

TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS TENDER FOR A 2019 OR 2020 FOUR WHEEL DRIVE BACKHOE

MACHINE SPECIFICATIONS – THE LOADER BACKHOE SHALL BE EQUIPPED WITH THE FOLLOWING SPECIFICATIONS

ENGINE

Y	N	4 CYCLINDER, TURBOCHARGED DIESEL ENGINE WITH A MINIMUM 108 NET HORSEPOWER AT 2200 RPM
Y	N	DIESEL OXIDATION CATALYST WITH SCR
Y	N	ENGINE DISPLACEMENT WITH 207 CUBIC INCHES
Y	N	MINIMUM SAE NET TORQUE RATING OF 338 FT-LBS AT 1400 RPM
Y	N	TORQUE RISE OF 29% AT RATED SPEED
Y	N	TIER 4 FINAL CERTIFIED PER FEDERAL EMISSIONS STANDARDS
Y	N	PARENT METAL BORE DESIGN
Y	N	DIRECT HIGH PRESSURE COMMON RAIL FUEL INJECTION
Y	N	INTERNAL OIL COOLER
Y	N	INTEGRAL WATER PUMP
Y	N	ENGINE SHALL BE EQUIPPED WITH 9 BLADE SUCTION FAN WITH MINIMUM DIAMETER OF 19.6 INCHES
Y	N	ASPIRATED DUAL STAGE AIR BREATHER
Y	N	POLY V-BELT FOR FAN AND ALTERNATOR
Y	N	AUTOMATIC SELF ADJUSTING BELT
Y	N	VERTICAL SPIN ON ENGINE FILTER
Y	N	COLD WEATHER STARTING AID TO BE THAT OF NON ETHER BASED SYSTEM
Y	N	LIQUID COOLED ENGINE
Y	N	500 HOUR ENGINE OIL CHANGE INTERVAL
Y	N	AUTO ENGINE PROTECTION SHUTDOWN
Y	N	ECO MODE DETENT ON BACKHOE HAND THROTTLE, PUSH SWITCH ON DASH INCLUDING AUTO IDLE AND AUTO SHUTDOWN

Y N MASTER DISCONNECT SWITCH AND REMOTE JUMP START TERMINALS

ELECTRICAL

Y N 12 VOLT ELECTRICAL SYSTEM

Y N MINIMUM 160 AMP ALTERNATOR

Y N SINGLE BATTERY WITH 850 COLD CRANKING AMPS

Y N OPTIONAL DUAL BATTERIES WITH CCA (EACH)

Y N POWER PLUGS 30 AMPS TOTAL

FULLY SYNCHRONIZED TRANSMISSION

Y N TORQUE CONVERTER DRIVE WITH A FULLY SYNCHRONIZED TRANSMISSION

Y N FOUR FORWARD SPEEDS AND THREE REVERSE SPEEDS ON POWERSHIFT S-TYPE TRANSMISSION

Y N FOUR FORWARD SPEEDS AND FOUR REVERSE SPEEDS ON POWERSHUTTLE TRANSMISSION

Y N MINIMUM FORWARD TRAVEL SPEED OF 23MPH WITH STANDARD TIRES

Y N MINIMUM REVERSE TRAVEL SPEED OF 16.4 MPH WITH STANDARD TIRES

Y N ELECTRIC FORWARD/REVERSE SHUTTLE SHIFT

Y N PLANETARY TRANSMISSION GEARS

Y N CLUTCH DISCONNECT BUTTON ON SHIFT LEVER

Y N CLUTCH DISCONNECT BUTTON ON LOADER CONTROL LEVER

Y N SHALL HAVE A KICKDOWN FUNCTION FOR EASE OF OPERATON OF POWERSHIFT TRANSMISSION

POWER TRAIN

Y N THE LOADER BACKHOE POWERTRAIN SHALL BE COMPONENTIZED

Y N HEAVY DUTY AXLES WITH BRAKE THAT CAN BE SERVICED WITHOUT REMOVING THE AXLE FROM THE FRAME

Y N ON THE GO ELECTRO HYDRAULIC REAR DIFFERENTIAL LOCK ENGAGEMENT

Y N LUBE FOR LIFE DRIVE SHAFT CROSS BEARINGS

Y N A SINGLE FILL AND CHECKPOINT FOR REAR AXLE SHALL BE STANDARD EQUIPMENT

THE POWER SHIFT TRANSMISSION SHALL PROVIDE THE FOLLOWING:

- Y N MINIMUM OF FOUR FORWARD AND THREE REVERSE SPEEDS
- Y N SHALL HAVE A KICKDOWN FUNCTION FOR EASE OPERATION

FOUR WHEEL DRIVE UNITS INCLUDE THE FOLLOWING FEATURES:

- Y N CONVENTIONAL DIFFERENTIALS IN THE FRONT AXLE
- Y N CONVENTIONAL DIFFERENTIALS IN THE REAR AXLE
- Y N FRONT AXLE WITH A MINIMUM OF 74.3 INCH FIXED TREAD WITH 14 X17.5 TIRES
- Y N ON THE GO ELECTRIC FOUR WHEEL DRIVE ENGAGEMENT
- Y N FRONT AND REAR AXLES WITH OUTBOARD PLANETARIES
- Y N SINGLE DOUBLE ROD STEERING CYCLINDER
- Y N STEERING CYCLINDER LOCATED BEHIND THE AXLE
- Y N LUBE FOR LIFE DRIVE SHAFT CROSS BEARINGS

THE AXLE LOAD RATING SHALL BE:

- Y N FRONT AXLE 2WD MAXIMUM STATIC 65, 506LBS MINIMUM
- Y N FRONT AXLE 4WD MAXIMUM STATIC 67, 883LBS MINIMUM
- Y N REAR AXLE MAXIMUM STATIC 70, 848 LBS MINIMUM
- Y N FRONT AXLE 2WD DYNAMIC OPERATING 44, 261LBS MINIMUM
- Y N FRONT AXLE 4WD DYNAMIC OPERATING 47, 426LBS MINIMUM
- Y N REAR AXLE DYNAMIC OPERATING 49 494 LBS MINIMUM
- Y N FRONT AXLE 2WD STATIC OPERATING 17,704LBS MINIMUM
- Y N FRONT AXLE 4WD STATIC OPERATING 18 969LBS MINIMUM
- Y N REAR AXLE STATIC OPERATING 19 798LBS MINIMUM

BRAKES

- Y N FULLY HYDRAULIC, MULTIPLE WET DISC BRAKE LOCATED OUTBOARD
- Y N LOW EFFORT, POWER BOOSTED OIL COOLED BRAKES
- Y N BRAKES OPERATED BY TWO SUSPENDED BRAKE PEDALS
- Y N MAINTENANCE FREE AND SELF ADJUSTING
- Y N SPRING APPLIED HYDRAULICALLY (SAHR) RELEASED PARKING BRAKE

LOADER AND LINKAGE FEATURES

- Y N THE LOADER ARMS SHALL BE HEAVY DUTY AND IN LINE
- Y N ARCH DESIGN FOR SHORT TURNING CIRCLE
- Y N DUAL PARELLEL LIFT CYCLINDERS
- Y N CUSHIONED LOADER CYCLINDERS
- Y N AUTOMATIC RIDE CONTROL WITH ADJUSTABLE SPEED SETTING 4WD ONLY

THE LOADER LINKAGE SHALL HAVE THE FOLLOWING FEATURES:

- Y N DUAL PARELLEL BUCKET CYCLINDERS
- Y N CUSHIONED BUCKET CYCLINDERS
- Y N BUCKET CYCLINDERS WITH REVERSE LINKAGE
- Y N DUAL CAST DUMP LINKS TO BUCKET
- Y N FULL BUCKET ROLLOVER FOR DOZING
- Y N FULL BUCKET ROLLOVER FOR STABILITY IN BACKHOE OPERATION
- Y N AUTOMATIC BUCKET SELF LEVELING
- Y N RETURN- TO – DIG

LOADER BUCKET

- Y N THE LOADER BUCKET SHALL BE A MINIMUM OF 93 INCHES WIDE WITH A 1.29 CUBIC YARD HEAPED CAPACITY
- Y N REAR BUCKET ROLLED WRAPPER
- Y N PRE DRILLED EDGE
- Y N HEAVY DUTY LIFTING EYES
- Y N BUCKET POSITION INDICATOR
- Y N MINIMUM SAE DUMP CYLINDER BREAKOUT FORCE OF 12 776 POUNDS FORCE
- Y N MINIMUM SAE LIFT CAPACITY TO FULL HEIGHT OF 8202 POUNDS
- Y N MINIMUM SAE DUMP CLEARANCE OF 8 FEET 11 INCHES AT FULL HEIGHT AND 45 DEGREE DUMP ANGLE
- Y N MINIMUM SAE DUMP REACH OF 29.2 INCHES AT FULL HEIGHT AND 45 DEGREE DUMP ANGLE
- Y N MINIMUM HINGE PIN HEIGHT OF 11 FEET 5.6 INCHES
- Y N MINIMUM DIG DEPTH BELOW GROUND OF 6.2 INCHES
- Y N MAXIMUM LOADER LOWERING TIME (POWER DOWN) OF 2.5 SECONDS

- Y N MAXIMUM LOADER LOWERING TIME RETURN-TO-DIG OF 3.8 SECONDS
- Y N MAXIMUM BUCKET DUMPING TIME 2.0 SECONDS
- Y N MAXIMUM BUCKET RAISING TIME TO FULL HEIGHT OF 3.7 SECONDS

BACKHOE AND CONTROLS

- Y N GREASE PINS IN THE SWING TOWER TO BOOM BASE
- Y N REPLACEABLE BUSHINGS IN THE SWING TOWER TO BOOM BASE MOUNTING PINS
- Y N MECHANICAL BUCKET COUPLER
- Y N UNIVERSAL MECHANICAL COUPLER
- Y N OPTIONAL EXTENDABLE EXTERIOR DIPPER STICK
- Y N EXTENDABLE DIPPER STICK CAN BE PINNED TO PREVENT MOVEMENT
- Y N INTERNAL BOLT ON REPLACEABLE WEAR STRIP FOR EXTENDABLE DIPPER STICK
- Y N 700 POUND FRONT MOUNTED COUNTER WEIGHTED FOR EXTENDABLE HOE
- Y N STABILIZERS FULLY RETRACTABLE WITHIN THE WIDTH OF TIRES
- Y N OVER CENTER BACKHOE DESIGN FOR IMPROVED BALANCE DURING TRANSPORT AND ROADING

- Y N OPTIONAL INTEGRATED HYDRAULIC BACKHOE COUPLER WITH IN CAB CONTROLS

- Y N PRO CONTROL SYSTEM TO PROVIDE PRECISE CONTROL AND ELIMINATE OVER SWING

- Y N STANDARD SERRATED TEETH ON DIPPER ARM FOR GRIPPING OBJECTS AND AVAILABLE OPTIONAL TEETH

- Y N SEGMENT EXTENSIONS

- Y N THE BACKHOE CONTROLS SHALL BE AN ERGONOMIC DESIGN WITH LOWER LEVER EFFORT

- Y N STANDARD LEVER CONFIGURATION SHALL BE OF THREE LEVER DESIGN

- Y N FACTORY OPTIONAL OF TWO LEVER DESIGN WITH CONTROL PATTERN

- Y N FACTORY OPTION FOR TWO LEVER PILOT CONTROLS WITH CONTROL PATTERN CHANGE SWITCH

- Y N PILOT CONTROLS SHALL HAVE FORE AFT AND LATERAL POSITION ADJUSTMENT

Y N PILOT CONTROLS MUST HAVE WRIST INFINITE DISTANCE ADJUSTMENTS WITH REACH OF THE OPERATOR

Y N PILOT CONTROLS SHALL BE EQUIPPED WITH AUTO UP STABILIZERS

Y N HYDRAULIC LOCKOUT ACTIVATION AND PATTTERN CHANGER MOUNTED TO THE PILOT CONTROL TOWER WITHIN OPERATOR REACH

BACKHOE BUCKET

Y N THE BACKHOE BUCKET SHALL BE HEAVY DUTY

Y N AVAILABLE IN 12 TO 36 INCH WIDTHS

OPERATING CONFIGURATION

CONFIGURATION-NO OPERATOR 4:1 LOADER BUCKET, EHOE, CAB W/HEAT AND AC, RIDE CONTROL, ECO MODE, HEAVY LIFT, FULLY FUELED, 24 IN HD BH BUCKET 4WD, BOOM GUARD,

BIG FRONT COUNTERWEIGHT, QUICK COUPLE BH, BH AUX, PILOT BH CONTROLS, GALAXY [14-17.5@50PSI](#) FRONT

Y N TIRES GOODYEAR 21 L -24@28PSI REAR TIRES 20, 532LBS

TRACTOR DIMENSIONS

Y N MAX. WHEEL BASE OF 84.5 INCHES

Y N MAX. TRANSPORT HEIGHT OF 11 FEET 7.3 INCHES

Y N MAX. OVERALL TRANSPORT WIDTH OF 7 FEET 9 INCHES

Y N MAX. HEIGHT OF 8 FEET 111 INCHES TO TOP OF CAB /8 FEET 9.4 INCHE TO TOP OF CANOPY

Y N MAX. HEIGHT TO TOP OF EXHAUST STACK OF 8 FEET 9.1 INCHES

BACKHOE STANDARD HOE

Y N MIN. SAE DIG DEPTH WITH STANDARD OVER CENTER BACKHOE FOR 24 INCH FLAT BOTTUM OF 15 FT 4.8INCHES

Y N PROVIDE POWER LIFT FEATURE

Y N MIN. DIGGING FORCE, BUCKET CYCLINDER 15,132POUNDS

Y N MIN. DIGGING FORCE , DIPPER CYCLINDER 10,575POUNDS

Y N MAX. STABILIZER SPREAD IN OPERATING POSITION OF 10FT OF 4204 POUNDS

Y N MIN. BOOM LIFT CAPACITY AT 12 FT 4160POUNDS

Y N MIN. DIPPER LIFT CAPACITY AT 10 FT 6891 POUNDS

Y N MIN. DIPPER LIFT CAPACITY AT 12 FT 6651POUNDS

- Y N MIN. BOOM LIFT CAPACITY AT 10 FT 4456 POUNDS POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 12 FT 4409 POUNDS POWER LIFT

BACKHOE EXTENDAHOE

- Y N MIN. SAE DIG DEPTH WITH OVER CENTER BACKHOE FOR 24 INCH FLAT BOTTOM OF 19 FT 5 INCHES
- Y N PROVIDE POWER LIFT FEATURE
- Y N MIN. DIGGING FORCE, BUCKET CYLINDER, 15 132 POUNDS FORCE RETRACTED EXTENDED.
- Y N MIN. DIGGING FORCE, DIPPER CYLINDER, 10575 POUNDS RETRACTED
- Y N MIN. DIGGING FORCE, DIPPER CYLCINDER, 7392 POUNDS EXTENDED
- Y N MAX. STABILIZER SPREAD IN OPERATING POSITION OF 10FT 8.5 INCHES FLIP PADS
- Y N MIN. BOOM LIFT CAPACITY AT 10FT OF 3937 POUNDS (RETRACTED)
- Y N MIN. BOOM LIFT CAPACITY AT 10 FT. OF 3051 POUNDS EXTENDED
- Y N MIN. BOOM LIFT CAPACITY AT 12 FT OF 3898 POUNDS RETRACTED
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 3037 POUNDS EXTENDED
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 6650 POUNDS RETRACTED
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 4849 POUNDS EXTENDED
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 6409 POUNDS RETRACTED
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 5252 POUNDS EXTENDED
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 4188 POUNDS RETRACTED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 3246 POUNDS EXTENDED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 4147 POUNDS RETRACTED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 3231 POUNDS EXTENDED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 6650 POUNDS RETRACTED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 10FT 4849 POUNDS EXTENDED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 6409 POUNDS RETRACTED POWER LIFT
- Y N MIN. BOOM LIFT CAPACITY AT 12FT 5252 POUNDS EXTENDED POWER LIFT

OPERATOR ENVIRONMENT

Y	N	THE LOADER BACKHOE SHALL HAVE A CAB WITH ONE DOOR ON THE LEFT SIDE OF MACHINE
Y	N	POWER LIFT FUNCTION TO INCREASE BACKHOE HYDRAULIC PRESSURE TO INCREASE LIFT CAPACITY WHILE REDUCING THE ENGINE RPM DECREASING THE DBA AND FUEL CONSUMPTION
Y	N	MIN. OF FOUR ISOLATION MOUNTS
Y	N	INSULATION FOR MAX. TEMPERATURE AND SOUND CONTROL
Y	N	SOUND LEVEL MAX. 72 DBA
Y	N	COMFORT STEER
Y	N	OPTIONAL LEFT AND RIGHT HAND DOORS
Y	N	SUSPENDED BRAKE PEDALS
Y	N	SUSPENDED ACCELERATOR
Y	N	ELECTRO HYDRAULIC DIFFERENTIAL LOCK
Y	N	TRANSMISSION SHIFT LEVER WITHIN EASY REACH OF THE OPERATOR AND INTEGRATED CLUTCH DISCONNECT BUTTON
Y	N	ALL GLASS SURFACES FREE OF RUBBER MOLDINGS
Y	N	REAR SIDE GLASS SWING OPEN 180 DEGREES, BOTH SIDES
Y	N	FRONT AND REAR WINDSHIELD WIPERS
Y	N	INTERIOR DOME LIGHT
Y	N	INTERIOR REAR VIEW MIRROR
Y	N	RETRACTABLE SEAT BELT
Y	N	DELUXE SUSPENSION SEAT
Y	N	BUILT IN MOLDED CUP HOLDER
Y	N	FRONT CONSOLE STORAGE AREA
Y	N	SINGLE HANDLE LOADER CONTROL WITH TOP MOUNTED CLUTCH CUT OUT BUTTON
Y	N	AUX. LOADER HYDRAULIC CONTROL BUILT INTO THE SINGLE HANDLE LOADER CONTROL
Y	N	FORWARD/REVERSE POWER SHUTTLE LEVER MOUNTED ON THE STEERING COLUMN
Y	N	PARK BRAKE SWITCH LOCATED WITHIN EASY REACH TO THE RIGHT OF OPERATOR

Y N OPERATOR WARNING SYSTEM THAT ALERTS THE OPERATOR WITH AUDIBLE ALARM WHEN THE PARKING BRAKE IS APPLIED AND THE OPERATOR ENGAGES THE FORWARD/REVERSE LEVER

Y N INSTRUMENTATION LOCATED TO RIGHT OF THE OPERATOR

Y N TWO ACCESSORY POWER PLUGS

THE LOADER BACKHOE CAB ALSO SHALL HAVE THE FOLLOWING FOR BACKHOE OPERATION:

Y N EASY TO SWING SEAT TO ACCESS BACKHOE CONTROLS

Y N AUDIBLE ALARM TO ALERT OPERATOR OF TRANSMISSION ENGAGEMENT WHEN SWINGING SEAT

Y N THREE LEVER BACKHOE CONTROLS

Y N FOOT PEDALS FOR BACKHOE SWING

Y N OVER CENTER BACKHOE RELEASE INSIDE THE CAB

Y N ROTARY THROTTLE CONTROL LOCATED WITHIN EASY REACH TO THE LEFT OF THE OPERATOR

Y N STABILIZER CONTROLS LOCATED TOGETHER TO PERMIT ONE HAND OPERATION

HYDRAULICS

Y N THE LOADER HYDRAULICS SHALL BE CLOSED CENTER AND ALLOW FOR SMOOTH LOADER OPERATION

Y N THE BACKHOE HYDRAULICS SHALL BE VARIABLE VOLUME AND ALLOW FOR SMOOTH BACKHOE OPERATION

Y N VARIABLE DISPLACEMENT AXIAL PISTON PUMP, DUAL MODE TORQUE REGULATION

Y N TOTAL PUMP FLOW TO BE 43GPM AT 2340PSI AVAILABLE TO THE LOADER VALVE AND BACKHOE VALVE

Y N ALLOWS OPERATION OF OPTIONAL HAND HELD HYDRAULIC TOOLS

Y N ANTI CAVITATION VALVES IN THE DIPPER AND LOADER CIRCUIT

Y N PILOT OPERATED CHECK VALVES FOR STABILIZERS AND BOOM CIRCUIT

Y N ANTI REBOUND VALVE FOR BACKHOE SWING PRECISION

Y N FACTORY INSTALLED BACKHOE AUX. HYDRAULICS TO BE OF A UNI-DIRECTIONAL OR COMBO DIRECTIONAL DESIGN WITH ADJUSTABLE FLOW CONTROL.

Y N PILOT CONTROLS

Y N RIDE CONTROLS

SERVICEABILITY

Y N THE LOADER BACKHOE SHALL BE EASY TO SERVICE FROM GROUND LEVEL

Y N TILT HOOD THAT PERMITS ACCESS TO THE ENGINE WITH THE LOADER ARMS RAISED OR LOWERED

Y N REMOTE HYDRAULIC TEST PORTS FOR GROUND LEVEL SERVICE DIAGNOSIS

Y N OPTIONAL REMOTE BATTERY DISCONNECT SWITCH AND JUMPSTART

Y N MIN. 35 GALLON SIDE MOUNTED FUEL TANK

Y N MIN. HYDRAULIC SYSTEM TOTAL FILL OF 3.6 GALLON DEF TANK

Y N MIN. TRANSMISSION TOTAL SYSTEM FILL OF 21 QUARTS(4WD)

Y N MIN. ENGINE OIL FILL WITH FILTER 8.5 QTS.

Y N MIN. 55 QT. HYDRAULIC RESERVOIR

Y N MIN. WINDOW WASHER RESERVOIR FILL OF 3 QT.

Y N LUBE FOR LIFE DRIVELINE COMPONENTS

Y N REMOTE FRONT AXLE PIVOT LUBRICATION FITTING

Y N 500HR SERVICE INTERVAL FOR ENGINE OIL

Y N HARD COPY OF UNIT MACHINE AND PARTS MANUALS

WARRANTY

Y N FULL MACHINE WARRANTY OF 12 MONTHS, UNLIMITED HOURS

Y N ENGINE WARRANTY OF TWO YEARS OR 2,000 HRS

THE TENDERED BACKHOE SHALL HAVE THE FOLLOWING ADDITIONAL ATTACHMENTS/OPTIONS

SPARE FRONT TIRE W/RIM

LIGHTS BLUE AND AMBER MOUNTED ON ROOF OF CAB

SIDE MIRRORS MOUNTED ON CAB CORNERS FOR IMPROVED VISIBILITY

FRONT FENDERS MOUNTED TO REAR OF FRONT TIRES

REAR THUMB MOUNTED ON REAR BACKHOE

SNOW BUCKET W/ QUICK CONNECT

EARTH BUCKET W/ QUICK CONNECT

FORKS W/ QUICK CONNECT

C/W HEAVY DUTY BATTERY FOR ELECTRICAL SYSTEM MINIMUM 1000 COLD CRANKING AMPS

OPTIONS FOR EXTENDED WARRANTY