



# Operation and Safety Manual



# VR 2042

Deutz Tier 4F

PN 24937-001 Rev D  
February 2021

Pre-delivery Inspection Report must be completed upon placing unit in service. Please use QR link or visit [www.xmfg.com/warranty/pre-delivery-inspection-report](http://www.xmfg.com/warranty/pre-delivery-inspection-report) to register online.



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**Warning**



Wear appropriate protective clothing. Personal protective equipment can include, but is not limited to hardhat, gloves, footwear, safety glasses or goggles, and hearing protection. Make sure clothing is snug and properly belted. **DO NOT** wear loose clothing, jewelry, watches, or anything that can catch on forklift controls, moving parts, etc. Failure to wear the proper protective clothing could result in death or serious injury.

**Before Starting Forklift**

**Warning**



Keep the Operation and Safety Manual on the forklift at all times. Contact Xtreme Manufacturing for replacement manuals.



Clearly define responsibilities and procedures for operating the forklift and all attachments. **DO NOT** proceed until you seek expert assistance from a qualified person if any doubt or question arises about the correct or safe methods for operating the forklift.



To avoid death or serious injury, carefully read and understand all instructions before operating the forklift. **DO NOT** operate, modify, repair, or maintain the forklift unless you read and understand the instructions and warnings in this and all other applicable manuals and technical publications. Follow all State and Federal health and safety laws and/or local regulations.



Consult Safety Data Sheets (SDS) for chemical hazards and first aid instructions. SDS should be available from the manufacturer or supplier of the fluid.

**Warning**



Perform a pre-operation inspection and functional tests at the beginning of each work shift. Perform the pre-operation inspection first. **DO NOT** perform the pre-operation inspection with the engine running or hot.

Contact with moving or heated parts could cause death or serious injury.



Perform the pre-operation inspection and functional tests in an open area and away from any other obstacles or equipment. Inspections and functional tests may require assistance. Keep the assistant visible and a safe distance from the forklift to prevent death or serious injury.



Become familiar with all safety and hazard labels, regulations, and procedures. Make sure all proper safety and hazard labels are attached to the forklift and remain legible.



A brief description of controls, indicators, and instruments is provided as a convenience for the operator. These descriptions **DO NOT** provide complete operation instructions. Read and understand the entire manual to prevent death, serious injury, or equipment damage.



Keep fingers and feet away from moving parts or pinch points to prevent pinching or crushing. **DO NOT** allow anyone between the tires and the forklift frame while operating the forklift. Doing so can result in death or serious injury.



Always check the condition of the seat belt and mounting hardware before operating the forklift. If the seat belt or mounting hardware is defective, it may not properly restrain the operator, resulting in death or serious injury.

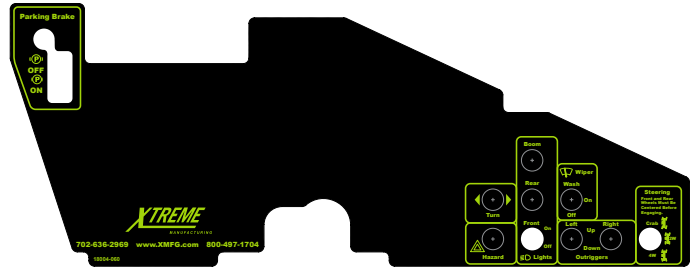
- **DO NOT** operate the forklift until the seat belt or mounting hardware is replaced, if worn or damaged.
- The seat belt **MUST** be worn while operating the forklift. Failure to wear the seat belt could result in death or serious injury.

**Replacement Labels**

Replacement labels can be obtained by contacting Xtreme Manufacturing directly at (702) 636-2969.



1) 18008-000



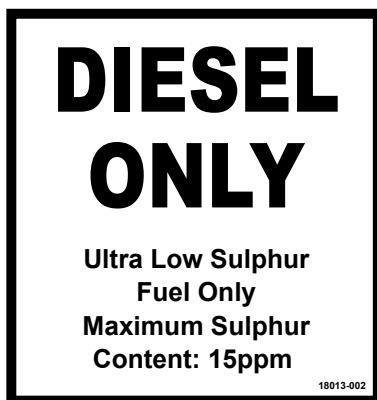
2) 18004-060



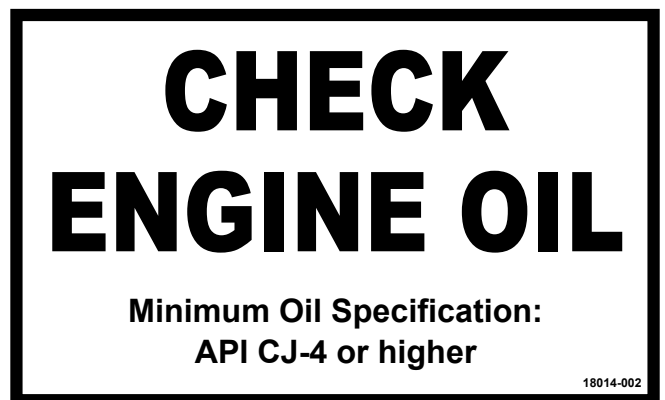
3) 18010-001



4) 18011-001



5) 18013-002



6) 18014-002

Specifications

**Performance**



Capacity . . . . . 20,000 lbs  
 Lift Height . . . . . 42'  
 Forward Reach . . . . . 24' 10"  
 Frame Leveling L/R . . . . . 8°/18°  
 Operating Weight . . . . . 41,100 lbs

**Power Train**



Engine . . . . . Deutz 3.6L, 134hp  
 Fuel Capacity . . . . . 72 gal  
 Transmission . . . . . 3-Speed  
 Brakes. . . . . Inboard Wet Disc  
 Parking Brake . . . . . SAHR

**Tires**



Tires (Standard Eq) . . . . . Foam Filled  
 17.5 x 25 E3

**Hydraulics**



GPM . . . . . 49  
 PSI . . . . . 4,000  
 Hydraulic Oil Capacity . . . . . 58 gal

**Dimensions**



Length to fork face. . . . . 26'1" (313")  
 Width . . . . . 8'6" (102")  
 Height . . . . . 8'11" (107")  
 Wheel Base . . . . . 12'3" (147")  
 Ground Clearance . . . . . 1'3" (15")  
 Turning Radius . . . . . 15'10" (190")

**Standard Equipment**



Heavy-duty Frame/Chassis  
 Heavy-duty Roller Boom  
 Robust Wiring  
 Full-time Planetary 4-Wheel Drive  
 Steering - 4-Wheel Circle, Crab, 2-Wheel Front  
 Back-Up Alarm  
 Open ROPS/FOPS  
 Xtreme Service Accessibility  
 Suspension Seat  
 Rear Axle Stabilization (RAS)  
 Rear View Mirrors

**Attachments**



Standard Carriage - 72" or 96"  
 Fork Positioning Carriage - 72"  
 + 10° Side Tilt Carriage - 48" or 72"  
 + 45° Swing Carriage - 52" or 72"  
 Block Forks - 2" X 2" X 48"  
 Pallet Forks - 2.25" X 5" X 48"  
 Lumber Forks - 2" X 7" X 60"  
 Utility Bucket - 1.25 cu. yd.  
 Concrete Bucket - 0.5 cu. yd., or 1.00 cu. yd.  
 Truss Boom - 12' or 15'  
 Grapple - Pipe Grapples  
 Wallboard/Sheet Material Handler

**Accessories and Options**



Enclosed Cab  
 Limited Slip Differential  
 Air Conditioning  
 Boom Work Lights  
 Rotating Beacon

**CLOCK SETUP**

Pressing the CLOCK SETUP soft button will enter a menu where the clock can be setup or adjusted.



Figure 35. Clock Setup Menu

**SERVICE REMINDERS**

Pressing the SERVICE REMINDERS soft button will display data pertaining to maintenance schedules.

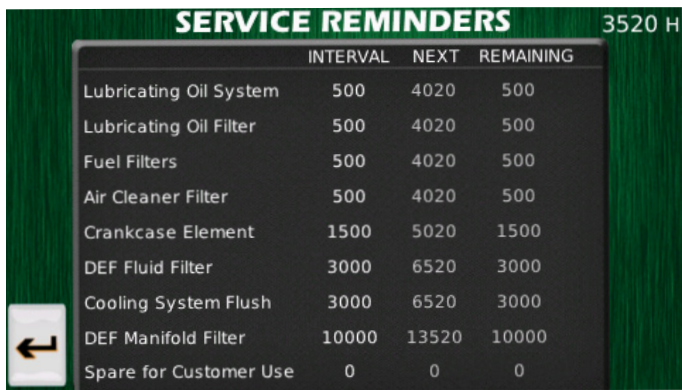


Figure 36. Service Reminders Menu

If a scheduled service is due, the GAUGE DISPLAY indicates below the tachometer in the hour meter box, the service needed.



Figure 37. Service Requested

**DIAGNOSTICS**

Pressing the ENGINE DIAGNOSTICS soft button will display engine information. Use the up/down buttons to navigate. Pressing the MENU button will return to the GAUGE DISPLAY mode.

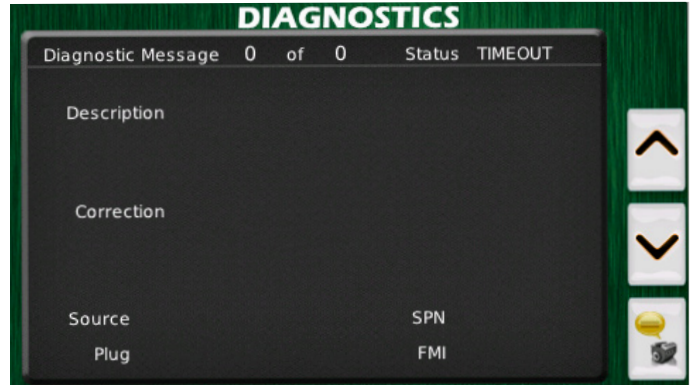


Figure 38. Diagnostics Menu

**END OF LINE (EOL) TEST**

Pressing the EOL Test select button will enter a test menu that runs the aftertreatment/regen system and makes sure it works properly.

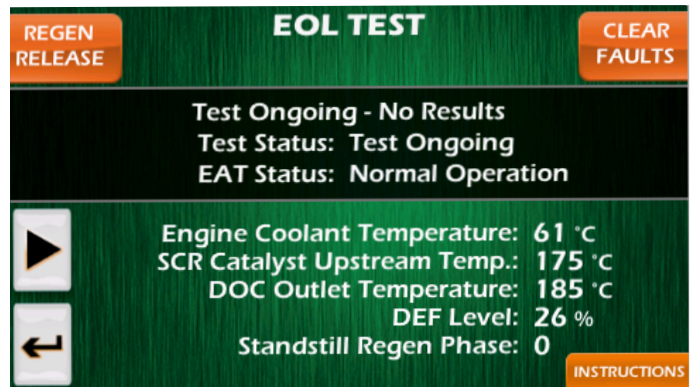


Figure 39. EOL Test

**REGEN RELEASE**

Pressing the top left-hand select button will start the regen process.

**FAULT BUTTON POP-UPS**

A fault condition may trigger a pop-up dialog box describing the nature of the fault. It is displayed below the tachometer in the hour meter box (T), which now becomes the Status Display. The General Warning Indicator will also come on.

A soft button may need to be pressed to acknowledge the fault.

## Pre-Operation Inspection Checklist

**Walk around the ENTIRE forklift while visually performing the pre-operation inspection.**

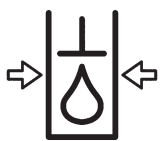
- Check that “Do Not Operate” tags have not been placed on the forklift.
- Check that load capacity charts match the carriage installed and are legible.
- Check that frame level indicator is working properly.
- Check condition and operation of the seat belt and mounting hardware.
- Check that Operation and Safety Manual is in the protective case and legible.
- Check forks for welds, cracks, misalignment, or any other damage.
- Check that carriage fork pins are straight and in place to prevent forks from changing position or coming off the carriage.
- Check all hydraulic hoses and hose connections for wear or leaks.
- Check tilt cylinders for leaks or any other damage
- Check boom for straightness or any other damage.
- Check all four (4) tires and wheels for:
  - Punctures, cracks, cuts, gouges, bulges, foreign objects, or any other damage to tires.
  - Loose or missing lug nuts.
  - Bent flanges or any other damage to rims.
- Check front and rear sway cylinders and hoses for leaks or any other damage.
- Check electrical connections on rear sway cylinder.
- Check mirrors for cracks, cleanliness, and proper adjustment.
- Check hydraulic reservoir sight gauge for proper fluid level. Add hydraulic fluid, if necessary.
- Check engine compartment with engine off for:
  - Loose or damaged belts, hoses, and radiator fan blades.
  - Check air filter minder (on air filter housing).
  - Coolant reservoir level. Add radiator coolant, if necessary.
  - Engine oil level. Add engine oil, if necessary.
  - Electrical wires and connectors.
- Check transmission fluid level while engine is running.
- Check front and rear axles for leaks or any other damage.
- Check main boom lift cylinder, carriage master tilt cylinders, and hydraulic lines for leaks or any other damage.
- Check battery terminals for corrosion.
- Check battery for cracked, melted, or damaged case.
- Check that all labels are present and legible. Replace any damaged or illegible labels.
- Check that operator’s cab is empty of all trash, debris, or any loose items.
- Check that personal belongings are secured in the personal storage box.
- Check that pedals, and non-skid surfaces are clean and free of grease, oil, dirt, snow, or ice.

Date: \_\_\_\_\_  Initials: \_\_\_\_\_



Figure 76. Fork Positioning Control Handle

**Warning**



Hydraulic attachments have a maximum hydraulic pressure rating. Failure to make sure the attachment is equipped with a pressure reducing valve, or

is rated to be equal or greater than 3,900 psi, which is the maximum pressure of the forklift auxiliary hydraulic system at the quick-disconnect couplers, could result in death or serious injury.

When the auxiliary attachment control lever is moved right or left it activates hydraulic pressure through the quick attach couplers to move the carriage.

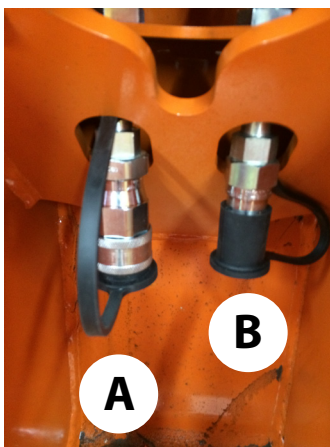


Figure 77. Quick Attach Couplers For Hydraulic Systems. (A) Female Coupler. (B) Male Coupler.

**Quick Attach System**

This forklift includes a quick attach system that allows for easy attachment changes. Perform attachment connection and removal procedures on level ground.

**Attachment Connection**

**Warning**



Improper connection of an auxiliary attachment can result in death or serious injury. Attachments not locked into place could become unstable and fall on the operator or other personnel near the forklift, which could result in death or serious injury.

- Make sure attachment locking devices are always in place.
  - DO NOT operate the forklift until you have positive indication that the carriage attachment is fully engaged.
1. Position the forklift directly behind the attachment. **NOTE:** Allow enough distance to extend the boom approximately 18 to 20 inches.
  2. Tilt the quick attach adapter forward.
  3. Extend the boom and/or drive the forklift forward until the pivot pins (A) are below and between the two (2) attachment hooks (B).

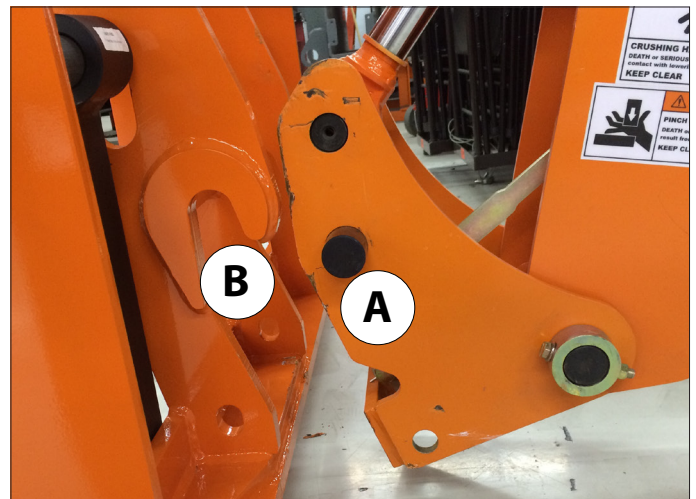


Figure 78. Drive Forklift Forward to Align Pivot Pins (A) with Attachment Hooks (B)

4. Raise the boom until pivot pins (A) have seated fully in attachment hooks (B).

### After Every 250 Hours of Operation

- Comply with 50-Hour Maintenance Requirements
- Check structures for damage and cracked welds
- Check pins for wear and damage
- Verify that all fasteners are in place and are tight
- Change engine oil and filter
- Check air filter (replace if necessary)
- Check tension and condition of drive belts (use tension meter to check belt tension)
- Lubricate front and rear drive shaft grease fittings
- Lubricate front and rear axle grease fittings
- Check differential oil level
- Check wheel-end oil level
- Check boom chain tension (adjust if necessary)
- Inspect boom rollers and slide blocks for condition and tightness
- Lubricate boom roller grease fittings and chains

### After Every 500 Hours of Operation

- Comply with 50-Hour Maintenance Requirements
- Comply with 250-Hour Maintenance Requirements
- Replace air filters
- Replace fuel filters
- Empty air filter dust cup
- Check engine hoses and connections for leaks, damage, and tightness
- Check radiator hoses for leaks, damage, and tightness
- Check electrical cables, leads, and connections for damage and tightness

- Check specific gravity of engine coolant
- Replace transmission fluid and filters
- Replace hydraulic reservoir air breather
- Replace hydraulic return line filter
- Replace hydraulic high-pressure filter

### After Every 1,000 Hours of Operation

- Comply with 50-Hour Maintenance Requirements
- Comply with 250-Hour Maintenance Requirements
- Comply with 500-Hour Maintenance Requirements
- Change wheel-end oil
- Change differential oil
- Inspect boom chains

### After Every 2,000 Hours of Operation

- Comply with 50-Hour Maintenance Requirements
- Comply with 250-Hour Maintenance Requirements
- Comply with 500-Hour Maintenance Requirements
- Comply with 1000-Hour Maintenance Requirements
- Change hydraulic fluid
- Clean or replace hydraulic reservoir strainer

### After Every 4,000 Hours of Operation

- Drain and flush cooling system

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