

**John Deere
690D Excavator
693D Feller-Buncher/
Delimber
Repair**



**TECHNICAL
MANUAL**

**John Deere Davenport Works
TM-1388 (Oct-87)**

Litho in U.S.A.

Click on the image link below for the full version of the service manual



690D EXCAVATOR 693D FELLER-BUNCHER/DELIMBER TECHNICAL MANUAL TM-1388 (SEP-87)

SECTION AND GROUP CONTENTS

NOTE: This manual covers machine Repair (gray tabs).

SECTION I—GENERAL INFORMATION

- Group I—Introduction and Safety Information
- Group II—General Specifications
- Group III—Torque Values
- Group IV—Fuels and Lubricants
- Group V—Inspection Procedure

SECTION 01—TRACKS

- Group 0130—Track Systems
 - Track Roller, Track Chain, Sprocket, Front Idler, Recoil Spring, Relief Valve and Adjusting Cylinder

SECTION 02—AXLES AND SUSPENSION SYSTEMS (PROPEL)

- Group 0250—Axle Shafts, Bearings and Reduction Gears
 - Tow Excavator and Propel Gearbox
- Group 0260—Hydraulic Systems
 - Propel Motor, Propel Brake, Propel Brake Valve with Counterbalance Valve, Hydraulic Lines, and Rotary Manifold

SECTION 04—ENGINE

- 6414 Engine—See CTM-4
- Group 0400—Removal and Installation
 - Engine, Oil Pan, Fuel Injection Pump, Injection Nozzles, Bleed Fuel System, Turbocharger and Water Pump, Oil Cooler, Fuel Transfer Pump, and Thermostat

SECTION 05—ENGINE AUXILIARY SYSTEMS

- Group 0505—Cold Weather Starting Aids
 - Fluid Starting Aid Solenoid, Nozzle, Engine Coolant Heater
- Group 0510—Cooling Systems
 - Fan, Shroud and Guards, Fan Belt, Radiator
- Group 0515—Speed Controls
 - Speed Control Assembly (Auto Idle), Linkage
- Group 0520—Intake System
 - Air Cleaner, Air Intake System Leakage Test
- Group 0530—External Exhaust Systems
 - Muffler and Bracket
- Group 0560—External Fuel Supply Systems
 - Fuel Tank

SECTION 07—DAMPENER DRIVE (FLEX COUPLING)

- Group 0752—Elements

SECTION 16—ELECTRICAL SYSTEMS

- 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 1677—Motors and Actuators
 - Starting Motor

SECTION 17—FRAME, CHASSIS, OR SUPPORTING STRUCTURE

- Group 1740—Frame Installation
 - Welding Repair
- Group 1749—Chassis Weights

All information, illustrations and specifications contained in this technical 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.

COPYRIGHT© 1987
DEERE & COMPANY
Moline, Illinois
All rights reserved
A JOHN DEERE ILLUSTRATION

/1388 CC1 040987

SECTION AND GROUP CONTENTS—Continued

SECTION 18—OPERATOR'S STATION

- Group 1800—Removal and Installation
Cab or Canopy
- Group 1810—Operator Enclosure
Windowpanes, Cab Door and
Latch, Door Lock, Windshield
Wiper
- Group 1821—Seat
- Group 1830—Heating and Air Conditioning
Compressor, High Pressure
Switch, Condenser, Evaporator,
Expansion Valve, Receiver-Dryer,
Low Pressure Switch, Air
Conditioning Switches, Resistor,
Blower Motor, Heater, Controls

SECTION 99—DEALER FABRICATED TOOLS

SECTION 19—SHEET METAL AND STYLING

- Group 1910—Hood or Engine Enclosure

SECTION 33—EXCAVATOR

- Group 3302—Buckets
Bucket, Linkage, Bushings, Tooth
Tip, Tooth Shank
- Group 3340—Frames
Arm, Boom, Bushings
- Group 3360—Hydraulic System
Hydraulic Pump, Pilot System
Pump, Pilot System Pressure
Regulating Valve, Hydraulic
Control Valve, Relief Valve Block,
Hydraulic Control Valve Return
Restrictors, Reservoir, Return
Filter, Reservoir Relief Valve, Oil
Cooler Bypass Valve, Oil Cooler,
Cylinders, Propel Function Pilot
Controller Valve, Propel Pilot
System Check Valve Block, Dig
Function Pilot Controller Valve,
Pilot System Shut-off Valve, Pilot
System Filter, Flow Control Valve

SECTION 43—SWING, ROTATION OR PIVOTING SYSTEM

- Group 4311—Brakes (Swing Lock)
- Group 4350—Mechanical Drive Elements
Swing Gearbox, Swing Bearing,
Seals
- Group 4360—Hydraulic System
Swing Motor, Crossover Relief
Valves, Swing Lock Release Valves

/1388 CC2 040987

INTRODUCTION

This manual is part of a total service support program.

FOS Manuals—reference

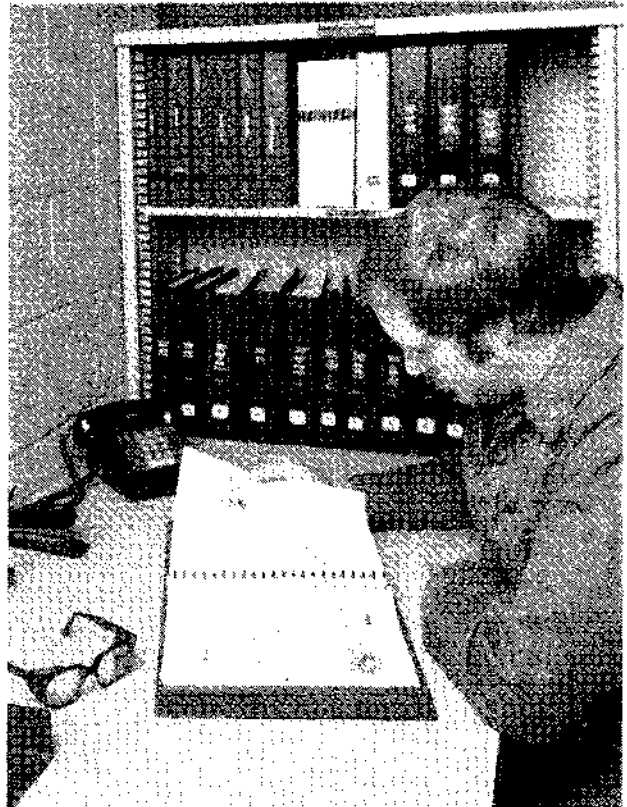
Technical Manuals—machine service

Component Manuals—component service

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

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.

Component Technical Manuals are concise service guides for specific components. Component technical manuals are written as stand alone manuals covering multiple machine applications.



AB6/RW5559 053;INTRO2 C30785

FEATURES OF THIS TECHNICAL MANUAL

John Deere ILLUSTRATION format emphasizing illustrations and concise instructions in easy-to-use modules.

Emphasis on diagnosis, analysis, and testing so you can understand the problem and correct it.

Diagnostic information presented with the most logical and easiest to isolate problems first to help you identify the majority of routine failures quickly.

Step-by-step instructions for teardown and assembly.

Summary listing at the beginning of each group of all applicable specifications, wear tolerances, torque values, essential tools, and materials needed to do the job.

An emphasis throughout on safety—so you do the job right without getting hurt.

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



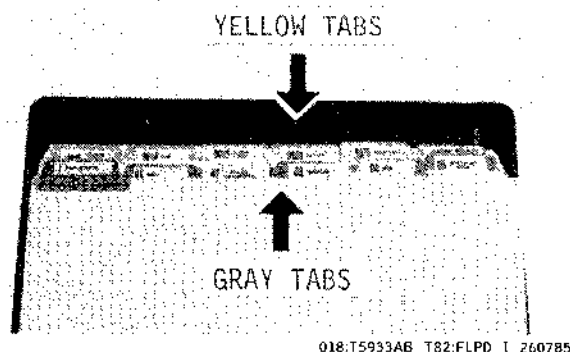
AB6/RW5560 053;INTRO3 071085

USING TABS

To fully utilize this technical manual, you must understand how it is organized.

Only two tab colors are used—gray and yellow. Each color represents a different type of information.

Spend a minute reading this now and save many minutes of searching later.



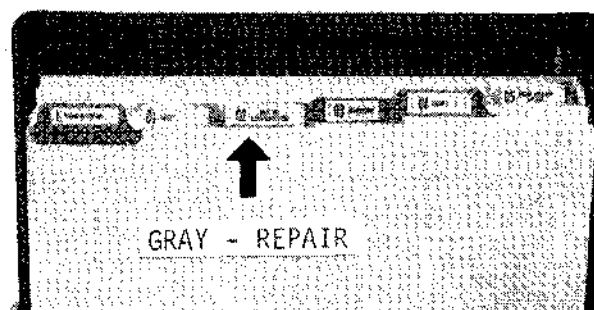
GRAY TAB SECTIONS

The gray tab sections are repair sections that tell how to repair the components of the various systems.

Repair of a component includes:

- Removal from machine (when necessary)
- Disassembly
- Inspection
- Replacement of parts
- Assembly
- Adjustment
- Installation on machine (when necessary)

The numbers used for the repair (gray tab) sections are part of an overall service publication numbering system. The numbers identify the same sections in the parts catalog, flat rate manual, service information bulletins, and service training courses.



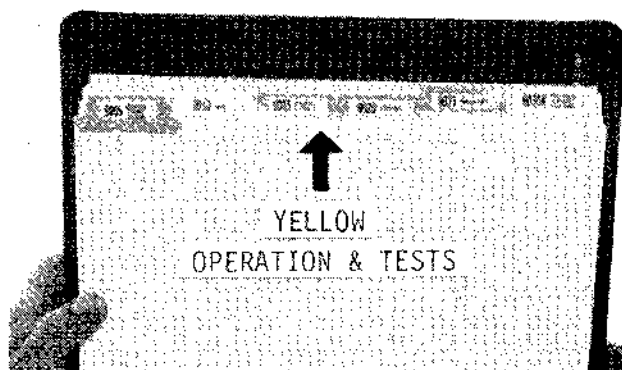
018;T5933AC T82;FLPD J 260785

YELLOW TAB SECTIONS

Each yellow tab section contains information on:

Groups

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



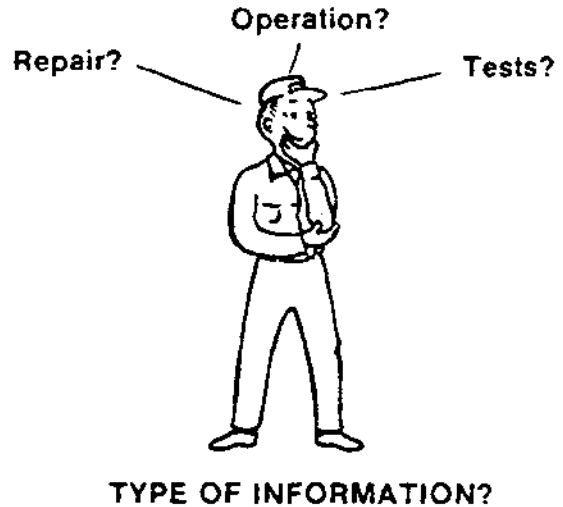
THREE-STEP PROCEDURE

Use the following three-step procedure to locate the desired information.

1. Determine the type of information you need. Is it repair, operation, or tests?
2. Go to the appropriate section tab:

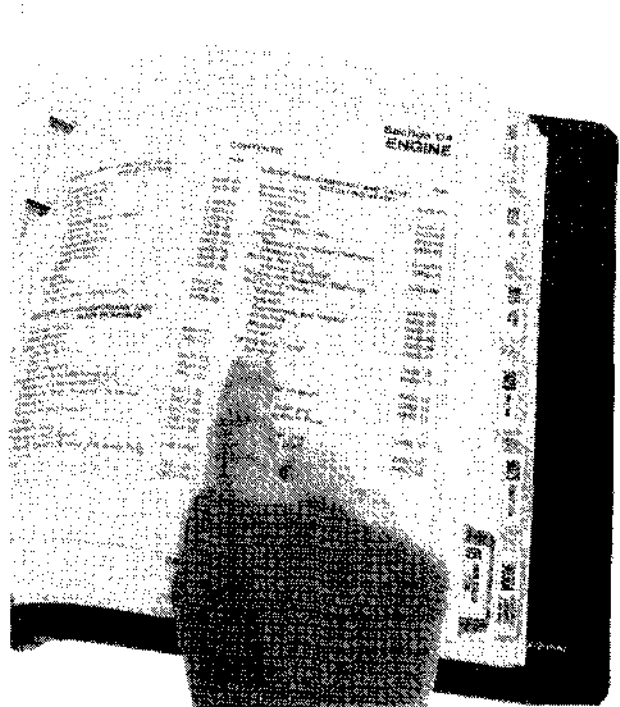
Gray for Repair

Yellow for Operation or Tests



018;T5940AT T82;FLPD L 260785

3. Use the table of contents on the first page of the section to locate the information.



018;T5933AF T82;FLPD M 260785

SAFETY AND YOU

This safety-alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

When you see this symbol on your machine or in your manual, be alert to the possibility of personal injury. Follow the instructions in the safety message.

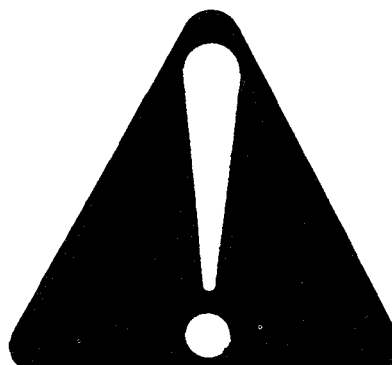


018;T81389 T82/FLPD N 061186

RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



AB6;T81389 053;ALERT 160687

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

Safety signs with signal word DANGER or WARNING are typically near specific hazards.

General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



AB6;TS187 053;SIGNAL 071085

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.



AB6;TS188 053;SIGNS 071085

USE HANDHOLDS AND STEPS

When you get on and off machine, always maintain a three point contact with steps and handrails and face machine. Do not use any controls as handholds.

Never jump either on or off the machine. Never mount or dismount a moving machine.

Be careful of slippery conditions on platforms, steps, and handrails when mounting or dismounting.



018;T6192AH 02T;;05-FF4 010487

START ENGINE FROM OPERATOR'S SEAT

Avoid possible injury or machine damage. Do not start engine by shorting across starter terminals.

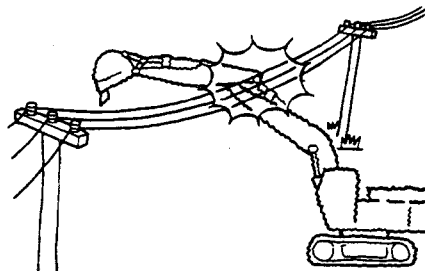
NEVER start engine while standing on ground. Start engine only from operator's seat.

T82;EXSA V 030487

AVOID POWER LINES

Serious injury or death can result from contact with electric lines.

Never move any part of the machine or load closer to electric line than 10 ft (3 m) plus twice the line insulator length. Use a signal person to guide operator. Use shrouds or insulators as necessary.

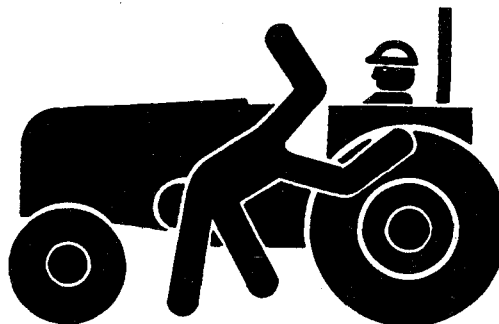


2TA;T5962AX T82;EXSA 01. 300387

KEEP RIDERS OFF MACHINE

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

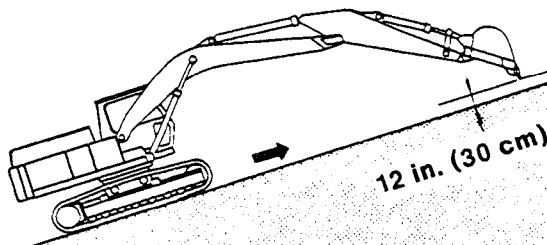


AB6;TS213 053;RIDER 160687

DRIVE EXCAVATOR SAFELY

Before moving excavator, find out which way to move propel pedals for the direction you want to go. Pushing down front of the propel pedals moves the machine towards the idlers.

Keep the bucket on the uphill side, approximately 12 in. (30 cm) above the ground, when ascending or descending slopes. If machine starts to slip or become unstable, lower the bucket immediately.



2TA;T5962AZ 02T:05-FF6. 030487

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.



AB6;TS186 053;FIRE2 080785

HANDLE FUEL SAFELY—AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



AB6;TS202 053;FIRE1 230487

HANDLE STARTING FLUID SAFELY

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.



AB6;T6098A U 053;FIRE3 160687

PREVENT BATTERY EXPLOSIONS

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

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

Always remove grounded (-) clamp first and replace it last.

Do not charge a battery if the battery is frozen as it may explode. Warm battery to 60°F (16°C).



AB6;TS181 02T;35 C78 050287