

DINGO™ K9-4

OPERATION & MAINTENANCE MANUAL



IMPORTANT: Become familiar with the contents of this manual before operating the Dingo. This Manual contains Safety, Operation and Warranty Information. Also become familiar with the controls & their proper use before operating the Dingo.



Safety

General Operation

- Read, understand, and follow the instructions in the operation manual before using the Dingo.

- Keep hands, feet and clothing away from all moving parts and hydraulic cylinders.

- Allow only responsible adults who are familiar with the Dingo and its operation to use the Dingo.

- Do not allow any passengers on any part of the Dingo, including buckets and the operating platform.

- Do not refuel with the engine running, or while you or someone near is smoking.

- Do not operate any of the control levers (including auxiliary levers) unless you are standing with both feet on the platform and firmly holding the grip handles.

- Always wear long pants and substantial shoes (no sandals, thongs, tennis shoes, sneakers, shorts or skirts).

- Do not place feet under the platform.

- Watch where you are driving. Always look down and behind, before and while reversing.

⚠ WARNING Engine exhaust contains **Carbon Monoxide**, which is an odorless, deadly poison. Carbon Monoxide can kill you. Do not run engine indoors or in a confined space.

- Always lower Dingo arms and/or place attachment on the ground when parking or leaving the Dingo unattended. Always stop the engine if leaving the operators platform.

⚠ IMPORTANT Do not carry a load or heavy attachment with the Dingo arms in a raised position. Do not step off the platform with a load raised.

- Never jerk the control levers. Use a steady motion. Slow down before turning. Sharp turns may cause loss of control.

- Stop the engine before making any adjustments to the attachments or the machine.

⚠ WARNING Never weld on or near the fuel tank whether it is empty or full.

- Do not operate on or near embankments. Look out for ditches, holes, etc. and beware of traffic when near roads.

- Do not allow any person or animal close to the Dingo or its attachments whilst in operation. Stop the machine if any person or animal comes close.

- Operate only in daylight or good artificial lighting.

- Do not operate the machine whilst under the influence of alcohol or drugs.

- Use extra care while loading or unloading the Dingo onto a trailer or truck.

- Do not touch equipment or attachment parts that may be hot from operation. Allow to cool before attempting to maintain, adjust or service.

- The Dingo is not a toy - Do not allow children to play on it.

Remember - Safety is your responsibility.

Operating on Slopes

All slopes require extra caution.

- **Do not** operate on slopes exceeding 15 degrees. If a slope is greater than 5 degrees, only go up and down (not across).
- **Always have the heavy end of the machine uphill.** Weight distribution will change. An empty bucket will make the rear of the machine heaviest, a loaded bucket will make the front of the machine heaviest. Various attachments will change which end is heaviest. If you are unsure, phone us and ask. These same rules apply when loading and unloading the Dingo onto a trailer or truck.
- **Avoid turning on slopes.** If you must turn, turn slowly keeping the heavy end of the machine uphill.
- Do not operate near ditches or embankments, the machine could turn over if a wheel goes over the edge of a cliff or ditch or the edge caves in.
- Do not operate on wet grass, reduced traction could cause wheel slip.
- Remove obstacles such as rocks, tree limbs, etc from the work area. Watch for ruts or bumps as uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Operate in slow speed. Put pump selector valve in slow (turtle) position so that you will not have to stop or shift while on the slope.
- If parking on slopes or hillsides always lower the Dingo arms and attachment to the ground and chock the wheels.
- If machine becomes unstable, jump clear. Never try to stabilise the machine by putting your foot on the ground.

Children

- Be wary of the presence of children when operating a Dingo. Children are often attracted to the Dingo and the work activity.
- Keep children out of the work site and under the watchful care of a responsible adult.
- Be alert and turn the machine off if children enter the area.
- Never carry children (or anyone) on the Dingo or any of its attachments.
- Do not allow children to play on the Dingo or within the Dingo work site (aside from the danger of working machinery there may be holes into which a child could fall or various other dangers).
- Do not allow children to use the machine.
- Before reversing look behind and down for small children. Be aware of blind corners, shrubs, trees, or ends of fences that may obscure vision.

Service

- Before performing any service, repairs, maintenance or adjustment, stop the engine and remove the key.
- Never run the machine in an enclosed area.
- Perform all maintenance with the Dingo arms fully lowered. If Dingo arms need to be raised to perform tasks, secure them in the raised position by using cylinder locks or a safety stand. (Contact a Dingo representative if you are unsure)
- Look after the Dingo. Keep nuts and bolts tight.
- Do not tamper with safety devices. Before each use check safety systems properly.

- Keep the machine free of grass, leaves, or other debris build up. Clean up oil or fuel spillage. Allow the machine to cool before storing.

- Use extra care when handling petroleum and other fuels. They are flammable and vapors are explosive

- Use only an approved container.
- Never remove the fuel cap or add fuel while the engine is running. Allow engine to cool before refueling. Do not smoke.
- Never refuel the machine indoors.
- Never store the machine or fuel container inside where there is an open flame, such as near a water heater or furnace.
- Never fill a container while it is inside a vehicle, car boot, utility tray or any surface other than the ground.
- Keep container nozzle in contact with the tank during filling.

- Stop and inspect equipment if you strike anything or hear any strange noise coming from the machine. If necessary repair machine before starting again.

- Use only genuine replacement parts to ensure that original standards are maintained.

- Battery acid is poisonous and can cause burns. Avoid contact with skin, eyes, and clothing. Your face, eyes, and clothing should be protected when working with a battery.

- Battery gases can explode. Keep cigarettes, sparks and flames away from battery.

⚠ WARNING Hydraulic pressure escaping under pressure can penetrate the skin and cause injury.

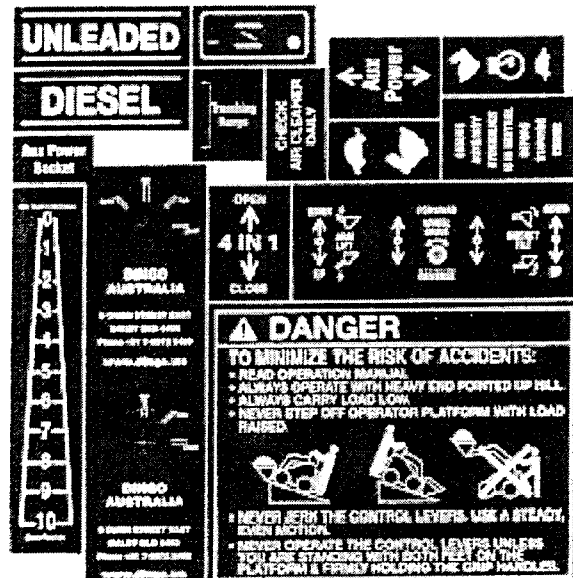
Keep hands and body away from pin hole leaks or nozzles that eject high pressure hydraulic fluid. A small leak can be dangerous. To find hydraulic leaks use cardboard or paper.

If fluid is accidentally injected into the skin a doctor familiar with this type of injury must surgically remove it within a few hours.

Safety and Instruction Decals

It is important to replace any damaged or missing decals.

Part number: 021-000-031)



CAUTION

"Secure locking pins before operating Dingo."

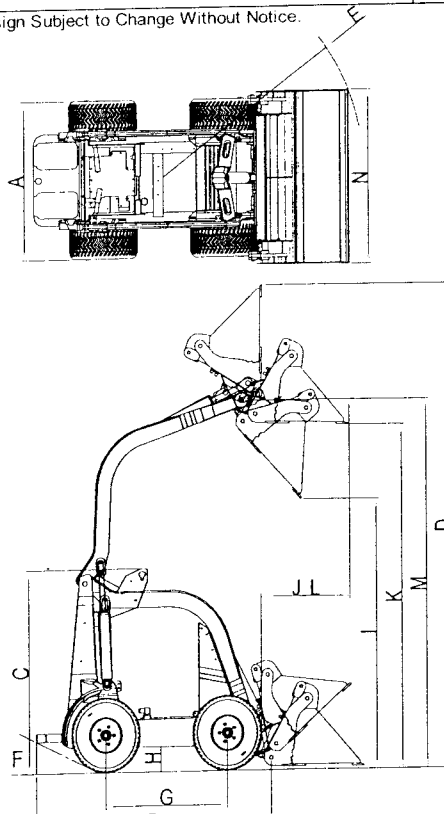
← On Arm Cross Member
(Part No. 2DDECCTN)

Specifications

General Specifications (Without operator and Without Attachment)

Item	Description	Specification
A	Overall Width	970mm
B	Overall Length	1550mm
C	Overall Height	1200mm
D	Maximum Operating Height (with 4 in 1 Bucket)	2650mm
E	Machine Mass	900kg
	Turning Radius With 4 in 1 Bucket	1300mm
F	Rated Lift Capacity (with 80kg operator)	325kg SWL
	Speed	650kg MWL
G	Angle of Departure	0 -> 6kmph
	Engine HP	25 Degrees
	Wheel Motors	25.6 HP
H	Wheel Base	29 cu in
	Ground Clearance	800mm
I	Tyre Size	135mm
	Hydraulics	18 x 8.50 x 8 (6 Ply) Standard
	Pump Sizes	2 Pumps
	System Relief Pressure (Hydraulic)	9 & 4 cc
	Hydraulic Reserve Capacity	3250 psi
	Hydraulic Output	90 Its
	Filtration	47 Litres per Minute
	Standard Bucket Capacity (Heaped)	10 Micron
	Standard Bucket Dump Height	0.16 Cubic Meters
	Reach Fully Raised Standard Bucket	1450mm
J	4 in 1 Bucket Capacity (Heaped)	800mm
	4 in 1 Bucket Dump Height	0.17 Cubic Meters
K	Reach Fully Raised 4 in 1 Bucket	1835mm
	Chip Bark Bucket Capacity (Heaped)	800mm
L	Height to Hinge Pin (4 in 1 Bucket in Highest Position)	0.26 Cubic Meters
	Machine Width with 4 in 1 Bucket	1940mm
M		1045mm
N		

Specifications and Design Subject to Change Without Notice.



Operation - Pre Start-Up

Pre Start-Up (daily)

Read this manual and the engine manual and become familiar with the contents of both.

Always check the following before operation:

- Fuel level - fill to 60mm from top
- Engine oil level (refer to engine manual)
- Remove all refuse from the machine
- Check air filter
- Check bushes
- Tyre pressure (25 - 35psi)
- Check radiator fluid (diesel only)
- Check for oil leaks
- Check for damage & loose components
- Be sure that the work area is free from other people and children
- Clean work area of any debris
- Know and mark the location of any utility lines
- For first 6 days of operation of new machine, and first 6 days of operation after changing wheels, tighten wheel nuts daily.

Adding Fuel

Labelling on the fuel tank tells whether a machine requires petroleum or diesel fuel. For fuel type and information on suitable additives refer to Engine Manual as supplied. (NB. If labelling becomes lost or damaged order replacements from your Dingo representative).

1 Position Dingo on level surface, lower the Dingo arms and turn off the engine (turn ignition key to off). Remove the key.

2 Remove the bonnet to expose the fuel tank cap.

3 Clean around the fuel tank cap and remove the cap. Use a funnel to add fuel to the fuel tank, filling until the fuel reaches 60 - 70 mm below the top of the tank. This space is needed to allow the fuel room to expand. **Do not fill the fuel tank completely full.**

4 Replace the fuel cap securely. Clean away any fuel that may have spilt.

DANGER - Petroleum can be extremely flammable and highly explosive.

To avoid a fire or explosion that may burn yourself, other, or cause property damage:-

- Use a funnel and fill the fuel tank outdoors, in an open area
- **Allow the engine to cool before refueling**
- Clean up any petrol spills.
- Only fill to 60 mm from top of tank.
- Never smoke while handling fuels, and stay away from an open flame or any place that a spark may ignite petroleum fumes.
- Store fuels in an approved container, out of reach from children. Never buy more than a 30 day supply of fuel.

Checking the engine oil

Check the engine oil level using the dip stick. (Refer to your engine manual for details)

Remove Debris from the Machine

IMPORTANT: Overheating will result if the engine is operated with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed.

The hydraulic system will keep cooler if the machine is free from debris on the hydraulic tank and fittings.

Park the machine on a flat surface, lower the Dingo arms and turn off the engine. (turn ignition key to off). Remove the key.

Check air filter pre-cleaner for debris. If required, wipe away debris before and during each use.

Debris can build up in the engine area. Remove sides of engine bay and clean any debris buildup with a brush or blower before each use.

IMPORTANT: It is preferable to blow out dirt than to wash it out. If water is used, keep it away from electrical appliances.

IMPORTANT: Do not high pressure wash. High pressure washing can damage the electrical system.

Tyres and Traction

The correct tyre pressure is usually between 172 and 241 kpa (25-35psi). (Use lower pressures for soft ground conditions & higher pressures for hard ground conditions) Use of incorrect tyre pressure will reduce the stability and carrying capacity of the Dingo.

Filling the tyres with water can improve the Dingo's stability for lifting applications. Water filling equipment can be purchased from Dingo Australia.

This range includes:

- **8" turf tyres** [machine width 970mm] general purpose - suitable for grassy areas, dry soil and paved surfaces - minimum ground disturbance.
- **8" lug tyres** [machine width - 970] tractor type, for building sites, and muddy situations.
- **20 x 8" sand tyre** [machine width - 1020] better floatation & clearance for sandy & loose material conditions.
- **5" forklift type tyres** [machine width - 810mm] narrower tyres, suitable for heavy loads, restricted access, inside buildings, great on all hard surfaces.
- **3" narrow solid tyres** [machine width - 760mm] only for very restricted access - will fit through a standard doorway.
- **Tracks** [machine width - 1100mm] excellent floatation and traction - suitable for mud, sand and slush.
- Solid fill (all of the tyres mentioned above (excluding the 3" solids) can be supplied by Dingo Australia, filled with a puncture-proof, solid foam).
- For more information on our range of traction products, please speak to your nearest Dingo representative.

Operating Instructions

Read all the safety instructions and the pre start up section of this manual and the engine manual before operating the Dingo.

Caution - Do not operate any of the control levers (including auxiliary lever) unless you are standing with both feet on the platform and firmly holding the grip handles.

IMPORTANT! Ensure the auxiliary hydraulic lever is in the centre position before attempting to start engine. The most common cause of 'hard to start/engine, will not turn over fast enough, battery does not have enough power' type starting problems is that the auxiliary lever has been left on or knocked into gear and the engine is trying to start under load.

Control Levers / Control Panel

Key Switch

The key switch, used to start the engine, varies on petrol and diesel models. Check engine manufacturers manual for starting instructions. To shut engine off, rotate key to OFF position (counter clockwise direction).

Throttle

Move control forward to increase engine speed and rearward to decrease engine speed.

Choke

For instructions regarding use of the choke (petrol models) refer to the engine manufacturers manual.

Drive Control Levers

To go forward, slowly push the right and left drive control levers forward.

To go backward, slowly pull the right and left drive control levers backward.

To go straight, apply equal pressure to both drive control levers.

To turn, decrease pressure on the drive control lever closest to the direction you want to turn. The farther you move the drive control levers in either direction, the faster the machine will move in that direction.

To slow or stop, move or release the drive control levers into neutral. (If released the control levers will automatically return to neutral).

Attachment Tilt Lever

To tilt/crowd attachment forward, slowly push the tilt lever forward.

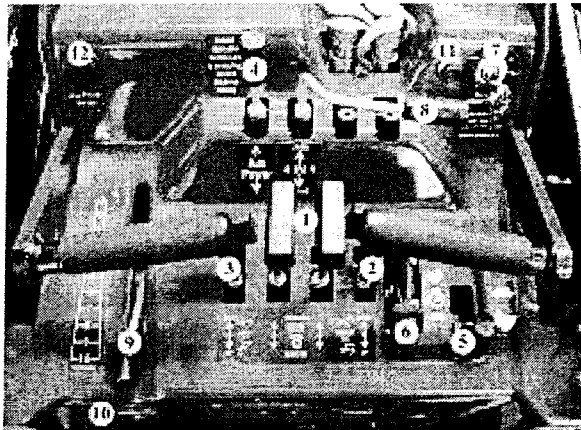
To tilt attachment backward, slowly pull the tilt lever backward.

Loader Arms Lever

To lower Dingo arms, slowly push arm lever forward.

To raise Dingo arms, slowly pull arms lever backward.

Control Panel Diagram



- 1 Drive control levers
- 2 Attachment tilt lever
- 3 Loader arms lever
- 4 Auxiliary hydraulic lever
- 5 Pump selector valve
- 6 Throttle
- 7 Ignition
- 8 4 in 1 Bucket Lever
- 9 Flow Divider
- 10 Hydraulic Immobiliser
- 11 Warning Light
- 12 Auxiliary Power Socket

Auxiliary Hydraulic lever

The auxiliary hydraulics lever allows you to alter the direction of rotation of hydraulically driven attachments or stop them completely.

ATTENTION: Ensure auxiliary hydraulic lever is in neutral position before starting engine. Aside from starting difficulties the attachment may move during starting.

To operate attachment in forward direction, slowly pull auxiliary lever rearward. To operate attachment in reverse direction, slowly push auxiliary lever forward.

Pump Selector Lever

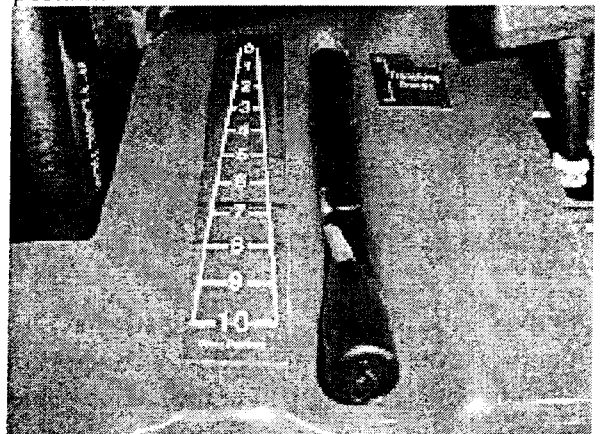
When faster ground speed and lifting speed is required (bucket work) more than attachment speed and power, push the pump selector lever to the forward position (Hare).

When faster attachment speed and power is required (trenching, post hole digging etc) more than ground speed and lifting power, pull the pump selector lever to the rearward position (Turtle).

Flow Divider Control

In its normal operating position no flow division is taking place. Moving the lever forward diverts oil flow to the attachment and less is available to the Dingo wheels and arms. This allows for greater concentration of power where it is needed most.

The flow divider is mainly used for trenching, rotary hoeing and stump grinding where it is important for the attachment to have as much power as possible and ground speed is not important.



4in1 Bucket Lever

The 4in1 bucket lever opens and closes the 4in1 bucket. Push the lever forward to open the bucket. Pull the lever backward to close the bucket. When you let go of the lever it will return to the centre and hold the bucket in the current position.

Hydraulic Immobiliser

Each Dingo K9-4 is fitted with a security hydraulic immobiliser. This immobiliser locks the hydraulic system allowing no oil flow to the wheels, thus making it impossible to drive the machine away.

To engage the immobiliser:

- 1 Push the flow divider all the way forward
 - 2 Push in the immobiliser lock
- The flow divider is now locked into position allowing no oil flow to the wheels.

To unlock the immobiliser:

- 1 Unlock the immobiliser lock using the key
- 2 Wriggle the flow divider lever to release the lock from the flow divider
- 3 Move the flow divider lever back to the drive position.

Warning Light

The warning light indicates low engine oil pressure and high engine temperature. Ensure you stop the engine immediately this light comes on. Operating with the warning light on may cause serious engine damage.

Auxiliary Power Socket

The auxiliary power socket is a 12 volt power outlet for running lights, portable air compressors mobile phone chargers etc. Power is available from the socket when the ignition key is in the ON position. To turn power off turn the key to the OFF position.

Starting the Engine

Stand on the platform. Move the auxiliary hydraulics lever to neutral. Follow instruction on starting engine as detailed in the engine manu-

facturers manual.

Stopping the Engine

Refer to the relevant engine manual.

Note: If the engine has been working hard or is hot, let it idle for a minute before turning the ignition key to OFF. This helps cool the engine before it is stopped. In an emergency, turning the ignition key to OFF will stop the engine.

Stopping the Dingo

To stop the machine, move the drive control levers to neutral, lower Dingo arms to the ground, and turn the ignition key to OFF to stop the engine. Remember to remove the key from the key switch.

CAUTION! If children or bystanders attempt to operate the Dingo, someone could be injured. To avoid attempted use by children or bystanders while machine is unattended, remove key from the ignition, even if just for a few minutes.

Moving a Non Functioning Dingo

The best way to move a non functioning Dingo is by forklift or crane. It is also possible to push or tow a Dingo without the use of the engine. By adjusting the Over Centre Valve it is possible to free up the hydraulic circuit, allowing the wheel motors to turn freely. Please call your nearest Dingo service centre for more information.

Using Cylinder Locks

IMPORTANT: Normal maintenance should be completed with the Dingo arms lowered. If maintenance or repairs requires the Dingo arms raised, use cylinder lock provided with Dingo.

WARNING! Dingo arms may lower when in the raised position. Anyone under the Dingo arms could be injured or crushed. To avoid this hazard always install cylinder locks or a safety stand. (Contact a Dingo representative if you are unsure).

Attachments

Connecting

IMPORTANT: Use only Dingo approved attachments. Attachments can change stability and operating characteristics of the machine. The warranty of the machine may be voided if used with unapproved attachments.

IMPORTANT: Before connecting any attachments to the machine, make sure mount plates are free of any dirt and debris.

- 1 Move pump control lever to slow (turtle) position.
- 2 Slowly push the attachment tilt lever forward to tilt the attachment mount plate forward.
- 3 Position mount plate into the upper lip of the attachment's receiver plate.
- 4 Raise the Dingo arms while tilting back the mount plate at the same time.
- 5 **IMPORTANT:** The attachment should be raised enough to clear the ground and the mount plate tilted all the way back.
- 6 Turn the ignition key to OFF to stop the engine.
- 7 Engage the attachment lock pins (the lock pins should go down 15mm as they turn). **Note:** Lock pins are located on the outer edge of the mount plate and should be turned towards the inside to engage.
- 8 **Note:** Proceed to next step if auxiliary hydraulics are required with attachment.
- 9 **IMPORTANT:** Make sure all foreign matter is cleaned from hydraulic connections before making connections.
- 10 With the engine turned off move the auxiliary hydraulics lever to the forward, backward, and back to neutral position to relieve hydraulic pressure at the hydraulic couplers.
- 11 Remove protective plugs from the hydraulic couplers on the Dingo (The hydraulic couplers are located on the inside of the left arm). Connect plugs together to prevent contamination during operation.
- 12 Slide collar back on hydraulic coupler and connect attachment couplers to machine cou-

plers. There will be two connections to make.
13 Confirm that connection is secure by pulling on the hoses.

14 Connecting the **4in1 Bucket** is done in the same way except the receiving couplers for the 4in1 bucket are located on the inside of the right arm of the Dingo. No mistake can be made as the 4in1 couplers are smaller and will not fit the auxiliary couplers.

Disconnecting

- 1 Lower attachment to the ground or onto a trailer.
- 2 Turn the ignition key OFF to stop the engine.
- 3 Move the auxiliary hydraulics lever forward, backward and back to neutral position to relieve hydraulic pressure at the hydraulic couplers.
- 4 Slide collar back on the hydraulic coupler and disconnect attachment couplers from machine couplers. (Note: if this is difficult return to step 3 and repeat).
- 5 **IMPORTANT:** Connect attachment hoses together to prevent contamination during storage.
- 6 Install protective caps onto Dingo's hydraulic couplers.
- 7 Disengage the attachment lock pins by turning them to the outside.
- 8 Start engine, tilt the mount plate forward and back machine away from the attachment.

Maintenance

It is essential to maintain the engine as detailed in the engine manual. Service recommendations will vary depending on your engine type, refer to your engine manual for this information.

Any information relating to the engine in the following table is intended as a guide only.

Refer to the Pre Start Up section for maintenance that should be completed before starting the Dingo (each and every time).

7 With spark plugs removed from the engine, pour two tablespoons of engine oil into each spark plug hole.

8 Now use the starter to crank the engine and distribute the oil inside the cylinder.

9 Install the spark plugs. Do not install the ignition wire on the spark plugs.

10 Check the tyre pressure; refer to section on Tyre Pressures.

11 Charge battery; refer to Batteries section.

12 For long-term storage (more than 90 days) add stabiliser/conditioner additive to fuel tank.

13 Run engine to distribute conditioned fuel through the fuel system (5 minutes).

14 Stop engine, allow to cool and drain the fuel tank; refer to section on Fuel Tank.

15 Restart engine and run it until it stops. Repeat, on "CHOKER" until engine will not restart.

16 Dispose of fuel properly. Recycle according to local codes.

NOTE: Do not store stabiliser/conditioned petrol over 90 days.

17 Check and tighten all bolts, nuts screws. Repair or replace any part that is damaged or defective.

18 Store the machine in a clean, dry garage or storage area. Remove the key from the ignition switch and keep it in a memorable place. Cover the machine to protect it and keep it clean.

Transporting and Securing

IMPORTANT: Do not operate or drive Dingo on roadways.

IMPORTANT: When transporting your Dingo on a trailer, always use the following procedure.

1. Never load or unload the Dingo on the trailer unless the trailer is attached to the vehicle.
2. Always climb the ramps with the heavy end of the machine up hill. E.g. With heavy attachments like the trencher or backhoe attached to the Dingo, climb the ramps in the forward direction. With no attachment on the Dingo, climb the ramps in the reverse direction.
3. The bucket, post hole digger and leveler attachment should always be positioned in their designated positions on the trailer. This will help ensure that the weight is distributed correctly on the trailer.
4. Ensure the load is positioned so that there is more weight forward of the trailer axle than behind the axle. Too much weight behind the axle may cause the rear of the vehicle to become too light.
5. Once in position on the trailer lower the Dingo arms
6. Turn the key to Off to stop the engine.
7. Secure the machine to the trailer with chains or straps using the tie down points on the Dingo arms.
8. When towed by a vehicle not fitted with an electric trailer brake controller, engage the manual breaking system by lifting the manual override stopper on the tow coupling (single axle trailer only).