



# Operating Instructions

## **OPERATING CONDITIONS**

The dumper has been designed to be operated in ambient temperatures between +40 °C (+104 °F) and -20 °C (-4 °F). Observing these temperature ranges will help to prolong the dumper's service life.

### **OPERATING IN COLD CLIMATES**

When the temperature is below freezing (0°C), hydraulic oils and engine oils become thicker and must be warmed up before full machine operation can be safely commenced. Machines should be run at low idle for 10 minutes to warm the engine and hydraulic oils before operating.

Always clean snow away from the machine.

1. Use the correct viscosity engine and hydraulic oils.
2. Use a low temperature diesel fuel.
3. Use the correct coolant mixture.
4. Keep the battery at full charge.
5. Fill the fuel tank at the end of each day. This will prevent condensation forming on the tank walls.
6. Protect the machine when not in use. Park the machine in an area where the temperature will be above -18°C (0°F) if possible, and inside a building or cover the machine with a tarpaulin.

For the persistent use of the machine with the ambient temperatures below -10°C, you must follow these guidelines below.

- Change the engine and hydraulic oils to the correct viscosity.
- Change the anti-freeze to the correct water/anti-freeze level.

### **OPERATING IN HOT CLIMATES**

When the temperature rises above +23°C (+73.4°F), hydraulic oils and engine oils become thinner and should be changed before full operation for extended periods can be safely commenced.

When temperatures are variable over a large range, then contact the factory.

1. Use the correct viscosity of engine and hydraulic oils.
2. Use the correct coolant mixture.
3. Check the coolant system regularly. Always keep the coolant at the correct level. Make sure there are no leaks.
4. Keep the radiator clean. Remove dirt and debris from the radiator and engine.
5. Check the fan belt regularly.

The following areas must be reviewed for persistent use outside the normal operation temperatures of +23°C:

- The engine and hydraulic oils should be changed to the correct mono or multi grade oil.
- The hydraulic oil should be changed to the correct viscosity.

### **OPERATING IN DUSTY CLIMATES**

1. Increase the inspection intervals for checking, cleaning and replacing the air cleaner.
2. To prevent sand and dust from entering the hydraulic system, tighten the hydraulic oil tank filler cap securely.
3. Check around the whole dumper for build-up of sand, dirt and debris. Clean as necessary.

### **OPERATING ON WET / SOFT GROUND**

1. Keep the dumper as clean and dry as possible, remove any dirt or moisture and this may cause paint, electrical or metallic parts to deteriorate.
2. Regularly grease the dumper (See pages 66 - 67)
3. Check around the whole dumper for build-up of dirt and debris. Clean as necessary.

## BEFORE STARTING THE ENGINE



### **WARNING**

**ENSURE** the ROPS structure is raised and secured in place before operating the dumper.  
**NEVER** operate the dumper without this in place.

Before the starting the engine to operate the dumper, you must **ENSURE** the following steps are taken:-

- **ALWAYS** let other bystanders and personnel know you are starting up, do not start until every one is clear of the machine.
- **ENSURE** all loose items and accessories are safely secured or stowed away.
- **ENSURE** the correct PPE is being worn.
- **ENSURE** the pre-start checks procedure listed in this manual has been carried out.
- **ENSURE** the ROPS structure is securely placed in the work position.

Once the above has been carried out, you can do the following:

1. Safely enter the operator station (See page 34)
2. Adjust the seat so the operator can reach the dumper controls without stretching (See page 35)
3. Fasten the seat belt, to secure the operator in position for operating the dumper (See page 36)
4. **ENSURE** the drive lever is in the neutral position (See page 39)

## BATTERY ISOLATOR



### **WARNING**

**NEVER** isolate the battery when the engine is running. This may cause serious damage to the dumper electrics.

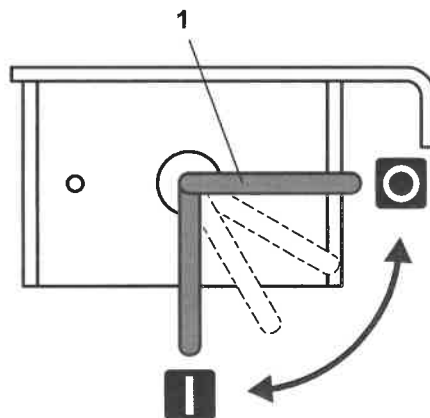
**ENSURE** the battery isolator key is removed before any maintenance work is performed or when the dumper is left unattended to prevent unauthorized usage.

### ISOLATING THE BATTERY

1. Turn the dumper ignition key to the OFF position (See page 15)
2. Lift the seat pan to get access to the battery isolator.
3. Turn the battery isolator key (Figure 8, Item 1) to the OFF position and remove the key.

### CONNECTING THE BATTERY

1. **ENSURE** the dumper ignition is turned OFF.
2. Insert the battery isolator key and turn to the ON position



**Figure 8**

1. Battery Isolator Key

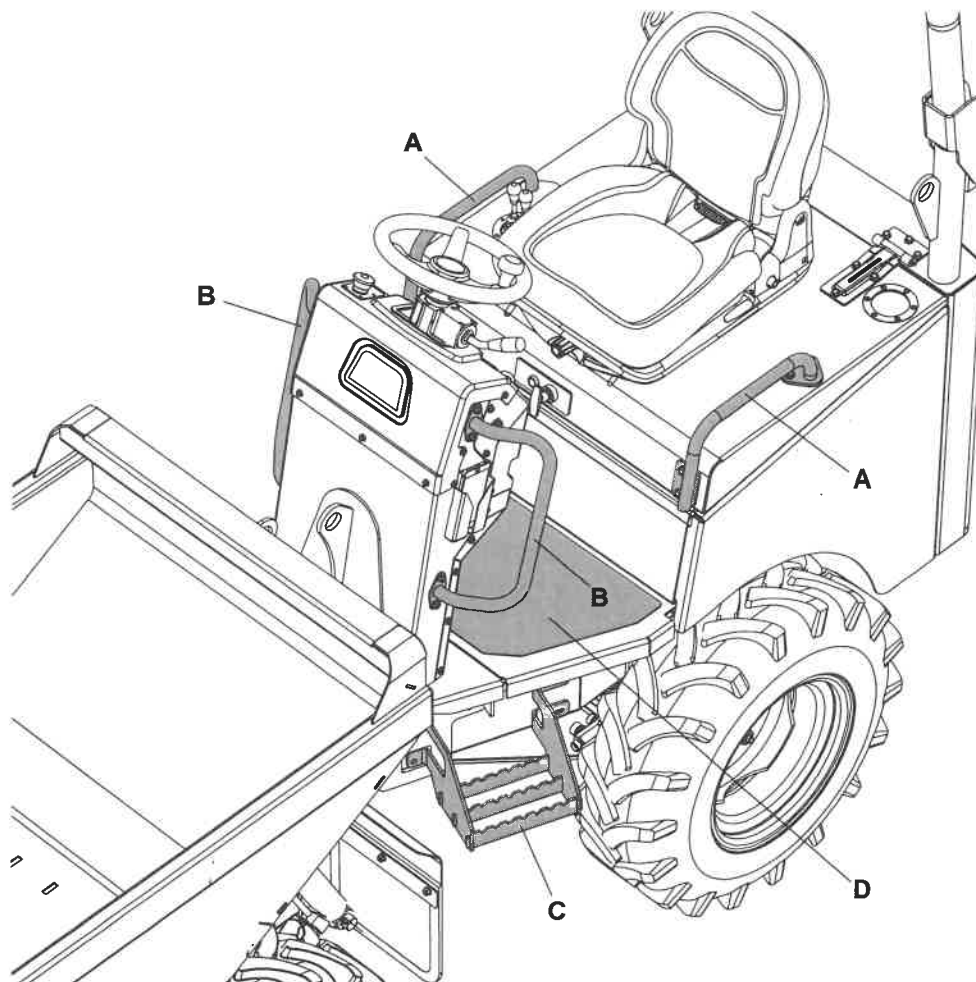
**ENTERING & LEAVING THE OPERATOR STATION****WARNING**

**ENSURE** the dumper is stationary and parked correctly on stable, level ground before attempting to enter the operator station.

- **ALWAYS** use the handrails and footsteps provided to enter the dumper operator station (see Figure 9).
- **ENSURE** the handrails, footsteps and foot plate are dry and clear of dirt, grease etc.
- **ALWAYS** face towards the dumper when entering and leaving.
- **NEVER** jump from the dumper.
- **NEVER** use the operator controls to help you enter/leave. You **MUST** only use the handrails provided.

**Figure. 9**

- A. Handrail  
B. Handrail  
C. Steps  
D. Foot Plate



## OPERATOR SEAT



### **WARNING**

**ALWAYS** position the seat so the operator can reach the dumper controls without stretching.  
**NEVER** alter the position of the seat whilst the dumper is moving.

Before sitting down on the seat, ensure the seat pan is closed and locked.

The seat can be adjusted to suit the operators requirements. Any adjustments must only be made when the dumper is stationary and the parking brake is applied.

If the seat becomes damaged, stop using the dumper immediately. The dumper can only be used again once the seat has been repaired or replaced.

### **HORIZONTAL ADJUSTMENT**

1. Lift the lever (Figure 9, Item A) upwards and simultaneously move the seat forwards or backward.
2. To lock the seat in place, release the lever.

### **BACKREST ADJUSTMENT**

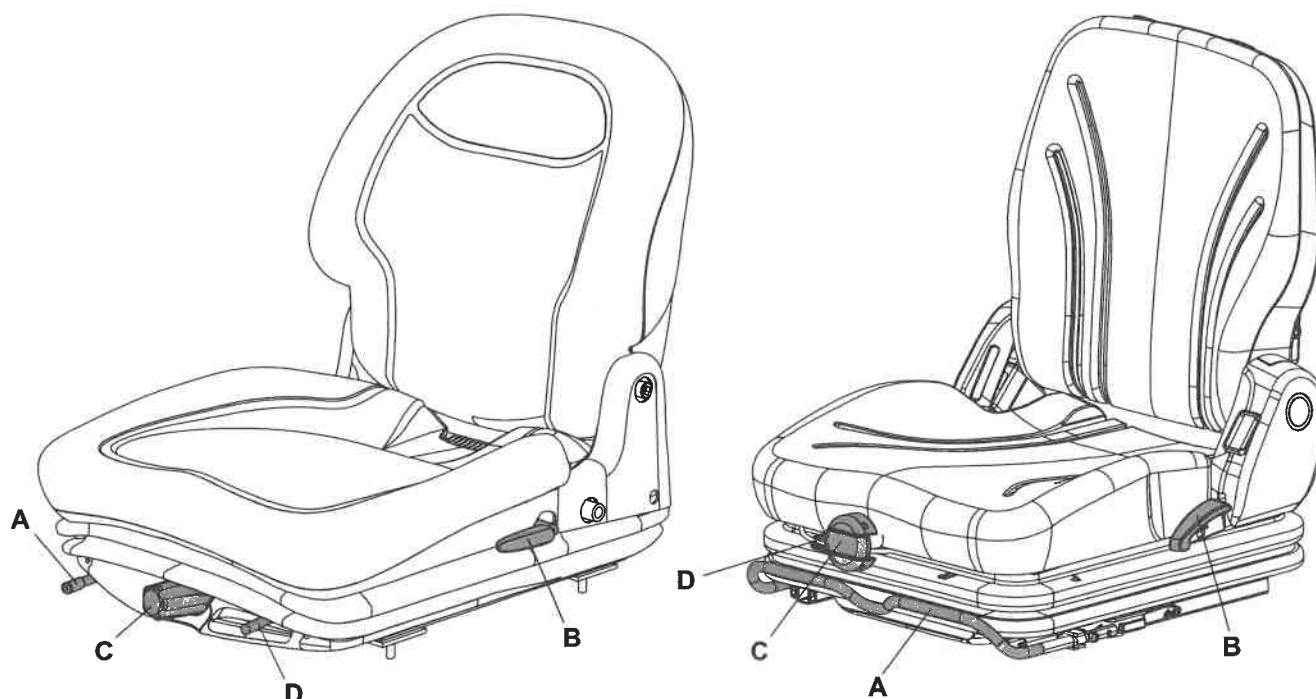
1. Lift the lever (B) upwards and simultaneously and press against the backrest to the required position.
2. To lock the seat in place, release the lever.

### **WEIGHT ADJUSTMENT**

1. Rotate the weight adjustment knob (C) to increase or decrease the suspension of the seat to suit the operators weight.
2. Check the weight indicator (D) and rotate the weight adjustment knob to select the correct weight from the scale.

**Figure. 10**

- A. Horizontal Adjustment Lever
- B. Backrest Adjustment Lever
- C. Weight Adjustment Knob
- D. Weight Indicator



**SEAT BELT****WARNING**

**NEVER** operate the dumper with the seat belt unbuckled. If you do not wear your seat belt you may be thrown from the machine resulting in serious injury or even death

- **ENSURE** the seat belt is not twisted once fastened.
- **NEVER** place the seat belt over hard objects.
- **ALWAYS** fasten the seat belt before starting the engine.
- **ALWAYS** keep the seat belt and buckle clean and clear of dirt as this may cause the seat belt to not function correctly.

Ensure the seat is in a suitable position for operator to comfortably reach the controls (See seat adjustment section).

If the seat belt becomes damaged, worn or the dumper has been in an accident, the seat belt must be replaced.

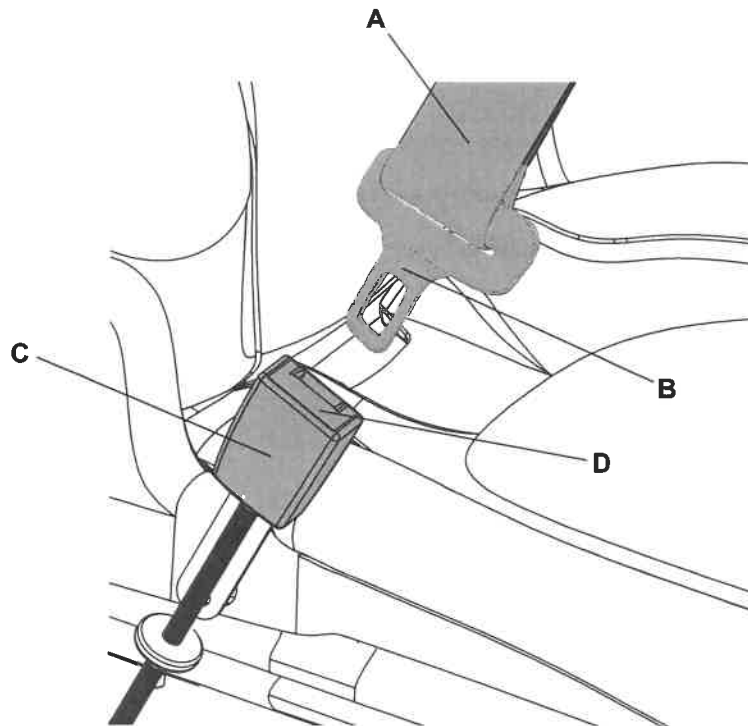
**FASTENING THE SEAT BELT**

1. Sit correctly in the seat.
2. Gently pull the seat belt (Figure 11, Item A) and tongue (B) from the inertia reel over your hips towards the buckle (C).
3. Insert the tongue into the buckle ensuring the seat belt is not slack and correctly located across your hips not your stomach without any twists. Ensure the tongue locks in place with an audible click sound.
- 3a. If the seat belt locks before the tongue is engaged in the buckle, allow the seat belt to return into the inertia reel and repeat the procedure. The seat belt can lock if it is pulled too vigorously.
4. To ensure the seat belt works correctly, pull on the belt sharply. If the seat belt does not function correctly it may need to be replaced. **DO NOT** operate the dumper until the seat belt is repaired or replaced.

**UNFASTENING THE SEAT BELT****WARNING**

*The seat belt should only be released once the dumper stationary, the engine has been switched off and the parking brake has been applied.*

1. Hold the seat belt.
2. Press the release button (D) on the buckle.
3. Slowly return the seat belt to the inertia reel.



**Figure. 11**

- A. Seat Belt
- B. Tongue
- C. Buckle
- D. Release Button

## STOPPING THE ENGINE



**CAUTION** *ENSURE the dumper is stationary and parked correctly on stable, level ground before attempting to stop the engine.*

1. **ENSURE** the drive lever is in the neutral position.
2. Allow the engine to idle for 1-3 minutes.
3. Turn the key to the **OFF** position (Figure 12, Item 2) and remove it from the barrel.

## WARMING UP PROCEDURE

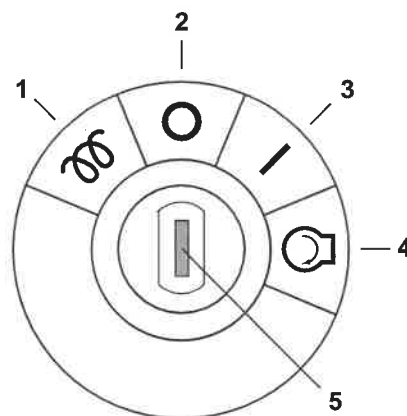
Before using the dumper in cold conditions, the hydraulic oil must be warmed-up.

### WARMING THE ENGINE

1. Ensure the dumper is ready to be started and the pre-start procedures listed in this manual have been followed.
2. Start the engine.
3. Run the engine at idle speed for 10 minutes. **DO NOT** operate any hydraulic components during this time.

### WARMING THE HYDRAULIC OIL

1. Gently increase the engine speed to approximately half-throttle.
2. Warm the hydraulic oil by holding the dumper skip down for several minutes.
3. Operate all hydraulic components (dumper skip up/down, steering) for at least 5 minutes. This will warm all hydraulic valves. Once the above procedure has been completed, check for correct speed / control of operation of all hydraulic components.
4. If the components still operate slowly, repeat the above procedure.



## STARTING THE ENGINE



**WARNING** *ALWAYS ensure you know how to safely switch this engine **OFF** before you switch it **ON** in case you get into difficulty.*



**CAUTION** *NEVER use an engine starting aid such as ether. This may result in damage being caused to the engine.*

1. Ensure the dumper is ready to be started and the pre-start procedures listed in this manual have been followed.
2. **ENSURE** the battery isolator key is in place and switched on.
3. Sit in the operator seat and **ENSURE** the pedals can be reached with ease.
4. **ENSURE** the seat belt is fastened correctly.
5. **ENSURE** the drive lever is in the neutral position (or the engine will not crank).
6. Insert the key (Figure 12, Item 5) into the ignition
7. Turn the key to the heat position (Item 1) The pre-heat warning light will illuminate on the console. Hold the key in this position and wait for the pre-heat warning light to go out.
8. Turn the key to the crank position (item 4) and hold it until the engine starts. The key will return to **ON** position (Item 2) once the engine has fired. **DO NOT** crank for an extended period. Maximum 10 secs.



**CAUTION** *Wait at least 30 seconds before you attempt to start the engine again. This procedure will allow the battery voltage to recover and prevent damage to the starter motor due to the low battery voltage.*

9. **NEVER** engage the starter motor whilst the engine is currently running.
10. Once the engine has fired, **ENSURE** that all the warning lights have gone off.
11. If there are any warning lights still illuminated, or they come on again once the engine is running, stop the engine as soon as it is safe to do so and investigate the cause.  
**DO NOT** start the engine again until the fault has been rectified.

**TRAVEL PREPARATION****WARNING**

***ALWAYS** observe the applicable rules and regulations for the area in which you are travelling. It is the operator's responsibility to ensure these are followed.*

**TRAVELLING ON PUBLIC HIGHWAYS**

Before travelling on public roads, the following must be carried out:-

1. Lower the dumper skip completely.
2. Check that all required lighting is working correctly.
3. Turn off green beacon (if fitted)
4. Check the dumper is ready to be driven on a public highway

**TRAVELLING ON WORKSITES**

Before travelling on worksites, the following must be carried out:-

1. Lower the dumper skip completely. The skip must be kept in this position whilst travelling across a worksite.
2. Securely fit the ROPS into the work position (See page 38).
3. Install the beacons (See page 40).

**ROPS (ROLL-OVER PROTECTION STRUCTURE)****WARNING**

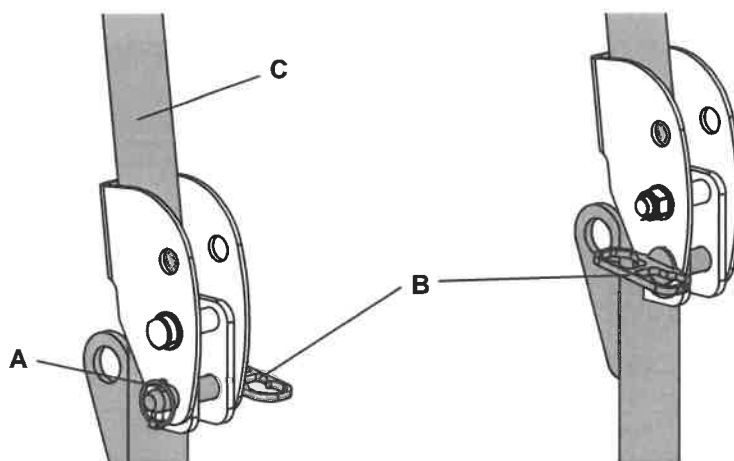
*Not using the ROPS can be dangerous and could cause serious injury or even death.*

**INSTALLING THE ROPS (WORKING POSITION)**

1. Park the dumper safely on stable, level ground.
2. Locate the 2 x Lynch Pins (Figure 13, Item A) and 2 x Securing Pins (Item B).
3. Gently raise the ROPS (Item C) upwards  
**NOTE:-** The ROPS is heavy and must be raised with 2 people. One on each side of the dumper.
4. Locate the Securing Pins and lock in place with the Lynch Pins.

**FOLDING THE ROPS (LOWERED POSITION)**

1. Park the dumper safely on stable, level ground.
2. Remove the Lynch Pins from the Securing Pins.
3. Remove the Securing Pins from the ROPS.
4. Gently lower the ROPS downwards.  
**NOTE:-** The ROPS is heavy and must be lowered with 2 people. One on each side of the dumper.
5. Install the Securing Pins back into the ROPS and secure with the Lynch Pins for safe storage.



**Figure. 13**

- A. Lynch Pins  
 B. Securing Pins  
 C. ROPS

**CAUTION**

*The ROPS can be folded down where the dumper has to move through a low height entrance. The ROPS must be reinstalled once the low height entrance has been cleared by the dumper.*

## PARKING



### WARNING

**ENSURE** the dumper is stationary and parked correctly on stable, level ground before attempting to enter the operator station.

1. Drive the dumper onto flat stable ground.  
**NOTE:-** If parking the machine on a gradient is unavoidable, place wheel chocks under the wheels to ensure that the dumper will not roll away by itself (Also see Page 42)
2. Ensure the dumper skip is fully lowered.
3. Place the drive lever into the neutral position (See Page 39)
4. Stop the engine and remove the key from the ignition.
5. Access the Battery Isolator and turn the battery isolator key to the OFF position (See Page 33)
6. Leave the dumper in a safe manner (See Page 34)

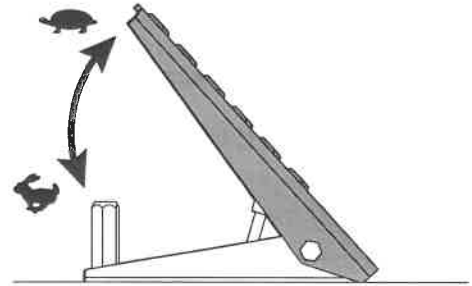
## DRIVE CONTROLS

### ACCELERATOR PEDAL

Press down the accelerator pedal = engine / dumper speed increases.  
Reduce the pressure on the accelerator pedal = engine / dumper speed reduces.

When the accelerator pedal isn't being used the engine will idle.

The dumper brakes are operated hydraulically and automatically engage when the accelerator pedal is released.



### STEERING WHEEL

Turn the wheel in the direction you'd like to go.

### DRIVE LEVER / HORN

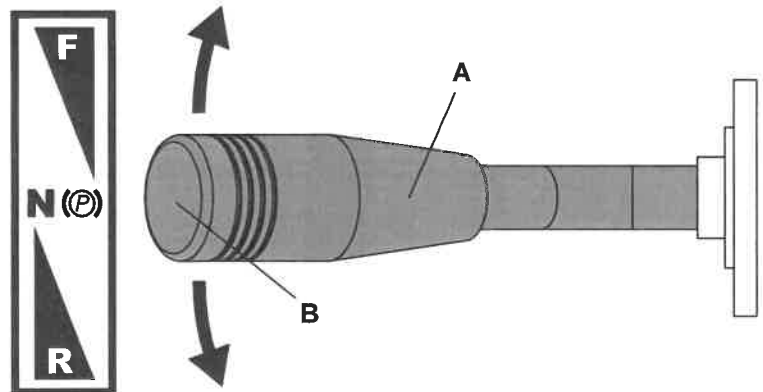


### CAUTION

Unless the drive lever is in neutral, the engine will not start.

The drive lever is used to move the dumper forwards or backwards.

The dumper will stop when the drive lever is in the neutral position.



**Figure. 14**

- A. Drive Lever
- B. Horn
- F. Forward
- N. Neutral
- R. Reverse



**BEACONS****CAUTION**

**ALWAYS** observe the applicable rules and regulations for the area in which you are travelling before operating the beacon. It is the operator's responsibility to ensure these are followed.

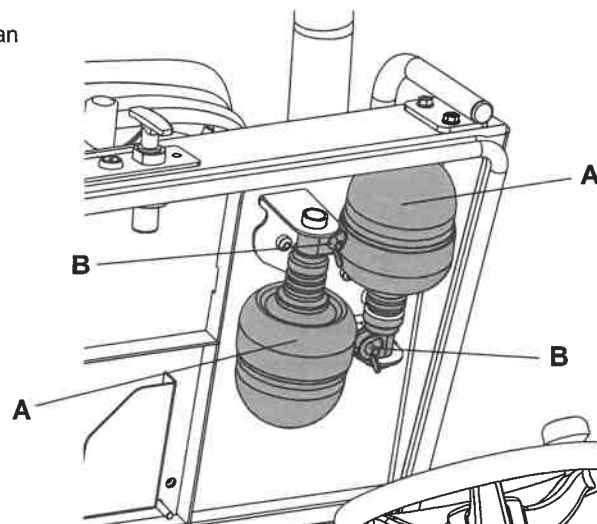
- Care **MUST** be taken when using a beacon on the machine. When the beacon is in the operating position, the total height of the machine is increased.
- It is illegal to use the green flashing beacon on public roads. This must be switched **OFF** (if fitted)

The Amber beacon flashes to make the dumper more visible to other personnel in the area where it is being used (standard). The Green beacon is to be used on worksites and flashes when the operator is wearing their seatbelt (optional)

**STORAGE**

To prevent theft, the beacons can be stored under the lockable seat pan (See figure 15)

1. Slide the beacon (Item A) onto the mounting boss.
2. Tighten the wing nut (Item B) to secure in place.

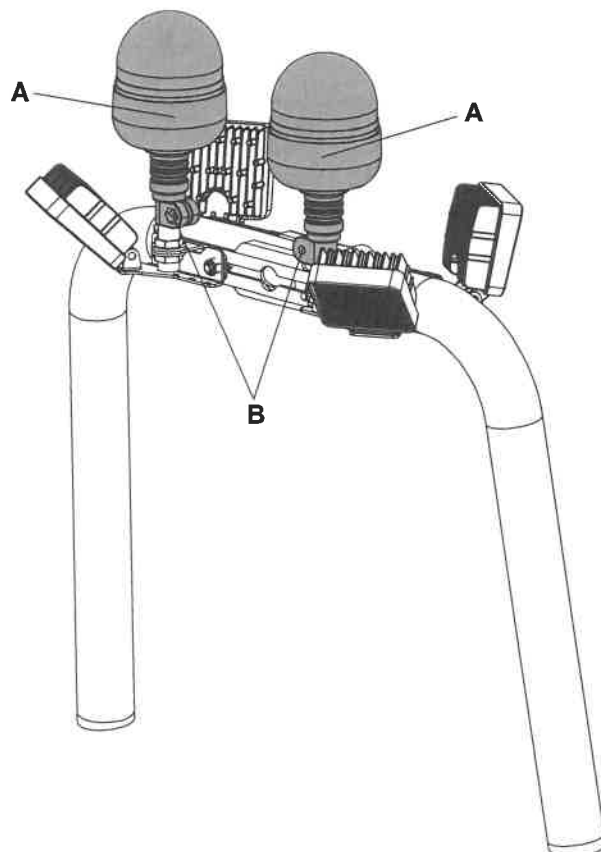
**Figure. 15**

- A. Beacon  
B. Wing Nut

**WORKING POSITION**

Once the beacon is mounted the electrical connection is made, there is no wiring required (See figure 16)

1. Slide the beacon (Item 1) onto the mounting boss.
2. Tighten the wing nut (Item 2) to secure in place.

**OPERATION**

The beacons can be operated by using the switches located on the operator console instrument panel (See Page 13)

The amber beacon operates automatically unless the optional switch is fitted.

The green beacon switch is only available in the optional road kit.

**Figure. 16**

- A. Beacon  
B. Wing Nut

## ARTICULATION LOCK



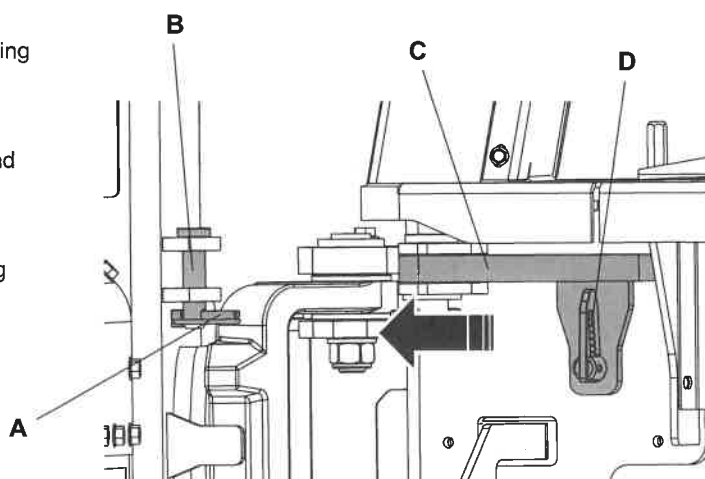
### **WARNING**

Before transporting the machine or performing maintenance **ALWAYS** ensure that the articulation lock is in the transport position.

### TRANSPORT POSITION

The articulation lock is designed to prevent the dumper from moving during lifting, transportation or whilst any service or maintenance procedures are being carried out.

1. Drive the dumper onto flat stable ground ensuring the front and rear wheels are in a straight line.
2. Place the drive lever into the neutral position (See Page 39)
3. Stop the engine and remove the key from the ignition.
4. Undo the lynch pin (Figure 17, Item A) and remove the locking pin (Item B) from the lugs on the front chassis.
5. Push up the anti-loose fastener (Item C) so that it falls into a horizontal position.
6. Slide the red articulation lock bar (Item D) to the left until it lines up with the holes in the lugs on the front chassis.
7. Re-fit the locking pin and secure the pin and articulation lock bar in place with the lynch pin.



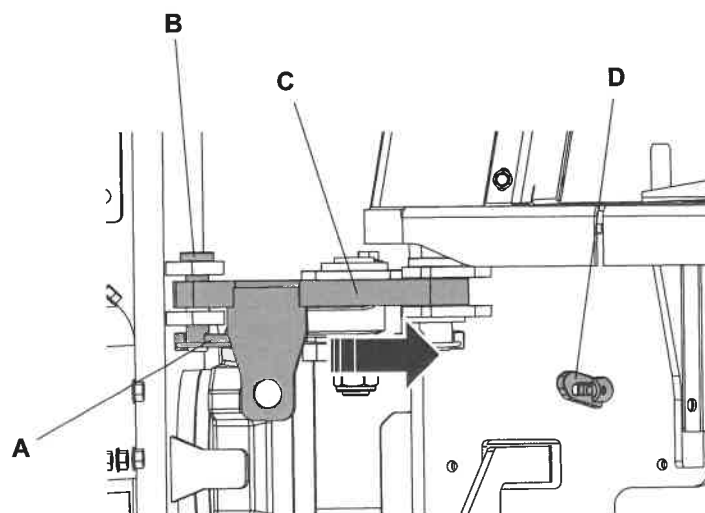
### DRIVE POSITION



### **WARNING**

**ALWAYS** be sure to remove the articulation lock before trying to drive the dumper. With the articulation lock engaged, the machine can not be steered.

1. With the dumper on flat stable ground, **ENSURE** the front and rear wheels are in a straight line.
2. Place the drive lever into the neutral position (See Page 39)
3. Stop the engine and remove the key from the ignition.
4. Undo the lynch pin (Figure 18, Item A) and remove the locking pin (Item B) from the lugs on the front chassis to release the articulation lock bar.
5. Slide the articulation lock bar (Item D) to the right, over the anti-loose fastener until it is up against the rear chassis body.
6. Push up the anti-loose fastener (Item C) upwards into the vertical position and then push downwards to lock.
7. Re-fit the locking pin and secure the pin in place with the lynch pin.



**Figure. 18**

- A. Lynch Pin
- B. Locking Pins
- C. Articulation Lock Bar
- D. Anti-Loose Fastener

**GRADIENTS****WARNING**

**ENSURE** the ROPS structure is raised and secured in place before operating the dumper.  
**NEVER** operate the dumper without this in place.

The stability of the dumper will be severely affected when operating on a gradient. Extra care must be taken by the operator to ensure the safety of themselves and other personnel in the area.

A risk assessment must be completed prior to commencing work and the operator must comply with any safety precautions identified by the assessment. The operator must be trained, competent and understand the risks involved.

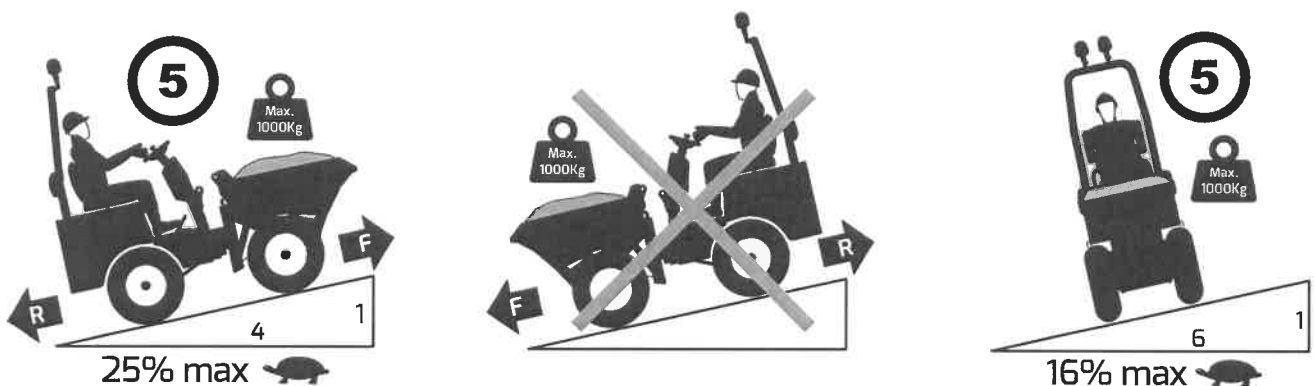
**ONLY** drive the dumper across the gradient if absolutely necessary. Plan your route, if possible, to avoid crossing the gradient.

**ALWAYS** drive with the dumper skip fully lowered.

**LADEN DUMPER**

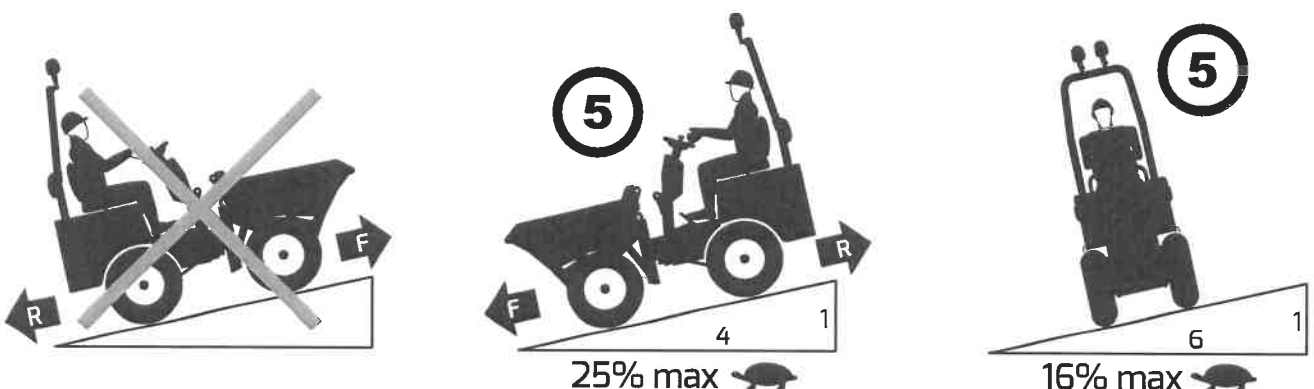
When travelling up or down a gradient, the dumper must always be facing the top of the gradient. **ALWAYS** travel up the slope forwards and reverse down the slope. **NEVER** attempt to travel forwards down the gradient as there is a serious risk of overturning.

- **NEVER** operate the machine on a gradient steeper than 25% (1/4) or 16% (1/6) for a sideways gradient.
- **NEVER** exceed 5mph when operating on a gradient.
- Avoid aggressive speed changes.
- Avoid turning as this will decrease stability

**UNLADEN DUMPER**

When travelling up or down a gradient, the dumper must always be facing the bottom of the gradient. **ALWAYS** reverse up the slope and travel forwards down the slope. **NEVER** attempt to reverse down the gradient as there is a serious risk of overturning.

- **NEVER** operate the machine on a gradient steeper than 25% (1/4) or 16% (1/6) for a sideways gradient.
- **NEVER** exceed 5mph when operating on a gradient
- Avoid aggressive speed changes.
- Avoid turning as this will decrease stability



## MANOEUVRING THE DUMPER

### **DRIVING FORWARDS**

**ALWAYS** accelerate smoothly and slowly when driving a loaded dumper forward. If you accelerate fast or with jerky movements, the load may fall or the machine may become unstable. **ENSURE** that your route is clear of obstacles and be aware of any personnel present in the vicinity of the where the dumper is being operated.

### **REVERSING**

**ALWAYS** reverse at slow speeds and **ENSURE** that your route is clear of obstacles and be aware of any personnel present in the vicinity of the where the dumper is being reversed into.

If necessary, use a reliable banksman to help navigate any narrow sites or difficult terrain.

### **TURNING**

**ALWAYS** turn the dumper smoothly and slowly, if you turn too quickly the dumper may become unstable or shed all or part of its load. **ENSURE** that the area you are turning into is clear of obstacles and be aware of any personnel present in the area.

**NEVER** turn on a gradient.

**SKIP CONTROL LEVERS****WARNING**

**ENSURE** the operator has read and understands the manual before operating the dumper skip control levers.

**WARNING**

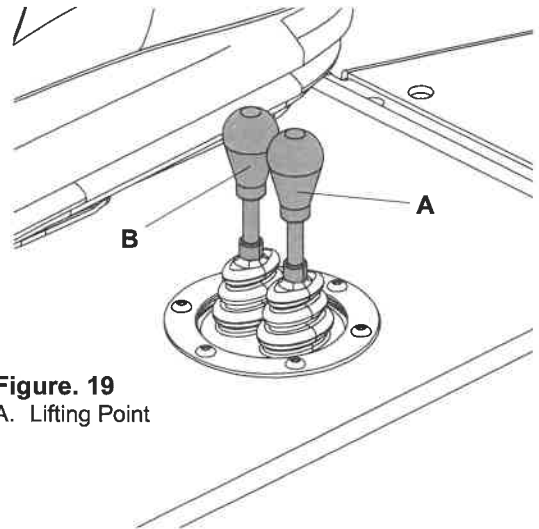
**NEVER** operate the controls from outside the operator station.

**TIPPING THE DUMPER SKIP**

1. Drive the dumper to the where the load is to be discharged. Ideally this would be positioned on stable and level ground.
2. Ensure that there are no unauthorised personnel in the area.
3. Push the skip tip lever (Figure 19, Item A) forwards gently until the load is discharged from the Skip.
4. Once the load has been discharged, To tilt the skip back into the 'load' position, pull the skip tip lever backwards gently.

**RAISING / LOWERING THE DUMPER SKIP**

1. Drive the dumper to the where it is required. Ideally this would be positioned on stable and level ground.
2. Ensure that there are no unauthorised personnel in the area.
3. Push the skip raise / lower lever (Item B) forwards gently to raise the lift arm until the skip reaches the required height.
4. To tilt the skip back into the 'load' position, pull the skip tip lever backwards gently.



**Figure. 19**  
A. Lifting Point

**WARNING**

**NEVER** drive the dumper with the skip in an elevated position as the stability of the dumper will be seriously reduced.

**LOADING THE DUMPER SKIP**

When the dumper skip is being loaded, the dumper must be stationary on stable, level ground with the drive lever in the neutral position and the engine switched off and the ignition key is removed.

The operator must **ALWAYS** leave the dumper operator station and stand clear of the dumper during loading. There may be falling debris from the excavator or the dumper skip which could cause serious injury or death.

This dumper has a SWL (Safe Working Load). **ENSURE** you read the Technical Data section of this manual before loading the dumper, overloading can damage the machine and make it unstable risking serious injury or death. Overloading may also impair the view of the operator.

If loading materials that are not free-flowing, reduce the payload.

The skip must only be loaded when it is fully lowered to the ground. Loading a raised skip will make the dumper unstable risking serious injury or death.

## LIFTING THE DUMPER



### **WARNING**

**ALWAYS** ensure the lifting equipment being used is suitable for the lifting the dumper. Using inadequate or damaged equipment could cause serious injury or even death!

Before attempting to the lift the dumper, the following must be carried out:-

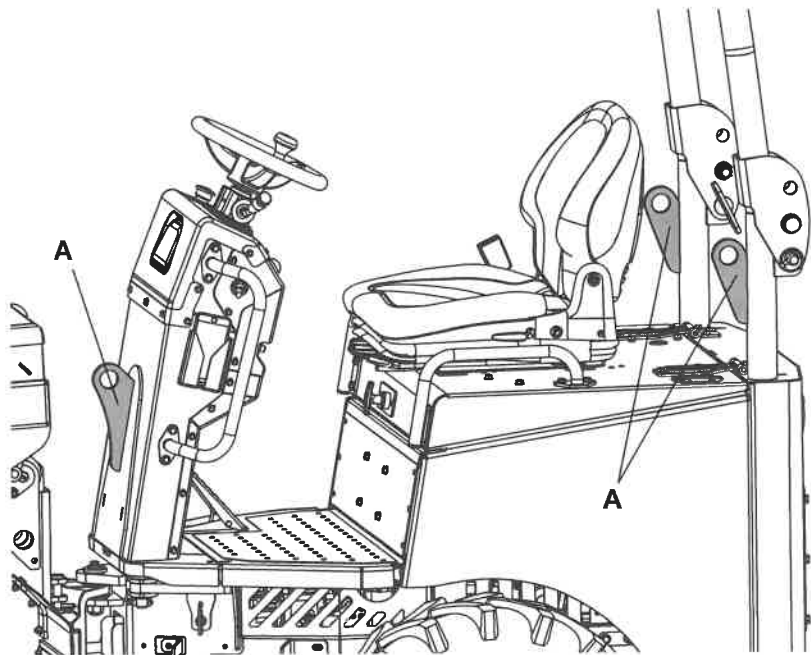
- **ENSURE** that the dumper skip is empty and fully lowered to the ground.
- **ENSURE** there are no loose items within the operator area.
- The dumper **MUST** be parked on stable, level ground with the drive lever in neutral and the ignition key removed.
- Engage the articulation lock to stop any unwanted movement (See page 41)
- **ENSURE** there are no unauthorised personnel near to the dumper or where the dumper is being transported to.
- **ENSURE** the chains / shackles / slings are suitably sized for the dumper and are correct length for a safe, level, lift.

There are 3 designated points for lifting the dumper (See figure 20) These points are designed to give the operator a smooth, secure lift. **DO NOT** use any other area of the dumper as a lifting point!

The lifting points are also highlighted with a lifting point decal - see below.



**LIFTING  
POINT  
DECAL**



**Figure. 20**

A. Lifting Point

**TRANSPORTING THE DUMPER****WARNING**

*The transport contractor and driver are responsible for the safe transit of the dumper.*

**LOADING THE DUMPER**

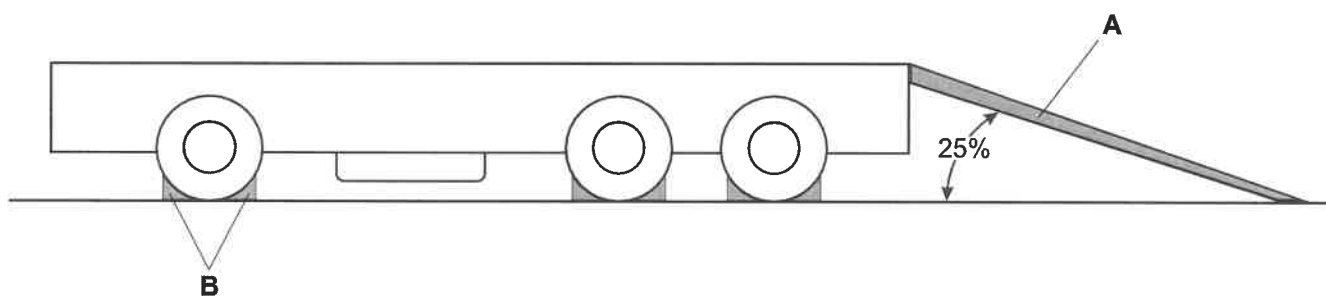
Before attempting to load the dumper onto a flatbed, the following must be carried out:-

- **ENSURE** the transport vehicle is of adequate size. Dimensions and weights of the dumper can be found in the Technical Data section (See page 16 - 21)
  - Secure the transport vehicle with chocks to prevent any unwanted movement.
  - **ENSURE** the loading area is clear and access to it is not obstructed.
  - Place the ramps at the smallest possible angle. The angle must not exceed the grade ability of the dumper 25 % (14°)
  - **ENSURE** that the dumper skip is empty and fully lowered to the ground.
  - **ENSURE** there are no loose items within the operator area.
  - **ENSURE** the ramps and the tyres of the dumper are free of oil, grease and ice.
1. Position the dumper at the foot of the ramps, so it can be reversed up onto the transport vehicle.
  2. Slowly reverse up the ramps onto the transport vehicle and stop in the required position.
  3. Engage the articulation lock to stop any unwanted movement (See page 41)

**UNLOADING THE DUMPER**

Before attempting to unload the dumper from a flatbed, the following must be carried out:-

- Secure the transport vehicle with chocks to prevent any unwanted movement.
  - **ENSURE** the unloading area is clear and access to it is not obstructed.
  - Place the ramps at the smallest possible angle. The angle must not exceed the grade ability of the dumper 25 % (14°)
  - **ENSURE** there are no loose items within the operator area.
  - **ENSURE** the ramps and the tyres of the dumper are free of oil, grease and ice.
1. Remove the chocks from the wheels of the dumper.
  2. Engage the articulation lock to stop any unwanted movement (See page 41)
  3. Drive the dumper slowly towards the ramps.
  4. Slowly drive down the ramps and off the transport vehicle.



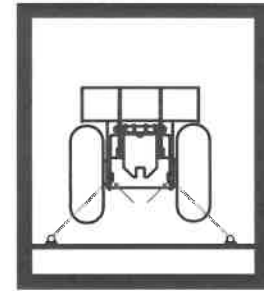
**Figure. 21**

A. Ramp  
B. Chocks

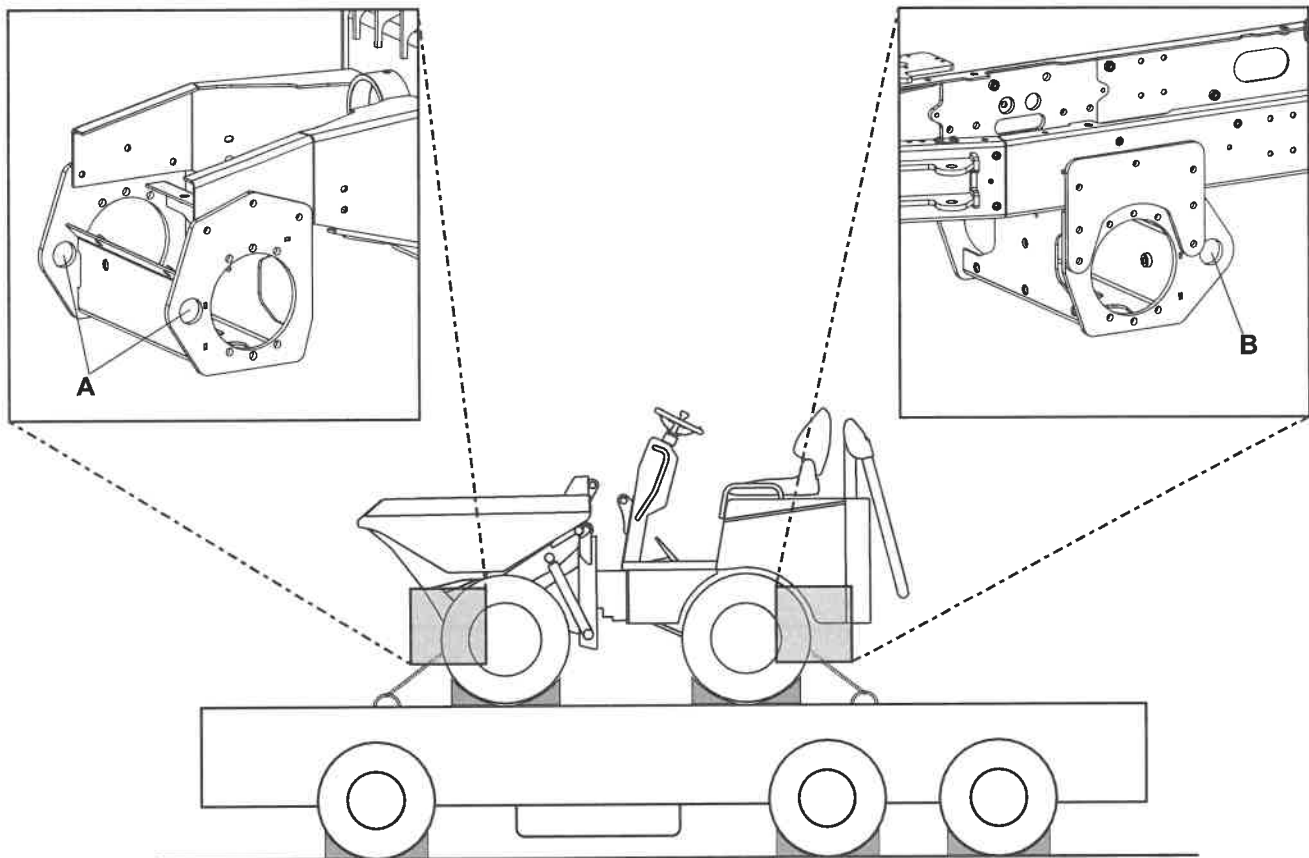
## TYING DOWN THE DUMPER

There are 4 designated points for tying down the dumper - 2 at the front of the dumper and 2 at the rear (See figure 22)  
The tie down points are also highlighted with a decal - see below.

1. Position the dumper in a suitable area of the transport vehicle.
2. Engage the articulation lock to stop any unwanted movement (See page 41)
3. Isolate the battery and remove the key (See page 33)
4. Remove the beacons and store securely under the seat pan (See page 40)
5. Lower the ROPS frame into the transport / storage position (See page 38)
6. Place chocks in front and behind all tyres of the dumper.
7. Secure the dumper to the bed of the transport vehicle using suitable chains.



**TIE DOWN  
POINT  
DECAL**



**Figure. 22**

- A. Front tie-down points  
B. Rear tie-down points



## MOVING A DISABLED DUMPER

If the dumper becomes disabled, it must be made safe and lifted onto a suitable transport vehicle to be taken to a location where it can be repaired.

Moving a disabled machine without following the correct procedures will damage parts of the hydraulic system. If possible, the disabled machine will be repaired where it stands.

## JUMP-STARTING THE ENGINE

When the dumper battery is discharged, the engine can be jump-started using a slave battery from another vehicle and jump leads.

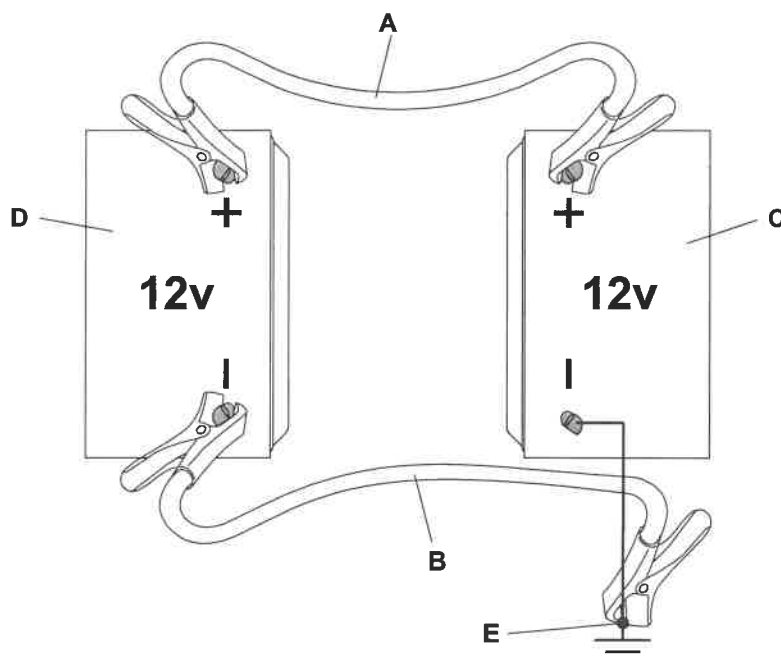


### **WARNING**

**ENSURE** the slave battery has a nominal voltage of 12v and a capacity at least equal to that of the discharged battery.

- Before jump-starting the dumper, **ENSURE** all switches are in the off position.
  - The dumper must **NEVER** come into contact with the slave vehicle when connected with jump leads. This is a potential sparking hazard!
  - **ALWAYS** use jump leads that have sufficient capability to carry the starting current.
1. Connect the jump leads:-
    - Connect the red jump lead (Figure 23, Item A) to the positive terminal (+) of the discharged battery (Item C) and then to the positive terminal (+) of the slave battery (Item D).
    - Connect one end of the black jump lead (Item B) to the negative terminal (-) of the slave battery.
    - Connect the other end of the black jump lead onto an earth point of the disabled dumper (Item E)

**NOTE:-** A suitable earth point would be part of the dumper chassis which is free from paint / dirt or the negative terminal of the disabled battery.
  2. Carry out the dumper pre-start checks procedure (See page 22)
  3. Start the engine on the vehicle with the slave battery. Leave it running for a few minutes.
  4. Start the engine on the disabled dumper. If the engine does not start straight away, switch off the ignition and wait a few moments before trying again.
  5. Disconnect the jump leads:-
    - Disconnect the black jump lead from the earthed position on the disabled dumper. Then disconnect from the negative terminal (-) of the slave battery.
    - Disconnect the red jump lead from the positive terminal (+) of the dumper battery and then disconnect from the positive terminal (+) of the slave battery.



**Figure. 23**

- A. Red Jump Lead (Positive +)
- B. Black Jump Led (Negative -)
- C. Disabled Dumper Battery
- D. Slave Battery
- E. Suitable Earthing Point

## MOVING A DISABLED DUMPER

### RECOVERY

If the dumper becomes disabled, it can be towed, but the rear brakes will need to be released before doing so. Brake release plates are supplied with the dumper (See figure 24)

The dumper must only be towed short distances and must not travel in excess of 1.2mph (2kmh)



### CAUTION

*The hydraulic system will not function with the engine being switched off. The steering function will still operate but the wheel loads will be high.*

### TOWING THE DUMPER

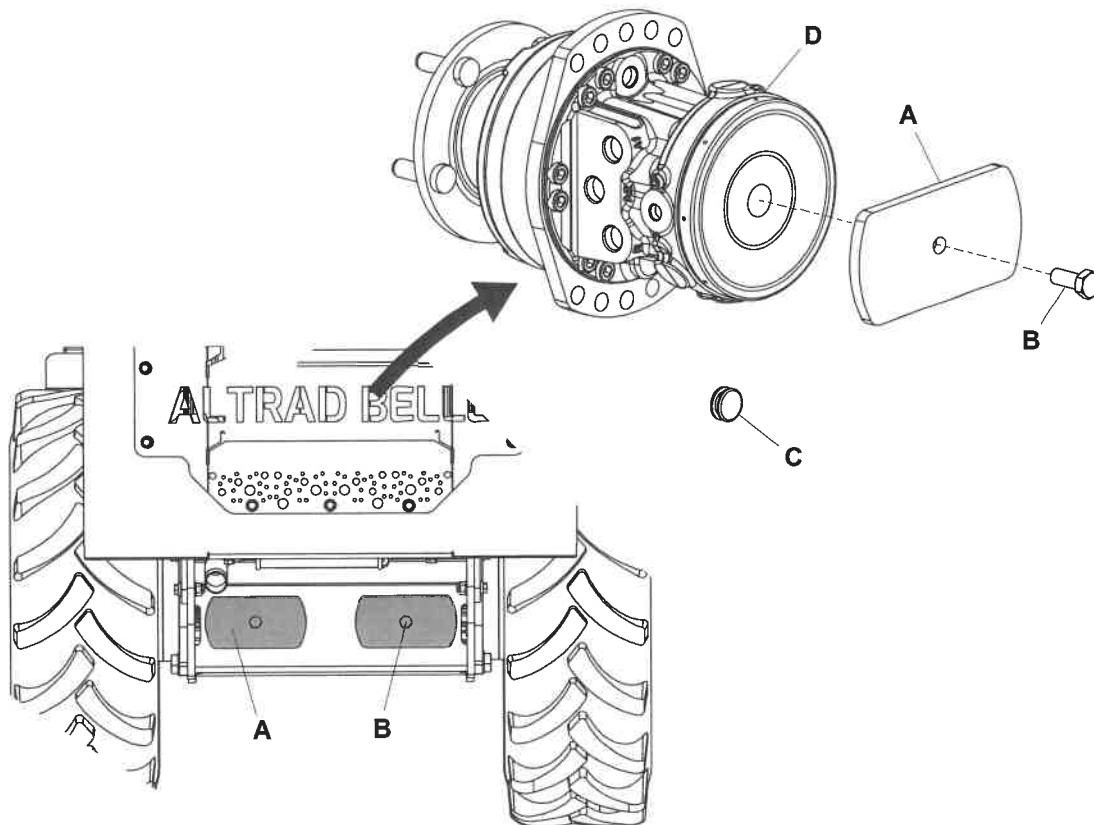
1. Ensure the dumper skip is fully lowered.
2. Release the rear brakes (See below procedure)
3. **ENSURE** the drive lever is in the neutral position (See page 39)

### RELEASING THE REAR BRAKES

1. **ENSURE** the dumper is on stable, level ground (see page 39)
2. Place chocks in front and behind all tyres of the dumper to prevent any unwanted movement.
3. Remove the brake release plates (Figure 24, Item A) from their storage position and keep hold of the bolts (Item B).
4. Remove the rubber caps (Item C) from the rear wheel motors (Item D).
5. Place the plates onto the end of the motors.
6. Take the bolts and secure the plates to the motors. Tightening the bolts will release the brakes.

### APPLYING THE REAR BRAKES

1. Remove the bolt from the wheel motors.
2. Re-fit the plates into their original storage position.
3. Re-fit the rubber caps back into the wheel motors.
4. Fully test the brakes operate correctly before returning the dumper to full operational use.



**Figure. 24**

- A. Brake Release Plates
- B. Bolts
- C. Rubber Caps
- D. Wheel Motors

**REFUELLING****WARNING** *DIESEL ONLY! DO NOT use petrol in this dumper!*

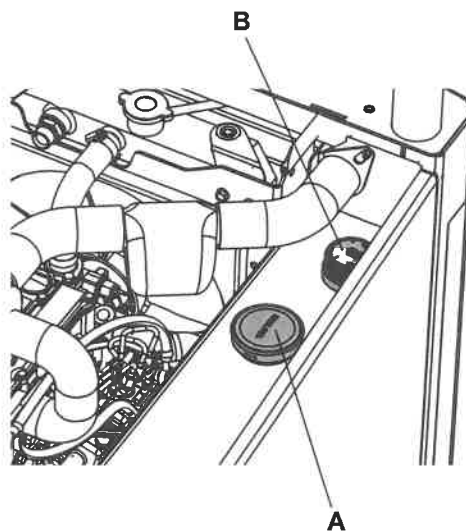
Operating the dumper on low fuel levels can sometimes allow air to enter the fuel system, this may cause a loss or reduction of power. To prevent this, always refuel when the fuel gauge is showing low fuel level.

If there is air in the fuel supply, you have to stop the engine, fill the fuel tank and bleed the fuel system to remove the air.

Refuelling the dumper at the end of each working period will help to prevent condensation forming on the walls of the fuel tank.

To fill the diesel tank:-

1. Park the dumper safely on stable, level ground (see page 39)
2. Stop the engine and remove the key from the ignition.
3. Clean the area around the fuel cap (Figure 25, Item A).
4. Unscrew and remove the fuel cap from the fuel tank.
5. Observe the fuel level sight gauge (Item B) and stop fueling when gauge shows fuel tank is full. **NEVER** overfill the fuel tank.
6. Replace the fuel cap and hand tighten. Over-tightening the fuel cap will damage it.



**Figure. 25**

- A. Fuel Cap  
B. Fuel Level Sight Gauge

**USB PORT**

This dumper is installed with a 5v - 2.1A USB (Universal Serial Bus) port which can be used for charging your smartphone or other 5v portable devices. See Operator Station Components (Page 12)

**CAUTION** *DO NOT exceed the maximum power rating of the socket other wise there is a risk of damaging the port.*

When the USB port is used and the engine is running the connected device will charge automatically.

**ONLY** connect devices which are compatible with the 5v port.

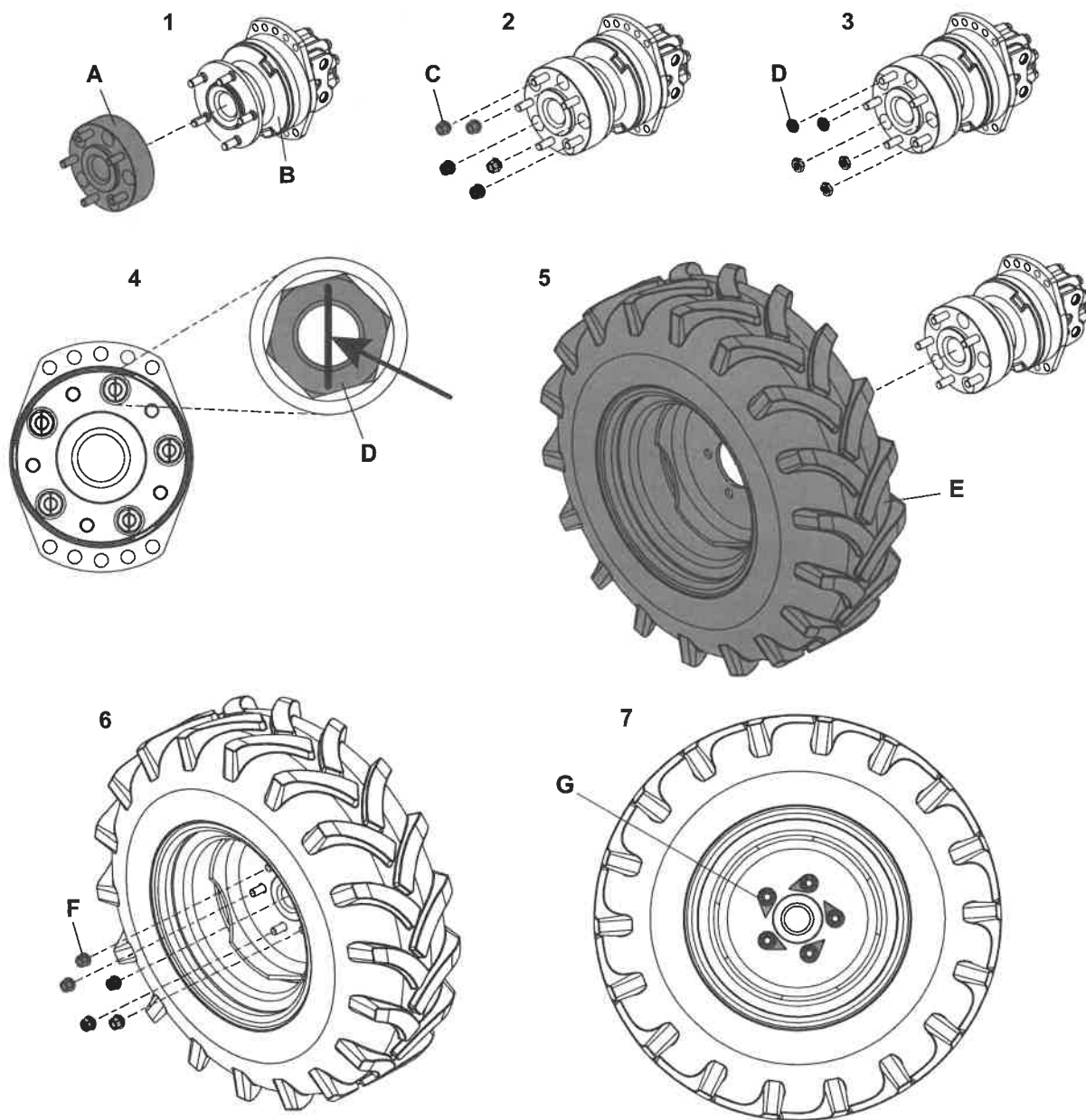
**ALWAYS** ensure the port cap is closed when the port is not in use to prevent water damage.

## OPTIONAL EQUIPMENT - WHEEL SPACERS

### ASSEMBLY INSTRUCTIONS

Before installing the Wheel Spacer, the wheel must be removed from the dumper. The procedure to do this can be found under 'Wheels' in the Service and Maintenance section of this manual.

1. Place the wheel spacer (Figure 26, Item A) onto the wheel motor (Item B)
2. Place the 5 x wheel nuts (Item C) onto the wheel motor to secure the wheel spacer. Tighten all 5 nuts to 250Nm.
3. Place the 5 x half nuts (Item D) over the wheel nuts and tighten to 150Nm
4. When all of the half nuts are tightened, put a marker pen line onto the nut, to the end of the bore
5. Place the wheel (Item E) onto the wheel spacer
6. Fit another 5 wheel nuts (Item F) securing the wheel and tighten them up to 250Nm
7. Place the 5 wheel nut markers (Item G) over the wheel nuts

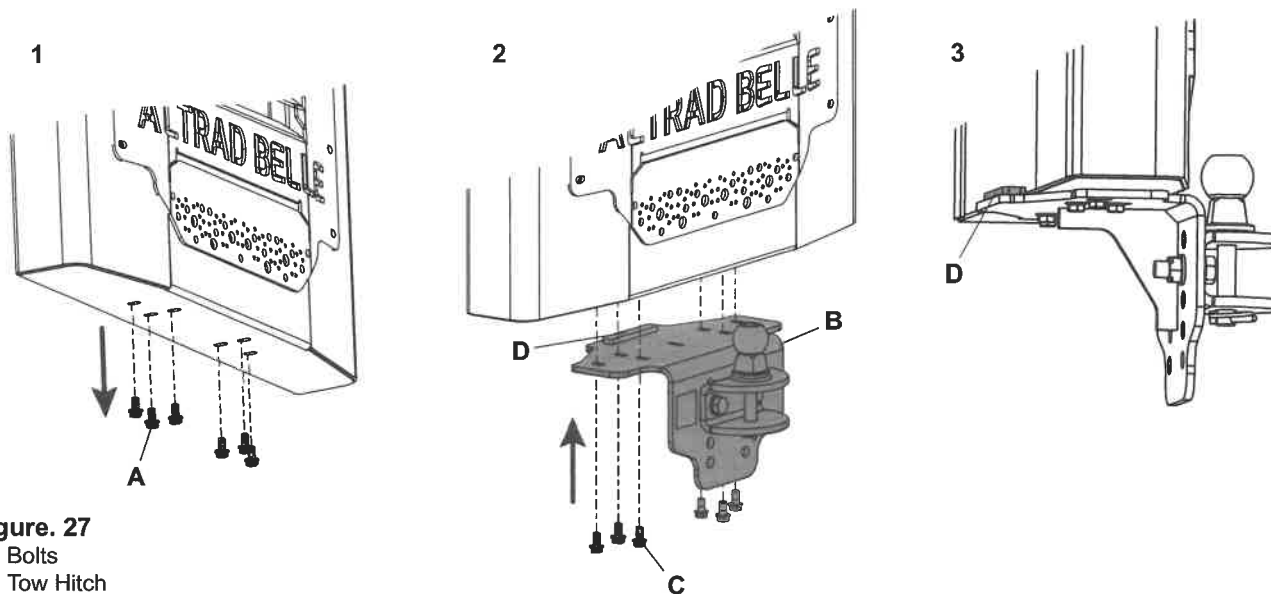


**Figure. 26**

- A. Wheel Spacer
- B. Wheel Motor
- C. Wheel Nuts
- D. Half Nuts
- E. Wheel
- F. Wheel Nuts
- G. Wheel Nut Markers

**OPTIONAL EQUIPMENT - TOW HITCH****ASSEMBLY INSTRUCTIONS**

1. Remove the 6 bolts (Figure 27, Item A) from underneath the rear of the machine and dispose of them.
2. Fasten the tow hitch (Item B) to the rear of the dumper with the 6 x M10 x 35 flanged bolts (Item C) supplied in the kit.
3. Ensure the welded bar (Item D) at the back of the tow hitch, is in contact with the back door (This is to stop the tow hitch putting pressure on the bolts).
4. Tighten the 6 x bolts up to 50Nm ensuring that the welded bar is up against the back door.

**Figure. 27**

- A. Bolts  
B. Tow Hitch  
C. Flanged Bolts  
D. Welded Bar

**OPTIONAL EQUIPMENT - NARROW WHEELS****ASSEMBLY INSTRUCTIONS**

The procedure for installing and removing the Narrow Wheels onto the dumper is the same as the procedure for installing or removing the standard wheels. The procedure for this can be found under 'Wheels' in the Service and Maintenance section of this manual.

