

# OPERATOR'S MANUAL

TH636C TH644C TH842C TH844C

## **■ TEREX HANDLERS**

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# **SECTION 1**

# ROUGH TERRAIN FORK LIFT SAFETY

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## SECTION 1 - ROUGH TERRAIN FORK LIFT SAFETY

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# **A ROUGH TERRAIN FORK LIFT SAFETY**

### INTRODUCTION

Owners, Users, and Operators:

Terex (Handlers) appreciates your choice of our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. We feel that you make a major contribution to safety if you, as the equipment users and operators:

- 1. Comply with OSHA, Federal, State, and Local Regulations.
- 2. Read, Understand, and Follow the instructions in this and other manuals supplied with this machine.
- 3. Use Good Safe Work Practices in a common sense way.
- **4. Only have trained/certified operators** directed by informed and knowledgeable supervision running the machine.

**NOTE:** OSHA prohibits the alteration or modification of this machine without written manufacturers approval. Use only factory approved parts to service or repair this machine.

If there is anything in this manual that is not clear or which you believe should be added, please send your comments to the Manager of Publications, *Terex Handlers*, *P.O. Box* 790, *Baraga*, *Michigan* 49908. *Telephone number* 906-353-6675.

Thank you!



THIS SYMBOL MEANS YOUR SAFETY IS INVOLVED! READ, UNDERSTAND AND FOLLOW ALL DANGER, WARNING AND CAUTION DECALS ON YOUR ROUGH TERRAIN FORKLIFT.

# **AROUGH TERRAIN FORK LIFT SAFETY**

## STANDARDS AND SYMBOLS

## **STANDARDS**

Many aspects of rough terrain forklift operation and testing are discussed in standards published by the American National Standards Institute. These Standards are updated on a regular basis with addendas. Terex recommends that you purchase and refer to the following standards.

ANSI B56.6 - Rough Terrain Fork Lifts

This Standard can be purchased from:

American National Standards Institute 25 West 43nd Street, 4th Fl. New York, New York, 10036 Tel. 212.642.4900 Fax. 212.398.0023

## **SYMBOLS**

The symbols below are used to inform the operator of important information concerning the operation of this machine.



DANGER – Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING – Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



ATTENTION – Indicates a situation which, if not avoided, may result in property or equipment damage.

# **A ROUGH TERRAIN FORK LIFT SAFETY**

## SAFETY AND TRAINING AND KNOWLEDGE

**SAFETY** 





These are general safety rules, which must be followed. You are also required to read and understand the Operators Manual as there are instructions, which are more detailed specific to this machine.

## TRAINING AND KNOWLEDGE

- 1. Safety must always be the operators most important concern.
- 2. This machine must only be operated by trained personnel, who have demonstrated their ability to do so safely.
- 3. Comply with the requirements of current Occupational Safety and Health Administration (OSHA) standards, including 29CFR1910.178; and the American National Standards Institute (ANSI) B56.6 latest edition.
- 4. Read and Understand all Decals and Warnings.
- 5. Read and Understand the Rating Chart.
- 6. Know that the machine can safety lift each load before attempting to lift.

# **ROUGH TERRAIN FORK LIFT SAFETY (A.)**

## OPERATOR'S RESPONSIBILITIES

- 1. Read and understand the Operator's Manual.
- 2. Know the location and the purpose of the controls, instruments and indicator lights.
- 3. Make sure the machine is in proper order and all operational aids and warning signals are functional before operating.
- 4. Keep the machine clean, including all instrumentation, windows, lights and other glazed surfaces.
- 5. Use protective clothing and safety equipment. Always use approved safety equipment such as: gloves, safety boots, hard hats, safety glasses and ear protection where necessary.
- 6. Wear protective clothing that is snug and belted where required.
- 7. Store tools and other necessary items in the toolbox.
- 8. Never lift a load without a Rating Chart in the cab.
- 9. Know the load to be lifted.
- 10. Be alert, physically fit and free from the influences of alcohol, drugs or medications that might affect the operator's eyesight, hearing, or reactions.
- 11. Keep people, equipment and material out of the work area.
- 12. Keep a fully charged fire extinguisher and first aid kit in the cab at all times, and be familiar with how to use these items.
- 13. Know about movements of other machinery, trucks and personnel at the jobsite.
- 14. Make sure everyone is in a safe place before moving the boom, forks, load or outriggers (if so equipped.)
- 15. Start and stop movements smoothly and swing at speeds that will keep the load under control.

# **⚠ ROUGH TERRAIN FORK LIFT SAFETY⚠**

## MANAGEMENT RESPONSIBILITIES

- 1. Ensure operators are competent, physically fit, trained and if required licensed.
- 2. Have a supervisor at job site to be responsible for job safety.
- 3. Crew members given specific safety responsibilities and instructed to report any unsafe conditions to supervisor.
- 4. Supply the weight on the load to be lifted to the operator.
- 5. Verify that all crewmembers are familiar with OSHA, ANSI B56.6 requirements as well as instructions in the manuals.

# **AROUGH TERRAIN FORK LIFT SAFETY (A)**

## MAINTENANCE AND REPAIR

- 1. Practice safe maintenance procedures. Perform all maintenance and repair in accordance with instructions provided by the manufacturer in the manuals. Also heed the warnings on the placards and decals on the machine.
- 2. Always use supports and braces when working on, under or around the machine or forks.
- 3. Shut of engine and lockout the machine while working on machine unless instructions specifically require the engine to be running.
- 4. Always make sure the machine is stationary prior to performing adjustments or lubrication.
- 5. Replace all shield and guards after performing service.
- 6. Always use a piece of cardboard or paper to search for leaks.
- 7. When performing work on the hydraulic system:
  - i. Lower the boom to horizontal.
  - ii. Support the boom with supports or braces.
  - iii. Shut down engine.
  - iv. Relieve all pressure before disconnecting lines.
  - v. Ensure all connections are tight before applying pressure.
  - vi. Repair or replace any damaged line, hose or fitting before applying pressure.
- 8. Always have tires serviced and mounted by a qualified person with the proper tools and guards.
- 9. Always use an inflation cage during tire inflation.
- 10. Only perform welding on the machine with approval from the manufacturer.

# **⚠ ROUGH TERRAIN FORK LIFT SAFETY ⚠**

## **OPERATION SAFETY**

- 1. Always inspect the machine daily. Check for leaks, worn hoses, loose belts, broken structures, and loose or missing bolts. Repair and/replace any worn, damaged or leaking parts prior to operation of the machine.
- 2. Only inspect coolant level when the engine and coolant are cool.
- 3. Be sure that all guards and screens are secure and in the proper place.
- 4. Inspect for and clear the work area of any obstructions that could interfere with proper machine operation. Any obstructions that cannot be cleared should be clearly marked and avoided during operation.
- 5. Refueling:
- i. Always stop engine before refueling machine.
- ii. Fill fuel tank outdoors.
- iii. Handle fuel with care, as it is highly flammable. Do not refuel machine while smoking or near open flames.
- iv. Always clean up spilled fuel.
- 6. Make sure machine and access system is clean and free of dirt, oil, grease or debris.
- 7. When getting on and off the machine, face the machine, use the steps and handrails provided, and always maintain a three point contact.
- 8. Always remain completely inside the cab enclosure while operating the machine.
- 9. Always wear seat belt while operating the machine.
- 10. Always completely lower the boom with the forks resting on the ground before any work is performed on or around the machine.
- 11. Do not operate the machine while people are under or near an elevated boom whether the boom is loaded or unloaded. Falling objects from the forks or attachment may cause serious injury or death.

## **♠ ROUGH TERRAIN FORK LIFT SAFETY △**

## **OPERATION SAFETY**

12. Maintain appropriate clearance from electrical power lines. See chart below for minimum safe approach distances.

Minimum Safe Approach Distance			
Power Line Voltage	Required Clearance		
0 to 50 kV	10 ft. (3.00 m)		
50 to 200 kV	15 ft. (4.60 m)		
200 to 350 kV	20 ft. (6.10 m)		
350 to 500 kV	25 ft. (7.62 m)		
500 to 750 kV	35 ft. (10.67 m)		
750 to 1000 kV	45 ft. (13.72 m)		

### 13. Lifting Loads:

- i. Using the load chart, confirm that the load is within the rated capacity of the machine for the required configuration.
- ii. Level the machine using the level gage before lifting loads. Use the sway control to level the machine only when the boom is at horizontal or lower. Using the sway control with the boom above horizontal may cause the machine to overturn.
- iii. Verify that the load is secured on the forks before performing lift. Rearrange the load if necessary.
- iv. Before lowering a maximum load, always retract the boom completely.
- v. Use proper attachments, such as truss boom, to lift suspended loads.
- 14. If the load to be lifted exceeds the capacity of the machine for the given configuration:
  - i. Move the machine closer to the load so that the weight of the load will be within the allowable load chart specifications.
  - ii. Divide the load into smaller pieces.
  - iii. Get a larger machine capable of handling the load.
- 15. Always move a load so that you have maximum machine stability and visibility is not obstructed. Keep the boom at or below horizontal, with the load close to the ground.
- 16. Tilt the forks back towards the machine slightly during travel to ensure stability of the load.

# **⚠ ROUGH TERRAIN FORK LIFT SAFETY ⚠**

## **OPERATION SAFETY**

- 17. Inspect the path of travel before beginning movement. Avoid holes and dropoffs.
- 18. Traveling on slopes/grades.
  - i. Ascend and descend slowly and with caution.
  - ii. When loaded, always travel with the load uphill.
  - iii. When unloaded, travel with the attachment downhill.
  - iv. Avoid turning, travel straight up and down.
- 19. Always position all wheels in line with the machine before switching the steering mode.
- 20. Always position the machine and set the park brake before lifting a load.
- 21. Do not allow riders on the machine or forks.
- 22. Do not transport or lift personnel into position with this forklift.
- 23. When leaving the operators station:
  - i. Place the directional controls in neutral.
  - ii. Apply the parking brake.
  - iii. Lower the attachment to the ground.

# SECTION 2 GENERAL SAFETY

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# GENERAL SAFETY ♠

## GENERAL SAFETY PROCEDURES

#### SAFETY ALERT SYMBOL

Stop and take time to read ALL safety alert messages. Follow all safety messages to avoid injury and/or death.



ALWAYS wear eye protection and personal safety equipment.

#### THE OPERATOR

The operator must be fully trained and qualified to operate this machine.

Before start-up or machine operation, the operator must learn the location and purpose of the:

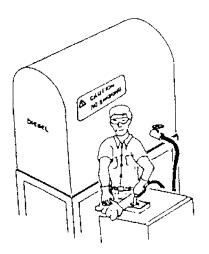
- 1. Controls
- 2. Instruments
- 3. Indicator lights
- 4. Safety and instruction labels

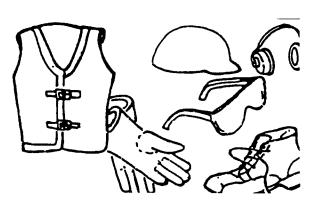
#### ACCIDENT PREVENTION

Use protective clothing and safety equipment. Always use approved safety equipment such as: gloves, safety boots, safety hard hats/ goggles and ear protection when necessary.

Wear protective clothing that is snug and belted where required.



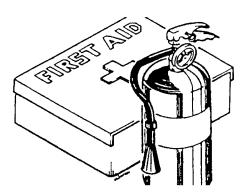




#### FIRE PREVENTION/FIRST AID

Install a first-aid kit and fire extinguisher in the operators cab.

**KEEP THE FIRST-AID KIT** and **FIRE EXTINGUISHER** properly maintained. Follow instructions provided with the first-aid kit and fire extinguisher.





## **GENERAL SAFETY**



## **GENERAL SAFETY PROCEDURES**

#### WELDING PRECAUTIONS



Any unauthorized welding can cause structural failure or possible personal injury. **DO NOT** weld on any structural member. All unauthorized welding will void the warranty.



#### HAND HOLDS AND STEPS



Slips and falls can cause serious injury.

When getting on and off machine, always maintain a three point contact with steps and hand rails while facing machine.

**DO NOT** use steering wheel or any other controls as handrails.

**NEVER** jump on or off machine.

Be careful of slippery conditions on platforms, steps and handrails when getting on and off machine.

ALWAYS shut off engine before leaving the operators station.



#### REFUELING



Fires can cause death or severe personal injury.

Handle fuel with care it is highly flammable. **DO NOT** refuel the machine while smoking or when near open flames or sparks.

**ALWAYS** stop engine before refueling machine. Fill fuel tank outdoors.

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



# GENERAL SAFETY ♠

## GENERAL SAFETY PROCEDURES

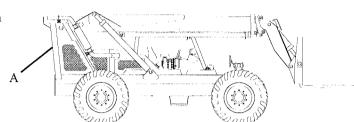
#### HYDRAULIC SAFETY



Hot hydraulic oil can cause severe burns. **DO NOT** work on the hydraulic system if oil temperature exceeds 120 degrees F. (49 degrees C).

Before **ANYONE** works on the hydraulic system:

- 1. Lower boom to horizontal.
- 2. Support boom to avoid unintentional lowering.
- 3. Shutdown engine.
- 4. Remove key from ignition.
- 5. Clean area around reservoir cap (A).



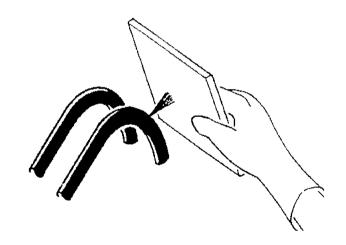
## FLUIDS UNDER PRESSURE



Escaping fluid under pressure can penetrate the skin and cause serious personal injury.

Use a piece of cardboard or paper to search for leaks. **DO NOT** use hands. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, ensure that all connections are tight. **DO NOT** apply pressure to a damaged line, hose or fitting.

If injured by escaping fluid, see a doctor at once. Proper medical treatment must be administered immediately. A serious infection or reaction can result without proper medical treatment.

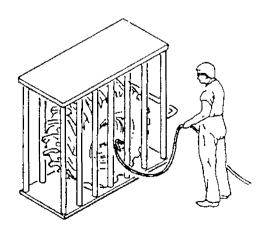


#### SERVICE TIRES SAFELY



An improperly mounted over-pressurized tire can result in tire explosion causing possible personal injury. An inflation cage or other safety device must be used during tire inflation.

**DO NOT** attempt to mount a tire unless you have the proper equipment and experience to perform the job. If you do not have the proper qualifications to perform the job have your dealer or qualified repair service perform the repair.





## GENERAL SAFETY

## **GENERAL SAFETY PROCEDURES**



## **CAUTION**

#### **USE SEAT BELT**

Always wear seat belt while operating the machine to reduce the risk of personal injury.



## **!** CAUTION

#### PRACTICE SAFE MAINTENANCE

Unauthorized modifications to machine may impair the safety, machine function and/or affect machine life.

**ALWAYS** use a safety support or brace when working on, under, or around the machine or forks.

**DO NOT** adjust or lubricate machine while it is in motion.

SHUT OFF engine and LOCKOUT ignition while working on machine unless maintenance instructions require engine running.

REPLACE all shields and guards after servicing.

NEVER use the machine as a platform for lifting personal.



## **?** CAUTION

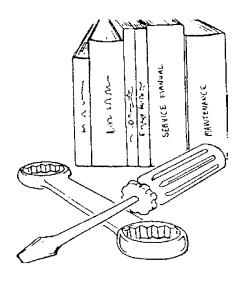
#### **BOOM SAFETY**

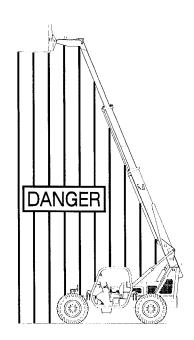
DO NOT enter DANGER AREA under or around boom when the forks are off the ground or while engine is running. (See diagram at right for DANGER AREA).

Serious personal injury could result if boom should unexpectedly drop.

Before ANY work is performed in the DANGER AREA the boom must be COMPLETELY lowered and the forks must be resting on the ground.







# **!** GENERAL SAFETY !

## **GENERAL SAFETY PROCEDURES**

#### AVOID ELECTRICAL POWER LINES



REQUIRED CLEARANCE FOR NORMAL VOLTAGE IN OPERATION NEAR HIGH VOLTAGE POWER LINE AND OPERATION IN TRANSIT WITH NO LOAD AND BOOM OR MAST LOWERED.

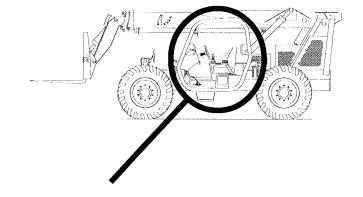
Normal Voltage, kV	Minimum Required
(Phase to Phase)	Clearance, ft. (m)
Operation Near High Voltage Power L	Lines
to 50	10 (3.05)
Over 50 to 200	15 (4.60)
Over 200 to 350	20 (6.10)
Over 350 to 500	25 (7.62)
Over 500 to 750	35 (10.67)
Over 750 to 1000	45 (13.72)
Operation in Transit With No Load ar	nd Boom Lowered
to 0.75	4(1.22)
Over 0.75 to 50	6((1.83)
Over 50 to 345	10 (3.05)
Over 345 to 750	16 (4.87)
Over 750 to 1000	20 (6.10)

## **N** WARNING

Always remain completely inside cab enclosure while operating the machine.

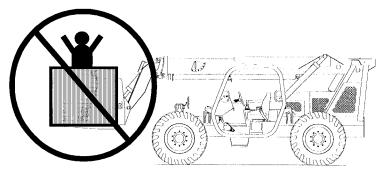
## **!** WARNING

Never operate this machine under the influence of drugs, alcohol and/or medication which can cause drowsiness.



## **NARNING**

Never transport or lift personnel into position with this forklift. It is not designed as a personnel lifting device.





## **JUMP STARTING**

**Location:** The battery is located under the Fuel Tank / Battery Box Cover (A).

#### JUMP STARTING

Jump Starting at the battery or battery replacement is required when the battery is discharged to the point where the battery will not crank the starter.



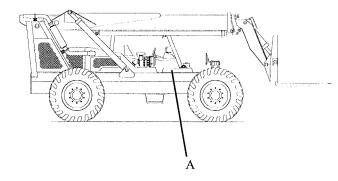
Never jump start the machine directly to the starter or the starter solenoid. Serious injury or death could result from the machine moving forward or backward.

## **!** WARNING

To avoid personal injury when jump starting with another machine, be certain that the machines are not touching. Never jump start a frozen battery as it will explode. Keep sparks and flames away from the battery. Lead acid batteries generate explosive gases when charging. Wear safety glasses when working near batteries.

The booster battery must be a 12 volt type. The machine used for jump starting must have a negative ground electrical system. To jump start the machine, proceed as follows:

- 1. Connect the positive (+) jumper cable to the positive (+) post of the discharged battery.
- 2. Connect the other end of the same jumper cable to the positive (+) post of the booster battery.
- 3. Connect one end of the second jumper cable to the negative (-) post of the booster battery.
- 4. Make the final cable connection to the engine block or the furthest ground point away from the battery.
- 5. Start the engine.
- 6. Remove the jumper cables in the reverse order of their connection (i.e. negative cable ground connection first, etc.)





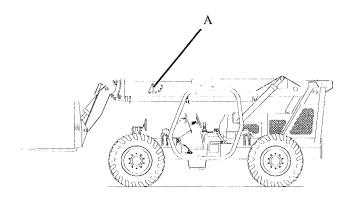
## PROPER LOAD CHART USE



**NEVER** raise a load and drive to position it. This can cause the machine to turnover. When placing a load, always move a loaded machine with the boom angle indicator (A) at 0 or less degrees. When the machine is as close as possible to where the load needs to be placed, set the parking brake, raise the load, then place the load into position.

The load chart shows the operating limits of a properly maintained and operated machine. To use the load chart the operator must know the weight of the load and how far "out" and "up" it is to be placed. If the load is heavier than stated on the load chart, three options can be used:

- 1. Move the machine closer to the load so that the weight of the load will fall within the load chart specifications.
- 2. Divide the load into smaller pieces so that each piece falls into load chart specifications.
- 3. Get a larger machine capable of handling the load within specifications.





## **GENERAL SAFETY**

## **TH636C**

PROPER LOAD CHART USE

## **TEREX HANDLERS**

2.0 BOX 790 455 NORTH SUPERIOR AVENUE BARAGA, MICHIGAN 49908 PHONE 906-353-6675 FAX 906 353-7543

MANUFACTURER'S RECOMMENDED MANUFACTURERS RECOMMENDED CAPACHY IS PER ANS B56.6 STABILITY ITSTS USING STANDARD HOWOGENEOUS CUBES 4x4x4 FT. (1.22x1.22x1.22 METERS). LOAD CAPACIES AT 24 NOH (.61 MEIERS) LOAD CENTER WITH STANDARD FORK FRAME.

RATED LIFT CAPACITIES SHOWN ARE WITH MACHINE ON A DRM, LEVEL SURFACE WITH UNDAMAGED,
PROPERLY INFLATED CALCIUM
CHLORIDE SOLUTION FILLED TIRES OR OPTIONAL FOAM FILLED TIRES.

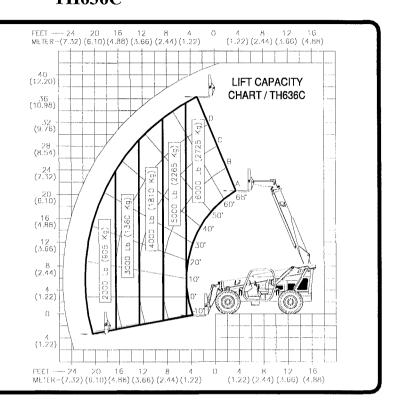
### LOAD LIMITS / HORIZONTAL BOOM

LAST FULLY VISIBLE LETTER

RETRACTED = 6.000 LBS (A) LETTER VISIBLE 5,000 +BS (B) LETTER VISBLE (C) LETTER VISBLE (D) LETTER VISBLE 4,000 LBS 3,000 LBS

2,000 LBS

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### **TH644C**

## **TEREX HANDLERS**

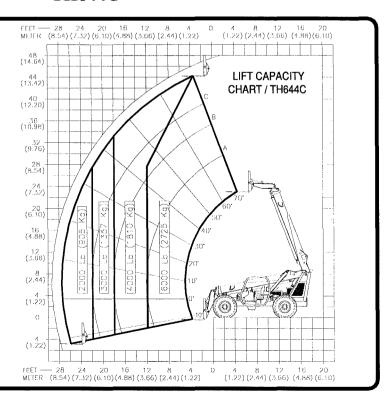
E.O. BOX 790 455 NORTH SUPERIOR AVENUE BARACA, MICHICAN 49908 PHONE 906 353 6675 LAX 906 353 7543

MANGHAGURER'S RECOMMENDED CAPACHY IS PER ANSI 856.6 STABILTY LESIS USING STANDARD HOMOGENLOUS CUBES 4x4x4 LT. (1.22x1.22x1.22 METERS). LOAD CAPACITIES AT 24 INCH. (.61 METERS) LOAD CONTER WITH STANDARD FORK FRAME. RATED FET CAPACITES SHOWN ARE WITH MACHINE ON A FIRM, LEVEL SURFACE WITH UNDAMAGED, PROPERLY INFLATED TIRES.

| OAD HMFS / HORIZONTAL BOOM | | LAST FULLY VISIBLE LETTER

RETRACTED = 6,000 LBS (A) ITTIER VISIBLE = 4,000 LBS (B) LEFTER VISIBLE = 3,000 LBS (C) EFTER VISIBLE = 2,000 LBS

P/N 2 -1274



# GENERAL SAFETY **!**

## PROPER LOAD CHART USE

## **TH842C**

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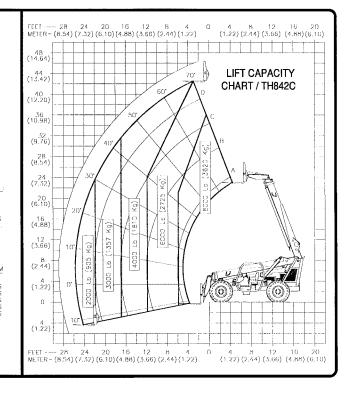
MANULACTURIER'S RECOMMENDED CAPACITY IS PER ANSI 858.6 STABILITY TESTS USING STANDARD HOMOGENEOUS CUBES 4x4x4 FT. (1.29x1.22x1.22 METERS). LOAD CAPACITIES AT 24 INCH. (.61 METERS) LOAD CONTER WITH STANDARD LORDE FEMALE. STANDARD FORK FRAME.

RATED LIFT CAPACITIES ARE WITH :

MACHINE ON A FIRM, LEVEL SURFACE WITH UNDAMAGED, PROPERLY INFLATED CALCIUM CHICORIDE SOLUTION FILLED HIRES OR OPHONAL FOAM FILLED HIRES. REAR AXLE LOCK—UP LINGAGED.

| OAD LIMITS / HORIZONTAL BOOM | LAST FULLY VISIBLE LETTER | RETRACTED = 8,000 LBS | (A) LETTER VISIBLE = 6,000 LBS | (B) LETTER VISIBLE = 4,000 LBS | (C) LETTER VISIBLE = 2,000 LBS | (D) LETTER VISIBLE = 2,000 LBS

P/N 3-1483



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### **TEREX HANDLERS**

P.O. BOX 790 455 NORTH SUPERIOR AVENUE BARAGA, MICHIGAN 49908 PHONE 906—353—6675 FAX 906—353—7543

MANUFACTURER'S RECOMMENDED CAPACITY IS PER ANSI 856.6 STABILBY IESTS USING STANDARD HOMOGENEOUS CUGES 4x4x4 FT. (1.22x1.22x1.22 METERS). LOAD CAPACITIES, AT 24 INDEED. (61 METERS) LOAD CENTER WITH STANDARD FORK EDWARD FORW STANDARD FORK FRAME.

RATED SIFE CAPACITIES ARE WITH:

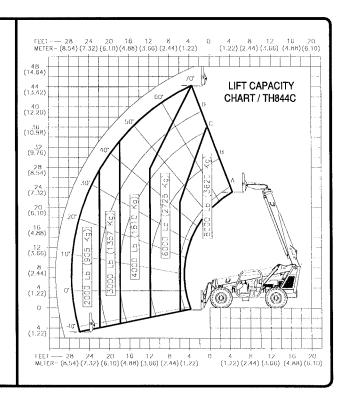
MACHINE ON A FIRM, LEVEL SURIACE WITH UNDAMAGED, PROPERTY INFLATED CALCIUM CHURRIF SOLUTION FILED THES OR OPTIONAL FOAM FILED TRES. REAR ARLE LOCK—UP ENGAGED.

LOAD LIMITS / HORIZONTAL BOOM

LAST FULLY VISIBLE LETTER

RETRACTED = 8,000 LBS
(A) LETTER VISIBLE = 6,000 LBS
(B) LETTER VISIBLE = 4,000 LBS
(C) LETTER VISIBLE = 2,000 LBS
(D) LETTER VISIBLE = 2,000 LBS

P/N 2 1286



# SECTION 3 CONTROLS AND INSTRUMENTS

## **TABLE OF CONTENTS**

## SECTION 3 - CONTROLS AND INSTRUMENTS

Cab Enclosure	3-3
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Gauges	3-8
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## **OPERATOR'S COMPARTMENT**

- 1. Accelerator Pedal
- 8. Hourmeter

22. Heater Switch

- 2. Joystick 4-way Controller
- 9. Gauges

23. Plug / Turn Signal Wires

- 3. Transmission Control Lever
- 10. Machine Level Gauge

- 4. Steering Selector
- 11. Plug / 12 Volt Access.
- Windshield Wiper 24. Interior Rear View Mirror

- 5. Service Brake Pedal
- 12. Seat

8. Ignition Switch

**Auxiliary Hydraulics** 

Parking Brake Handle

Pump Off Button

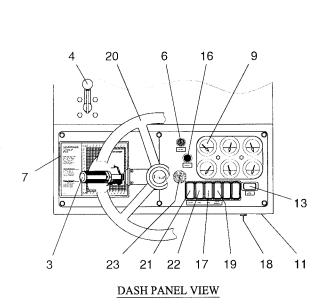
25. Frt.Axle Differential Lock

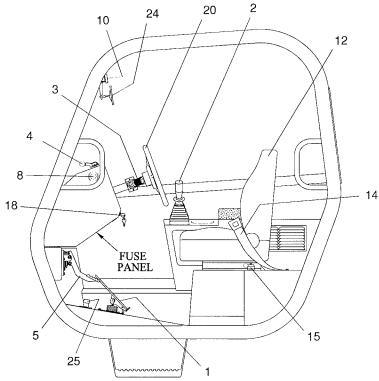
6. Parking Brake Warning Light

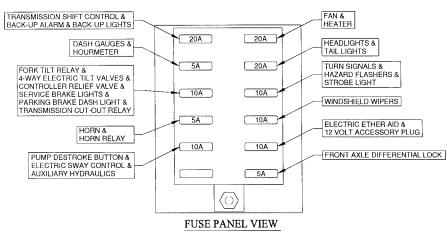
- - Frame Level Switch 20. Steering Wheel

7. Load Chart

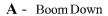
- 14. Seat Belt
- 21. Headlight Switch



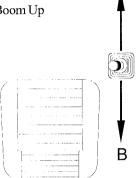


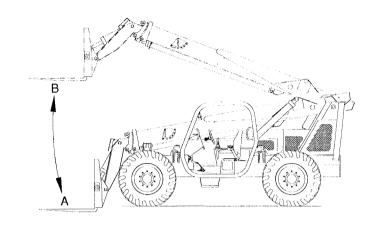


## JOYSTICK CONTROL FUNCTIONS



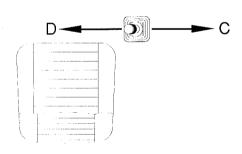
## **B** - Boom Up

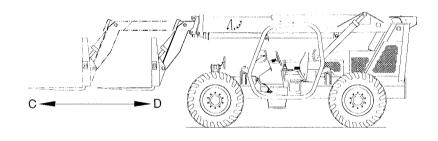




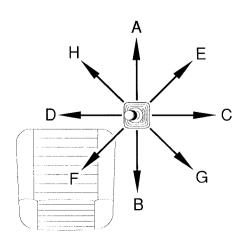
## C - Boom Out

## **D** - Boom In

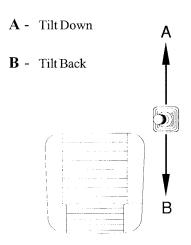


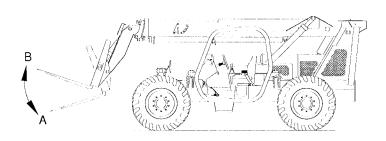


- E Boom Down and Out
- Boom Up and In
- G Boom Up and Out
- H Boom Down and In

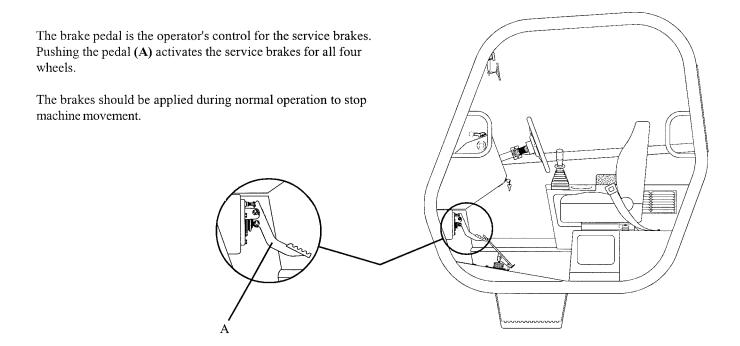


## **JOYSTICK CONTROL FUNCTIONS (BUTTON PUSHED)**

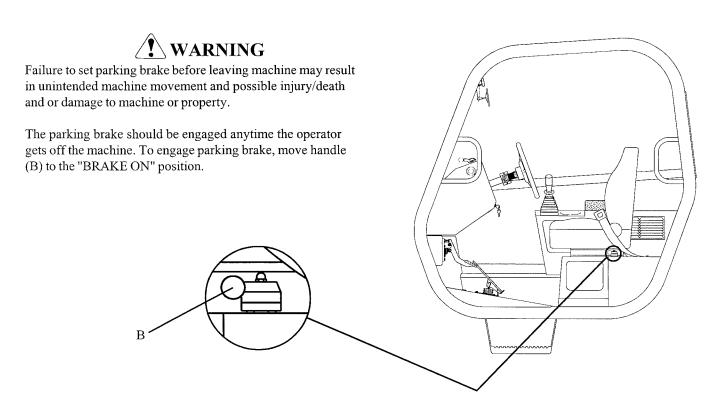




## **SERVICE BRAKES**



## **PARKING BRAKE**



## FRAME SWAY CONTROL

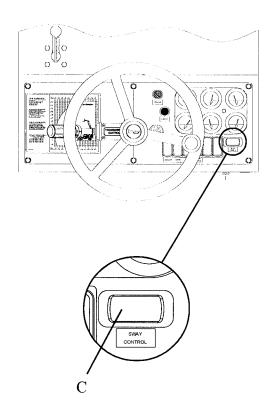
## **WARNING**

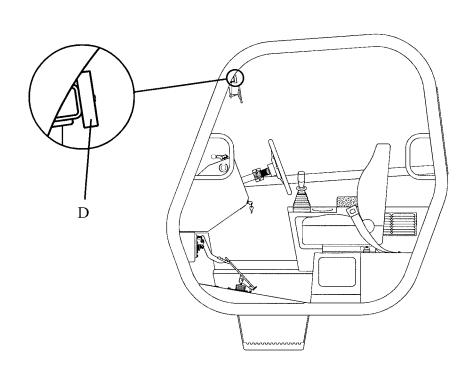
Always ensure that the machine level indicator is at zero (0) before raising the boom. Raising the boom with an unlevel machine may cause the machine to overturn, resulting in injury or death.

## **A**WARNING

Use the frame sway control to level the machine only when the boom angle indicator is at 0 degrees or less. Using the frame sway control when the angle indicator is more than 0 degrees may cause the machine to overturn, resulting in injury or death.

The frame sway control (C) is located on the dash panel. The frame sway control is used in conjunction with the machine level indicator (D) located in the center of the cross support that the interior rear view mirror is mounted on. The sway control switch is either toggled to the left or right depending on the particular requirement.

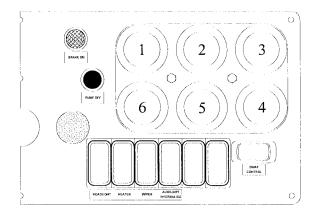




## **GAUGES**

The following gauges are used to monitor the machine:

- 1 Fuel Level
- 2 Oil Temperature, Powershift Transmission
- 3 Oil Pressure, Powershift Transmission
- 4 Voltmeter
- 5 Water Temperature, Engine
- 6 Oil Pressure, Engine



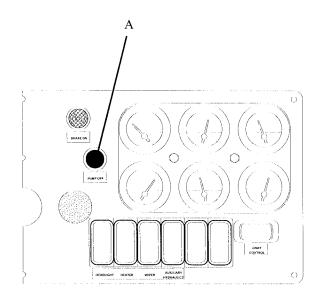
## HYDRAULIC PUMP DESTROKE BUTTON



Depressing the pump destroke button while operating the machine will cause an immediate loss of hydraulic power, possibly creating a very dangerous situation. Hydraulic functions that will be affected are: FORK TILT, LIFT, BOOM EXTEND and RETRACT, PARKING BRAKE and SWAY. None of these functions will operate as long as the button is depressed. The Service Brakes will continue to function if the accumulator backup has a sufficient gas charge.

The pump destroke button (A) is the black push button switch located on the dash panel.

For example, when starting the machine for the first time on a 30 degree F. day, depress the pump destroke button while starting the engine. Continue to depress the button for 15 to 20 seconds after the engine starts. Once the engine is running smoothly, release the button and the hydraulic pump will engage. Depressing the pump destroke button will not be required for all other starts of the day, unless the engine has been allowed to cool completely.



# **CONTROLS AND INSTRUMENTS**

### **STEERING**

In addition to the steering wheel, the machine has another steering control, the steering selector switch.

The Steering Selector switch (B) is a three-position switch. The three positions are: 4-wheel, 2-wheel, and oblique. Switch positions are selected and function as follows:

4-WHEEL

Handle right of center

2-WHEEL

Handle directly centered

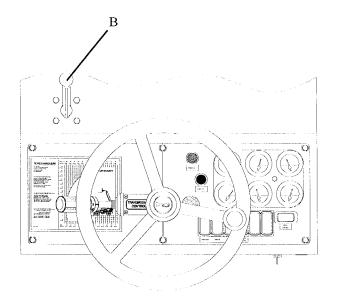
OBLIQUE (CRAB)

Handle left of center



## **CAUTION**

Before changing steering selections, make sure all four wheels are in line. Failure to align the wheels to the proper settings before changing steering positions may cause haphazard steering. This may result in injury to personnel and/or damage to the machine or property.



#### TRANSMISSION

The transmission control (C) has one lever that controls both directional and speed requirements. It is located on the left side of the steering column.

To shift into Forward gear gently pull the lever toward you and move the lever upward.

To shift into **Neutral** move the lever to the center position.

To shift into Reverse gear gently pull the lever toward you and move the lever downward.

To shift into a lower speed rotate the lever clockwise.

To shift into a higher speed rotate the lever counter-clockwise.

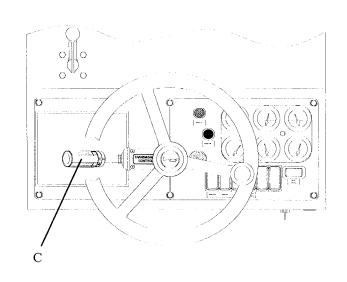
When shifting the transmission from forward to reverse while the machine is in motion the transmission control (C) must be in 1st or 2nd gear only.

Forward / 1st Forward/2nd Low speed/High torque

Medium speed/Medium torque

Forward/3rd

High speed/Low torque



# SECTION 4 OPERATION

## **TABLE OF CONTENTS**

## SECTION 4 - OPERATION

Operation And Safety Guidelines	4-3
Before Starting Engine	4-4
Starting The Engine	4-9
Before Operating Forklift	4-11
Transporting A Load	4-15
Placing A Load	4-17

#### **OPERATION AND SAFETY GUIDELINES**

## **!** WARNING

Your safety and the safety of those around you depends upon you using care and judgement in the operation of this equipment. Know the positions and functions of all controls before attempting to operate. All equipment has limitations. Understand the speed, braking, steering, stability, and load chart characteristics of the machine before operating. Read the Operator's Manual and ask questions of your supervisor until you know machine limitations. It is very important to read, fully understand, and follow these operation and safety guidelines.

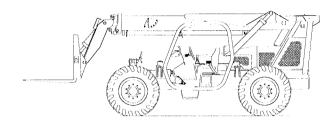
- 1. **DO NOT** operate the machine while people and/or property are within a 50 foot (15.24 m) minimum radius. Falling objects from the forks or attachment can cause property damage and/or serious personal injury. This 50 foot (15.24 m) minimum radius should be used only as a guideline. Enlarge minimum working area if warranted by working conditions.
- 2. **ALWAYS** remain completely within the cab enclosure while operating machine. Falling debris can cause serious personal injury or death.
- 3. NEVER extend a load beyond the load chart band. Machine turn over, component damage, injury or death could occur.
- 4. ABSOLUTELY NO RIDERS SHOULD BE ALLOWED ON MACHINE OR ATTACHMENTS.
- 5. **NEVER** lower a maximum load before retracting it. Machine turn over, component damage, injury or death could occur.
- 6. **INSPECT** and clear working area of any obstructions (rocks, fence, wire, etc.) that could cause machine damage. If obstructions cannot be cleared, mark obstructions with a stake or other marker that will be clearly visible to the operator.
- DO NOT check engine coolant level if engine has recently been run. Injury could occur from escaping hot pressurized coolant.
- 8. ALWAYS wear seat belt when operating machine.
- 9. **ALWAYS** inspect the machine daily. Check for leaks, worn hoses, loose belts, or anything out of the ordinary. Repair and/or replace any worn, damaged or leaking parts immediately. Failure to do so can cause injury or death.
- 10. **CHECK** to be sure that all guards and screens are secure and in the proper place.
- 11. **CHECK** to be sure that all safety devices such as parking brake, service brake, level gauge, neutral start safety switch, back-up alarm, and horn are functioning properly. Always make sure mirror is adjusted properly.
- 12. **DO NOT** travel on terrain or in dangerous areas that could cause the machine to tip over.
- 13. **DO NOT** attempt to start engine by towing or pushing. Damage to the powershift transmission could result.
- 14. CARRY A LOAD so that you have maximum machine stability and visibility is not obstructed.
- 15. **ALWAYS** level machine as indicated on the machine level indicator before raising boom. Raising the boom with an unlevel machine may cause machine to overturn causing injury or death.
- 16. USE frame sway control to level the machine only when the boom position is horizontal or lower. Using the frame sway control when the boom is higher then a horizontal position may cause the machine to overturn causing injury or death.
- 17. **DO NOT** depress the pump destroke button while operating the machine. This button should be used <u>only</u> during cold start ups. Depressing the button while operating the machine will cause an immediate loss of hydraulic power that will affect fork tilt, lift, boom extend and retract, sway and all other hydraulic functions. Brakes will continue to function if accumulator backup has a sufficient gas charge.

#### **BEFORE STARTING ENGINE**



DO NOT perform any procedures in this section, "BEFORE STARTING ENGINE", unless the machine's engine is turned off and the parking brake is applied and the engine is cool. Failure to do so may result in serious injury, death or damage to the equipment.

Walk around the machine and check for any parts that are missing, worn, damaged, or leaking. Repair and/or replace damaged parts.



#### CHECK ENGINE OIL LEVEL

Location: Dipstick (A).

To Check: Machine must be level.

Remove dipstick (A) from engine and check

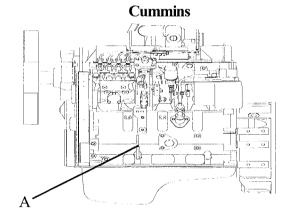
when engine is cold.

Oil should read between the add and full

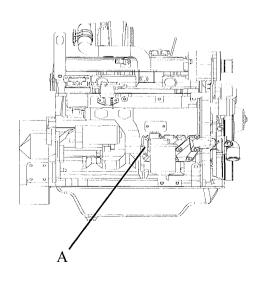
marks.

Replace dipstick (A).

NOTE: Refer to page 5-24 of this manual for proper oil specification and capacities.



John Deere



#### **BEFORE STARTING ENGINE**

## **!** WARNING

DO NOT check coolant level if engine has been run recently. Injury may occur from hot escaping pressurized coolant.

#### CHECK ENGINE COOLANT LEVEL

**Location:** Tank Cap (B)

**To Check:** Coolant should be visible in top of tank.

NOTE If coolant needs to be added fill with a 50/50

mixture of water and ethylene-glycol based

antifreeze. (-34 degrees F)

NOTE All John Deere engines require "John Deere Cool Gard"

to be added to coolant whenever changing or adding coolant.

Available from you local John Deere dealer.

#### **OPEN WATER SEPARATOR**

**Location:** Water Separator Filter (C)

**To Open:** Shut off engine.

Turn valve on bottom of filter (C) counter

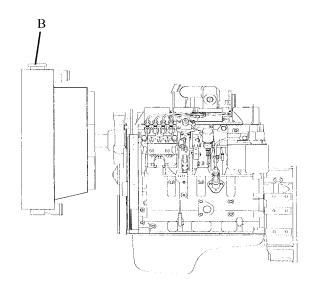
clockwise.

Drain until clear fuel is present.

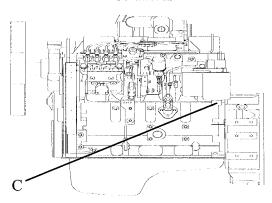
Retighten valve.

NOTE If more than 2 oz. of fuel are drained, refilling of the

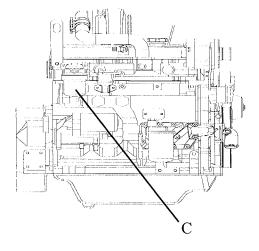
filter is required to prevent hard starting. Refer to filter replacement on page 5-19 of this manual.



#### **Cummins**



#### John Deere



## **BEFORE STARTING ENGINE**

#### CHECK HYDRAULIC OIL LEVEL

**Location:** Sight Glass (A) behind rear panel.

**To Check:** Move the machine to level ground.

Level the frame.

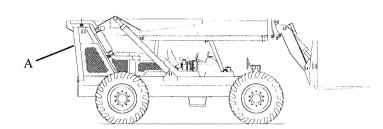
Completely retract the boom.

Lower the boom to the ground.

Position the forks level.

Oil should be visible 1/2 way in sight glass (A).

NOTE: Refer to page 5-24 of this manual for proper oil specification and capacities.



#### INSPECT AIR CLEANER

**Location:** Air Cleaner Assembly.

**To Check:** Remove the rear of the canister, remove the

element.

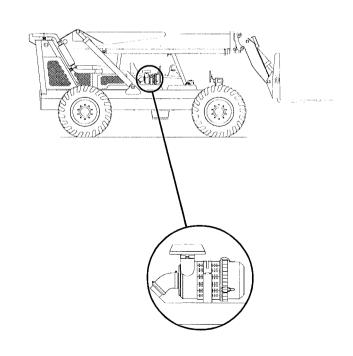
Guideline: Inspect the filter element for contamination.

Inspect the tubing going to the filter body from the engine for cracks or leaks. Inspect the air cleaner body and gaskets for cracks

or leaks.



Due to various operating conditions, the air cleaner's elements should be changed as often as the environment requires.



## **BEFORE STARTING ENGINE**

#### CHECK TRANSMISSION OIL LEVEL

**Location:** Dipstick (A)

To Check: Level out the machine.

Place the transmission control in neutral.

Leave the engine running.

Bring the transmission oil temperature to a

minimum of 180 degrees F.

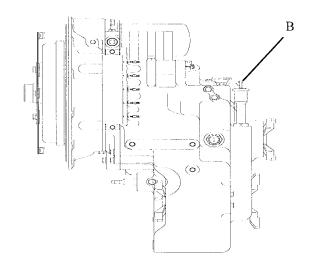
Remove the dipstick (B). The oil level should

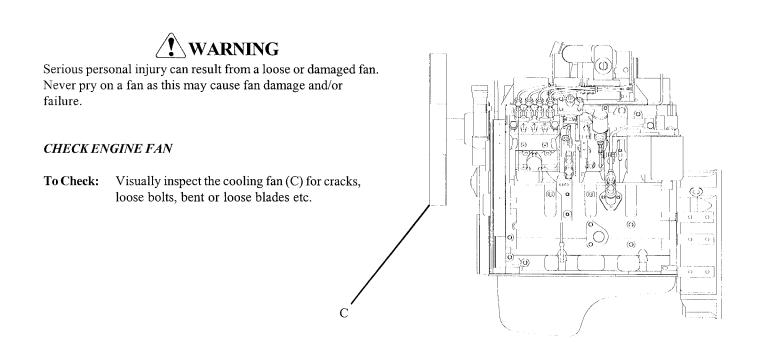
be between the add and full mark.

Replace the dipstick.

NOTE: Refer to page 5-24 of this manual for proper oil

specification and capacities.





## **BEFORE STARTING ENGINE**

#### CHECK TIRE FOR PROPER INFLATION

**Location:** Wheel ends.

To Check: With the valve stem (A) positioned to the top of

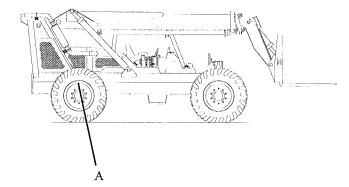
the tire, check the tire pressure with the tire cold

and a properly functioning gauge.

Setting: 50 PSI.



All tires require a calcium chloride ballast or an optional foam filling to be operated safely. The loss of ballast can affect machine stability and cause a rollover hazard resulting in damage, injury or death.



#### STARTING ENGINE

## <equation-block> DANGER

Any problems discovered in the steps prior to "BEFORE STARTING ENGINE" should be corrected before the machine is started.

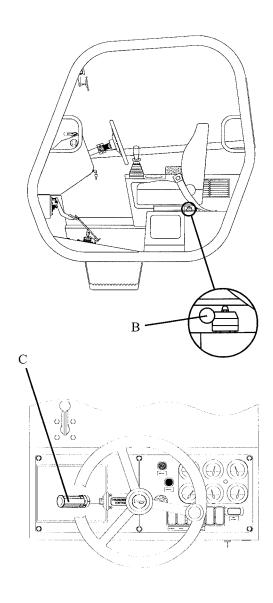
## / DANGER

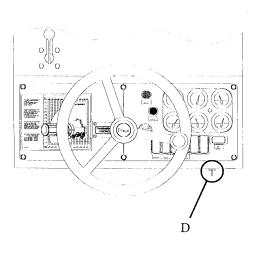
**NEVER** attempt to start the machine without being seated in the operator's compartment, the parking brake (B) in the on position and the transmission control (C) in the neutral position. Attempting to start the machine from outside the operator's compartment may result in property damage, serious injury or death.

## ? DANGER

If the machine should start with the transmission control lever (C) in gear, stop operation at once or property damage, serious injury or death may occur. Have a qualified service technician repair the machine.

Insert the ignition key in the ignition switch (D). Rotate the key clockwise until the engine starts. Release the key when the engine starts.





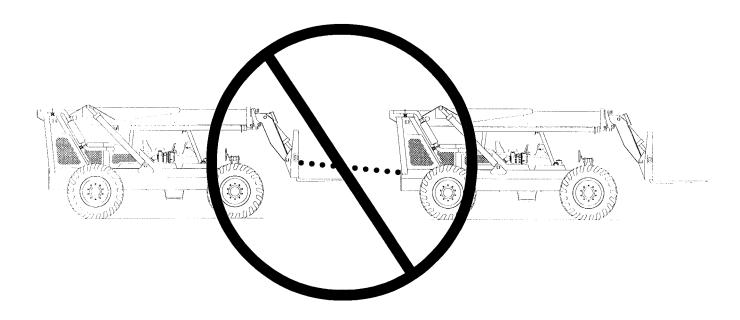
## STARTING ENGINE

# **A**CAUTION

If the engine fails to start within 30 seconds release the key, wait at least 2 minutes to allow the starter motor to cool before trying again. If the engine fails to start after four attempts, trouble shoot and correct the problem. DO NOT turn the key if the engine is running. This may cause damage to the starter motor.

## **A**CAUTION

Attempting to start the engine by towing or pushing the machine will result in damage to the powershift transmission and will not start the engine! It also is an unsafe practice that could cause personal injury.



#### **BEFORE OPERATING**

## **!** CAUTION

If any gauge reading does not fall within the set tolerances the machine must be repaired before operation.

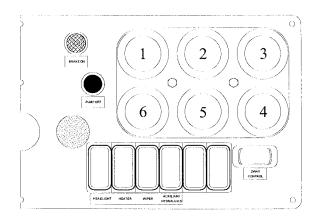
Check the dash mounted gauges for logical readings.

(1)	Fuel	1/2 to Full
(2)	Transmission Oil Temp.	180°F to 200°F
(3)	Transmission Oil PSI.	240 to 280 PSI

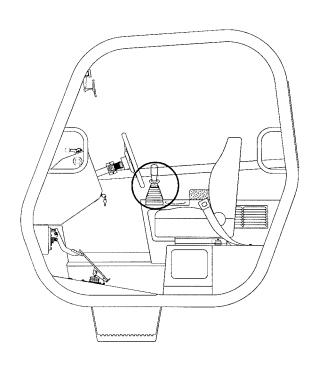
(4) Volt 12 to 14

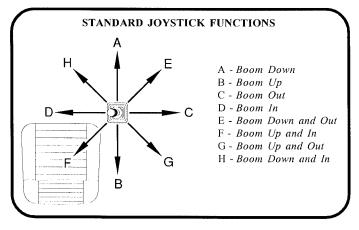
(5) Engine Water Temp. 180°F to 200°F

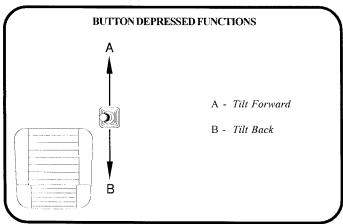
(6) Engine Oil PSI 40 to 80 PSI



Operate the joystick controller momentarily in all directions.

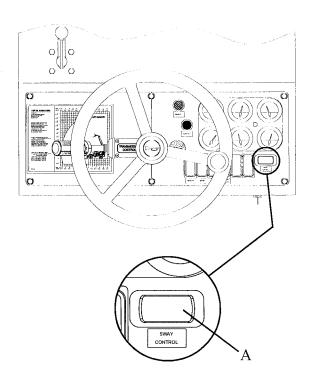




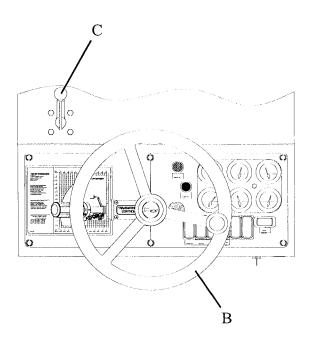


## **BEFORE OPERATING**

Operate the frame sway control (A) momentarily right and left.



Check the steering operation by turning the steering wheel (B) approximately 1/4 turn in each direction. If the front and rear tires are not aligned properly, straighten the rear wheels with the steering selector valve (C) in the "4 wheel" position. Move the steering selector valve to the "2 wheel" position. Bring the front tires into alignment with the rear tires. Place the steering selector valve back into the "4 wheel" position.

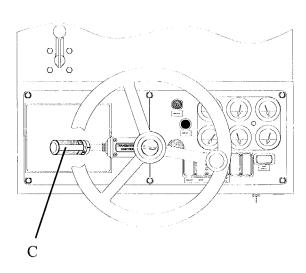


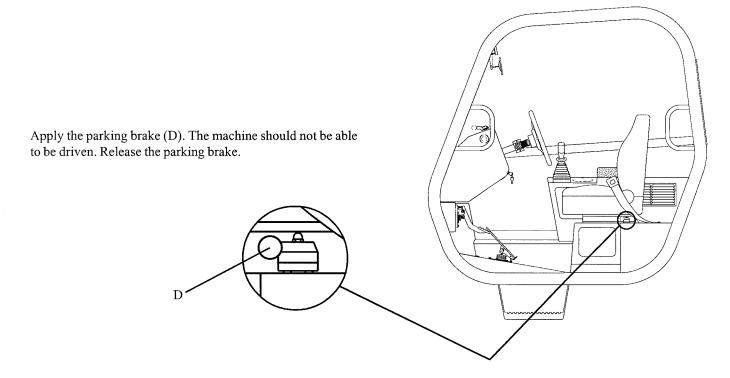
## **BEFORE OPERATING**

## **A** DANGER

Any problems with the service brakes or the parking brake found while conducting the daily inspection should be corrected immediately. Failure to do so could result in injury or death.

Activate the transmission using the transmission control lever (C). As soon as the machine starts to move, apply the service brake pedal. The machine should stop immediately.



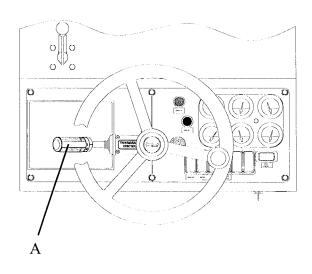


## **BEFORE OPERATING**

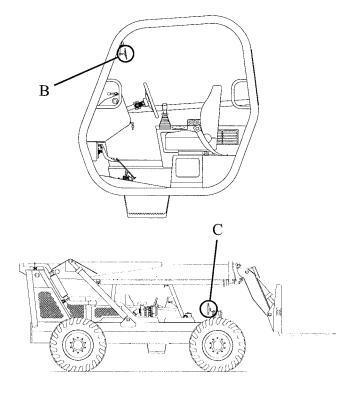


Never operate the machine with a faulty backup alarm. Doing so may result in serious injury or death.

Place the transmission control lever (A) in reverse. The backup alarm should sound. If it does not sound, have the backup alarm repaired immediately.



Check and adjust both the interior rear view mirror (B) and the exterior right hand mirror (C) if required.



### TRANSPORTING A LOAD

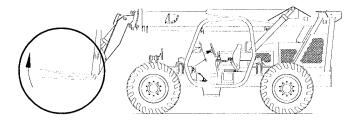
## **!** WARNING

Transporting a load with the boom extended and the Angle Indicator Arrow reading more than 0 degrees could cause a roll over hazard.

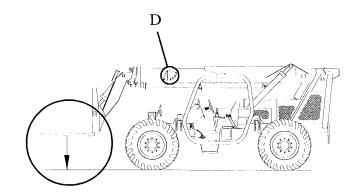
## **A** WARNING

At no time should any load be suspended from the forks by use of chains, ropes, straps etc. If a load must be suspended the use of a Truss (Jib) boom is mandatory. Proper rigging procedures should always be followed.

The forks should always be tilted back slightly during transportation to ensure stability of the load.



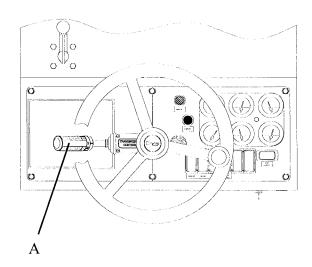
The load should be kept as low to the ground as possible while traveling. Always move a loaded machine with the boom angle indicator (D) at 0 degrees or less.



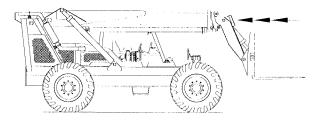
## TRANSPORTING A LOAD

## **N** WARNING

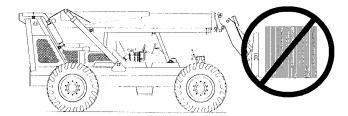
Slower speeds should be used whenever transporting a load. Always bring the machine to a complete stop before reversing the transmission control (A). Failure to do so can result in damage to the load, the machine and/or bystanders.



Always keep the boom retracted to ensure greater stability.



Always place the load in the center and completely against the back of the fork frame. By doing so greater stability will result.



**IMPORTANT:** Never attempt to use the forks and/or attachments for prying wedged or frozen loads free. Damage to the load, pallet and/or machine could result.

#### PLACING A LOAD



## WARNING

Do not sway the machine with the boom Angle Indicator Arrow (A) at more than 0 degrees. By doing so you could cause a roll over hazard which may result in injury or death.



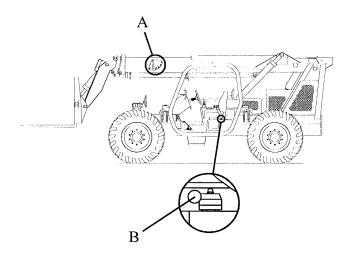
## **DANGER**

Always apply the parking brake (B) before lifting and/or placing a load. Failure to do so could allow the machine to roll over which may result in injury or death.

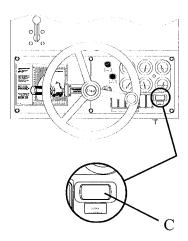


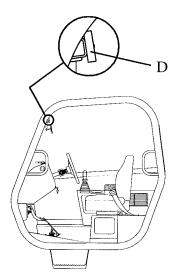
## **CAUTION**

Always bring the machine to a complete stop before applying the parking brake (B). Failure to do so will damage the parking brake disc packs, which may void the axle warranty.



Before placing a load, the frame should be leveled. This can be done by the use of the switch labeled Sway Control (C) located on the lower right hand side of the dash panel in front of the operator.



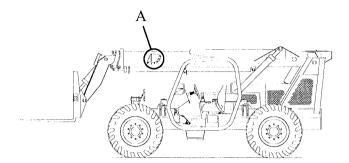


Adjust the Sway Control (C) until the indicator ball on the Level Gauge (D) is on the 0 degree mark.

## PLACING A LOAD



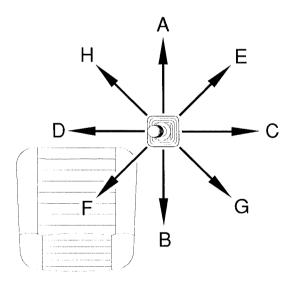
Traveling with a reading of more than 0 degress on the boom angle indicator (A) may cause a rollover hazard.



Gradually move the 4-way controller towards the letter (B) to lift the load vertically. Hold the controller back until the required height has been achieved.

Gradually move the 4-way controller towards the letter (E) to bring the load DOWN and OUT into final position. Lower the load until the weight is completely off the forks.

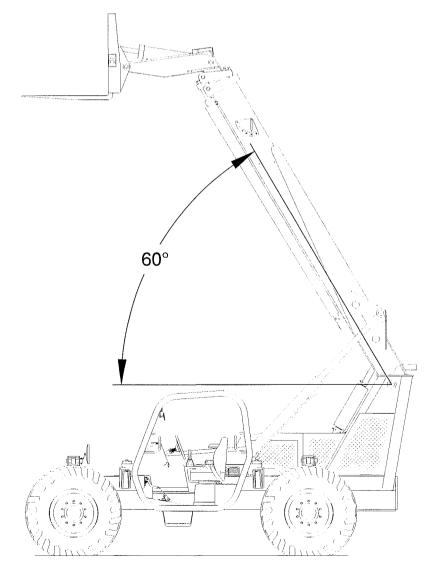
Gradually move the 4-way controller towards the letter (F) to bring the boom UP and IN. This will bring the forks out of the load. Once the forks are clear of load the boom can be lowered.



## PLACING A LOAD

## **TH644C, TH842C, TH844C ONLY!**

When placing a load with the Model TH644C, TH842C, or the TH844C the rear axle stabilizing cylinders need to be taken into consideration. When the boom reaches an angle of 60 DEGREES, all frame leveling and transmission functions are disabled and the rear axle stabilizing cylinders become locked. This DOES NOT affect any boom or fork functions. To unlock the rear axle stabilizing cylinders and enable the transmission functions, lower the boom to a position less than 60 degrees.



# SECTION 5 MAINTENANCE PROCEDURES

## **TABLE OF CONTENTS**

## **SECTION 5 - MAINTENANCE PROCEDURES**

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#### **GENERAL SAFETY PRACTICES**

#### **BEFORE SERVICING**

Read entire Maintenance Procedure Section.

Familiarize yourself with all safety precautions listed in Section 1.

Pay close attention to all safety alert symbols.

Be sure you understand the procedures detailed in this section.

Wear personnel protective equipment.

Remove rings and jewelry.

Move machine to a safe level work place.

Lower boom and support all raised equipment.

Shut down machine.

Remove key from ignition.

Be careful not to spill fuels and lubricants.

Do not fill or refuel tank while engine is running or hot. Doing so could cause a fire and/or a explosion.

Do not smoke while refueling or working with fuel to avoid a fire and/or explosion.

IMPORTANT! Always clean up spilled fuel and/or lubricants to avoid polluting the earth.

## **GENERAL SAFETY PRACTICES**

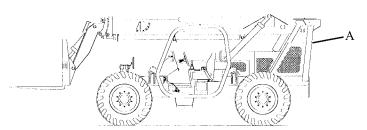
#### HYDRAULIC SAFETY



Hot hydraulic oil can cause severe burns. DO NOT work on the hydraulic system if oil system temperature exceeds 120 degrees F.

Before ANYONE works on the hydraulic system:

- 1. Lower the boom to horizontal.
- 2. Support the boom to avoid unintentional lowering.
- 3. Shutdown the engine.
- 4. Remove the key from the ignition.
- 5. Clean the area around the oil reservoir cap (A).



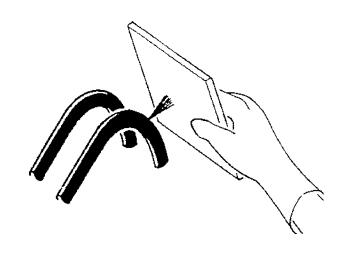
#### FLUID UNDER PRESSURE



Escaping fluid under pressure can penetrate the skin and can cause serious personal injury.

Use a piece of cardboard or paper to search for leaks. DO NOT use hands! Before disconnecting hydraulic lines, be sure to relieve all line pressure. Before applying pressure to the system, be sure that all connections are tight. DO NOT apply pressure to a damaged line, hose or fitting.

If injured by escaping fluid, see a doctor at once. Proper medical treatment must be administered immediately. A serious infection or reaction can result without proper medical treatment.



#### **WELDING PRECAUTIONS**



DO NOT weld on any structural member. Any unauthorized welding can cause structural failure or possible personal injury. All unauthorized welding or repair procedures will void the machine warranty.

Before performing any authorized welding, be sure to disconnect the positive lead from the battery. Properly attach the ground cable of the welder to the frame member that is being welded. Failure to do so can cause electrical system damage.



## **SERVICE INTERVALS**

					I			
	DAILY	50 Hrs.	100 Hrs.	250 Hrs.	500 Hrs.	750 Hrs.	1000 Hrs.	2000 Hrs.
CHECK ENGINE OIL	•							
CHECK COOLANT LEVEL	•							
CHANGE HYDRAULIC RETURN FILTER		•*		•				
CHANGE ENGINE OIL & FILTER			•*	•				
INSPECT ALTERNATOR BELT							•	
ENGINE VALVE ADJUSTMENT							•	•* * *
CHANGE DIFFERENTIAL OIL (AXLE)			•*			•		
REPLACE FUEL FILTERS					•			
COOLANT CONCENTRATION					•			
CHECK ENGINE FAN	•							
OPEN WATER SEPERATOR	•							
CHECK TIRE INFLATION	•							
FLUSH AND PRESSURE TEST COOLING SYSTEM								•
CHECK TRANSMISSION OIL	•							
REPLACE TRANSMISSION OIL & FILTER		•*	•**		•			
CHECK AXLE OIL LEVELS		•						
CHANGE PLANETARY REDUCTION OIL (AXLE)			•*			•		
INSPECT AIR CLEANER AND AIR CLEANER SYSTEM	•							
CHECK HYDRAULIC OIL LEVEL	•							
CHECK HYDRAULIC RETURN FILTER	•							

<sup>\*</sup> For initial break-in period only.

<sup>\*\*</sup> For initial 100 hours only.

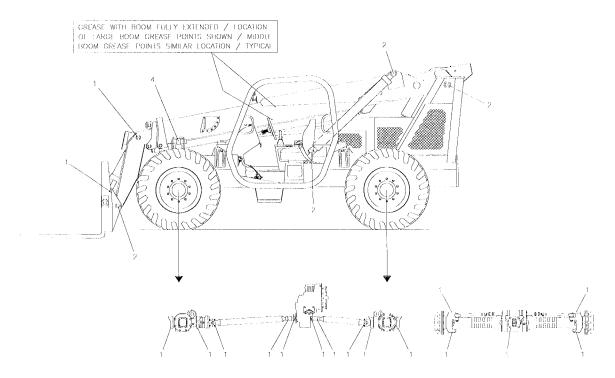
<sup>\*\*\*</sup> John Deere engines require valve adjustment every 2000 hours only.

## REQUIRED GREASE INTERVALS

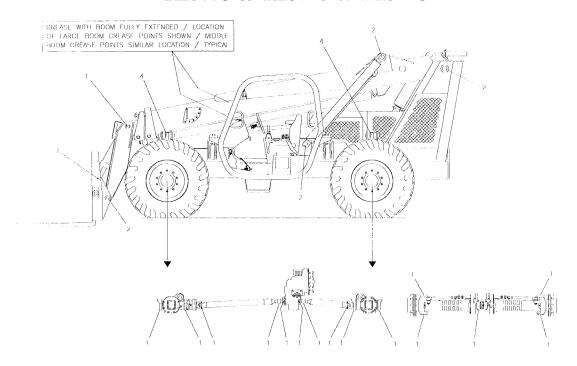
LOCATION	DAILY	50 Hrs.	250 Hrs	500 Hrs.
SMALL BOOM ROLLERS (4)		•		
BASE END TILT CYLINDER		•		
HEAD END TILT CYLINDER	•			
FORK FRAME PIVOT PIN (2)	•			
HEAD END LIFT CYLINDER (2)	•			
BASE END LIFT CYLINDER (2)	•			
FRONT DRIVESHAFT (3)			•	
REAR DRIVESHAFT (3)			•	
BASE END SWAY CYLINDER (2)	•			
HEAD END SWAY CYLINDER (2)	•			
BOOM PIVOT (2)	•			
REAR AXLE TRUNIONS (4)		•		
FRONT AXLE TRUNIONS (4)		•		
FRONT AXLE PIVOT (2)		•		
REAR AXLE PIVOT (2)		•		
MIDDLE BOOM ROLLERS (4)		•		
BASE END REAR LOCK UP CYLINDER (2) 644C-842C-844C ONLY	•			
HEAD END REAR LOCK UP CYLINDER (2) 644C-842C-844C ONLY	•			

## **GREASE FITTING LOCATIONS**

## **TH636C**



## TH644C & TH842C & TH844C



## **DAILY MAINTENANCE**

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### CHECK ENGINE OIL LEVEL

**Location:** Dipstick (A).

**To Check:** The machine must be level.

Check when the engine is cold.

Remove the dipstick (A) from the engine.

The oil level should be between the add

and full marks.

Replace the dipstick.

NOTE: Refer to page 5-24 of this manual for proper oil

specification and capacities.

## **?** WARNING

Do not check the coolant level if the engine has recently been run. Injury may occur from hot escaping pressurized coolant.

#### CHECK ENGINE COOLANT LEVEL

Location: Radiator Cap (B)

**To Check:** Coolant should be visible in the top of the tank.

NOTE: If coolant needs to be added fill with a 50/50

mixture of water and ethylene-glycol based

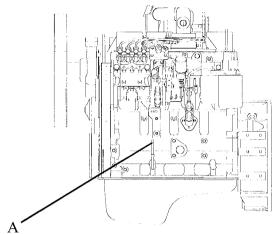
antifreeze. (-34 degrees F)

NOTE: All John Deere engines require "John Deere Cool Gard"

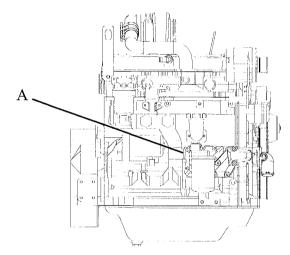
to be added to coolant whenever changing or adding coolant.

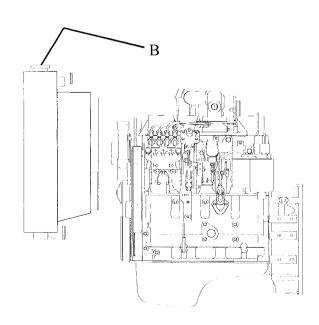
Available from your local John Deere dealer.





John Deere





## DAILY MAINTENANCE

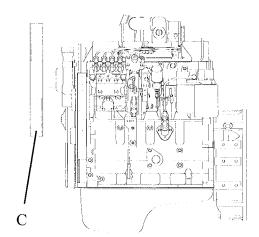
## **!** WARNING

Serious personal injury can result from a loose or damaged fan. Never pry on a fan because this may cause fan damage and/or failure.

#### CHECK ENGINE FAN

**To Check:** Visually inspect the cooling fan (C) for cracks,

loose bolts, bent or loose blades, etc.



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#### **OPEN WATER SEPARATOR**

Location: Water Separator Filter (D)

**To Open:** Shut off the engine.

Turn the valve on the bottom of the filter

counter-clockwise.

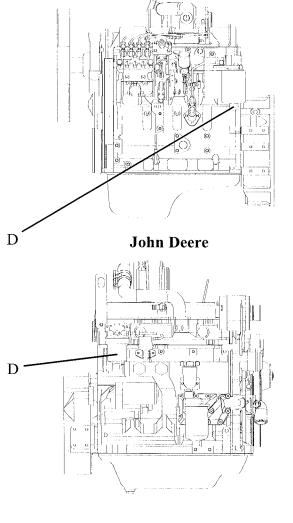
Drain until clear fuel is present.

Retighten the valve.

NOTE: If more than 2 oz. of fuel are drained, refilling of the

filter is required to prevent hard starting. Refer to filter

replacement on page 5-19 of this manual.



## **DAILY MAINTENANCE**

#### CHECK TRANSMISSION OIL LEVEL

**Location:** Dipstick (A)

**To Check:** Level out the machine.

The engine must be running to check.

Bring the transmission oil temperature to a

minimum of 180 degrees F.

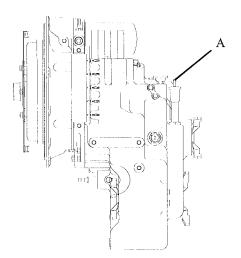
Remove the dipstick (A). The oil level should be

between the add and full marks.

Replace the dipstick.

NOTE: If oil needs to be added refer to page 5-24 of this manual for

oil capacities and equivalents.



#### CHECK HYDRAULIC OIL LEVEL

**Location:** Sight Glass (A) behind rear panel.

**To Check:** Move the machine to level ground.

Level the frame.

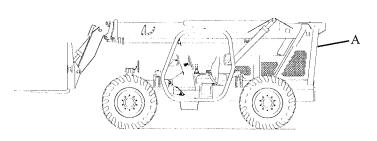
Completely retract the boom.

Position the forks level.

Lower the boom to the ground.

Oil should be visible 1/2 way in sight glass (A).

NOTE: Refer to page 5-24 of this manual for proper oil specification and capacities.



## **DAILY MAINTENANCE**

#### CHECK TIRE FOR PROPER INFLATION

Location: Wheel ends.

To Check: With the valve stem (A) positioned to the top of

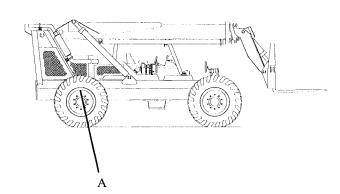
the tire, check the tire pressure with the tire cold

and a properly functioning gauge.

Setting: 50 PSI.



All tires require a calcium chloride ballast or an optional foam fill to be operated safely. The loss of ballast can affect the machine's stability and cause a rollover hazard, resulting in damage, injury or death.



#### INSPECT AIR CLEANER

**Location:** Air Cleaner Assembly.

**To Check:** Remove the rear of the canister, remove

the filter element.

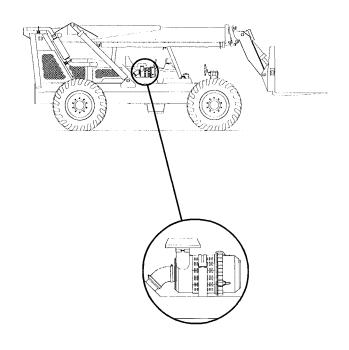
Guideline: Inspect the filter element for contamination.

Inspect the tubing going to the filter body from the engine for cracks or leaks. Inspect the air cleaner body and gaskets for cracks

or leaks.



Due to various operating conditions, the air cleaner's element should be changed as the environment requires.



#### **50 HOUR MAINTENANCE**

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### CHECK HYDRAULIC RETURN FILTER (GAUGE)

Location: Pressure Gauge (A). Located behind the left hand

side screen, on top of the oil reservoir and on the left hand side of the Return Filter Assembly (B).

**To Check:** Raise the boom to the horizontal position.

Extend the boom cylinder fully.
Raise the engine speed to full RPM.
Retract the boom cylinder at full speed.

The Pressure Gauge reading should not read more than 25 PSI. If the reading is more than 25 PSI, the filter planeaut should be changed.

filter element should be changed.

#### CHANGE HYDRAULIC RETURN FILTER ELEMENT

Location: The Return Filter Element (C) is located inside the

Return Filter Assembly on top of the oil reservoir.

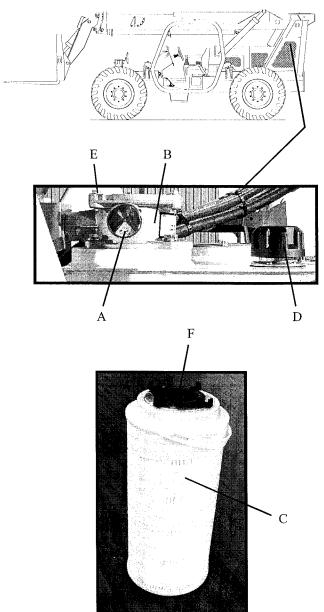
**To Change:** Retract the boom and lower the forks to the ground. Shut off the engine. Release the pressure in the oil reservoir by loosening the filler / breather cap (D).



The Return Filter Assembly cover is spring loaded. Loosen, but do not remove, the four cover bolts (E) on the top of the Return Filter Assembly. Carefully push down and rotate the cover clockwise to remove. Remove the cover spring and pull the Filter Element out using the swivel handle on the element. Make sure both o-rings are in place inside the new Filter Element, then transfer the Bypass Valve (F) into the new Filter Element. Reinstall the Filter Element, cover spring and cover, making sure the o-ring is in place between the cover and the Return Filter Assembly.

NOTE:

This change interval is only for the first initial 50 hours of use. Following initial replacement of filter see Service Intervals on page 5-5 of this manual for standard change



#### **50 HOUR MAINTENANCE**

#### CHANGE TRANSMISSION OIL AND FILTER

Location:

Transmission filter (A).

Drain plug (B) Dipstick (C)

To Change:

Bring the transmission oil temperature to a

minimum of 180 degrees F.

Remove the drain plug (B).

Allow the oil to drain completely into a

proper collection container.

Clean the area around the filter thoroughly.

Remove the filter (A).

Apply a thin film of clean transmission oil to the new filter gasket surface and install the filter according to the manufacturer's

specifications.

Install the drain plug (B).

Fill the transmission through the dipstick tube (C) until the oil level is between the add

and full marks.

Run the engine for a minimum of 2 minutes

at engine idle.

Check the oil level at the dipstick (C).

Raise the transmission oil temperature to a minimum of 180 degrees F. Recheck the oil at

the dipstick (C).

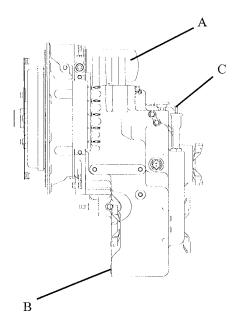
NOTE: This change interval is only for the first initial 50

hours of use. Following the initial replacement of oil and filter see the Service Intervals on page 5-5 of this manual

for the standard change interval.

NOTE: Refer to page 5-24 of this manual for the proper oil

specifications and capacities.



## **50 HOUR MAINTENANCE**

#### CHECK AXLE PLANETARY OIL

**Location:** Filler/Drain Plug (A)

To Check: Always check the lubricant level in the wheel end

with the filler/drain plug hole at the 3 or 9 o'clock

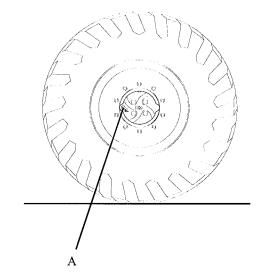
position.

Remove the Filler/Drain Plug (A).

Oil should run freely out of the hole.

NOTE: Refer to page 5-24 of this manual for the proper oil

specifications and capacities.



#### CHECK AXLE DIFFERENTIAL OIL

**Location:** Fill Plug (A)

Check Plug (C) Drain Plug (B)

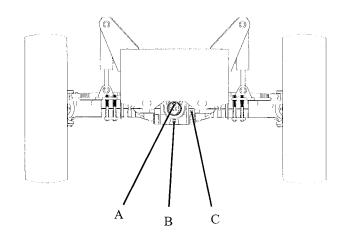
**To Check:** Move the machine to level ground.

Remove the Check Plug (C). Oil should flow

freely from the hole.

NOTE: Refer to page 5-24 of this manual for the proper oil

specifications and capacities.



## 100 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### CHANGE AXLE DIFFERENTIAL OIL

Location:

Fill Plug (A)

Check Plug (C) Drain Plug (B)

**To Change:** Remove the Drain Plug (B)

Allow the oil to drain completely into a proper

collection container.

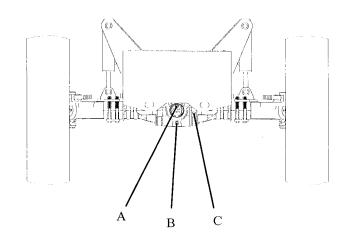
Fill with oil until it flows freely from the Check

Plug(C).

NOTE: This time interval is for the first initial 100 hours. Refer to page 5-5 of this manual for additional service intervals.

NOTE: Refer to page 5-24 of this manual for the proper oil

specifications and capacities.



## 100 HOUR MAINTENANCE

#### CHANGE AXLE PLANETARY END OIL

Location: Filler/Drain Plug (A)

To Change: Rotate the planet end until the Filler/Drain Plug

(A) is at the lowest point of the planet end.

Remove the Filler/Drain Plug (A) and allow the oil to drain completely into a proper collection

container.

Rotate the planet end until the Filler/Drain Plug

hole is at the 3 or 9 o'clock position.

Fill with oil until it flows freely from the Filler/

Drain Plug.

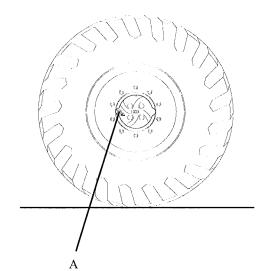
Replace the Filler/Drain Plug (A).

NOTE: This time interval is for the first initial 100 hours. Refer to

page 5-5 of this manual for additional service intervals.

NOTE: Refer to page 5-24 of this manual for the proper oil

specifications and capacities.



#### CHANGE TRANSMISSION OIL AND FILTER

To Change: Refer to the procedure listed on page 5-13 of this

manual.

NOTE: This time interval is for the first initial 100 hours. Refer to

page 5-5 of this manual for additional service intervals.

## 250 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "100 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### CHANGE HYDRAULIC RETURN FILTER

To Change: Refer to the procedure listed on page 5-12 of this

manual.

## 250 HOUR MAINTENANCE

#### CHANGE ENGINE OIL AND FILTER

**Location:** Oil Filter (A)

Drain Plug (B) Fill Spout (C)

To Change: Operate the engine until the engine water

temperature has reached 140 degrees F.

Turn the engine off.

Remove the drain plug (B)

Allow the oil to drain completely into a proper collection container.

Clean the area thoroughly around the filter area. Remove the engine oil filter (A).

Apply a thin film of clean engine oil to the new filter gasket surface.

Fill the new engine oil filter with clean engine oil before installation.

Install the oil filter to the manufacturer's specifications.

Clean the surface around the drain plug (B)

Install the drain plug (B)

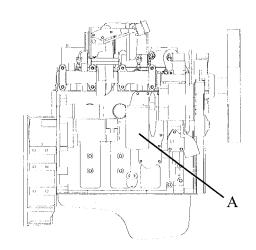
Fill the engine with the proper oil through the oil fill spout (C) until the oil level is between the add and the full marks on the dipstick.

Run the engine for a minimum of 2 minutes at engine idle.

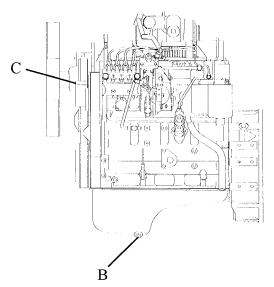
Turn the engine off.

Once the engine has cooled recheck the oil level at the dipstick.

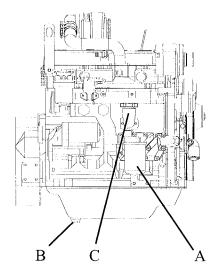
NOTE: Refer to page 5-24 of this manual for proper oil specifications and capacities.



#### **Cummins**



#### John Deere



## 500 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "100 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "250 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### REPLACE FUEL FILTERS

Location:

Filter (A)

Water Separator (B).

To Change: Wipe all the dirt from the area surrounding

the filter(s).

Remove the filter(s). Thoroughly clean the gasket

sealing surface after filter removal.

Fill the new filter(s) with fuel.

Install the new filter(s).

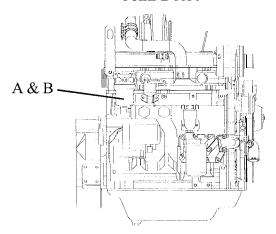
Install the filter(s) according to the filter

manufacturer's specifications.

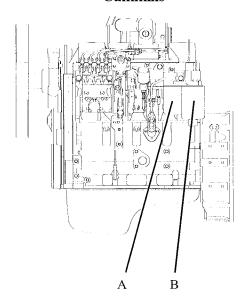
NOTE:

John Deere engines only have one filter element. It is used as a filter and water separator.

#### John Deere



#### **Cummins**



## **500 HOUR MAINTENANCE**

#### CHECK COOLANT CONCENTRATION

**Location:** Radiator Cap (A).

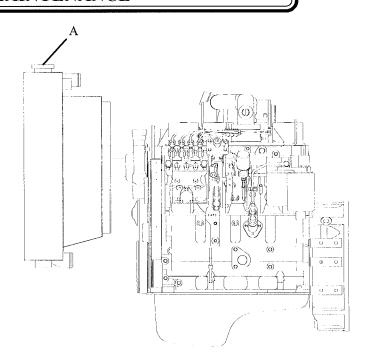
**To Check:** Remove Radiator Cap (A).

Factory recommended coolant concentration is a 50/50 mixture of water and ethylene-glycol

based antifreeze. (-34 degrees F)

NOTE: All John Deere engines require "John Deere Cool Gard"

to be added to the coolant whenever changing or adding coolant. Available from your local John Deere dealer.



## 750 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "100 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "250 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "500 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### **CHANGE AXLE OILS**

To Change: Refer to the procedures listed on pages 5-15 &

5-16 of this manual.

## 1000 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "100 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "250 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "500 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "750 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

MANUFACTURER ENGINE MANUALS ARE AVAILABLE FROM YOUR LOCAL TEREX HANDLER DEALER.

#### ADJUST ENGINE VALVES

To Adjust: See engine manual for procedure.

#### CHECK FAN BELT TENSION

**To Check:** See engine manual for procedure.

#### CHECK FAN BELT CONDITION

To Check: See engine manual for procedure.

#### CHANGE TRANSMISSION OIL AND FILTER

To Change: Refer to procedure listed on page 5-13 of this

manual.

## 1000 HOUR MAINTENANCE

#### ADJUST EXTENSION - RETRACTION CHAINS

**TO CHECK:** Raise the boom to the horizontal position. The proper adjustment can be checked with a tape measure. Extend the boom fully, then retract the boom about one inch. On either side of the middle boom section estimate the center. Place one end of the tape measure on the top surface of the boom directly above the estimated center.

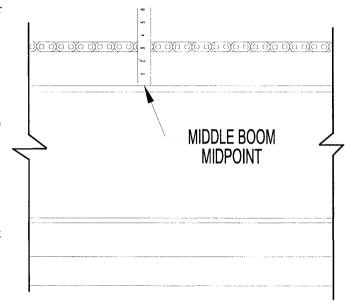
**TOLERANCE:** Measurement from the top surface of the boom to the lowest part of the extension chain should be no less than 2 3/8 inches.

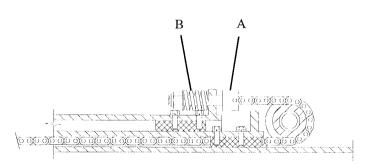
**TO ADJUST:** If the measurement is less than 2 3/8 inches, tighten the chain anchor (A), which is located on the top, front of the large boom tube as follows:

A. Tighten an adjustable wrench across the flat part of the chain just ahead of the chain anchor (A).

B. With a 1 7/16 inch wrench tighten the one inch nut to collapse the spring. Continue to tighten until the chain is in tolerance.

C. With a feeler gauge check the gap between the spring (B). The gap should be no less than .030. The spring coils should never be collapsed completely.





## 2000 HOUR MAINTENANCE

Perform "BEFORE SERVICING PROCEDURES" before attempting any of the following checks.

Complete all "DAILY MAINTENANCE" checks prior to this time interval.

Complete all "50 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "100 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "250 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "500 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "750 HOUR MAINTENANCE" checks prior to this time interval.

Complete all "1000 HOUR MAINTENANCE" checks prior to this time interval.

Perform "BEFORE OPERATING CHECKS" before attempting any of the following checks.

#### FLUSH AND PRESSURE TEST COOLING SYSTEM

**To Test:** See engine manual for procedure.

## FILTER GUIDE

FILTER	PART NO.
Engine Oil Filter / Cummins	7-343-08
Engine Oil Filter / John Deere	7-183-101
Transmission Oil Filter	7-126-349
Hydraulic Oil Reservoir Return Filter Element	7-118-02
Engine Air Cleaner Element / Inner (With Metal Housing)	7-204-05
Engine Air Cleaner Element / Outer (With Metal Housing)	7-204-04
Engine Air Cleaner Element (With Plastic Housing)	7-109-04
Engine Fuel Filter / Cummins (w/ Petcock)	7-343-10
Engine Fuel Filter / Cummins (w/o Petcock)	7-343-09
Fuel Filter / In-Line / Cummins	7-343-80
Engine Fuel Filter / John Deere	7-183-118
Filler-Breather (Hydraulic Oil Reservoir)	7-272-11

## RECOMMENDED FLUIDS AND CAPACITIES

<b>DESCRIPTION</b>	<b>CAPACITY</b>	<b>TYPE</b>
Engine Oil / Cummins Engine Oil / John Deere	11 Quarts 14 Quarts	Refer to Cummins engine manual Refer to John Deere engine manual
Transmission Oil	13.6 Quarts	Chevron RPM SAE 10W
Axles Differential Planet Ends	9 Quarts 1 Quart (Each End)	Chevron Supreme 80W90 LS Chevron Supreme 80W90 LS
Hydraulic Oil Reservoir	34 Gallons	Chevron AW 46
Hydraulic System	50 Gallons	Chevron AW 46
Fuel Tank	30 Gallons	#2 Diesel Fuel

NOTE: Fluid levels may vary slightly from machine to machine so fluid levels should always be checked manually.

## HYDRAULIC PRESSURE SETTINGS

GAUGE PORT 1 (G1) MAIN PUMP PRESSURE

Location: Test port 1 (A). Behind the right hand rear side screen.

Hydraulic Pump (B). Under the transmission cover.

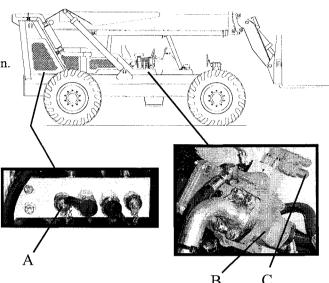
Adjuster (C). On the hydraulic pump.

**To Check:** Attach a pressure gauge to test port 1 (A). Start the engine. Do not operate any controls. Pressure

readings should be as follows:

2800 PSI
3000 PSI
3000 PSI
3000 PSI

**To Adjust:** Remove the acorn nut from the adjuster (C). Loosen the jam nut and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut. Replace the acorn nut.



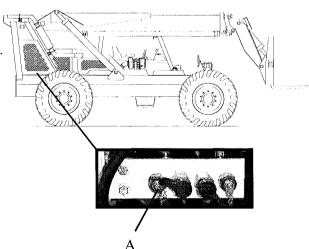
GAUGE PORT 1 (G1) SERVICE BRAKE ACCUMULATOR

Location: Test port 1 (A). Behind the right hand rear side screen.

**To Check:** Attach a pressure gauge to test port 1 (A). Start the engine. Do not operate any controls. Apply and release the service brakes a few times. With the service brakes released, shut down the engine. The pressure readings should be as follows:

TH636C 2800 PSI TH644C 3000 PSI TH842C 3000 PSI TH844C 3000 PSI

**To Adjust:** Not adjustable. If the pressure drops below 2000 PSI after a period of two minutes, troubleshoot the brake circuit.



## HYDRAULIC PRESSURE SETTINGS

#### GAUGE PORT 2 (G2) STEERING SYSTEM PRESSURE

**Location:** Test port 2 (A). Behind the right hand rear side screen. Control Block (B). On the front face of the oil reservoir.

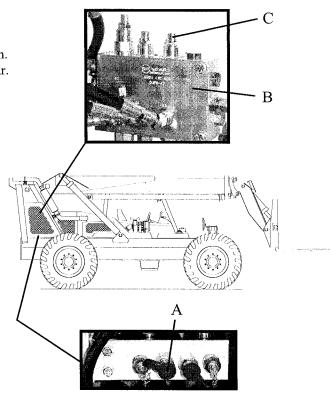
Cartridge (C). On the Control Block.

To Check: Attach a pressure gauge to test port 2 (A). Start the engine. Do not operate any controls. Pressure

readings should be as follows:

ТН636С	2250 PSI
TH644C	2250 PSI
TH842C	2250 PSI
TH844C	2250 PSI

To Adjust: Loosen the jam nut on the steering cartridge (C) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.



## GAUGE PORT 3 (G3) CONTROL (PILOT) PRESSURE

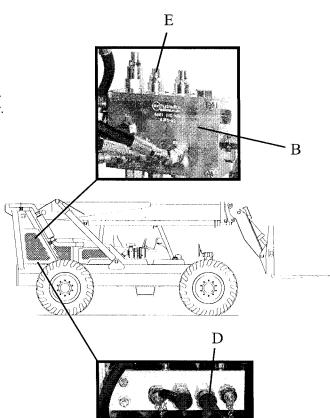
**Location:** Test port 3 (D). Behind the right hand rear side screen. Control Block (B). On the front face of the oil reservoir.

Cartridge (E). On the Control Block.

**To Check:** Attach a pressure gauge to test port 3 (D). Start the engine. Do not operate any controls. The pressure readings should be as follows:

ТН636С	500 PSI
TH644C	500 PSI
TH842C	500 PSI
TH844C	500 PSI

To Adjust: Loosen the jam nut on the controller cartridge (E) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.



## **HYDRAULIC PRESSURE SETTINGS**

#### GAUGE PORT 4 (G4) TILT LIMITER PRESSURE

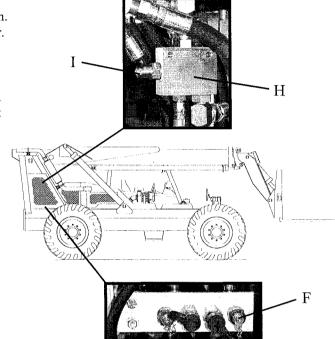
**Location:** Test port 4 (F). Behind the right hand rear side screen. Tilt Limiter Block (H). On the front of the oil reservoir.

Cartridge (I). On the Tilt Limiter Block.

To Check: Attach a pressure gauge to test port 4 (F). Start the engine. Completely collapse the fork tilt cylinder and hold in a dead head position. (The tilt cylinder must be collapsed completely and dead headed to get a pressure reading). The pressure reading should be as follows:

TH636C 1200 PSI TH644C 1200 PSI TH842C 1200 PSI TH844C 1200 PSI

To Adjust: Loosen the jam nut on the tilt limiter cartridge (I) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.

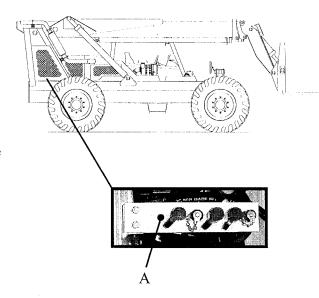


## HYDRAULIC PRESSURE SETTINGS

## **OPTIONAL SQUARE SHOOT**

GAUGE PORT 1 (G1) (NOT USED ON THE SQUARE SHOOT OPTION!)

**Location:** Test port 1 (A). Behind the right hand rear side screen. This test port is not used when the machine is equipped with the square shoot option.



GAUGE PORT 2 (G2) STEERING SYSTEM PRESSURE (TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

**Location:** Test port 2 (B). Behind the right hand rear side screen. Control Block (C). On the front face of the oil reservoir.

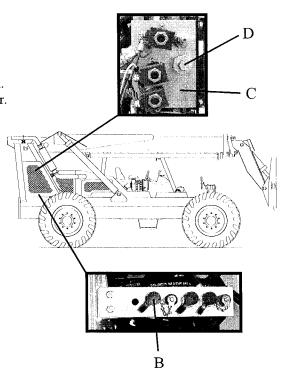
Cartridge (D). On the Control Block.

**To Check:** Attach a pressure gauge to test port 2 (B). Start the engine. Do not operate any controls. Pressure readings should be as follows:

ТН636С	2250 PSI
TH842C	2250 PSI

To Adjust: Loosen the jam nut on the steering cartridge
(D) and turn the hex head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure.

Retighten the jam nut.



## HYDRAULIC PRESSURE SETTINGS

## **OPTIONAL SQUARE SHOOT**

GAUGE PORT 3 (G3)
MAIN PUMP PRESSURE
(TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

Location: Test port 3 (E). Behind the right hand rear side screen.

Hydraulic Pump (F). Under the transmission cover.

Adjuster (H). On the hydraulic pump.

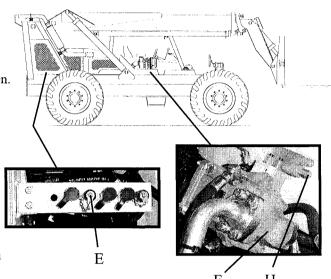
**To Check:** Attach a pressure gauge to test port 3 (E). Start the engine. Do not operate any controls. Pressure

readings should be as follows:

TH636C 2800 PSI TH842C 3000 PSI

To Adjust: Remove the acorn nut from the adjuster (H). Loosen the jam nut and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam

nut. Replace the acorn nut.



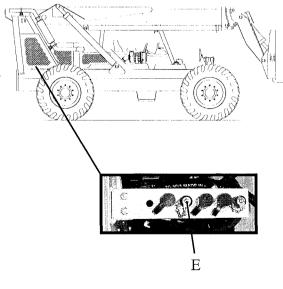
GAUGE PORT 3 (G3)
SERVICE BRAKE ACCUMULATOR
(TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

Location: Test port 3 (E). Behind the right hand rear side screen.

**To Check:** Attach a pressure gauge to test port 3 (E). Start the engine. Do not operate any controls. Apply and release the service brakes a few times. With the service brakes released, shut down the engine. The pressure readings should be as follows:

TH636C 2800 PSI TH842C 3000 PSI

To Adjust: Not adjustable. If the pressure drops below 2000 PSI after a period of two minutes, troubleshoot the brake circuit.



#### HYDRAULIC PRESSURE SETTINGS

**OPTIONAL SQUARE SHOOT** 

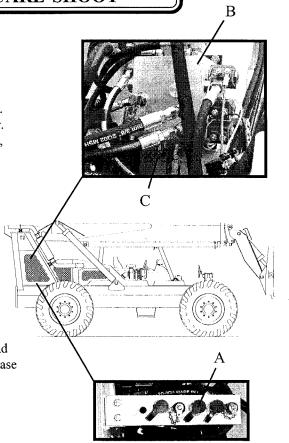
GAUGE PORT 4 (G4) SQUARE SHOOT SHAFT BRAKE (TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

Location: Test port 4 (A). Behind the right hand rear side screen. Control Block (B). On the front face of the oil reservoir. Cartridge (C). On the bottom face of the Control Block, the cartridge closest towards the front of the machine.

To Check: Attach a pressure gauge to test port 4 (A). Start the engine. Depress the button on the top of the 4-way controller. (Do not move the 4-way controller in any direction while checking the pressure.) Check the pressure while the button is pushed. The pressure readings should be as follows:

TH636C 1000 - 2000 PSI TH842C 1000 - 2000 PSI

**To Adjust:** Loosen the jam nut on the shaft brake cartridge (C) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.



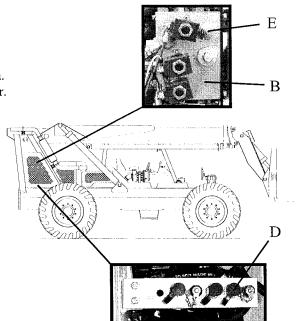
GAUGE PORT 5 (G5)
CONTROL (PILOT) PRESSURE
(TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

Location: Test port 5 (D). Behind the right hand rear side screen. Control Block (B). On the front face of the oil reservoir. Cartridge (E). On the Control Block.

**To Check:** Attach a pressure gauge to test port 5 (D). Start the engine. Do not operate any controls. The pressure readings should be as follows:

TH636C 500 PSI TH842C 500 PSI

To Adjust: Loosen the jam nut on the controller cartridge (E) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.



## HYDRAULIC PRESSURE SETTINGS

## **OPTIONAL SQUARE SHOOT**

GAUGE PORT 6 (G6)
TILT LIMITER PRESSURE
(TH636C AND TH842C w/ SQUARE SHOOT ONLY!)

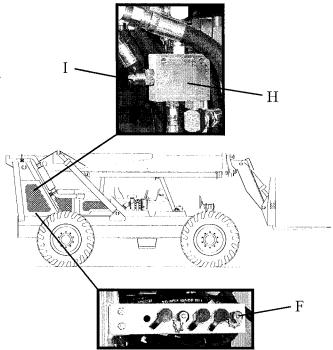
**Location:** Test port 6 (F). Behind the right hand rear side screen. Tilt Limiter Block (H). On the front of the oil reservoir.

Cartridge (I). On the Tilt Limiter Block.

To Check: Attach a pressure gauge to test port 6 (F). Start the engine. Completely collapse the fork tilt cylinder and hold in a dead head position. (The tilt cylinder must be collapsed completely and dead headed to get a pressure reading). The pressure reading should be as follows:

ТН636С	1200 PSI
TH842C	1200 PSI

To Adjust: Loosen the jam nut on the tilt limiter cartridge (I) and turn the allen head adjusting screw clockwise to increase the pressure and counterclockwise to decrease the pressure. Retighten the jam nut.



# SECTION 6 MATERIAL SAFETY DATA SHEETS

## **TABLE OF CONTENTS**

SECTION 6 - MATERIAL SAFETY DATA SHEETS

# **MATERIAL SAFETY DATA SHEETS**

The Federal Occupational, Safety and Health Administration (OSHA) Standard 29 ctr 1910.1200, and in some cases state and local Right-To-Know laws, may require specific MSDS be available to employees prior to operating this equipment. This may include information on substances contained in the equipment such as antifreeze, brake fluid, battery acid and hydraulic fluid.

TEREX *HANDLERS* will provide, at no cost, Material Safety Data Sheets which are applicable to their product line. Simply request them from your local TEREX *HANDLER* dealer or contact us at:

TEREX *HANDLERS*P.O. Box 790
Baraga, MI 49908-0790

To ensure a prompt response, please be sure to include your return address and zip code, along with the machine model and serial number.

# **MATERIAL SAFETY DATA SHEETS**

The following warning is required on all off road equipment operating in the State of California. If you are operating a TEREX *HANDLER* in the State of California and do not see the approved warning label, please contact us for a replacement at no charge. Our address is:

TEREX HANDLERS P.O. Box 790 Baraga, MI 49908-0790

> CALIFORNIA Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

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