

# ROTARY CUTTER (SLASHER) OPERATORS MANUAL

Kanga Farm Equipment is manufactured and/or distributed in Australia by Farm Implements P/L. Farm Implements is an Australian owned and run company, and we would like to thank you for buying one of our KANGA FARM EQUIPMENT implements.

Kanga Farm Equipment has designed and manufactured three-point linkage implements to handle the harsh Australian Conditions, since 1982. Kanga Farm Equipment Implements are backed with a 12-month comprehensive warranty, against faulty workmanship and/or materials, under normal working conditions and service.

Consumers are advised that your warranty may be considered void if any damage to the implement is caused by operator abuse, neglect, or if any unauthorised modifications have been made.

Farm Implements P/L and its Distributors/Dealers are not responsible for any transportation cost incurred in the repair or replacement of parts in either a successful or non-successful warranty claim and we wish to advise that consumers who wish to lodge a claim MUST follow the procedures set out in our Warranty Registration and Installation Form which complies with 'Australian Consumer Law' and Schedule 2 of the Competition and Consumer Act 2010 (Cth).

The information contained in this manual was current at the time of printing and has been compiled especially to assist you with the Implement that you have purchased.

It is of the utmost importance that you read this manual, understand the context and <u>carry out a risk</u> assessment before operating the implement.

Please be aware that in an effort to bring you better products we are always implementing continuous improvements that may change the designs and specifications of the Implement. In doing this, Farm Implements P/L together with its Dealers and Distributors are under no obligation to implement these changes, free of charge, on any previously delivered Implement.



#### TO THE DEALER

Assembly and proper installation of this product is the responsibility of the reseller/dealer. The onus is also in the dealer to complete the Warranty Registration & Installation Form in conjunction with the customer before releasing the implement to them.

Both dealer and customer must sign the registration form, which certifies that all Dealer Checklist items has been completed, then return a copy of the Warranty Registration & Installation Form to Farm Implements P/L. Reminders about Warranty Registration that have not been returned will be sent out to demonstrate that reasonable attempts have been made to ensure dealers complete risk assessment and pre-delivery obligations.

#### TO THE OWNER

Read this manual before operating your KANGA FARM EQUIPMENT implement. The information presented will prepare you to do a much better and safer job. Keep this manual handy as a reference.

Ensure you carry out and keep up to date a Risk Assessment and that all operators read the manual carefully and become acquainted with the adjustments and operating procedures before attempting to operate.

Keep a record of the risk assessment and that the operator has read and understands the correct operating procedures as outlined in this manual.

The implement you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require routine cleaning, upkeep and maintenance. Lubricate the implement as specified. Observe all safety information in this manual and safety decals on the implement.

Throughout this manual, the term **IMPORTANT** is used to indicate that a failure to observe can cause damage to the equipment. The terms **CAUTION**, **WARNING** and **DANGER**, are used in conjunction with the Safety-Alert Symbol (triangle with an exclamation mark) to indicate the degree of risk to your personal safety.



This Safety-Alert Symbol indicates a hazard and means ATTENTION! BE CAREFUL! YOUR SAFETY IS INVOLVED!



DANGER indicates an imminently hazardous situation, which if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

#### **GENERAL INFORMATION**

The purpose of this manual is to assist you in operating and maintaining your KANGA implement. Read it carefully. It provides information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to the unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but in an effort to bring you better products we are always implementing continuous improvements that may vary your implement slightly in detail. We reserve the right to redesign and change the machine as may be necessary without notice.



Some illustrations in this manual show the Safety Shields removed to provide a better view. The implement should never be operated with any safety shielding removed.

Throughout manuals, references are made to right and left direction. This is determined by standing behind the equipment facing the direction of forward travel. Blade rotation is as if viewed from the top.



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# **SPECIFICATIONS**

## **JOEY Range Rotary Cutter**

Category 1 3 – Point Linkage ...... Body Thickness ..... 2.5mm Tower ..... Double Clevis Floating 8mm Chain (2000kg capacity) Stays Cutter Bar/Rotor<sup>^</sup> ..... 90mm 3-Piece Laminated Skids Type ..... Adjustable Joey100/125 - 50hp (1:2.83 ratio) \* Gearbox ... ... ... ... ... ... ... ... ... ... ... ... Joey150 - 40hp (1:1.93 ratio)\* Tractor PTO Speed ... ... ... ... ... ... ... ... ... ... 540 rpm Power Take Off Shaft (PTO) ...... Series 4 6" Slip Clutch Clutch Size and Type<sup>o</sup> ...... Blades<sup>^</sup> ..... 2 x Carbon/Chrome Spring Steel Thickness of Blades .....

Model 100 (100cm/39") 125 (125cm/49") 150 (150cm/59") Overall Width 1050mm 1300mm 1600mm **Cutting Width** 940mm 1190mm 1440mm 30 - 120 mm30-120mmCutting Height 30 - 120 mm240 kg Approximate Weight  $160 \, \mathrm{kg}$ 195 kg Blade Tip Speed (ft per min) 15,500 19,000 16,250

## Mini Range Rotary Cutter

3 – Point Linkage ...... Category 1 Body Thickness ..... 2.5mm Tower ..... **Double Clevis Floating** ... ... ... ... ... ... ... ... ... ... ... ... ... 8mm Chain (2000kg capacity) Cutter Bar/Rotor† ..... 90mm 3-Piece Laminated 50hp (1:2.83 ratio) • Gearbox ...... Tractor PTO Speed Power Take Off Shaft (PTO) Series 4 2 x Carbon/Chrome Spring Steel Blades<sup>^</sup> ..... 

Model 1.0m (3'4") 1.2m (4'0") Overall Width 1375mm 1175mm **Cutting Width** 1000mm 1200mm 25-100mm **Cutting Height** 25 - 100 mmApproximate Weight 195 kg 170 kg Blade Tip Speed (ft per min) 16,809 19,203

Specifications for this Gearbox are on page 25 of this Operators Manual.

<sup>°</sup> Part Breakdown for the clutch are on page 22 of this Operators Manual.

<sup>^</sup> Part Breakdown of the Cutter Bar and Blades are on page 19 of this manual.

<sup>\*</sup> Specifications for this Gearbox are on page 30 of this Operators Manual.

<sup>°</sup> Part Breakdown for the clutch are on page 22 of this Operators Manual.

<sup>†</sup> Part Breakdown of the Cutter Bar and Blades are on page 21 of this manual.



## **S Range Rotary Cutter**

Category 1 Body Thickness ..... 3mm **Double Clevis Floating** Tower ..... 10mm Chain (3000kg Capacity) Stays Cutter Bar/Rotor<sup>^</sup> ...... 100mm 3-Piece Laminated Adjustable Gearbox\* ... ... ... ... ... ... ... ... ... ... ... ... ... ... 40hp (1:1.93 ratio) Tractor PTO Speed ..... 540 rpm Power Take Off Shaft (PTO) Series 4 Blades^ ..... 2 x Carbon/Chrome Spring Steel 

Model 1.5m (5'0") 1.2m (4'0") 1.35m (4'6") Overall Width 1410mm 1556mm 1710mm Cutting Width 1200mm 1350mm 1500mm Cutting Height 25 - 100 mm25 - 100 mm25 - 100 mmApproximate Weight 240 kg  $270 \, \mathrm{kg}$ 290 kg Blade Tip Speed (ft per min) 13,119 14,759 16,399

## M Range Rotary Cutter

3 – Point Linkage ...... Category 1 & 2 Body Thickness ..... 5mm Tower Double Clevis Floating 13mm Chain (4500kg Capacity) Cutter Bar/Rotor<sup>^</sup> ...... 100mm 3-Piece Laminated ...... Adjustable Skid Type ...... 75hp (1:1.46 or 1:1.93) Tractor PTO Speed ..... 540 rpm Power Take Off Shaft (PTO) Series 6 Blades^ 2 x Carbon/Chrome Spring Steel 

Model	1.5m (5'0")	1.8m (6'0")	2.1m (7'0")
Overall Width	1710mm	2010mm	2310mm
Cutting Width	1500mm	1800mm	2100mm
Cutting Height	25 - 100 mm	25 - 100 mm	25-100mm
Approximate Weight	370 kg	470 kg	510 kg
Blade Tip Speed (ft per min)	16,399	19,557	17,368

<sup>\*</sup> Specifications for this Gearbox are on page 26 of this Operators Manual.

<sup>°</sup> Part Breakdown for the clutch are on page 22 of this Operators Manual.

<sup>^</sup> Part Breakdown of the Cutter Bar and Blades are on page 20 of this manual.

<sup>▲</sup> Specifications for this Gearbox are on page 27 of this Operators Manual.

<sup>°</sup> Part Breakdown for the clutch are on page 22 of this Operators Manual.

<sup>^</sup> Part Breakdown of the Cutter Bar and Blades are on page 20 of this manual.



## **H Range Rotary Cutter**

3 – Point Linkage ....... Category 2 Double Clevis Tower ..... **Double Clevis Floating** 13mm Chain (4500kg Capacity) ... 130mm 3-Piece Laminated Cutter Bar/Rotor\* ..... Cutter Bar/Rotor Material ..... 10mm Spring Steel ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... Adjustable 2 x Carbon/Chrome Spring Steel Blades Thickness of Blades ..... 10mm

Model 2.1m (7'0") 1.8m (6'0") Body Thickness 6mm 6mm Overall Width 2034mm 2334mm Cutting Width 1800mm 2100mm 25-100mmCutting Height 25 - 100 mmApproximate Weight 585 kg  $680 \, \mathrm{kg}$ Gearbox 130hp† (1:1.93 ratio) 130hp† (1:1.46 ratio) Tractor PTO Speed 540 rpm 540 rpm

Tractor PTO Speed540 rpm540 rpmPower Take Off Shaft (PTO)Series 8Series 8Clutch Size and Type°8" Slip Clutch8" Slip ClutchBlade Tip Speed (ft per min)19,55717,368

<sup>&</sup>lt;sup>†</sup> Specifications for this Gearbox are on page 28 of this Operators Manual.

<sup>°</sup> Part Breakdown for the clutch are on page 22 of this Operators Manual.

<sup>\*</sup> Part Breakdown of the Cutter Bar and Blades are on page 21 of this Operators Manual.



## Multi Head Rotary Cutters/Slashers

Due to the specific requirements of individual operators and their individual operating conditions, the information and specifications about Kanga Multi Head Rotary Cutters may be limited and general. Kanga Multi Heads are custom built after consultation between the customer, the local dealer and a representative of Kanga Farm Equipment. Gearbox information and parts can be found on pages 23-28 while information and breakdown on the clutch(s) is on page 21 of this manual.



Customers MUST carry their own Risk Assessment on every implement on their property.

For 'practicality' <u>SOME Kanga Multi Head Rotary Cutters/Slasher may not comply completely with the Guide:</u> <u>OH&S Industry Safety Standard for Slashers.</u> In this case, Kanga Farm Equipment wishes to advise that Dealers and purchaser MUST carry out individual Risk Assessments for the implement PRIOR to operating.

Pasture Topper	
3 – Point Linkage	Category 2/3 Double Clevis
Body Thickness	6mm
Body Reinforcing	300mm Channel
Cutter Bar/Rotor	130mm 3-Piece Laminated
Cutter Bar/Rotor Material	10mm Spring Steel
Skid Type	Adjustable
Blades	Carbon/Chrome Spring Steel
Thickness of Blades	10mm
Gearbox, PTO Shaft & Clutch	Various (suited to tractor HP)
50hp Twin Rotor Light Duty Slasher/Rotar	
3 – Point Linkage	Category 1 Double Clevis
Body Thickness	3mm
Body Reinforcing	Angle and Flat
Cutter Bar/Rotor	100mm 3-Piece Laminated
Cutter Bar/Rotor Material	8mm
Skid Type	Adjustable
Blades	Carbon/Chrome Spring Steel
Thickness of Blades	8mm
Gearbox	50hp
PTO Shaft	Series 4
Clutch	200mm (8") 2 Plate
75hp Twin Rotor Heavy Duty Slasher/Rotar	
	y Cutter
3 – Point Linkage	Category 2 Double Clevis
3 – Point Linkage	Category 2 Double Clevis
3 – Point Linkage Body Thickness	Category 2 Double Clevis 5mm
3 – Point Linkage Body Thickness Body Reinforcing	Category 2 Double Clevis 5mm Angle and Flat
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox PTO Shaft	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox PTO Shaft Clutch	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate
3 – Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 – Point Linkage	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate Category 2/3 Double Clevis
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness Body Reinforcing	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm 300mm Channel.
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm 300mm Channel. 130mm 3-Piece Laminated
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm 300mm Channel. 130mm 3-Piece Laminated 10mm Spring Steel
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type.	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm 300mm Channel. 130mm 3-Piece Laminated 10mm Spring Steel Adjustable
3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades Thickness of Blades Gearbox PTO Shaft Clutch Tri-Head Slasher/Rotary Cutter 3 - Point Linkage Body Thickness Body Reinforcing Cutter Bar/Rotor Cutter Bar/Rotor Cutter Bar/Rotor Material Skid Type. Blades	Category 2 Double Clevis 5mm Angle and Flat 100mm 3-Piece Laminated 10mm Adjustable Carbon/Chrome Spring Steel 10mm 75hp Series 6 200mm (8") 2 Plate  Category 2/3 Double Clevis 5mm 300mm Channel. 130mm 3-Piece Laminated 10mm Spring Steel Adjustable Carbon/Chrome Spring Steel



#### SAFETY RULES & ACCIDENT PREVENTION



#### ATTENTION! BE CAREFUL! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacturing of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

- Customers MUST carry out a Risk Assessment and/or "HazCheck" on every implement on their property.
- Safety instructions are important! Read all attachments and unit manuals; follow all safety rules and safety decal information. Failure to follow instructions can result in serious injury or death.
- If you do not understand any part of this manual and need assistance the Department of Agriculture, Occupational Health & Safety Offices, any Agricultural School or college and your local dealer should be able to direct you on where you can receive appropriate training. No operator however experienced in farm machinery operation they may be, should attempt to use any piece of machinery that they have not been competently trained to use.
- Keep hands and body away from pressurised lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid (oil) under pressure can easily penetrate the skin and will cause serious injury or death.
- Make sure that all operating and service personnel know that if hydraulic fluid (oil) penetrates the skin, it must be
  surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury or death
  will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.
- Know your controls and how to stop quickly in an emergency.
- Operators must be instructed in and be capable of the safe operation of the equipment and all controls. Do not allow
  anyone to operate this equipment without proper instruction.
- Do not allow children or untrained persons to operate equipment.
- Check that all hardware (nuts, bolts, etc.) are tight and properly installed.
- Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.
- Ensure implement is properly attached, adjusted and in good condition so that it can be operated safely.
- Make sure all spring activated locking pins or collars on the Power Take Off (PTO) Shaft move freely, are well greased and are firmly seated in the tractor PTO splined angular groove.
- Before commencing operation, check all equipment driveline guards for damage and make sure they rotate freely.
   Replace any damaged guards or guards that do not rotate freely on drivelines.
- Tractors MUST be fitted with Roll Over Protection Structure (ROBS) or ROBS Cap. It is also advisable that your tractor is fitted with a seatbelt. Where fitted it must be worn at all times. Falling from your tractor can result in death from being run over or crushed. If your tractor is fitted with a folding ROBS, keep it in the "locked up" position at all times.
- Inspect chains, shackles, deflectors and any wear parts for damage. Replace if damaged.
- Remove any debris that has accumulated on the implement, tractor or engine to avoid fire hazard.
- Ensure your tractor has a fire extinguisher and ensure you know how to use the extinguisher in the event of an
  emergency.
- Ensure all safety decals are in place. Replace if damaged.
- Ensure shields and guards are properly installed and in good working condition. Replace if damaged.
- Do not operate implement unless side skids are in good condition. Replace if damaged.
- A minimum 20% of tractor and equipment weight must be on the tractor's front wheels with the implement in the
  transport position. Without this weight, tractor could tip over causing personal injury or death. The weight may be
  attained with a loader, front wheel weights, and ballast in the tyres or front tractor weights. When attaining the
  minimum 20% weight on the front wheels, you must not exceed the ROPS max ballasted mass certificate. Weigh the
  tractor and implement. Do not estimate.
- Watch for hidden hazards on the terrain during operation and avoid any hazards or objects that could cause injury or damage.
- Inspect operating areas and remove any foreign objects that could be thrown, causing injury or damage. It is very
  important to always watch for foreign objects when you are operating and avoid them as they can cause injury or
  damage.



- When operating along roads, pathways or populated areas fit extra chains or shielding (which is designed to reduce the
  possibility of objects being thrown) to the implement. If the implement is missing or has damaged shielding, operation
  must not continue until guarding has been repaired.
- When working in populated areas always place signs in the area to alert people or vehicles that may pass.
- Keep all people and animals away from the implement during startup, operating and when stopping.
- Never discharge directly toward people, animals or property.
- Disconnect the PTO when raising the Rotary Cutter above working height.
- Do not operate the implement or tractor while under the influence of drugs or alcohol.
- Operate only in daylight or good artificial light.
- Keep hands, feet, hair, and clothing away from moving parts while engine is running.
- Do not carry persons or objects on the Implement or tractor during work or while in transit.
- For transportation on public roads the operator must ensure that the tractor and implement comply with current State and Federal laws and must strictly adhere to all road traffic regulations in force in his/her particular state.
- Always operate equipment from the seat of the tractor with the seat belt securely fastened, especially when operating
  controls or starting engine. Place transmission in neutral, engage break and ensure all other controls are disengaged
  before starting tractor engine.
- Operate tractor PTO at 540 rpm speed as stated in "Specifications" section unless you have purchased a Multi-Head and requested 1000rpm. Always ensure the correct setting on your tractor before startup.
- Do not operate tractor PTO during transport or when implement is raised above normal working height.
- Look down and to the rear and make sure area is clear and safe before operating in reverse.
- Do not operate on steep slopes. If in doubt set rear axles wider for moderate slopes.
- Do not stop, start or change directions suddenly on slopes', working up and down is preferred.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Stop implement, then tractor, immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair
  any damage before resuming operations. Always block implement when inspecting.
- Before commencing any adjustment, maintenance, or cleaning, always disengage the Power Take Off (PTO) Shaft, switch off the tractor engine, remove key and wait until all moving parts have come to a complete stop, then ensure the machine is on the ground or on a robust, secure support.
- Before dismounting tractor or performing any service or maintenance, disengage power to implement, lower the 3-point linkage and any other raised components (i.e. loader bucket) to the ground. Operate valve levers to release any hydraulic pressure, stop engine, set parking brake, remove key and unfasten seat belt.
- Disconnect driveline from the tractor PTO before performing any service work.
- Never place any part of the body underneath the implement or between moveable parts even when engine has been
  turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail, or movement of the control levers can cause
  the implement to drop or rotate unexpectedly causing severe injury or death. Follow Operator's Manual instructions for
  working on your implement or have servicing carried out by a qualified dealer.
- During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the
  key to the tractor in your pocket.
- · For your own safety and that of others and to avoid forfeiting your warranty, use only original spare parts.
- Do not modify/alter or permit anyone else to modify/alter the implement or any of its components.
- Ensure implement is properly attached, adjusted and in good operating condition.
- Frequently check blades. They should be sharp, free of nicks and cracks and securely fastened.
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.
- Always use genuine Kanga Blades. Your dealer can supply you with genuine replacement blades.
- Firmly tighten all nuts/bolts/screws/shackles before operating. If worn or damaged, replace immediately.
- Block implements securely for storage.
- Keep children and bystanders away from storage area.
- Kanga Farm Equipment accepts no responsibility or liability for any losses, injuries or damages that may result from failing to observe these safety rules and the safety decals on the implement.



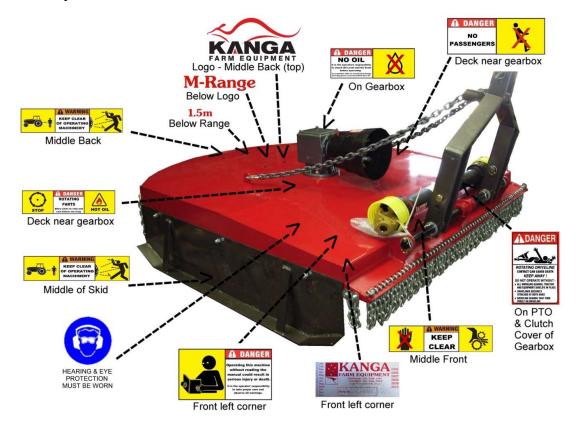
#### **SAFETY RULES & ACCIDENT PREVENTION**



#### ATTENTION! BE CAREFUL! YOUR SAFETY IS INVOLVED!



## Decal Layout...



## Replace any damaged or un-readable decals immediately.

Please contact your nearest Kanga Farm Equipment Dealer should you require replacement decals for your implement.

Below is a picture of the "waterproof holder" where your manual <u>must</u> be stored. The holder <u>must</u> be permanently fixed to the deck <u>with</u> the manual inside to satisfy OH&S legislation (introduced in 2011).

If the manual holder is damaged in any way, please contact your nearest dealer and arrange a replacement.

Replacement Order Code: 100.141 — Large Manual Holder 100.500 — Small Manual Holder



#### **OPERATION**

Safety is a primary concern in the design and manufacturing of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

The operator is responsible for the safe operation of this implement. The Operator must be properly trained. Operators should be familiar with the implement and tractor and all safety practices before starting operation. Read the safety rules and safety decal information on pages 8, 9 & 10.

# **WARNING**

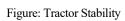
- Customers MUST carry out a Risk Assessment and/or "HazCheck" on every implement on their property.
- Do not allow children or untrained persons to operate this implement.
- Keep all people and animals away from the implement during startup, operating and when stopping.
- Never place any part of the body underneath the implement or between moveable parts even when the engine has been
  turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail or movement of the control levers can cause
  the implement to drop or rotate unexpectedly causing severe injury or death. Follow Operator's Manual instructions for
  working on your implement or have servicing carried out by a qualified dealer.
- During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the
  key to the tractor in your pocket.
- Make sure all spring activated locking pins or collars on the Power Take Off (PTO) Shaft move freely, are well greased and are firmly seated in the tractor PTO splined angular groove.

# **A** DANGER

- Watch for hidden hazards on the terrain during operation and avoid any hazards or object that could cause injury or damage.
- Inspect operating areas and remove any foreign objects that could be thrown, causing injury or damage. It is very
  important to always watch for foreign objects when you are operating and avoid them as they can cause injury or
  damage.
- When operating along roads, pathways or populated areas fit extra chains or shielding (which is designed to reduce the
  possibility of objects being thrown) to the implement. If the implement is missing or has damaged shielding, you must
  not continue until it has been repaired.
- When working in populated areas always place signs in the area to alert people or vehicles that may pass.

# **A** CAUTION

- Stop implement, then tractor, immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operations. Always block implement when inspecting.
- Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.
- A minimum 20% of tractor and equipment weight must be on the tractor's front wheels with implement in transport position. Without this weight, tractor could tip over causing personal injury or death. The weight may be attained with a loader, front wheel weights, and ballast in the tyres and/or front tractor weights. When attaining the minimum 20% weight on the front wheels, you must not exceed the ROPS max ballasted mass certificate. Weigh the tractor and implement. Do not estimate.





#### ATTACHING TO THE IMPLEMENT

# **WARNING**

- When connecting the tractor to the Implement, never stand in between the tractor and the Implement and, always find somewhere level/flat.
- Always adjust the tractor lower linkage arms anti-sway devices to prevent implement from swinging from side to side during transport and operation. Failure to do so may result in serious injury or damage. Damage such as bent and twisted implement towers are consumable items and are NOT covered by warranty.

Line the tractor up so that the double clevis mounting point on the implement can be connected to the lower link arms of the tractor and secure with lynchpins. Attach tractor top link to implement top double clevis with top hitch pin and secure with lynchpin. Always ensure that the tractor connection (lower arms or top link) are not outside the double clevis mounting point.

#### The Power Take Off Shaft (PTO)

PTO shafts come in standard lengths so that they can be adapted to all tractors. This means that you may have to shorten the PTO Shaft to suit your tractor. Failure to shorten your PTO shaft may result in "End Thrust." "End Thrust" can destroy your tractors internal drive and/or the Rotary Cutters Clutch and/or Rotary Cutter Gearbox. This damage will not be covered under warranty.

To shorten your shaft, please follow the steps below.

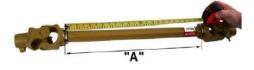
NOTE: End thrust from over length shafts (or seized telescopic tubes) can destroy your tractors internal PTO drive or implement clutch and gearbox, voiding your machine warranty.

1) Measure groove to groove distance from implement shaft to tractor shaft with implement in shortest position.

> NOTE: Length will vary as implement is raised or lowered















Required length of shaft is groove to groove length (step 1) less a minimum of 76mm (3") to allow for disconnection from tractor and prevent end thrust damage. If shaft is shorter than this, ensure that 50% of telescopic tubes over-







"R" = "A" - 76mm (3") ("B" is 76mm (3") less than "A")



Amount to cut off shaft; Length of new shaft (step 2) Less groove to groove measurement (step 1) plus 76mm (3") Cut this amount off both inner and outer drive tubes. Remove burrs and grease tubes.

> E.g. New shaft Less grove to groove requirement plus clearance 76mm Amount to cut off This is example only

Insert your own measurements.



+ 76mm (3")

380mm (15")











# **A** DANGER

 Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head when carrying out any servicing or operational tasks.

Always check the plastic guarding on PTO shaft and the plastic clutch cover on the gearbox. If worn or damaged replace immediately.

## **A WARNING**

 Make sure all spring activated locking pins or collars on the Power Take Off (PTO) Shaft move freely, are well greased and are firmly seated in the tractor PTO splined angular groove.

To secure the PTO to the tractor you will see that there is a spring activated locking pin on both ends of the PTO Shaft. Push this pin in and slide the PTO onto either the tractor output shaft or the implement input shaft. Continue to slide the PTO onto the shaft until it becomes firmly seated in the angular groove. Always ensure that both ends are locked into the angular groove before engaging the PTO Shaft.

# **A WARNING**

- Depending on the model of tractor that is being used, with the implement it may be possible to raise the
  implement to a point where the PTO fouls on the frame of the implement. This can bend your PTO shaft
  and may cause serious injury or damage. When commencing operations slowly raise the implement via the
  linkage. If the PTO shaft looks like it will touch before the linkage reaches the maximum lift, then set a
  "STOP" on the tractors hydraulic lower linkage arms so that the operator cannot go past this point during
  operation, do not commit it to memory.
- Check the specified PTO speed for your implement and ONLY operate in that range.

Your PTO shaft and the safety covers do comply with AS1121.4, and as a result, it will be clearly labelled with instructions to show which end should be fitted to the tractor and which should be fitted to the implement. Please follow the labels carefully so that you do not void your warranty.

To avoid damage to the covers of your PTO Shaft always slowly lower the shaft onto the deck of the Rotary Cutter when disconnecting it from your tractor. To prevent damage and for longevity when the implements is not in use always remove the PTO shaft from the clutch and store in a cool dry place.

#### **Cutting Height Adjustment**

## **A** IMPORTANT

Avoid low cutting heights. Striking the ground with blades produces one of the most damaging shock loads a Rotary
Cutter can encounter. Allowing blades to repeatedly make contact with the ground will cause damage to the Rotary
Cutter and drivelines (i.e. PTO Shaft, gearbox, etc.).

# **A WARNING**

- . Keep all persons away from operators control area while performing adjustments, service or maintenance.
- During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the
  key to the tractor in your pocket.

The Rotary Cutter should be operated at the highest position that will give the desired cutting result. This will help prevent the blades striking the ground, reducing blade wear and undue strain on the implement. For best results under heavier cutting conditions, always tilt the implement so that the front is 25-50mm lower. This tilt decreases the horsepower requirements and increases potential ground speed. When fine cutting is desired, adjust the implement so the deck is level or slightly lower in the rear. This will keep the material under the cutter until thoroughly shredded. Operating in this manner will require more horsepower and a slower ground speed to get the desired result.

# **A WARNING**

- Never place any part of the body underneath the implement or between moveable parts even when the engine has been turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail, or movement of the control levers can cause the implement to drop or rotate unexpectedly causing severe injury or death.
- Follow Operator's Manual instructions when working on your implement or have servicing carried out by a qualified dealer.



 Before commencing any adjustment, maintenance, or cleaning, always disengage the Power Take Off (PTO) Shaft, switch off the tractor engine, remove key and wait until all moving parts have come to a complete stop. Then ensure the machine is on the ground or on a robust secure support.

The minimum cutting height will vary depending on the Rotary Cutter you have purchased. Generally, the minimum height is around 40mm, and there are four (4) hole settings (approx. 30mm apart) giving you several height positions and a maximum cut height around 170mm). Always ensure that the Rotary Cutter is level by making sure every bolt is set in the same height position.

To adjust the height of your skids, you will need to remove the bolt, adjust the implement to the desired height, and replace bolt and spring washer before securing the nuts tightly.

If you have a depth wheel fitted then the height is adjustable from approx. 40mm to 300mm. For safety reasons, you must not remove the adjustable skids. It is good practice to set the adjustable skids at the minimum cut height. This will allow you a full range of height adjustment for the depth wheel and should the hydraulics on the tractor fail for any reason, will stop the cutter bar from hitting the ground and hence protect your gearbox.

To allow you a greater range of adjustment the Depth Wheel brackets have many holes. Like operating without a wheel, you should always ensure the back of the Rotary Cutter is 25-50 higher than the front. This is important not only for the quality of the cut but also for the depth wheel. The wheel needs to be able to work like a "shopping trolley" and can only do so if the back is higher.

## **Setting the Clutch**

The slip clutch is designed to slip, protecting the gearbox, PTO shaft and tractor in the event of the implement striking an obstruction.

All new clutches supplied with Kanga Farm Equipment implements have been preset (springs compress then backed off two (2) turns). YOU MUST 'fine tune' the clutch for your conditions (see below).

On 20 spline models, clutch retaining (clamp) bolts must be tightened to 150 ft/lbs to clamp clutch to shaft - LOOSE BOLTS = STRIPPED SPLINES.

NT: Discs are approximately 3.2mm thick when new. Replace discs after 1.6mm of wear. Minimum disc thickness is 1.6mm.

A new slip clutch, or one that has been in storage for some time, may be seized. Annually, release springs completely and allow clutch to slip to polish the pressure plate. To do this you will have to carry out the following operations:

- 1. Make sure tractor is turned off and key is removed.
- 2. Remove PTO Shaft from the tractor.
- 3. Loosen the bolts to remove all tension from the springs.
- 4. Grab PTO Shaft or clutch input shaft and turn to make sure clutch slips.
- If clutch does not slip freely, disassemble and clean the face of the clutch pressure plates and spline base assembly.
- 6. Reassemble clutch.
- 7. Tighten each bolt evenly until the springs are compressed, then back off all nuts two (2) full turns.
- 8. Engage PTO. If the clutch slips, tighten each bolt ¼ turn at a time until the clutch is no longer slipping. If the clutch does not slip, back off a ¼ turn (or more) until the clutch does slip, then tighten back up as above.
- 9. If springs are compressed (approx. 24mm) check friction discs for excessive wear. Discs are approximately 3.2mm thick when new. Replace discs after 1.6mm of wear. Minimum disc thickness is 1.6mm.

Every individual is operating in a slightly different environment with a range of variables that determine how the clutch must be set for their operation. The size of the tractor, the size of implement and the work being carried out and the terrain are all factors that determine the clutch setting. A quarter or half a turn can make a big difference. It is for this reason that each clutch should be reset every time before using the Rotary Cutter!

#### **Storage and Transport**

To increase the longevity of your Kanga Rotary Cutter, we suggest you try and store it under cover in a dry place out of the weather. This will reduce the amount of regular maintenance you will need to perform on the Rotary Cutter over the many years you are likely to own it.

If you cannot store your Kanga Rotary Cutter undercover, then we suggest you store it in a defined "machinery" area well away from animals, people and other machinery. If possible try and store the Rotary Cutter on a slight incline (or decline. As your Rotary Cutter has a clean top deck design a slight angle will allow any water to run off and as a result should increase the life of your Rotary Cutter.



When choosing a place to disconnect and leave your Rotary Cutter always make sure the skids are sitting on firm, stable ground. This will make it a lot easier to reattach the Rotary Cutter next time you need to use it. And always remove the PTO shaft and store it separately so PTO covers do not get damaged.

When transporting your Rotary Cutter always make sure the power to the Rotary Cutter has been turn off at the tractor and that the Rotary Cutter is far enough off the ground that it cannot come in contact with the ground.

NEVER TRANSPORT YOUR ROTARY CUTTER WITH BLADES/BLADE BEANS ROTATING!
NEVER TRANSPORT YOUR ROTARY CUTTER ON ROADS WITH THE SKIDS TOUCHING THE GROUND!

Always slow your speed on rough and uneven ground or roads. Always make sure your tractor and implement complies with current State and Federal laws and ensure you strictly adhere to all road traffic regulations in force in your particular state.

#### **Operating Technique**

Power for operating a Rotary Cutter is supplied by the tractor PTO. The decal on the implement will indicate the correct setting. In many cases, this will be 540 rpm, but operators MUST always double check. Know how to stop tractor and Rotary Cutter quickly in case of emergency. Always make sure the correct PTO setting has been selected before starting the tractor.

Set up your implement for the type of finish you are looking for as specified in the "Cutting Height Adjustment" on page 13 of this manual, then return to the tractor seat, fasten seat belt, make sure tractor is in neutral and all other controls are disengaged before starting tractor engine.

With the Rotary Cutter lowered, start tractor engine and engage PTO (while the tractor engine has low rpm to minimise stress on the driveline and gearbox). With PTO engaged, raise engine rpm until PTO speed is 540 rpm (or 1000rpm on some Multi Head Rotary Cutters). Maintain throughout cutting operation.

Gearbox protection is provided by a slip clutch with replaceable discs. The slip clutch is designed to slip when excessive torque loads are encountered. Always make sure the clutch is set and working correctly before operating.

Move into material slowly with the Rotary Cutter. Adjust tractor ground speed to provide a clean cut without straining the tractor engine. If tractor engine is straining, reduce amount of material being cut by taking a narrower pass. Ground speed will depend upon the terrain, the height, type and density of the material being cut. Normal ground speed will range from four to eight kph (two to five mph). Taller dense material should be cut at low speed; thin medium-height material can be cut at a faster ground speed. Use a slow ground speed for finer cutting

Always operate tractor PTO at 540rpm (1000 for some Multi Heads) as specified in the "Specifications." This is necessary to maintain proper blade speed and produce a clean cut. A slower PTO speed will result in blades and bushes moving around due to the low centrifugal, which will lead to excessive wear.

Under certain conditions, tractor tyres may roll some grass down and prevent it from being cut at the same height as the surrounding area. When this occurs reduce ground speed, but maintain either 540 or 1000rpm at the PTO. The slower ground speed will at least give the grass time to partially rebound and get cut.

Under some conditions, grass will not rebound enough to be cut evenly. In general, lower cutting heights give a more even cut with fewer tendencies to leave tire tracks. However, it is better to cut grass frequently rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing seasons.



Inspect operating areas and remove any foreign objects that could be discharged. It is very important to always watch for foreign objects when you are operating and avoid them as they can cause injury, damage and in extreme situations death.

Extremely tall material should be cut twice. Set Rotary Cutter at a higher cutting height for the first pass. Then for the second pass cut at desired height, 90° to the first pass. Remember, sharp blades produce a cleaner cut and require less horsepower.



Analyse area to be cut to determine the best procedure. Plan your operating pattern to travel straight forward whenever possible. Travel clockwise around fields when possible to minimise streaking on corners. Consider height and type of grass and terrain type: hilly, level, rough. Always allow for the effect that the weight of an implement has on the tractor particularly on steep or unstable terrain. It is recommended, in steep terrain, you work straight up and down not across the slope.

## **WARNING**

splined angular groove.

- Do not operate on steep slopes, if in doubt set rear axles wider or only operate on moderate slopes.
- Do not stop, start or change directions suddenly on slopes, working up and down is recommended.
- Use extreme care and reduce ground speed on slopes and rough terrain.

Pass diagonally through sharp dips and avoid sharp drops to prevent "hanging up" tractor and Rotary Cutter. Practice will improve your skills in maneuvering on rough terrain

## **Daily Pre-Operation Checklist**

(Owners Responsibility)

- Operators MUST carry out a Risk Assessment and/or "HazCheck" for the implement and ensure it is correct for the conditions the implement will be operating. Review and follow safety rules outlined in this manual Check Waterproof Manual Holder is attached to the deck and manual is in good condition inside Check that implement is properly and securely attached to the tractor П Make sure PTO spring activated locking pin is well greased, sides freely and is firmly seated in tractor PTO
- Visual inspection looking for oil. You may need to remove grass or foreign matter wrapped around the hub/shaft.
  - Check the area near the hub/shaft where there is a lower seal. Also inspect the ground directly under where the gearbox was.
  - Do not operate if any oil is visible. You will need to change the oil seal to prevent damage to the gearbox.
- Check oil runs out the small level plug on the side of the gearbox.
- Set tractor PTO at 540 rpm (Some Multi-Heads may have been designed for 1000rpm).
- Lubricate all grease fitting locations. Make sure PTO joints and shaft is well lubricated. П
- Check all hardware (i.e. bolts, nuts, shackles, chains, etc.) are properly secured and in good condition.
- Check blades are sharp and secure and cutting edge is positioned to lead when rotating anti-clockwise.
- Check that all shields and guards are properly installed and in good condition
- Check cutting height, front to rear attitude and top link adjustment.
- Set friction clutch as outlined in "Owner Service" section of this manual.
- Ensure tractor PTO and transmissions are in neutral before starting engine. П
- Inspect area that you will be operating in and remove any object that may cause injury or damage.



#### ▲ IMPORTANT

Set friction clutch as outlined in "Owner Service" section of this manual. Vibration tends to loosen bolts during operation. All hardware should be checked regularly. It is good practice to check implement before each operation to ensure all hardware is secure.



#### **OWNER SERVICE**

The information in this section is written for operators who possess basic mechanical skills. Should you need help, your dealer has trained service technicians available. For your protection, read and follow safety information in this manual.

## **A WARNING**

- Disengaged tractor PTO and wait for all moving parts to come to a complete stop. Lower implement to the ground or block with secure, robust support. Turn tractor engine off, remove key and disconnect PTO Shaft from the tractor before performing any service or maintenance.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.
- During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the
  key to the tractor in your pocket.

## **A** CAUTION

 Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.

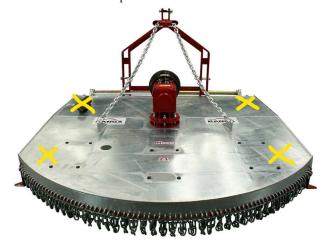
## **Blocking Method**

To minimise the potential hazards of working underneath the implement, these procedures must be followed.

## **WARNING**

- Never go underneath implements that are lowered to the ground or raised, unless it is properly blocked and secure.
   Never place any part of the body underneath the implement or between moveable parts even when engine has been turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail or movement of the control levers can cause the implement to drop or rotate unexpectedly causing severe injury or death. Follow Operator's Manual instructions for working on your implement, correct blocking procedures or have servicing carried out by a qualified dealer.
- During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the
  key to the tractor in your pocket.

Jack stands with a load rating of 1250lbs (560kg) PLUS is the only approved blocking devices for this implement. A minimum of four (4) jack stands, located under the implement as shown by the "X's" (below), must be installed before working underneath the implement. Do not position jack stands under wheels, axles or wheel supports as components can rotate and cause implement to fall.



When blocking, you must consider the overall stability of the implement. Just placing jack stands under the unit will not ensure your safety. The working surface must be level and solid to support the weight of the jack stands. Ensure jack stands are stable both top and bottom, and implement is approximately level. With full implement weight lowered onto jack stands, test blocking stability before beginning working underneath implement.

Implement should be properly and securely attached to the tractor (see operating section), the brakes firmly set, key removed and both front and rear tractor wheels securely blocked.



#### **Removing Cutter from Tractor**

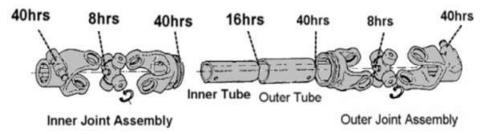
It is more than likely that you will have the implement in the transport position and therefore the PTO should already be disengaged. Never transport the implement with the PTO engaged. Lower implement and all attachments (i.e. loader buckets) all the way to the ground and wait for all moving parts to come to a complete stop. Turn off tractor ignition and remove key. Firmly apply park brake, remove seatbelt and dismount the tractor. Remove check chains (if installed). Disconnect the PTO Shaft from the tractor by depressing spring activated locking pin(s) and slowly lower PTO Shaft onto the deck to avoid damage to the safety covers. Next, disconnect PTO shaft from the implement. In some situations, this will be as per tractor end. In others, there will be a bolt(s) that connect the clutch to the input shaft. Store PTO in a dry area undercover. Block implement securely for storage with robust, secure supports then remove top and lower linkage pins. Make sure that the tractor's lower linkage arms are free and return to tractor seat. Start tractor as specified in the tractors operating manual, select a low gear and slowly drive away from the implement making sure that it does not fall.

#### **Lubrication Information**

Do not let excess grease collect on or around parts, particularly when operating in sandy conditions. The figures below show the lubrication points and give the frequency of lubrication in normal operating hours based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.

Kanga Farm Equipment, in conjunction with the gearbox manufacturer, recommends high-quality gear oil with a viscosity index of 90W. Fill gearbox until oil comes out the side plug on the gearbox. Check gearbox daily for evidence of leakage. Have your dealer assist you should you find evidence of leakage.

With regards to the PTO shaft, please lubricate as instructed below. Failure to maintain proper lubrication could result in damage to universal Joints, gearbox and driveline.





#### LUBRICATION

#### Sliding Members

Use high temperature grease similar to HP multi-purpose chassis grease.

Grease sliding members prior to assembly and after every 20 hours of use. For applications with high telescoping movement grease every 8 hours.

Bare-Co shafts from 8 series upwards are equipped with a grease nipple which can be accessed by releasing the patent guard to align access hole.

#### **Universal Joints**

Grease standard joints every 20 hours or 8 hours for severe conditions. Wide angle joints every 8 hours under wide angle conditions. Operating standard shafts at greater than 10 degrees angle or wide angle shafts at greater than 18 degrees angle dramatically reduces cross bearing life and requires more frequent lubrication.



IMPORTANT: Grease follows the easiest path through internal ports to the four cross bearings.

Over heating and poor quality grease baked in one port will prevent grease reaching that bearing, resulting in failure of individual cross bearings.

Typical cross failure due to blocked internal grease port

#### MOST IMPORTANT!

Fully open guard covers to ensure grease flows to all cross bearings Greasing through small guard access holes is not good enough!

#### **Cutter Bar and Blade Servicing**

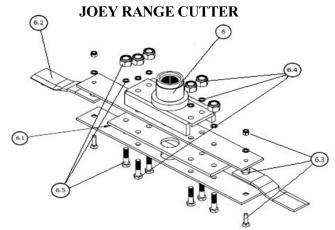
It will be necessary to gain access to the bottom side of the Rotary Cutter to change the blades. Disconnect PTO Shaft from the tractor, raise implement and block securely as outlined in this manual, before changing the blades.

Remove nuts and then carefully remove blade bolt. If the blade bolt is seized in the cutter bar, to prevent gearbox damage, it may be necessary to completely unbolt rotor before driving the old bolt out.

Always replace or sharpen both blades at the same time. Inspect blade bolts for nicks and gouges; replace if evident. Insert blade bolt through lower part of the blade beam, then through the blade with the hardened bush inserted. Finally insert through the top part of the blade beam and secure with Nyloc Nut. Blade should swivel on the bolt. If not, determine cause and correct (i.e. maybe nut too tight).

#### **▲** IMPORTANT

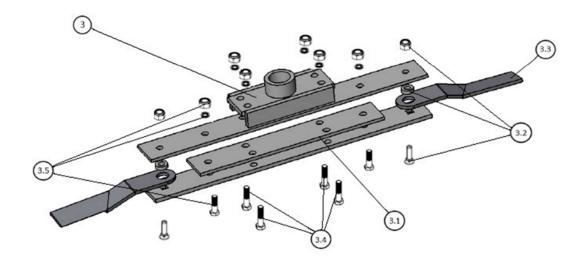
- Blade beam rotation is anti-clockwise when looking down on the Rotary Cutter. Be sure to install blade cutting edge to lead in an anti-clockwise direction.
- When sharpening blades, grind each blade equally to maintain balance. Replace blades in pairs. Unbalanced blades will cause excessive vibration that can damage gearbox bearings. Vibration may also cause structural cracks to the implement and/or gearbox housing.



Ref	Description		Part #		Qty
Kei	Description	100	125	150	Qty
	Cutter Bar 'T' Piece assembly (Pre-2023)		100.707		1
6	Cutter Bar 'T' Piece assembly (Serial numbers starting with four (4) letters i.e. AJCC 104 100 447)		100.424		1
6.1	Three (3) piece Cutter Bar assembly	100.708	100.709	100.710	1
6.2	Blade Bolt Kit (suit pair of blades)	100.412		1	
6.3	Blade Kit (pair of blades)	100.411b		1	
6.4	Cutter Bar 'T' Piece Bolt Kit		100.714		1
6.5	Cutter Bar Bolt Kit	N/A	100	.715	1



# S RANGE CUTTER



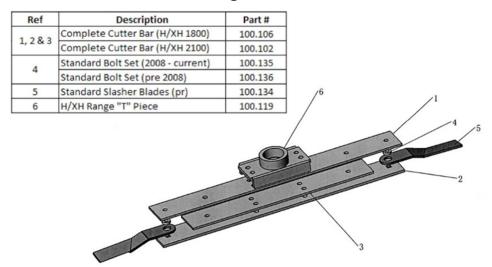
Ref	Description		Part #		Qty
Kei	Description	120	135	150	ζίγ
3	Cutter Bar 'T' Piece assembly		100.328		1
3.1	Three (3) piece Cutter Bar assembly	100.310	100.306	100.302	1
3.2	Blade Bolt Kit (suit pair of blades)		100.135		1
3.3	Blade Kit (pair of blades)	100.134		1	
3.4	Cutter Bar 'T' Piece Bolt Kit	100.345		1	
3.5	Cutter Bar Bolt Kit	N/A	100	.346	1

# M Range Cutter Bar

Complete Cutter Bar (M1500)   100.210     2 & 3   Complete Cutter Bar (M1800)   100.206     Complete Cutter Bar (M2100)   100.202     4   Standard Bolt Set (2008 - current)   100.135     Standard Bolt Set (pre 2008)   100.136     5   Standard Slasher Blades (pr)   100.134     6   M Range "T" Piece   100.235	Complete Cutter Bar (M1800)   100.206	Ref	Description	Part #	
Complete Cutter Bar (M2100)   100.202     Standard Bolt Set (2008 - current)   100.135     Standard Bolt Set (pre 2008)   100.136     Standard Slasher Blades (pr)   100.134     6   M Range "T" Piece   100.235	Complete Cutter Bar (M2100)   100.202     Standard Bolt Set (2008 - current)   100.135     Standard Bolt Set (pre 2008)   100.136     Standard Slasher Blades (pr)   100.134     6   M Range "T" Piece   100.235		Complete Cutter Bar (M1500)	100.210	
4 Standard Bolt Set (2008 - current) 100.135 Standard Bolt Set (pre 2008) 100.136  5 Standard Slasher Blades (pr) 100.134 6 M Range "T" Piece 100.235	4 Standard Bolt Set (2008 - current) 100.135 Standard Bolt Set (pre 2008) 100.136 5 Standard Slasher Blades (pr) 100.134 6 M Range "T" Piece 100.235	, 2 & 3	Complete Cutter Bar (M1800)	100.206	
4 Standard Bolt Set (pre 2008) 100.136 5 Standard Slasher Blades (pr) 100.134 6 M Range "T" Piece 100.235	4         Standard Bolt Set (pre 2008)         100.136           5         Standard Slasher Blades (pr)         100.134           6         M Range "T" Piece         100.235		Complete Cutter Bar (M2100)	100.202	
Standard Bolt Set (pre 2008)   100.136	Standard Bolt Set (pre 2008)   100.136	4	Standard Bolt Set (2008 - current)	100.135	/6
6 M Range "T" Piece 100.235	6 M Range "T" Piece 100.235	4	Standard Bolt Set (pre 2008)	100.136	- 1
		5	Standard Slasher Blades (pr)	100.134	
		6	M Range "T" Piece	100.235	
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# H/XH Range Cutter Bar

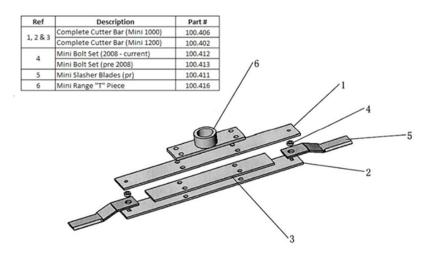


# **H Range Bisalloy Disc Rotor**



Part #	Description
100.170	Complete Bis Alloy Disc Rotor (H2100) inc. blades
100.180	Complete Bis Alloy Disc Rotor (H1800) inc. blades
100.181	H1800 Disc Rotor blade (ea.)
100.182	H2100 Disc Rotor blade (ea.)
100.183	Disc Rotor 1" blade bolt kit (per blade)
100.183a	Pin Protector Only (ea.)
100.183b	Pin Only (ea.)
100.183c	Pin Nyloc Nut Only (ea.)
100.183e	Pin Key Only (ea.)
100.183i	Blade Bush/Collar (ea.)
100.183j	Boss with key (welds to top of disc)
100.184	Disc Rotor Gearbox Hub Connector Disc

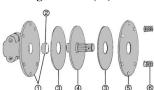
## Discontinued - MINI RANGE





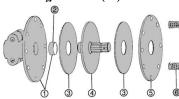
#### The Clutch

#### Kanga 150mm (6") Two Plate Slip Clutch



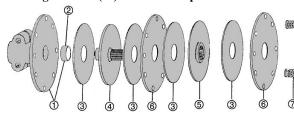
- 1) 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline base assembly (includes bush)
- 2) Bush 1 <sup>1</sup>/<sub>8</sub>" ID
- 3) Friction Disc 5" OD x 1 <sup>3</sup>/<sub>4</sub>" ID (2 required)
- 4) 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline Drive Plate
- 5) Pressure Plate
- 6) Spring (6 required)

#### Kanga 200mm (8") Two Plate Slip Clutch



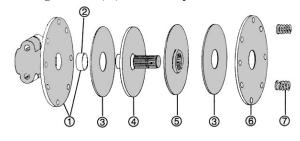
- 1) 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline base assembly (includes bush)
- 2) Bush 1 <sup>1</sup>/<sub>8</sub>" ID
- 3) Friction Disc  $6^{1}/2$ " OD x 2  $^{1}/2$ " ID (2 required)
- 4) 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline Drive Plate
- 5) Outer Pressure Plate
- 6) Spring (8 required)

#### Kanga 200mm (8") Four Plate Slip Clutch



- 1) 1 <sup>3</sup>/<sub>4</sub>" x 20 Spline base assembly. High Tensile Casting <sup>5</sup>/<sub>8</sub>" Clamp bolts
- 2) Bush to suit 1 <sup>3</sup>/<sub>4</sub>" x 20 Spline base
- 3) Friction Disc  $6^{1/2}$ " OD x  $2^{1/2}$ " ID (4 required)
- 4) 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline Drive Plate
- 5) Intermediate Pressure Plate 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline
- 6) Outer Pressure Plate (2 required)
- 7) Spring (8 required)

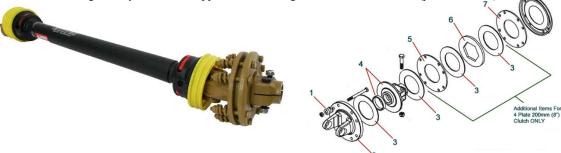
#### Kanga 200mm (8") Six Plate Slip Clutch



- 1) 1  $^{3}$ /<sub>4</sub>" x 20 Spline base assembly. High Tensile Casting with  $^{5}$ /<sub>8</sub>" Clamp bolts
- 2) Bush to suit 1 <sup>3</sup>/<sub>4</sub>" x 20 Spline base
- 3) Friction Disc  $6^{1/2}$ " OD x  $2^{1/2}$ " ID (6 required)
- 4) 1 3/4" x 20 Spline Drive Plate
- 5) Intermediate Pressure Plate 1 3/4" x 20 Spline
- 6) Outer Pressure Plate (3 required)
- 7) Spring (8 required)

## **Integral PTO Shafts and Clutch**

Some Kanga Rotary Cutters are supplied with an Integral PTO Shaft and Clutch (pictured below).



In most situations these clutches have higher torque ratings and less joining parts making them a better option.

If you receive an Integral Clutch and Shaft please set and shorten them the same way as individual clutch shaft combinations.

For parts, please check the diameter of the clutch and the number of linings (2 or 4) and contact us on 03 9706 5166 or sales@farmimplements.com.au



## **Shielding Repair**

# **A** DANGER

- When operating along roads, pathways or populated areas fit extra chains or shielding (which is designed to reduce the possibility of objects being discharged). If the implement is missing or has damaged shielding, operation must not continue until it has been repaired.
- When working in highly populated areas always place signs in the area to alert people or vehicles that may be passing.

Your implement will be fitted with Chain Guards or Shielding. It is important to inspect the guarding every day prior to operation. Should there be any visible signs of wear or damage, repair or replace required parts and ensure guarding is in an "as new" condition before commencing operations.

	Trouble Shooting	
Problem	Cause	Solution
Grass cut is lower in the centre than on the edges.	Height of the Rotary Cutter is lower at the front or rear.	Adjust height and ensure front and rear of the Rotary Cutter are within 20mm of the same height. See instructions.
Rotary Cutter is "Streaking" (i.e. not cutting cleanly.)	Conditions too wet for cutting.	Allow grass to dry before cutting.
	Blades unable to cut the grass that the tractor tyres pressed down.	Reduce ground speed but maintain maximum rpm at the tractor PTO as specified in "Specifications." And/or, lower cutting height.
	Blunt Blades.	Sharpen or replace blades.
Material discharged from Rotary Cutter is uneven and in clumps.	Material being cut is too long and/or has too much volume.	Reduce ground speed but maintain maximum rpm at the tractor PTO as specified in "Specifications" or make two passes. First pass higher than the second and the second at 90° to the first.
	Grass is too wet.	Allow grass to dry before cutting. Reduce ground speed but maintain maximum rpm at the tractor PTO as specified in "Specifications."
	Rear of Rotary Cutter is too low, trapping material underneath.	Adjust Rotary Cutter height and ensure front and rear of the Rotary Cutter are within 20mm of the same height (see instructions.).
Rotary Cutter will not cut all the time and the clutch smokes when it's not cutting.	Slip clutch is slipping.	Adjust slip clutch according to instructions in the "Owner Service" section of this manual.



#### **GEARBOX SERVICE**

The information in this manual requires special skills and tools. If you do not have the righ tools, or your mechanics is not properly trained in this type of repair, you may void your warranty or cause more damage leading to a larger repair bill.

## **WARNING**

- Never place any part of the body underneath the implement or between moveable parts even when the engine has been turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail or movement of the control levers can cause the implement to drop or rotate unexpectedly causing severe injury or death. Follow Operator's Manual instructions for working on your implement or have servicing carried out by a qualified dealer.
- During routine checks and/or repairs ensure that no one can switch on the tractor or implement accidentally. Keep the key to the tractor in your pocket.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.

# **A** CAUTION

 Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.

#### **Gearbox Maintenance**

## **WARNING**

- During routine checks and/or repairs ensure that no one can switch on the tractor or implement accidentally. Keep the key to the tractor in your pocket.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Do not carry out any servicing on the gearbox if it has been operating. Gearboxes and the oil inside are very hot during operations and for some time after you have finished and can cause serious burns. Always wait for gearbox to cool down.

Fill gearbox with high-quality gear oil with a viscosity index of 90W. Fill gearbox until the oil runs out the side plug on the gearbox. Gearbox Oil should be changed every 1000 hours of use or every two (2) years. Always drain oil into a container and dispose of it properly to protect the environment.

Oil level must be checked daily. The composition of oil deteriorates over time and the intense heat that occurs when operating a gearbox reduces the oil level. Low oil levels will result in wear of gearbox components that over time will result in component failure that could have been prevented.

Inspect gearbox for leakage and bad bearings. Leakage is a very serious problem and must be corrected immediately. Excessive noise and side to side or endplay in the shafts indicate bearing failure. Leakage can occur at the vertical or horizontal gasket and shaft seals. Leakage from the horizontal gasket or seal can be repaired without removing the gearbox from the Rotary Cutter.

Proper seal installation is important. An improperly installed seal will leak. Always ensure the area where the seals outer diameter sits is clean. Always inspect the area of the shaft where the seal sits and remove any burrs or nicks with an emery cloth. Always lubricate gear shaft and seal lips before assembling. Remove and replace any seals damaged during assembly.

When assembling gearboxes always clean housing paying specific attention to areas where gaskets will be installed. Wash housing and all components thoroughly. Select a clean area where you can assemble the gearbox. Replace any damaged seals, bearings or gaskets. All parts must be clean and lightly oiled before being reassembled.

In the event of gearbox failure, Kanga Farm Equipment recommend you request a repair quotation and compare this to the cost of a new gearbox before authorising any gearbox repairs. In many cases, it is more economical to purchase a complete gearbox (once the labour component is added to the costs of a repair) as a new gearbox comes with a 12-month warranty (gearbox only).



## Pre-March 2023

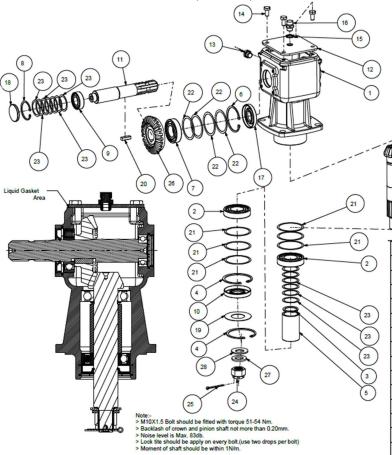
Part # 100.414 - 50hp Hi-Speed Gearbox JOEY100, JOEY125 and All Mini Range Rotary Cutters

Input Seal – 35 x 22 x 8 Lower Seal – 40 x 55 x 8 No other parts offered by the supplier.



Part # 100.420 - 50hp Hi-Speed Gearbox From 2023 | Serial numbers starting with four (4) letters i.e. AJCC 104 100 447

JOEY100 and JOEY125 (from 2023)



28	SPRING DISC WASHER 25.4 X 50 X 3	1
27	WASHER 44 X 25 X 4	1
26	ASSEMBLY, CRN T25,PINION T10-SLC	1
25	COTTER PIN (DIA 4 X 70)	1
24	SPECIAL, CASTLE NUT M24 X 2 GA	1
23	SPECIAL, SHIM 50X40.5 (0.20MM)	13
22	RO SHIMS MS 71.75 X 60.25 X 0.2	4
21	RO SHIMS MS 79.75 X 70 X 0.2	6
20	KEY, 10 X 8 X 30 (SQ)	1
19	RO SHIMS MS 79.9 X 40.2 X 1	1
18	OIL SEAL 52 X 6.5	1
17	OIL SEAL 35 X 72 X 10	1
16	BREATHER, AIR 3/8" BSP	1
15	SEAL, DOWTY (3/8 BSP)	1
14	HEX BOLT M10X1.50X20(DIN933)(8.8)ZAFC	4
13	PLUG, 3/8 BSP WITH O-RING	1
12	GEARBOX, TOP PLATE GA	1
11	SHAFT, INPUT GA	1
10	OIL SEAL 40 X 80 X 12	1
9	BALL BEARING 6205	1
8	CIRCLIP INTERNAL 52MM (DIN 472)(HD)	1
7	BEARING 6207	1
6	CIRCLIP INTERNAL 72MM (DIN 472)	1
5	SPECIAL, BUSH Ø51 X Ø40 X 80-GA	1
4	CIRCLIP INTERNAL 80MM (DIN 472)	2
3	CIRCLIP EXTERNAL 40MM (DIN 471)(HD)	1
2	BEARING 6208	2
1	GEARBOX, CASING GA	1
Sr No.	PART NAME	QTY.



# Part # 100.312 – 40hp Gearbox JOEY150 Pre-March 2023

## JOEY150 and all S Range Rotary Cutters

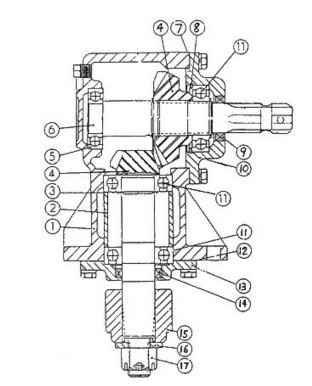
Seals: Triple lipped spring loaded

Bearings: Deep groove ball Oil: EP-90, 0.77L Weight: 22.8 kg Input shaft:  $1^{3}/_{8} \times 6 \text{ Spline}$ 

Rotation:



- 1) Housing
- 2) Spacing Sleeve
- 3) Retaining ring (3 used)
- 4) Matched set of gears (1:1.93 ratio)
- 5) Rear bearing
- 6) Input shaft
- 7) Input gasket
- 8) Retaining ring
- 9) Input Seal
- 10) Input cap
- 11) Bearing (3 used)
- 12) Output gasket
- 13) Lower seal housing
- 14) Output seal
- 15) Hub
- 16) Flat washer
- 17) 1" x 14 TPI castellated nut



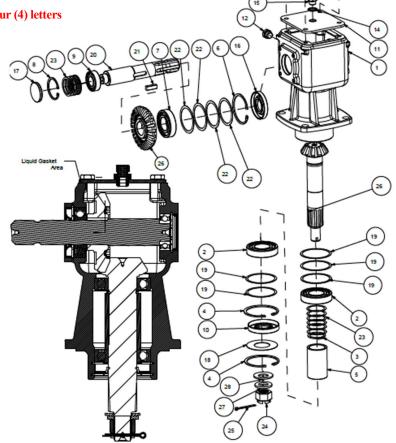
# Part # 100.421 – 40hp Gearbox

From 2023 | Serial numbers starting with four (4) letters

i.e. AJCC 104 100 447

**JOEY150 ONLY** 

28	SPRING DISC WASHER 25.4 X 50 X 3	1
27	WASHER 44 X 25 X 4	1
26	ASSEMBLY, CRN T23,PINION T12-SLC	1
25	COTTER PIN (DIA 4 X 70)	1
24	SPECIAL, CASTLE NUT M24 X 2 GA	1
23	SPECIAL, SHIM 50X40.5 (0.20MM)	13
22	RO SHIMS MS 71.75 X 60.25 X 0.2	4
21	KEY, 10 X 8 X 30 (SQ)	1
20	SHAFT, INPUT GA	1
19	ROISHIMS MS 79.75 X 70 X 0.2	5
18	RO SHIMS MS 79.9 X 40.2 X 1	1
17	OIL SEAL 52 X 6.5	1
16	OIL SEAL 35 X 72 X 10	1
15	BREATHER, AIR 3/8" BSP	1
14	SEAL, DOWTY (3/8 BSP)	1
13	HEX BOLT M10X1.50X20(DIN933)(8.8)ZAFC	4
12	PLUG, 3/8 BSP WITH O-RING	1
11	GEARBOX, TOP PLATE GA	1
10	OIL SEAL 40 X 80 X 12	1
9	BALL BEARING 6205	1
8	CIRCLIP INTERNAL 52MM (DIN 472)(HD)	1
7	BEARING 6207	1
6	CIRCLIP INTERNAL 72MM (DIN 472)	1
5	SPECIAL, BUSH Ø51 X Ø40 X 80-GA	1
4	CIRCLIP INTERNAL 80MM (DIN 472)	2
3	CIRCLIP EXTERNAL 40MM (DIN 471)(HD)	1
2	BEARING 6208	2
1	GEARBOX, CASING GA	1 -
Sr. No.	PART NAME	QTY.





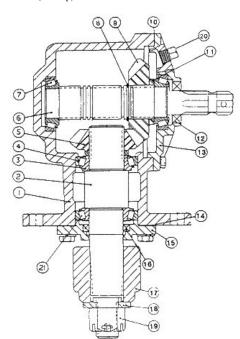
## Part # 100.212 – 75hp Gearbox (1:1.46) M2100 (7'-0") Rotary Cutters and as an out-rigger gearbox on some Multi-Head Cutters

Housing (all 75hp): 60-45-10 Nodular Shafts & Gears (all 75hp): UNS G51200

Seals (all 75hp): Triple lipped spring loaded

Bearings (all 75hp): Tapered roller Oil (all 75hp): EP-90, 1.12L Weight (all 75hp): 37.2 kg Input shaft (all 75hp):  $1\frac{3}{8} \times 6 \text{ Spline}$ 

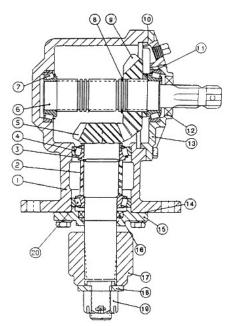
Rotation (all 75hp):





- 1) Main Housing
- 2) Output shaft
- 3) Bearing cone top and bottom
- 4) Bearing cup top
- 5) 13 tooth output pinion (1:1.46 ratio)
- 6) Input Shaft (1<sup>3</sup>/<sub>8</sub> x 6 Spline)
- 7) Cup and cone assembly (2 used)
- 8) Retaining Ring
- 9) 19 tooth input pinion (1:1.46 ratio)
- 10) Shim gasket (use quantity as required)
- 11) Spacer
- 12) Input seal
- 13) Input Cap
- 14) Shim gasket
- 15) Lower seal housing
- 16) Output seal
- 17) Hub
- 18) Flat washer (1" ID)
- 19) 1" x 14 TPI castellated nut
- 20) Breather Plug
- 21) Bottom bearing cup

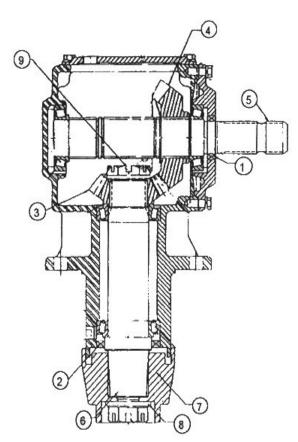
Part # 100.213 – 75hp Gearbox (1:1.93) M1500 (5'-0") & M1800 (6'-0") Rotary Cutters, and as an out-rigger gearbox on some Multi-Head Cutters



- 1) Main Housing
- 2) Spacing tube
- 3) Bearing cone top and bottom
- 4) Bearing cup top
- 5) 15 tooth output pinion (1:1.93ratio)
- 6) input shaft  $(1^3/8 \times 6 \text{ Spline})$
- 7) cup and cone assembly (2 used)
- 8) Retaining ring
- 9) 29 tooth input pinion (1:1.93 ratio)
- 10) shim gasket (use quantity as required)
- 11) spacer
- 12) input seal
- 13) input cap
- 14) shim gasket (use quantity as required)
- 15) lower seal housing
- 16) output seal
- 17) hub
- 18) flat washer (1" ID)
- 19) 1" x 14 TPI castellated nut
- 20) bottom bearing cup



Part # 100.108 – 130hp Gearbox (1:1.467 ratio) H2100 (7'-0") Rotary Cutters\* Part # 100.109 – 130hp Gearbox (1:1.92 ratio) H1800 (6'-0") Rotary Cutters\* Part # 100.142 – 130hp Gearbox (1.888:1 Reduction) Multi Head Cutters\* Part # 100.143 – 130hp Gearbox (1:1 ratio) Multi Head Cutters\* \* - and as an out-rigger gearbox on some Multi-Head Cutters



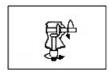
 Housing:
 60-45-10 Nodular

 Shafts:
 UNS G51200

 Gears:
 UNS G51200

Seals: Triple lipped spring loaded

Bearings: Tapered roller



Oil: EP-90, 1.5L Input shaft:  $1^{3}/_{4} \times 20$  Spline Output shaft: 60mm dia.

Rotation:

- 1. Input seal
- Output seal
- 3. Output gear 13 tooth 17 spline (1:1.467 ratio)
- a. Output gear 13 tooth 25 spline (1:1.92 ratio)
- b. Output gear 19 tooth (1.888:1 reduction ratio)
- c. Output gear 17 tooth (1:1 ratio)
- 4. Input gear 19 tooth (1:1.467 ratio)
- a. Input gear 25 tooth (1:1.92 ratio)
- b. Input gear 16 tooth (1.888:1 reduction ratio)
- c. Input gear 17 tooth (1:1 ratio)
- Input shaft
- 6. Output shaft (1:1.92 ratio)
- 7. Output shaft (all other model)
- 8. Output hub
- 9. Lower output nut
- 10. Top output nut

## Multi Head "T" Gearboxes

The gearboxes in this section are used in conjunction with the right angle gearboxes pictured in pages 25-27 of this manual. The driveline (clutches, PTO shafts, and Rubber or Spring Cushion Couplings (page 29) is supplied as one system and rated by the suppler. For more information on the driveline of your machine, please contact us.

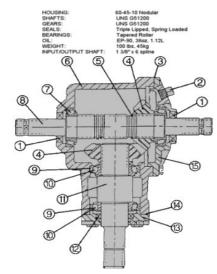
Part # 100.144 – 50hp "T" Gearbox (1:1 Ratio)
Part # 100.145 – 50hp "T" Gearbox (1:1.5 Ratio)
Used on LD Twin Rotor Slashers





#### Part # 100.146 - 80hp "T" Gearbox (1:1 Ratio)

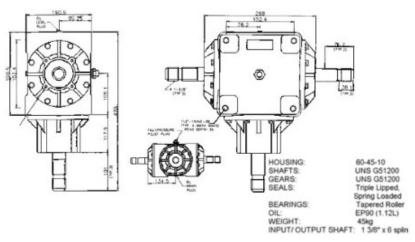
Used on 90hp Twin Rotor Slashers and Pasture Toppers



- 1) Oil Seal
- 2) Breather Plug
- 3) Output Gasket Shim
- 4) 17 Tooth Gear (2 req.)
- 5) Circlip
- 6) Main Housing
- 7) Cup/Cone Bearing (2 req.)
- 8) Through Shaft
- 9) Bearing Cup (2 req.)
- 10) Bearing Cone (2 req.)
- 11) Input Shaft
- 12) Input Seal
- 13) Input Cap
- 14) Input Gasket Shim
- 15) Cap

Part # 100.147 - 90hp "T" Gearbox (1:1.5 Ratio)

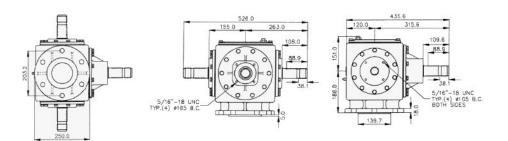
Used on 75hp Orchard/Vineyard Rotary Cutters & Pasture Topper



- 1) Input Seal
- 2) Output Seal
- 3) Through Shaft
- 4) Input Gear
- 5) Output Gear
- 6) Input Shaft

Part # 100.147 – 150hp "T" Gearbox (1:1 Ratio)
Part # 100.148 – 150hp "T" Gearbox (1:1.5 Ratio)

Used on 130hp or 200hp Twin Rotor Slashers and Pasture Toppers





Part # 100.150 - 150hp "4-WAY" Gearbox (1.888:1 Reduction Ratio)

Part # 100.151 - 150hp "\$-WAY" Gearbox (1:1.467 Ratio)

Part # 100.152 - 150hp "\$-WAY" Gearbox (1:1.92 Ratio)



Housing: 60-45-10 Nodular Shafts: UNS G51200 Gears: UNS G51200

Seals: Triple lipped spring loaded

Bearings: Taper Roller EP-90 Oil:

1/ Input Oil Seal 2/ Through Shaft Oil Seal

3/ Through Shaft 4/ Input Gear 5/ Output Gear 6/ Input Shaft 7/ Outer Bearing (input and cross shafts)

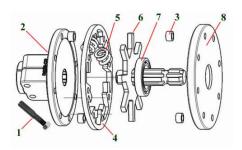
8/ Rear Bearing (input shaft) 9/ Bearing (output shaft) 2 required 10/ Slotted Nut (1 3/8" x 18 UNF)

Part # 100.153 – Male Spring Coupling (1 3/8 x 6 Spline Anticlockwise)

Part # 100.154 – Male Spring Coupling (1 3/8 x 6 Spline Clockwise)

Part # 100.157 – Male Spring Coupling (1 3/4 x 20 Spline Anticlockwise)

Part # 100.158 – Male Spring Coupling (1 3/4 x 20 Spline Clockwise)



1/ Cotter Bolt – Fits 1 3/4" x 20 Spline single cotter bolt coupling

2/ Base - 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline

Base - 1 3/4" x 20 Spline

3/ Spacing Collar

4/ Outer Spider Plate

5/ Drive Spring (8 req.)

6/ Inner Spider (1 3/8" x 6 Spline) Inner Spider (1 3/4" x 20 Spline)

7/ Bearing (suit both Spiders)

8/ Bearing Housing

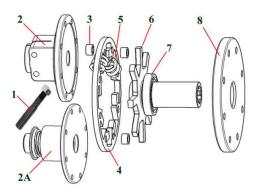


Part # 100.155 – Female Spring Coupling (1 3/8 x 6 Spline Anticlockwise)

Part # 100.156 – Female Spring Coupling (1 3/8 x 6 Spline Clockwise)

Part # 100.159 - Female Spring Coupling (1 3/4 x 20 Spline Anticlockwise)

Part # 100.160 – Female Spring Coupling (1 ¾ x 20 Spline Clockwise)



1/ Cotter Bolt – Fits 1 3/4" x 20 Spline single cotter bolt coupling

 $2/ \text{Base} - 1^{3}/8$ " x 6 Spline

Base - 1 3/4" x 20 Spline

2a/ Freewheel Base – 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline (Anticlockwise)

Freewheel Base – 1 <sup>3</sup>/<sub>8</sub>" x 6 Spline (Clockwise)

3/ Spacing Collar

4/ Outer Spider Plate

5/ Drive Spring (8 req.)

6/ Inner Spider (1 <sup>3</sup>/<sub>8</sub>" x 6 Spline)

Inner Spider (1 3/4" x 20 Spline)

7/ Bearing (1 <sup>3</sup>/<sub>8</sub>" x 6 Spline)

Bearing (1 3/4" x 20 Spline)

8/ Bearing Housing (1 <sup>3</sup>/<sub>8</sub>" x 6 Spline)

Bearing Housing (1 3/4" x 20 Spline)



At the time of printing, the importer of some gearboxes and drineline (pages 25 – 29), did not have spare part breakdowns and parts list available. For more information and parts on this gearbox please contact us. We are very sorry for any inconvenience this may cause.



#### ASSEMBLY INSTRUCTIONS

Depending on the location of the dealer the implement may be shipped partly assembled or in parts, in any case the assembly of this implement is the responsibility of the KANGA FARM EQUIPMENT dealer. It should be delivered to the new owner completely assembled, lubricated and adjusted for normal cutting conditions.

Dealers please note that, even if the implement is delivered to you fully assembled, an authorized company representative with mechanical knowledge should still carry out pre-delivery checks to ensure that nothing has come loose in transit.

Final assembly should result in the Rotary Cutter looking like the photos pictured earlier in this manual.

Operators who own a Kanga Rotary Cutter with "MULTI-MOUNT" Tower, should always ensure that the tower is set to the desired position before the implement is connected to the tractor. Do not under any circumstances try and change the tower position while the Rotary Cutter is connected to the tractor. Doing so could cause damage to the implement or serious injury to the operator.



## **IMPORTANT**

- Make sure all spring activated locking pins or collars on the Power Take Off (PTO) Shaft move freely, are well greased and are firmly seated in the tractor PTO splined angular groove.
- Operate tractor PTO at 540-rpm (1000rpm for some Multi Heads) as stated in "Specifications" section.
- Firmly tighten all nuts, bolts, screws and shackles before operating. Check there is equal tension on chains.

# **A** DANGER

- When operating along roads, pathways or populated areas fit approved Kanga chains or rubber shielding (which is designed to reduce the possibility of objects being thrown) to the implement. If this implement does not have chains or rubber shielding, operation must be stopped when anyone comes within 100 meters.
- When working in highly populated areas always place signs in the area to alert people or vehicles that may be passing.

# **A** CAUTION

 Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.

## Parts Diagrams

For the following product ranges, please refer the the technical section on our website (<a href="www.farmimplements.com.au">www.farmimplements.com.au</a>):

- JOEY Range
- S Range
- M Range
- H Range

For any other products, please contact us on 03 9706 5166 or sales@farmimplements.com.au



## **Agricultural Machinery Product OHS Compliance Form**

We, Farm Implements P/L (formally Gavhall Pty Ltd t/as Kanga Farm Equipment)

Of, 12 Tarmac Way, Pakenham, Victoria, Australia, 3810

Confirm that the following machine(s)

Kanga JOEY Rotary Cutters
Kanga Mini Range Rotary Cutters
Kanga M Range Rotary Cutters
Kanga H Range Rotary Cutters
Kanga H Range Rotary Cutters
Kanga XH Range Rotary Cutters

Kanga 50hp TWIN Rotor Rotary Cutters Kanga 75hp TWIN Rotor Rotary Cutters

Kanga Pasture Toppers (3PL & Trailing) Kanga Tri-Head Rotary Cutters

have had a hazard identification, risk assessment and risk control procedure carried out on a representative model of the aforementioned product(s) in accordance with the Occupational Health and Safety requirements of all states and territories of Australia and where found necessary the appropriate risk control measures have been incorporated in the product specifications.

The Operators Manual contains the necessary Health and Safety information, and safety warnings decals are applied to the product where necessary.

Product Description: Rotary Cutters / Slashers

Model Number(s):

H Range – Product Code(s)

KSHR210 (previously 21500) KSHR180 (previously 22000)

M Range – Product Code(s)

KSMR210 (previously 25000) KSMR180 (previously 26000) KSMR150 (previously 27000)

S Range – Product Code(s)

KSSR150 (previously 29000) KSSR135 (previously 30000) KSSR120 (previously 31000)

Mini Range – Product Code(s)

KSMN120 (previously 32750) KSMN100 (previously 32850)

JOEY Range – Product Code

KSJ100 KSJ125 KSJ150

3PL Pasture Topper – Product Code(s)

KT090-2.4 (previously 33000) KT130-3.0 (previously 34000) KT200-3.0 (previously 34500)

TRAILING Topper - Product Code(s)

KTT130-3.0 (previously 35000) KTT200-3.0 (previously 35500) KTT200-3.6 (previously 36000)

TWIN Rotor Rotary Cutter – Product Code(s)

KMH50-135 (previously 39400) KMH50-150 (previously 39500) KMH50-180 (previously 39600)

KMH075-1.8 (previously 38000) KMH075-2.1 (previously 38500) KMH075-2.4 (previously 39000)

KMH130-3.0 (previously 39100) KMH200-3.0 (previously 39200)

Tri-Head Orchard Rotary Cutter – Product Code(s)

KTH130-3.6 (previously 37000) KTH130-4.5 (previously 37100) KTH130-5.4 (previously 37200) KTH200-3.6 (previously 37300) KTH200-4.5 (previously 37400) KTH200-5.4 (previously 37500)

Name: Bruce J Alcott

Position Mahaging Director Date: 10 / 10 / 2012

(Updated: 16/03/2023)

## Details of the unit assessed for the purpose of compliance were:

Model#	Size	Serial #	Date of Inspection	Location
Joey Range	125	220417	20 / 04 / 2017	16 Cahill St, Dandenong
Mini Range	1000	1040408	02 / 04 / 2008	16 Cahill St, Dandenong
S Range	1200	1060408	02 / 04 / 2008	16 Cahill St, Dandenong
M Range	1500	1300408	02 / 04 / 2008	16 Cahill St, Dandenong
H Range	1800	1030408	02 / 04 / 2008	16 Cahill St, Dandenong
XH Range	1800	1020408	02 / 04 / 2008	16 Cahill St, Dandenong
Pasture Topper	3000	130208	26 / 02 / 2008	16 Cahill St, Dandenong
50hp Twin Rotor Cutter	1350	520306	22 / 03 / 2006	16 Cahill St, Dandenong
90   130hp Twin Rotor Slasher	2400	2061012	10 / 10 / 2012	16 Cahill St, Dandenong
3PL Pasture Topper	3000	1220912	25 / 09 / 2012	16 Cahill St, Dandenong
TRAILING Topper	3600	1240912	25 / 09 / 2012	16 Cahill St, Dandenong
Tri-Head Rotary Cutter	3600	1230912	25 / 09 / 2012	16 Cahill St, Dandenong



NOTES:





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