

SPECIFICATIONS DESCRIBING A NEW RUBBER TIRE WHEEL LOADER/BACKHOE

GENERAL

It is the intent of this specification to describe the minimum requirements for a 4 x 4 industrial wheel loader backhoe for use by the ***Your Agency*** with a unitized main frame design and center mounted rear backhoe. The unit must be a new, unused model that is in current production. Modifications of existing models to meet these specifications will not be accepted. All equipment and accessories catalogued as standard shall be included as part of this specification. Models must comply with S.A.E. standards and OSHA, Federal and State regulations.

OPERATING WEIGHT

The complete unit in a fully serviced condition including fuel, oil, water and other standard accessories shall not be less than 14,600 lbs. This weight shall not include hydro-inflation in the tires, additional counter weights or optional equipment even if specified.

ENGINE

Type: 4 cylinder 4 cycle turbo charged diesel.

S.A.E. Gross Horsepower: 80 Minimum.

S.A.E. Net Horsepower: 75 Minimum.

Torque: Minimum 231 net 1,400 RPM.

Displacement: 243 cubic inches.

Air Filtration: Dry cyclonic air filter with replaceable element(s). Shall include filter blockage indicator as indicated as standard.

Fuel Filtration: Cartridge type with a fuel/water separator, 5 microns.

Fuel Capacity: 33.6 US Gallons.

Cold weather Starting Aid: Glow plug thermo assist.

A vertical muffler with exhaust extension and rain cap.

All other manufacturer's standard accessories necessary for full protection of the engine's operation.

TRANSMISSION/POWER TRAIN

Four Wheel Drive.

Type: Fully synchronized with single stage dual phase hydrokinetic torque converter.

Stall Ratio: 2.4:1

Speeds: 4 forward/4 reverse.

Travel Speed: 21 MPH minimum, forward and reverse.

A power shuttle reverser required for loader operation.

Drive Train: Componentized for serviceability

Rear Axle: Outboard planetary reduction type with load capacity: 55,125 lbs. Static 27,562 lbs.

Dynamic torque proportioning self-locking front and rear differentials.

Front Axle: Outboard planetary with minimum 16 degree oscillation with load capacity: 36,383 lbs. Static, 18,300 lbs. dynamic.

Service Brakes: Hydraulically actuated fully enclosed oil immersed operation: 2 foot pedals for individual or simultaneous operation.

The service and park brake must be capable of holding the unit fully loaded.

System: 12 Volts.

Alternator: 90 Amperes.

Battery: Single 120 AMP hour 780 cold cranking amps at 32 degrees.

All wire connectors protected from moisture and dust. Automotive type fuse protected.

GAUGES/MONITORS

Manufacturer's standard performance gauges and indicators to include but not limited to: Fuel gauge, tachometer, hour meter and engine coolant temperature, also engine oil pressure, torque converter temperature and charge indicators.

Filter Size: 10 Microns.

Hydraulic oil cooler required.

Manually operated hydraulic speed control varies flow to loader or backhoe for speed or power.

BACKHOE

Extendible Dipper.

Adjustable wear strips.

Digging depth S.A.E. Max: 16' 1" retracted to 20' 0" extended.

Reach from rear axle centerline: 23' 4" retracted to 26' 11" extended.

Loading Height Clearance: 12' retracted to 13' 4" extended.

Bucket Cylinder Digging Force: 11,832 lbs., minimum.

Dipper Cylinder Digging Force: 7,188 lbs., minimum (retracted).

Bucket Rotation: 201/185 degrees.

Dipper Lift Capacity (boom at 63 degrees) 6,800 lbs. at 4 feet (retracted).

Boom Lift Capacity to Full Height: 3,060 lbs.

Individually controlled stabilizers with reversible rubber street pads.

Stabilizer Spread: 12' 2" minimum. Controls: 2 lever low effort.

One (1) 12" and one (1) 24" digging bucket with teeth shall be supplied.

One (1) 36" mud bucket with bolt on cutting edge shall be supplied.

Buckets are to be hard faced to County's satisfaction.

A positive locking device for boom and swing is required while in transport position. Chains for locking the boom in transport position are not acceptable.

LOADER

Loader Bucket with bolt on cutting edge shall be supplied. Multi purpose (4 in 1) 1 ¼ cubic yard capacity heaped.

Auxiliary control valve and controls.

Cylinders: 2 lift cylinders/2 dump cylinders.

Self Leveling Bucket: Mechanical.

Loader Bucket Lift Capacity to Full Height (With multipurpose bucket): 6,700 lbs., minimum.

Loader Bucket Breakout Force: 12,250 lbs. minimum.

Loader Arm Breakout Force: 11,684 lbs. minimum.

Loader Bucket Hinge pin Height (Multipurpose Bucket) 11' 4" minimum.

Reach at 45 Degree Dump: 2' 8" minimum.

Digging Depth: 3" minimum.

Bucket Rollback: 46 degree's minimum.

The loader is to be operated by a single lever with a float position.

A bucket level indicator must be provided.

The Bucket is to be hard faced to County's satisfaction.

OPERATORS STATION

Fully enclosed isolation mounted ROPS/FOPS certified. The cab shall be designed for use with the backhoe and manufactured by the supplier of the complete unit being bid.

Flat deck design with 2 door entry.

Seat: Suspension mounted, cloth covered, swing around for use with both loader and backhoe.

Equipped with arm rests.

Tinted side and rear windows fully openable for ventilation. Windows shall allow for excellent visibility to all outside areas of the loader/backhoe.

Heater/defroster (minimum of 19,000 BTU heater), windshield wipers front and rear.

Sound suppressing floor mat and head liner.

Air Conditioning (O.E.M. only).

Seat Belts: 3" wide retracting.

Instrumentation gauges to be grouped to facilitate easy visibility when operating the loader or in the backhoe position.

Adequate hand rails and self cleaning steps must be provided for easy access into the operator's station.

The maximum sound level requirement at the operator's ear will be no more than 85 decibels in an 8 hour period.

Notwithstanding requirements elsewhere in this specification, the cab shall have two front Halogen work lights, two rear Halogen work lights with separate switches, turn signal/warning lights, two stop and tail lights and dome light. There shall also be a horn front and rear that can be operated from the loader or backhoe position.

AM/FM radio, with digital clock. (O.E.M. only).

OTHER FEATURES

Back Up Alarm.

Rear Mounted Slow Moving Vehicle Emblem

Backhoe Lifting Hook.

Hydraulic Stabilizer Lockouts.

Backhoe Transport Lock: Inside Operated.

Front and Rear Turn Signals/Flashers.

Front Headlights.

Front and Rear Roof Mounted Halogen Work lights.

Loader Cylinder Safety Strut.

Full Instrument Vandal Protection.

Rear fenders shall be provided.

A foot and hand throttle shall be provided.

Electrical system shall be multiple fuse or circuit breaker protected and shall be easily accessible from the operator's compartment.

Mirrors. One interior and two (2) exterior rear view.

Austin model 2020 HA amber strobe light mounted on top of the cab with a brush type protector cover.

A toolbox shall be installed. Location, size and configuration will be approved by ***Your Agency*** prior to installation.

Paint non-skid to all walking surfaces. Tape will not be accepted.

PAINT

Paint complete unit yellow. A minimum of one coat of primer will be applied followed by three top coats of a high quality automotive acrylic enamel.