel tank. The fuel line was re-installed and the fuel filters were replaced and a power service was installed in the tank. It was test run at this point and everything seems to functioning properly at this time (Kevin).  1 Milligan Reman Starter REB10479111 Invoice No. S11758 Total \$264.78 2 Deka Batteries (Stud Type) 1231MF 1 CNH Master Disconnect 423576A1 1 Gallon Power Service 2 Baldwin BF1212 Fuel Filters	

# Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
12/10/2009	WONo. 02627 Engine was dying / Has no electric power	<p>Date Received: 12/11/2009 Date Assigned: 12/11/2009 Date Completed: 12/11/2009 Action: 7,161 Hours- Check why the engine was dying. Also the machine has no electric power. Both batteries were found to be bad, the starter was locked up, and the master switch was fused together. All of the bad parts were removed; a starter was picked up from Milligan. The new parts were installed and the machine was test run. Then next day the machine was tested because it wouldn't run properly. It was found that there was a low fuel level from the tank. All else seems to be functioning properly at this point in time (Kevin). The line was removed and air was blown back through the suction hose, the line was open. Air was then blown through the suction port of the fuel tank. The fuel line was re-installed and the fuel filters were replaced and a power service was installed in the tank. It was test run at this point and everything seems to be functioning properly at this time (Kevin).</p> <p>1 Milligan Reman Starter REB10479111 Invoice No. S11758 Total \$264.78 2 Deka Batteries (Stud Type) 1231MF 1 CNH Master Disconnect 423576A1 1 Gallon Power Service 2 Baldwin BF1212 Fuel Filters</p>	-
11/24/2009	*****NOTE* *****	Three of the four carrier rollers have flat spots on them. Need to replace next service if possible.	-
11/5/2009	WONo. 02569 St Service	<p>Date Received: 11/6/2009 Date Assigned: 11/6/2009 Date Completed: 11/6/2009 Action: 7,058 Hours- Performed a St Service change the oil and filter. The fuel filters and outer air filter were changed. The machine was reassembled at Wildwood at B+B theatre. (Troy and Kevin)</p> <p>45 Qts. 15W40</p>	-
11/5/2009	St Service	<p>7,058 Hours-Performed a St Service change the oil and filter. The fuel filters and outer air filter were changed. The machine was reassembled at Wildwood at B+B theatre. (Troy and Kevin)</p> <p>45 Qts. 15W40</p>	
6/30/2009	Oil leak / Test port	6852 Hours--- Had to order the test port connectors and install them on the machine. The fluid in the tank looked ok at this time.(Kevin)	
6/30/2009	WONo. 02268 Oil leak / Test port	<p>Date Received: 7/1/2009 Date Assigned: 7/1/2009 Date Completed: 7/1/2009 Action: 6852 Hours--- Had to order the test port connectors and install them on the machine. The fluid in the tank looked ok at this time.(Kevin)</p> <p>4- 2213963 Test port with cap CNH</p>	-
3/15/2009	WONo. 02033 1,000 Hour Service	<p>Date Received: 2/18/2009 Date Assigned: 2/18/2009 Date Completed: 2/18/2009 Action: 6717Hours---- Performed a 1,000 hour service and looked over the work order checklist. The a/c compressor was loose on the engine and the compressor was ruined from running loose. The mount was broken and of a poor design. Received a new Sandan compressor and a Sandan compressor mount which was of a better design. Fabricated this mount onto the old bracket and remounted the compressor. Had to use a new sized belt. Replaced five lower rollers and three carrier rollers.</p> <p>One of the four drive motor hoses had been changed in the field, but the other three were damaged. Replaced the three hoses because they were being damaged in an area between the track frame and the turntable area. Fabricated some plates to cover this area and to protect the hoses.</p> <p>The front window rollers had come off and this allowed the window to drop down hitting the dash monitor cover and breaking it. Replaced the broken cover. These rollers had come off before, so the original pins were cut out that contained the rollers and fabricated longer ones and welded them in with minimal clearance so it would be unlikely that they would come out.</p> <p>Foot control poppets were leaking and the oil ruined the floor mat. Installed four new poppet assembly parts and boots on the travel pedals control valves and pieced together two other kits to do the unused auxiliary pedal which was also leaking. (Rick A.)</p> <p>Belt---9530 Monitor cover---1488686 Poppets-----1445975 (x4) Poppets aux pedals---1445977 (x2) Bellows---6903798 (x6) Front cab window rollers---1480124 (x2) Lower rollers---LH90E (x5)</p>	-
2/17/2009	1,000 Hour Service	<p>6717Hours---Performed a 1,000 hour service and looked over the work order checklist. The a/c compressor was loose on the engine and the compressor was ruined from running loose. The mount was broken and of a poor design. Received a new Sandan compressor and a Sandan compressor mount which was of a better design. Fabricated this mount onto the old bracket and remounted the compressor. Had to use a new sized belt. Replaced five lower rollers and three carrier rollers.</p> <p>One of the four drive motor hoses had been changed in the field, but the other three were damaged. Replaced the three hoses because they were being damaged in an area between the track frame and the turntable area. Fabricated some plates to cover this area and to protect the hoses.</p> <p>The front window rollers had come off and this allowed the window to drop down hitting the dash monitor cover and breaking it. Replaced the broken cover. These rollers had come off before, so the original pins were cut out that contained the rollers and fabricated longer ones and welded them in with minimal clearance so it would be unlikely that they would come out.</p> <p>Foot control poppets were leaking and the oil ruined the floor mat. Installed four new poppet assembly parts and boots on the travel pedals control valves and pieced together two other kits to do the unused auxiliary pedal which was also leaking. (Rick A.)</p> <p>Belt---9530 Monitor cover---1488686 Poppets-----1445975 (x4) Poppets aux pedals---1445977 (x2) Bellows---6903798 (x6) Front cab window rollers---1480124 (x2) Lower rollers---LH90E (x5)</p>	
12/7/2008	WONo. 01627 Bucket cylinder eyelit loose	<p>Date Received: 12/4/2008 Date Assigned: 12/4/2008 Date Completed: 12/4/2008 Action: 6688Hrs----Checked the bucket cylinder eyelit and found it to be unscrewing from the rod. Removed the pin and had to heat the right pivot link to remove the pin. Retightened the rod eye and then tightened the pinch bolts as tight as could be. Reinstalled the pin and lock bolt and nut. (Kevin W.)</p>	-

## Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
12/3/2008	Bucket cylinder eyelit loose	6688Hrs----Checked the bucket cylinder eyelit and found it to be unscrewing from the rod. Removed the pin and had to heat the right pivot link to remove the pin. Retightened the rod eye and then tightened the pinch bolts as tight as could be. Reinstalled the pin and lock bolt and nut. (Kevin W.)	
11/2/2008	WONo. 01504 Remove croud cylinder pin	Date Received: 10/31/2008 Date Assigned: 10/31/2008 Date Completed: 10/31/2008 Action: 6601Hrs---- Removed the croud cylinder pin at the rod's end. Cleaned out the pin holes and lubed the boss's and pin. Installed new bucket loop hoses and installed the 50" bucket. (Kevin W.)	-
10/30/2008	Remove croud cylinder pin	6601Hrs----Removed the croud cylinder pin at the rod's end. Cleaned out the pin holes and lubed the boss's and pin. Installed new bucket loop hoses and installed the 50" bucket. (Kevin W.)	
10/19/2008	Cracked Fitting	6566Hrs---Right hand bucket loop hose got hit and cracked the fitting. Straightened the fitting and welded the crack in the fitting. (Troy)	
10/19/2008	WONo. 01467 Cracked Fitting	Date Received: 10/20/2008 Date Assigned: 10/20/2008 Date Completed: 10/20/2008 Action: 6566Hrs---Right hand bucket loop hose got hit and cracked the fitting. Straightened the fitting and welded the crack in the fitting. (Troy)  THE NEXT SERVICE WILL BE A 1000 HOUR SERVICE	-
9/4/2008	WONo. 01265 Checked Joystick	Date Received: 9/3/2008 Date Assigned: 9/3/2008 Date Completed: 9/3/2008 Action: 6510Hrs---Checked the left joystick and found that the stud was broken. Installed a new joystick assembly. (Kevin W.)  Joystick assembly----2458294	-
9/2/2008	Checked Joystick	6510Hrs---Checked the left joystick and found that the stud was broken. Installed a new joystick assembly. (Kevin W.)  Joystick assembly----2458294	
8/17/2008	WONo. 01204 Standard Service	Date Received: 8/14/2008 Date Assigned: 8/14/2008 Date Completed: 8/14/2008 Action: 6478 Hours Performed a standard service and looked over work order checklist. (Mike D.)  Changed the engine oil and filter, Fuel filter and outer air filter (NC)	-
8/13/2008	Standard Service	Performed a standard service and looked over work order checklist. (Mike D.)	
7/24/2008	WONo. 01094 Installed new alternator	Date Received: 7/14/2008 Date Assigned: 7/14/2008 Date Completed: 7/14/2008 Action: 6411Hrs----Installed new alernator. 70amp 24volt (Mike D.)  Alternator from Milligan----MDGM21912 No. on box itself----6M-219-12	-
7/23/2008	WONo. 01084 Both loop hoses were bad	Date Received: 7/21/2008 Date Assigned: 7/21/2008 Date Completed: 7/21/2008 Action: 6443Hrs---Checked bucket loop hoses and found them to be bad. Shortened both hoses and put a spring gaurd on both. Replaced the o-rings. (Kevin W.)  RD907/00 Hose assembly----MR12-20-FWD20-FWD80-W/SG15X8	-
7/23/2008	WONo. 01082 Checked to see why barrel end croud cylinder pin is coming out. Found a retaining bolt a	Date Received: 7/22/2008 Date Assigned: 7/22/2008 Date Completed: 7/22/2008 Action: Checked to see why barrel end croud cylinder pin is coming out. Found a retaining bolt a	-
7/21/2008	Checked to see why barrel end croud cylinder pin is coming out.	Checked to see why barrel end croud cylinder pin is coming out. Found a retaining bolt and washer was missing. Cut a 20mm bolt to length and reinstalled the pin and retainer bolt and washer. (Kevin)  Bolt 20mm x 40mm.-----CRM10M20040 Washer----2247486	
7/20/2008	Both loop hoses were bad	6443Hrs---Checked bucket loop hoses and found them to be bad. Shortened both hoses and put a spring gaurd on both. Replaced the o-rings. (Kevin W.)  RD907/00 Hose assembly----MR12-20-FWD20-FWD80-W/SG15X8	
7/17/2008	WONo. 01062 Installed new breather cap assembly	Date Received: 7/16/2008 Date Assigned: 7/16/2008 Date Completed: 7/16/2008 Action: 6419Hrs.---Installed new breather cap assembly, tamper proof style. (Kevin W.)  Breather assembly---73189973	-
7/15/2008	Installed new breather cap assembly	6419Hrs.---Installed new breather cap assembly, tamper proof style. (Kevin W.)  Breather assembly---73189973	
7/13/2008	WONo. 01047 Hydraulic oil leak from blown o-ring	Date Received: 7/10/2008 Date Assigned: 7/10/2008 Date Completed: 7/10/2008 Action: 6402HRS---Checked for a hydraulic oil leak and found a P2 port adapter blown o-ring. Removed P2 hose assembly and adapter, replaced o-rings and then topped off the hydraulic oil level. (Kevin W.)	-
7/13/2008	Installed new alternator	6411Hrs----Installed new alernator. 70amp 24volt (Mike D.)  Alternator from Milligan----MDGM21912 No. on box itself----6M-219-12	
7/9/2008	WONo. 01023 Blown o-ring on P1 block adapter.	Date Received: 7/8/2008 Date Assigned: 7/8/2008 Date Completed: 7/8/2008 Action: 6382HRS---Checked a hydraulic oil leak and found a blown o-ring on the P1 block adapter. Replaced the o-ring and topped off the hydraulic oil in the reservior. (Kevin W.)	-
7/9/2008	WONo. 01018 Topped off the freeon.	Date Received: 6/25/2008 Date Assigned: 6/25/2008 Date Completed: 6/25/2008 Action: 6363HRS---Topped off the freeon.	-
7/9/2008	Hydraulic oil leak from blown o-ring	6402HRS---Checked for a hydraulic oil leak and found a P2 port adapter blown o-ring. Removed P2 hose assembly and adapter, replaced o-rings and then topped off the hydraulic oil level. (Kevin W.)	
7/7/2008	Blown o-ring on P1 block adapter.	6382HRS---Checked a hydraulic oil leak and found a blown o-ring on the P1 block adapter. Replaced the o-ring and topped off the hydraulic oil in the reservior. (Kevin W.)	
6/25/2008	WONo. 00964 Blown hydraulic hose from swivel to drive motor.	Date Received: 6/11/2008 Date Assigned: 6/11/2008 Date Completed: 6/11/2008 Action: 6337HRS---Checked a hydraulic leak and found a blown hydraulic hose from the swivel to the drive motor on the right for brakes. Removed covers and cleaned out the mud and dirt. Removed hose and made up a new one. Reinstalled new hose and covers. Checked for leaks. All was good. (Kevin and Jamie)	-
6/24/2008	Topped off the freeon.	6363HRS---Topped off the freeon.	

## Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
6/11/2008	WONo. 00920 Bucket to H-Link pin was frozen.	Date Received: 6/2/2008 Date Assigned: 6/2/2008 Date Completed: 6/2/2008 Action: 6294HR---Bucket to H-Link pin was frozen in the H-Link. After prying for a while it finally came out. Honed bushing and flapper wheel pin. Installed a 4' bucket and greased pins very well. Replaced blown two speed hose from the swivel to the right track motor. Topped off with hydraulic oil. (Kevin W.)	-
6/10/2008	Blown hydraulic hose from swivel to drive motor.	6337HRS---Checked a hydraulic leak and found a blown hydraulic hose from the swivel to the drive motor on the right for brakes. Removed covers and cleaned out the mud and dirt. Removed hose and made up a new one. Reinstalled new hose and covers. Checked for leaks. All was good. (Kevin and Jamie)	
6/8/2008	WONo. 00887 Installed 1/8" pipe lube fitting and an oring.	Date Received: 6/4/2008 Date Assigned: 6/4/2008 Date Completed: 6/4/2008 Action: 6311HR---Checked a squealing noise and found that the rod end of the crowd cylinder was not getting enough grease. The hose and adapter was removed and then a 1/8" pipe lube fitting was installed. Checked a leak at the bucket cylinder tee. Found a blown oring on the hose from the tee to the gland. Replaced oring and tested. Everything was ok. (Kevin W.)  Oring---LTZ222B90 Grease fitting---CRX9388	-
6/3/2008	Installed 1/8" pipe lube fitting and an oring.	6311HR---Checked a squirting noise and found that the rod end of the crowd cylinder was not getting enough grease. The hose and adapter was removed and then a 1/8" pipe lube fitting was installed. Checked a leak at the bucket cylinder tee. Found a blown oring on the hose from the tee to the gland. Replaced oring and tested. Everything was ok. (Kevin W.)  Oring---LTZ222B90 Grease fitting---CRX9388	
6/1/2008	Bucket to H-Link pin was frozen.	6294HR---Bucket to H-Link pin was frozen in the H-Link. After prying for a while it finally came out. Honed bushing and flapper wheel pin. Installed a 4' bucket and greased pins very well. Replaced blown two speed hose from the swivel to the right track motor. Topped off with hydraulic oil. (Kevin W.)	
5/29/2008	Hydraulic oil leak	6292HR---Checked for a hydraulic leak and found blown hoses on left drive motor to swivel, upper hose on drive motor, rear hose on swivel, and the brake release hose. Cleaned out the dirt and rock and installed new hoses. Topped off with hydraulic oil. (Kevin W./Mike D.)	
5/29/2008	WONo. 00901 Hydraulic oil leak	Date Received: 5/30/2008 Date Assigned: 5/30/2008 Date Completed: 5/30/2008 Action: 6292HR---Checked for a hydraulic leak and found blown hoses on left drive motor to swivel, upper hose on drive motor, rear hose on swivel, and the brake release hose. Cleaned out the dirt and rock and installed new hoses. Topped off with hydraulic oil. (Kevin W./Mike D.)	-
4/9/2008	WONo. 00798 Repair crowd cylinder.	Date Received: 4/10/2008 Date Assigned: 4/10/2008 Date Completed: 4/10/2008 Action: 6278HR---Machine was on site at Edward Jones south job when crowd problem occurred. It seemed like crowd cylinder came apart again, so it was brought to the shop and the crowd cylinder was removed. Found out that the piston had some damage on the end of it as if something were smashed into the end of it. Sarco was called and pictures were taken. Sarco wanted to try to get material out. Todd wanted to dress up the piston and reseal it. Troy dressed up the piston. Checked it over for more problems and found secondary relief for the crowd was out. Switched with another and the problem remained. Ordered a new valve and installed. Reset all secondary pressures on all cylinders and on both track motors to 380 bar. Reset main reliefs to 360 bar with power boost engaged. Tested cut off threshold pressure and it was ok at 320 bar. Tested proportional demand signal for both P1 and P2 pumps and all was ok. Tested pressure for the same and found that the right track in reverse was only set to 26 bar and should have been set at 45 bar. Switched the pilot hoses on the right track. Track valve problem stayed with reverse pedal. Removed pedal and took the foot valve apart. Found no problem. Cleaned it up and put it back together. Reinstalled foot valve and also removed floor matt and cleaned up the dirt. Found that the pressures were good after that, 45 bar. Pedal was stroking more on the right than on the left and could not determine why. Spaced both track foot valves 1/4" up from the floor and reinstalled the floor matt and tested. All looked good. Checked to see why auto reset on swing brake would not work. Installed swing brake sensor and replaced the crowd in from control valve to secondary valve block. Replaced both o-rings on the crowd and bucket anti cavatational valves. Replaced upper lexan window on the cab and resealed it. Replaced both hydraulic tank filters. Installed new rubber bonnets on right track. Replaced missing snap "C" clip. Removed the short stick and took the missing side plate (the one with the bolts in it). Replaced both bushings on H-link that Jim O. bored and installed on the long stick. Checked why oil light would come on and off at any time. Found extra ground wire in the loom with the sender wire, No.25, (No.175 was extra wire). Removed wire and retested and it was ok. (Kevin W.)  Loop hose assembly---CNH 1589811 Swing brake sensor---CNH 3005851 Secondary relief valve assembly---CNH 2159382 Lexan upper window---CNH 1480035 Wear fiber---CNH 2142732 Seal kit---CNH 2142730 Back up ring---CNH 2781443 Bonnet rubber---CNH 6903798 C-clip retainer---CNH 3021136 Ring guide---CNH 2135886 Bushing---CNH 2246555	-



# Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
4/9/2008	Repair crowd cylinder.	<p>6278HR---Machine was on site at Edward Jones south job when crowd problem occurred. It seemed like crowd cylinder came apart again, so it was brought to the shop and the crowd cylinder was removed. Found out that the piston had some damage on the end of it as if someting were smashed into the end of it. Sarco was called and pictures were taken. Sarco wanted to try to get material out. Todd wanted to dress up the piston and reseal it. Troy dressed up the piston.</p> <p>Checked it over for more problems and found secondary relief for the crowd was out. Switched with another and the problem remained. Ordered a new valve and installed. Reset all secondary pressures on all cylinders and on both track motors to 380 bar. Reset main reliefs to 360 bar with power boost engaged. Tested cut off threshold pressure and it was ok at 320 bar. Tested proportional demand signal for both P1 and P2 pumps and all was ok. Tested pressure for the same and found that the right track in reverse was only set to 26 bar and should have been set at 45 bar. Switched the pilot hoses on the right track. Track valve problem stayed with reverse pedal. Removed pedal and took the foot valve apart. Found no problem. Cleaned it up and put it back together. Reinstalled foot valve and also removed floor matt and cleaned up the dirt. Found that the pressures were good after that, 45 bar. Pedal was stroking more on the right than on the left and could not determine why. Spaced both track foot valves 1/4" up from the floor and reinstalled the floor matt and tested. All looked good. Checked to see why auto reset on swing brake would not work. Installed swing brake sensor and replaced the crowd in from control valve to secondary valve block. Replaced both o-rings on the crowd and bucket anti cavatational valves. Replaced upper lexan window on the cab and resealed it. Replaced both hydraulic tank filters. Installed new rubber bonnets on right track. Replaced missing snap "C" clip. Removed the short stick and took the missing side plate (the one with the bolts in it). Replaced both bushings on H-link that Jim O. bored and installed on the long stick. Checked why oil light would come on and off at any time. Found extra ground wire in the loom with the sender wire, No.25, (No.175 was extra wire). Removed wire and retested and it was ok. (Kevin W.)</p> <p>Loop hose assembly---CNH 1589811  Swing brake sensor---CNH 3005851  Secondary relief valve assembly---CNH 2159382  Lexan upper window---CNH 1480035  Wear fiber---CNH 2142732  Seal kit---CNH 2142730  Back up ring---CNH 2781443  Bonnet rubber---CNH 6903798  C-clip retainer---CNH 3021136  Ring guide---CNH 2135886  Bushing---CNH 2246555</p>	
4/6/2008	Corrective maintenance--Adjust crowd valve, install hose	<p>Performed corrective maintenance. Crowd and bucket seemed to be cavatating. Found anti-cavatating valve out of adjustment. Adjusted crowd valve two turns in and bucket valve three turns in. This took care of the problem. Checked for leak on boom and found bad hossee on right side of boom from the tee on the top of the bucket sylnder. Removed hose and installed new hose from crest. Checked hydraulic oil levels and also checked for leaks. Everything was good. Checked hydraulic oil leak on the crowd cylinder tube line at base of cylinder. Replace both o-rings on both rubber to steel lines and found tube line with pin hole in it. Center punch hole for now. (Kevin W.)</p> <p>1283826 Tube line \$724.00  3005851 Sensor \$395.56  Hose From Crest  20FWD80 Fitting  20FWD20 Fitting  80" 4 Wire Hose MR12-20</p>	
4/6/2008	WONo. 00714 Adjust crowd valve, install hose	<p>Date Received: 4/7/2008 Date Assigned: 4/8/2008 Date Completed: 4/7/2008 Action: Performed corrective maintenance. Crowd and bucket seemed to be cavatating. Found anti-cavatating valve out of adjustment. Adjusted crowd valve two turns in and bucket valve three turns in. This took care of the problem. Checked for leak on boom and found bad hossee on right side of boom from the tee on the top of the bucket sylnder. Removed hose and installed new hose from crest. Checked hydraulic oil levels and also checked for leaks. Everything was good. Checked hydraulic oil leak on the crowd cylinder tube line at base of cylinder. Replace both o-rings on both rubber to steel lines and found tube line with pin hole in it. Center punch hole for now. (Kevin W.)</p> <p>1283826 Tube line \$724.00  3005851 Sensor \$395.56  Hose From Crest  20FWD80 Fitting  20FWD20 Fitting  80" 4 Wire Hose MR12-20</p>	-
3/17/2008	WONo. 00667 Oil Sender	<p>Date Received: 3/18/2008 Date Assigned: 3/18/2008 Date Completed: 3/18/2008 Action: 6194 Hours---- Installed an oil sender and tested for oil leaks. (Kevin)</p> <p>2781982 Oil Sender Pat Kelly</p>	-
3/17/2008	Oil Sender	<p>6194 Hours---- Installed an oil sender and tested for oil leaks. (Kevin)</p> <p>2781982 Oil Sender Pat Kelly</p>	
2/14/2008	Standard Service/ Broken Crowd Cyl	<p>6,167 hrs.--- Changed the engine oil and filter, fuel filters, outer air filter, water filter and cab air filter. The belt tensioner was bad, replaced with new. Checked the fluid levels and completed the work order check list. Brought the machine in due to the crowd cylinder being broken. Removed the cylinder and pulled the rod, found the piston broken off the rod. Sent the cylinder back to Sarco and they machined the end of the rod and threaded the piston onto the rod end and replaced the packing. Re-assembled the cylinder. When they brought the cylinder back to us the wiper seal was damaged. We did not have time to replace the seal, need to install next service. NOTE: Three of the four track frame rollers have flat spots on them. (Rick A)</p> <p>Thermostat--4973373  A/C Dash Switch--2479078  A/C Belt Adj--- 4518712</p>	

## Kelpe - New Holland EC450 Service Record

Originated	Work Requested	Action Taken	Comments
2/14/2008	WONo. 00519 Standard Service/ Broken Crowd Cyl	Date Received: 2/15/2008 Date Assigned: 2/15/2008 Date Completed: 2/29/2008 Action: 6,167 hrs.--- Changed the engine oil and filter, fuel filters, outer air filter, water filter and cab air filter. The belt tensioner was bad, replaced with new. Checked the fluid levels and completed the work order check list. Brought the machine in due to the crowd cylinder being broken. Removed the cylinder and pulled the rod, found the piston broken off the rod. Sent the cylinder back to Sarco and they machined the end of the rod and threaded the piston onto the rod end and replaced the packing. Re-assembled the cylinder. When they brought the cylinder back to us the wiper seal was damaged. We did not have time to replace the seal, need to install next service. NOTE: Three of the four track frame rollers have flat spots on them. (Rick A) Thermostat--4973373 A/C Dash Switch--2479078 A/C Belt Adj--- 4518712	-
2/12/2008	Crowd cylinder broken	6167 Hours ----- Field service to Peerless Park I-44 Center -- Check crowd operation operator said he heard a pop and then the crowd quit working, Cylinder will have to be removed because rod must have broke. ----- Kevin	-
2/10/2008	Weld plates over teeth retainers	6147 Hours ----- Retainers coming out of teeth. Weld plates over teeth retainers. Troy	-
1/23/2008	Replace hydraulic hose on dipper.	6114 Hours -----Field service to Danforth center. Replace hydraulic hose with one we removed from long dipper on yard, --Troy	-
1/22/2008	Remove 3 bucket and install 6 bucket	6100 Hours ----- Field service to Danforth Center. Remove 3' bucket install 6' bucket -----Kevin	-
1/16/2008	Replace missing bolt and nut bucket cylinder pin.	6645 Hours ----- Replace missing bolt and nut bucket cylinder pin.Parts from Fabick. --- Kevin	-
12/11/2007	Replace teeth on bucket.	5375 Miles. ----- Replace all teeth on McFry's 5 1/2' bucket Gravois Bluff West. ( Kevin )	-
12/5/2007	Replace Swing Shuttle valve.	5960 Hours ----- Inspect for hydraulic leak, found swing shuttle valve housing cracked, order parts and install. add hydraulic oil, test working ok, Repair HVAC Blower, Replace fuse.( KEVIN )	-
12/4/2007	Replace o-ring on shuttle valve.	5941 Hours ----- Inspect for oil leak found oil leak on swing motor, found shuttle valve leaking, remove and replace o-ring, check oil level. ( Kevin )	-
11/18/2007	Install crowd cylinder hose retaining clamp	5902 hours ----- Install clamp on crowd cylinder hose.(Kevin)	-
10/17/2007	Both new batteries	5,770 Hrs.----Machine would not start,checked batteries and found both the batteries failed the load test. Replaced both the batteries with new from Deka PTNo. 31XMF(stud type battery).Made up a new crossover cable for the stud type battery.(Kevin)	-
9/30/2007	Retubed and resealed crowd cylinder	5738 Hrs.----The retube job that Sarco did only lasted a couple of days. The cylinder was bleeding off so we took cylinder apart and found the tube,piston and gland badly damaged. The damage was too bad to tell what caused the damage so we sent it to Sarco. They had no idea what caused the failure, so they retubed it and rebuilt the piston and polished the gland. Reassembled the cylinder using New Holland packing kit. I had Erb come out to clean the rest of the hyd. system. They cleaned out the filter area and ran the Kidney machine through all the funtions. Kevin had them run one funtion at a time and then check to see where the most metal came from. Naturally the most came out of the crowd circuit and very little came from any other circuit so we did not think any other damage was done at this time.Installed new filters and mounted the cylinder back on machine. The cost from Erb was \$997.04 InvoiceNo.167622 and took about a half a day. (Kevin)	-
8/15/2007	St. Service / Sarco resealed the crowd cylinder	5714 hrs.----Machine was due for a standard service,changed engine oil and filter,fuel and outer air filter. Checked all other fluid levels and they were fine. Checked all belts and hoses,replaced one of the boom /dipper loop hoses and a fitting on the swing swivel circuit.Checked batteries and charging system. Checked seat and seat belt. Inspected condition of under carriage and pin and bushing wear. All looked fine. Tighten some loose pad bolts. Replaced a wiper blade and welded up the a/c bracket. The crowd cylinder was bleeding off and the last time Sarco sealed it they said that they could not polish all the grooves out of the tube. This time they retubed the cylinder and installed a new seal kit. They brought the cylinder out and we painted it and installed on machine. Sarco invoice No. 21079 \$ 3249.29.Topped off the hyd. oil and checked for leaks. Finished the checklist,fueled,washed,greased and return to service.( Jim O)	-
6/6/2007	1000 Hr. service/ New a/c compressor/Replace track frame rollers/Resealed the crowd cly.	5504 Hrs.---- Machine was due for a 1000 hr. service,changed engine oil and filter,fuel,air and hyd. filters. Changed the pilot and coolant filters. Changed oil in both planetaries. Checked all other fluid levels. Looked at belts and hoses. Checked seat belt,horn and door handles. Tested batteries and charging system,alt. was charging 27.6 volts.Checked undercarriage pin and bushing wear.The front track frame roller broke all four bolts off and fell completely off machine. Extracted bolts out and reinstalled a new roller i n its place.There were three bad track frame rollers we replaced with new. The a/c compressor had a broken mounting ear on it so we repaced compressor with new from CSTK InvoiceNo. CS68558 \$181.03. Changed the drier an vacuum system down. Recharged with 134a freon and checked the cooling temp.Also replaced the a/c belt Gates PTNo. 9510. The crowd cylinder was leaking so we sent it to Sarco to have resealed. They took it apart and said there were some grooves in the tube of cly. They said they did not get all of them out completely but took most of them out. They repacked the piston and gland and reassembled the rod and tube. Droppped it back off at our shop and put the cly. back on machine. Sarco invoice No. 20941 \$1679.60. Repaired exhaust stack.(Rick + Kevin)	-
2/25/2007	Replaced both air filters	5177 Hrs.---- Replaced both inner and outer air filters.	-
1/28/2007	Field/ St. Service	5,089 Hrs.---Performed a field/ standard service. Changed engine oil and fitter fuel and outer air filter. Checked all other fluid levels, topped off the hyd. oil.Checked batteries and charging system, alt. was charging 27.9 vollts. Checked seat and seat belt.Greased and return to service.(Kevin)	-
10/3/2006	St. Service	4,673 Hrs. -----Machine was due for a standard service, changed engine oil and filter and air filter. We just cleaned outer air filter.Checked all other fluid levels , we just added a little to the hyd. tank. Checked all belts and hoses, all looked Ok.Tested batteries and charging system,alt. was putting out 27.55 volts.Checked all lights, horn,seatbelt and seat condition.Checked door handles and latches.Checked pin and bushing wear. Look at undercarriage compnonts for wear.All looked good.Finished checklist, greasse all fittings, fuel and return to service. (Rick)	-
9/20/2006	New teeth	4635 Hrs. Replaced all teeth on 3 FT. bucket.(Kevin )	-
8/17/2006	Blown Hose	4,534 Hours-----Replace a blown hose on the bucket cylinder loop hose on the right. Check the hydraulic oil level it is OK. (Kevin)	-
8/8/2006	Replaced fuel filters	4459 Hrs.Went to job for power loss. Replaced all fuel filters and blew out the air filters. (Mike)	-
7/6/2006	A/C Compressor moint	4,386 Hours----- Checked mounting bolts on the ac compressor. Found the pivot bolt broken, installed a new bolt and washer. Adjusted the ac belt tensioner and test ran the machine. (Kevin)	-

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6/27/2006	New Main control valve/ 1000 Hr. service/ new hyd. hoses	4,329 Hrs.----- Machine had a cracked main control valve leaking oil. Ordered new valve from Pat Kelly. We installed valve along with spool for boom circuit from old valve, the updated one that keeps the spool from spinning in the valve with the notch for the roll pin. After we had valve mounted and hooked up we had Dave from Pat Kelly come out and just double check pressures and set the ones that needed it. Dave adjusted pump pressure and controllers, adjusted servo valves, checked trouble codes ( had several broken temp. codes) cleared codes and inspected wiring to temp sensor and found no problems. Checked cycle times and they were OK. Ran some pressures and the notes are in the file. Performed a 1000 hr. service, changed engine oil and filter, fuel, inner and outer air, hyd., and pilot filters. Changed oil in the Checked all belts, hoses and coolant level. Check lights, seat belt, and seat condition. Inspect loader for pin and bushing wear. Inspect undercarriage for wear and noticed some of the lower track frame rollers leaking fluid. Replaced some broken mirrors, and two hyd. hoses top right of control valve which was made at crest. Also replaced some rollers that hold front window in track. (Rick A)	-
5/24/2006	Loose track frame roller	4296 Hrs.---Remove No.2 roller from front RH side and extract broken bolt out. Clean threads and remount roller with new bolts from Crest. (20MMx 100MM + 20MM x110MM) Torque bolts to 200 Ft. lbs. (Kevin)	-
5/1/2006	Hyd oil Leak	4208 Hours----- Checked hyd oil leak. Found swing motor shuttle valve plugs leaking reseat with new o-rings. Test run to see if still leaks it does not Leak any more. (Kevin)	-
3/6/2006	New track frame rollers	4112hrs.---Replaced 5 track frame rollers on left side, 3 new on right side. PTNo. 8LH90H. (K+D) ***** NOTE Still has 2 on left side and 1 on right side leaking. *****	-
2/14/2006	Damaged Tee Valve	4082-- Tee Valve Was Damaged On Control Valve .Replaced With PT.No. 731-718-77. (KW)	-
1/22/2006	Field Service	4,061 hrs.----- Changed the engine oil and filter, fuel filters and the outer air filter. Checked the fluid levels and greased the machine. Inspected the machine and test ran, ok. (Troy)  *****NOTE: The inner air filter needs to be replaced next service.*****	-
12/5/2005	Short Crowd Cyl Hose	3,844 hrs.----- The short crowd cylinder hose had blown, had to have the hose made at Bearing Hqtrs, ordered the proper hose to be installed, topped off the hyd oil. (Mike)	-
11/13/2005	St Service/ Pack Crowd Cyl Gland/ Front Windshield	3,798 hrs.----- Performed a standard service, changed the engine oil and filter, fuel filters and cleaned the outer air filter, inner ok. Checked the fluid levels, replaced o-rings in the control valve area, topped off the hyd oil. When painting the crowd cylinder, tape was left on the rod and the rod was closed causing the tape to damage the gland packing, removed the rod eye and gland, repacked the gland only. Checked and cleaned the batteries and connections, tested the charging system, ok at 27.6v. Checked the belts, hoses, lights, repaired the side door release lever, ordered a front upper windshield, Master's glass installed on the machine. Inspected the undercarriage, two track rollers were leaking slightly, left sided 3rd back and the right side 1st back, watch at this time. Washed the machine, greased and completed the work order check list. (Tim, Wally, Dean)	-
8/19/2005	Field Service/ Back-up Alarm	3,586 hrs.----- Changed the engine oil and filter, fuel filters and blew out the air filters. The outer air filter needs to be changed. Checked the fluid levels, repaired the back-up alarm, a wire was off of the switch. Looked the machine over, checked the fire extinguisher and blew out the radiator and condensor the best we could with air. (Kevin)	-
8/9/2005	Alternator	3,520 hrs.----- The machine was losing power, then when they shut down it would not restart, checked and found the alternator not charging. Installed a new alternator (NOT reman) from Milligan (ptNo. MDEGM21912, 24v-70amp, Delco, \$175). Charged the batteries, checked the connections and test ran the machine, ok. (Troy)	-
7/11/2005	Button Panel/ Foot + Hand Valves/ A/C/ Horn	3,377 hrs.----- Both the hand and foot valve poppets were leaking, replaced all four foot poppets (ptNo. 73176059) and eight on the hand poppets (ptNo. 73186023). Replaced the bellows around the foot poppets, replaced the rubber buttons in the control handles and replaced the floor mat with an aftermarket mat through Crest. The cab fan was not working, found the push button control in the right hand dash panel was the problem, replaced with a new panel assy from New Holland (ptNo. 73188712, \$180). Until recently the dash was only sold as an assembly and included the display, button panel, the computer board and the cover, the assembly was about \$5,000, now the items are able to be purchased separately. Removed the a/c compressor and sent to Manchester to identify, replaced the unit due to the mounting ears being broken, the new unit part number is a Sanden 15-SD8061NC, 24v (\$340). Vacuumed the system down and charged with 134a feon, tested ok. The horn was not working, replaced the horn with new (Napa ptNo. 730-1043). Tightened two track pads on the left track, repaired the grease lines on the dipper and bucket, topped off the hyd oil, checked the fluids and washed the machine. (Troy, Kevin)	-
6/30/2005	Boom Section Repair	3375 hrs.----- Pat Kelly finally recieved the parts to repair the boom section to keep the boom from bleeding off, they came out and replaced the parts with new updated style of spool that has a locator pin to keep it from spinning in the valve block. (Warranty from Pat Kelly)	-
5/25/2005	Crowd Cylinder Repair	3,354 hrs.-----The crowd cylinder has had problems bleeding off internally. The new cylinder that New Holland had sent and installed 9/22/04 with 2,424 hrs started bleeding off with about 650 hrs. on it. Pat Kelly repacked our old cylinder and installed it on the machine 4/4/05 and 3,092 hrs. This cylinder (the old cylinder) started bleeding off with about 40hrs. on the machine. Pat Kelly did some investigating and found the piston did not have the proper tolerance. They had not repaired our new cylinder yet so they sent the new cylinder and piston to a machine shop with the new prints from New Holland and had the piston welded and re-machine to the proper tolerance, they installed the new packing and pressure tested the cylinder. They brought the new cylinder out to the job and installed it onto the machine and checked the hydraulic pressures to the circuit and they were ok, (5,500psi). They are hoping that what was done will be a permanent repair. (Marty O'Brien with Pat Kelly)	-
5/9/2005	Field Service	3,268 hrs.----- Changed the engine oil and filter, fuel filters and outer air filter. Checked the fluid levels and repaired an o-ring on the top of the swing motor. (Troy)	-
4/3/2005	Install + Pack Old Crowd Cylinder	3,092 hrs.----- The crowd cylinder was bleeding off again, Pat Kelly Equipment Co. repacked the old cylinder that we have been having problems with and checked the piston, rod and tube for problems and could not find any. They installed the cylinder onto the machine so they could check the new cylinder. The problem with the new cylinder bleeding off started to occur at around 3,000 hrs and had gotten worse as it was used. This work should be under warranty.	-
2/1/2005	1,000 hr Service	2,956 hrs.----- Performed a 1,000 hr service, changed the engine oil and filter, fuel filters, checked the air filters (ok), changed both of the tank hyd filters, both pilot filters, water filter (BW5071), drained and filled the final drives (2 gal 85w140 ea) and drained and filled the swing gear planetary (6.5qts 85w140). Topped off the coolant, checked the condition and temp range, ok, checked the hyd oil level, track tension (tightened), back-up alarm, lights, batteries, connections and charging system, ok. The cab blower is only working on high, found the problem in the switch in the dash which is not service separately, the whole dash would have to be replaced. The compressor mounting ear was broken, removed the belt for now so it would not get too loose and come off while running. Washed and waxed the machine, completed the work order check list and greased the machine. (Tim, Troy, Todd)  *****When changing the swing gear oil, it has to be drained and filled from the bottom. Filling the planetary is very slow, it has to come up into the overflow reservoirs in the engine compartment. *****	-
12/15/2004	Bucket Rod Eye Coming Loose	2,744 hrs.----- The bucket rod eye was coming loose. Doug marked the threads and found the rod must be turning and backing out of the rod eye. Tightened the eye and added some 3/8" plates to the bucket stops. (Kevin)	-

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11/4/2004	Field Service/ Bucket Rod Eye	2,605 hrs.----- The bucket rod eye had gotten pulled off. The threads did not look like they were damaged on the rod just in the eye. Cleaned the threads, coated with anti-sieze and installed the new rod eye (ptNo. 73175247, \$1,643). Changed the engine oil and filter, fuel filter and checked the air filters, ok. Checked the fluid levels, greased the machine, ran and tested the machine, ok. (Mike, Troy)	-
9/23/2004	Reman Starter	2,440 hrs.-----When Troy was out installing the new cylinder they had trouble starting the machine. The starter stayed engage but not contacting the flywheel. Replaced the starter with a reman from Milligan (ptNo. REB1047911, \$225, 24v 42MT Delco/Remy), the new starter had a slightly different configuration to it. Had to move the nose on the starter, then had to trim the engine mount to get it to bolt up properly. (Troy)	-
9/21/2004	Warranty Crowd Cyl/ 3' Bucket Teeth	2,424 hrs.----- The crowd cylinder has been blowing the piston seal on a regular basis. Dave at Gateway Equipment talked to Howard with New Holland and they finally decided to send us a new cylinder under warranty. Installed the complete cylinder and removed the old cylinder to send back to New Holland. Installed new X450 teeth and keepers on the three foot bucket and topped off the hyd oil.(Troy)	-
9/1/2004	Field Service	2,356 hrs.----- Changed the engine oil and filter, fuel filters and the outer air filter. Checked the machine over, fluid levels and greased. (Troy)	-
7/20/2004	Repack Crowd Cyl Again	2,251 hrs.----- The machine's crowd cylinder was bleeding off again, Dave from Gateway and Troy removed the rod from the tube and checked, the rear piston seal and it was bad. Dave measured the cushion valve to check with New Holland to make sure it was the proper valve and re-installed it back into the machine. They said if it is wrong, it could be the reason the piston seals are failing because too high of pressure at the piston causing the seal to fail. It also looked like the last time Gateway had Val-Tec repack the cylinder they could have put some of the piston seals in the wrong spot. They resealed the piston and tested, ok. (Dave from Gateway + Troy)	-
7/14/2004	Hyd Adapter On RH Side of Valve	2,249 hrs.----- The hyd adapter fitting on the right side bottom of the main hyd valve had broken off at the tube. This fitting is located above a "T" that has a solenoid in the side of it and a hose on the bottom of the "T". The adapter that breaks had a NH ptNo. 73171876, we are stocking the fitting in all the service trucks and the metric bin from Crest with a ptNo. MFL-M-6510-H-12-18X1.5-EO. (Troy + Todd)	-
6/15/2004	Repack Crowd Cylinder Again	2,163 hrs.----Gateway NH removed the crowd cylinder again and sent to Val Tec to repack due to it bleeding off again. They claimed the packing was damaged, they are supposed to warranty the problem since it has been re-occurring. New Holland checked the valve to make sure there were not any problems on it by switching the reliefs, the problem stayed the same.	-
5/3/2004	Oil Pressure Sending Unit	2,097 hrs.---- The machine was shutting down when it would get under a heavy load and draw the engine down. A code came up as E9 which was a code for the engine oil pressure. If the machine's computer senses a problem with oil pressure it would shut down, when the engine rpm's would drop down, the sending unit that was going bad was showing low or no oil pressure causing the shut-down. When the sending unit was no longer working the machine shut down and would no longer start back up. Replaced the oil pressure sending unit (ptNo. 73177386) from New Holland. (Troy)	-
4/30/2004	1,000 hr. Service/ Back-up Alarm	2,092 hrs.----- Performed a 1,000 hr service, changed the engine oil and filter, fuel filters, inner air filter, outer air filter, oil in both final drive planetaries (2.6 gal. of 85w140 ea.), both hyd tank filters (ptNo.'s 73170309, qty2) along with the necessary o-rings and both pilot hyd filters (ptNo.'s 73170668, qty2) also with any o-rings. Checked the hyd oil level, added 10 gallons, checked the swing gear oil, ok, but we will need to change next service. The back-up alarm was not working, replaced the alarm with an Ecco Smart Alarm (ptNo. EC-SA931). Repaired the side door hold-open latch, performed the check list and greased the machine. (Kevin)	-
4/25/2004	Repack Crowd Cylinder	2,069 hrs.----- The crowd cylinder was bleeding off again, Gateway removed the cylinder and took it to Val-tec who resealed it using the New Holland packing kit. They installed the cylinder back on the machine and checked with the operator a couple days later and it seems to be working ok. The problem started to occur about 1-2 weeks before the cylinder had gotten sealed. (New Holland warranty)	-
4/12/2004	Bucket Cylinder Hoses	2,005 hrs.----- The hose that runs from the block on the tube end of the cylinder to the rod end had gotten damaged, replaced with new (ptNo. 73177514). Both bucket loop hoses for the short dipper were scraped up badly, replaced only one on the left and ordered the other (ptNo. 73177512), on the short dipper they are the same. (Kevin)	-
3/1/2004	Field Service	1,816 hrs.----- Changed the engine oil and filter, fuel filters and check the air filters, they were ok. Repaired a grease fitting on the crowd cylinder checked the fluid levels and checked the machine over. (Troy + Mike)	-
2/25/2004	STC Valve + Injectors	1,815 hrs.-----Cummins Gateway replaced the STC valve with an updated electronic valve to prevent cavitation in the injector tips. They also replaced the injectors at the same time with reman injectors. After fighting over warranty they did do the work under warranty. Back when they worked on the 600 they had taken a part off the 450 to use on the 600, but no one had bought it yet and it was still in New Hollands lot, at that point Cummins put the start date on the 450. Gary Mertz got the problem cleared up and everything is good now. Larry in service and Bob Thielmann is who we worked with to get the problem figured out.	-
2/9/2004	One Injector	1,761 hrs.----- We had a smoking problem, Cummins Gateway came out and tested the individual injectors and found there was one bad injector already. Replaced the injector with a reman and ordered the electronic STC Valve kit to replace the manual one to fix the injector problems. Talked to Larry (service manager) and Ron (field mechanic).	-
2/4/2004	Fuel + Clean Air Filters/ Excessive Black Smoke	1,738 hrs.---- The operator reported excessive black smoke when the engine is loaded. Removed and cleaned air filter, (they were not dirty), Checked the air intake hoses for restriction and changed the fuel filters then ran the machine. It still was smoking as before. Called New Holland and talked to Dave in service, they are going to talk to Cummins and see if they can check the computer since it controls the fuel. (Troy)	-
12/30/2003	Master Switch	The master switch had failed, replaced with new under warranty from Gateway (ptNo. 73175263, \$113.23). (Troy)	-
12/29/2003	Broken Hyd Fitting	1,598 hrs.----- A fitting broke on the right side of the main control valve ( Gateway New Holland ptNo. 73171876). Topped off the hyd oil with 10 gallons of Rykon 68 and installed the two corner bucket teeth on the three foot bucket. (Troy)	-
12/15/2003	Field Service	1,561 hrs.----- Changed the engine oil and filter, fuel filters and the outer air filter. Removed the long dipper and bucket, moved the machine and installed short dipper onto the machine and greased. Checked the fluid levels. (Troy)	-
10/23/2003	Fuel Injectors	1,416 hrs.---- The machine started to black smoke, we checked the air, turbo and fuel, had New Holland come down, they thought it was something with the engine wiring. Cummins Gateway came out, they removed the injectors and had them rebuilt. There were three that had the tips bad (total \$1,292) There is a valve called an STC valve that controls the fuel pressure to the injectors, it is controlled by engine oil pressure. The STC valve on our machine is manual, the shift of the valve during aceleration with the manual valve can cause injector cup cavitation due to the sudden shift of pressure. Cummins recommends up-dating our valve to the new electronic valve, it is smoother and does not cause the cavitation the manual valve does. If it is not covered under warranty the cost is about \$1,400.	-
9/24/2003	Warranty The Crowd Rod + Eye	1,306 hrs.----- The crowd cylinder rod eye pulled off the rod, Gateway replaced the rod and eye with new and had Val-tec repack the cylinder, all under warranty.	-
9/11/2003	Field Service	1,274 hrs.-----Changed the engine oil and filter, fuel filters and cleaned the outer air filter. (Troy)	-
8/21/2003	Warranty On Boom Section	1,200 hrs. (approximate hours)--- Gateway Equipment went to the job site and replaced the cap on the boom section to slow down the problem with the boom dropping. It is the same problem we were having with No.182. They are making the proper repair at New Holland.	-

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Originated	Work Requested	Action Taken	Comments
7/15/2003	Field Service	977 hrs.----- Changed the engine oil and filter, outer air filter and cleaned the inner. Forgot the fuel filters so they need to be changed next time up to job site. (Troy)	-
6/1/2003	Drive Motor To Swivel Hose	802 hrs.----- Replaced the hose from the top of the drive motor to the swivel area hose. The hose should be warranty (ptNo. 73175196).	-
5/13/2003	Exhaust Bracket/ Hyd Filters	737 hrs.---Gateway changed all hyd oil filters, tank, pilot and return filters. They also replaced the exhaust bracket for the pipe to the turbo. (the bracket was under warranty.	-
5/9/2003	Service	716 hrs.----- Changed the engine oil and filters, fuel filters and the outer air filter. Found a support bracket for the exhaust pipe broken, ordered from Gateway.	-
5/6/2003	Re-pack Crowd Cylinder	704 hrs.----- The crowd cylinder was bleeding off only when you would crowd out, it would bleed in. Capped off the cylinder and it was acting the same way. Gateway removed the cylinder and sent it to Val-Tec, they repacked the cylinder and Gateway installed it back onto the machine, Warranty.	-
3/4/2003	Service	476 hrs.-----Changed the engine oil and filter, fuel filter, inner and outer air filters.	-
12/29/2002	Service	276 hrs.----- Changed the engine oil and filter, fuel filter and the outer air filter.	-