State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
7011EC08	3

ADDRESS CORRESPONDENCE TO ATTENTION OF:
BUYER 33
304-558-2402

VENDOR
MH Equipment Company
3306 GILMORE INDUSTRIAL BLVD. • LOUISVILLE, KY 40213

SHIP TO
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
12/10/2010				

BID OPENING DATE: 01/27/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

ADDENDUM NO.'S:

NO. 1 .....

NO. 2 .....

NO. 3 .....

NO. 4 .....

NO. 5 .....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.

VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

.....
SIGNATURE

MH Equipment Co.
COMPANY

2-15-11
DATE

RECEIVED
2011 FEB 16 A 11:59
WV PURCHASING DIVISION

NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
7011EC08	6

ADDRESS CORRESPONDENCE TO ATTENTION OF:
BUYER 33
304-558-2402

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
12/10/2010				

BID OPENING DATE: 01/27/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST CLEARLY INDICATE SUCH REFUSAL IN HIS BID. SUCH REFUSAL SHALL NOT PREJUDICE THE AWARD OF THIS CONTRACT IN ANY MANNER.

REV. 3/88

NOTICE

A SIGNED BID MUST BE SUBMITTED TO:

DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
BUILDING 15
2019 WASHINGTON STREET, EAST
CHARLESTON, WV 25305-0130

THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:

SEALED BID

BUYER: SHERI SLONE - FILE 33

RFQ. NO.: 7011EC08

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
7011EC08	7

ADDRESS CORRESPONDENCE TO ATTENTION OF:
BUYER 33
304-558-2402

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
12/10/2010				

BID OPENING DATE: 01/27/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

BID OPENING DATE: 01/27/2011

BID OPENING TIME: 1:30 PM

PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:

502-810-9306

CONTACT PERSON (PLEASE PRINT CLEARLY):

Brian Detrich

****** THIS IS THE END OF RFQ 7011EC08 ****** TOTAL:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE | TELEPHONE | DATE

TITLE | FEIN | ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION

BIDDER'S EVALUATION REPORT

PROCUREMENT SPECIFICATIONS FOR OPEN END CONTRACT
NO. 351-2-G

SKID STEER LOADER WITH ATTACHMENTS

NOTE TO BIDDER: Procurement Specification No. 351-2-G, Paragraph 2.0 recommends the completion and submittal of this Report with your bid. Purpose of this Report is to enable the West Virginia Division of Highways Evaluation Committee to make full and fair evaluation of the bid. Addendums in order, along with a summary of exception as a separate attachment, should be with Bidder's Evaluation Report.
FAILURE TO SUBMIT THIS REPORT, COMPLETE IN ITS ENTIRETY, MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

Reference Requisition No.: 7011E008

Bidder's Name: MH Equipment Co.

Address: 126 Lakeview Dr. Charleston, WV. 25313

Telephone Number: 304-776-6900

Years Bidder has been registered to do business with the State of West Virginia: 8 YRS.

Years Company has been an authorized dealer for proposed unit: Five YRS.

X3.2 Have you complied with all mandatory specifications? X YES ____ NO

X4.2 DELIVERY:

X4.2.1 Delivery date of completed representative unit: 90 Calendar Days After Receipt of Purchase Agreement

X4.2.2 Delivery date of balance of completed units: 120 Calendar Days After Receipt of Purchase Agreement

X5.0 AWARD CRITERIA;

X5.1 Price for loader only: 36,235.00 per unit

Price for one (1) loader with one (1) of each of the attachments: See attached for attachment pricing.

X6.0 SPECIFICATIONS - GENERAL

X6.1 Manufacturer, model, series, and date of manufacture of proposed unit:

JCB, 260, Mfg Date 2011

Is descriptive literature, fully describing proposed unit attached to your bid? X YES ____ NO

If not, why? ____

X6.2 Will the required number of service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon upon completion of delivery of total units?

X YES ____ NO

Will the required Equipment Preventive Maintenance Form (Section X6.2 of Bidders Evaluation Report) be provided upon inspection of the pilot unit? **X YES ____ NO**

PREBID ADDENDUM #5
7011EC08

OPEN END CONTRACT
SKID STEER LOADER WITH ATTACHMENTS

CHANGES TO BIDDER'S EVALUATION REPORT:

NO CHANGE REQUIRED:
X4.2 DELIVERY
X4.2.1 Delivery date of completed representative unit: 90 **Calendar Days After Receipt of Purchase Agreement**

X4.2.2 Delivery date of balance of completed units: 120 Calendar Days After Receipt of Purchase Agreement

NO CHANGE REQUIRED:
X6.0 SPECIFICATIONS –GENERAL
X6.1 Manufacturer, model, series, and date of manufacture of proposed unit:

JCB 260 Mfg Date 2011

Is descriptive literature, fully describing proposed unit attached to your bid?
X YES ____ NO

If not, why? _____

FROM:
X8.3.4 Is unit equipped with automatic engine shutdown for low oil pressure and engine/hydraulic temperature __YES__NO

TO:
X8.3.4 Is unit equipped with automatic engine shutdown for low oil pressure and engine temperature and hydraulic temperature X YES ____ NO

7011EC08

FROM:
X8.4.4 Adequately sized hydraulic reservoir for the prime mover as well as any and all attachments __YES__NO

TO:
X8.4.4 Adequately sized hydraulic reservoir for the prime mover as well as any and all attachments X YES ____ NO

Is gallons label and **sight gauge included to verify hydraulic oil level**
X **YES** ____ **NO**

FROM:
X8.5.4 Work lights, dual front halogen; at least one rear halogen __YES__NO

TO:
X8.5.4 Work lights, dual front halogen and one (1) rear halogen X **YES**____**NO**

DELETE:
X8.6.4 Transmission charge pressure __YES__NO

FROM:
X8.8.7 Low profile strobe light mounted for 360° visibility X YES__NO
Manufacturer/Model: ECS

TO:
X8.8.7 Low profile strobe light mounted for 360° visibility – Class 1 LED amber
✓ YES ____ NO

Manufacturer/Model: TCB

FROM:
X8.9.7 Is unit hydrostatic all wheel drive __YES__NO

TO:
X8.9.7 Is unit hydrostatic all wheel drive X **YES** ____ **NO**

Are controls electric over hydraulic ____ YES X NO

7011EC08

FROM:
X9.1 Are all attachments mounted on a quick change mechanism __YES__NO

TO:
X9.1 Are all attachments mounted on a manual quick change mechanism
__X__ YES ____ NO

FROM:
X9.4 Are you supplying all attachments as listed in the specifications __YES__NO

TO:
X9.4 Are you supplying all attachments as listed in the specifications including all mounting hardware, wiring harness etc. for connection __X__ YES ____ NO

DELETE:
X9.4.18 Does the **COLD PLANER** you are providing meet or exceed the specification
~~__X__~~YES__NO

Manufacturer: ____
Model: __

Cold Planer Price: __

X6.2
2-10-00

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY OF PILOT MODEL TO THE WVDOH.

DESCRIPTION: _____ MAKE: _____

MODEL: _____ YEAR: _____ PURCHASE AMOUNT: _____

ENGINE: MAKE: _____ MODEL: _____ FUEL TYPE: _____

HORSEPOWER: _____ CYLINDER: _____ ENGINE SERIAL: _____

COOLING SYSTEM CAPACITY: _____

BELTS: DESCRIPTION: PART NUMBERS:

_____ _____

_____ _____

GVW: _____ AXLE CAPACITY: FRONT: _____ REAR: _____

TIRES: FRONT MAKE & SIZE: _____

REAR MAKE & SIZE: _____

DIMENSIONS OF UNIT: LENGTH: _____ WIDTH: _____ LENGTH: _____

VENDOR CONTACT PERSON: _____ PHONE: _____

PARTS:

BATTERY MAKE: _____ MODEL: _____ CCA: _____
TOP OR SIDE POST: _____ DIMENSIONS: LENGTH _____ WIDTH _____ HEIGHT _____
SPARK PLUGS OR FUEL INJECTORS MAKE: _____ PART # _____
FUEL PUMP OR INJECTION PUMP MAKE: _____ MODEL: _____
ALTERNATOR MAKE: _____ PART #: _____
STARTER MAKE: _____ PART #: _____
TURBO CHARGER MAKE: _____ PART #: _____
TRANS. MAKE: _____ MODEL: _____ AUTO/MANUAL: _____
HYDRAULIC PUMP MAKE: _____ MODEL: _____

FILTERS	MAKE	PART NO.	LUBRICANT	MANUFACTURER TYPE
OIL			ENGINE	
AIR INNER			TRANSMISSION	
AIR OUTER			POWER STEERING	
FUEL PRIMARY			HYDRAULIC	
FUEL SECONDARY			DIFFERENTIALS	
COOLANT			BRAKE FLUID	
HYDRAULIC			COOLANT	
OTHER			OTHER	

X6.3 TRAINING:

Will training seminar be conducted on Preventive Maintenance, Operator and Mechanic Training
X YES _____ NO

Will you conduct training with each purchase order against this open end contract?
X YES _____ NO

Will training be conducted within 2 working days from the delivery of the pilot unit on the individual purchase order? X YES X NO

If NO, explain time frame within 7 working Days.

Will an Operator's Manual be furnished directly to Training Academy prior to the delivery of the pilot? **X YES _____ NO**

X6.4 **If you are the successful vendor, will you furnish all training aids, i.e., videos, projectors, required in conducting the training?** **X YES _____ NO**

X6.4.1 **Will all manuals, booklets, etc. explaining preventive maintenance, operator procedures, and service schedule be delivered with each unit?** **X YES _____ NO**
If NO, explain _____

X6.5 WARRANTY AND SERVICE POLICY

Will the warranty and service you provide comply with all areas as stated in Section 6.5 of specifications
X YES _____ NO

Is warranty literature attached? X YES _____ NO

Is a minimum two (2) year bumper to bumper basic parts and labor warranty excluding abuse and normal wear items included? **X YES _____ NO**
Describe:

_____

_____

X6.5 WARRANTY AND SERVICE POLICY QUESTIONNAIRE
THIS FORM MUST BE COMPLETED IN ITS ENTIRETY AND SUBMITTED WITH YOUR BID.
(If additional lines are needed, make copies of form.)

1. Define the terms of the standard warranty. If not offered, so state. (Attach copy)
2 Year See attached.

2. Define warranty service to be performed at DOH facilities and warranty service to be performed at manufacturer's representative facility. List name and location of manufacturer's representative.
Minor Warranty will be performed at ~~[illegible]~~ Cust. Location
Major Component warranty performed at MH Facility.
MH Equipment Co. 126 Lakeview Dr. Charleston, WV. 25313

3. List locations for parts inventories that are within the State of West Virginia. Also, list availability levels, if known.
MH Equipment Co.
126 Lakeview Dr.
Charleston, WV. 25313

4. During the term of warranty, list the guarantee discount to manufacturer's published list price for parts that bidder will sell the parts to owner.

A. Terms: Net 30 Manufacturer's published list price less: 30 % discount
B. Terms: Net 60 Manufacturer's published list price less: 20 % discount
C. Terms: Net 90 Manufacturer's published list price less: 10 % discount

5. During the term of warranty, will all manufacturers or engineering improvements be submitted to Division of Highways? X YES ____ NO

6. During the term of warranty, list the guaranteed rates charged for repair to the unit.

A. Shop Rate $ 85.00 per mechanic hour

B. Travel Time Charge $ 85.00 per mechanic hour
(Specify if one-way) —; port to port —

C. Mileage Charge $ — per vehicle mile
(Specify if one-way —; port to port —

D. Field Mechanic Rate $ 85.00 per mechanic hour

E. Specify period of time that prices are in effect: 12 month period from time of 1st order.

F. Surcharge for miscellaneous items: 6 %

X6.6 EVALUATION COMMITTEE REQUIREMENTS

Is all component specifications, product literature, component models provided for Evaluation Committee bid determination? ✓ YES _____ NO

X6.7 Will all parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, be furnished with the unit and conform in strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry?
X YES _____ NO

X6.7.1 Are all parts and accessories adequate and regularly supplied as standard to be included except those which may be duplications of specifications herein, and except these by specification are not to be furnished?
X YES _____ NO

X6.7.2 Are all standard safety features that are required by Federal and State statutes of law included?
X YES _____ NO

X7.0 SPECIFICATIONS OF THE QUOTED UNIT

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

Manufacturer: TCR Model: 260

Will the unit be completely assembled, adjusted with all equipment including standard and extra equipment installed and ready for continuous operation X YES _____ NO

Are all parts not specifically mentioned which are necessary for the unit to be complete and ready for operation or which are normally furnished as standard equipment be included? X YES _____ NO

X8.1 Operating weight of skid steer unit: 7971 lbs.

X8.2 Wheelbase: 48" inches

X8.3 Diesel Engine:

X8.3.1 Horsepower (Net): 84 HP

X8.3.2 Is engine pre-heat system provided X YES ____ NO

X8.3.3 Is manufacturer's recommended fuel filter with water separator provided? X YES ____ NO

Manufacturer: FOB

X8.3.4 Is unit equipped with automatic engine shutdown for low oil pressure and engine/hydraulic temperature X YES ____ NO

X8.3.5 Dry type air filtration with primary and secondary elements X YES ____ NO

X8.4 Hydraulic System:

X8.4.1 Auxiliary hydraulics: 23 GPM

X8.4.2 Does unit have high flow hydraulic system X YES ____ NO

GPM: 35,1

X8.4.3 Filtration: 10 micron

X8.4.4 Adequately sized hydraulic reservoir for the prime mover as well as any and all attachments X YES ____ NO

Is gallons label and sight gauge included X YES ____ NO

X8.4.5 Are hydraulic hoses cordorva wrapped for operator protection X YES ____ NO

X8.4.6 Are auxiliary front hydraulics with couplers provided with easy access with controls at operator station X YES ____ NO

X8.5 Electrical System:

X8.5.1 Manufacturers heavy duty 12 volt system X YES ____ NO Manufacturer: FOB

X8.5.2 Alternator: 95 amps

X8.5.3 Battery manufacturers heavy duty maintenance free 12 volt X YES ____ NO CCA: 1000

X8.5.4 Work lights, dual front halogen; at least one rear halogen X YES ____ NO

X8.6 Instrumentation: Audible and/or lighted warnings X YES ____ NO

X8.6.1 Fuel level X YES ____ NO

X8.6.2 Battery voltage X YES ____ NO

X8.6.3 Engine coolant temperature X YES ____ NO

X8.6.4 Transmission charge pressure ____ YES X NO

X8.6.5 Hydraulic oil temperature ____ YES X NO

X8.6.6 Engine oil pressure X YES ____ NO

X8.6.7 Engine air cleaner restriction X YES ____ NO

X8.6.8 Park brake reminder X YES ____ NO

X8.6.9 Seat belt reminder X YES ____ NO

X8.7 Tires:

X8.7.1 Manufacturers standard pneumatic lug tires with 12 ply rating X YES ____ NO

Manufacturer: Lifemaster / SolidReal

X8.8 Safety:

X8.8.1 Backup alarm (OSHA approved) X YES ____ NO

X8.8.2 Certified ROPS and FOPS X YES ____ NO

X8.8.3 Parking brake manufacturers standard X YES ____ NO

X8.8.4 All manufacturers safety related decals and safe operation recommendations affixed to each unit upon delivery X YES ____ NO

X8.8.5 Rear view mirror ____ YES X NO

X8.8.6 Equipped with rear window emergency escape X YES ____ NO

X8.8.7 Low profile strobe light mounted for 360° visibility X YES ____ NO

Manufacturer/Model: Britax 700/50114

X8.8.8 Front and rear emergency flashers — X YES ____ NO

X8.8.9 Fire extinguisher bracket — X YES ____ NO

X8.9 Accessories:

X8.9.1 Quick-Tatch 2 level attachment mounting design compatible with 90% of BobCat, New Holland, John Deere, and Case attachments — X YES ____ NO

X8.9.2 Rear counterweights provided to adequately balance unit with heaviest attachment mounted — X YES ____ NO

X8.9.3 Vinyl suspension seat with automotive type seat belt — X YES ____ NO

X8.9.4 Cab-all-weather enclosure with sliding side glasses — X YES ____ NO

X8.9.5 Front door with wiper, washer (our machines have wiper + washer, no Front Door) — X YES X NO - Side Entry

X8.9.6 Does unit have manufacturers heater/defroster/with air conditioner — X YES ____ NO

X8.9.7 Is unit hydrostatic all wheel drive — X YES ____ NO

X8.9.8 Integral belly plate — X YES ____ NO

X8.10 Paint:

X8.10.1 Describe manufacturers recommended paint preparation and color: Unit is ElectroStatic Powder Coated, Paint is Yellow

X9.0 Attachments with attachment control kit:

X9.1 Are all attachments mounted on a quick-change mechanism — X YES ____ NO

X9.2 Backhoe operation possible with the lift arms in the down position — X YES ____ NO

X9.3 Is a single control unit provided which will control all available attachments — X YES ____ NO

X9.4 Are you supplying all attachments as listed in the specifications: — X YES ____ NO

X9.4.1 Does the **AUGER** you are providing meet or exceed the specification?
X YES ____ NO

Manufacturer: Bradco.

	MODEL: X1475	MODEL: X1975
Auger	$ 1544.49	$ 1692.38
BITS – HEX:		
6" X 50" Head	$ 147.88	$ 147.88
12" x 50" Head	$ 249.35	$ 249.35
24" x 50" Head	$ 497.37	$ 497.37
SINGLE FLIGHT EXTENSIONS:		
12" Extension	$ 160-	$ 160-
24" Extension	$ 185.26	$ 185.26
48" Extension	$ 231.58	$ 231.58
TOTAL PRICE:	$ 3015.94	$ 3163.82

X9.4.2 Does the **BACKHOE WITH 12 INCH BUCKET** you are providing meet or exceed the specification?
X YES ____ NO

Manufacturer: Bradco.

	MODEL: 509	MODEL: 511	MODEL: 6100	MODEL: 6120
Bucket with 12 Inch Bucket	$ 7959.21	$ 8910.19	$ 7959.21	$ 7854.01
TOTAL PRICE:	$ 7959.21	$ 8910.19	$ 7959.21	$ 7854.01

X9.4.3 Does the **BACKHOE-MINI** you are providing meet or exceed specifications?
X YES _____ NO

Manufacturer: Bradco

	MODEL: LAF2501-0022	MODEL: LAF2302-0022	MODEL: LAF2303-0022
Backhoe – Mini	$ 1775.94	$ 1810.42	$ 1838.94

TOTAL PRICE: $ 1775.94 $ 1810.42 $ 1838.94

X9.4.4 Does the **BLADE – DOZER** you are providing meet or exceed specifications?
X YES _____ NO

Manufacturer: Bradco

	MODEL: 49681
Blade – Dozer	$ 4669.96

TOTAL PRICE: $ 4669.96

X9.4.5 Does the **BOOM – MATERIAL HANDLING** you are providing meet or exceed the specifications?
X YES _____ NO

Manufacturer: Palfinger

	MODEL: 12203
Boom – Material Handling	$ 694.74

TOTAL PRICE: $ 694.74

X9.4.6 Does the **BREAKER – HYDRAULIC** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bradco

	MODEL:	HM265Q
Breaker – Hydraulic	$	7726.10

TOTAL PRICE: $ 7726.10

X9.4.7 Does the **BROOM – ANGLE – POLY/WIRE BRISTLES – WATER KIT WITH 25 GALLON TANK** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bradco

	MODEL:	22084MM-022
Broom – Angle – Poly/Wire Bristles – Std. Manual Angle	$	4187.84
Optional Water Kit with 25 Gallon Tank	$	956.94
Optional Hydraulic Angle	$	227.46

TOTAL PRICE: $ 5372.24

X9.4.8 Does the **BROOM – GENERAL PURPOSE PICK-UP** you are providing meet or exceed the specifications? X YES ____ NO

Manufacturer: ____

	MODEL:	SB60
Broom – General Purpose Pick-Up	$	2872.14

TOTAL PRICE: $ 2872.14

X9.4.9 Does the **BRUSH CUTTER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bradco

	MODEL:	BC72HF
Brush Cutter	$	5334.18

TOTAL PRICE: $ 5334.18

X9.4.10 Does the **BUCKET – BRUSH GRAPPLE** you are providing meet or exceed specifications?
X YES ____ NO

Manufacturer: Paladin

Manufacturer: ____

	MODEL:	11334-0022
Bucket – Brush Grapple	$	2631.58

TOTAL PRICE: $ 2631.58

X9.4.11 Does the **BUCKET – FORKED SCRAP GRAPPLE** you are providing meet or exceed specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL:	10067-0022
Bucket-Forked Scrap Grapple	$	3052.63

TOTAL PRICE: $ 3052.63

X9.4.12 Does the **BUCKET – GENERAL PURPOSE** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL: GP686	MODEL: GP733	MODEL: GP684	MODEL: GP732
Bucket – General Purpose	$ 758.05	$ 819.68	$ 892.89	$ 1184.36
Optional Teeth	$ 10.24ea	$ 10.24ea	$ 10.24ea	$ 10.24ea
Optional Bolt on Cutting Edge	$ 229.21	$ 244.94	$ 229.21	$ 244.94
Optional Bolt on Toothbar Inside Bucket Width	$ 486.47	$ 513.84	$ 486.47	$ 513.84

(NOTE: ADD ALL LINES FOR EVALUATION PURPOSES)

TOTAL PRICE $ 1481.97 $ 1588.10 $ 1618.81 $ 1953.28

X9.4.13 Do the **BUCKETS – GENERAL PURPOSE UTILITY & LIGHT MATERIAL** meet or exceed the specifications? X YES ____ NO

Manufacturer: Bradco

	MODEL (GPU): HT72	MODEL (LM): LM72	MODEL (LM): LM78	MODEL (LM): LM84
Bucket (GPU)	$ 819.68			
Bucket (LM)		$ 830.63	$ 904.52	$ 1205.57
Optional Bolt on Cutting Edge	$ 244.94	$ 244.94	$ 258.63	$ 281.36
Optional Bolt on Toothbar Inside Bucket Width	$ 513.84	513.84	530.26	603.47

(NOTE: ADD ALL LINES FOR EVALUATION PURPOSES)

TOTAL PRICE $ 1578.46 $ 1589.41 $ 1693.41 $ 2096.40

X9.4.14 Does the **BUCKET – HEAVY DUTY SCRAP GRAPPLE** you are providing meet or exceed the specifications? X YES ____ NO

Manufacturer: Bradco

	MODEL: 5672	MODEL: 5678
Bucket – Heavy Duty Scrap Grapple	$ 3826.10	$ 4322.15
Optional Bolt on Cutting Edge	$ 244.94	$ 258.63

(NOTE: ADD ALL LINES FOR EVALUATION PURPOSES)

TOTAL PRICE: $ 4071.04 $ 4580.78

X9.4.15 Does the **BUCKET – MULTI PURPOSE** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bradco

	MODEL: MP73	MODEL: MP74
Bucket-Multi Purpose	$ 2964 -	$ 3376.57
Optional Bolt on Reversible Cutting Edge	$ 244.94	$ 258.63
Optional Bolt on Toothbar Inside Bucket Width	$ 513.84	$ 530.26

(NOTE: ADD ALL LINES FOR EVALUATION PURPOSES)

TOTAL PRICE: $ 3722.78 $ 4164.89

X9.4.16 Does the **BUCKET – ROCK** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bradco

	MODEL: KB75
Bucket – Rock	$ 1912.02

TOTAL PRICE: $ 1912.02

X9.4.17 Does the **COLD PLANER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Woods

	MODEL: CP12	MODEL: CP16	MODEL: CP18	MODEL: CP24	MODEL: CP30
Cold Planer	$ 6848.43	$ 10,921.05	$ 11052.63	$ 13025.08	$ 13684.21

TOTAL PRICE: $ 6848.43 $ 10421.05 $ 11052.63 $ 13025.08 $ 13684.21

X9.4.18 Does the **COLD PLANER** you are providing meet or exceed the specification?
X YES ____ NO

Manufacturer: Bradco

	MODEL: CP40HF
Cold Planer	$ 20191.23

TOTAL PRICE: $ 20191.23

X9.4.19 Does the **COLD PLANER** you are providing meet or exceed the specification?
X YES ____ NO

Manufacturer: Bradco

	MODEL: HP1000
Cold Planer	$ 19205.12

TOTAL PRICE: $ 19205.12

X9.4.20 -- Does the **COLD PLANER** you are providing meet or exceed the specification?
X YES ____ NO

Manufacturer: Woods

	MODEL: LAF 5436
Cold Planer	$ 14210.53

TOTAL PRICE: $ 14210.53

X9.4.21 Does the **CONCRETE CLAW** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: 10024.0022
Concrete Claw	$ 146.35

TOTAL PRICE: $ 146.35

X9.4.22 Do the **FORKS – PALLET** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL: 16810/67604
Forks – Pallet	$ 765.28

TOTAL PRICE: $ 765.28

X9.4.23 Does the **GRAPPLE – LOG FORK** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL:	LAF1142-0022
Grapple-Log Fork	$	2991.47

TOTAL PRICE: $ 2991.47

X9.4.24 Does the **HITCH – THREE POINT** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL:	LAF1102-0022
Hitch-Three Point	$	322.96

TOTAL PRICE: $ 322.96

X9.4.25 Does the **POSTMASTER WITH TILT ATTACHMENT** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Paladin

	MODEL:	11487
Postmaster with Tilt Attachment	$	6599.76

X9.4.26 Does the **POWER RAKE** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: LAF5672
Power Rake	$
Manual Angling	$ 4736.84
Hydraulic Angling	$ 5157.89

TOTAL MANUAL ANGLING PRICE: $ 4736.84

TOTAL HYDRAULIC ANGLING PRICE: $ 5157.89

X9.4.27 Does the **PREPARATOR** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: LAF3576
Preparator	$ 6130.89

TOTAL PRICE: $ 6130.89

X9.4.28 Does the **ROCK WHEEL WITH 50 GALLON WATER KIT** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: _____

	MODEL: R518HF	MODEL:	MODEL: R524HF
Rock Wheel with 50 Gallon Water Kit	$ 21,494	$	$ 26925

TOTAL PRICE: $ 21,494 $ _____ $ 26925

X9.4.29 Does the **ROLLER – VIBRATORY** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Raised

	MODEL: 105066	MODEL: 105067
Roller – Vibratory	$	$
Smooth Drum	$	$
Padded Drum	$ 6521.49	$ 6789.41

TOTAL SMOOTH DRUM: $ _____ $ _____

TOTAL PADDED DRUM: $ 6521.49 $ 6789.41

X9.4.30 Does the **SCARIFIER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: LAS 2201-0022
Scarifier	$ 803.08

TOTAL PRICE: $ 803.08

X9.4.31 Does the **SNOW BLADE** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: LAS 1496-0022
Snow Blade	$ 2002.07

TOTAL PRICE: $ 2002.07

X9.4.32 Does the **SNOW BLOWER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: 11007d-0022	MODEL: laf6786H-002
Snow Blower	$ 4317.82	$ 6210.53
TOTAL PRICE:	$ 4317.82	$ 6210.53

X9.4.33 Does the **STUMP GRINDER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Woods

	MODEL:	MODEL: 5630HF	MODEL:
Stump Grinder	$	$ 6140.18	$
TOTAL PRICE:	$	$ 6140.18	$

X9.4.34 Does the **TILLER** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: Bad Boy

	MODEL: 100635 66"	MODEL: 103286 78"
Tiller	$ 3635.43	$ 4343.02
TOTAL PRICE:	$ 3635.43	$ 4343.02

X9.4.35 Does the **TREE SPADE** you are providing meet or exceed the specifications?
X YES ____ NO

Manufacturer: FFC

	MODEL: LAF1836022	MODEL: LAF1840-0022	MODEL: LAF1842-0022	MODEL: LAF1848-0022	MODEL: LAF1848-0022
Tree Spade	$ 942.35	$ 989.43	$ 989.43	$ 1055.75	$ 1055.75

TOTAL PRICE: $ 942.35 $ 989.43 $ 989.43 $ 1055.75 $ 1055.75

X9.4.36 Does the **TRENCHER** you are providing meet or exceed the specifications?
X YES ____ NO

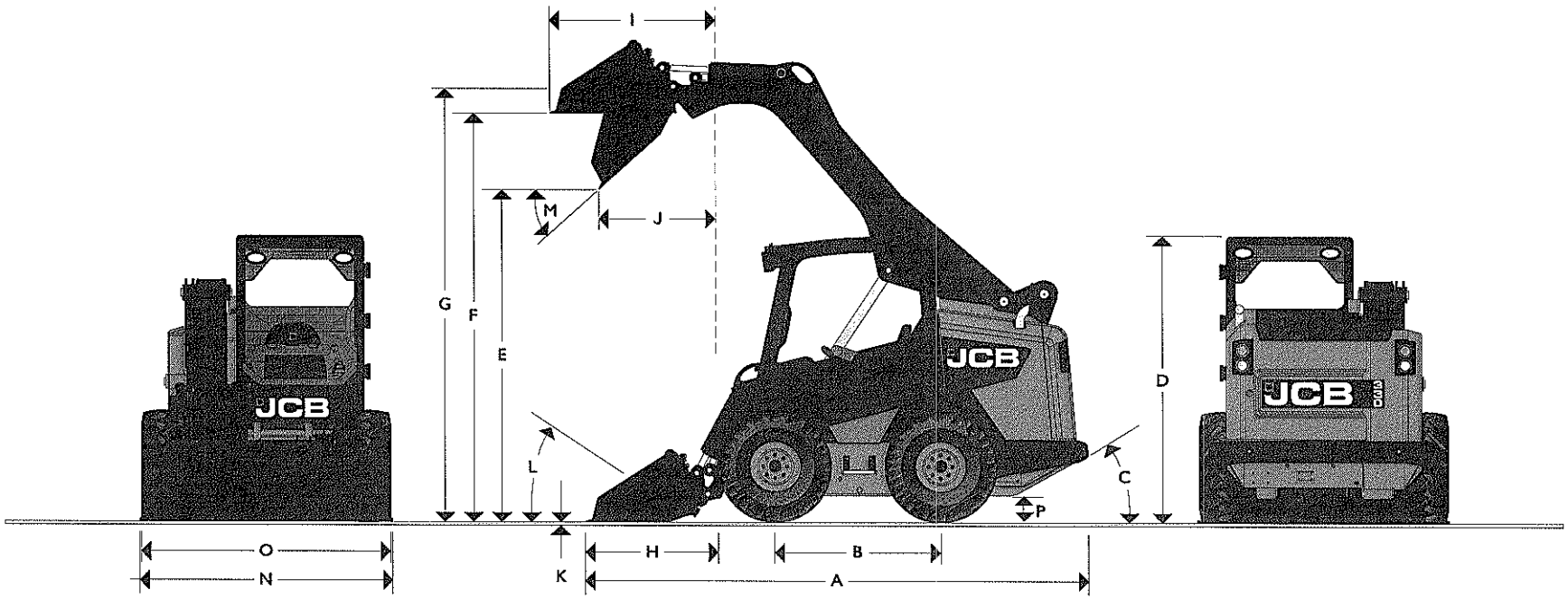
Manufacturer: Paladin

	MODEL: TR36	MODEL: TR48	MODEL: TR48HF
Trencher	$ 3796.68	$ 4463.10	$ 5522.94

TOTAL PRICE: $ 3796.68 $ 4463.10 $ 5522.94

GRAND TOTAL FOR ALL ATTACHMENTS: $ 348749.34

OPERATING WEIGHT : **260** 7971 lbs (3615 kg) **280** 8060 lbs (3655 kg) **300** 8430 lbs (3823 kg) **330** 8728 lbs (3959 kg)



STATIC DIMENSIONS – 260/280/300/330

	Machine Models	260	280	300	330
		ft-in (m)	ft-in (m)	ft-in (m)	ft-in (m)
A	Overall Length	12-2 (3.69)	12-4 (3.76)	12-5 (3.78)	12-7 (3.78)
B	Wheel Base	4-0 (1.22)	4-0 (1.22)	4-0 (1.22)	4-0 (1.22)
C	Angle of Departure degrees	28.7°	28.7°	28.7°	29.1°
D	Overall Height	6-10 (2.09)	6-10 (2.09)	6-10 (2.09)	6-11 (2.11)
E	Dump Height	8-1 (2.46)	8-1 (2.46)	8-1 (2.46)	8-2 (2.49)
F	Loadover Height	9-10 (3.02)	9-10 (3.02)	9-10 (3.02)	10 (3.05)
G	Height to hinge pin fully raised	10-5 (3.175)	10-5 (3.175)	10-5 (3.175)	10-6 (3.2)
H	Reach @ ground level (toe plate horizontal)	3-2.5 (0.98)	3-2.5 (0.98)	3-5 (1.04)	3-5 (1.04)
I	Max reach @ full height	4-0.5 (1.23)	4-0.5 (1.23)	4-0.5 (1.23)	3-11 (1.2)
J	Reach @ full height - fully dumped	2-10 (0.87)	2-10 (0.87)	2-11 (0.90)	2-11 (0.90)
K	Dig depth (toe plate horizontal) clearance in (mm)	-3/8 (-10)	-3/8 (-10)	-3/8 (-10)	0
L	Rollback @ ground degrees	30°	30°	30°	29°

	Machine Models	260	280	300	330
		ft-in (m)	ft-in (m)	ft-in (m)	ft-in (m)
M	Dump angle degrees	42°	42°	42°	42°
N	Bucket width - standard	6-1 (1.85)	6-1 (1.85)	6-1 (1.85)	6-6 (1.98)
O	Width over tires - standard	6-0 (1.83)	6-0 (1.83)	6-0 (1.83)	6-2 (1.88)
	Width over tires - optional	6-2 (1.88)	6-2 (1.88)	6-2 (1.88)	6-0 (1.83)
	Rated Operating Capacity 50% lb(kg)	2600 (1179)	2800 (1270)	3000 (1361)	3295 (1495)
	Bucket capacity - standard yd^3 (m^3)	.62 (.47)	.62 (.47)	.67(.51)	.67 (.51)
Turning Radius					
	Bucket corner radius	7-3 (2.20)	7-3 (2.20)	7-3 (2.20)	7-3 (2.20)
	Quick hitch radius	4-10.5 (1.48)	4-10.5 (1.48)	4-10.5 (1.48)	4-10.5 (1.48)
	Rear chassis radius	5-9.5 (1.76)	5-9.5 (1.76)	5-9.5 (1.76)	5-9.5 (1.76)
P	Ground Clearance in(mm)	9.4 (238)	9.4 (238)	9.4 (238)	9.8 (248)

HYDRAULIC PERFORMANCE

Model	R.O.C. lbs (kg)	Tipping Load lbs (kg)	Loader Lift lbs (kg)	Bucket Tilt lbs (kg)
260	2600 (1179)	5448 (2471)	5884 (2669)	5699 (2585)
280	2800 (1270)	5608 (2543)	5884 (2669)	5699 (2585)
300	3000 (1361)	6024 (2732)	5809 (2634)	7187 (3260)
330	3295 (1495)	6590 (2989)	5809 (2634)	7187 (3260)
260 T	2600 (1179)	7991 (3624)	5809 (2634)	7187 (3260)
300 T	3000 (1361)	8628 (3913)	5809 (2634)	7187 (3260)
320 T	3200 (1452)	9145 (4148)	5809 (2634)	7187 (3260)

CAPACITIES

260/280/300/330/260T/300T/320T	US gal (liters)
Hydraulic system (inc. Tank)	15.9 (60)
Fuel tank	27.2 (103)
Engine coolant	4.1 (15.5)
Engine oil	3.7 (14)
LH Chaincase	6.1 (23)
RH Chaincase	6.1 (23)

ENGINE

		260/280/260T	300/330/300T/320T
Model		JCB Dieselmax TC-63	JCB Dieselmax TC-68
Displacement	(in^3) cm^3	268 (4399)	268 (4399)
Fuel		Diesel	Diesel
Cooling		Water	Water
Aspiration		Turbo	Turbo
Gross power @ 2400rpm			
SAE J1995	hp (kW)	84 (63)	92 (68.6)
Gross torque @ 1800rpm			
SAE J1995	lb/ft (Nm)	267 (362)	301 (408)
Starter motor	hp (kW)	2.72 (2)	2.72 (2)
Battery	volt/Ah	12 / 95	12/ 95
Alternator	amps	95	95
Emission Certification		EPA-T3 (EU St3)	EPA-T3 (EU St3)
Engine Oil Service Interval hours		500	500
Variable speed hydraulically driven fan		YES	YES

HYDRAULICS

In addition to the main hydrostatic drive pumps, there is a dedicated loader and attachments supply pump (auxiliary hydraulics circuit standard on all base models).

Pump flow: 23 gpm (87 lpm) @ 2200 rpm engine speed
Main relief pressure 3335 psi (230 bar)
HYD HP low flow (44.8)
HYD HP high flow (69.5)

- Low lever efforts give excellent and easy control of transmission loader and attachments.
- Auxiliary hydraulics are actuated via the right hand controller giving progressive control of oil flow for precise attachment control.
- Loader arm hydraulic lines under protective steel guard on PowerBoom.
- Canister style, full flow, hydraulic oil filter.
- JCB engine oil for engine and chain case.
- JCB hydraulic oil.
- The optional hi-flow circuit provides 35.7 gal/min (135 liters/min) pump flow to the front of the machine for operation of high capacity attachments such as trenchers and cold planers.
- Seperate hydraulic pump for transmission charge and hydraulic fan.

TRANSMISSION

A full servo controlled hydrostatic transmission giving zero to maximum speed, both forward and reverse at full power. Independent transmission systems for both the left and right side, controlled through servo controls for both precise and easy operation. Transmission power system maintains full engine power availability maximizing loader and attachment control.

Model	Single Speed	Two Speed
	mph (kph)	mph (kph) / mph (kph)
Travel speeds 260/280/300:	6.8 (10.9)	6.8 (10.9) / 12.4 (20)
Travel speeds 330:	7.3 (11.7)	7.3 (11.7) / 13.5 (21.7)
Travel speeds 260T/300T/320T:	5.7 (9.2)	4.8 (7.7) / 7.8 (12.6)

OPERATOR ENVIRONMENT

Full ROPS and Level 1 FOPS with optional Level 2 guard for demolition, full audible and visual warning systems, and sound proofing. Cab access through side door due to JCB's PowerBoom design.

- Deluxe environment available in either open canopy, cab with heat, or cab with heat and A/C.
- Unequalled all-around visibility.
- Fully adjustable suspension seat.
- Retractable seat belt fitted as standard.
- Drainage cover for easy cleaning of chassis.
- Electronic hand throttle.
- Full servo control with either standard (3 way) joysticks or multifunctional (7 way) joysticks.

LIGHTING AND ELECTRICS

12 volt, negative ground system

1000 cold cranking amp (CCA) battery

95 amp alternator

Cab mounted instrument panel with ignition, fuel gauge, hour meter, and electronic throttle

Also incorporated into the instrument panel, is a warning light cluster which also has audible alarms for:

- Low charge pressure
- Engine water temperature
- Hydraulic oil pressure
- Blocked air filter
- Engine oil pressure
- Alternator

Cab mounted fuse and relay box designed to keep dirt and water out: IP 69 external connections

TIRES

Standard – 260/280/300 12 x 16.5 - 10 pr

Standard – 330 14 x 17.5 x 10 pr

Available Options – Standard Track - Wide Track
Lifemaster
Extra Floatation
Brawler
Solid Industrial

Floatation tires are fitted for most applications.
*For arduous conditions and hostile environments solid tires are recommended.

TRACKS

Standard – 17.7in (450mm) Traction Lug

STANDARD EQUIPMENT

Isolation mounted canopy. ROPS and FOPS. Full audible and visual warning systems. Restraint activated safety system. Loader arm safety strut. Centrifugal dry type engine air filter with safety element. Mechanical Quickhitch. Electronic hand throttle. Front and rear worklights. Emergency lower valve. Fuel gauge. Hydraulic park brake. Standard flow auxiliary hydraulics. Three way joysticks. Rear service access door. Tilting screen guard. Tilting cab. Mechanical suspension seat. Pod storage area. Cup holder. Power socket. Rear view mirror. Interior light.

WEIGHT

SAE operating weight.
Fully operational with quickhitch, standard shovel, full fuel tank, open canopy + 165lb (75kg) operator:

260	7,971 lb (3,615 kg)	**260T**	10,205 lb (4,628 kg)
280	8,060 lb (3,655 kg)	**300T**	10,663 lb (4,836 kg)
300	8,430 lb (3,823 kg)	**320T**	10,939 lb (4,961 kg)
330	8,728 lb (3,959 kg)		

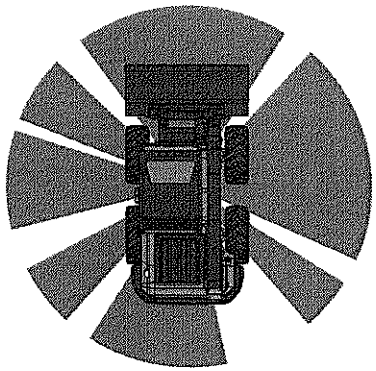
CONTROLS

Three servo control options: JCB (ISO), dual hand or hand and foot controls. With all control options, the left hand control pod pivots rearwards, providing unparalleled machine entry / exit.

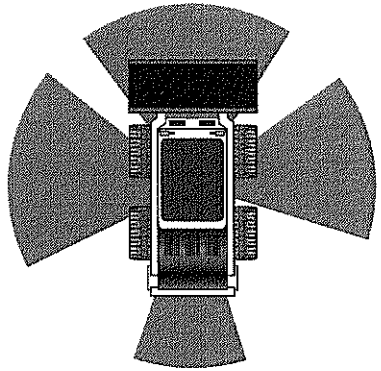
OPTIONAL EQUIPMENT

Fully glazed sealed and pressurized cab with heater/defroster. Air conditioning. Air suspension seat. Road lights. Reverse alarm. Beacon. Foot throttle (not with hand and foot controls). Fire extinguisher. Toolkit. Self leveling. Float. Level 2 FOPS guard. Heavy Duty Rear door guard. Front screen guard. High flow auxiliary hydraulics. Battery isolator. Spark arrestor. Tooth guard. Creep speed. Hydraulic quick hitch. Smooth Ride System. Lexan screen. Independent lifting eyes. Single point lift frame. White noise reverse alarm. Radio. Twine cutter. Three inch seat belt.

OPERATOR VISIBILITY



JCB
270° Visibility

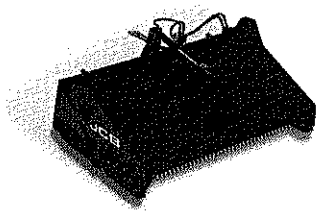
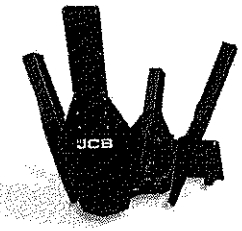
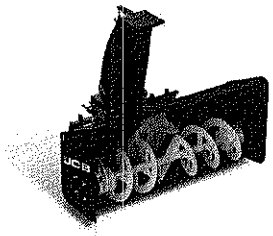
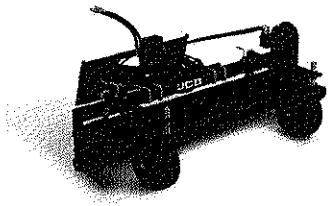


Typical Skid Steer
165° Visibility

With JCB's unique PowerBoom design, not only is our skid steer the world's safest, but we also provide our operator with unmatched visibility.

VISIBLE AREAS OBSTRUCTED AREAS

ATTACHMENTS

Attachment	Description
Augers	Planetary Drive Augers are built with fabricated boring heads using 1/2" thick plates with 5/8" carriage bolts and nuts.
Breakers	JCB Hammers are among the most efficient available and are perfectly matched to JCB equipment.
Brooms, Sweeper Collector	For general sweeping duties around the job site.
Brooms, Angle	JCB Angle Brooms cover many applications including site clean-up, landscape and ground maintenance, road work and repair.
Brush Cutters	For removal of brush and small trees up to 4" in diameter.
Buckets, 6 in 1 Multi Purpose	Genuine JCB 6 in 1 buckets are ideal for multiple applications such as digging, loading, dozing, grading, spreading, and grabbing.
Buckets, Dirt / General Purpose	Genuine JCB Dirt / General Purpose Buckets are recommended where maximum breakout performance is required.
Buckets, Landscape	Genuine JCB Landscape Buckets are ideal when cutting edge visibility is important.
Buckets, Light Material	Genuine JCB Light Material Buckets are specially designed for lower density materials such as snow, mulch, grain.
Buckets, Snow	High carbon steel bucket with swept top wrap to better contain material.
Cold Planers	The JCB Cold Planer is a valuable tool for parking lot and street repairs in addition to many other uses.
Dozer Blades	The JCB Dozer Blade is an attachment that is suited for general grading and land clearing applications.
Forks, Pallet	Pallet Forks are used in a variety of general forklift applications such as construction, industrial and agricultural industries.
Forks, Manure	Provides excellent visibility while moving loose hay and manure.

Attachment	Description
Forestry Cutting Heads	Low profile with patent pending roter design, rotor operates at 2,000 rpms.
Grapples, Brush	Heavy duty unit with open bottom and sides which allows machine to carry objects longer than unit width.
Grapples, Scrap	Heavy duty unit with twin ram grapple and ram guard protection.
Grapples, Forked Scrap	Allows for easy removal of brush, refuge and other loose materials.
Rakes, Auto	JCB Auto Rake is used to groom and finish soil for sod or seed.
Rakes, Landscape Power	JCB Landscape Rakes are excellent tools for cleaning up debris, maintaining roads, driveways and finish grading.
Rakes, Landscape Preparators	One solution for general clean-up, rock removal, and soil preparation.
Rock Saws	Available in 48" or 60" diameter for cutting rock and other hard surfaces.
Silage Defacers	Open design allows operator to see bucket face and keeps the attachment clog free.
Snow Blowers	Provides excellent visibility with 25" to 36" shroud opening.
Snow Blades	Available in various widths for removing snow.
Stump Grinders	Provides an environmentally friendly way to safely remove tree stumps.
Tillers	Provides for safe and efficient tilling with choice of 4" or 6" tilling depths.
Tree Spades	Provides safe and efficient removal and planting of trees.
Trenchers	The JCB Trencher is useful for trenching footings, burying utilities, installing irrigation systems, etc.
Vibratory Rollers	Used to compact sand, gravel, soils, crushed stone and other aggregates.

A GLOBAL COMMITMENT TO QUALITY

JCB's total commitment to its products and customers has helped it grow from a one-man business into one of the world's largest manufacturers of backhoe loaders, crawler excavators, wheeled excavators, telescopic handlers, wheeled loaders, dump trucks, rough terrain fork lifts, industrial fork lifts, mini/midi excavators, skid steer loaders and tractors.

By making constant and massive investments in the latest production technology, the JCB factories have become some of the most advanced in the world.

By leading the field in innovative research and design, extensive testing and stringent quality control, JCB machines have become renowned all over the world for performance, value and reliability.

And with an extensive dealer sales and service network in over 150 countries, we aim to deliver the best customer support in the industry.

Through setting the standards by which others are judged, JCB has become one of the world's most impressive success stories.

DWUSA 2821 10/10

JCB Headquarters Savannah, 2000 Bamford Blvd., Savannah, GA 31322. Tel: 912.447.2000. Fax: 912.447.2299. www.jcb.com

Chapter 3 - Certificate of Warranty

In this warranty "JCB" means the JCB Company, which manufactured the JCB Product or sold it to the JCB Dealer, "the JCB Dealer" means the dealer appointed by JCB in relation to JCB Products who has supplied them to the Buyer and "the Buyer" means the customer of the JCB Dealer, whether by way of purchase, rental or otherwise.

JCB certifies that each JCB Dealer is required to give each Buyer of new JCB Products the following warranty. This warranty does not affect any other terms agreed between the JCB Dealer and the Buyer.

Subject to the following provisions, the JCB Dealer shall, as its sole warranty, make good or cause to be made good by repair or replacement (at its option) free of charge to the Buyer **at the premises of the dealer** any defects in JCB Products arising in JCB's opinion, from faulty materials, or workmanship which shall become apparent within the warranty period (as defined below).

General:

This warranty applies only when the JCB Product has been properly maintained and operated under normal use and service, according to JCB specification and recommendations from time to time.

This warranty does not extend to failures, defects or damage subsequently attributable to wear and tear, improper adjustment, neglect, misuse, operation beyond rated or recommended capacity, alteration of specifications, accident, abuse, accidental damage, collision, fire, frost, the use of oils not specified by JCB, or the use of parts or products other than those specified by JCB for required maintenance, service or repair.

The Buyer must promptly notify the JCB Dealer of any claim under this warranty specifying full particulars of the alleged defect, machine serial number, and the hours worked, the date the machine was delivered to the Buyer and the date the alleged defect became apparent. If the JCB Dealer shall so request, the Buyer shall return all defective parts to the Dealer.

In the event a Dealer declines any claim under this warranty the part or parts returned to the JCB Dealer will be disposed of unless specific instructions to return to the Buyer were given in writing when the part or parts were returned to the JCB Dealer. The return of any such part or parts is at the Buyers expense.

This warranty does not extend to parts, equipment and attachments not of JCB's manufacture, but the JCB Dealer will, so far as possible, pass to the Buyer the benefit of any warranty of the manufacturer of such parts, equipment and attachments.

This warranty shall cease to have effect and the JCB Dealer's liability shall cease with respect to any JCB Product if:

1. The 100-hour or equivalent service, where applicable, is not completed.

2. Any name or number plates or other identification marks in the JCB Product shall have been removed or defaced.

This warranty is limited in application to new and unused JCB Products, but once the warranty has commenced, it shall continue without interruption to its expiry date.

Certificates of Warranty

Certificates of Warranty detailing the standard JCB warranty program are available free of charge. The certificates are designed for presentation to purchasers of JCB machines and to accompany bids and quotations. This standard warranty certificates can be found on techweb bulletin number 4253.

WARRANTY COVERAGE

Standard Warranty Coverage:

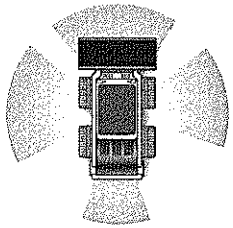
All JCB machines wholesaled* prior to January 1st, 2007 will have a one-year, unlimited hour, standard warranty; Except JCB Vibromax-Ride-On Rollers which will have a two-year, unlimited hour, standard warranty.

All JCB machines wholesaled* after January 1st, 2007 and retail carded after July 9th, 2007 will have a two-year standard warranty and a three-year structural warranty**. The first year standard warranty will have unlimited hours with the second year having a limit of 2000 hours. The second year of warranty will not include coverage on the Fuel Injection Equipment.

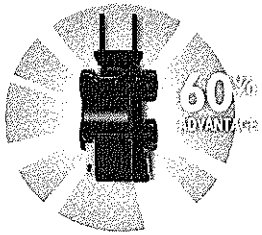
*The term Wholesaled as reference above is defined as a machine's first wholesale; this first wholesale date will be the date reference when determining eligibility of a machine's standard warranty. Please keep this in mind when accepting transfers from other dealers stock.
**Structural Warranty to include: Chassis, Boom, Dipper, Undercarriage, Mainframe, Masts, Loader Arms, Boom Base, Beam, Carriages, Kingpost and Carriage.

VISIBILITY TEST RESULTS

Ordinary Skid Steer Loader
165° Visibility



JCB Skid Steer Loader
270° Visibility



SPEC QUICK REFERENCE

Model	JCB 260	JCB 280	JCB 300	JCB 330
Rated Operating Capacity (lbs)	2600	2800	3000	3295
Operating Weight (lbs)	7971	8060	8430	8728
Engine Horsepower	84	84	92	92
Hydraulic Flow/Pump Capacity (GPM)	23	23	23	23
Pump Capacity - High flow (GPM)	35.7	35.7	35.7	35.7
System Pressure (psi)	3335	3335	3335	3335
Wheelbase (in)	48	48	48	48
Travel Speed (mph)	6.8	6.8	6.8	7.3
Low Travel Speed (mph) 2 Speed Option	6.8	6.8	6.8	7.3
High Travel Speed (mph) 2 Speed Option	12.4	12.4	12.4	13.5
Width Less Shovel (in)	72	72	72	72
Height To Cab Top (in)	82	82	82	83
Hinge Pin Height (in)	125	125	125	126
Diesel Tank Capacity (gallons)	27.3	27.3	27.3	27.3
Ground Clearance (in)	9.4	9.4	9.4	9.8
Breakout Force Lift (lbf)	5884	5884	5809	5809
Breakout Force Tilt (lbf)	5699	5699	7187	7187

JCB SKID STEER LOADER COMPETITIVE COMPARISONS

vs BOBCAT

- JCB has 61% better visibility
- JCB has 68% more cab space
- JCB has 21% larger rear service access
- JCB has 16% better average fuel consumption
- Bobcat has 38% more grease zerks than JCB

vs JOHN DEERE

- JCB has 67% better visibility
- JCB has rear door service access
- JCB has 57% more cab space
- JCB has 22% better average fuel consumption
- Deere has 38% more grease zerks than JCB

vs CATERPILLAR

- JCB has 59% better visibility
- JCB has 61% more cab space
- JCB has 19% better average fuel consumption
- CAT has 53% more grease zerks than JCB

DWUSA2811 11/10

Skid Steer Loader Walkaround Guide

JCB SKID STEER LOADER vs THE COMPETITION

World's Safest Skid Steer Loader

- Entry/Exit from the left side of the machine, following the loadall pedigree
- An average of 60% better visibility

World's Most Comfortable Skid Steer Loader

- 33% larger cab – largest in the industry

World's Most Productive Skid Steer Loader

- 21% more productive in performance tests

Industry Leading Serviceability

- Easier to service: 24% better SAE service rating

Exceptional Cost of Ownership

- Up to $3,000 in fuel savings
- 16% lower cost of ownership

Skid Steer Loader Walkaround Guide

FEATURES

- JCB PowerBoom and side entry – the common sense approach
- A range of 30 JCB approved attachment families
- Increased all around visibility – on average 60% better
- New modern styling and design
- Sealed and pressurized cab – nearly half the sound power of the competition
- Largest door in the industry, nearly twice the size of the average twin arm skid steer loader
- Serviceability via rear opening door, tilting cab, and top opening hood –24% better than the competition
- Vertical lift configurations allow for maximum reach at full lift height
- Expanded range covering from 2600 lb. ROC to 3295 lb. ROC

QUALITY

- Standard 2 year warranty
- 48 hour parts guarantee
- Utilizes steel hydraulic piping as opposed to rubber hoses wherever possible
- 20% more steel in PowerBoom than in both arms of an average twin arm SSL – built to last
- Utilizes O Ring Face Seals on all hydraulic fittings
- Top electrical rating (IP69) for all external electrical connections

KEY ATTRIBUTES

Safety

- 60% better visibility than the average twin arm SSL, maximizing productivity
- Side door for safe entry and exit clear of crush and slip hazards associated with traditional twin arm front entry skid steer loaders
- NIOSH has recognized the benefits of the single boom, side entry design, and has rewritten their safety alert accordingly

Efficiency

- 16% better fuel consumption as compared to the average competitor
- 24% fewer steps to startup than the average twin arm skid steer loader

Operator Comfort

- 33% larger operator area as compared to the competition
- Pressurized and sealed cab options for total comfort
- Low effort servo controls, ensure maximum operator comfort and productivity
- Open canopy, enclosed cab with heat and cab with heat & AC options available

Serviceability

- 24% better serviceability than the average competitor
- 30% fewer grease points than the average traditional twin arm skid steer loader
- Clean hose routings provide for class leading hydraulic access
- 50 hr greasing interval, minimizing required maintenance

Profitability

- 16% lower cost of ownership than the top competitor
- High quality standards resulting in reduced down time
- Better SAE service rating indicates quicker and easier serviceability, maximizing machine availability

Productivity

- 6% more hydraulic horse power than the average skid steer loader
- High breakout forces maximize production on the job site
- 21% more productive overall in performance tests than the average competitor
- Options enhancing productivity include: SRS, parallel lift, 2 speed, high flow hydraulics, multifunction joysticks foot throttle, and 30 approved attachment families

NIOSH ALERT

Preventing Injuries and Deaths from Skid-Steer Loaders

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

CDC Workplace Safety and Health

NIOSH

NOTICE TO READERS

The first edition of this Alert incorrectly referenced several OSHA regulations as applying to skid-steer loaders. This revised edition removes references to those standards. In addition, this revised Alert addresses differences in skid-steer loader design and contains several minor revisions and changes in wording to improve clarity.

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DHHS (NIOSH) Publication Number 2011-128
(supersedes 98-117)

December 2010

SAFE • HEALTHIER • PEOPLE™

NIOSH ALERT

Preventing Injuries and Deaths from Skid-Steer Loaders

WARNING!

Workers who operate or work near skid-steer loaders may be crushed or caught by the machine or its parts.

If you operate or work near skid-steer loaders, take these steps to protect yourself.

1. Follow safe operating procedures:
   - Read and understand all safety and operating procedures outlined in the operators manual, workshop manual, and safety decals.
   - Operate the loader only when properly positioned in the operator's compartment—never from the outside.
   - Stay seated when operating the loader controls.
   - Operate with the seat belt snuggly fastened and the restraint bar properly positioned, if one is provided.
   - Keep hands, arms, legs, and head inside the operator's compartment while operating the loader.
   - Load, unload, and turn on level ground when possible.
   - Travel and turn with the bucket in the lowest position possible. Carry the load low.
   - Operate on stable surfaces only. Avoid slippery surfaces.
   - Do not travel across slopes. Travel straight up or down, with the heavy end of the machine pointed uphill.
   - Keep bystanders away from the work area.
   - **NEVER** modify or bypass safety devices.
   - **NEVER** carry riders.
   - Be aware that each machine may operate differently.
2. Enter and exit from the loader safely:
   - Enter and exit a loader when the bucket is flat on the ground or when the lift-arm support device is in place.
   - When entering a loader, face the seat and keep a three-point contact with handholds and steps.
   - **NEVER** use foot or hand controls as steps or handholds.
   - Keep all walking and working surfaces clean and clear of debris.
   - Before leaving the operator's seat:
     - lower the bucket flat on the ground,
     - set the parking brake,
     - turn off the engine.

3. Maintain the machine in safe operating condition:
   - Follow the manufacturer's instructions.
   - Keep the foot controls free of mud, ice, snow, and debris.
   - Regularly inspect and maintain the following safety devices:
     - Control interlocks
     - Seat belts
     - Restraint bars
     - Side screens
     - Rollover protective structures (ROPS)
     - Falling object protective structures (FOPS)
   - **NEVER** modify or bypass safety devices.
   - **NEVER** exceed the manufacturer's recommended load capacity.
   - If you must perform service under a raised bucket, make sure the lift-arm support device is in place.

NOTICE TO READERS

The first edition of this Alert incorrectly referenced several OSHA regulations as applying to skid-steer loaders. This revised edition removes references to those standards. In addition, this revised Alert addresses differences in skid-steer loader design and contains several minor revisions and changes in wording to improve clarity.

For additional information, see ***NIOSH Alert: Preventing Injuries and Death from Skid-Steer Loaders*** [DHHS (NIOSH) Publication No. 2011–128 (supersedes 98–117)]. To request single copies of the Alert, contact NIOSH at

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

NIOSH

ALERTA DE NIOSH

Prevención de lesiones y muertes causadas por minicargadores

¡ADVERTENCIA!

Los trabajadores que operan o trabajan cerca de minicargadores pueden ser aplastados o quedar atrapados por la máquina o sus partes.

Si usted opera o trabaja cerca de minicargadores, siga los pasos siguientes para protegerse.

1. Siga los procedimientos de operación segura:
   - Lea y entienda todos los procedimientos de seguridad y de operación que se mencionan en el manual para los operadores, en el manual del taller y en las calcomanías de seguridad.
   - Opere el cargador sólo cuando usted esté bien ubicado en el compartimiento del operador, y nunca desde afuera.
   - Permanezca sentado cuando opere los controles del cargador.
   - Trabaje con el cinturón de seguridad bien ajustado y la barra de sujeción en la posición correcta, en caso de que cuente con una.
   - Mantenga las manos, los brazos, las piernas y la cabeza dentro del compartimiento del operador mientras opere el cargador.
   - Cuando sea posible, cargue, descargue y gire en terrenos nivelados.
   - Avance y gire con el cucharón en la posición más baja posible. Lleve la carga a una altura baja.
   - Opere sólo en superficies estables. Evite las superficies resbalosas.
   - No avance de manera transversal sobre terrenos inclinados. Avance en línea recta hacia arriba o hacia abajo con la parte pesada de la máquina apuntando hacia la parte elevada del terreno.
   - Mantenga a los espectadores alejados del área de trabajo.
   - NUNCA modifique o pase por alto los dispositivos de seguridad.
   - NUNCA transporte pasajeros.
   - Tenga en cuenta que cada máquina puede operar de manera diferente.
2. Entre y salga del cargador de manera segura:
   - Entre y salga del cargador únicamente cuando el cucharón esté descansando sobre el piso o cuando el dispositivo de soporte para el brazo de elevación se encuentre en posición.
   - Cuando entre al cargador, colóquese frente al asiento y utilice agarraderas y peldaños para mantener tres puntos de contacto.
   - NUNCA utilice los controles de mano o de pie como agarraderas o peldaños.

- Mantenga todas las superficies para caminar y trabajar despejadas y libres de residuos.
- Antes de abandonar el asiento del operador:
  - baje el cucharón para que descanse sobre el piso,
  - accione el freno de estacionamiento y
  - apague el motor.

3. Mantenga la máquina en condiciones de operación segura:
   - Siga las instrucciones del fabricante.
   - Mantenga los controles de pie libres de lodo, hielo, nieve y residuos.
   - Inspeccione y dé mantenimiento con regularidad a los siguientes dispositivos de seguridad:
     - Controles entrelazados
     - Cinturones de seguridad
     - Barras de sujeción
     - Rejillas laterales
     - Estructuras de protección contra volcaduras (ROPS, por sus siglas en inglés)
     - Estructuras de protección contra caída de objetos (FOPS, por sus siglas en inglés)
   - NUNCA modifique o pase por alto los dispositivos de seguridad.
   - NUNCA exceda la capacidad de carga que recomienda el fabricante.
   - Si debe realizar un servicio de reparación debajo de un cucharón alzado, asegúrese de que el dispositivo de soporte para el brazo de elevación se encuentre en posición.

AVISO A LOS LECTORES

La primera edición de esta Alerta hace referencias incorrectas a varias regulaciones de la OSHA como si se aplicaran a los minicargadores. Esta edición revisada elimina las referencias a esos estándares. Además, esta Alerta revisada se refiere a las diferencias en el diseño de los minicargadores y contiene varias revisiones menores y cambios en la redacción para mejorar la claridad.

For additional information, see ***NIOSH Alert: Preventing Injuries and Death from Skid-Steer Loaders*** [DHHS (NIOSH) Publication No. 2011–XXX (supersedes 98–117)]. To request single copies of the Alert, contact NIOSH at

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
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NIOSH ALERT

Preventing Injuries and Deaths from Skid-Steer Loaders

WARNING!

Workers who operate or work near skid-steer loaders may be crushed or caught by the machine or its parts.

The National Institute for Occupational Safety and Health (NIOSH) requests assistance in preventing injuries and deaths among workers who operate, service, or work near skid-steer loaders. This type of loader is commonly used in agriculture, construction, and general industry for materials handling and excavating. NIOSH studies in the 1990s suggested that employers, supervisors, and workers may not fully appreciate the potential hazards associated with operating or working near skid-steer loaders and they may not follow safe work procedures for controlling these hazards. This Alert describes six deaths involving skid-steer loaders and recommends methods for preventing similar incidents.

BACKGROUND

Risk of Injury

Improper operation of skid-steer loaders can put workers at risk of rollover and run-over incidents. These risks are similar to those associated with other types of mobile construction machinery. However, skid-steer loaders have features that can expose workers to additional injury risks.

Most skid-steer loaders are configured with the operator's seat and controls located between two lift arms and in front of the lift-arm pivot points. The operator enters and exits through the front of the machine by stepping over the lowered lift arm and its attachment, usually a loader bucket (see Figure 1). This front-entry configuration places the operator in the zone of lift-arm movement with the potential of being caught between the machine frame and the lift arm or attachment if controls are inadvertently activated during entry or exit. Side entry skid-steer loaders were introduced into the U.S. market in 1995. This side-entry configuration allows the operator to enter and exit the machine on the side opposite the single lift arm, away from the zone of lift-arm movement.

However, while performing activities other than entering or exiting the machine, the potential for injury from being caught between the lift-arm attachment and the machine

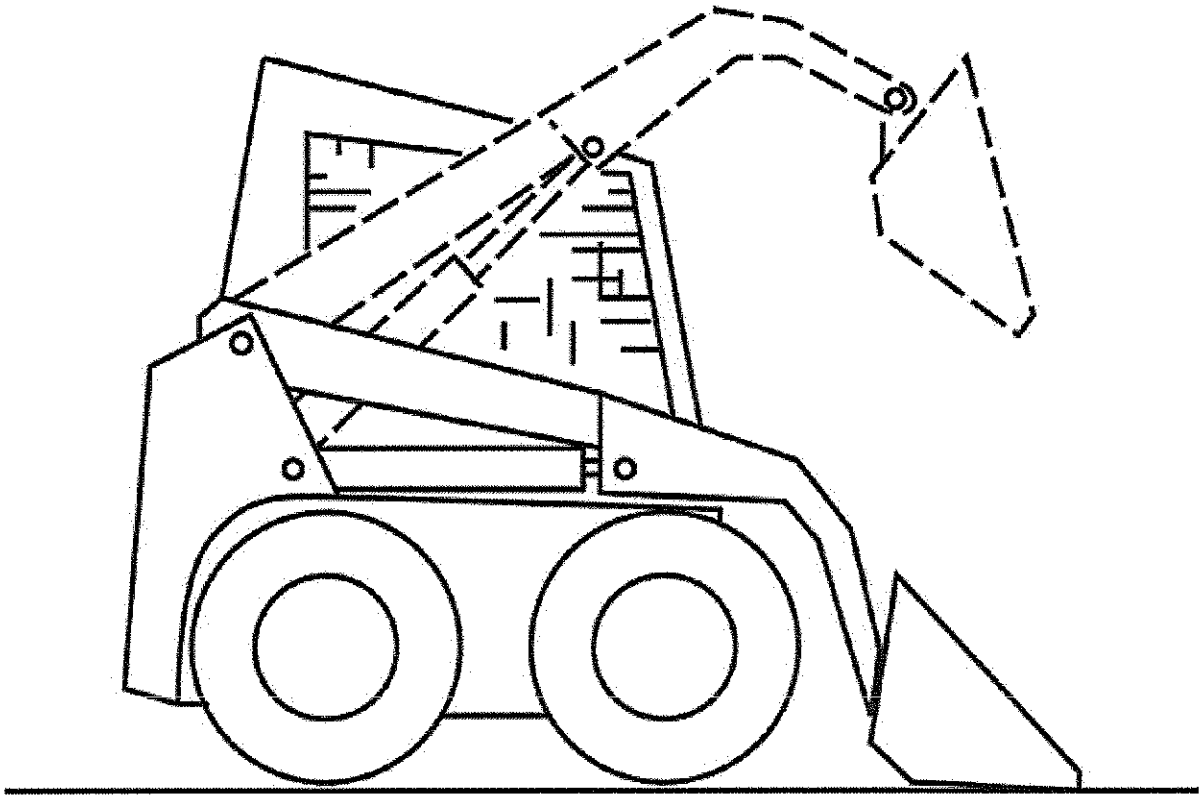

Figure 1

frame is present with either type of machine when safe procedures are not followed. For example, skid-steer loaders are very compact and the operator sits close to the zone of lift-arm movement. Operators can be struck by a lift arm or caught between a lift arm and the machine frame if they lean or reach out of the operator's compartment while the lift arm is moving.

Current Safeguards

Control Interlocks—To prevent unintentional control activation, skid-steer loaders are equipped with interlocked control systems. These interlocked control systems require that a safety device such as a seat belt be secured or restraint bar be properly positioned before the operational controls can function. This ensures that the operator is safely seated away from the zone of lift-arm movement before the machine can be operated.

Rollover Protective Structures and Operator Restraints—Skid-steer loaders are also equipped with rollover protective structures (ROPS) and seat belts to keep the operator inside the machine during rollover incidents. Falling object protective structures (FOPS) are provided to protect the operator from being struck by falling material.

Side Screens—Metal or glass side screens integrated with the ROPS prevent the operator from leaning or reaching out of the operator's compartment and coming into contact with a moving lift arm. Side screens may

also protect operators from being injured by debris or objects entering the operator's compartment.

Fatality Data

Several databases identify work-related fatalities in the United States:

- NTOF*—NIOSH National Traumatic Occupational Fatalities Surveillance System
- FACE—NIOSH Fatality Assessment and Control Evaluation Program
- CFOI—Census of Fatal Occupational Injuries of the Bureau of Labor Statistics

The following summary describes the data on fatalities involving skid-steer loaders in these databases for varying time periods extending from 1980 to 1997.

NTOF—During the period 1980–92, the NTOF Surveillance System used death certificate data to identify 54 work-related fatalities involving skid-steer loaders [NIOSH 1997b].

Types of incidents	Number of fatalities
Pinning between the bucket and frame or between the lift arm and frame	25 (46%)
Crushing, for which no further information was provided	15
Rollovers	11
Pinning between the loader and another object	2
Runover	1

An additional 65 fatalities were attributed to pinning between the loader bucket and frame or between a loader lift arm and frame but no loader type was identified. Some of these fatalities may have involved skid-steer loaders. The NTOF data probably underestimate the number of fatalities involving skid-steer loaders, because death certificates do not identify all work-related fatalities [Russell and Conroy 1991; Stout and Bell 1991].

FACE—During the period 1992–1997, the NIOSH FACE Program identified 37 work-related fatalities involving skid-steer loaders.

Types of incidents	Number of fatalities
Pinning between the bucket and frame or between a lift arm and frame	29 (78%)
Rollovers	6
Other/unknown	2

The 29 fatalities involving pinning between the bucket and frame or between a lift arm and frame resulted from the following activities:

Types of activities	Number of fatalities
Working or standing under a raised lift arm or attachment without proper support device	10
Leaning out of the operator's compartment into the path of the moving lift arm	8
Entering or exiting the operator's compartment	5
Unknown	6

CFOI—During the period 1992–94, the CFOI identified 20 work-related fatalities involving skid-steer loaders. Of these 20 fatalities, 14 (70%) involved pinning between the loader bucket and frame or between a lift arm and frame.

*Data from NTOF is no longer being collected.

STANDARDS AND REGULATIONS

OSHA Regulations

The current Occupational Safety and Health Administration (OSHA) regulations for the construction industry (29 CFR† 1926) do not specifically address skid-steer loaders. The regulations do, however, require employers to protect workers from hazards associated with operating and maintaining mobile machines.

SAE International Standard

SAE International has developed a Surface Vehicle Standard that addresses skid-steer loader safety: J1388 [SAE 2008]. This document contains design guidelines that address such hazards as machine rollovers and being caught between a lift arm and frame, or the attachment and frame. To conform to this standard, manufacturers must adhere to the following:

- Provide warnings, operator instructions, and service procedures.
- Equip machines with seat belts.
- Provide a means to protect the operator from the hazard of a lift arm lowering when entering and exiting the machine.
- Provide handholds and steps to facilitate entry and exit from the loader.
- Provide ROPS/FOPS with side screens.
- Provide two access openings, one for emergency exit.
- Provide safety signs and instructions to warn users of the potential hazards during normal operation and servicing.

†*Code of Federal Regulations.* See CFR in references.

CASE REPORTS

The cases presented here were investigated by the FACE Program between 1992 and 1997.

Case 1— Bypassed Interlocked Control System

On February 7, 1995, a 37-year-old male farmer died after he was struck by the bucket of a front-entry skid-steer loader. The incident occurred after the farmer had used the loader for chores and parked it in an open garage without cleaning accumulated mud, snow, and manure from the foot-operated lift-arm and bucket controls. When the farmer shut down and exited the machine, he stepped on the lift-arm control pedal, moving it to the "raise" position. The debris under the pedal then froze, locking the control pedal in that position. After about an hour, the farmer returned, entered the loader, and started the engine. The lift arm rose until the bucket contacted the header over the open garage door. The farmer shut down the machine, dismounted, knelt on the ground in front of the machine under the raised bucket, and began cleaning the frozen pedals with a pry bar. While cleaning the control pedals, he moved the lift-arm foot pedal control to the "lower" position. The lift arm lowered, pinning the farmer between the bucket and frame of the machine. The farmer was discovered by his wife, who immediately climbed into the machine, started the engine, and attempted to raise the bucket. But the controls had frozen again, and she was unable to activate the lift-arm control pedal. A farm employee tried unsuccessfully to raise the bucket with a jack. The farmer was eventually freed by the local fire department. Resuscitation efforts began at the

scene and continued during transport to a local hospital, but they were unsuccessful [University of Iowa 1995].

Although several factors contributed to the injury, two factors were critical:

1. The interlocked control system for the lift-arm control had been bypassed by someone jamming a glove into the safety interlock linkage connected to the seat belt, so that the controls did not lock when the seat belt was not in use.
2. The low overhead clearance inside the garage prevented the lift arm from raising high enough to allow use of the lift-arm support pins located near the top of the ROPS.

Case 2—Improper Exit, Removal of ROPS

On October 29, 1993, a 26-year-old male hog farmer was fatally injured when he was caught between the frame of a skid-steer loader and a lift-arm hydraulic cylinder. The farmer was working alone, using the loader to pile manure in one corner of a hog containment building. The loader's ROPS had been removed to permit operation under the 6- to 6½-foot high ceiling of the building, and the lift-arm support device (on one of the lift cylinders) could only be used when the lift arm was almost fully raised. The loader stalled in front of and facing a manure pile with the bucket partially raised, blocking the farmer from dismounting through the front of the machine. As he attempted to climb out over the side of the machine, he unintentionally hit the lift-arm control lever, causing the lift arm to drop and crush him against the frame. A family member called 9-1-1, and first responders released the farmer using a large front-end loader and chain. The farmer was transported to a hospital where he was pronounced dead as a result of a crush injury to his chest [Minnesota Department of Health 1994].

Case 3—Unsupported Bucket, Bypassed Restraint Bar Interlock

On March 4, 1994, a 24-year-old male landscape worker died from injuries sustained while cleaning snow from the control pedals of a skid-steer loader. Using the loader and a pickup truck equipped with a snow plow, the worker and a coworker were to clear snow from the parking lot and walkways of a condominium complex. Upon arrival at the jobsite the morning of the incident, the worker borrowed a snow brush/scraper from his coworker to clear snow from the loader. The loader was equipped with control interlocks connected to a restraint bar, which had to be lowered in front of the operator before the engine could be started or the foot-operated lift-arm and bucket controls operated. The worker started the machine, raised the lift arm, and then dismounted. He either wriggled under or climbed over the restraint bar, or lowered it after he exited the seat. When the coworker plowing snow with the pickup truck made a pass through the area, he observed the worker standing under the raised bucket, leaning into the operator's compartment. When he returned for a second pass, the coworker saw the worker pinned between the bucket and frame. While cleaning the snow from the foot well of the operator's compartment, the worker had activated the lift-arm control pedal. The bucket lowered and crushed the worker against the frame of the machine. The emergency medical service responded minutes later and freed the worker. He was transported to a regional hospital where he was pronounced dead from blunt chest trauma. Although the equipment manufacturer provided a lift-arm

support device for this machine, it was not available at the jobsite at the time of the incident [Massachusetts Department of Public Health 1994].

Case 4—Working Near Raised Bucket

On July 16, 1992, a 16-year-old male landscape worker died as a result of traumatic injuries from being struck by the bucket of a skid-steer loader. The worker and two coworkers were removing a fence that surrounded a housing development drainage pond. The fence had been hung on 1- by 2-inch wooden stakes near the bottom of the pond's bank, which had a 20% slope. The loader was being used to pull up the stakes, because overgrowth around the pond made it difficult to remove them by hand. The operator of the loader positioned it about midway from the top of the bank, facing down the slope with the bucket lowered. The worker and a coworker stood near the bottom of the bank and wound the fence around the loader bucket. The operator pulled the stake by raising the bucket. He then moved the machine to the next stake and lowered the bucket to repeat the process. As the operator was raising the bucket to pull the third stake, the loader tipped forward. To stabilize the machine, the operator lowered the bucket. At the same time, the worker who had been standing in front of and to the side of the loader, slipped and fell underneath the bucket. The bucket struck him in the chest and he died shortly thereafter from traumatic chest injuries [Minnesota Department of Health 1992].

Case 5—Improper Backing Procedure, Nonuse of Seat belt

On September 20, 1996, a 43-year-old landscape worker died after he backed a skid-steer loader over a 6-foot concrete retaining wall. At the time of the incident, the operator was spreading topsoil to prepare for grass seeding. He performed the task by driving toward the wall with a fresh load of topsoil in the bucket, depositing the soil near the wall, and then backing up dragging the loader bucket to spread the soil evenly. He had made numerous passes in this manner, back-dragging the bucket from the wall and up the slope. However, as he approached the edge of the work area after depositing the topsoil on his last pass before the incident, he turned the loader around and backed toward the wall dragging the bucket on the ground. The left rear tire of the machine went over the wall, followed by the right rear tire. The machine struck the ground, rear end first, coming to rest on its left side. The operator, who was not wearing the seat belt, remained inside the cab but came out of the operator's seat. He was knocked unconscious, with his head and chest wedged between the seat and the side screen. Several coworkers heard the impact and came immediately to the operator's aid. However, emergency personnel were unable to find a pulse, and the operator was pronounced dead at the scene by the medical examiner. The cause of death was asphyxiation due to occlusion of the airway [Missouri Department of Health 1996].

Case 6—Removed Side Screens

On July 6, 1997, a 25-year-old male worker for a tree-trimming service was fatally injured when he was caught by the descending lift arm of an operating skid-steer loader. At the time of the incident, he was using the loader to pick up brush and stumps in a residential area. The side screens on the machine had been removed. Following a lunch break, the operator resumed operating the loader to gather yard debris and deposit it

into a dump truck. As he was loading a log into the truck, he leaned out of the operator's compartment, placing his head in the path of the lift arm. The lift arm moved down, either when the operator unintentionally stepped on the foot-operated lift control pedal or when hydraulic pressure was lost because of a ruptured hydraulic line. A passing homeowner noticed hydraulic fluid spraying from the machine and alerted one of the operator's coworkers, who found the operator sitting in the operator's seat with his head crushed by the lift arm. The cause of death was recorded as a crushed cranium due to a heavy equipment accident. Emergency personnel at the scene noted that the main pivot pin connecting the left lift arm to the frame was missing. Investigators concluded that the pin might have disengaged while the lift arm was down in the "carry" position, resulting in dislocation of the lift arm and rupture of the hydraulic line [NIOSH 1997a].

CONCLUSIONS

These fatal incidents suggest that employers and workers may not fully appreciate the potential hazards associated with operating or working near skid-steer loaders, the need to follow safe work procedures, and the consequences of bypassing interlocks and other safety features.

RECOMMENDATIONS

NIOSH recommends that employers and workers comply with OSHA regulations, maintain equipment in accordance with manufacturer's guidelines, and take the following measures to prevent injury when operating or working near skid-steer loaders:

- Always use and maintain the following safety devices provided by manufacturers:
  - Lift-arm support devices
  - Control interlocks
  - Seat belts
  - ROPS/FOPS
  - Side screens
- Follow safe operating procedures.
- Follow safe mounting and dismounting procedures.
- Follow proper maintenance procedures.
- Train workers to read and follow the manufacturer's procedures for operating and servicing skid-steer loaders [AEM 2006].

The following subsections discuss these recommendations in detail.

Using and Maintaining Safety Devices Provided by Manufacturers

Regularly inspect and maintain all safety devices provided by manufacturers.

Lift-arm support—Use the lift-arm support device provided by or recommended by the manufacturer any time it is necessary to work or move around the machine with the lift arm in a raised position. Machines now being manufactured have either pin-type support devices (which can be operated from inside the operator's cab) or strut-type support devices (which may also be operated from inside the cab or may require the help of a coworker). If the machine is not equipped with a lift-arm support device or it is damaged, contact the equipment dealer or manufacturer's representative for help in determining proper support procedures or for replacement parts. Never use concrete

blocks or simple metal angle irons because they can shift or collapse under even light loads.

Interlocked controls—Regularly inspect and maintain interlocked controls in proper operating condition. These systems require the operator to be properly positioned and restrained before the loader can be used. Never bypass interlocked controls. Make sure that the seat belt is always securely fastened around the operator when the loader is in operation. Always use the restraint bar if one is provided. Although workers and employers may perceive safety features such as interlocked controls and seat belts as obstacles to efficient machine operation, bypassing these devices increases their risk of serious injury and death.

Seat belts—Make sure that the seat belt is secured around the operator whenever the operator is in the seat. The seat belt protects the operator in several ways. In the event of a rollover, the seat belt restrains the operator within the protective envelope of the ROPS. The seat belt can also protect the operator from falling out or being jostled into the operating zone of the lift arm and bucket. If the seat belt is part of the interlocked control system, it protects workers from being caught and crushed between the lift arm and frame.

Field modification kits—If side screens, interlocks, ROPS/FOPS, and seat belts are not on the machine, contact the equipment dealer or manufacturer's representative about the availability of field modification kits or replacement parts.

Operating Safely

If you are an employer, make sure that your workers understand all the manufacturer's warnings and instructions before they operate a skid-steer loader. Train workers to use the following safe operating procedures:

- Read and understand all safety and operating procedures outlined in the operator's manual, service manual, and safety decals.
- Operate the loader only when properly positioned in the operator's compartment—never from the outside.
- Stay seated when operating the loader controls.
- Operate with the seat belt snuggly fastened and the restraint bar properly positioned, if one is provided.
- Keep hands, arms, legs, and head inside the operator's compartment while operating the loader.
- Plan to load, unload, and turn on level ground, when possible.
- Travel and turn with the bucket in the lowest position possible. Carry the load low.
- Never exceed the manufacturer's recommended load capacity for the machine.
- Operate on stable surfaces only. Avoid slippery surfaces.
- Avoid traveling across slopes--travel straight up or down slopes with the heavy end of the machine pointed up hill.
- Always look in the direction of travel.
- Keep bystanders away from the work area.
- **NEVER** modify or bypass safety devices.
- Never carry riders.
- Be aware that each machine may operate differently.

Entering and Exiting the Loader Safely

- Enter and exit when the bucket or other attachment is flat on the ground or when the lift-arm support device is in place. Use the lift-arm support device supplied or recommended by the manufacturer.
- When entering the loader, face the seat and keep a three-point contact with handholds and steps.
- Never use foot or hand controls as steps or handholds.
- Keep all walking and working surfaces clean and clear of debris.
- Before leaving the operator's seat,
  - lower the bucket or other attachment flat on the ground,
  - set the parking brake,
  - turn off the engine.
- If unable to exit through the primary opening for entering the machine, use the emergency exit at the back of the operator's compartment.

Maintaining the Loader in Safe Operating Condition

- Follow the manufacturer's instructions for maintaining the loader.
- Keep the foot controls and the operator's compartment free of mud, ice, snow, and debris.
- Regularly inspect and maintain the following safety devices:
  - Control interlocks
  - Seat belts
  - Restraint bars
  - Side screens
  - Rollover protective structures (ROPS)
  - Falling object protective structures (FOPS)

NEVER modify or bypass safety devices.

- Before servicing the loader,
  - lower the bucket or other attachment flat on the ground,
  - set the parking brake,
  - turn off the engine,
  - remove the key from the switch.
- If the machine cannot be serviced with the bucket on the ground, remove the bucket or attachment and use the lift-arm support device recommended or provided by the manufacturer. If the machine is not equipped with a lift-arm support device or it is damaged, contact the equipment dealer or manufacturer's representative for help in selecting a proper support device or for replacement parts.
- Never work on the machine with the engine running unless directed to do so by the operator's manual. Follow the manufacturer's safety recommendations to complete the task. If the adjustments require that the engine be in operation, use an additional person and work as a 2-person team with a trained operator properly positioned in the operator's station who can effectively communicate with the worker making the adjustment.

Training

Train operators and workers who operate and service skid-steer loaders to read and follow the manufacturer's operating and service procedures in the operator's manuals and service manuals and on the loader's safety

signs. For help with such training, contact the equipment manufacturer or check the manufacturer's Web site for availability of training resources. Obtain manuals, instructional videos, and operator or service training courses from the equipment dealer or manufacturer.

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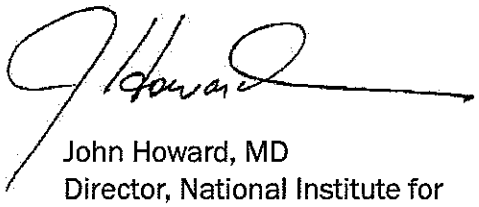

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