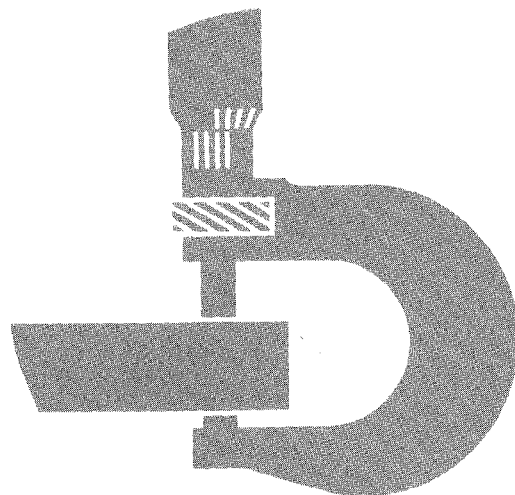


595D Excavator Operation and Tests



TECHNICAL MANUAL

For complete service information also see:

595D Excavator	
Repair	TM1445
4276 Engine	CTM4
4045 Engine	CTM8
Engine Accessories	CTM11

TM1444 (24SEP90)

LITHO IN U.S.A.

Dealer Presentation Sheet

IMPORTANT: Please remove this page and route through your service department.

This is complete revision TM1444, 595D Excavator.

Listed below is a brief explanation of "WHAT" was changed and "WHY" it was changed.

This manual was revised:

1. To update Section I with added safety information and new specifications.
2. To correct art on Slow and Fast Idle Adjustment.

3. To update Travel Motor Displacement Control Valve Test and Adjustment in Group 9020-25.

4. To add Swing Bearing Wear Test.

5. To add Theory for Flow Sensing Valve.

6. To add Diagnose Steering Circuit Malfunctions to Group 9025-15.

7. To correct miscellaneous art and specifications.

8. To update miscellaneous procedures.

Dealer Presentation Sheet

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- Group I —Safety Information
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SECTION 9005—OPERATIONAL CHECKOUT PROCEDURE

- Group 10—Operational Checkout Procedure

SECTION 9010—ENGINE

- Group 05—Theory of Operation
- Group 10—System Operational Checks
- Group 15—Diagnostic Information
- Group 20—Adjustments
- Group 25—Tests

SECTION 9015—ELECTRICAL SYSTEM

- Group 00—Electrical System Operation And Test

SECTION 9020—POWER TRAIN

- Group 05—Theory of Operation
- Group 10—System Operational Checks
- Group 15—Diagnostic Information
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SECTION 9025—HYDRAULIC SYSTEM

- Group 05—Theory Of Operation
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SECTION 9030—AIR SYSTEM

- Group 05—Theory Of Operation
- Group 10—System Operational Checks
- Group 15—Diagnostic Information
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- Group 25—Tests

SECTION 9031—HEATING AND AIR CONDITIONING

- Group 05—Theory Of Operation
- Group 10—System Operational Checks
- Group 15—Diagnostic Information
- Group 20—Adjustments
- Group 25—Tests

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

TM1444-19-24SEP90

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admin@servicemanualperfect.com**

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Contents

Group I Safety Information

HANDLE FLUIDS SAFELY—AVOID FIRES

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



DX,FLAME -19-04JUN90

TS227
-JUN-23AUG88

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



DX,SPARKS -19-04JUN90

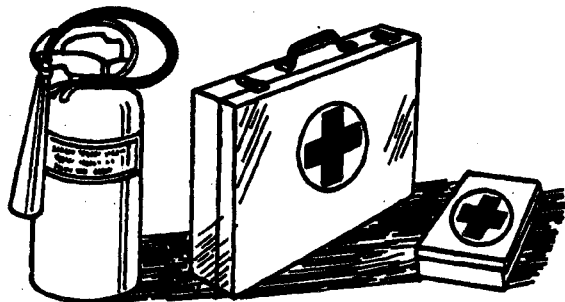
TS204
-JUN-23AUG88

PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



DX,FIRE2 -19-04JUN90

TS281
-JUN-23AUG88

Safety Information

PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

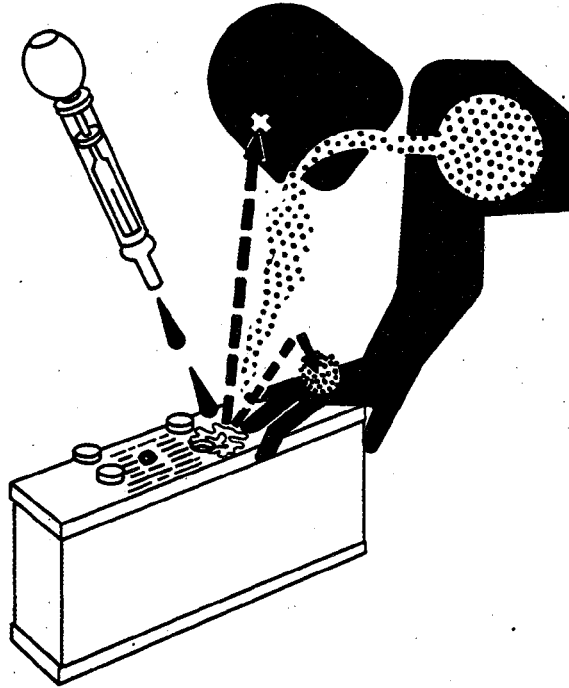
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10—15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



-UN-23AUG88

TS203

DX, POISON -19-04JUN90

Safety Information

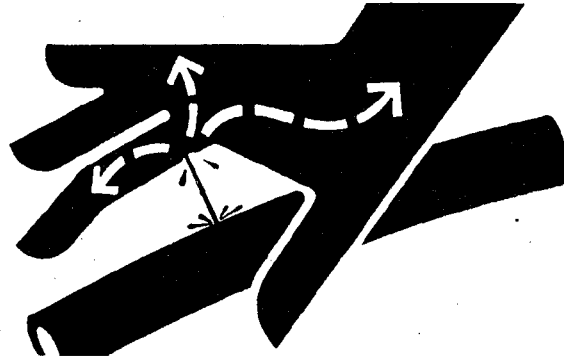
AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury may call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.



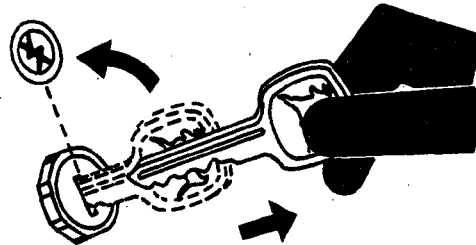
X9811 -UN-23AUG88

DX,FLUID.NA -19-11JUN90

PARK MACHINE SAFELY

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



TS230 -UN-24MAY89

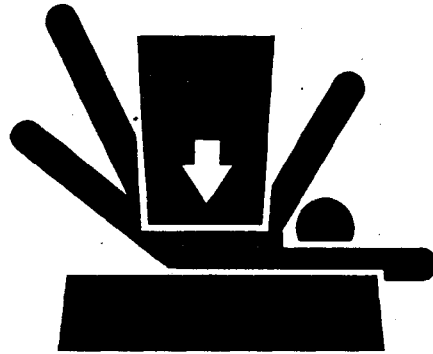
DX,PARK -19-04JUN90

Safety Information

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



DX,LOWER -19-04JUN90

TS229 -UN-23AUG88

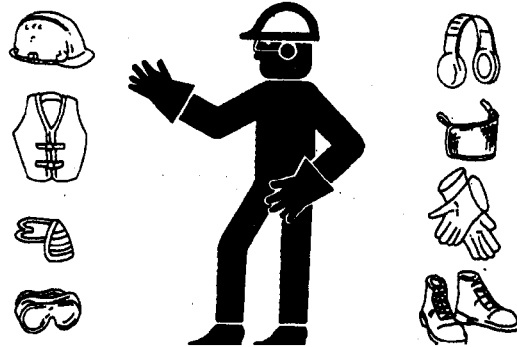
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



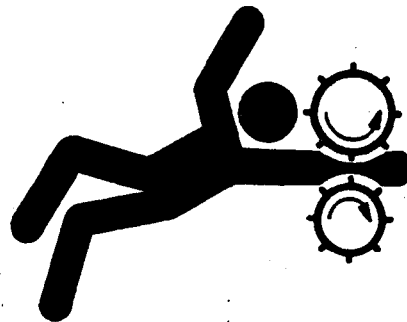
DX,WEAR -19-10SEP90

TS206 -UN-23AUG88

SERVICE MACHINES SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX,LOOSE -19-04JUN90

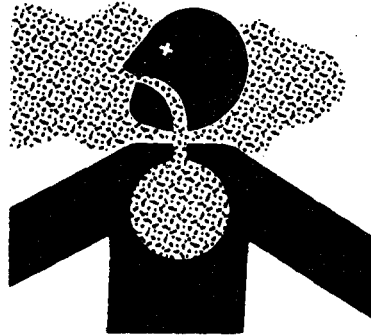
TS228 -UN-23AUG88

Safety Information

WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR

-19-04JUN90

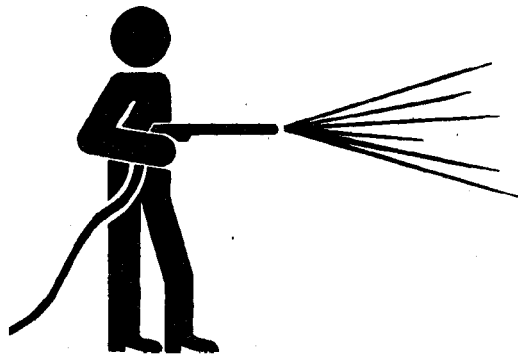
-JUN-23AUG88

TS220

WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



DX,CLEAN

-19-04JUN90

-JUN-18OCT88

T6642EJ

REMOVE PAINT BEFORE WELDING OR HEATING

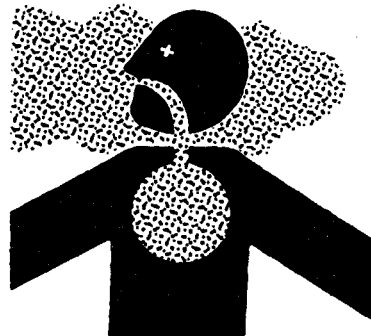
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



DX,PAINT

-19-04JUN90

-JUN-23AUG88

TS220

Safety Information

AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials.

Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area. Install fire resisting guards to protect hoses or other materials.



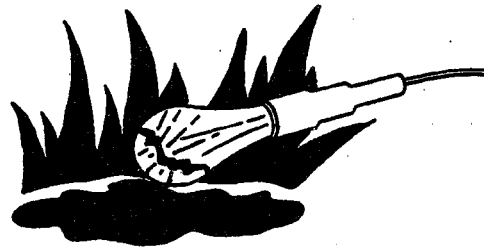
-JUN-15MAY90

TS963

DX,TORCH -19-04JUN90

ILLUMINATE WORK AREA SAFELY

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



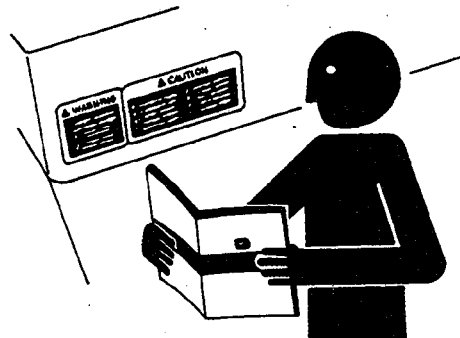
-JUN-23AUG88

TS223

DX,LIGHT -19-04JUN90

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



-JUN-23AUG88

TS201

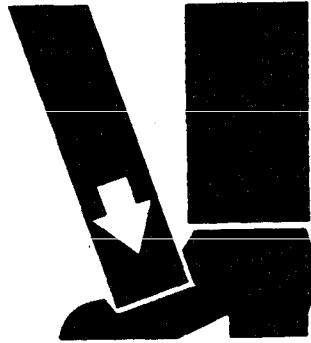
DX,SIGNS1 -19-04JUN90

Safety Information

USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90

TS226 -JUN-23AUG88

SERVICE TIRES SAFELY

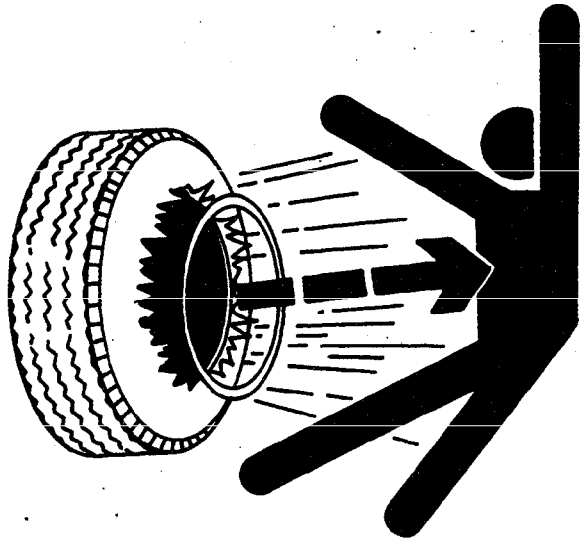
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



DX,RIM -19-24AUG90

TS211 -JUN-23AUG88

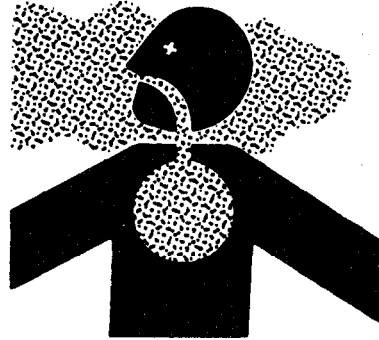
AVOID HARMFUL ASBESTOS DUST

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding of asbestos containing materials. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, wet the asbestos containing materials with a mist of oil or water.

Keep bystanders away from the area.



-JUN-23AUG88

TS220

DX,DUST -19-27AUG90

PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate or service machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



-JUN-23AUG88

TS218

DX,SERV -19-04JUN90

Safety Information

USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



DX,REPAIR -19-04JUN90

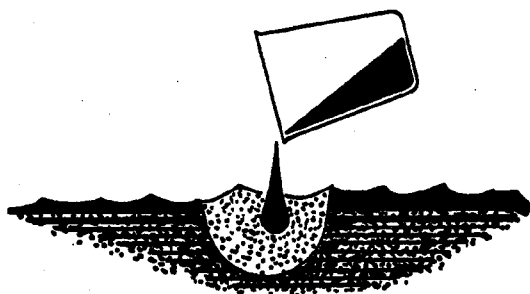
TS779 -UN-08NOV89

DISPOSE OF FLUIDS PROPERLY

Improperly disposing of fluids can harm the environment and ecology. Before draining any fluids, find out the proper way to dispose of waste from your local environmental agency.

Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

DO NOT pour oil into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, and other harmful waste.



DX,DRAIN -19-05JUN90

TS222 -UN-23AUG88

LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



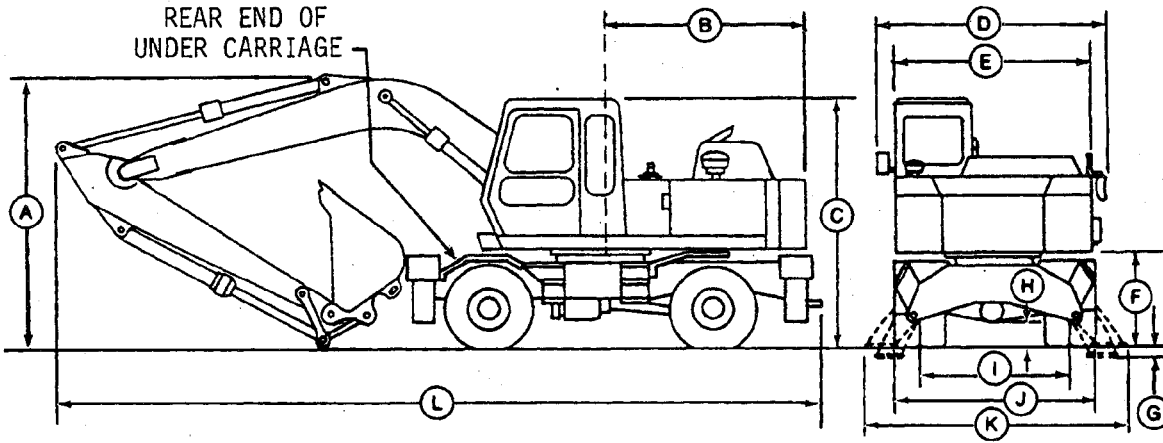
DX,LIVE -19-04JUN90

TS231 -19-07OCT88

Safety Information

Group II General Specifications

595D EXCAVATOR

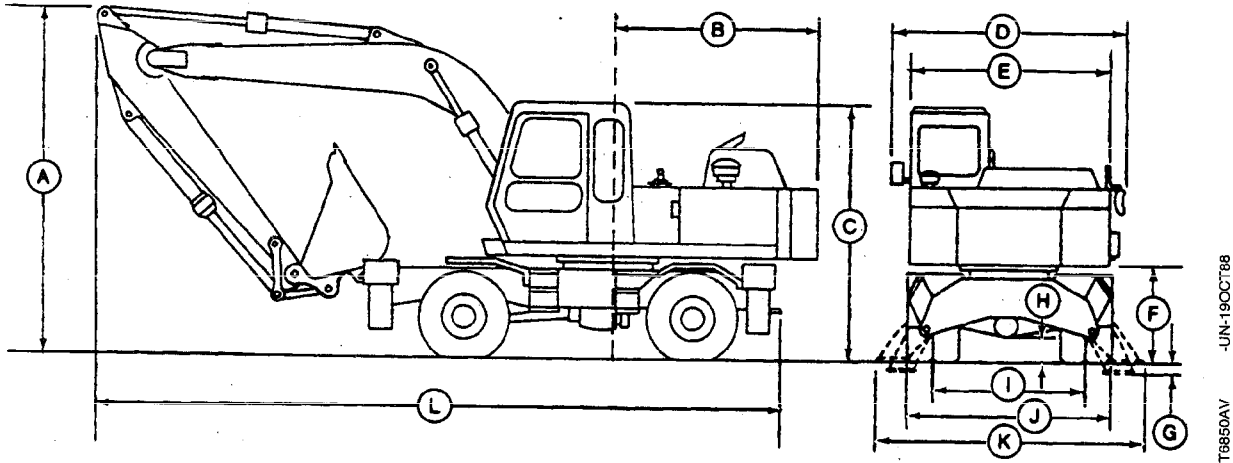


T6850AN -19-23MAR89

A—Overall height	3050 mm (10 ft)
B—Rear end length	2300 mm (7 ft 5 in.)
C—Cab height	3020 mm (9 ft 9 in.)
D—Mirror width	2870 mm (9 ft 5 in.)
E—Upperstructure width	2400 mm (8 ft)
F—Upperstructure clearance	1220 mm (4 ft)
G—Stabilizers down clearance	86 mm (3.4 in.)
H—Undercarriage clearance	300 mm (1 ft)
I—Centerline of wheels width	1880 mm (6 ft 2 in.)
J—Wheel overall width	2490 mm (8 ft 2 in.)
K—Stabilizers down width	3650 mm (11 ft)
L—Overall length	9190 mm (30 ft 2 in.)
Maximum operating weight	16 590 kg (36 575 lb)

General Specifications

595D EXCAVATOR (TRANSPORT POSITION)



T6650AV -JUN-19OCT88

A—Overall height	3790 mm (12 ft 5 in.)
B—Rear end length	2300 mm (7 ft 5 in.)
C—Cab height	3020 mm (9 ft 9 in.)
D—Mirror width	2870 mm (9 ft 5 in.)
E—Upperstructure width	2400 mm (8 ft)
F—Upperstructure clearance	1220 mm (4 ft)
G—Stabilizers down clearance	86 mm (3.4 in.)
H—Undercarriage clearance	300 mm (1 ft)
I—Centerline of wheels width	1880 mm (6 ft 2 in.)
J—Wheel overall width	2490 mm (8 ft 2 in.)
K—Stabilizers down width	3650 mm (11 ft)
L—Overall length	8509 mm (27 ft 11 in.)