

643 Feller-Buncher Operation and Test

For complete service information also see:

643 Feller-Buncher
Repair TM1425
6414 CTM4
Engine Accessories CTM11

John Deere Dubuque Works
TM1424 (18MAY92)

LITHO IN U.S.A.
ENGLISH

**643 FELLER-BUNCHER
OPERATION AND TEST**

TM1424 (18MAY92)



Introduction

FOREWORD

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



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

Technical manuals are divided in two parts: repair and diagnostics. Repair sections tell how to repair the components. Diagnostic sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

Binders, binder labels, and tab sets can be ordered by John Deere dealers direct from the John Deere Distribution Service Center.

This manual is part of a total product 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 type of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced technicians.

Technical Manuals are concise guides for specific machines. Technical manuals are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

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

JOHN DEERE DEALERS

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

This is a complete revision for TM-1424, 643 Feller Buncher.

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

This manual was revised:

1. To update Section I.
2. To add Top Speed Limiter Valve.
3. To add alternate fitting for tests.
4. To update Brake Bleed Procedure.
5. To make miscellaneous changes to art and specifications.

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Want to get more information,
Please click here, Then get the complete
manual**

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**Have any questions please write to me:
admin@servicemanualperfect.com**

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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.

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GENERAL INFORMATION

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FOLLOW SAFE PROCEDURES

Unsafe work practices are dangerous. Understand service procedure before doing work; do not attempt shortcuts.



TX,05,FF1611 -19-14JUN90

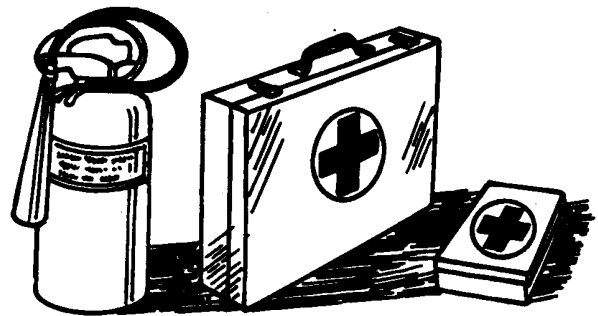
TS231
-19-07OCT88

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

TS291
-UN-23AUG88

HANDLE FLUIDS 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.



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.



TX,05,FF1622 -19-14JUN90

TS202
-UN-23AUG88

TS227
-UN-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
-UN-23AUG88

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:

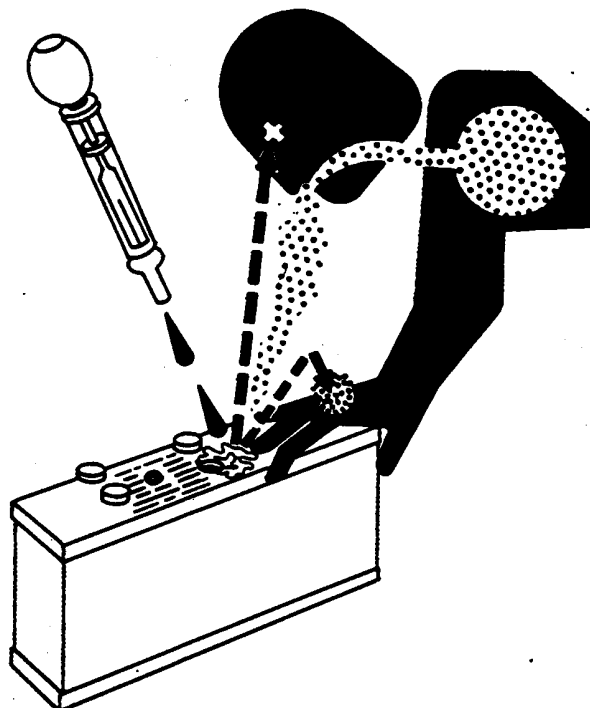
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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.



DX, POISON -19-04JUN90

TS203
-UN-23AUG88

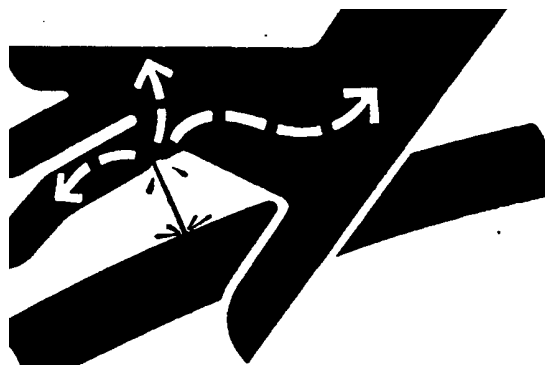
AVOID HIGH-PRESSURE FLUIDS

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 should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



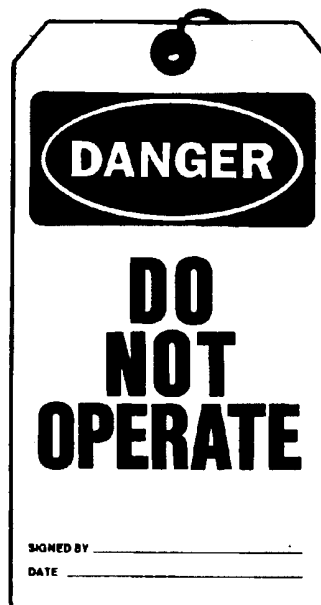
X9811 -JUN-23AUG88

DX,FLUID -19-09AUG91

WARN OTHERS OF SERVICE WORK

Unexpected machine movement can cause serious injury.

Before performing any work on the machine, attach a "DO NOT OPERATE" tag to the steering wheel.



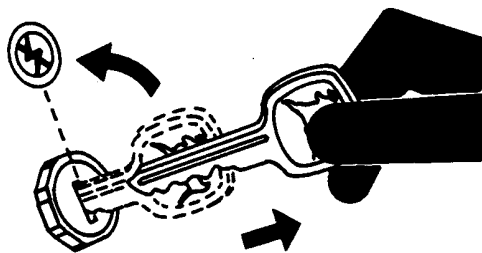
T7447AO -19-22APR91

TX,05,DH1820 -19-14MAY91

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.



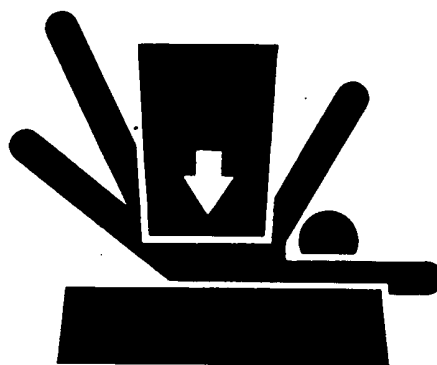
O53,PARK -19-26JAN90

TS230 -UN-24MAY69

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

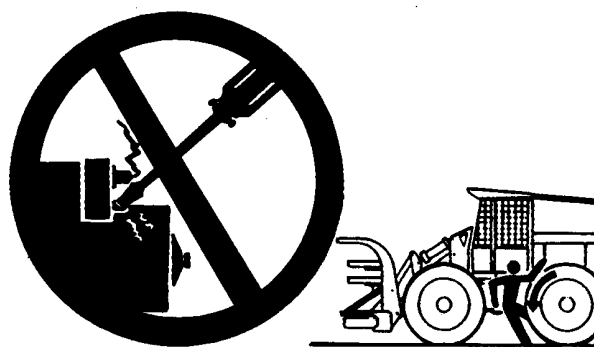
PREVENT MACHINE RUNAWAY

Avoid possible injury or death from machine runaway.

Do not start engine by shorting across starter terminals.

Do not leave operator's station while engine is running.

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



O2T,50,J15 -19-15JUL87

T6561AT -UN-18OCT88

SERVICE FELLER-BUNCHER SAFELY

Never operate the machine if an unsafe condition exists. Attach a "DO NOT OPERATE" tag to the steering wheel or disconnect the battery ground cable (—) before working on or under the machine.

Install the frame locking bar before working in the frame hinge pivot area.

Be sure you understand the service procedure before working on the machine.

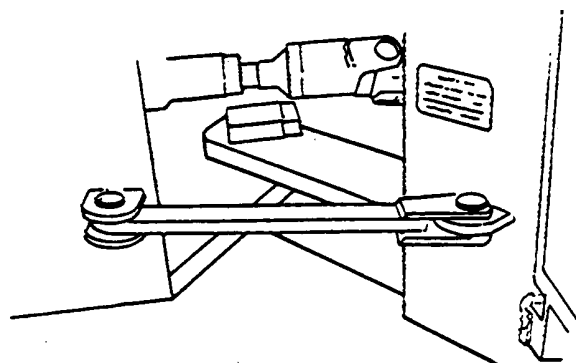
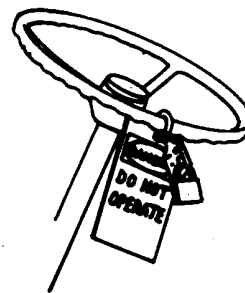
Never lubricate or work on the machine while it is moving.

Always use two people when making checks with the engine running—the operator at the controls, able to see the person doing the checking.

Keep hands away from moving parts.

Disconnect battery ground cable (—) before welding on the machine or making adjustments on the engine or electrical system.

Place a support under all raised equipment. If a support is not available, lower equipment to the ground.



02T,05,J19 -19-28FEB90

-19-02JUN89

T6133AH

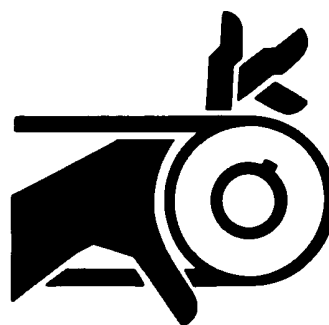
-UN-24MAY89

T6451BK

STAY CLEAR OF MOVING PARTS

Entanglements in moving parts can cause serious injury.

To prevent accidents, use care when working around rotating parts.



TX,05,RR,572 -19-12JUN90

-UN-08JUN90

T7273AS

AVOID POWER LINES

Keep away from power lines. Serious injury or death may result. Never move any part of the machine or load closer to power line than 3 m (10 ft) plus twice the line insulator length.

02T,05,C1 -19-15APR91

USE HANDHOLDS AND STEPS

Falling is one of the major causes of personal injury.

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

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

Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.



T6961AN -JUN-15JUN89

TX,05,DH553 -19-18MAR91

KEEP RIDERS OFF MACHINE

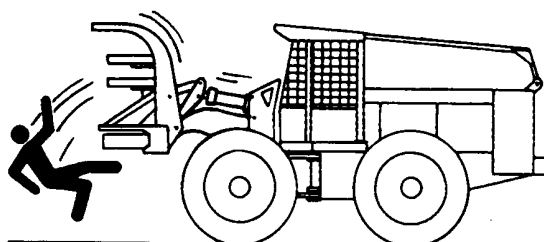
Only allow the operator on the machine. Keep riders off.

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.

Never use the shearhead or attachment for a work platform or personnel carrier.

Never move loads over the heads of other persons.

Never let anyone in or near the pivot area of an articulated machine.



T6561AV -JUN-18OCT88

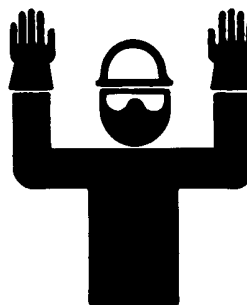
02T,05,K103 -19-28JAN88

TRAVEL SAFELY

Know the location of bystanders before moving the machine.

Always keep the reverse warning alarm in working condition. It warns people when the machine starts to move in reverse.

Use a signal person when moving the machine in congested areas. Coordinate hand signals before starting the machine.



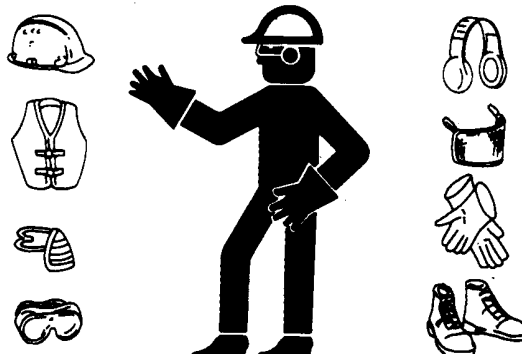
TX,05,DH496 -19-02AUG89

T6964AD -UN-20DEC88

WEAR PROTECTIVE CLOTHING

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

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

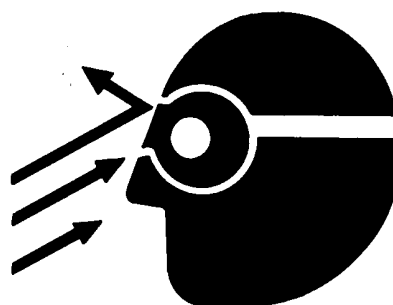


DX,WEAR2 -19-10SEP90

T5206 -UN-23AUG88

PROTECT AGAINST FLYING DEBRIS

Guard against injury from flying pieces of metal or debris; wear goggles or safety glasses.



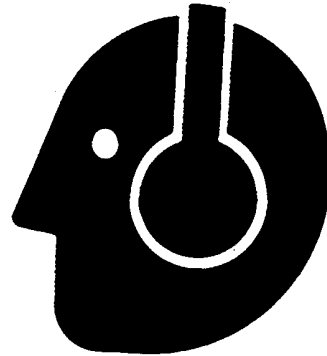
TX,05,FF1613 -19-14JUN90

T6642DK -UN-18OCT88

PROTECT AGAINST NOISE

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.

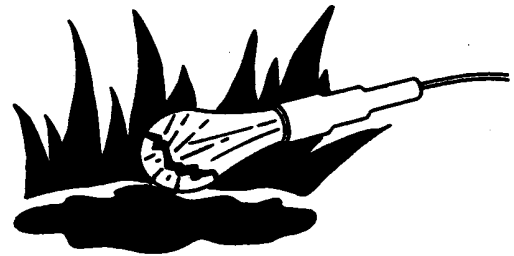


DX.NOISE -19-04JUN90

TS207
-UN-23AUG88

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.



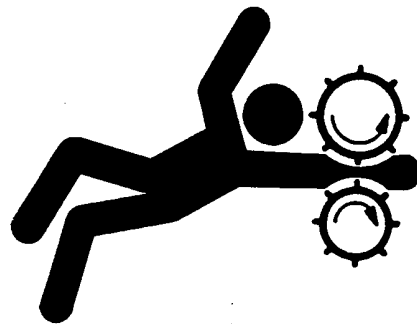
TX,05,FF1623 -19-09JUL90

TS223
-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

REMOVE PAINT BEFORE WELDING OR HEATING

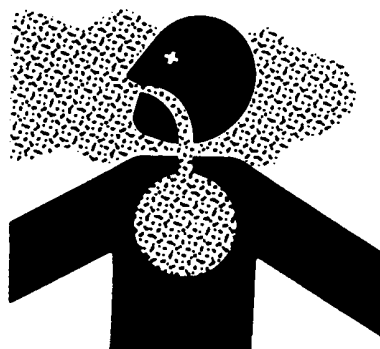
Avoid potentially toxic fumes and dust.

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

TS220 -UN-23AUG88

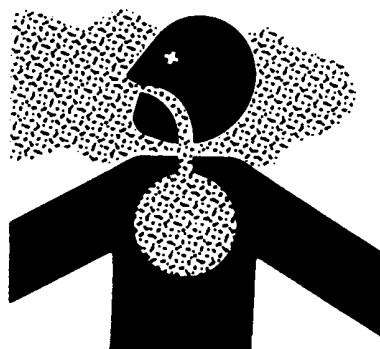
AVOID HARMFUL ASBESTOS DUST

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

Components that may contain asbestos fibers are brake pads, brake bands 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.



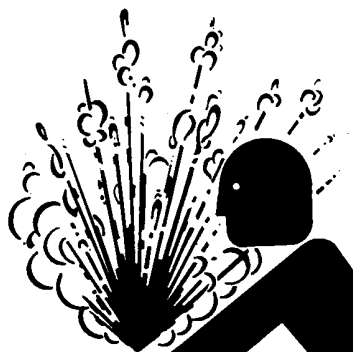
TX,05,RR,599 -19-12JUN90

TS220 -UN-23AUG88

SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



DX,RCAP -19-04JUN90

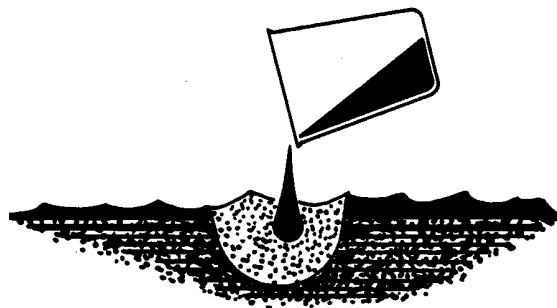
TS281 -UN-23AUG88

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.

Catch draining fuel, oil, or other fluids in suitable containers. Do not use food or beverage containers that may mislead someone into drinking from them. Wipe up spills at once.

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.



TX,06,FF1617 -19-14JUN90

TS222 -UN-23AUG88

WORK IN A CLEAN AREA

Before starting a job, clean the work area. Remove objects that may be a safety hazard to the mechanic or bystanders.

TX,05,FF1624 -19-14JUN90