



# ***Operation & Maintenance Manual***

*Original Instructions  
Keep this manual with machine at all times.*

## ***Model TL642***

S/N TBK00100 & After

**31200247**

*Revised  
December 20, 2010*

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## SECTION 1 - GENERAL SAFETY PRACTICES

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### 1.1 HAZARD CLASSIFICATION SYSTEM

#### Safety Alert System and Safety Signal Words

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**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 potentiality hazardous situation which, if not avoided, may result in minor or moderate injury.

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### 1.2 GENERAL PRECAUTIONS



Before operation, read and understand this manual. Failure to comply with the safety precautions listed in this manual could result in machine damage, property damage, personal injury or death.

## Section 1 - General Safety Practices

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OW0240

- Keep clear of boom holes.



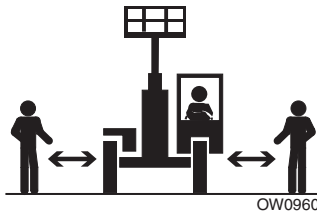
OW0250

- Keep arms and hands clear of attachment tilt cylinder.



OW0260

- Keep hands and fingers clear of carriage and forks.



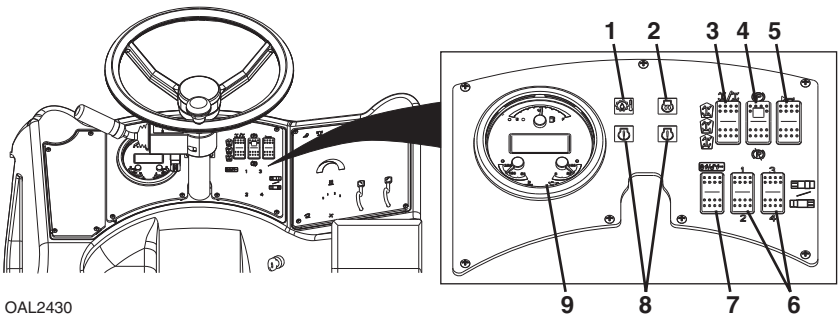
OW0960

- Keep others away while operating.

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## Section 3 - Controls and Indicators

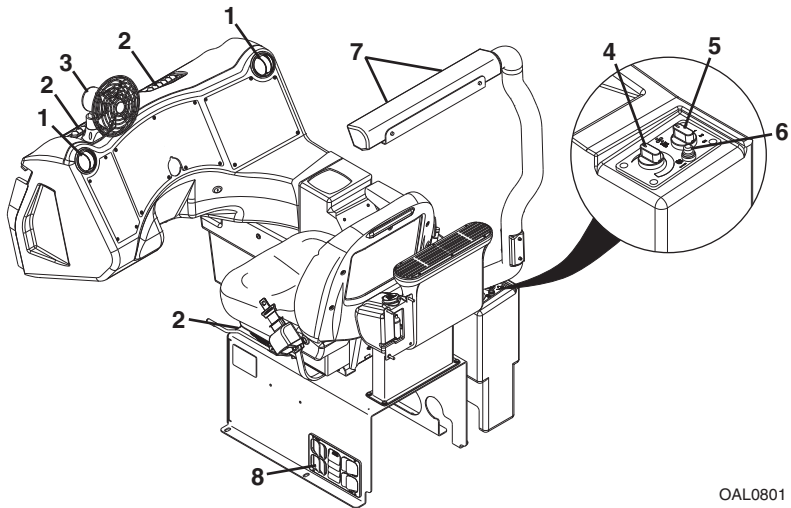
S/N TBK01167 & After including TBK01162



OAL2430

1. **Transmission Temperature Light**: Illuminates when transmission temperature is too high.
2. **Engine Pre-Heat Indicator Light**: Illuminates with ignition key in the "RUN" position. Light goes out when start temperature is reached. At temperatures below 32°F (0°C), do not start until light goes out.
3. **Steer Select Switch**: Three positions: 4-wheel circle steer, 4-wheel crab steer and 2-wheel steer. See page 3-17 for details.
4. **Park Brake Switch**: See page 3-7 for details.
5. **Horn Button**: Depress button to sound horn.
6. **Auxiliary Electrics Switches** (if equipped): Enables functions of attachments that require auxiliary electrics. See Section 5 - Attachments for approved attachments and control instructions.
7. **Quick Coupler Switch**: Used in conjunction with the auxiliary hydraulic joystick to hydraulically lock or unlock an attachment.
8. **Warning and Check Engine Lights**: Any combination of illumination indicates an engine fault and/or parameter that is outside of acceptable range. Engine may derate or shutdown.
9. **3-in-1 Gauge and Display**:
  - a. Engine Coolant Temperature Gauge
  - b. Engine Oil Pressure Gauge
  - c. Fuel Gauge
  - d. Display - Displays engine operating hours, battery voltage and engine rpm. Engine fault codes displayed when detected. See Service Manual for details.

**Heater and Air Conditioning Controls  
(Before S/N TBK01167 excluding TBK01162, if equipped)**



OAL0801

1. Air Vent: Two individually adjustable round vents.
2. Air Louver: Three individually adjustable air louvers.
3. Defroster Fan: Two speed fan. Press fan switch down for slow speed; press switch up for fast speed. Return switch to middle position to turn off.
4. Temperature Control Switch: Adjustable rotary switch.
5. Fan Speed: Four-position rotary switch.
6. Air Conditioning Switch: On/Off switch.
7. Air Louver (S/N TBK01121 thru TBK01166 excluding TBK01162): Two individually adjustable air louvers.
8. Recirculation Vent (S/N TBK01121 thru TBK01166 excluding TBK01162): Open louvers when operating heat. Close louvers when operating air conditioning.

## **4.2 OPERATING WITH A NON-SUSPENDED LOAD**

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### **Lift Load Safely**

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- You must know the weight and load center of every load you lift. If you are not sure of the weight and load center, check with your supervisor or with the supplier of the material.



## **WARNING**

**TIP OVER HAZARD.** Exceeding lift capacity of the telehandler could damage the equipment and/or cause tip over.

- Know the rated load capacities (see Section 5) of the telehandler to determine the operating range in which you can safely lift, transport and place a load.

### **Picking Up a Load**

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- Note the conditions of the terrain. Adjust travel speed and reduce amount of load if conditions warrant.
- Avoid lifting double-tiered loads.
- Make sure load is clear of any adjacent obstacles.
- Adjust spacing of forks so they engage the pallet or load at maximum width. See “*Adjusting/Moving Forks*” on page 5-14.
- Approach load slowly and squarely with fork tips straight and level. **NEVER** attempt to lift a load with just one fork.
- **NEVER** operate telehandler without a proper and legible load chart in the operator cab for the telehandler/attachment combination you are using.

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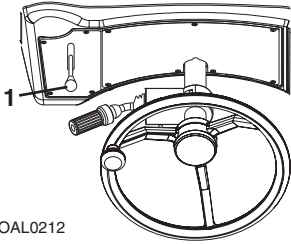


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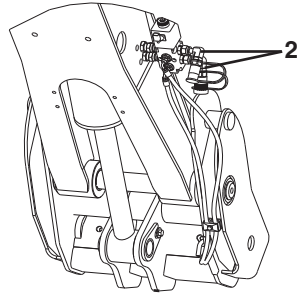
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## 5.7 HYDRAULIC OPERATED ATTACHMENT



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OAL0240

1. Install attachment (see page 5-9).
2. Lower attachment to ground and perform “*Shut-Down Procedure*” on page 4-4.
3. Move the auxiliary hydraulic joystick in both directions (1) to relieve auxiliary hydraulic pressure.
4. Connect attachment hoses to both auxiliary fittings (2).



## **WARNING**

**CRUSH HAZARD.** Always level forks (horizontally) and telehandler frame before swinging load to side. Swinging unlevel forks could cause load to slide off forks.



## **WARNING**

**CRUSH HAZARD.** Do not use swing carriage to push or pull objects or load. Failure to comply could cause object or load to fall.



## **WARNING**

**CRUSH HAZARD.** Use retaining pin (if equipped) for locking swing frame to fixed frame when carrying loads greater than 5000 lb. Failure to comply could cause object or load to fall.

### **Operation:**

- To drive with a load, keep forks pointed forward and travel in accordance with the requirements set forth in Section 1 - General Safety Practices.

### **Equipment Damage Precautions:**

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

### Preparation and Setup:

1. Ensure the telehandler is on a firm surface and is level.
2. Engage the park brake. Blocking the wheels is also recommended.
3. Level the platform, both side to side (frame level) and front to back (attachment tilt).
4. Keep area under platform free from personnel.
5. When personnel are on platform, the operator must remain seated in cab with personnel in direct line of sight.
6. **DO NOT** lift or carry persons in a bucket or on forks.



## WARNING

**FALL HAZARD.** Never tilt the platform forward, rearward, or level the machine when the platform is occupied.



### **C. Tire and Wheel Replacement**

It is recommended that a replacement tire to be the same size, ply and brand as originally installed. Refer to the appropriate parts manual for ordering information. If not using an approved replacement tire, the replacement tires must have the following characteristics:

- Equal or greater ply/load rating and size of original.
- Tire tread contact width equal or greater than original.
- Wheel diameter, width and offset dimensions equal to the original.
- Approved for the application by the tire manufacturer (including inflation pressure and maximum tire load).

Unless specifically approved by JLG, do not replace a foam filled or ballast filled tire assembly with a pneumatic tire. Due to size variations between tire brands, when selecting and installing a replacement tire ensure both tires on the axle are the same.

The rims installed have been designed for stability requirements which consist of track width, tire pressure and load capacity. Size changes such as rim width, center piece location, larger or smaller diameter, etc., without written factory recommendations, may result in unsafe condition regarding stability.

## SECTION 9 - SPECIFICATIONS

## 9.1 PRODUCT SPECIFICATIONS

## Fluids

| Compartment or System              | Type and Classification   | Viscosities  | Ambient Temperature Range |     |      |     |
|------------------------------------|---|--------------|---------------------------|-----|------|-----|
|                                    |   |              | °F                        |     | °C   |     |
|                                    |   |              | Min                       | Max | Min  | Max |
| Engine Crankcase                   | Cat DEO Multigrade<br>Cat DEO SYN<br>Cat Arctic DEO SYN<br>Cat ECF-1<br>API CG-4 Multigrade | SAE 0W-20    | -40                       | 50  | -40  | 10  |
|                                    |   | SAE 0W-30    | -40                       | 86  | -40  | 30  |
|                                    |   | SAE 0W-40    | -40                       | 104 | -40  | 40  |
|                                    |   | SAE 5W-30    | -22                       | 86  | -30  | 30  |
|                                    |   | SAE 5W-40    | -22                       | 122 | -30  | 50  |
|                                    |   | SAE 10W-30   | 0                         | 104 | -18  | 40  |
|                                    |   | SAE 10W-40   | 0                         | 122 | -18  | 50  |
|                                    |   | SAE 15W-40   | 15                        | 122 | -9.5 | 50  |
| Transmission and Transfer Case     | Cat MTO   |              | -10                       | 104 | -23  | 40  |
|                                    | Dextron or Mercron ATF  |              | -40                       | 14  | -42  | -1  |
| Axle Differentials* and Wheel Ends | Cat Synthetic Gear Oil (GO)   | SAE 75W-140  | -22                       | 113 | -30  | 45  |
|                                    | Cat Gear Oil (GO)   | SAE 80W-90   | -10                       | 120 | -23  | 49  |
|                                    | Cat Gear Oil (GO)   | SAE 85W-140  | 10                        | 120 | -12  | 59  |
|                                    | Cat TDTO-TMS  | Cat TDTO-TMS | -4                        | 122 | -20  | 50  |
| Hydraulic System,                  | Cat TDTO<br>Cat TDTO-TMS<br>Cat Arctic TDTO SYN<br>commercial TO-4                          | SAE 0W-20    | -40                       | 104 | -40  | 40  |
|                                    |   | SAE 0W-30    | -40                       | 104 | -40  | 40  |
|                                    |   | SAE 5W-30    | -22                       | 104 | -30  | 40  |
|                                    |   | SAE 5W-40    | -22                       | 104 | -30  | 40  |
|                                    |   | SAE 10W      | -4                        | 104 | -20  | 40  |
|                                    |   | SAE 30       | 50                        | 122 | 10   | 50  |
|                                    |   | SAE 10W-30   | -4                        | 104 | -20  | 40  |
|                                    |   | SAE 15W-40   | 5                         | 122 | -15  | 50  |
| Cat TDTO-TMS                       | -4  | 122          | -20                       | 50  |      |     |
| Boom Wear Pad Grease               | Cat Advanced 3Moly  | NLGI Grade 2 | -4                        | 104 | -20  | 40  |
| Cylinder and Axle Grease           | Cat Multipurpose  | NLGI Grade 2 | -22                       | 104 | -30  | 40  |
| Engine Coolant                     | Cat DEAC<br>(Glycol and Water)  | 50/50 Mix    | Standard                  |     |      |     |
|                                    |   | 60/40 Mix    | Cold Weather              |     |      |     |

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