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 to register on-line.
Xtreme Manufacturing, LLC (http://www.xmfg.com/) is headquartered in Las Vegas, Nevada, and has fabrication facilities in Selma, California. In October 2013, Xtreme Manufacturing became the majority shareholder in Snorkel International Holdings LLC, a global aerial work platform manufacturer, which has manufacturing facilities in the US, UK & New Zealand, as well as a global sales distribution network. Snorkel Europe Limited, Snorkel USA LLC and Snorkel New Zealand Limited are wholly owned by Snorkel International Holdings LLC, whose members are Xtreme Manufacturing, LLC (majority shareholder) and The Tanfield Group Plc. Find out more about Snorkel at www.snorkellifts.com.

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 to register on-line.
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Introduction

This Operation and Safety Manual provides the information needed to safely operate the XR619 Telehandler.

This manual shall be considered a permanent part of the telehandler, and kept in the protective manual case located in the operator’s cab.

Notice

Before operating the telehandler, read this manual completely and carefully to understand the safety instructions and the operation of controls and safety equipment. You must comply with all DANGER, WARNING, and CAUTION notices. They are for your benefit.

Warning

Improper operation of this telehandler could result in death or serious injury.

BEFORE starting the engine, do the following:

• Read the Operation and Safety Manual
• Read all the Safety Labels on the Telehandler
• Clear the area of all other persons

Learn and practice safe use of telehandler controls in a safe, clear area, BEFORE you operate this telehandler on a work site.

It is your responsibility to observe applicable laws and regulations and to follow manufacturer’s instructions on telehandler operation and maintenance.

Replacement Manuals

Telehandler operation and maintenance.

Replacement manuals for the XR619 Telehandler can be obtained by contacting our parts department by phone or visiting our website:

Xtreme Manufacturing
Phone: (800) 497-1704
www.xmfg.com

Model / Serial Plate

When contacting our parts department, please have the telehandler serial number available. The serial number plate is located in the operator’s cab, at the base of the seat.

For easy reference, you can record the serial number in the space below.

Serial Number:

Fig 1. Serial Number Plate

Orientation

Right side, left side, front, and rear are directional references given from the operator’s seat when facing forward.

Fig 2. Telehandler Direction Orientation
Snorkel Manufacturing reserves the right to make technical changes for product improvement. This manual may contain illustrations and photographs (for demonstration purposes), which slightly deviate from the actual product.

Safety information provided in this manual is a basic guide and an attempt to prevent accidents. Snorkel Manufacturing cannot anticipate every circumstance that might involve a potential hazard. Warnings in this manual and on the telehandler are NOT all-inclusive.

You are responsible for safe operation of the telehandler and all attachments. You must satisfy yourself that the techniques, operating procedures, work methods, or tools you use are safe; especially those not specifically mentioned by Snorkel Manufacturing.

The safety of everyone around the telehandler depends significantly on your knowledge and understanding of all correct and safe operating practices and procedures. You can help prevent accidents by remaining alert and recognizing potentially hazardous situations.

Follow State and Federal health and safety rules and/or local regulations for operating and maintaining the telehandler.

- This manual does not replace any laws and regulations.
- The operator is required to comply with all applicable laws and regulations.

Signal words are the word or words that call attention to the safety sign and designate a degree or level of hazard seriousness. The signal words used in this manual are DANGER, WARNING, and CAUTION.

DANGER (Red) used with the safety alert symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING (Orange) used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION (Yellow) with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION (Yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.
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**Read Operator Manual Before Operating This Forklift**

**Read Material Safety Data Sheets (MSDS) For Chemicals And Fluids**

**Know First Aid Instructions And/Or Locations On Work Site**

**Personal Protective Equipment**

**Hardhat**

**Safety Shoes**

**Safety Glasses**

**Warning! Rotating Fan Blades Can Cut**

**Keep Hands A Safe Distance From Rotating Belts**

**Use Three Points of Contact When Entering and Exiting Forklift**

**No Smoking**

**Keep Lit Cigarettes Away**

**Use A Board Or Cardboard To Check Hydraulic Leaks. DO NOT Use Your Hand!**
Safety

**Employer Responsibility**

Under Occupational Safety and Health Administration (OSHA) rules, employers are required to train workers about hazards related to operating and maintaining the telehandler. Successful completion and certification of the Safety Training for Rough Terrain Telehandlers is required.

Additional safety information and training resources can be obtained through these publications, organizations, and/or appropriate sources:

- (OSHA) Occupational Safety and Health Administration.
- (NIOSH) National Institute for Occupational Health and Safety.
- (ANSI) American National Standards Institute
- (AEM) Association of Equipment Manufacturers
- (ITSDP) Industrial Truck Standards Development Foundation

Always consult Material Safety Data Sheets (MSDS) for chemical hazards and first aid instructions for any oil or lubricant being used. MSDS should be available from the manufacturer/supplier of the fluid.

**Operator Responsibility**

Telehandlers are potentially dangerous if proper safety procedures are not followed. Workers who operate, maintain, or work near the telehandler can be at risk of rollover and run over incidents or can be crushed or caught by the telehandler or its parts which could result in death or serious injury if the telehandler is not properly operated or maintained.

Read the Operation and Safety Manual BEFORE operating the telehandler. Follow all safety instructions and labels. Only operate the telehandler if you understand the safety instructions and warnings in all applicable manuals and technical publications. Always follow all State and Federal health and safety laws and/or local regulations.

Maintenance personnel must have the required training, skills, and tools to perform installation, operation, maintenance, or repair procedures properly and safely. Make sure the telehandler and attachments will not be damaged or made unsafe by any procedures chosen.

**Operator Qualifications**

Operators must be in good physical and mental condition, with appropriate reflexes, reaction time, vision, depth perception, and hearing.

Operators must possess a valid, current operator’s license as required for the work site; plus those required by applicable State, Federal, and/or local laws:

Successful completion and certification of Safety Training for Rough Terrain Telehandlers is required.

- Operators must be properly instructed on how to operate the telehandler and attachments.
- Operators must operate the telehandler according to ALL appropriate safety regulations.
- Operator trainees must remain under constant observation and supervision of an experienced operator.

**Modifications**

**Warning**

Modifications to the telehandler or attachments could affect telehandler capacity and/or stability which could result in death or serious injury. DO NOT make modifications to the telehandler or attachments without prior written approval from the manufacturer. Where such authorization is granted, capacity, operation, and maintenance instruction plates, tags, or labels shall be changed accordingly.

- Unauthorized modifications or alterations will void the warranty.
- DO NOT modify, disable, or bypass any safety devices.
- DO NOT burn or drill holes in forks or other attachments.

Structural damage, modification, or alteration, including welding or drilling, can impair and weaken the protective capability of the Rollover Protective Structure/Falling Object Protective Structure (ROPS/FOPS) and could result in death or serious injury.

- Replace the ROPS/FOPS, if it is damaged, before operating the telehandler.
Mounting/Dismounting

**Warning**

Failure to use proper safety procedures when mounting and dismounting the telehandler could result in death or serious injury.

- Keep steps clear of dirt, mud, snow, ice, debris, and other hazards.

  Face the telehandler for mounting or dismounting. Use hand holds and steps to maintain three (3) points of contact at all times, either both hands and one foot or both feet and one hand.

- DO NOT use the controls, steering wheel, or foot pedals as hand holds or steps. Avoid accidentally engaging or disengaging a control.

DO NOT jump from the telehandler. Clothing can get caught on pedals, levers, or other protruding parts. Landing on uneven surfaces could result in death or serious personal injury.

Work Site Safety

**Warning**

Use proper safety procedures and avoid hazardous situations while operating the telehandler to prevent death, serious injury, or property damage.

- Check the work site for any hazards before operating the telehandler.
- Check the work surface for loose soil conditions and overhead power lines.
- Contact your local underground utility service or digging hot line to mark all underground hazards.
- Learn the location of all underground hazards at the work site, such as:
  1. Gas and water pipes
  2. Electrical cables
  3. Sewers

Underground objects could cause death or serious injury.

**Warning**

- Operate the telehandler only on firm, stable surfaces. Holes, obstructions, debris, loose fill, and other work site hazards could result in death or serious injury.
- DO NOT allow bystanders in the work area.
- Avoid personnel, machinery, and telehandlers in the work area.
- Know the rules for movement of people and telehandlers on the work site.
- Follow work site signs and signals.
- Check boom clearance before driving under a door opening, bridge, etc.
- Slow down when approaching obstructions. Use a spotter, if necessary.
- Stop for poor visibility conditions, such as dust, smoke, fog, etc. Wait until visibility improves before continuing.

DO NOT operate the telehandler if you are using drugs, alcohol, or any medication that might impair your judgment or ability.

You must be 18 years of age or older to operate the telehandler.

DO NOT operate the telehandler on roads. The telehandler is not equipped for road travel.

**Warning**

Operate the telehandler in an enclosed area only if there is a ventilation system capable of routing hazardous fumes outside. Engine exhaust contains products of combustion that could cause death or serious injury.

**Warning**

*California Proposition 65*

Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.

**Caution**

Use caution when operating the telehandler during storms or strong winds.
Safety

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 telehandler controls, moving parts, etc. Failure to wear the proper protective clothing could result in death or serious injury.

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. Allow the engine and associated components to cool before performing an inspection. Contact with moving or heated parts could cause death or serious injury.

Warning

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

Warning

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

Before Starting Telehandler

Warning

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

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. Allow the engine and associated components to cool before performing an inspection. Contact with moving or heated parts could cause death or serious injury.

Warning

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 telehandler to prevent death or serious injury.

Warning

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

Warning

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 telehandler frame while operating the telehandler. Doing so can result in death or serious injury.

Warning

Always check the condition of the seat belt and mounting hardware before operating the telehandler. 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 telehandler until the seat belt or mounting hardware is replaced, if worn or damaged.
• The seat belt MUST be worn while operating the telehandler. Failure to wear the seat belt could result in death or serious injury.

Keep the adjacent area clear of debris and hazards and fully visible to the operator.

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

Operators must be properly trained and qualified to operate this specific telehandler. Know the location, learn the specific purpose, and demonstrate safe and proper use of all controls, instruments, indicator lights, and safety and instruction labels. Safety is your responsibility. Failure to follow these guidelines could result in death or serious injury.

To prevent death or serious injury, the operator must be seated with seat belt fastened, the travel select lever set to NEUTRAL, the Parking Brake switch ON (engaged), the service brake applied, and the area free of people and obstructions BEFORE starting the telehandler.

**Operation Safety**

**Danger**

- Death or serious injury by electrocution will result from contact with or inadequate clearance with energized power lines or apparatus.
  - Never operate the telehandler in an area where active overhead power lines, overhead or underground cables, or other power sources exist.
  - Contact the appropriate power or utility company to de-energize power lines or take other suitable precautions.

- Keep the telehandler, attachments, and loads a safe distance from electrical power lines.
  - Remain at least 10 feet, plus an additional 0.4 inches for each 1,000 volts over 50,000 volts, from active power lines and other power sources.
  - Work site operating directives and/or local or state codes might require a greater distance.
  - Know the maximum height and reach of this telehandler.

**Warning**

Use of the frame sway control with the boom raised above horizontal could cause tip over resulting in death or injury. Always use the frame sway control to level the telehandler BEFORE raising the boom above horizontal.

If the telehandler cannot be leveled using the frame sway control, do not attempt to raise or place load. Reposition telehandler or have the surface leveled.

**Warning**

To prevent death, serious injury, or property damage, the operator must be seated with seat belt fastened, arms, legs, and head completely inside the Rollover Protection Structure/Falling Object Protection Structure (ROPS/FOPS), the travel select lever in NEUTRAL, the Parking Brake switch ON (engaged), and the service brakes applied BEFORE starting the telehandler.

- The seat belt MUST be worn while operating the telehandler. Failure to wear the seat belt could result in death or serious injury.
- DO NOT adjust the seat or seat belt while the telehandler is moving. Keep both hands on the wheel while the telehandler is moving to prevent loss of telehandler control which could result in death or serious injury.
- Never try to escape the telehandler if it becomes unstable. Learn and practice these safety procedures to protect yourself from a roll over or tip over incident:
  - Remain securely fastened in the seat belt.
  - Keep your head, body, and limbs within the ROPS/FOPS structure.
  - Brace yourself and hold on firmly.
  - Lean away from the point of impact.
  - Stay on the telehandler and ride out the roll over or tip over.

**Warning**

DO NOT use the telehandler as a work platform or personnel carrier. Falling of attachments could result in death or serious injury.

NEVER allow passengers to ride on the telehandler. DO NOT allow riders on the frame or operator cab. Allowing passengers to ride could result in serious injury. The telehandler is designed for the safety of the operator only.
NEVER use crab or four wheel (4W) steering for traveling at high speeds. Use only two wheel (2W) steering for higher speed travel and slow the telehandler before turning. Rapid turning while using crab or four wheel steering can cause tip over which could result in death or serious injury.

DO NOT travel with an elevated boom. Retract the boom fully. Lower the boom as low as practical for proper visibility. Maintain enough ground clearance for conditions. Traveling with an elevated boom can cause tip over, which could result in death or serious injury.

Allow for adequate clearance between the attachment and other objects when turning. The attachment extends beyond the front of the telehandler. The operator must be aware of the maximum sweep of any attachment being used to avoid hitting personnel and other objects in the area and to prevent death, serious injury, or property damage.

To prevent death, serious injury, or property damage, make sure the telehandler comes to a complete stop before moving the travel select lever. A sudden change in direction of travel, while carrying a load, could reduce stability and/or cause the load to shift or fall.

DO NOT shift through multiple gears with a single turn of the gear select lever. Allow the engine speed to slow down before shifting to the next lower gear. Improper use of the gear select lever could cause transmission damage or telehandler tip over/roll over and result in death or serious injury.

Operate the telehandler for maximum stability. Unstable telehandlers can tip over, resulting in death, serious injury, or property damage. Keep the telehandler stable by following these and other appropriate guidelines:

- Slow down for turns.
- Slow down for rough, slippery, or select terrain.
- Use caution around steep slopes, creeks, gullies, ridges, ditches, and ravines.
- Stay away from select edges that could collapse under the telehandler.

DO NOT travel with an elevated boom. Retract the boom fully. Lower the boom as low as practical for proper visibility. Maintain enough ground clearance for conditions. Traveling with an elevated boom can cause tip over, which could result in death or serious injury.

Become completely familiar with the telehandler before operating on slopes. The telehandler could overturn due to sudden movement or while operating on a slope resulting in death or serious injury.

DO NOT raise the boom while operating on a slope. Raising the boom on a slope, even without a load, will change the center of gravity, could cause a tip over, and result in death or serious injury.

Follow appropriate procedures to prevent sudden changes in telehandler speed that could result in death or serious injury.

DO NOT shift through multiple gears with a single turn of the gear select lever. Allow the engine speed to slow down before shifting to the next lower gear. Improper use of the gear select lever could cause transmission damage or telehandler tip over/roll over and result in death or serious injury.

- DO NOT turn on a steep slope.
- DO NOT drive the telehandler across slopes.
- Always drive the telehandler straight up and down a slope (never drive diagonally up or down a slope).
- Drive the telehandler forward up a slope (front of telehandler facing uphill).
- Back the telehandler down a slope when loaded (front of telehandler facing uphill).

Follow appropriate procedures to prevent sudden changes in telehandler speed that could result in death or serious injury.

- Slow the telehandler to the appropriate speed before descending a slope and before loading or unloading a trailer.
- DO NOT change directions (F/R) of the travel select lever while the telehandler is moving.
- DO NOT coast downhill. Keep the transmission in the appropriate gear.
DO NOT exit the telehandler without following proper shut down procedures.

Engine fuel is flammable and can cause a fire or explosion resulting in death or serious injury. DO NOT smoke while refueling and keep sparks and open flames away from the telehandler.

Contact with hot surfaces and the exhaust pipe after the telehandler has been operated could result in serious personal injury.

Check warning indicators and gauges on the display frequently during operation. If a warning indicator is illuminated or a gauge shows abnormal readings, stop the telehandler, follow proper shut down procedures, tag the telehandler with “Do Not Operate” tags, and have a qualified mechanic service or repair the telehandler BEFORE placing it into service again. Ignoring warning indicators can result in death, serious injury, or property damage.

Release the key immediately once the motor starts. If the motor does not start, DO NOT crank the starter motor continuously for more than 15 seconds. Failure to release the key after the motor has started or continuous cranking can damage the starter motor.

DO NOT change steering modes until the telehandler comes to a complete stop. Align all four (4) tires “straight-ahead,” or perpendicular to the axle, before changing steering mode.

Load Safety

Failure to follow proper safety procedures when lifting, lowering, and traveling with a load could result in death, serious injury, or property damage.

DO NOT exceed telehandler capacity of 6,000 pounds (2,721.5 kilograms). The total rated capacity of the forks being used must equal or exceed telehandler capacity. Forks can bend or break causing loss of load and possible death or serious injury.

DO NOT exceed the manufacturer's rated load for any auxiliary attachment. Any attempt to lift or carry loads in excess of the manufacturer's rated load may cause telehandler tip over, loss of load, or structural damage, which could result in death or serious injury.

Failure to keep personnel clear of the load area while the load is being raised or lowered could result in death or serious injury. DO NOT lift, swing, or move a load over anyone.

- Review the rated load capacity of each auxiliary attachment before performing any operation.
- Use the correct load chart and NEVER exceed specified weights and load centers.
- DO NOT exceed the manufacturer’s recommended load capacity.
- DO NOT operate the telehandler with an unsafe load distribution.
- Adjust the load as necessary, especially for nonstandard loads.
- Use caution when handling loose material that can fall into the cab.
- Remove overhanging load materials, when possible, and watch for sliding material.
- DO NOT reach a load over posts or other objects that can enter the cab, if tipped.
- Avoid sudden stops, starts, or turns.
- Avoid carrying a swinging load from the boom lift point. If necessary, secure the load by attaching it to the telehandler tie-downs and/or have another person assist with safely steadying the load.
Attachments

⚠️ Warning

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

- Make sure attachment locking devices are always in place.
- Hydraulic attachments have a maximum hydraulic pressure rating. The maximum pressure of each auxiliary circuit can be set on the proportional valve from 725 psi to the maximum system pressure of 3,200 psi (the factory setting is 3,200 psi). Exceeding the pressure rating of the attachment by failing to adjust the auxiliary pressure setting, or provide external pressure control, could result in death or serious injury.
- Make sure all hydraulic connections are tight (if equipped).

Shut Down Procedure

⚠️ Warning

To prevent death or serious injury, follow these procedures before leaving the telehandler cab:

- Park telehandler on a firm, level surface.
- Move travel select lever to NEUTRAL (N).
- Set parking brake to ON (engaged).
- Either lower forks and attachments to the ground, or leave boom raised and retracted.

Always engage the parking brake before leaving the telehandler. The telehandler can roll if the parking brake is not ON (engaged), which could result in death, serious injury, or property damage.

- Turn Ignition switch to the OFF position.
- Remove the key.
- Unbuckle the seat belt.
- Place “Do Not Operate” tags on the Starter switch and steering wheel when maintenance or service is required.
- Block wheels when maintenance is required.

Telehandler Maintenance

⚠️ Warning

Follow the manufacturer’s instructions for proper maintenance to make sure the telehandler continues to meet manufacturer’s specifications. Failure to properly maintain the telehandler can result in improper performance, which could cause death, serious injury, or property damage.

Attach “Do Not Operate” tags to the Ignition switch and steering wheel before beginning any service or maintenance.

- “Do Not Operate” tags indicate the telehandler should not be operated until all service or maintenance is completed.
- Keep two (2) legible “Do Not Operate” tags with the telehandler at all times. “Do Not Operate” tags are provided in this manual.
- DO NOT operate the telehandler and attachments if they require repairs.
- Make sure basic maintenance is completed and service problems are corrected.
- Death or serious injury can result from operating a telehandler before all repairs have been made and all proper maintenance is completed.

⚠️ Warning

Check hydraulic oil lines, tubes, and hoses carefully. DO NOT use your bare hand to check for leaks. Always use a board or cardboard when checking for a hydraulic leak. Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, which could cause death or serious injury. If hydraulic oil is injected into your skin, a doctor familiar with this type of injury must treat it immediately.

Serious injury could result from hydraulic oil pressure or hot oil. DO NOT remove a hydraulic tank filler cap unless it is cool enough to touch with bare hands. Remove the hydraulic tank filler cap slowly to relieve pressure. Relieve all pressure in a hydraulic system before any caps, lines, fittings, or related items are disconnected or removed.
The parking brake can be manually released to tow the telehandler. In this condition, it is possible for the telehandler to move suddenly when the brakes are released, which could result in death, serious injury, or property damage. To prevent sudden movement of the telehandler, place wheel chocks in front of and behind wheels before the brakes are released.

If the telehandler is to be towed, make sure the released brake(s) can be reapplied or the tow vehicle has the braking capacity to stop the telehandler.

Important - In case of internal contact, DO NOT give fluids that induce vomiting.

### Warning

**California Proposition 65**

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling these items.

### Jump Starting

Wear eye protection when connecting jump start cables. Improper jump start procedures could cause the battery to explode, which could result in death or serious injury.

- Never jump start a frozen battery, as it can explode. Let the battery thaw out before charging.
- NEVER jump start the telehandler when travel select lever is in gear, which can cause the telehandler to lurch forward or backward, and could result in death, serious injury, or property damage.
- To avoid injury or death when jump starting with another telehandler, make sure the two (2) telehandlers are not touching.
- DO NOT allow jump start cable ends to contact each other.
- Connect charged battery positive (+) to stalled telehandler battery positive (+).
- Connect charged battery negative (−) to stalled telehandler ground. Make the connection to the stalled telehandler ground last.
- Connect jump start cable to stalled telehandler ground a safe distance from the battery to prevent sparks near the battery.
- Jump start only with a power source with the same voltage as the stalled telehandler.
- Turn off all lights and accessories on the stalled telehandler to prevent them from operating when the power source is connected.
- Electrolyte contains acid and could cause serious personal injury if it contacts the skin or eyes.

Important - In case of internal contact, DO NOT give fluids that induce vomiting.

**Warning**

- Lead-acid batteries produce flammable and potentially explosive gases. To avoid death or serious injury when checking, testing, or charging batteries:
  - DO NOT use smoking materials near batteries.
  - Keep arcs, sparks, and open flames away from batteries.
  - Provide ventilation for flammable vapors.
  - Wear proper personal protective equipment, including safety glasses.

Fluid in electric storage batteries contains sulfuric acid, which is poisonous and could cause severe chemical burns. Avoid all contact of fluid with eyes, skin, or clothing. Use protective gear when handling batteries. DO NOT tip a battery beyond a 45° angle in any direction.

If contact does occur, follow these First Aid suggestions:

- **External contact** - Flush with water.
- **Eyes** - Flush with water (including under the eyelids) for at least 15 minutes and get medical attention immediately. Flushing must begin immediately to avoid permanent eye tissue damage.
- **Internal contact** - Drink large quantities of water or milk to dilute stomach contents. Do not induce vomiting. Get medical attention immediately.
### Safety

#### Dead Engine Towing

**Parking Brake Release (Front Axle)**

**Warning**

Block all four wheels. Failure to do so could result in death or serious injury from vehicle roll away.

1. Block all four wheels to prevent the vehicle from moving once the parking brake is disabled.
2. Position the towing vehicle in place. Attach any chain needed to secure the disabled vehicle.
3. Crawl under the front of the vehicle AND LOCATE THE FRONT AXLE. Loosen and remove the two (2) screws (A) on each end of the front side of the axle, AND the two (2) screws (B) on each end of the back of the axle, as shown in Fig 3. There will be a total of four (4) screws.
4. Remove the spacers from each of the four (4) screws.
5. Re-install the two (2) screws (without spacers), front and rear, on each end of the front axle assembly. There will be a total of four (4) screws. Alternately tighten the screws 45º at a time (per side). You do not need to completely tighten the screws once re-installed. Just tighten them enough to release the parking brake, then stop.

**Re-Activating Parking Brakes (Front Axle)**

**Warning**

Block all four wheels. Failure to do so could result in death or serious injury from vehicle roll away.

1. Block all four wheels to prevent the vehicle from moving once the parking brake is disabled.
2. Position the towing vehicle in place. Attach any chain needed to secure the disabled vehicle.
3. Crawl under the front of the vehicle. Loosen and remove the two (2) screws (A) on each end of the front side of the axle (Fig 3), AND the two (2) screws (B) on each end of the back of the axle (Fig. 4). There will be a total of four (4) screws.
4. Re-install the spacers onto each of the four (4) screws.
5. Re-install the four (4) screws (with spacers), front (A) and rear (B), on each end of the front axle assembly. There will be a total of four (4) screws. Alternately tighten the screws 45º at a time (per side). Once re-installed, you need to completely tighten these four screws to the recommended torque.
6. The parking brake is now been re-activated.

---

**Fig 3. Parking Brake Screw (A) Location At The Front Of The Front Axle**

**Fig 4. Parking Brake Screw (B) Location At The Back Of The Front Axle**
Labels

Left Side View

![Left Side View Diagram]

Fig 5. Label Legend - Left Side

Right Side View

![Right Side View Diagram]

Fig 6. Label Legend - Right Side and Engine Compartment
Fig 7. Label Legend - Front and Under Boom

Fig 8. Label Legend - Rear

Fig 9. Label Legend - Cab
### TABLE 1. LABEL KIT (31823-000)

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REF 18201-999 ANTI SKID TAPE 5 ft
Replacement Labels

1) 18008-000

2A) 18004-110

2B) 18004-120

3) 18010-100

4) 18011-001

5) 18013-002

6) 18014-002

**CAUTION**

SLIP / TRIP HAZARD
MINOR or MODERATE INJURY may result from slipping or tripping.
WATCH YOUR STEP while entering or exiting.

**CAUTION**

ENGINE DAMAGE HAZARD
Engine damage and voiding of engine warranty may result from use of ether starting aids.

**CHECK ENGINE OIL**

Minimum Oil Specification:
API CJ-4 or higher

**DIESEL ONLY**

Ultra Low Sulphur Fuel Only
Maximum Sulphur Content: 15ppm
7) 18015-001

8) 18016-100

9) 18017-001

10) 18018-100

11) 18018-002

12) 18019-100
Labels

13) 18020-100

14) 18021-100

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16) 18023-001

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18) 18026-100
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23) 18323-000

24) 18041-100
25) 18318-000
25A) 18318-100

26) 18082-100

27) 18083-100

28) 18086-002

29) 18090-100

30) 18312-000

WARNING
EXPLOSION HAZARD
DEATH or SERIOUS INJURY could result from ignition of explosive gases.
AVOID OPEN FLAMES and SPARKS near battery.

WARNING
TIP OVER HAZARD
DEATH or SERIOUS INJURY could result from tip over.
DO NOT OPERATE this vehicle without foam filled tires.

WARNING
FALLING HAZARD
DEATH or SERIOUS INJURY could result from falling.
DO NOT STAND OR RIDE on forks or attachments not approved for personnel.

INJECTION HAZARD
DEATH or SERIOUS INJURY could result from contact with pressurized fluid.
KEEP CLEAR of leaks.

Labels

ISO46 Synthetic Oil
ISO32 Hydraulic Oil (AW32)
ISO68 Hydraulic Oil (AW68) High Temp
ISO32 Hydraulic Oil Cold Climate
ISO15 Synthetic Oil Extreme Cold Climate
ISO22 Synthetic Oil Extreme Cold Climate
 Dexron III
Mobil DTE10XL – Zinc Free Environmental
Biodegradable Fluid
Plant-Based Hydraulic Fluid
Fire Resistant Hydraulic Fluid

www.xmfg.com
CAUTION

EQUIPMENT DAMAGE

Wait at least two (2) minutes after shutting engine off before setting the battery disconnect switch to OFF. Equipment damage may occur if the engine control systems are not allowed to shutdown properly.

LOAD RATING SHOWN ARE FOR VEHICLES EQUIPPED WITH AIR FILLED TIRES ONLY.

LOAD RATINGS SHOWN ARE FOR VEHICLES EQUIPPED WITH AIR FILLED TIRES ONLY.

3,000 LBS AT 24 IN MIN CAPACITY FORK (6,000 LBS PAIR).

LOAD RATINGS SHOWN ARE FOR VEHICLES EQUIPPED WITH AIR FILLED TIRES ONLY.

3,000 LBS AT 24 IN MIN CAPACITY FORK (6,000 LBS PAIR).

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3,000 LBS AT 24 IN MIN CAPACITY FORK (6,000 LBS PAIR).

LOAD RATINGS SHOWN ARE FOR VEHICLES EQUIPPED WITH AIR FILLED TIRES ONLY.
# Features

## Standard Equipment

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<tr>
<td>Boom</td>
<td>Two (2) section boom</td>
</tr>
<tr>
<td></td>
<td>Boom equipped with rollers</td>
</tr>
<tr>
<td>Chassis</td>
<td>Sealed pivot pins for extended service periods</td>
</tr>
<tr>
<td></td>
<td>Side mounted engine</td>
</tr>
<tr>
<td>Cab</td>
<td>Lights</td>
</tr>
<tr>
<td></td>
<td>12 Volt electrical system</td>
</tr>
<tr>
<td></td>
<td>Electronic Display</td>
</tr>
<tr>
<td></td>
<td>Easy access drop down electrical panel</td>
</tr>
<tr>
<td></td>
<td>12 Volt accessory power outlet</td>
</tr>
<tr>
<td></td>
<td>Electric horn and backup alarm</td>
</tr>
<tr>
<td></td>
<td>Rear view mirrors on each side of the machine</td>
</tr>
<tr>
<td></td>
<td>Adjustable seat with high-visibility orange seat belt</td>
</tr>
<tr>
<td></td>
<td>Boom angle indicator</td>
</tr>
<tr>
<td>Tires</td>
<td>Air-filled</td>
</tr>
<tr>
<td>Hydraulics</td>
<td>Auxiliary hydraulic circuit with quick attach</td>
</tr>
<tr>
<td></td>
<td>Multifunction boom control handle</td>
</tr>
</tbody>
</table>

## Optional Equipment

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>Enclosed cab with heat</td>
</tr>
<tr>
<td></td>
<td>Enclosed cab with heat &amp; A/C</td>
</tr>
<tr>
<td></td>
<td>Heater/defroster/windshield wiper</td>
</tr>
<tr>
<td></td>
<td>Work light package</td>
</tr>
<tr>
<td></td>
<td>Rotating Amber Beacon with / without strobe</td>
</tr>
<tr>
<td></td>
<td>Fender Option</td>
</tr>
<tr>
<td></td>
<td>Boom work lights</td>
</tr>
<tr>
<td></td>
<td>Boom hook</td>
</tr>
<tr>
<td></td>
<td>Tail &amp; Turn lights with or without strobe</td>
</tr>
</tbody>
</table>
## Specifications

### Performance
- **Capacity**: 6,000 lbs
- **Lift Height**: 19’
- **Forward Reach**: 11’
- **Frame Leveling L/R**: N/A
- **Operating Weight**: 10,560 lbs

### Power Train
- **Engine**: Deutz 74 hp
- **Fuel Capacity**: 17 gal
- **Transmission**: Hydrostatic
- **Brakes**: Inboard Wet Disc
- **Parking Brake**: SAHR

### Tires
- **Tires (Standard Eq)**: Air Filled 12.00 x 16.5 Non-directional
- **Tires (Optional)**: Foam Filled 12.00 x 16.5 R4 FF

### Hydraulics
- **GPM**: 19
- **PSI**: 3,200
- **Hydraulic Oil Capacity**: 18.7 gal

### Dimensions
- **Length to fork face**: 12’ 1.5”
- **Width**: 71.7”
- **Height**: 6’ 6”
- **Wheel Base**: 93”
- **Ground Clearance**: 10.8”
- **Turning Radius**: 11’

### Standard Equipment
- Heavy-duty Frame/Chassis
- 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

### Attachments
- **Standard Carriage**: 48”
- **Fork Positioning Carriage**: 48”
- **Standard Forks**: 4” x 1.75” x 48”
- **Optional Forks**: 5” x 1.75” x 48”
  - 5” x 1.75” x 72
  - 5” x 1.75” x 72” with 1.25” hole
  - 5’ x 1.75” x 96”
- **Boom Jib**
- **Material Handler Jib**: 6 Ft. (1,000 lbs capacity)
- **Bucket**: 1 Yd.
- **Sling Mount**
- **Pintle Hook**
- **Skid Steer Adapter**

### Accessories and Options
- **Enclosed Cab**
- **A/C**
- **Strobe Light on Cab (Amber)**
- **Rotating Beacon (Amber)**
- **Boom Work Lights**
- **Cab Work Lights - Enclosed Cab**
- **Tail / Turn Lights**
- **Rear Camera**
- **Boom Hook**
- **Boom Hook Swivel with Bearing, 3 Tons**
- **Solid Tires**
- **Air Shut-off Valve**
- **Boom Support**
- **Locking Fuel Cap (with and without screen)**
- **Fire Extinguisher Kit**
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.

### Ignition Switch

A key is required to operate the ignition switch.

The ignition switch has three (3) positions: OFF, RUN, and START.

<table>
<thead>
<tr>
<th>Position</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Shuts down entire electrical system, except the horn and accessory outlet.</td>
</tr>
<tr>
<td>RUN</td>
<td>All controls and indicators are operable.</td>
</tr>
<tr>
<td>START</td>
<td>Engages starter motor to crank engine.</td>
</tr>
</tbody>
</table>

**NOTE:** The START position is spring-loaded. When the key is released, the Ignition switch will automatically return to the RUN position.

### Accelerator Pedal

Press the accelerator pedal to increase engine speed. The accelerator pedal is spring-loaded to return to idle speed.

### Service Brake Pedal

Press the service brake pedal to slow or stop the forklift. The service brake pedal activates the service brakes on the front (2) wheels.

### Accessory Outlet

A 12 Volt accessory outlet is provided as a power source for personal items, such as a radio or cell phone (10 amps max).
Operator Cab

Fig 13. Service Brake Pedal

Steering Wheel

Turn the steering wheel left or right to steer the forklift in the corresponding direction. It is equipped with a quick one-hand turn knob (A) and a horn button (B).

Fig 14. Steering Wheel
A - Quick One-Hand Turn Knob
B - Horn Button

Horn Button

Press the horn button (B) to sound the horn.

Fig 15. Operator Seat
A - Backrest Angle Adjustment Lever
B - Fore and Aft Adjustment Lever
C - Retractable Seat Belt
D - Seat Belt Buckle and Release Button

The operator seat can be adjusted two (2) ways: fore and aft, and backrest angle.
1. Grasp the free end of the seat belt (located on the right side of the seat) and make sure the belt webbing is not twisted or entangled in any portion of the seat assembly.

2. Pull the retractable seat belt across your lap. Position the seat belt as low on your body as possible.

3. Insert the latch plate into the buckle (on the right side of the seat) until a “click” is heard.

4. Make sure seat belt retracts snugly across your lap.

Rear View Mirrors

Two (2) adjustable rear view mirrors are provided to aid the operator’s rear vision. The rear-view mirrors are mounted on the upper left of the operator’s cab and the right front of the chassis.

Warning

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

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

The Telehandler is equipped with a standard two inch (2”) wide retractable seat belt. A three inch (3”) wide retractable seat belt is available where required by state and local laws and regulations.

Warning

DO NOT adjust the seat or seat belt while the Telehandler is moving. Keep both hands on the wheel while the Telehandler is moving to prevent loss of Telehandler control which could result in death or serious injury.

Before starting the engine, adjust the seat for position and comfort (refer to the Operator Seat section of this manual) and then adjust the seat belt as follows:
Controls and Indicators

Travel Select Lever

The travel select lever has three (3) positions: FORWARD, NEUTRAL, and REVERSE, which change the direction of travel.

<table>
<thead>
<tr>
<th>Position</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>F (Forward)</td>
<td>UP Position (away from the operator)</td>
</tr>
<tr>
<td>N (Neutral)</td>
<td>CENTER Position</td>
</tr>
<tr>
<td>R (Reverse)</td>
<td>DOWN Position (toward the operator)</td>
</tr>
</tbody>
</table>

Travel Select Lever automatically locks when it is in the NEUTRAL position. The operator must raise and move the travel select lever when changing to the FORWARD or REVERSE position.

NOTE: The travel select lever must be in the NEUTRAL position to start the reach forklift.

NOTE: The back-up alarm automatically sounds when the travel select lever is in the REVERSE position.

Parking Brake Switch

The Parking Brake switch (A) has two (2) positions: ON and OFF.

Set Parking Brake switch (A) to ON (DOWN) to engage the parking brake and to OFF (UP) to disengage the parking brake. The parking brake indicator (B) illuminates when the parking brake is set to ON (engaged).

NOTE: The parking brake switch MUST BE in the ON position (engaged) to start the engine.

NOTE: The transmission shifter MUST BE in NEUTRAL position to release the parking brake.

Parking Brake Switch

Fig 17. Travel Select Lever

Fig 18. Parking Brake  A - Parking Brake Switch Guard  B - Parking Brake Indicator

Fig 19. Shifter Pop-Up Warning
Light Switches

The Light Switches control the front lights and if equipped, also the Boom and the rear lights.

Fig 20. Light Switches

Turn Signal and Hazard Switches (Optional)

The optional Turn Signal Switch controls the turn signals (toggle left or right). The optional Hazard Light Switch flashes all four (4) turn signals (toggle up or down).

Fig 21. Turn Signal and Hazard Light Switches

Steering Select Switch

DO NOT change steering modes until the forklift comes to a complete stop. Align all four (4) wheels perpendicular to the axle, before changing steering mode. Changing steering modes at higher travel speeds can make the forklift unstable, and cause a loss of control, which could result in death, serious injury, or property damage.

Fig 22. Steering Select Switch

The reach forklift includes three STANDARD modes of steering: Crab Steering, Two Wheel (2W) and Four Wheel (4W). Use the Steering Mode Select switch located on the lower right corner of the dash panel to change steering modes.

Driving Mode Select Switch

The transmission has two forward "F" and two reverse "R" modes and it can operate in Automatic mode or Low Range mode.

Use the Driving Mode Select switch (Fig 23 A) to choose between Automatic (switch in down position) and Low Range (switch in up position).

For more info see Display Indicators paragraph O.

Wiper Switch (Optional)

The Wiper Switch operates the windshield wiper on enclosed cab models. The switch has three (3) positions: Down -> OFF, Middle -> Wiper ON, Up and hold -> Wash (Fig 23 B).

Fig 23. Steering Mode Switch (A) and Optional Wiper Switch (B).
The display allows the operator to view vital engine information and other critical functions, including gauge display, engine diagnostics to monitor engine condition and performance, fault codes, and warning indicators.

**A. TURN SIGNAL**

The corresponding left or right arrow blinks when the turn signal switch is operated. Both arrows blink when the hazard switch is enabled. (Fig. 21).

**B. STEERING AXLE POSITION**

The Axle Position Indicator illuminates and displays "Axle Center" when the rear wheels are aligned perpendicular to the rear axle. The rear wheels should be centered before changing steering modes.

The Axle Position Indicator illuminates and displays "Axle Lock" when the Telehandler is in the axle lock mode. The rear axle locks when the parking brake is set to ON (engaged), or the transmission is in NEUTRAL or the service brake is applied, and when the boom is above 10°. If the "Axle Lock" Indicator does not illuminate when the Telehandler is in the axle lock mode, stop the Telehandler, follow proper shut down procedures, tag Telehandler with “Do Not Operate” tags, and have a qualified mechanic service or repair the Telehandler BEFORE placing it into service again.

**C. HIGH HYDRAULIC OIL TEMPERATURE**

The hydraulic oil temperature indicator illuminates when the oil temperature is above 180° F. If the hydraulic oil temperature indicator illuminates, stop and idle the engine to allow time for cooling. If the hydraulic oil temperature indicator does not go out after five (5) minutes, stop the forklift, follow proper shut down procedures, tag the forklift with "Do Not Operate" tags, and have a qualified mechanic service or repair the forklift BEFORE placing it into service again.

**D. WATER IN FUEL**

The Water in Fuel Indicator will be displayed when water is detected in the fuel filter. Drain the water by opening the pet-cock on the bottom of the fuel filter.

If there is no alert, the top row indicators disappear.

**E. PARKING BRAKE**

The Parking Brake Indicator will be displayed when the parking brake is applied.

**F. OIL PRESSURE**

The Oil Pressure Indicator will be displayed when the engine oil pressure is below normal. If the Oil Pressure Indicator comes on during normal operation, stop the forklift, follow proper shut down procedures, tag forklift with “Do Not Operate” tags, and have a qualified mechanic service or repair the forklift BEFORE placing it into service again.

**NOTE:** The indicator at position G has more than one function as described below. Refer to the Operation section on Warning Indicators.

**G. WAIT TO START**

The Wait to Start Indicator is displayed when the key switch is moved to the RUN position. Wait until the indicator goes out before starting the engine.

**G. GENERAL WARNING**

After the engine is started, the Wait To Start Indicator goes out. It is replaced by a Warning Indicator which is displayed when there’s a general warning. When the Warning Indicator comes on, a description of the warning is displayed on the Message Display at position N (instead of the digital clock showing).

**G. ENGINE STOP**

The Engine Stop Indicator is displayed when the engine is shut down. It is displayed with a flashing Check Engine Indicator when an engine shutdown is imminent. The Engine Stop Indicator will be displayed when there is a serious engine fault and the engine should be shut down.

**H. ENGINE SERVICE REQUIRED**

The Engine Service Required Indicator will be displayed when a maintenance interval has been exceeded.

**I. BACK-UP CAMERA**

Optional equipment.

**J. ENGINE LOAD**

Displays the percent of rated load for the current engine RPM that is being applied to the engine.
K. FUEL GAUGE
Indicates the approximate quantity of fuel in the tank. The total capacity of the fuel tank is 17 gallons.

L. ENGINE TEMP GAUGE
Indicates the temperature of the coolant in the engine cooling system. After starting the forklift, allow time for the Engine Temp Gauge to begin moving before operating the forklift. After the engine has sufficiently been warmed up, normal engine coolant temperature should read between 180°F to 200°F.

M. VOLTAGE GAUGE
Indicates the amount of charge (in Volts). Normal system voltage is between 12.5 and 14 Volts. If the voltage gauge shows abnormal readings, stop the forklift, follow proper shut down procedures, tag forklift with "Do Not Operate" tags, and have a qualified mechanic service or repair the forklift BEFORE placing it into service again.

N. DIGITAL CLOCK / MESSAGE DISPLAY
Displays warnings or status / information messages. If there is no message or warning, it displays the digital clock.

O. TRANSMISSION SHIFT INDICATOR
The transmission has two forward "F" and two reverse "R" gears. It can operate in Automatic mode or Low Range mode. When the transmission is in Neutral, the Transmission Shift Indicator displays "N".

The subscript "A" or "L" indicates the Auto or Low transmission range. The reach forklift starts up with the transmission in AUTOMATIC mode. By pressing the Auto/Low switch on the dash, the machine switches from Automatic to Low Range, indicated by the "L" in the subscript.

Pressing the Auto/Low button again switches back to Automatic range, indicated by subscript "A".

The "Low" mode is used for climbing steep grades, or when ever slow speed is desired. The "Auto" mode adapts to drive conditions and allows for higher speed travel.

P. ANALOG TACHOMETER DISPLAY
Indicates engine RPM on an analog/digital gauge.

Q. DIGITAL TACHOMETER
The engine RPM is also displayed as a digital readout.

R. HOUR METER
Indicates and records engine operating hours. Use the hour meter to establish a forklift maintenance schedule.

S. MENU BUTTON INDICATOR
Use the soft button to the left of this indicator to access the Main Menu screen.

Display Features
The display allows the operator to view vital engine information and other critical functions, including gauge display, engine diagnostics to monitor engine condition and performance, fault codes, and warning lights.

POWER UP
When the ignition is turned on, the display powers up and defaults to GAUGE DISPLAY mode. The display should remain in this mode for normal operation.

Fig 25. Power Up Screen

MAIN MENU
Pressing the MENU button will bring up the MAIN MENU. Pressing the MENU button again brings up the SERVICE REMINDER screen.

Fig 26. Main Menu
UTILITIES

The Utilities Menu is accessed from the Main Menu by pressing the top left selection button.

• Clock Setup

Pushing the top right select button will enter the CLOCK SETUP MENU, where the digital clock may be adjusted.

ENGINE DIAGNOSTICS

Pressing the ENGINE DIAGNOSTICS select button will send engine diagnostics to the display screen. The status is displayed in the upper right corner of the screen.

USER SETTINGS

Pressing the USER SETTINGS select button will enter a mode where some display settings may be adjusted using the select buttons on the left or right of the display, relative to the desired setting.
The HIDDEN UTILITIES screen is accessed from the MAIN MENU by pressing the lower left menu select button and then on the next screen pressing the middle upper select button twice and then the middle lower button twice. Pressing the MENU button will return to the UTILITIES mode.

The HIDDEN UTILITIES menu has the following sub-menus:

- System Setting
- Service Reminders
- PG Controls (button not shown in Hidden Utilities screen)
- Back-Up Camera Setup
- Clear Faults

NOTE: This menu is not intended for regular end-users.
This area is for editing or resetting the service reminders once a service has been completed and is different than the SERVICE REMINDERS in the MAIN MENU where users can check on the status of the service reminders to see how many hours until the next service is required.

Scroll up or down through this screen using « or » buttons. The button returns to the previous menu.

Press the "Edit" button to access the Service Reminders editing screen. Use the reset button to get back to factory settings.

- **System Settings**

  This sub-menu is used by developers and is accessed from the HIDDEN UTILITIES menu by pressing the corresponding select button. Use the Up or Down select buttons to navigate through this menu. The top left select button restore the manufacturer default settings.

- **Service Reminders Settings**

  This menu is in the HIDDEN UTILITIES menu and it is accessed by pressing the service reminders select button.

  This sub-menu is used by developers or trained personnel only to setup an optional back-up camera.

  As the title implies, this sub-menu is used to clear any engine or system faults and it is used by developers or trained personnel only.

  - **Back-Up Camera Setup**
  
  This sub-menu is used by developers or trained personnel only to setup an optional back-up camera.

  - **Clear faults**

    As the title implies, this sub-menu is used to clear any engine or system faults and it is used by developers or trained personnel only.
Multifunction Joystick Controller (Joystick)

The joystick is used to raise, lower, extend, retract the boom, tilt the carriage (or attachment).

**NOTE:** The joystick is a variable speed control. Function speed is proportional to handle movement. The more the joystick is moved in the appropriate direction, the faster the corresponding function will occur.

**NOTE:** Increasing engine speed can increase boom lift, extend, and carriage tilt speeds.

**NOTE:** Two (2) boom functions can be performed at the same time by moving the joystick into the corner between (2) individual functions (Positions B, D, F or H, Fig. 44).

<table>
<thead>
<tr>
<th>Function</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aux Button 1</td>
<td>Control auxiliary direction 1</td>
</tr>
<tr>
<td>Aux Button 2</td>
<td>Control auxiliary direction 2</td>
</tr>
<tr>
<td>Enable Trigger</td>
<td>Trigger must be enabled for other functions of the control handle to operate</td>
</tr>
<tr>
<td>Tilt Thumb-stick</td>
<td>Control carriage tilt (up/down)</td>
</tr>
</tbody>
</table>

---

**Fig 43. Multifunction Joystick Controller**

**Fig 44. Boom Control Joystick Functions (1)**

**Fig 45. Boom Control Joystick Functions (2)**
### Boom Angle Indicator

The boom angle indicator is located on the left side of the boom and is visible from the operator’s seat. Use the boom angle indicator to determine the boom angle when referring to load capacity charts. Refer to the LOAD CAPACITY CHARTS section of this manual for more information.

**NOTE:** The boom angle indicator is a plumb arrow with angular graduations from -2.3° to +69°.

### Boom Extend Letters

As the boom is extended, the boom extend letters on the left side of the boom are visible to the operator. These letters indicate boom extension as it corresponds to the load capacity charts.

### Frame Level Indicator

The frame level indicator is mounted on the upper right corner of the operator’s cab. The frame level indicator allows the operator to view if the forklift has been positioned in a level condition.

---

**Fig 46. Joystick Functions**

**Fig 47. Boom Angle Indicator**

**Fig 48. Boom Extend Letters**

**Fig 49. Frame Level Indicator**

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**Operation Manual**

www.xmfg.com
Operation

Pre-Operation Inspection

To perform the pre-operation inspection make sure the telehandler is NOT running, the engine is cool, the telehandler is parked on level ground, the boom is completely retracted, and the frame is level.

NOTE: Copy and use the Pre-Operation Inspection Checklist in this section.

![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 telehandler controls, moving parts, etc. Failure to wear the proper protective clothing could result in death or serious injury.

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.

![Warning]

Perform a pre-operation inspection and functional tests in an open area.

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

Remove telehandler from service and place “Do Not Operate” tags on the Starter switch and steering wheel if anything is found to be in need of repair or maintenance, defective, or unsafe in any way.

![Caution]

Contact with hot surfaces and the exhaust pipe after the telehandler has been operated could result in serious personal injury.

![Warning]

Always check the condition of the seat belt and mounting hardware before operating the telehandler. 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 telehandler until the seat belt or mounting hardware is replaced, if worn or damaged.
- The seat belt MUST be worn while operating the telehandler. Failure to wear the seat belt could result in death or serious injury.

Check hydraulic oil lines, tubes, and hoses carefully. DO NOT use your bare hand to check for leaks. Always use a board or cardboard when checking for a hydraulic leak. Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, which could cause death or serious injury. If hydraulic oil is injected into your skin, a doctor familiar with this type of injury must treat it immediately.

Serious injury could result from hydraulic oil pressure or hot oil. DO NOT remove a hydraulic tank filler cap unless it is cool enough to touch with bare hands. Remove the hydraulic tank filler cap slowly to relieve pressure. Relieve all pressure in a hydraulic system before any caps, lines, fittings, or related items are disconnected or removed.

Never remove the radiator cap while the engine is hot. The cooling system is under pressure. Hot coolant could cause severe burns or eye injury. Wear protective clothing and safety glasses.
Lead-acid batteries produce flammable and potentially explosive gases. To avoid death or serious injury when checking, testing, or charging batteries:

- DO NOT use smoking materials near batteries.
- Keep arcs, sparks, and open flames away from batteries.
- Provide ventilation for flammable vapors.
- Wear proper personal protective equipment, including safety glasses.

Fluid in electric storage batteries contains sulfuric acid, which is poison and could cause severe chemical burns. Avoid all contact of fluid with eyes, skin, or clothing. Use protective gear when handling batteries. DO NOT tip a battery beyond a 45° angle in any direction.

If contact does occur, follow these First Aid suggestions:

- External contact - Flush with water.
- Eyes - Flush with water (including under the eyelids) for at least 15 minutes and get medical attention immediately. Flushing must begin immediately to avoid permanent eye tissue damage.
- Internal contact - Drink large quantities of water or milk to dilute stomach contents. Do not induce vomiting. Get medical attention immediately.

IMPORTANT - In case of internal contact, DO NOT give fluids that induce vomiting.

**Warning**

Wear eye protection when starting a telehandler with jump start cables. Improper jump start procedures could cause the battery to explode, which could result in death or serious injury.

- Never jump start a frozen battery, as it can explode. Let the battery thaw out before charging.
- NEVER jump start the telehandler when travel select lever is in gear, which can cause the telehandler to lurch forward or backward, and could result in death, serious injury, or property damage.
- To avoid injury or death when jump starting with another telehandler, make sure the two (2) telehandlers are not touching.
- DO NOT allow jump start cable ends to contact each other.
- Connect charged battery positive (+) to stalled battery positive (+).
- Connect charged battery negative (–) to stalled telehandler ground. Make the connection to the stalled telehandler ground last.
- Connect jump start cable to stalled telehandler ground a safe distance from the battery to prevent sparks near the battery.
- Jump start only with a power source with the same voltage as the stalled telehandler.
- Turn off all lights and accessories on the stalled telehandler to prevent them from operating when the power source is connected.
- Electrolyte contains acid and could cause serious personal injury if it contacts the skin or eyes.

**Caution**

Use caution when operating the telehandler during storms or strong winds.

**California Proposition 65**

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling these items.
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 are legible.
☐ 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 cylinder 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.
  ☐ Low tires.
☐ Check mirrors for cracks, cleanliness, and proper adjustment.
☐ Check hydraulic reservoir for proper fluid level. Add hydraulic fluid, if necessary.
☐ Check engine compartment for:
  ☐ Loose or damaged belts, hoses, and radiator fan blades.
  ☐ Coolant reservoir level. Add radiator coolant, if necessary.
  ☐ Engine oil level. Add engine oil, if necessary.
  ☐ Check electrical wires and connectors.
☐ Check front and rear axles for leaks or any other damage.
☐ Check boom lift and carriage 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 pedals, and non-skid surfaces are clean and free of grease, oil, dirt, snow, or ice.

☐ Date: __________________________  ☐ Initials: __________________________
**Functional Tests**

**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 telehandler to prevent death or serious injury.

Remove telehandler from service and place “Do Not Operate” tags on the starter switch and steering wheel if anything is found to be in need of repair or maintenance, defective, or unsafe in any way.

The safety, efficiency, and service life of your Telehandler will be increased by performing functional tests at the beginning of each shift. If any of the items in the functional tests are not operating properly or within set tolerances, stop the telehandler, follow proper shut down procedures, tag the telehandler with “Do Not Operate” tags, and have a qualified mechanic service or repair the telehandler before placing it into service again.

**NOTE:** The enable trigger must be actuated for boom functions to operate.

- Release the parking brake.
- Operate the telehandler in forward and reverse.
- Test the service and parking brakes.
  - Apply the service brake pedal after the telehandler begins to move and the telehandler should stop immediately.
  - Apply the parking brake. The telehandler should not move unless the parking brake is released.
- Test each steering function. Operate the telehandler in forward and reverse at low speed and turn the steering wheel approximately 1/2 turn in each direction for each of the following modes:
  - Align the wheels and set the Steering Select switch to crab steering.
  - Align the wheels and set the Steering Select switch to 2 wheel (2W) steering.
  - Align the wheels and set the Steering Select switch to 4 wheel (4W) steering.
- Check the gauges on the display after the engine warms to the proper operating range.
  - Check the voltage gauge. The voltage gauge should read between 12.5 to 14 Volts.
  - Check the engine coolant temperature gauge. The engine coolant temperature gauge should read between 180°F to 200°F.
  - The Oil Pressure Indicator will be displayed when the engine oil pressure is below normal. If the Oil Pressure Indicator comes on during normal operation, stop the telehandler, follow proper shut down procedures, tag telehandler with “Do Not Operate” tags, and have a qualified mechanic service or repair the telehandler BEFORE placing it into service again.
- Operate the joystick forward and backward to lower and raise boom.
- Operate the joystick left and right to retract and extend boom.
- Operate the attachment tilt thumb-stick up and down to tilt the attachment.
- Operate the auxiliary attachment control if an auxiliary attachment is being used.
- Turn work lights on and off.
- Press the horn button to sound the horn.
- Place the travel select lever in reverse to sound the backup alarm.
Follow the manufacturer’s instructions for proper maintenance to make sure the telehandler continues to meet manufacturer’s specifications. Failure to properly maintain the telehandler can result in improper performance, which could cause death, serious injury, or property damage.

**NOTE:** Keep the Operation and safety manual in the protective case provided inside the operator cab, as shown below.

### Coolant

In liquid-cooled engines, the coolant must be conditioned and monitored, otherwise the engine could be damaged by:
- Corrosion
- Cavitation
- Freezing
- Overheating

The right water quality is important for conditioning the coolant. Clear, clean water within the following analysis values should always be used:

<table>
<thead>
<tr>
<th>Analysis values</th>
<th>min</th>
<th>max</th>
<th>ASTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH value</td>
<td>6.5</td>
<td>8.5</td>
<td>D 1293</td>
</tr>
<tr>
<td>Chlorine (Cl)</td>
<td>-</td>
<td>100</td>
<td>D 512, D 4327</td>
</tr>
<tr>
<td>Sulphate (SO₄)</td>
<td>-</td>
<td>100</td>
<td>D 516</td>
</tr>
<tr>
<td>Total hardness (CaCO₃)</td>
<td>3.56</td>
<td>35.6</td>
<td></td>
</tr>
<tr>
<td>[dGH]</td>
<td>20.0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>[°e]</td>
<td>25.0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>[°F]</td>
<td>35.6</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

The conditioning of the coolant for liquid-cooled DEUTZ compact engines is performed by mixing an anti-freeze with corrosion protection inhibitors based on ethylene glycol into the water. The cooling system corrosion protection agent should be free from nitrite, amine, and phosphate to protect the materials used in DEUTZ engines.

The cooling system must be monitored regularly. This also includes checking the coolant system corrosion protection agent concentration in addition to checking the coolant level.

The cooling system corrosion protection agent concentration can be checked with conventional test instruments (e.g. refractometer).

At temperatures below -41 °C, please contact your local Xtreme Manufacturing or DEUTZ partner.

It is possible to use other cooling system corrosion protection agents (e.g. chemical corrosion protection agents) in exceptional cases. Consult your Xtreme Manufacturing or DEUTZ partner.

### Warning

Never remove the radiator cap while the engine is hot. The cooling system is under pressure. Hot coolant could cause severe burns or eye injury. Wear protective clothing and safety glasses.

Check coolant reservoir level only when the engine is cool to touch. Add coolant, if necessary.

### Lubricating Engine Oil

Modern diesel engines place very high demands on the lubricating oil to be used. The specific engine performances lead to an increased thermal load on the lubricating oil. The lubricating oil is also more exposed to contamination due to reduced oil consumption and longer oil change intervals. For this reason it is necessary to observe the requirements and recommendations described in this operating manual in order not to shorten the life of the engine.

Lubricating oils always consist of a base oil and an additive package. The most important tasks of a lubricating oil (e.g. wear protection, corrosion protection, neutralization of acids from combustion products, prevention of coke and soot deposits on the engine parts) are assumed by the additives. The properties of the base oil are also decisive for the quality of the product, e.g. with regard to thermal load capacity. In principle, all engine oils of the same specification can be mixed. However, mixing of engine oils should be avoided because the worst properties of any of the components in the mixture are always dominant, affecting the result.

The lubricating oils shown here are permissible for the engine in this operating manual.

The ambient temperature at the installation site or in the application area of the engine
is decisive for choosing the right viscosity class. Too high a viscosity can lead to starting difficulties, too low a viscosity can endanger the lubrication effect and cause a high lubricating oil consumption.

Depending on the ambient temperature, the following common viscosity classes are recommended:

Check the engine oil level by pulling out the yellow oil dipstick handle (A), located adjacent to the fuel filter can. Unscrew the oil fill cap (B) and add engine oil (API CJ-4), if necessary.

**Battery**

Check the battery, the case and the battery terminals.

**Warning**

Lead-acid batteries produce flammable and potentially explosive gases. To avoid death or serious injury when checking, testing, or charging batteries:

- DO NOT use smoking materials near batteries.
- Keep arcs, sparks, and open flames away from batteries.
- Provide ventilation for flammable vapors.
- Wear proper personal protective equipment, including safety glasses.

**Hydraulic Fluid**

Check the hydraulic fluid level using the sight level on the front of the hydraulic tank, located under the boom. Raise the boom and remove the front cover to have access to the sight gauge. Add Hydraulic fluid (Dexron III) if necessary.
Before Starting Telehandler

⚠️ Warning

Failure to use proper safety procedures when mounting and dismounting the forklift could result in death or serious injury.

- Keep steps clear of dirt, mud, snow, ice, debris, and other hazards.
- Face the forklift for mounting or dismounting. Use hand holds and steps to maintain three (3) points of contact at all times, either both hands and one foot or both feet and one hand.
- DO NOT use the controls, steering wheel, or foot pedals as hand holds or steps. Avoid accidentally engaging or disengaging a control.

DO NOT jump from the forklift. Clothing can get caught on pedals, levers, or other protruding parts. Landing on uneven surfaces could result in death or serious personal injury.

Before starting the reach forklift:

1. Make sure the master battery disconnect is ON.
2. Turn the Fuel Shut-off valve ON.
3. Use safe mounting/dismounting procedures to enter the operator cab.
4. Adjust the operator seat for position and comfort. (Refer to Seat Adjustment section in this manual).
5. Adjust mirrors (this may require assistance).
6. Fasten seat belt.
7. Make sure the travel select lever is set to NEUTRAL (N)
8. The Parking Brake MUST be engaged. Make sure that the Parking Brake switch (A) is ON (DOWN). The parking brake indicator (B) illuminates when the parking brake is set to ON (engaged).

NOTE: The engine will only start when the travel select lever is in NEUTRAL (N) and the Parking Brake switch is ON (engaged).
Starting the Telehandler

Normal Starting

**Warning**

To prevent death, serious injury, or property damage, the operator must be seated with seat belt fastened, arms, legs, and head completely inside the Rollover Protection Structure/Falling Object Protection Structure (ROPS/FOPS), the travel select lever in NEUTRAL, and the Parking Brake switch ON (engaged) BEFORE starting the telehandler.

1. Place Key in Ignition Switch.

**Caution**

Release the key immediately once the engine starts. If the engine does not start, DO NOT crank the starter motor continuously for more than 15 seconds. Failure to release the key after the engine has started or continuous cranking can damage the starter motor.

**NOTE:** The START position is spring-loaded. When the key is released, the ignition switch will automatically return to the RUN position.

2. Turn key in ignition switch clockwise to the RUN position.

**NOTE:** If the engine fails to start on the first try, wait until the engine and starter come to a complete stop before cranking the engine again.

3. Turn key in ignition switch clockwise to the START position. You may need to hold the key in this position for a few seconds before the engine begins to crank (see **NOTE**).

4. Release key immediately after the engine starts. The Ignition Switch will automatically return to RUN.

**NOTE:** Wait for display to boot up and “Engine Wait to Start” indicator to go out.

5. After the engine starts, allow the engine to idle for approximately 60 seconds.

**NOTE:** The engine requires fuel pressure to be generated before the engine will crank. You may have to hold the ignition key in the START position for a few seconds before the engine begins to crank.
Steering Modes

Warning

Never use crab or four wheel (4W) steering for traveling at high speeds. Use only two wheel (2W) steering for higher speed travel and slow the telehandler before turning. Rapid turning using crab or four wheel (4W) steering could cause tip over, which could result in death, serious injury, or property damage.

Two Wheel Front Steering (2W)

Two wheel (2W) steering allows the front wheels to turn in the same direction as the steering wheel. The rear wheels remain in a fixed forward position. Two wheel (2W) steering is useful for traveling at higher speeds.

Four Wheel Steering (4W)

Four wheel (4W) steering allows the front wheels to turn in the same direction and the rear wheels to turn in the opposite direction of the steering wheel. The rear wheels follow the front wheel path. Four wheel (4W) steering is useful for a short turning radius and in muddy or sandy conditions.

Caution

DO NOT change steering modes until the telehandler comes to a complete stop.

The Telehandler includes three STANDARD modes of steering; Crab, Two Wheel (2W), and Four Wheel (4W) Steering. Use the Steering Select switch located on the dash panel to change steering modes.

Crab Steering

Crab steering allows all four (4) wheels to turn in the same direction as the steering wheel, allowing the telehandler to move “sideways”. Crab steering is useful in a congested work site to line up to a loading location.

Warning

Allow for adequate clearance between the attachment and other objects when turning. The attachment extends beyond the front of the telehandler. The operator must be aware of the maximum sweep of any attachment being used, when turning, to avoid hitting personnel and other objects in the area to prevent death, serious injury, or property damage.

Fig 58. Maximum Fork Sweep
Warning and Fault Indicators

A fault condition may trigger a popup dialog box on the display describing the nature of the fault during operation. Corresponding red or amber warning lights will illuminate to indicate the severity of the fault. If an Engine Shutdown fault condition is present, stop the Telehandler, follow proper shut down procedures, tag the Telehandler with “Do Not Operate” tags, and have a qualified mechanic service or repair the Telehandler BEFORE placing it into service again. Report all warning indicators and fault codes to a qualified mechanic. Ignoring warning indicators or fault codes can cause improper performance, which could result in death, serious injury, or property damage.

Fault condition dialog boxes may pop up and warning lights on the display will illuminate during critical circumstances. Some of these conditions demand immediate attention and Telehandler servicing. If an Engine Shutdown fault condition is present, the Telehandler should be shut down as soon as practical to prevent serious mechanical failure.

Some of the following indicators are green while the engine is within normal operation range, turning yellow when the normal operating range is exceeded. Some of these indicators turn red and become warnings when a particular parameter reaches or exceeds a critical level.

- Battery Voltage Indicator. Dark gray at normal operating range of 12.6-14V. It becomes a yellow indicator at low battery voltage, between 11.5 to 12.5 V.
- Critically Low Battery Voltage Warning, below 11.5 V

- Coolant Temperature Indicator. Dark gray at normal operating range of 180 to 205°F. High coolant temperature indicator (yellow) between 205 and 215°F. It becomes a RED Critically High Coolant Temperature Warning, above 216°F.
- Low Fuel Level Indicator. It is dark gray at normal operating level.
- Critically Low Fuel Level Warning
- High Hydraulic Temperature Indicator

- Engine Load Indicator (yellow, above 90%) or Warning (red, at or above 99%). Dark gray at normal operating range.
- Hydraulic Oil Pressure Indicator, above 20 psi. **Engine must be running above 500 RPM**
- Low Hydraulic Oil Pressure Indicator, between 10 and 20 psi. **Engine must be running above 500 RPM**
- Low Hydraulic Oil Pressure Warning, below 10 psi
- Service Reminder
- Wait To Start Indicator
- Water In Fuel Indicator
Starting Travel

**Warning**

Use proper safety procedures and avoid hazardous situations while operating the telehandler to prevent death, serious injury, or property damage.

- Check the work site for any hazards before operating the telehandler.
- Check the work surface for loose soil conditions and overhead power lines.

**Warning**

To prevent death or serious injury, the operator must be seated with seat belt fastened, the travel select lever set to NEUTRAL, the Parking Brake ON (engaged), and the area free of people and obstructions BEFORE starting the telehandler.

1. Start the telehandler. Refer to the Starting Telehandler section in this manual.
2. Apply service brake.
3. Release parking brake.
4. Move the travel select lever to FORWARD or REVERSE for the appropriate direction of travel.
5. Release the service brake pedal.
6. Slowly press the accelerator pedal to start travel.

Stopping Travel

1. Stop the telehandler by applying the service brake pedal.
2. Slow the telehandler until it comes to a complete stop.
3. Move the travel select lever to NEUTRAL (N).
4. Set the parking brake to ON (engaged).

**Warning**

Always engage the parking brake before leaving the telehandler. The telehandler can roll if the parking brake is not ON (engaged), which could result in death, serious injury, or property damage.

1. Park telehandler on level ground, if possible.
2. Stop the telehandler by applying the service brake pedal.
3. Place the travel select lever in NEUTRAL (N) and set the parking brake to ON (engaged).
4. Lower the boom and rest carriage on ground.
5. Turn the ignition key to OFF and remove the key.

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6. If the telehandler is parked on an incline, block the wheels.

7. Depending on the situation, you may choose to use the Battery Disconnect Switch. However, you should wait 2 minutes after the engine is shut down before disconnecting the battery with the switch. This operation is necessary so that the engine ECU has enough time to write the data from the volatile memory after the engine is off. **THROWING THE BATTERY DISCONNECT SWITCH TOO EARLY MAY CONFUSE THE ECU IF THE WRITING PROCESS IS NOT COMPLETED.**

8. Turn the Fuel Shut-off Valve to the OFF (Closed) position. It is located on the engine tray in the front.

**Warning**

**California Proposition 65**

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

**Fuel Types**

Use ASTM #2 diesel fuel with a minimum Cetane rating of 40 for better fuel economy and performance under most operating conditions.

Use standard #2 diesel fuel for operating at temperatures above 32°F (0°C).

Use a blend of #1 and #2 diesel fuel (“winterized” #2 diesel) for operating at temperatures below 32°F (0°C).

Fuels with Cetane ratings higher than 40 may be needed in higher altitude or an extremely low temperature climate to prevent misfiring and excessive smoke.

**NOTE:** Use only Ultra Low Sulfur fuel. Maximum sulfur content: 15 ppm.

**Caution**

Use of improper grade of fuel may result in damage to engine or exhaust system.

Use ASTM #2 diesel fuel with a minimum Cetane rating of 40 for better fuel economy and performance under most operating conditions.

Use standard #2 diesel fuel for operating at temperatures above 32°F (0°C).

Use a blend of #1 and #2 diesel fuel (“winterized” #2 diesel) for operating at temperatures below 32°F (0°C).

Fuels with Cetane ratings higher than 40 may be needed in higher altitude or an extremely low temperature climate to prevent misfiring and excessive smoke.

**NOTE:** Use only Ultra Low Sulfur fuel. Maximum sulfur content: 15 ppm.

**Winter Operation With Diesel Fuel**

For engines with common rail injection, the mixing of petroleum and adding of extra low additives is not permissible.

Special care is needed while operating in cold environment, such as winter or arctic operation.

At low ambient temperatures, paraffin discharges can lead to blockages in the fuel system and cause operating faults. For ambient temperature below freezing (32 °F / 0 °C) use winter diesel, suitable for temperatures down to -4 °F (-20 °C).

**NOTE:** Special diesel fuels can be used for arctic climates down to -47 °F (-44 °C).
DO NOT exceed the manufacturer's rated load for any auxiliary attachment. Any attempt to lift or carry loads in excess of the manufacturer's rated load may cause telehandler tip over, loss of load, or structural damage which could result in death, serious injury, or property damage.

Snorkel Manufacturing makes no representations or warranties, expressed or implied, as to the design, manufacture, or fitness for use with this telehandler of any third party attachment. This telehandler is not intended to be used and should not be used with an attachment that would alter the center of gravity or stability of this telehandler. Snorkel Manufacturing assumes no liability for any third party attachment that would alter the center of gravity or stability.

**Warning**

DO NOT exceed telehandler capacity of 6,000 pounds (2,721.5 kilograms). The total rated capacity of the forks being used must equal or exceed telehandler capacity. Forks can bend or break causing loss of load and could result in death or serious injury.

All approved forks for this telehandler are marked with a maximum load capacity rating (A). This rating is stamped on the left edge of the fork just below the fork pivot shaft. The rating listed is in U.S. pounds and is based upon a 24 inch (610 mm) load center (B). This rating specifies the maximum load capacity that the individual fork can safely carry at a maximum load center of 24 inches (610 mm).

Because forks are always used in multiples, the total rating of any combination of forks will be the sum of their rated capacity. Other than block forks, all forks should be used in matched pairs. Block forks should be used in matched sets.

The maximum load capacity for this telehandler is 6,000 pounds (2,721.5 kilograms). The matched pair or set of forks used on this telehandler should have total load ratings which equal or exceed 6,000 pounds (2,721.5 kilograms). When the load rating of the telehandler differs from the load capacity of the forks, the lower value becomes the overall load capacity.
Standard Carriage Operation

The standard carriage uses manually adjustable forks and can be tilted up or down by using the thumb stick on the control handle.

Quick Attach System

This Telehandler 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 Telehandler, which could result in death or serious injury.

- Make sure attachment locking devices are always in place.
- **DO NOT** operate the Telehandler until you have positive indication that the carriage attachment is fully engaged.

1. Position the Telehandler directly behind the attachment.

**NOTE:** Allow enough distance to extend the boom approximately 18 to 20 inches (0.4 to 0.5 meters).

2. Tilt the quick attach adapter forward.

3. Extend the boom and/or drive the Telehandler forward until the pivot pins (A) are below and between the two (2) attachment hooks (B).

Fig 62. Attachment Tilt Control Switch. (A) Attachment Tilt Down (B) Attachment Tilt Up

Fig 63. Drive Vehicle 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).

5. Tilt the attachment up slightly. The quick attach adapter should be tight against the rear of the attachment. Align the holes between the quick attach adapter and attachment.

6. Insert pin completely through the attachment and quick attach adapter.

7. Insert quick attach pin keeper.

---

**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 3,200 psi (220.6 bar), which is the maximum pressure of the forklift auxiliary hydraulic system at the quick-disconnect couplers, could result in death or serious injury.

8. Connect the quick attach couplers (this only applies to attachments with a quick attach hydraulic system).
Attachment Removal

NOTE: To remove a standard carriage with forks, spread the forks apart on the carriage shaft. This provides adequate support for the carriage to stand alone.

1. Bring the forklift to a complete stop.
2. Move the travel select lever to NEUTRAL (N).
3. Set the parking brake switch to ON (engaged).
4. Extend the boom approximately 18 to 20 inches (0.46 to 0.5 meters).
5. With attachment 10” to 12” off of the ground, tilt the attachment backward.
6. Disconnect the quick attach couplers (this only applies to attachments with a quick attach hydraulic system).

7. Remove the quick attach pin keeper.

8. Remove the pin at the bottom of the adapter.

9. Lower the attachment to the ground in a level position.

10. Tilt and lower boom until pivot pins (A) have disconnected from attachment hooks (B).

11. Retract the boom to fully disconnect the attachment from the quick attach adapter.
Load Handling

⚠️ Danger

Death or serious injury by electrocution will result from contact with or inadequate clearance with energized power lines or apparatus.

- Take extreme caution when operating the telehandler in an area where active overhead power lines, overhead or underground cables, or other power sources exist.
- Contact the appropriate power or utility company to de-energize power lines or take other suitable precautions.

⚠️ Warning

Keep the telehandler, attachments, and loads a safe distance from electrical power lines.

- Remain at least 10 feet (3 meters), plus an additional 0.4 inches (10 millimeters) for each 1,000 Volts over 50,000 Volts, from active power lines and other power sources.
- Work site operating directives and/or local or state codes might require a greater distance.
- Know the maximum height and reach of this Telehandler.

⚠️ Warning

Failure to follow proper safety procedures when lifting, lowering, and traveling with a load could cause death, serious injury, or property damage.

DO NOT exceed telehandler capacity of 6,000 pounds (2,721.5 kilograms). The total rated capacity of the forks being used must equal to, or exceed, the telehandler capacity. Forks can bend or break causing loss of load and could result in death or serious injury.

⚠️ Warning

DO NOT exceed the manufacturer’s rated load for any auxiliary attachment. Any attempt to lift or carry loads in excess of the manufacturer’s rated load may cause telehandler tip over, loss of load, or structural damage which could result in death, serious injury, or property damage.

Failure to keep personnel clear of the load area while the load is being raised or lowered could result in death or serious injury. DO NOT lift, swing, or move a load over anyone.

- Review the rated load capacity of each auxiliary attachment before performing any operation.
- Use the correct load chart and NEVER exceed specified weights and load centers.
- DO NOT exceed the manufacturer’s recommended load capacity.
- DO NOT operate the telehandler with an unsafe load distribution.
- Adjust the load as necessary, especially for nonstandard loads.
- Use caution when handling loose material that can fall into the cab.
- Remove overhanging load materials, when possible, and watch for sliding material.
- DO NOT reach a load over posts or other objects that can enter the cab, if tipped.
- Avoid sudden stops, starts, or turns.
- Avoid carrying a swinging load. If necessary, secure the load by attaching it to the telehandler tie-downs and/or have another person assist with safely steadying the load.

⚠️ Warning

DO NOT exceed rated capacities. Any attempt to lift or carry loads in excess of those shown on the load capacity charts could cause telehandler tip over, loss of load, or structural damage which could result in death, serious injury, or property damage.

There is a boom lift point on the underside of the boom that may be used to lift and carry loads.

There is a dedicated boom lift point load chart on the telehandler, which should be referenced when using the boom lift point. Refer to the suspended loads section of this manual when handling suspended loads for specific warnings and instructions unique to this type of operation.
1. Do not exceed the load capacity of the telehandler (as shown on the load chart).
2. Only lift the load vertically, and never drag it horizontally.
3. Transport the load with the bottom of the load and the boom as low as possible.
4. With the load elevated, move the telehandler slowly and cautiously. Only move the telehandler to the extent needed to raise, transport, and place the load.
5. Use guy lines to restrain load swing if possible.

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### Pick Up A Load

1. Use correct load chart to review the rated load capacity of the carriage or auxiliary attachment being used. NEVER exceed specified weights and load centers.
2. Approach the load slowly and squarely with the fork tips straight and level.
3. Adjust the spacing of the forks so they engage the pallet or load at its maximum width. NEVER use just one fork to lift a load.
4. Insert forks under the load until the load is against the fork frame.
5. Tilt the forks back, and raise the boom slightly to secure the load.

### Carry A Load

1. Carry the load as low as possible while maintaining good ground clearance and visibility.
2. Back away slowly.
3. To travel with a load, use low speed. NEVER travel at higher speeds when carrying a load.

### Place A Load

1. Before placing the load, refer to the appropriate load capacity chart to determine safe boom extension range.
2. Position the telehandler and place the Gear Selector in Neutral.
3. Set the Parking Brake switch to ON (engaged).
4. Align the forks at the level the load is to be placed.
5. Extend the boom slowly until the load is just above the area where it is to be placed.
6. Lower the boom until the pallet rests in position and the forks are free to retract.
7. Retract the forks slowly from under the load.

### Load Shift

1. If the load shifts, stop the telehandler immediately.
2. Lower and adjust the load to center its weight.
3. If the load shift is too great for adjustment, rearrange the load before attempting to move the telehandler.
Load Capacity Charts

Warning

DO NOT exceed rated capacity. Any attempt to lift or carry loads in excess of those shown on the load capacity charts could cause telehandler tip over, loss of load, or structural damage which could result in death, serious injury, or property damage.

All load ratings shown on load capacity charts are based on the telehandler being on firm, level ground, the forks being evenly positioned on the carriage, the load being centered on the forks, properly sized tires properly inflated and/or foam filled, and the telehandler being in good operating condition.

Load capacity charts, located in the center of the dash panel and available on the digital display, are provided to assist the operator in determining how to safely operate the boom to pick up, carry, and set down a load with the Telehandler, including what angle, how high, and how far to extend the boom.

Using Load Capacity Charts

The Telehandler includes two (2) indicators to assist the operator for accurately using the load capacity charts. These indicators are the Boom Extend Letters and the Boom Angle Indicator.

Boom extend letters are located on the left side of the boom and visible to the operator as the boom is extended. These letters indicate boom extension as it corresponds to the load capacity charts.

Fig 75. Boom Extend Letters

NOTE: For example, when letter “A” first appears, the boom extension corresponds to the arc of line “A” throughout all the load capacity charts.

The boom angle indicator is located on the left side of the boom and is visible from the operator’s seat. Use the boom angle indicator to determine the boom angle when referring to load capacity charts.

NOTE: The boom angle indicator is a plumb arrow with angular graduations from -2.3° to +69°.

Fig 76. Boom Angle Indicator
Reading Load Capacity Charts

To accurately read the load capacity charts, you must determine three (3) things:

- Weight of the load being lifted
- Height of structure where load is to be placed
- Distance from front tires where load will be placed

For example:

1. The operator determines load weight and makes sure load does not exceed fork, attachment, or boom capacity.
   - The load is 2,430 pounds (1,102 kg)
2. The operator safely moves the load to a loading position.
   - Places forks under load
   - Tilts and raises load safely
   - Fully retracts boom
   - Positions the telehandler perpendicular to the structure
3. The operator determines height of structure where load is to be placed.
   - The structure height is 10 feet (3.04 meters) from ground level.
4. The operator determines distance from front tires where load will be placed.
   - The distance in front of telehandler where load will be placed is 7 feet (2.13 meters).
5. Operator reads load capacity chart for the attachment carriage to learn that it will be safe to place the load at any boom angle with the boom extend letter “D” showing.

Telehandlers are potentially dangerous if proper safety procedures are not followed. Workers who operate, maintain, or work near the telehandler can be at risk of roll over and run over incidents or can be crushed or caught by the telehandler or its parts which could result in death or serious injury if the telehandler is not properly operated or maintained.

Read the Operation and Safety Manual BEFORE operating the telehandler. Follow all safety instructions and labels. Only operate the telehandler if you understand the safety instructions and warnings in all applicable manuals and technical publications. Always follow all State and Federal health and safety laws and/or local regulations.

Maintenance personnel must have the required training, skills, and tools to perform installation, operation, maintenance, or repair procedures properly and safely. Make sure the telehandler and attachments will not be damaged or made unsafe by any procedures chosen.
Preventive Maintenance

Establishing a Maintenance Program

Every Day or 8 Hours of Operation

See Pre-Operation Inspection Checklist

After First 50 Hours of Operation

- Change engine oil and filters
- Check air filter (replace if necessary)
- Replace fuel filter and prefilter
- 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 for oil and coolant leaks

After Every 50 Hours of Operation

- Lubricate boom pivot point grease fittings
- Lubricate rear axle grease fittings
- Check tire pressure (80 psi)

After First 100 Hours of Operation

- Top off axle wheel-end and differential oil

After First 200 Hours of Operation

- Change axle wheel-end and differential oil & clean magnetic drain plugs
After Every 250 Hours of Operation
- Comply with 50-Hour Maintenance Requirements
- 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 rear axle grease fittings
- 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 1,000 Hours of Operation
- Comply with 50-Hour Maintenance Requirements
- Comply with 250-Hour Maintenance Requirements
- Comply with 500-Hour Maintenance Requirements
- Change axle wheel-end and differential oil & clean magnetic drain plugs
- 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

After Every 4,000 Hours of Operation
- Drain and flush cooling system
- Clean or replace hydraulic reservoir strainer
In the event of total loss of engine power or hydraulic pump failure with an elevated load, the situation must be properly evaluated and dealt with on an individual basis.

**Contact a local Xtreme Authorized Distributor for specific instructions.**

Secure the Telehandler and area by following the procedure below until the situation has been properly evaluated.

1. Clear the area around the Telehandler of all personnel.
2. Engage the parking brake switch to the ON position and Place the sift lever in NEUTRAL.
3. Block all four wheels.
4. Section off a large area under the boom with tape to restrict any personnel from entering this potentially dangerous area.
Lockout / Tagout

Do Not Operate - Accident Prevention Tags

Before beginning any maintenance or service, place a Do Not Operate Tag on both the starter key switch and the steering wheel, stating that the vehicle should not be operated. Do Not Operate Tags, which can be cut out and used, are included at the end of this manual. Retain these Tags for use at a later date.

New or Additional Operators

At the time of original purchase, the purchaser of this vehicle was instructed by the seller on its proper use. If this vehicle is to be used by an employee or is loaned or rented to someone other than the purchaser, make certain that the new operator is trained, in accordance with OSHA regulations, and reads and understands this Operation & Safety Manual before operating the vehicle.

In addition, make sure that the new operator has completed a walk-around inspection of the vehicle, is familiar with all the labels on the vehicle, and has demonstrated the correct use of all controls.

Lockout/Tagout Procedure

Perform the following procedure to lockout and tagout the telehandler. This procedure, requiring a lock and danger tags, are to be used whenever the telehandler is unsafe for operation or maintenance.

Removing Telehandler From Service

1. Attach “DO NOT OPERATE” tags to the steering wheel and the ignition key.
2. Open engine access cover.
3. Set battery disconnect switch to OFF.
4. Lock battery disconnect switch.
5. Attach “DO NOT OPERATE” tag to battery disconnect switch.
6. If you use the Battery Disconnect Switch, you should wait 2 minutes after the engine is shut down before disconnecting the battery with the switch. This operation is necessary so that the engine ECU has enough time to write the data from the volatile memory after the engine is off.

Warning

If telehandler is unsafe for operation or maintenance, the defect or defects must be clearly documented and posted in a conspicuous place on the telehandler. Failure to comply could result in death, serious injury, or property damage.

Return Telehandler to Service

When the telehandler has been repaired and made safe for operation and maintenance, perform the following procedure to return telehandler to service.

1. Remove lock and “DO NOT OPERATE” tag from battery disconnect switch.
2. Close engine access cover.
3. Remove “DO NOT OPERATE” tags from steering wheel and ignition key.
Xtreme Manufacturing Product Warranty Policy

1) Xtreme Manufacturing warrants, its authorized sales and service centers (herein referred to as “SSC”), new product(s) the mainframe and chassis weldments shall be free from defect in material and workmanship for the period of 10 years or 10,000 hours whichever comes first. The boom weldment and boom rollers shall be free from defects in material and workmanship for the period of 5 years or 5,000 hours whichever comes first. The powertrain assemblies consisting of engine, transmission and drive axles and all other components not listed above shall be free from defects in material and workmanship for the period of 2 year or 2,000 hours after date of delivery. This warranty is made to the original owner of the new product(s) and is transferable for the duration of the coverage period, to the subsequent owner with prior written approval from Xtreme Manufacturing (see limitations).

2) Machines may be held in an authorized Distributor/SSC’s stock for a maximum period of six (6) months from the date of shipment from Xtreme, before the warranty period is automatically initiated on each machine.

3) It is the responsibility of the Distributor/SSC to complete and return to Xtreme Manufacturing a Pre-delivery Inspection Record, Warranty Registration Form, before the act of rental / loan / demonstration of the machine or delivery to an end user. In the case of direct sale to end customers the same responsibility lies with the end customer.

4) Any end customer, SSC, distributor or dealer shall not be entitled to the benefits of this warranty and Xtreme Manufacturing shall have no obligations hereunder unless the “Pre-Delivery and Inspection Record” has been properly completed and returned to the Xtreme Manufacturing Warranty department within fifteen (15) days after delivery of the Xtreme Manufacturing product to the Customer or Dealer’s demonstration / rental fleet. Xtreme Manufacturing must be notified, in writing, within ten (10) days, of any machine sold to a Customer from a Dealer/SSC’s rental fleet during the warranty period.

5) Any part or parts which upon examination by the Xtreme Product Support Department are found to be defective within the specified warranty period, will be replaced or repaired at the sole discretion of Xtreme Manufacturing, through its local Authorized Distributor/SSC, at no charge. Any parts replaced under warranty must be original Xtreme parts obtained through an authorized Xtreme Manufacturing Distributor/SSC unless expressly agreed otherwise in writing and in advance by Xtreme Manufacturing’s warranty department.
Xtreme Manufacturing Product Warranty Policy

6) All parts claimed under warranty must be held available for return and inspection upon request for a period of 90 days from date of claim submission, it is necessary that all parts are individually tagged or marked with their part number and the warranty claim number. All parts returning should be still in a factory state, free of any alteration to the original design. If the parts are subject to repair it will need to be pre-authorized by the Xtreme Product Support Group and or Warranty Department prior to the repair being completed. After 90 days all parts replaced under warranty which have not been returned, to Xtreme Manufacturing should be destroyed. Failure to produce parts requested by the Warranty Administrator for inspection within a period of 14 days will result in the claim being automatically rejected in full. Materials returned for warranty inspection must have the following procedure:

- Carefully packaged to prevent additional damage during shipping
- Drained of all contents and all open ports capped or plugged
- Shipped in a container tagged or marked with the RMA number
- Shipped PREPAID (ground service only). Any item(s) returned for warranty by any other means may be refused and returned, unless prior approval is agreed with Xtreme.

7) At the direction of the Xtreme Manufacturing Warranty department, any component part(s) of Xtreme Manufacturing products to be replaced or repaired under this warranty program must be returned freight prepaid for inspection. An RMA (Returns material authorization) must be requested from Xtreme Manufacturing Warranty department, a copy to be placed with the returning component part(s).

8) All warranty replacement parts will be shipped freight prepaid (standard charges, ground shipping only) from the Xtreme Manufacturing Parts department, Service Department or from the Vendor to Dealer/SSC or Customer. Any other shipping method is the customer responsibility.

9) All warranty claims are subject to approval by Xtreme Manufacturing Service department. Xtreme Manufacturing reserves the right to limit or adjust claims with regard to defective parts, labor or travel time based on usual and customary guidelines.

10) Reimbursement policy, labor will be paid at 75% of posted hourly shop rate. Travel time will be paid at $50 per hour up to a maximum of 3 hours. Xtreme Manufacturing will pay 1 hour of troubleshooting time per warranty claim, unless expressly agreed otherwise in writing and in advance by Xtreme’s Warranty Department. An annual rate declaration must be supplied to the Xtreme Warranty administrator by January 31st and will be used as the reimbursable rate for that calendar year.
Xtreme Manufacturing Product Warranty Policy

REPLACEMENT PARTS WARRANTY

1. Any part replaced under this limited warranty is not subject to further warranty cover beyond the normal warranty period of the machine upon which the part was installed.
2. Any replacement parts sold (not delivered under a warranty claim) will be subject to a warranty period of (6) six months from the date of invoice.
3. Parts held by an authorized Distributor/SSCare covered under warranty for a period of (12) twelve months from the date of invoice, provided that those parts have been subject to appropriate storage to prevent damage and deterioration (conditional on Xtreme Manufacturing review).

CLAIM PROCEDURE

The Xtreme Manufacturing Warranty department must be notified within forty-eight hours (48) of any possible warranty situation during the applicable warranty period. Personnel performing major warranty repair or parts replacement must obtain specific approval by the Xtreme Manufacturing Warranty department prior to performing the warranty repair or replacement.

When a Distributor/SSC / Customer perceive a warranty issue to exist the following steps must be adhered to:

• Customer/SSC / Distributor to place a purchase order for genuine Xtreme Manufacturing replacement parts.
• Xtreme Manufacturing to dispatch parts via the requested method (in line with the required response time).
• Confirmation that a qualified technician is available to replace the part and that this person has been accepted by Xtreme Manufacturing to carry out such work under the warranty of the machine. Failure to do this may nullify the warranty.
• Customer / SSC / Distributor to allocate a warranty claim number to the repair.
• All correspondence in respect of the claim to be on an official Xtreme Manufacturing warranty claim form as supplied by Xtreme Manufacturing’s warranty department.
• All warranty claims must be submitted within 30 days of the date of the machine repair.

FREIGHT DAMAGE

• If a machine is received in a damaged condition, then the damage must be noted on the bill of lading and /or delivery documents and photographs must be taken at the point of delivery, prior to signing acceptance of the consignment.
• The freight company and Xtreme Manufacturing must be contacted by the Distributor and a damage claim registered by either party immediately.
Xtreme Manufacturing Product Warranty Policy

- The above requirements apply only to freight damage associated with equipment supplied by Xtreme Manufacturing transport. Customer freight issues are excluded from this warranty policy.

**THIS PRODUCT WARRANTY POLICY SPECIFICALLY EXCLUDES:**

1. Engines, motors, tires and batteries are manufactured by specialist suppliers to Xtreme Manufacturing, who furnish their own warranty policies. Xtreme Manufacturing will, however, to the extent permitted pass through any such warranty protection to the Distributor/SSC/Customer.

2. Xtreme Manufacturing products which has been modified or altered outside Xtreme Manufacturing factories without written approval, if such modification or alteration, in the sole judgment of Xtreme Manufacturing Engineering and/or Service Departments, adversely affects the stability, reliability or service life of the Xtreme Manufacturing product or any component thereof.

3. Any Xtreme Manufacturing product which has been subject to misuse and abuse, improper maintenance or accident. "Misuse" includes but is not limited to operation beyond the factory-rated load capacity and speeds. "Improper maintenance" includes but is not limited to failure to follow the recommendations contained in the Xtreme Manufacturing Operation, Maintenance, and repair Parts Manuals.

4. Normal wear of any Xtreme Manufacturing component/part(s). Normal wear of component parts may vary with the type, application or type of environment in which the machine may be used; such as, but not limited to sandblasting applications.

5. Routine maintenance, routine maintenance items and minor adjustments are not covered by this warranty, including but not limited to hydraulic fluid, filters and lubrication, paint and decals, engine tune-up, brake adjustments etc. Xtreme Manufacturing will not cover leaks from fittings, hoses and any other connection points after the unit has been in service for 90 days or 150 hours of operation which ever comes first.

6. Any Xtreme Manufacturing product that has come into direct contact with any chemical or abrasive material.

7. Incidental or consequential expenses, losses, or damages related to any part or equipment failure, including but not limited to freight cost to transport the machine to a repair facility, downtime of the machine, lost time for workers, lost orders, lost rental revenue, lost profits, expenses or increased cost. This warranty is expressly in lieu of all other warranties, representations or liabilities of Xtreme Manufacturing, either expressed or implied, unless otherwise amended in writing by Xtreme Manufacturing.

8. Xtreme Manufacturing warranty policy does not cover any duties, taxes, environmental fees including without limitation, disposal or handling of tires, batteries and petrochemical items.

9. Items specifically excluded are: fuel injectors, motor brushes, glow plugs, contactor tips and springs, filters, lamp bulbs, lamp lenses, coolants, lubricants, brake pads and cleaning materials.

10. Failure of replacement parts due to fault misdiagnosis or incorrect fitting by the
Xtreme Manufacturing Product Warranty Policy

Distributor/SSC/ Customer.

XTREME MANUFACTURING MAKES NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THIS LIMITED WARRANTY. XTREME MANUFACTURING MAKES NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND DISCLAIMS ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO INJURY TO PERSONS OR PROPERTY.

Wherever possible the end customer shall obtain all warranty support & make all warranty claims through the local Xtreme Manufacturing authorized Distributor/SSC / Dealer. Warranty support should be from the Distributor/SSC / Dealer from whom the Xtreme Manufacturing product was purchased. Where Xtreme Manufacturing equipment is supplied directly from the factory, the end customer, if unable to contact a Distributor/SSC/ Dealer, may contact the Xtreme Manufacturing Warranty Department for further assistance.

APPEAL
The buyer may appeal in writing against a rejected or adjusted claim to Xtreme Manufacturing warranty department within a period of 21 days of receiving the rejection or adjustment notice. The appeal should be grounded on express reasons and supported by relevant evidence. Appeals received outside of this time limit will not be considered.
# Xtreme Manufacturing Product Warranty Policy

## XTREME MANUFACTURING WARRANTY SCHEDULE

### Limited Warranty Periods

<table>
<thead>
<tr>
<th>Item</th>
<th>Warranty Period</th>
</tr>
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<tbody>
<tr>
<td>Main Frame and Chassis</td>
<td>10 years or 10,000 hours, parts replacement or repair</td>
</tr>
<tr>
<td>Boom weldment and rollers</td>
<td>5 years or 5,000 hours, parts replacement or repair</td>
</tr>
<tr>
<td>Powertrain and all other components not listed above</td>
<td>2 years or 2,000 hours, parts replacement or repair</td>
</tr>
<tr>
<td>Parts held in a Distributor's stock</td>
<td>12 months from date of invoice, subject to adequate storage / protection.</td>
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<tr>
<td>Parts sold (non warranty)</td>
<td>6 months from date of invoice</td>
</tr>
<tr>
<td>Batteries supplied on new machines</td>
<td>6 months from warranty registration date</td>
</tr>
<tr>
<td>Other specifically excluded parts:</td>
<td>Not covered by Warranty</td>
</tr>
<tr>
<td>Fuel injectors</td>
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<tr>
<td>Brake pads</td>
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<td>Glow plugs</td>
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<td>Filters</td>
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<td>Lamp bulbs</td>
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<td>Lamp lenses</td>
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<td>Coolants</td>
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<tr>
<td>Lubricants</td>
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<tr>
<td>Cleaning materials</td>
<td></td>
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<tr>
<td>All consumable / wear parts.</td>
<td></td>
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</tbody>
</table>
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 to register on-line.