

**John Deere
762A
Scraper**



TECHNICAL MANUAL

TM-1225
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762A SCRAPER

Technical Manual

TM-1225 (Jul-84)

SECTION AND GROUP CONTENTS OF THIS MANUAL

SECTION I - GENERAL INFORMATION

- Group I - Contents and Index
- Group II - Introduction and Safety Information
- Group III - General Specifications
- Group IV - Predelivery, Delivery, and After-Sale Services
- Group V - Fuels and Lubricants

SECTION 1 - WHEELS

- Group 0110 - Powered Wheels and Fastenings
- Group 0120 - Non-Powered Wheels and Fastenings
- Group 0199 - Specifications and Special Tools

SECTION 2 - AXLES AND SUSPENSION SYSTEMS

- Group 0201 - Drive Axle Housing and Support
- Group 0210 - Differential or Bevel Drive
- Group 0225 - Input Drive Shafts and U-Joints
- Group 0230 - Non-Powered Wheel Axles
- Group 0250 - Axle Shaft, Bearings and Reduction Gears
- Group 0260 - Hydraulic System
- Group 0299 - Specifications and Special Tools

SECTION 3 - TRANSMISSION

- Group 0325 - Input Drive Shafts and U-Joints
- Group 0341 - Housings and Covers
- Group 0342 - Mounting Parts
- Group 0350 - Gears, Shafts, Bearings and Power Shift Clutch
- Group 0360 - Hydraulic System
- Group 0399 - Specifications and Special Tools

SECTION 4 - ENGINE

- Group 0400 - Removal and Installation
- Group 0401 - Crankshaft and Main Bearings
- Group 0402 - Camshaft and Valve Actuating Means
- Group 0403 - Connecting Rods and Pistons
- Group 0404 - Cylinder Block
- Group 0407 - Oiling System
- Group 0408 - Ventilating System
- Group 0409 - Cylinder Head and Valves
- Group 0410 - Exhaust Manifold
- Group 0413 - Fuel Injection System
- Group 0414 - Intake Manifold
- Group 0416 - Turbocharger
- Group 0417 - Water Pump
- Group 0418 - Thermostats, Housings, and Water Piping
- Group 0419 - Oil Cooler
- Group 0420 - Fuel Filter
- Group 0422 - Starting Motor and Fastenings
- Group 0429 - Fan Drive
- Group 0433 - Flywheel, Housing and Fastenings
- Group 0499 - Specifications and Special Tools

SECTION 5 - ENGINE AUXILIARY SYSTEMS

- Group 0505 - Cold Weather Starting Aids
- Group 0510 - Cooling Systems, Radiator, Fan Shroud and Fan
- Group 0515 - Speed Controls
- Group 0520 - Intake System
- Group 0530 - External Exhaust System
- Group 0540 - Mounting Frame
- Group 0560 - External Fuel Supply Systems

SECTION 6 - TORQUE CONVERTER

- Group 0641 - Housing and Cover
- Group 0651 - Turbine, Gears and Shaft
- Group 0660 - Hydraulic System
- Group 0699 - Specifications and Special Tools

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SECTION AND GROUP CONTENTS OF THIS MANUAL—Continued

SECTION 9 - STEERING SYSTEM

- Group 0920 - Power Steering
- Group 0960 - Hydraulic System
- Group 0999 - Specifications and Special Tools

SECTION 10 - SERVICE BRAKES

- Group 1011 - Active Elements
- Group 1015 - Controls Linkage
- Group 1060 - Hydraulic System
- Group 1099 - Specifications and Special Tools

SECTION 11 - PARKING-EMERGENCY BRAKES

- Group 1111 - Active Elements
- Group 1115 - Controls Linkage
- Group 1199 - Specifications and Special Tools

SECTION 13 - MISCELLANEOUS VEHICLE

- Group 1370 - Lubrication Systems

SECTION 16 - ELECTRICAL SYSTEM

- Group 1671 - Batteries, Support and Cables
- Group 1672 - Alternator, Regulator and Charging System Wiring
- Group 1673 - Lighting System
- Group 1674 - Wiring Harness and Switches
- Group 1675 - System Controls
- Group 1676 - Instruments and Indicators
- Group 1699 - Specifications and Special Tools

SECTION 17 - FRAME, CHASSIS OR SUPPORTING STRUCTURE

- Group 1740 - Frame Installation
- Group 1799 - Specifications and Special Tools

SECTION 18 - OPERATOR'S STATION

- Group 1810 - Operator Enclosure
- Group 1821 - Seat and Seat Belt
- Group 1830 - Heating and Air Conditioning
- Group 1899 - Specifications and Special Tools

SECTION 19 - SHEET METAL AND STYLING

- Group 1910 - Hood or Engine Enclosure
- Group 1921 - Grille and Grille Housing
- Group 1927 - Fenders

SECTION 20 - SAFETY, CONVENIENCE AND MISCELLANEOUS

- Group 2002 - Mirror
- Group 2004 - Horn and Warning Devices
- Group 2006 - Cigar Lighter

SECTION 21 - MAIN HYDRAULIC SYSTEM

- Group 2160 - Hydraulic System
- Group 2199 - Specifications and Special Tools

SECTION 35 - SCRAPER AND HAULAGE DEVICE

- Group 3501 - Blades or Cutting Edges
- Group 3540 - Frames
- Group 3560 - Hydraulic System
- Group 3599 - Specifications and Special Tools

SECTION 36 - CONVEYOR AND ELEVATING DEVICE

- Group 3612 - Conveyor or Mast
- Group 3640 - Frames
- Group 3650 - Gearbox
- Group 3660 - Hydraulic System
- Group 3699 - Specifications and Special Tools

SECTION 90 - SYSTEM TESTING

- Group 9005 - General Information - Seven Basic Steps of Testing and Diagnosis
- Group 9010 - Engine
- Group 9015 - Electrical
- Group 9020 - Power Train
- Group 9025 - Hydraulic System (Flow Meter)
- Group 9031 - Heating and Air Conditioning
- Group 9035 - Specifications and Special Tools

The specifications and design information contained in this manual were correct at the time it was printed. It is John Deere's policy to continually improve and update our machines. Therefore, the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and ICED standards.

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ALPHABETICAL INDEX

A

Air conditioning system testing	9031-2
Component location	9031-19
Diagnosis and testing	9031-5
General information	9031-2
Operational test	9031-17
Safety precautions	9031-4
System service	9031-9
Accumulator, brake	1060-1
After sale inspection	I-IV-18
Air cleaner	0520-2
Air conditioning system	1830-3
Air filter element	0520-1
Air filter restriction indicator	1676-3
Alarm, reverse warning	2004-1
Alternator	1672-1
Auxiliary bowl lower solenoid valve and check valve assembly	3560-13
Axle bearings	0250-1
Axle filter restriction indicator	1676-7
Axle housing, drive	0201-3
Axle shaft	0250-1
Axles, non-powered wheel	0230-1

B

Batteries	1671-3
Bearings, axle	0250-1
Bearings, main	0401-1
Belt, seat	1821-3
Bevel drive	0210-1
Blades and cutting edges	3501-3
Blower motor assembly	1830-27
Bowl and ejector gate switches	1674-2
Bowl control valve	3560-1
Bowl lift cylinder	3560-17
Brake accumulator	1060-1
Brake hydraulic system	1060-1
Brakes, parking-emergency	1111-1
Brake pedal	1015-1
Brakes, scraper hydraulic	1011-5
Brakes, service	1011-3
Brakes, tractor	1011-3
Brake valve	1060-9

C

Canopy	1810-4
C1 check valve	0360-26
C1 clutch pads	0350-5
Camshaft	0402-1
Case, differential	0210-2
Central lubrication system	1370-3
Center adjusting idler	3612-13
Chain, elevator	3612-3
Charging system wiring	1672-1
Cigar lighter	2006-1
Circuit board, elevator	1675-1
Circuit breakers	1674-4
Circuit, elevator control	1675-1
Clutch coil and housing	1830-13
Coil and housing, clutch	1830-13
Cold weather starting aids	0505-3
Command potentiometer	1675-1
Compressor	1830-3
Compressor hub and drive plate assembly	1830-6
Compressor, leak testing	1830-16
Compressor oil	1830-14
Compressor pulley and bearing	1830-12
Compressor relief valve	1830-25
Compressor shaft seal	1830-8
Condenser	1830-19
Connecting rods	0403-1
Controller, transmission	1675-4
Control circuit, transmission	1675-4
Controls linkage, parking - emergency brakes	1115-1
Coolant conditioner	0510-4
Coolant filter	0510-4
Cooler, oil	0419-1
Cover, differential	0210-2
Conveyor	3612-3
Conveyor and elevating device	3612-1
Conveyor and elevating device, hydraulic system	3660-1
Crankshaft	0401-1
Cutting edges and blades	3501-3
Cylinder block	0404-1
Cylinder, bowl lift	3560-17
Cylinder head and valves	0409-1
Cylinder, ejector gate	3560-12
Cylinder, sliding floor	3560-12
Cylinders, steering	0960-21

Continued on next page

D

Damper, drive	0433-3
Drive, fan	0429-1
Damper, vibration	0401-8
Delivery service	I-IV-18
Differential	0210-1
Differential case	0210-2
Differential cover	0210-2
Differential housing with lock	0210-4
Differential lock check valve	0260-5
Differential lock orifice	0260-5
Differential lock pump	0260-4
Differential lock suction filter	0260-6
Differential lock valve	0260-1
Dimensions	I-III-3
Diodes	1676-8
Drive axle housing	0201-3
Drive, input	0225-1
Drop train gears	0350-52

E

Ejector gate cylinder	3560-12
Electrical systems	1671-3
Electrical system testing	9015-1
Charging circuit	9015-14
Complete electrical schematic	9015-51
Component location	9015-59
Diagnosing malfunctions	9015-4
Electrical block diagram	9015-3
Electrical wiring diagram	9015-54
Elevator and bowl circuits	9015-31
Gauges and indicators circuit	9015-19
General information	9015-1
Lighting circuit	9015-17
Miscellaneous accessories	9015-28
Precautions	9015-8
Starting circuit	9015-11
Testing and adjustments	9015-10
Transmission control circuit	9015-40
Visual inspection	9015-9
Electrically operated gauges and indicators ..	1676-4
Elevator chain	3612-3
Elevator circuit board	1675-1
Elevator control circuit	1675-1
Elevator motor	3660-37
Elevator switch	1675-1

Engine	0400-1
Engine coolant heater	0505-4
Engine coolant temperature gauge	1676-4
Engine enclosure	1910-3
Engine front mount isolators	0540-2
Engine oil pressure gauge	1676-4
Engine oiling system	0407-1
Engine oils	I-V-2
Engine rear mount isolators	0540-1
Engine shut-off cable	0515-3
Engine system testing	9010-1
Component location	9010-23
Diagnosing malfunctions	9010-7
General information	9010-2
Introduction	9010-1
Testing and adjustment	9010-10
Visual inspection	9010-5
Evaporator	1830-21
Exhaust manifold	0410-1
Expansion valve	1830-23
External exhaust system	0530-1

F

Fan	0510-3
Fan drive	0429-1
Fan drive support	0429-3
Fan shroud	0510-1
Feedback potentiometer	1675-2
Fenders	1927-1
Filter, differential lock suction	0260-6
Filter, fuel	0420-1
Filter relief valve	0360-22
Flywheel	0433-1
Follow-up steering cylinders	0960-18
Frames	3640-1
Frame installation	1740-3
Fuel filter	0420-1
Fuel gauge	1676-4
Fuel injection nozzles	0413-9
Fuel injection pump	0413-5
Fuel injection system	0413-1
Fuel line	0560-5
Fuel supply pump	0560-3
Fuel tank	0560-1
Fuel transfer pump	0413-1
Fuses	1674-4

G

Gauge, fuel	1676-4
Gauge, engine coolant temperature	1676-4
Gauge, engine oil pressure	1676-4
Gauge, hydrostatic charge pressure	1676-2
Gauge, transmission lube pressure	1676-2
Gauge, transmission oil pressure	1676-2
Gear selector switch	1675-5
Gears, reduction	0250-1
Gear, shafts, bearings and power shift clutch	0350-1
Gearbox	3650-1
General specifications	I-III-1
Greases	I-V-2
Grille	1921-1
Grille housing	1921-1
Grille screen	1921-1

H

Heating system	1830-1
Heating system	9031-1
General information	9031-1
Diagnosis and testing	9031-1
High and low refrigerant pressure switches	1830-26
Hood	1910-3
Horn	2004-1
Hour meter	1676-7
Housings and covers	0341-1
Housing, grille	1921-1
Hydraulic brakes, scraper	1011-5
Hydraulic filter restriction indicator	1676-7
Hydraulic fitting installation and service recommendations	2160-51
Hydraulic pump (without pump serial number plate)	2160-13
Hydraulic pump (with pump serial number plate)	2160-28
Hydraulic reservoir	2160-62
Hydraulic system, axle and suspension system	0260-1
Hydraulic system, brake	1060-1
Hydraulic system, conveyor and elevating device	3612-1
Hydraulic system, main	2160-1
Hydraulic system, steering system	0960-1
Hydraulic system testing:	
Axle hydraulic system	9025-35
Component location	9025-109
Diagnosing malfunctions	9025-54
General information	9025-3

Hydraulic schematic	9025-107
Main hydraulic system	9025-4
Special procedures	9025-64
Testing and adjustment	9025-76
Transmission hydraulic system	9025-39
Visual inspection	9025-53
Hydrostatic charge pressure gauge	1676-2

I

Idler assembly, idler	3612-7
Idler, center adjusting	3612-13
Idler, lower assembly	3612-10
Indicator, air filter restriction	1676-3
Indicator, axle filter restriction	1676-7
Indicator, hydraulic filter restriction	1676-7
Indicator, low/high beam	1676-6
Indicator, parking brake	1676-6
Indicator, stop engine warning	1676-7
Indicator, transmission filter restriction	1676-7
Input drive	0225-1
Input drive shaft and U-joints	0325-3
Input shaft and C-1 clutch pack	0350-5
Instruments and indicators	1676-1
Intake manifold	0414-1

K

Key switch	1674-2
------------	--------

L

Leak testing compressor	1830-16
Lighting system	1673-1
Lighter, cigar	2006-1
Links, steering	0920-3
Low/high beam indicator	1676-6
Low pressure warning switch	1060-5
Lower idler assembly	3612-10
Lubrication	I-V-1
Lubrication relief valve	0360-17
Lubrication systems	1370-3

M

Main bearings	0401-1
Main hydraulic oil filter	2160-59
Main hydraulic system	2160-1
Magnetic pick up	1675-6
Manifold	3660-56

Manifold, exhaust	0410-1
Manifold, intake	0414-1
Mast	3612-3
Mechanical sensing gauges and indicators	1676-1
Meter, hour	1676-7
Mirror	2002-3
Motor assembly, blower	1830-27
Motor, elevator	3660-37
Motor, starting	0422-1
Mounting parts	0342-1

N

Noise attenuator tube	2160-64
Nozzle holder and nozzle	0505-3
Nozzles, fuel injection	0413-9

O

Oil compressor	1830-14
Oil cooler	0419-1
Oil filter assembly	0360-20
Oil filter, main hydraulic	2160-59
Oils, engine	I-V-2
Oiling system, engine	0407-1
Orifice, differential lock	0260-5
Orifice, steering circuit restrictor	0960-26
Output shaft	0350-48

P

Parking brake indicator	1676-6
Parking - emergency brakes	1111-1
Pedal, brake	1015-1
Pins and tapered sleeves	1740-9
Pistons	0403-1
Planetary pack	0350-14
Potentiometer	1675-1
Potentiometer, feedback	1675-2
Power steering	0920-3
Power train	
Component location	9020-3
Diagnosing malfunctions	9020-28
Power flow	9020-13
Testing and adjustments	9020-32
Precleaner	0520-3
Predelivery service	I-IV-1
Pressure control valve	2160-56
Pulley and bearing, compressor	1830-12
Pump, differential lock	0260-4

Pump drive and support assembly	2160-54
Pump, hydraulic (without pump serial number plate)	2160-13
Pump, hydraulic (with pump serial number plate)	2160-28
Pump, steering metering	0960-5
Pump, tandem hydraulic	2160-3
Pump, water	0417-1
Pump, fuel injection	0413-5
Pump, fuel transfer	0413-1

R

Radiator	0510-1
Receiver - dryer	1830-20
Reduction gear shaft	0350-12
Reduction gears	0250-1
Regulator	1672-1
Relays	1674-5
Reservoir, hydraulic	2160-62
Resistors	1674-5
Reverse warning alarm	2004-1

S

Safety	I-II-3
Scraper brake adjustment	9020-32
Scraper hydraulic brakes	1011-5
Scraper systems checkout procedure	9005-5
Screen, grille	1921-1
Seat	1821-2
Seat belt	1821-3
Service brakes	1011-3
Shaft, axle	0250-1
Shaft seal, compressor	1830-8
Shaft, spiral bevel pinion	0210-15
Sliding floor cylinder	3560-12
Solenoids	1675-7
Specifications, general	I-III-1
Speed control linkage	0515-1
Speedometer	1676-6
Special tools	
Air conditioning system	1899-3
Alternator, regulator and charging system wiring	1699-7
Batteries, support and cables	1699-6
Crankshaft and main bearings	0499-28
Camshaft and valve actuating means	0499-29
Connecting rods and pistons	0499-31
Conveyor and elevating device hydraulic system	3699-12
Conveyor or mast	3699-11

Special tools—Continued

Cylinder block	0499-32
Cylinder head and valves	0499-34
Drive axle housing and support	0299-11
Electrical system testing	9035-16
Engine removal and installation	0499-25
Engine system testing	9035-3
Frame installation	1799-1
Frames	3599-6
Fuel injection system	0499-36
Gears, shafts, bearings and power shift clutch	0399-24
Heating and air conditioning system	9035-28
Housings and covers	0399-23
Hydraulic system	0399-29, 2199-12, 3599-7
Hydraulic system, axle and suspension systems	0299-10
Hydraulic system, service brakes	1099-6
Hydraulic system, steering	0999-9
Hydraulic system testing (flow meter)	9035-24
Instruments and indicators	1699-8
Operator enclosure	1899-2
Starting motor and fastenings	0499-40
Torque converter housing and cover	0699-6
Turbine, gears and shaft	0699-7
Turbocharger	0499-38
Water pump	0499-39
Wheels, powered	0199-2

Specifications and torque values

Air conditioning system	1899-1
Alternator, regulator, and charging system wiring	1699-2
Axle shafts, bearings, reduction gears	0299-8
Batteries, supports and cables	1699-1
Blades and cutting edges	3599-1
Camshaft and valve actuating means	0499-3
Connecting rods and pistons	0499-5
Conveyor or mast	3699-1
Crankshaft and main bearings	0499-2
Cutting edges and blades	3599-1
Cylinder head and valves	0499-12
Cylinder block	0499-8
Differential or bevel drive	0299-1
Drive axle housing	0299-1
Electrical system testing	9035-7
Engine break-in	0499-1
Engine system testing	9035-1
Exhaust manifold	0499-14
Fan drive	0499-24
Flywheel housings and fastenings	0499-24
Frames	3599-1

Specifications and torque values—Continued

Fuel injection system	0499-15
Frame installation	1799-1
Gearbox	3699-3
Gears, shafts, bearings and power shift clutch	0399-5
Heating and air conditioning system	9035-27
Housings and covers	0399-2
Hydraulic system	0399-16, 3599-3
Hydraulic pump and stroke control valve (without pump serial number plate)	2199-3
Hydraulic pump and stroke control valve (with pump serial number plate)	2199-6
Hydraulic system, axle and suspension system	0299-9
Hydraulic system, conveyor and elevating device	3699-7
Hydraulic system, service brakes	1099-2
Hydraulic system, steering	0999-2
Hydraulic system testing (flow meter)	9035-18
Input drive shaft	0399-1
Input drive shafts and U-joints	0299-5
Input shaft assembly	0399-5
Intake manifold	0499-17
Lighting system	1699-4
Main hydraulic oil filter	2199-11
Mounting parts	0399-4
Non-powered wheel axles	0299-6
Oil cooler	0499-21
Oiling system	0499-10
Parking - emergency brakes	1199-1
Planetary pack	0399-6
Power steering	0999-1
Pressure control valve	2199-10
Pump drive and support assembly	2199-9
Reduction gear shaft	0399-6
Service brakes	1099-1
Starting motor and fastenings	0499-22
System controls	1699-8
Tandem hydraulic pump	2199-1
Thermostats, housings and water piping	0499-20
Torque converter housing and cover	0699-1
Turbine, gears and shafts	0699-2
Turbocharger	0499-18
U-joints	0399-1
Water pump	0499-19
Wiring harness and switches	1699-5
Wheels, non-powered	0199-1
Wheels, powered	0199-1
Spiral bevel pinion shaft	0210-15
Start aid switch	1674-2

Start switch	1674-2
Starting aid line	0505-3
Starting motor	0422-1
Steering circuit restrictor orifice	0960-26
Steering column	0960-1
Steering cylinders	0960-21
Steering cylinders, follow-up	0960-18
Steering links	0920-3
Steering metering pump	0960-5
Steering, power	0920-3
Steering valve	0960-9
Stop engine warning indicator	1676-7
Storage	I-IV-1
Stroke control valve (without pump serial number plate)	2160-24
Stroke control valve (with pump serial number plate)	2160-42
Suction screen	0360-18
Switch, elevator	1675-1
Switch, gear selector	1675-5
Switch, key	1674-2
Switch, low pressure warning	1060-5
Switch, start	1674-2
Switch, start aid	1674-2
Switch, windshield wiper	1674-2
Switches, bowl and ejector gate	1674-2
Switches, high and low refrigerant pressure	1830-26
Switch, temperature control	1830-24
Switches, transmission hold and downshift	1675-8
System controls	1675-1

T

Tachometer	1676-5
Tandem hydraulic pump	2160-3
Temperature control switch	1830-24
Thermostats	0418-1
Tire	0110-4, 0120-2
Torque converter	0641-1
Torque converter clutch modulating valve	0360-14
Torque converter housing and cover	0641-1
Tractor brakes	1011-3
Transmission control valves	0360-1
Transmission control circuit	1675-4
Transmission controller	1675-4

Transmission filter restriction indicator	1676-7
Transmission hold and downshift switches	1675-8
Transmission lube pressure gauge	1676-2
Transmission oil cooler	0360-25
Transmission oil pressure gauge	1676-2
Transmission oil pump	0360-20
Turbine, gears and shaft	0651-1
Turbocharger	0416-1
Turn indicators	1676-6

U

U-joints	0325-3
Upper idler assembly	3612-7

V

Valve, bowl control	3560-1
Valve, brake	1060-9
Valve, compressor relief	1830-25
Valve, differential lock	0260-1
Valve, differential lock check	0260-5
Valve, expansion	1830-23
Valve, filter relief	0360-22
Valve, lubrication relief	0360-17
Valve, pressure control	2160-56
Valve, steering	0960-9
Valve, stroke control (without pump serial number plate)	2160-33
Valve, stroke control (with pump serial number plate)	2160-42
Valve, torque converter clutch modulating	0360-14
Valve, transmission control	0360-1
Ventilating system	0408-1
Vibration damper	0401-8
Voltmeter	1676-5

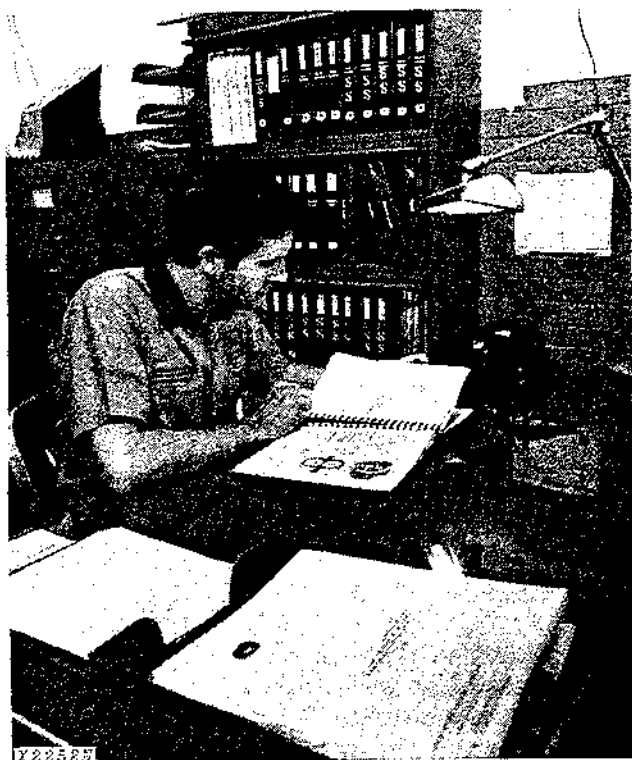
W

Warning device	2004-1
Water pump	0417-1
Windshield wiper switch	1674-2
Wheel axles, non-powered	0230-1
Wheels, non-powered	0120-1
Wheels, powered	0110-3
Windshield wiper	1810-3
Wiper, windshield	1810-3
Wiring harness and switches	1674-1

Group II

INTRODUCTION AND SAFETY INFORMATION

INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

•FOS Manuals—for reference

Fundamentals of Service (FOS) Manuals cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced service technicians.



When a service technician should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the technical manual.

•Technical Manuals—for actual service

Technical Manuals are concise service guides for specific machines. Technical manuals are on-the-job guides containing only the vital information needed by an experienced service technician.



Use Technical Manuals for Actual Service

This technical manual was written for you—an experienced service technician. Keep it in a permanent binder in the shop where it is handy. Read it when you need to know correct service procedures or specifications.

Some features of this manual:

- Inside front cover - "Table of Contents".
- Section 1 - Contents, safety information, general specifications, general services and fuels and lubricants.
- Sections 1 through 42 - Removal, repair, testing (components removed), installation, and adjustment.
- Section 90 - Detailed explanation of system operation, diagnosis, visual inspection, testing, and adjustments.
- Specifications are listed and illustrated at the end of each section.

MAINTENANCE WITHOUT ACCIDENT WORK SAFELY

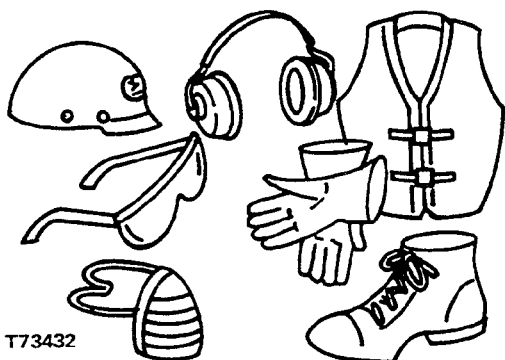


T27999N



This safety symbol is used for important safety messages. When you see this symbol, follow the safety message to avoid personal injury.

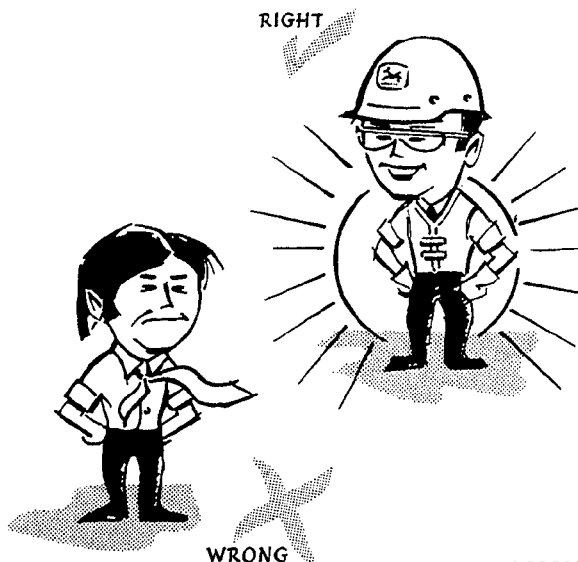
EVERY EMPLOYER HAS A SAFETY PROGRAM. KNOW WHAT IT IS!



T73432

See your shop supervisor for specific instructions on a job, and the safety equipment you may need, such as:

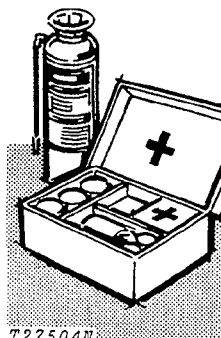
- Hard hat
- Safety shoes
- Safety goggles
- Heavy gloves
- Reflector vest
- Hearing protectors
- Respirator



T27502N

BE ALERT!

Plan ahead — work safely — know how to use a first aid kit and a fire extinguisher — and where to get assistance.



T27504N

Maintenance Area

Make sure the maintenance area has enough ventilation.

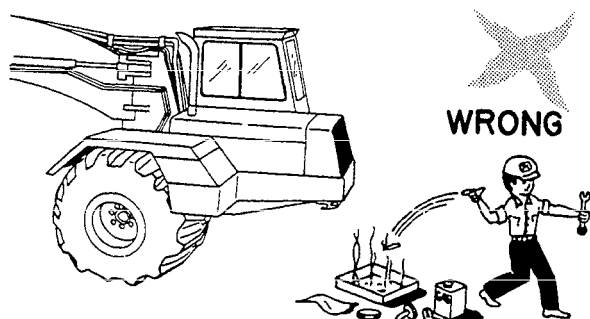
Keep the maintenance area **CLEAN AND DRY**. Oily and wet floors are slippery. Greasy rags are a fire hazard. When you work with electrical equipment, wet spots are dangerous.

Keep starting aids in a cool, well-ventilated place, out of reach of unauthorized personnel.

MAINTENANCE WITHOUT ACCIDENT

AVOID FIRE HAZARDS

Fuel Is Dangerous!



T71141

Do not smoke while you fill the fuel tank.

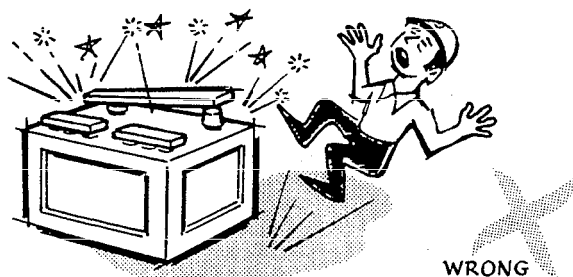
Do not smoke while you work with material that will start on fire easily.

Stop the engine before you fill the fuel tank.

Do not use gasoline or diesel fuel for cleaning parts. Use solvents that will not start on fire.

Battery Gas Is Highly Flammable!

When you charge a battery, be sure there is enough ventilation.



T27506N

Do not put metal objects across terminals to check the battery charge.

Keep sparks and flames away from batteries.

Do not smoke near battery.

Flame Is Not a Flashlight!

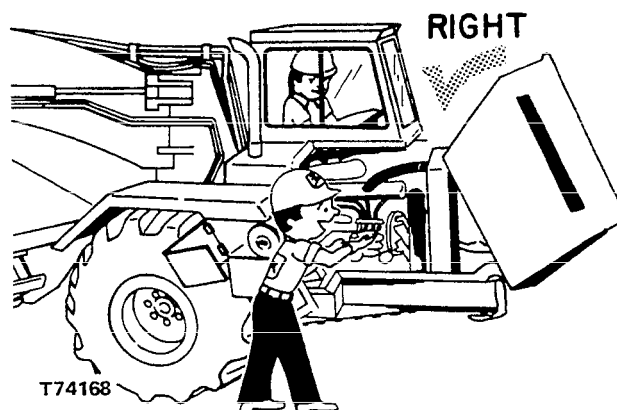
DO NOT USE OPEN FLAME AROUND THE MACHINE.

KNOW WHERE A FIRE EXTINGUISHER IS AND HOW TO USE IT.

UNDER ALL MAINTENANCE CONDITIONS—

Do not work on the equipment unless you are approved to do so. Then be sure you know the correct procedure.

Do not work on equipment while it is being operated.



T74168

When the engine is running, do not work on equipment unless the procedure is approved.

If you must work on the machine with the engine running, ALWAYS USE TWO service technicians. One must be at the controls. The other must be within sight of the operator.

Keep hands away from moving parts.

Put a support under all raised equipment.

Do not work under a raised bowl.

Lower the bowl to the ground.

If the machine is on a slope, use blocks to hold it in place.

Do not lift heavy parts by yourself. Use a hoist.

TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE AREA.

When you drill, grind, or hammer metal, wear safety glasses.

BE CAREFUL DURING SERVICE AND REPAIR



T71143

Keep ALL equipment free of dirt and oil.

Clean oil, grease, mud, ice or snow from the operator's station, steps and hand rail.

When you get a machine ready for storage, remember that inhibitor changes easily into gas and is dangerous. After you add the inhibitor, seal and tape openings. When you are not using the inhibitor, keep the can tightly closed.

Do not remove the radiator cap unless the engine is cool. First, loosen the cap slowly to the stop. Then release all pressure in the cooling system before you remove the cap.

Check the exhaust system regularly for leaks.

Release hydraulic pressure before you work on the hydraulic system:

- Lower the bowl to the ground.
- Stop the engine.
- Move the steering wheel until the bowl does not move.

When you check hydraulic pressure, be sure to use the correct test gauge.

Before you work on the fuel system, close the fuel shutoff valve.

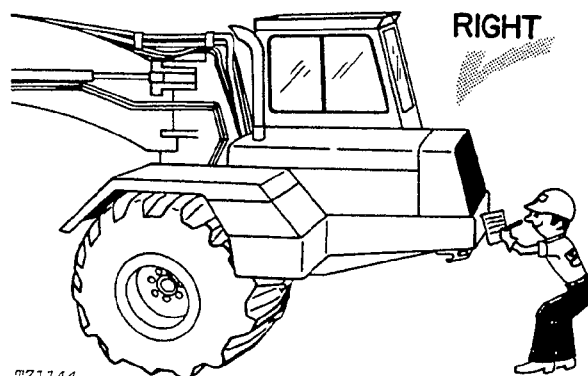
Before you work on the electrical system, or make major repairs, disconnect the battery ground strap.

KNOW EQUIPMENT IS READY!

All parts should be in good condition and fastened in place.

CHECK IT OUT!

- ☐ ROLL-OVER PROTECTIVE STRUCTURE
- ☐ SEAT BELT, ETC.



T71144

T71144

Carefully inspect all systems for leaks.



X9811

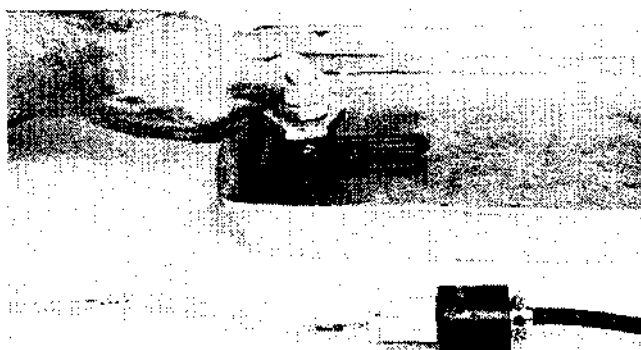
Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear and will move if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral, direction selector lever in neutral, and park brake applied.

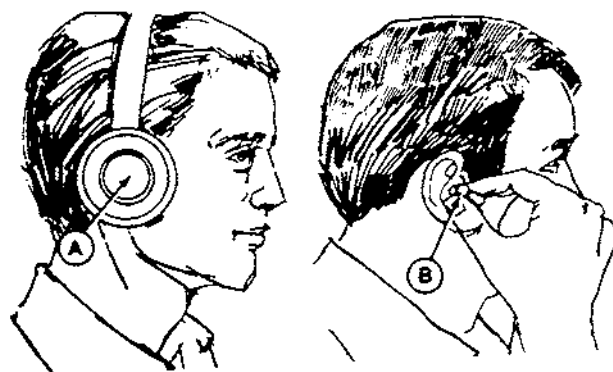


T87098

Test coolant heater in liquid only.

Use a heavy-duty grounded cord to connect coolant heater to electrical power.

Do not plug into electrical power unless heating element is immersed in coolant. Sheath could burst and result in personal injury.



X7652

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noise.

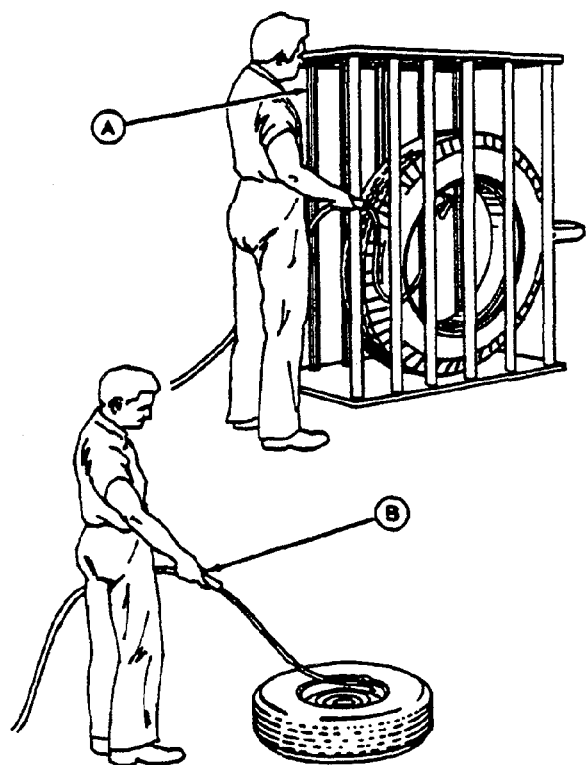
If your machine is equipped with a starting fluid starting aid, remember starting fluid is highly flammable. DO NOT incinerate or puncture a starting fluid container. DO NOT store a starting fluid container in a high-temperature area.



T64927

If your machine has a roll-over protective structure, **USE A SEAT BELT.**

If your machine does not have a roll-over protective structure, **DO NOT USE A SEAT BELT.**



Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified tire repair service.

Detailed tire mounting instructions, including necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your John Deere dealer. Such information is also available from the Rubber Manufacturers Association and from tire manufacturers.

- A—Use a Safety Cage if Available.
- B—DO NOT Stand Over Tire. Use a Clip-On Chuck and Extension Hose.

TS0123

Group III GENERAL SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 23.5-25, 16 ply rating tires, ROPS canopy, full fuel tank, 175 lb. (80 kg) operator, and all standard equipment.)

Capacity (SAE heaped):

Volume 11 cu. yd. (8.4 m³)

Total weight of payload

2500 lb./yd.³ (1483 kg/m³) 27,500 lb. (12 474 kg)

Power (@ 2100 engine rpm):

SAE DIN

Gross 190 hp (141.7 kW)

Net 175 hp (130.5 kW) 177.5 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. Gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500 ft. altitude and 85°F temperature and DIN 70 020 standard conditions of 760 mm Hg barometer (sea level) and 20°C temperature. Engine maintains rated horsepower up to 7500 feet (2286 m) altitude.

Engine: John Deere turbocharged and intercooled diesel, 6-cylinder, 4-stroke cycle

Bore and stroke 4.56x4.75 in. (116x121 mm)

Piston displacement 466 cu. in. (7.6 L)

Compression ratio 15.5 to 1

Maximum torque @

1300 rpm 570 lb-ft (773 N-m) (78.8 kg-m)

NACC or AMA (U.S. Tax) horsepower 49.9

Main bearings 7

Lubrication Pressure system w/full-flow filter

Cooling Pressurized w/thermostat and controlled bypass

Fan Suction

Aspirated air cleaner w/safety element and restriction indicator Dry

Electrical system 24 volt w/alternator

Batteries (two 12 volt) Reserve capacity: 180 minutes

Torque Converter:

Two-phase single stage with 2.30 to 1 multiplication ratio, free-wheeling stator lockup clutch and automatic control.

Transmission:

Planetary Power-Shift, 6 forward, 1 reverse speeds. Microprocessor controlled, fully automatic shift with modulation.

Gear pump 24 gpm (1.5 L/s) @ 2100 rpm for transmission lubrication, torque converter charge and transmission shift actuation.

Differential Lock Foot-operated, hydraulically actuated

Drive Axle .. Differential drive; overall ratio 28.94 to 1; planetary final drives with 4.7 gpm (0.30 L/s) @ 2100 engine rpm for axle lubrication and differential lock actuation.

Brakes: Hydraulic, power actuated. An accumulator provides several brake applications after engine is stopped.

Tractor Wet-disk between differential and planetaries. No adjustment needed.

Scraper... Expanding shoe, self-adjusting in wheels.

Parking Manually controlled, mechanical, on axle input shaft.

Power Steering: Position-responsive

Articulated frame hydraulically actuated by dual cylinders.

Turning circle

(180 deg. turn) 30 ft. (9.14 m)

Articulation 180 deg.

Tractor Oscillation (total) 27 deg.

Hydraulic System:

Main tractor system: Closed-center

System pressure 2350 psi (16 203 kPa) (165.2 kg/cm²)

Operates steering, brakes, and all scraper functions except elevator drive.

Main pump... Variable displacement, constant pressure; delivers 34.6 gpm (2.18 L/s) @ 2100 engine rpm.

Main charge pump delivers 13 gpm (0.82 L/s) @ 2100 engine rpm.

Elevator system... Engine-driven, 4.26 cu. in. (69.8 cm³) variable displacement, reversible hydrostatic pump delivers 36.6 gpm (2.31 L/s) @ 2100 engine rpm.

System pressure 5000 psi (34 475 kPa) (351 kg/cm²)

Filtration All systems are protected by replaceable filters.
Main hydraulic system 10 micron filters
Elevator system 10 micron filters
Transmission 10 micron filters
Engine 25 micron filters
Differential 10 micron filters

Hydraulic Cylinders: **Bore** **Stroke**
Lift (2) 4.5 in. (114 mm) 18 in. (457 mm)
Sliding floor
(1) 5.25 in. (133 mm) 30.1 in. (765 mm)
Ejector gate
(2) 2.5 in. (64 mm) 34.8 in. (884 mm)
Steering (2) . 3.5 in. (89 mm) 25.89 in. (658 mm)
Piston rods ... Ground, heat-treated, chrome plated, polished
Lift and steering cylinders 2 in. (51 mm)
Sliding floor cylinder 2.25 in. (57 mm)
Ejector gate cylinders 1.50 in. (38 mm)

Elevator: ... Reversible, hydrostatic-drive with triple gear reduction
Number of flights 18
Spacing of flights 12.44 in. (316 mm)
Width of flights 5 ft. 6.9 in. (1.7 m)
Speed (variable) 50 to 236 fpm (15-72 m/min)
Length (top to bottom) 9 ft. 6 in. (2.9 m)

Bowl: ... Heavy gauge steel with reinforcing and box construction. Sliding floor rides on heat-treated replaceable rails. Cutting edge retracts with sliding floor. Independent axles are vertically adjustable.

Cutting Edge: ... 7 ft. 6 in. (2.29 m) wide; 3 sections, reversible and replaceable, high-carbon steel. Each section is adjustable vertically 2 in. (51 mm).
Center section .. 0.75x10x54 in. (19x254x1372 mm)
End sections 0.75x10x18 in. (19x254x457 mm)

Tires:
23.5-25, steel-cord radials
23.5-25, 16 ply rating, E2
23.5-25, 20 ply rating, E2

Capacities:	U.S.	Imp.	Liters
Cooling system	9 gal.	7.5 gal.	34.1
Fuel tank	72 gal.	60.0 gal.	272.5
Engine lubrication w/filter	19 qt.	15.8 qt.	18.0
Transmission w/filter ...	13 gal.	10.8 gal.	49.0
Differential case w/filter and hoses	23 qt.	19.1 qt.	21.8
Hyd. system w/hyd. filter and elevator filter	12 gal.	10.0 gal.	45.4
Elevator gearcase	13 qt.	10.8 qt.	12.6

Additional Standard Equipment:

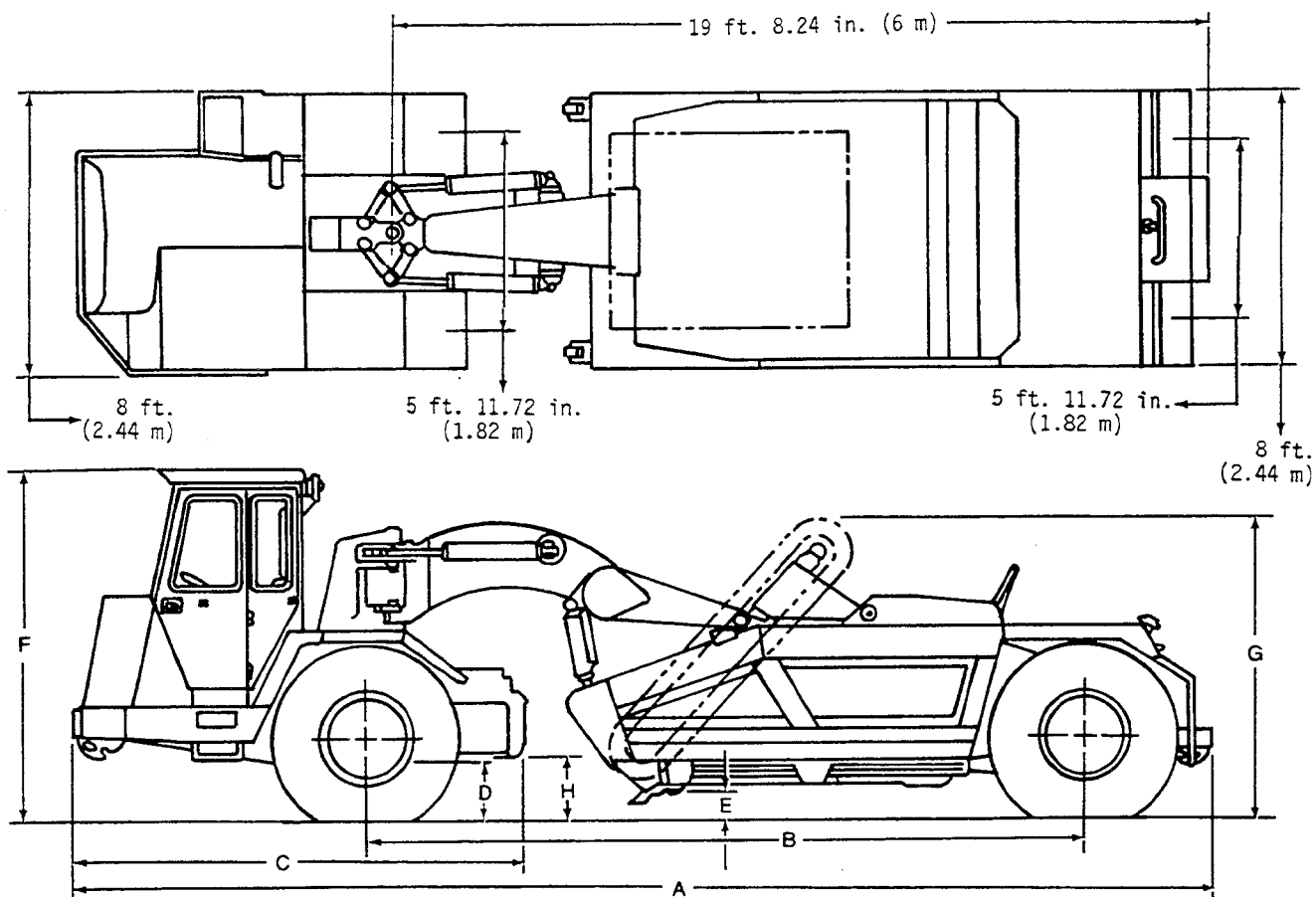
Cigar lighter	Elevator charge pressure
Deluxe suspension seat	Hitch, steering and rear
Cold weather starting aid	frame central lube
Fenders (tractor and scraper)	systems
Gauges:	Horn
Voltmeter	Horizontal muffler
Engine oil pressure	Indicator warning lights:
Engine water temperature	Brake pressure
Fuel	Hydraulic filter
Hour meter	Parking brake light and buzzer
Hydrostatic charge pressure	Transmission filter
Speedometer	Lights (head and work)
Tachometer	Reverse warning alarm
Transmission lube pressure	ROPS canopy and seat belt
Transmission oil pressure	Windshield w/wiper
Transmission oil temperature	Turn signals and 4-way flasher
	Vandal protection

Weight Distribution:	lb.	kg
Empty: Drive axle	22,790	10 337
Scraper axle	12,710	5 765
Total	35,500	16 102
Loaded: Drive axle	32,083	14 553
Scraper axle	30,917	14 024
Total	63,000	28 577

Special Equipment:

Air conditioner
Cab panels
Fender extensions and mud flaps for scraper wheels
Heater
Teeth for cutting edge
Extended side cutters
Ejector gate spill screen

762A SCRAPER DIMENSIONS



T74954

	BOWL AT GROUND LEVEL	BOWL UP	BOWL LEVEL
A	32 ft. 9.5 in. (10 m)	32 ft. 2.5 in. (9.81 m)	32 ft. 5.4 in. (9.9 m)
B	21 ft. 0.25 in. (6.40 m)	20 ft. 4.1 in. (6.20 m)	20 ft. 7 in. (6.25 m)
C	12 ft. 11.5 in. (3.95 m)	13 ft. (3.96 m)	12 ft. 11.9 in. (3.96 m)
D (axle clearance)	18.5 in. (470 mm)	18.5 in. (470 mm)	18.5 in. (470 mm)
E	—	17.25 in. (438 mm) w/o teeth 15.50 in. (394 mm) w/teeth	12 in. (305 mm) w/o teeth 10 in. (254 mm) w/teeth
F	9 ft. 10 in. (3 m)	9 ft. 4 in. (2.84 m)	9 ft. 6.4 in. (2.90 m)
G	8 ft. 7 in. (2.62 m)	9 ft. 6 in. (2.89 m)	9 ft. 2 in. (2.79 m)
H (trans. clearance)	17.12 in. (435 mm)	21.9 in. (556 mm)	20 in. (508 mm)