

Redlands Ashlyn Motors Plc

Redlands



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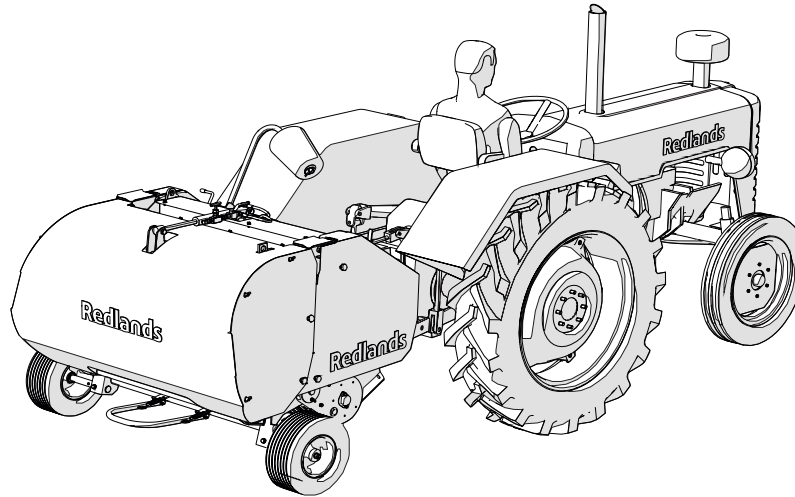
ROUND STRAW BALER OPERATOR'S MANUAL

RAM001/SB/01

Redlands Ashlyn Motors Plc

Tractor Operated Round Baler

Operator's Manual



MODEL:

SBA 330, SBA 330 EXTRA WIDE, JUMBO 1208, JUMBO 1209, JUMBO 1211

Preface

Thank you very much for purchasing the tractor operated Redland Round baler. We wish you safe and trouble free operation of this modern equipment.

In the Operating Instructions manual, the correct method for use of equipment, checking, adjusting, maintenance, simple repairing method and the points for attention during use are stated in detail.

Please read Operating Instructions carefully before use of equipment. Ensure that operations are as per recommended guidelines and conditions.

When you lend or transfer this round baler to others, please deliver the Operating Instructions manual together with the machine and remind the user to read the same carefully prior to use of the equipment.

If you lose the Operating Instruction manual, please subscribe it from the sales department of Redlands or its authorized distributors.

The equipment should be operated by trained personnel only. Improper use by untrained personnel may result in accidents or personal injury. Warranty on the equipment is void if operated by untrained personnel or for non recommended applications.

The product is only applicable for baling sugarcane trashes, cotton stalk and corn. Please do not use it for any other application. Please do not alter or modify the equipment. This may affect the machine reliability and risks of machine damage and personal injury. Warranty is void if unauthorized modifications are made.

In order to improve the quality, performance or security, certain parts may be updated. In that case, some text, photos and diagrams in the Operating Instruction may be different as compared to the actual part.

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1. Introduction

Redlands Ashlyn motors is the leading manufacturer of straw balers, transplanter and other agriculture machine in india. The vision of the group is to be a global player, offering affordable and quality machine that is innovative and user friendly. The current effort is focused on accelerating the mechanization of the Indian agriculture scenario by combing user friendly features, economical prices and low ownership costs.

The Redlands Ashlyn motors plc had developed round baler, based on years of extensive research and development. Given proper care and attention, the machine will provide years of reliable and dependable performance. Please do not assume that you know how to operate and maintain your machine before reading this manual carefully. In order to prevent misuse, damage and accidents, it is very important that everybody who will operate the machine is a fully trained operator.

This publication is divided into chapters which discuss the relative machine use and maintenance operations. Please follow these instructions to ensure the best machine operating efficiency.

The machine is exclusively designed for normal use in agriculture applications. The machine has been designed to pick up and compact harvested straw or hay from the field, to produce cylindrical bales of forage primarily for feeding livestock. we have wide variety of tractor attachments in this regard. This machine provides wide range of options for users like netwrap, combi tailing kit and variable width kit. This machine provides the option for adjusting the bale chamber width from 70 to 120 cm and also the tailing attachment provides inline and offset options for the users.

This manual indicates the standards that will guarantee regular machine maintenance and use, thus avoiding problems which might damage the machine and reduce its operating performance.

2. Baler technical specification

MODEL	SBA 330	SBA 330 EXTRA WIDE	JUMBO 1208	JUMBO 1209	JUMBO 1211
Bale size					
Bale Diameter (mm)	50	50	60	60	60
Bale Length (cm)	70	105	70	93	1042
Bale weight (Kg)	14-17	18-22	24-28	28-32	25-35
Baler dimension					
Length (cm)	125	125	140	140	140
Width (cm)	146	180	146	169	180
Height (cm)	116	116	132	132	132
Machine Weight (Kg)	465	553	515	580	620
Tyre size & type	16 x 6.50 - 8 PLY - TUBLESS				
Tractor requirements					
Tractor power (HP)	25 - 60				
Tractor clutch	Dual clutch (Preferred)				
Three point linkage	Category I / II (IS 4468-1)				
Material to bale	HAY/PADDY STRAW/ CORN/ SHOURGAM				
Recommended tractor forward speed	2-5 Km/Hr				
Electrical Bale Counter	Optional				
Automatic chain lubrication system	Available				

2. Baler technical specification

MODEL	SBA 330	SBA 330 EXTRA WIDE	JUMBO 1208	JUMBO 1209	JUMBO 1211
Bale forming roller					
Bale forming chamber type	Fixed				
No of rollers	10	10	12	12	12
Roller diameter	15 cm				
Roller type	Galvanized hollow round section with six protrusion equally formed on periphery				
No of protrusion	6				
Roller drive	Roller chain & sprocket with overload safety device				
Roller chain size & make	R50H-1 - RENOLD (Heavy duty)				
Chain wheel sprocket	22T/Forged 20MnCr2/Trivalent Zinc plating				
Bale density control	To adjust mechanical linkage rod (up and down holes) provided in bracket				
Bale density indication	Mechanical lever and buzzer indication				
Bale ejection	Hydraulic power pack with mechanical drive actuates bale ejection hydraulic cylinders				
Pickup reel assembly					
Inside width (cm)	70	105	70	93	105
Flare width (cm)	74	108	74	98	109
Drive	Roller chain				
No of Tyne bars	4				
Number of Tyne teeth	24	36	24	30	36
Tooth spacing (mm)	58				
Lift control (Reel Height)	Manually adjust hook chain length				
Drive	Roller chains with slipclutch				
Bearing	Spherical outer diameter track roller bearing - LR201-2RS				

2. Baler technical specification

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MODEL	SBA 330	SBA 330 EXTRA WIDE	JUMBO 1208	JUMBO 1209	JUMBO 1211
Twine binding system					
Twine arms	1				
Twine binding gearbox type	Worm (80T)				
Automatic twine binding	Mechanical linkages and springs				
Automatic bale ejection	Manual or automatic				
Twine arm positioning	Mechanical coil springs				
Baling twine material	Jute / PP				
Height of pickup tines from ground	0-50 mm				
Setting of twine winding No	9 or 11				
Area coverage (bales / hour)	60 - 80	60 - 80	40 - 60	40 - 60	40 - 60
Drive line					
Size & Spec	6 x 1.3/8" Yoke push pin type - length 610 mm				
Drive protection	Shear bolt on machine, plastic cover protection & safety chain				
PTO speed (RPM)	540 (standard)				

3.Safety information

We aware of all safety information: follow all safety precautions and practice safe maintenance and service of machinery, at all times.

Warning, caution, note & environment messages:

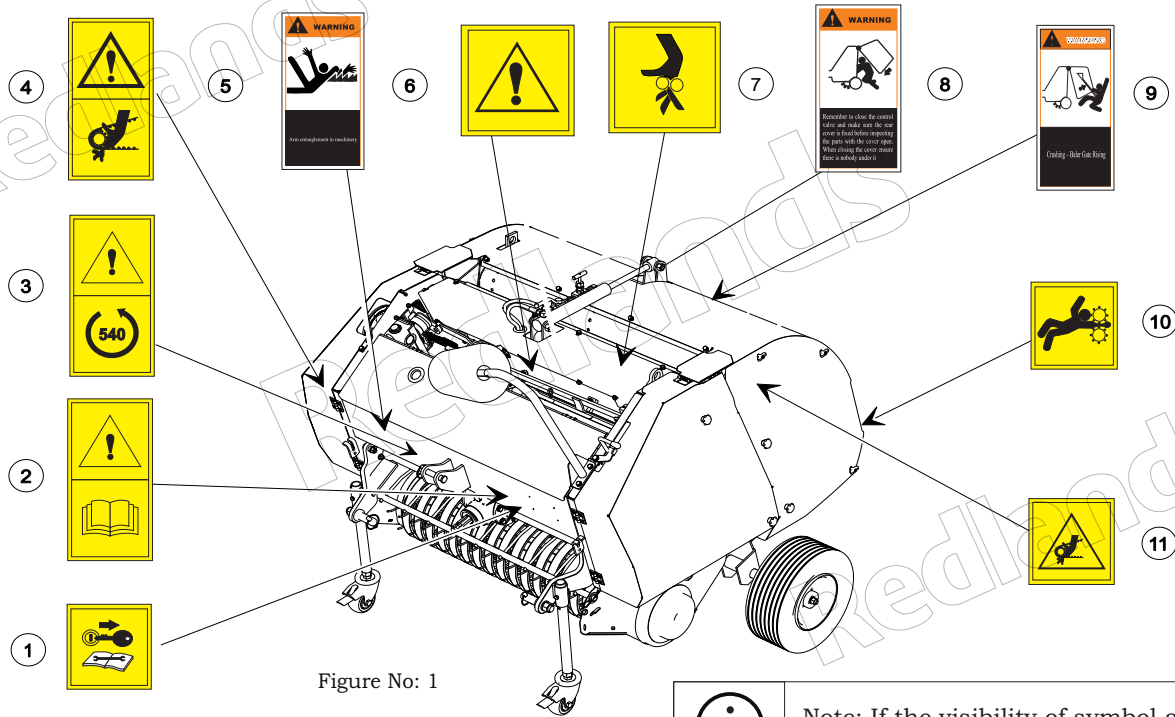
When reading this manual, pay particular attention when you see the symbols below i.e. warning, caution, note and environment. They will be used at various points in this manual and may also appear on safety decals on the machine. The purpose of these messages is to ensure that the most important information stands out from the rest of the text

 WARNING	WARNING: This symbol indicates a potentially hazardous situation, that if not avoided could result in machinery damage, personal injury or even death.
	CAUTION: This symbol indicates a potentially hazardous situation, that if not avoided could result in machinery damage or personal injury.
	NOTE: This symbol is used to identify special instructions or procedures which, if not followed strictly, could result in machinery damage.
	ENVIRONMENT: This symbol reminds you to respect the environment in relation to the correct disposal of waste material.

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3.1.Safety plates - locations

Safety warning indication sign decals are fixed in machine for operator and bystander awareness of following safety hazards



i Note: If the visibility of symbol are missing, please replace with the similar new one.

Contact Redlands dealers for purchase of new symbol

Danger, Warning and Caution Labels

The figures 1 represent the safety and information signals applied to the machine. The meaning of each signal is explained below.

- 1 and 2. General Danger: Prior to carrying out maintenance or repair work, stop the tractor and remove the ignition key. Before operating the machine, carefully read and comprehended this manual. Keep to the safety standards and provisions during machine operation.
3. Maximum PTO rotation speed 540 rpm.
4. Danger Due to Rotating Chain Parts: When the machine is running, there is a risk of injury due to rotating machine chain parts. Before starting up, move the guards into their protective position.
5. Danger of Arm Entanglement: Never feed or remove material by hand in front of the pick-up unit when parts are in motion. This could result in the upper limbs, or more seriously the person, becoming trapped.
- 6 and 9. Danger Due to Rotating Machine Roller Parts: When the machine is running, there is a risk of injury due to rotating machine rollers. Before starting up, move the guards into their protective position.
- 7 and 8. Danger of body crushing: Stay at a safe distance from the raised gate, if the safety block is not inserted. when the tractor is running, stay clear of the zone where the gate opens.
10. Danger of Chest crushing: Bale out of control.
11. Danger of Arm Entangling: Do not open and remove safety guards while the baler is running.

3.2. General recommendations

Read carefully this manual before starting, operating and servicing the Baler.

- Before running the baler, the operator must be informed about and trained to the machine use.
- Do not operate the baler if wearing clothes which might entangle into running parts.
- Start working only if the baler is in perfect conditions.
- Check the conditions of the various components of the pick-up to ensure proper feed and prevent jamming.
- Do not use the baler to pick up unsuitable products and in case of bad weather conditions.
- To prevent rotation, the cardan shaft guard must always be in perfect working order and fastened through the relevant chains.
- Read carefully all instructions provided by the manufacturer.
- Guards must always be in perfect working order.
- Before resuming work, make sure that all guards have been properly fitted.
- Always keep a first aid kit within reach.
- A fire extinguisher should also be kept within reach.

3.3. Hitching the machine to the tractor

- Before hitching the machine to the tractor, make sure that the latter is in good working order and that brakes work correctly, particularly, if the machine is to be used on gradients.
- To avoid accidents or damages to the machine, make sure that the cardan shaft is properly connected both to the machine and to the tractor.
- Make sure that the tractor draw bar coupling pin is locked, to prevent it from releasing.
- Make sure that the electric system and turn indicators work properly.

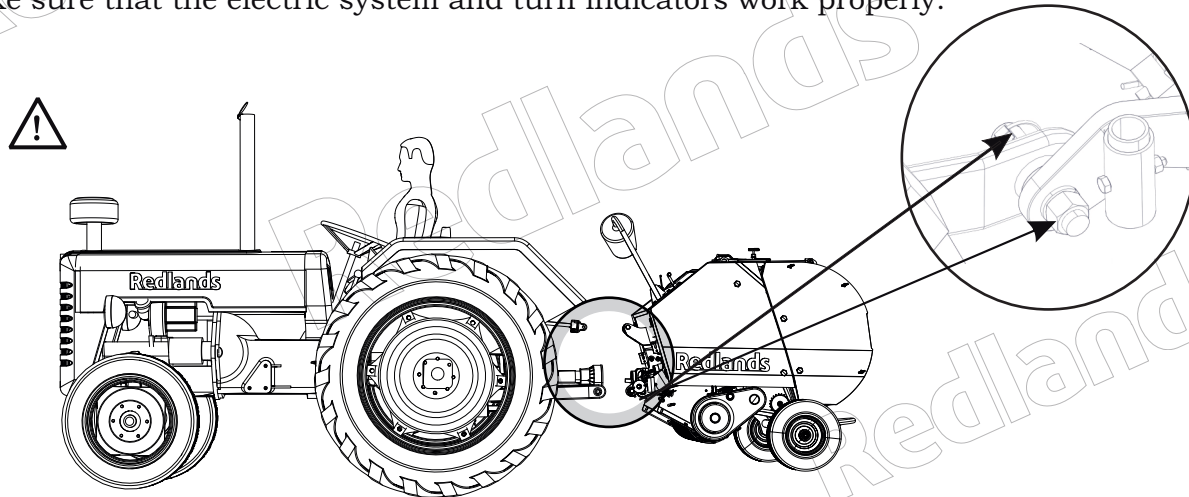


Figure No: 2

3.4. Product blockage removal



Do not remove from or introduce products into the pick-up device with hands or feet while the baler is running. Unload the bale

In case of product blockage removal, do the following:

- Do not approach the pick-up device when it is running;
- Disengage the power take-off;
- Stop the tractor;
- Use the tool to extract the blocked material
- If needed open the tail gate and unload the bale before cleaning the pick-up.
- **Never reverse the tractor output to remove the blockage.**

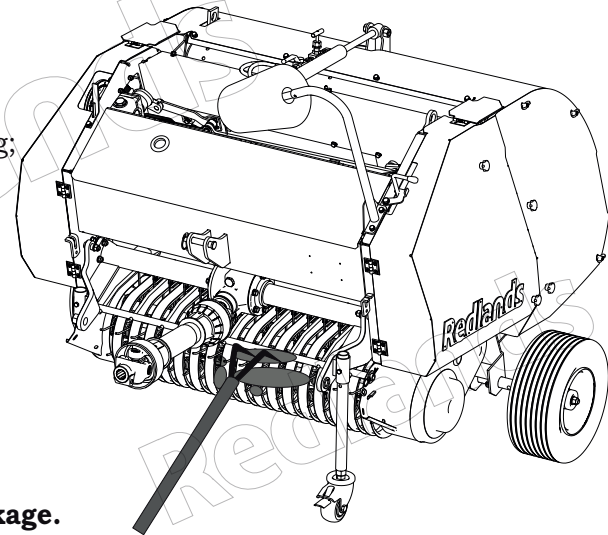


Figure No: 3

- Do not stand between the tractor wheels and the machine when the engine is on.
- Before opening the tail gate, make sure that the area behind the baler is clear.
- Never open gates or guards while the tractor is running.

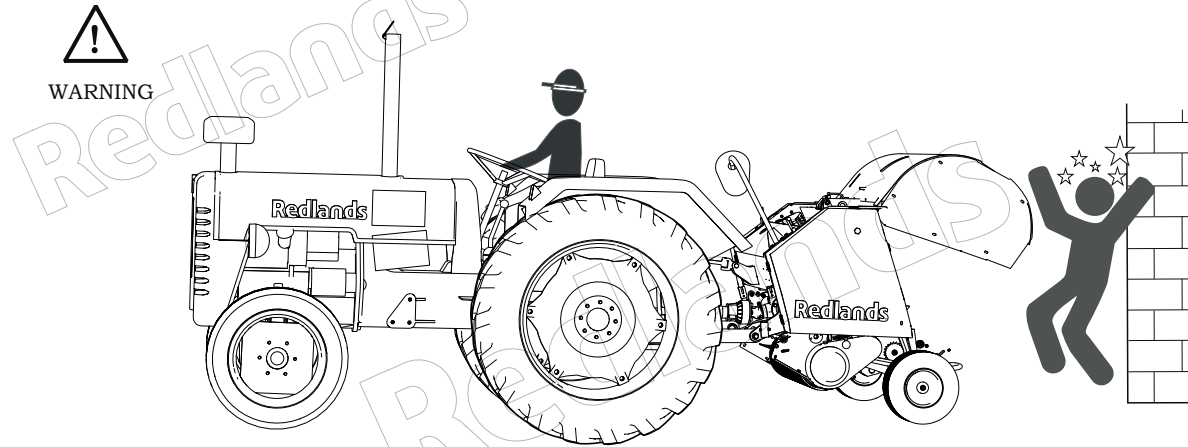


Figure No: 4

- Do not stand on the upper guard of the pick-up or on running boards while the machine is running
- Do not use controls or hoses as grips.

3.5. Before and during machine operation

a. Before machine operation

- Before starting the machine, make sure that all safety guards are in perfect working order and correctly fitted.
- Only the driver must operate the tractor; no passengers are allowed on the baler.
- Never work without baffle plate, as it is a safety part.
- The baler should be operated from the driver's seat only.
- Always remove the tractor ignition key and engage the handbrake when the tractor is unattended.
- Before cleaning, greasing or adjusting the machine or the PTO, stop the latter, stop the engine, remove the ignition key and engage the parking brake.

b. During machine operation

- Do not walk or stand on the baler drawbar or on other parts while it is running or when the PTO is engaged.
- Keep away from the pick-up area and rollers of the machine as well as from binding and running parts.
- People are not allowed to approach the machine during running and in particular they must not stand in the rear part of the machine during bale unloading process.

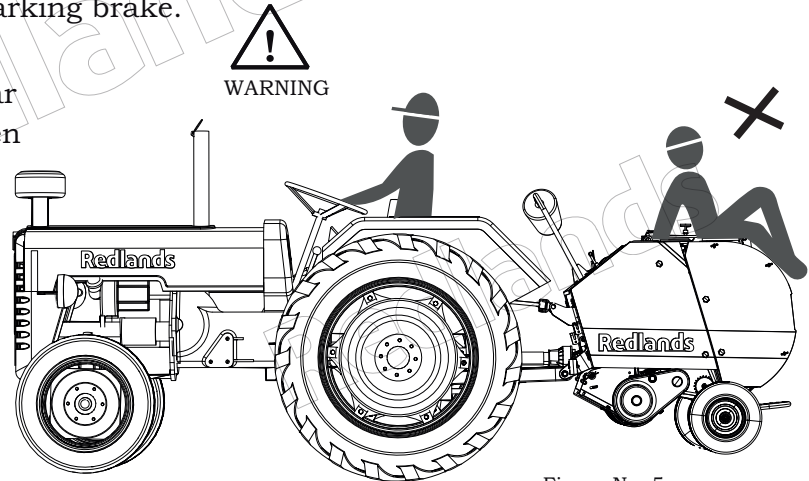


Figure No: 5

3.6. Danger of fire



WARNING

WARNING - DANGER:

Straw is highly inflammable, it might cause fire. In case of fire, immediately unload the bale and move away from the machine. If necessary, disconnect the machine from the tractor.

- Fire risks can be avoided by keeping the machine clean.
- It is advisable to keep a fire extinguisher within reach.

3.7. Handling of bales

- Give the greatest attention to the weight and center of the lifted bale if using front loaders.
- For covering short distances, bales can be transported by equipping the tractor with front or rear fork, whereas for greater distances normal or special trucks must be used. Keep to the current legislation during transport on public roads.
- Never unload or store bales along gradients, since bales might roll down.
- Make sure that bales are correctly fastened through ropes or other suitable means.

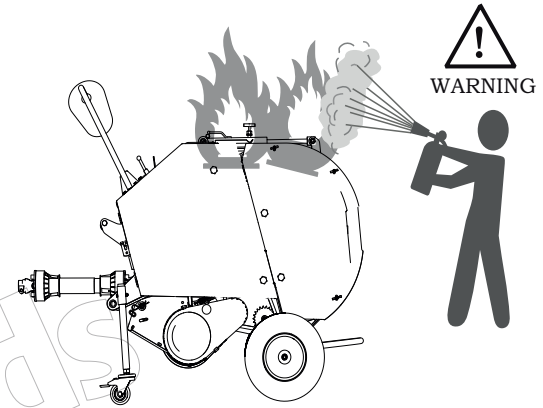


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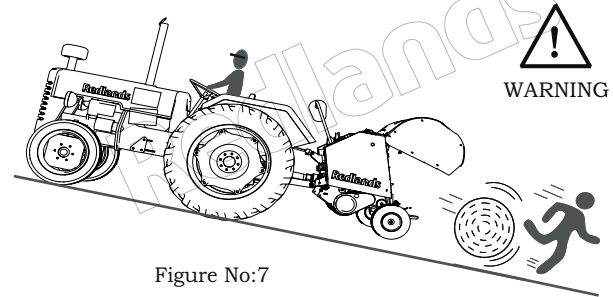


Figure No:7

3.8. Road circulation

- During road transport, follow the regulations in force and drive tractors with adequate towing weight only (see the registration certificate of the tractor).
- Do not use the machine as transportation means.
- Before towing the machine on the road, raise the pick-up completely and close the valve on the hydraulic hose
- Hook the pick-up to the chain supplied.
- Do not exceed the max. speed permitted by the Highway code and, in any case, never exceed the speed of 40 km/h or 25 mph and working maximum speed is limited to 2 to 5 km/hr.
- The operator must always be aware of the machine dimensions during maneuvers.

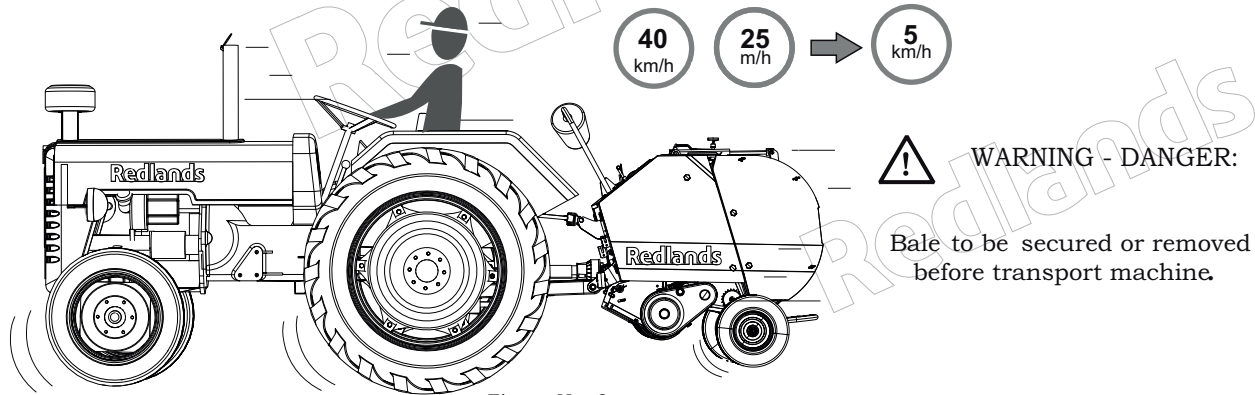


Figure No: 8

3.9. Allowable slopes

The image shows the maximum permissible slope in hard grounds, free from hollows and obstacles, with the machine in running order. Danger of overturning: do not use the machine on terrain whose slope exceeds the allowed limit or a lower slope if other hazards are present (rises, hollows ,etc.), which could limit the stability of the machine based on the slope and the stability of terrain.

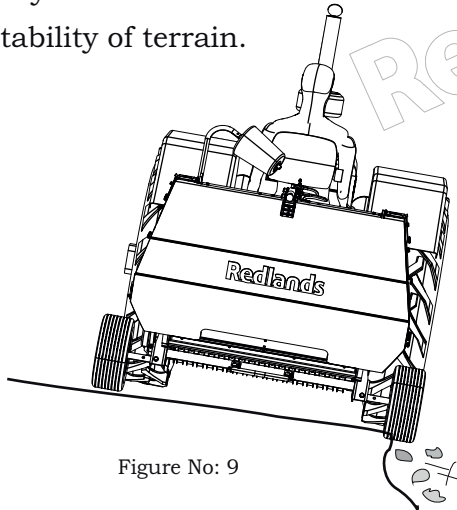
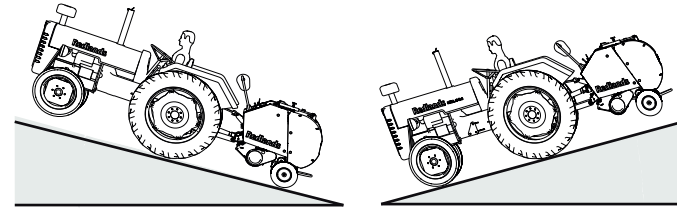


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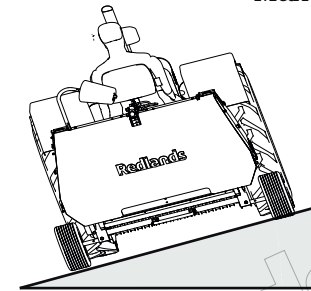


WARNING - DANGER:



Max 20%

Max 20%



Max 15%

Figure No: 10

- Beware of curves and overturning on bumping soils and steep gradients.
- Give the most attention when wheels are nearby ditches or steep banks.

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3.10. Area of danger



WARNING - DANGER:

The figure illustrates the danger zones where no-one should be when the machine is in use. It is the operators's duty to keep such zones out of bounds: if necessary, s(he) should turn the tractor engine off and clear out the danger

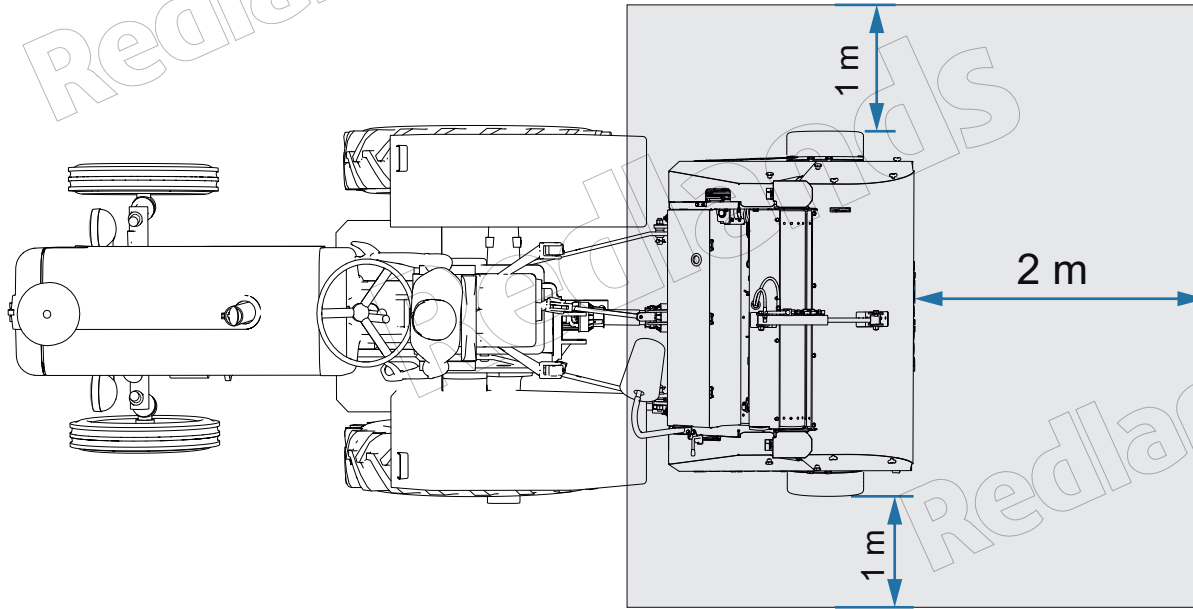


Figure No: 11

3.11. Power take off (P.T.O)

- Only CE marked Universal joints to be used with machine and the user must follow instructions contained in the “use Instruction” issued by the universal joint manufacture.
- The protection bar and the universal joint protection hopper, as well as the power takeoff guard must be installed in the proper position.
- The cardan shaft can be mounted and removed only if the power takeoff guard must be installed in the proper position
- Make sure that the chains shaft is installed properly and correctly install the protection bar and the relative protection hopper.
- Make sure that the chains are applied to the protection device of the cardan shaft to prevent it from turning by itself.
- Before inserting the power takeoff, check that the number of turns of the machine is the same as that of the power takeoff of the tractor and that no one is present in the hazardous area of the machine.
- It is prohibited to insert the power takeoff when the tractor is on.
- During work operations with the power takeoff it is prohibited to remain in the vicinity of the cardan shaft or the power takeoff and the power takeoff must be disconnected if the angles are too high.
- Even when the P.T.O is disconnected, do not get close to it.
- To clean, lubricate or perform any maintenance, always turn off the engine, disconnected the P.T.O and remove the keys from ignition.
- With the P.T.O. disconnected, the universal joint must be held by the special support so as not to strike the ground and be damaged or soiled

3.12. Servicing the machine

- Replace as soon as possible all worn or damaged parts of the pickup to prevent frequent jamming.
- Comply with scheduled maintenance intervals. From time to time the machine requires minor servicing. It should be reminded that a correct and regular maintenance will increase the working life of the machine.
- Before carrying out any operation over or under the machine, make sure to insert wedges under wheels.
- When servicing the hydraulic system, make sure that the system is not pressurized before disconnecting any pipe.
- Leaks of pressurized oil might cause serious injuries. When searching for oil leaks always wear protective clothes, goggles and gloves.
- To avoid fire risks, always keep the machine clean.
- Chain and rollers must be cleaned at least once a day or whenever used.
- Tyres must be serviced by skilled personnel and through appropriate tools. A wrong assembly might cause serious injuries or death. In case of doubts, apply to qualified personnel.
- To avoid damages to mechanical parts, do not use pressurized water jets to clean the machine.

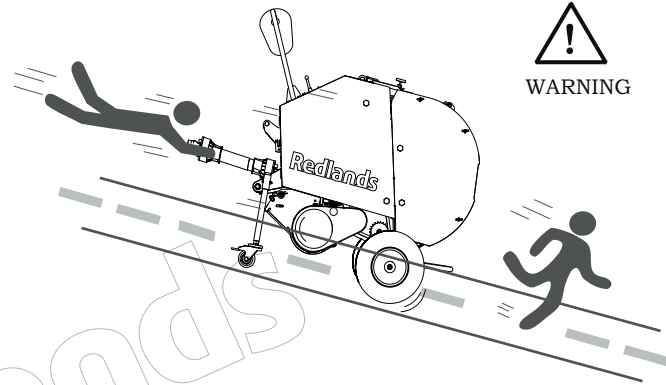


Figure No: 12

3.13 Hydraulic system



WARNING - DANGER:

The hydraulic system works at pressure of 90 - 96 bar.

- Before connecting or disconnecting the hydraulic system pipes of the machine, use proper dust cover for outlet ports.
- Periodically check hydraulic pipes and replace them when damaged or worn-out. Replacing pipes must have the same technical specifications as the original pipes. Hoses must however be replaced after 5 years from the date printed on the hose.
- When detecting leaks, use suitable protections.
- Before servicing the hydraulic system, lower the baler tail gate , release pressure and stop the tractor engine

ENVIRONMENT: Safe disposal of oil



Respect the environment! Never spill oil or grease on the ground, never pour them down the drain and never discard them where they can pollute the environment. Always take waste materials to a recycling centre.

3.14. Machine lifting guidelines

1. Only use chains or strapping that are rated for a minimum load of two and a half tonnes (2,500 kg) per chain or strap when using the two lift eye locations on the chassis, shown below
2. The crane or lifting device must be capable of lifting a minimum load of five tonnes (5,000 kg)
3. Never go under a suspended machine or attempt to try and stop it if moving erratically, death or serious injury may result.
4. Always be observant of people and objects around the suspended machine and do not allow the machine to impact heavily on the ground after suspension or movement

DANGER - WARNING

Lifting operation must be performed by skilled personnel and through suitable earns. Never use fork lift trucks.

People must not stand under the suspended load or within the crane range.

Lifting chain capacity 2 tonnes

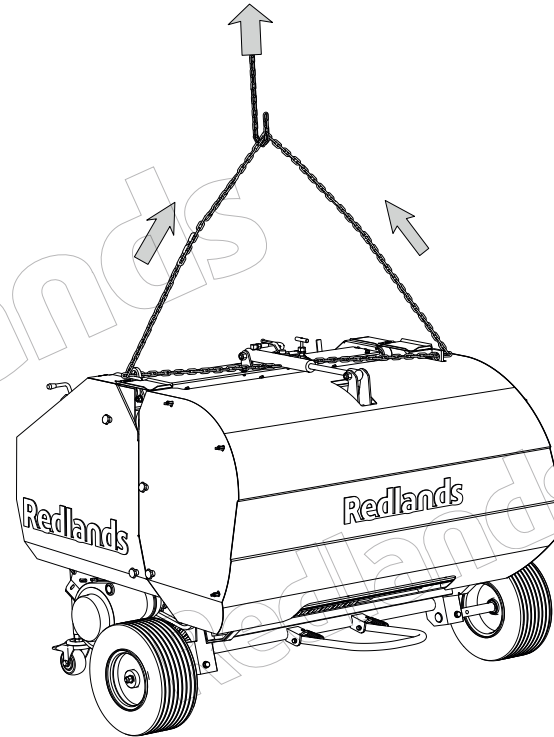
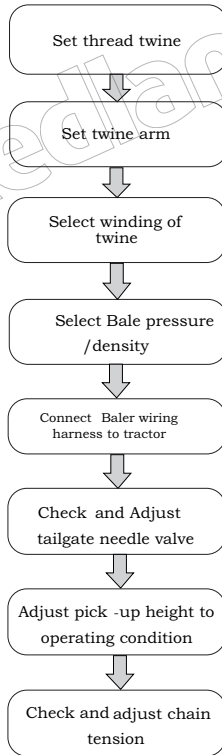


Figure No: 13

4. Baler operating steps

Pre-Start check for operation



Point of operation

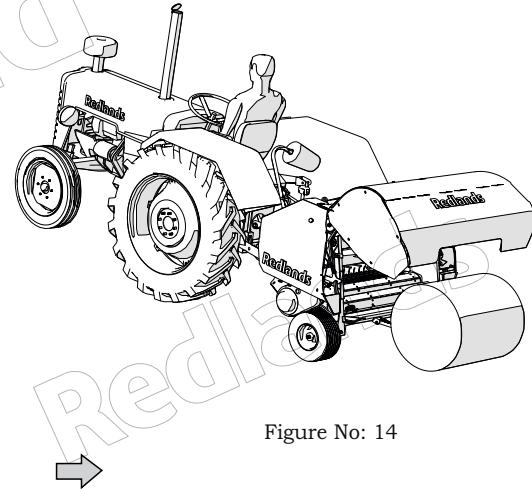
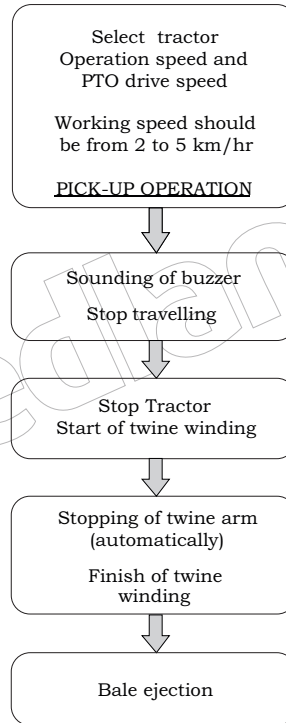


Figure No: 14

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5. Baler parts and function

5.1 Basic parts name

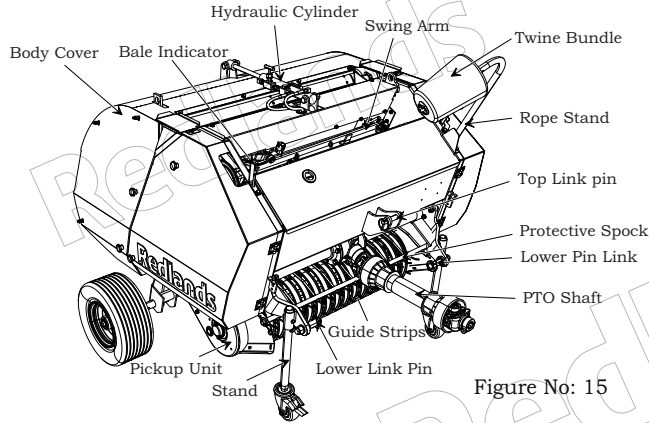


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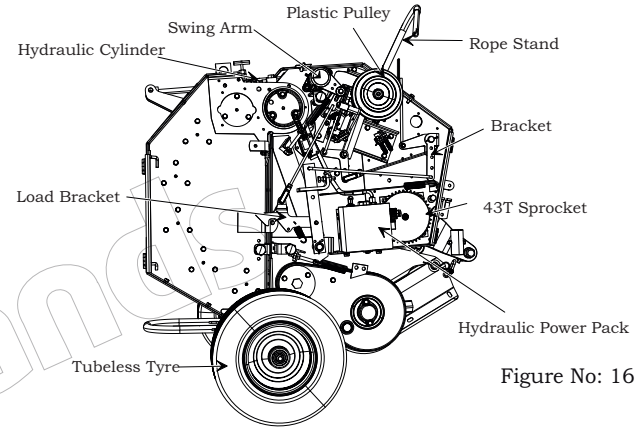


Figure No: 16

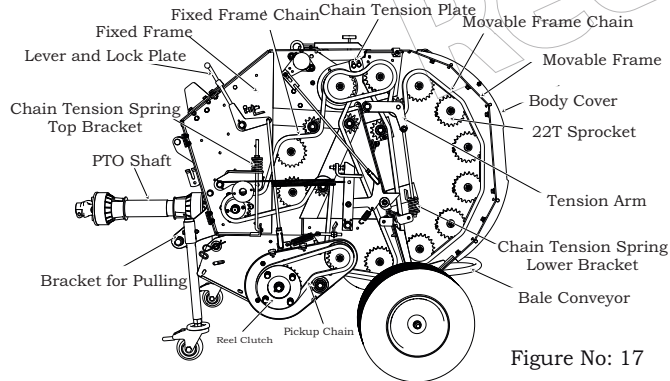


Figure No: 17

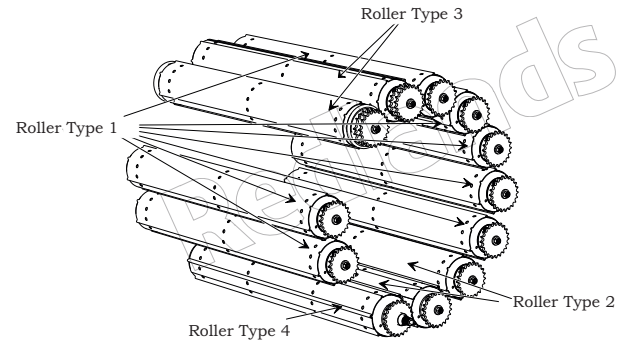


Figure No: 18

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5.2.Lower link and upper link pin

Lower link pin and upper link are connected with the tractor lower links and top link.

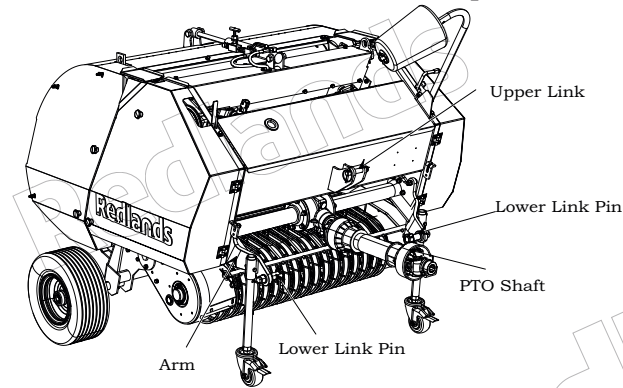


Figure No: 19

5.4.Shear bolt

Shear bolt is sheared when overload affect to the machine for preventing from the damage of the machine.

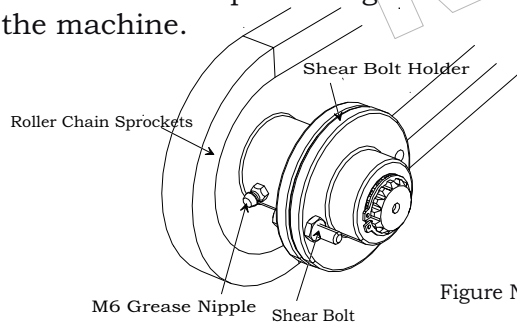


Figure No: 20

5.3.Pick-up assembly

Pick-up is operated to pick-up baling material from the ground.

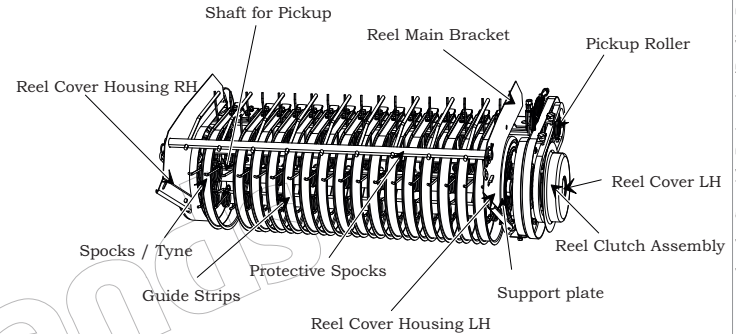


Figure No: 20

5.5.Lever and lock plate

Pick-up is lifted and is hold by lock plate for transportation of the machine. Pick-up is lowered by releasing lock plate.

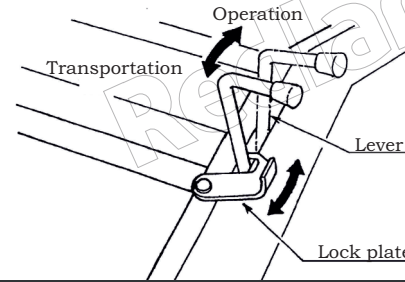


Figure No: 22

5.6.Chain and bolt (Lower limit)
Chain and bolt limit the height of pick-up tines from the ground.

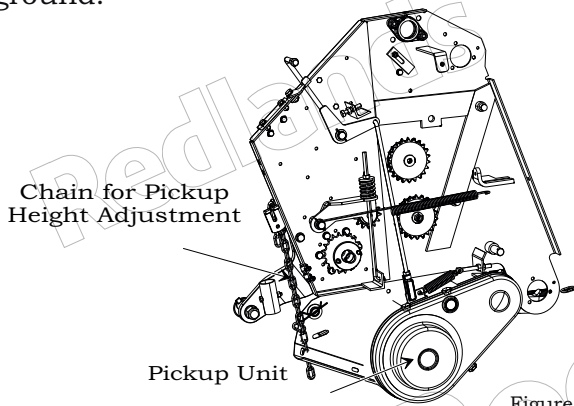


Figure No: 23

5.8.Crop cover, Cover shield and side cover
Crop cover helps to convey stack or straw smoothly to the chamber.

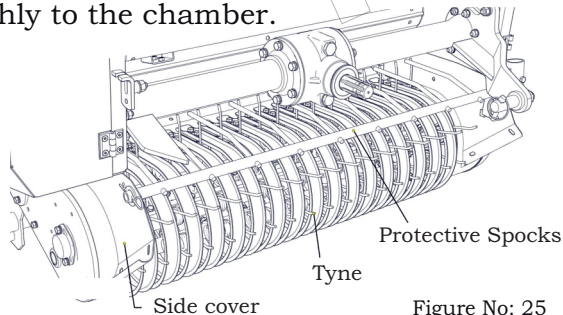


Figure No: 25

5.7.Reel chain and clutch assembly
Roller chain transfer the power to drive pick-up. Friction clutch slips when over load affects to pick-up for preventing from damage of pick-up.

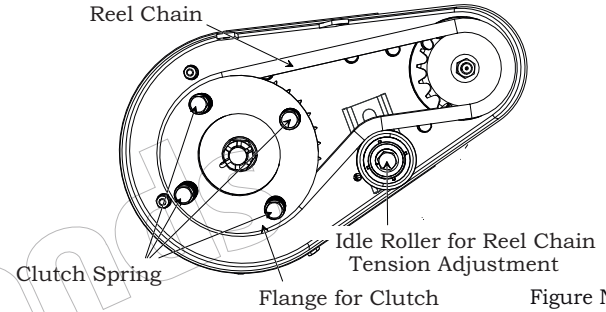


Figure No: 24

5.9.Roller chamber
Chamber is formed by rollers. Rollers rotate themselves and rotate baling material for making cylindrical material inside of chamber.

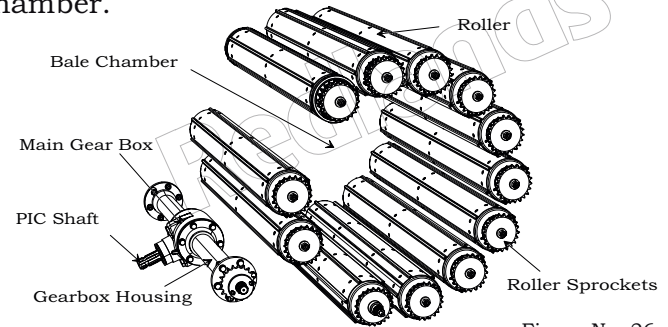


Figure No: 26

5.10.Springs (Tension spring)

Spring gives proper tension to roller chain.

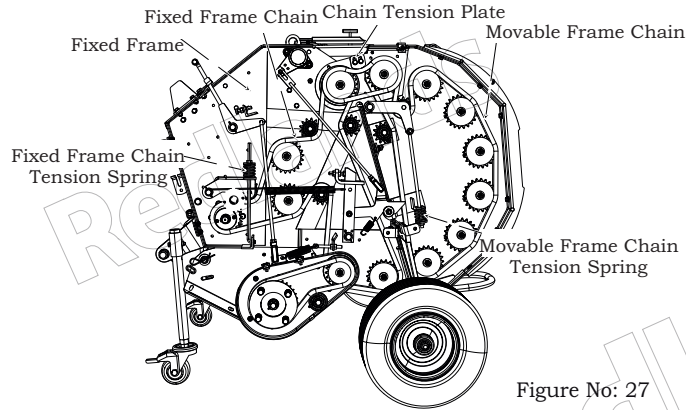


Figure No: 27

5.12.Bale indicator rod

Rod shows to the operator the progress of making bale.

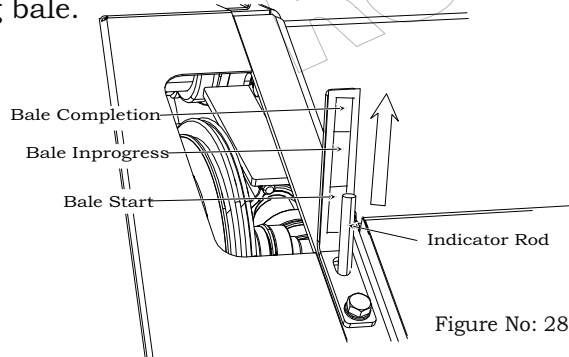


Figure No: 28

5.11.Rod and bracket

Bale density can be adjusted by changing the rod position into the hole.

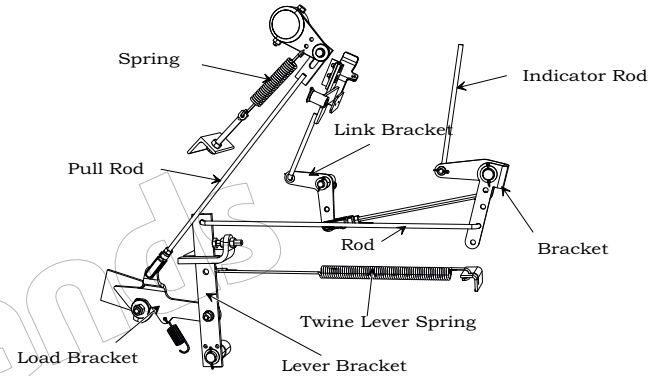


Figure No: 29

5.13.Bale ejector

The bale ejector rolls the finished bale far enough from the machine to allow gate close.

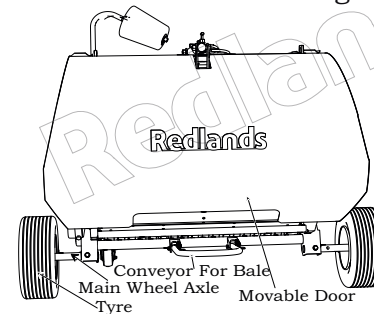


Figure No: 30

6. Installation instructions

5.14. Hydraulic power package and lever
Hydraulic power package actuate hydraulic cylinder to open and to close gate for bale ejection.

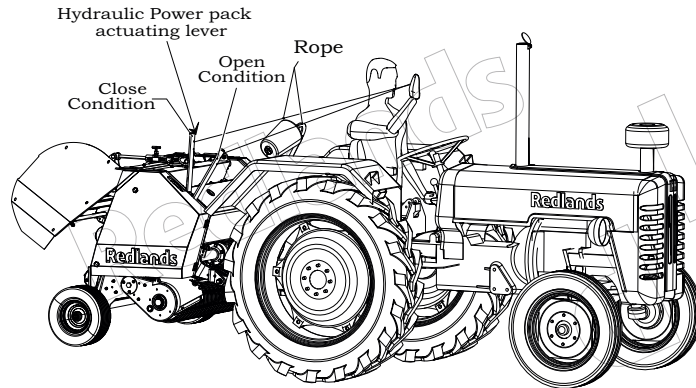


Figure No: 31

6.1. Applicable tractor size

This machine is designed to perform by attaching to suitable size of the tractor. If this machine is attached to unsuitable size of tractor, it will have a possibility of giving bad effect to durability or to operation.

Applicable tractor power is from
25 to 60 Hp

Never attach the machine to a tractor smaller than 40 HP. It will be a cause of serious accident due to lack of weight balance. Redlands recommend to use dual clutch tractor type.

If the machine is attached to a bigger tractor than 60 HP, it will have a possibility to give damage to the machine.

6.2. Assembling the machine

a. Package opening

Open the package and unit the parts from package wooden frame.

b. Details of Attached Parts

Make sure if all parts delivered in accordance with packing list.

c. Process of Assembling

(a) Attach the tires on the machine and fix them by using bolts and nylock nut available in packing tool kit tire refer figure 32. Adjust the tire tread width, so as trace to the tractor wheel tracks

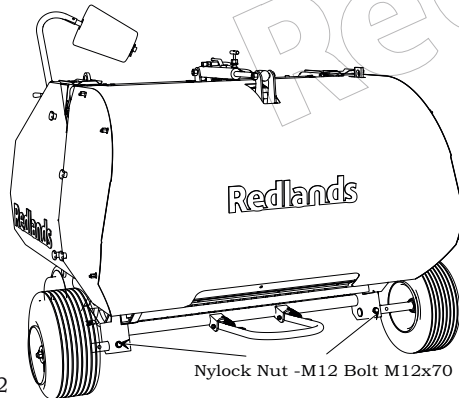


Figure No: 32

Nylock Nut -M12 Bolt M12x70

(b) Attach parking stand in bracket for pulling holder and lock with hex bolt.

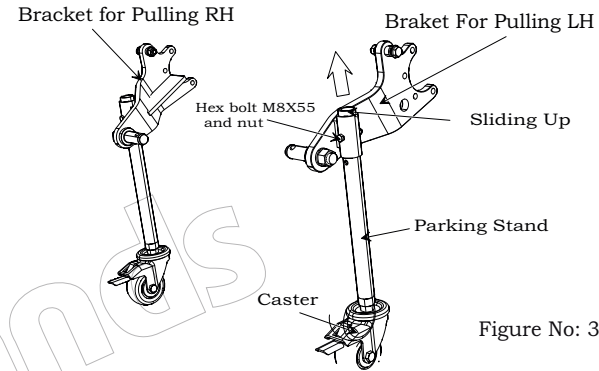


Figure No: 33

(c) Extend the rod of hydraulic cylinder and align the hole of barrel and the hole of pivot pipe. Fix with M16X80 bolt. (For special packing)

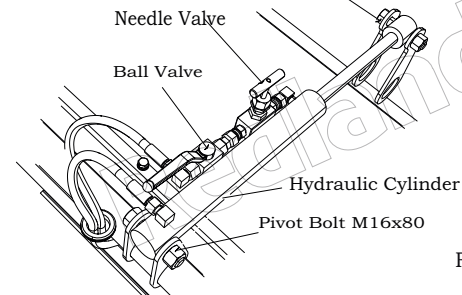


Figure No: 34

(d) Refer to parts list to apply other parts to the machine.

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Lift 3 point linkages of the tractor up and down to adjust correctly and align with 3 point lower hitch (left side and right side) pin and top hitch bracket .Use lynch pin to lock all 3 hitch pins.

(f) Start engine of the tractor and operate the baler hydraulic bale ejection power pack to lift the rear gate up and down

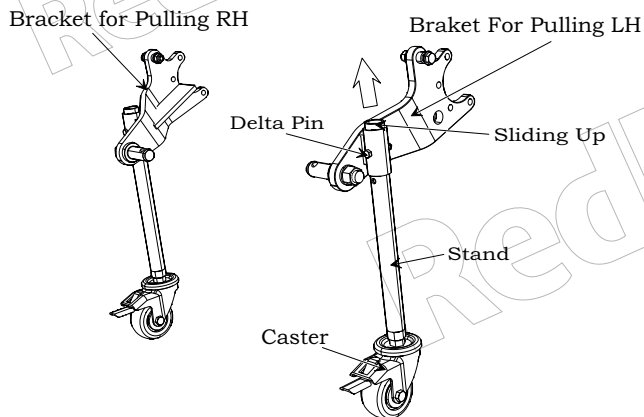


Figure No: 35

(g) Align center of PIC shaft and PTO shaft by check chains and then tighten check chains to protect the machine swing.

6.3.Attachment of power package operation rope

The breaking end of rope is fixed inside of driver 's cab (no effect to operation)

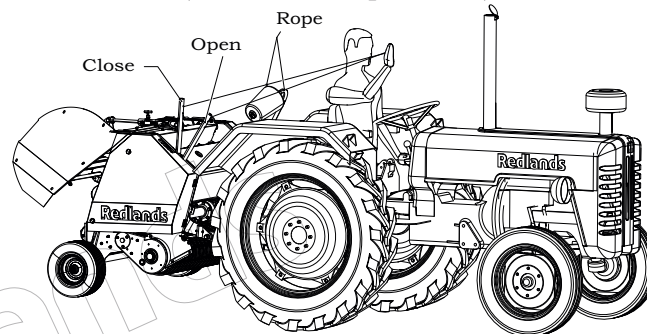


Figure No: 36

6.4.Attachment of Buzzer

Connect with accessorial electric cable to power of tractor (12V).

6.5. Attaching to a Tractor

Warning

Bystanders must keep safe distance while the operator attaches or detaches the machine from the tractor.

Caution

Attach the machine to the tractor or detach the machine from the tractor on flat and solid ground.

If the machine is attached to a light weight tractor, it has a possibility of getting unstable steering. Attach the front weight on the tractor in case like this.

6.5.1.Preparation for attachment

This machine should be attached to the standard 3 point connection tractor. If the machine can not be lifted up high enough, the pin of lift rod should be inserted into front side of hole of lower link.

6.5.2.Attaching to a standard 3 point connection

In accordance with following procedure.

(a) Start engine of the tractor and drive a tractor to backward until tips of lower link will be aligned. Stop engine and apply brake.

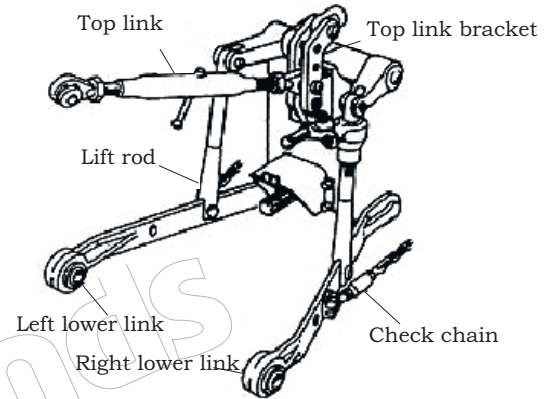


Figure No: 37

(b) Insert left side of lower link pin into the hole of right lower link pint. Insert right side of lower link by same procedure above

(c) Turn adjusting screw to get the same height of left and right lower links from the ground.

(d) If the width of lower link is small, adjust the link of left side (look from backward) internal

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6.6.Method of twine routing

while twine routing follow the sequence as shown in the figure 38

- 1 - Twine / Jute Rope
- 2 - Front cover grommet
- 3 - Front bracket U-Clamp
- 4 - Twine tension spring and plate
- 5 - Twine Pulley
- 6 - Plastic Pulley
- 7 - Twine Pulley
- 8 - U clamp for damper
- 9 - Swing arm U clamp-1
- 10 - Swing arm U clamp-2
- 11 - Twine pulley
- 12 - Twine swing bracket

Warning :

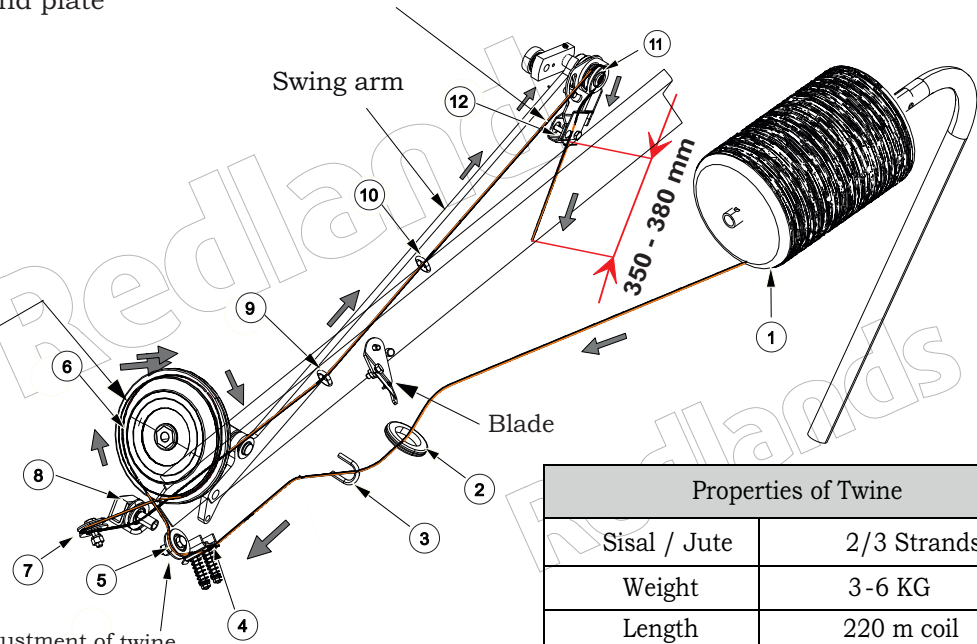
- Stop the tractor engine when twine is thread
- Beware of the cutting hazard by blade during twine routing

Refer : "Adjustment of arm tension spring" (Figure no: 77)

Refer : "Adjustment of twine winding number" (Figure no: 55)

Caution : Use only original twine / Jute Rope

Refer : "Adjustment of twine spring tension" (Figure no: 76)



Properties of Twine	
Sisal / Jute	2/3 Strands
Weight	3-6 KG
Length	220 m coil
Breaking Strength	0.1 to 0.2 KN

Figure No: 38

6.7. Attachment of universal joint

Warning :

- Never use universal joint with damaged safety cover or without safety cover.
- Inspect damage on universal joint and replace it if damage is found out on universal joint.
- Stop the tractor engine and disengage PTO clutch when universal joint is attached.
- Fix chains of safety cover to the tractor and stationery part of the machine

Caution :

- If overlap length between inner and outer tube of universal joint is less than 100mm in extended position, it will be a cause of universal joint breakage.
- If the space between inner and outer tube is less than 25mm in retracted position, it will be a cause of damage.
- By pushing to each other when the machine is lifted.
- If universal joint makes noise when the machine is lifted up by 3P, limit the height of tractor 3P, limit the height of tractor 3P.

6.7.1. Universal joint length check

- (1) Pull out other tube of universal joint from inner tube of universal joint.
- (2) Lift up the machine and stop the lifting at the closet distance PTO shaft and PIC shaft .
- (3) Push cramp pin of yoke and insert the yoke into PTO shaft and push on until cramp pin comes out by spring force. Insert the other yoke into PIC shaft same procedure as mentioned above.
- (4) Put one universal joint on to one another universal joint.

Mark lapping end position of outer safety cover and inner safety cover and mark at further 25mm inside from lapping position. Cut off safety cover at further 25mm position.

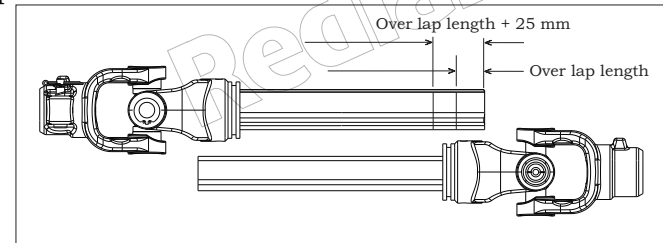


Figure No: 39

(5) Lift the machine and stop lifting at the most separated position between PTO shaft and PIC shaft.

(6) Put one safety cover on to one another cover.

If lapping length is less than 100 mm, replace it to longer universal joint.

6.7.2.Method of cutting

(1) Cut off excess length of inner and outer safety cover.

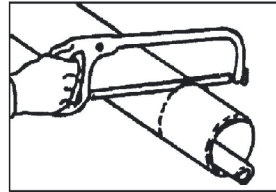


Figure No: 40

(2) Mark on inner and outer pipe the same length of cut off safety cover from the end of inner and outer tube.



Figure No: 41

(3) Before cutting off, put rag into between safety cover and pipenot to come into sawdust. Cut off excess length of tube by metal saw.

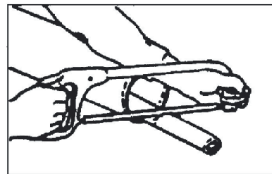


Figure No: 42

(4) File cut ends and clean the surface.

Apply grease on tube and insert inner tube into outer tube.

6.7.3.Method of Outer Safety Cover Removal

(1) Disassemble procedure of cover

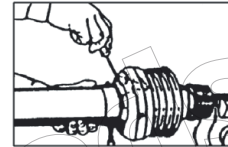


Figure No: 43

(a) Take out fix screw.

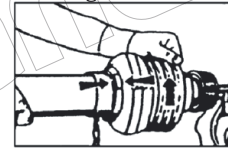


Figure No: 44

(b) Revolve the cover to the position of release.

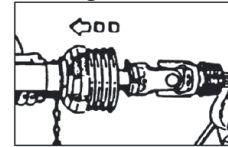


Figure No: 45

(c) Pull out safety cover from tube.

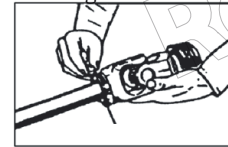


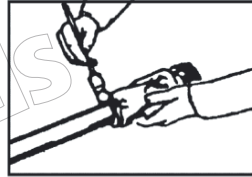
Figure No: 46
slide loop

(d) Take out the slide loop.

(2) Assemble procedure of cover

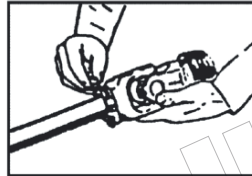
(a) Apply oil to slide loop channel and tube inside

Figure No: 47



(b) Open the cut mouth of slide loop and imbed it to the channel of tube.

Figure No: 48



(c) Fit the safety cover

④ Screw the cover tightly.

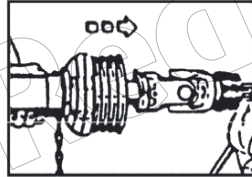


Figure No: 49

⑤ Fix the position with fix screw.

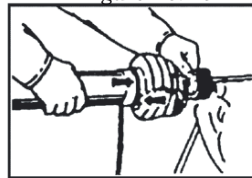


Figure No: 50

6.7.4. Connection of universal joint

(1) Connection to the machine

Push cramp pin of yoke and insert yoke into PIC shaft and push on until cramp pin comes out by spring force.

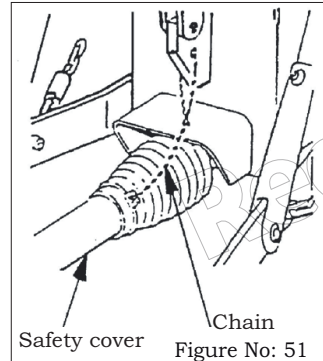
(2) Connection to the tractor

Push cramp pin of yoke and insert the yoke into PTO shaft and push on until cramp pin comes out by spring force.

Caution :

After connection of universal joint, make sure that cramp pins of PTO side and PIC side stay firmly in grooves of PTO shaft and PIC shaft.

(3) Fix of safety cover chain



Fix safety cover chain on stationary part of tractor to prevent from rotation of safety cover .

Slacken off chain not to stretch it in the up and down movement of tractor 3 point connection.

7. Inspection before operation

Following should be done before operation to stand long life the machine

7.1. Inspection of the tractor parts

Inspect the tractor parts in accordance with operation manual of the tractor.

7.2. Inspection of connecting parts

(1) Inspection of 3 point connection connecting parts

- a) Make sure that locking pin is inserted into the hole of lower link pin.
- b) Make sure that locking pin is inserted into a hole of top link pin.
- c) Make sure that check chains of the tractor are stretched firmly.
- d) If any problem is found in connection, remedy the problem according to the instruction “Attachment to tractor”.

(2) Inspection of universal joint

- a) Make sure that cramp pins stay in the groove of PTO shaft and PIC shaft.
- b) Make sure that chain of safety cover has excess slackness.

- c) Check the damage on safety cover of universal joint.
- d) If any problem is found on universal joint, remedy the problem according to the instruction ‘Attachment of universal joint’.

7.3. Inspection of the machine

- (1) Check looseness of nuts and bolts.
Tighten loosen nuts and bolts firmly.
- (2) Check if the shear bolt is sheared or not.
If it is sheared, replace with new one.
- (3) Check if roller chain is properly stretched.
Adjust it in accordance with the instruction “Adjustment of roller chain stretch”.
- (4) Check the length of pick up tension
If the length is improper, adjust the length in accordance with the instruction of “Pick-up chain tension adjustment”.
- (5) Check the length of twine tensioner.
If the length is improper, adjust it in accordance with the instruction “Adjustment of twine tensioner”.
- (6) Check the sharpness of binding knife to cut twine.
If it has a problem, solve that accordance with the instruction “Adjustment of binding knife”.

(7) Check if twine is enough, twine is threaded properly and binding arm is in proper position. If any problem is found, solve it in accordance with the instruction “Method of twine routing”.

7.4. Inspection in tractor engine running

7.4.1. Inspection of the tractor hydraulic

Lift up the machine by controlling lever of lift up and down for hydraulic control.

If the machine will not come down in lifting up position, hydraulic system has no trouble.

If hydraulic system has any trouble, contact with tractor dealer for solving problem.

7.4.2. Inspection of machine hydraulic system

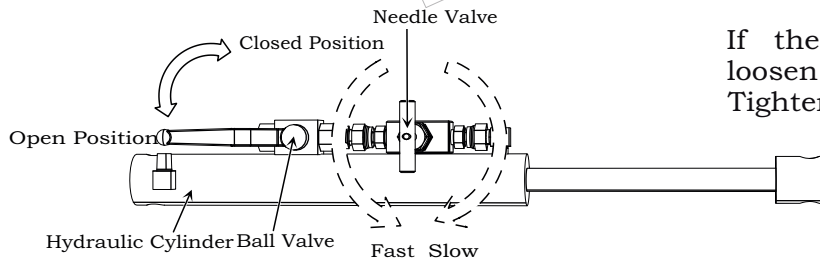


Figure No: 52

(1) Inspection of hydraulic system for gate opening and closing.

(2) Turn lever of stop valve for gate opening and closing to “Opening” position.

(3) Start the tractor engine and engage PTO to rotate PTO shaft and then open gate by operating lever of power package.

(3) Turn lever of stop valve to “close” while pulling the lever of the power package at full opened gate position.

(4) If the gate does not come down, it has no trouble.

If gate comes down, check oil leakage and repair or replace damaged part.

5) Close the gate by turning slowly lever of the stop valve to “Open” direction.

If the air remains in the hose or cylinder, loosen male adapter and let the air out it. Tighten swivel adapter after releasing air.

8. Operation method

8.1 Purpose of this machine

This machine is made for baling grass, rice straw and stalk.

Never use baler other than below given purpose.

- (1) Bale for the hay which is less than 20% of moisture content.
- (2) Bale the grass for making wrapping silage which is between 50% and 60% of moisture content.
- (3).Do not operate the machine in wet field.
Operate the machine in well dried field.

8.2 Adjustment for operation

Adjustment of pick-up tine height from ground

- (a) Adjust pick-up tine height from the ground by limit chain and lower bolt.

Fine adjustment is done by top link pin of a tractor.

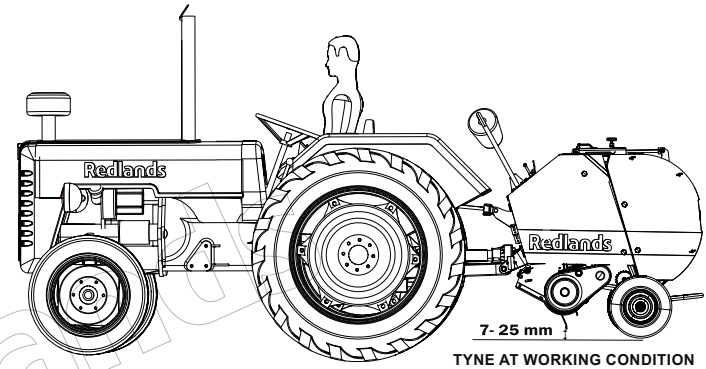


Figure No: 53

- (b) Select operation position and transport position by moving the lever and lock plate.

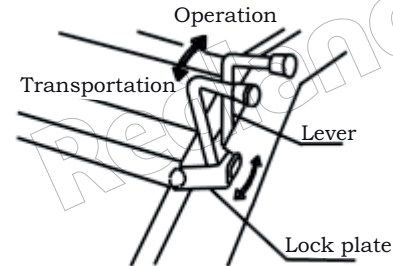


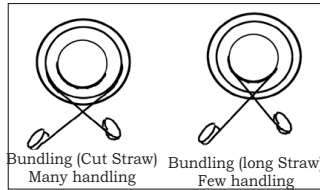
Figure No: 54

8.3.Adjustment of twine winding number

Adjust the twine winding number according to baling condition and handling condition of bale.

Winding number	Crop	Handling	Twine pulley
10	Cut straw/stalk Dried straw/stalk	Many	Big dia. pulley
8	Hay Long straw	Few	Small dia.pulley

Figure No: 55



The winding number should be changed according to thickness of twine. If the twine is thicker, the winding number must be more. Above table is the standard.

8.4.Adjustment of cover shield and side cover

Crop	Cover shield / Side cover
Cut straw Long straw	Attachment Removal

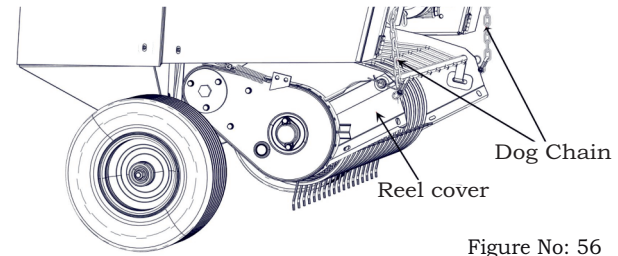


Figure No: 56

8.5.Adjustment of bale density

(1) Adjustment of the rod

When the rod is inserted into higher position of bracket hole, lower density of bales are made. When the rod is inserted into lower position of bracket hole, higher density of bales are made.

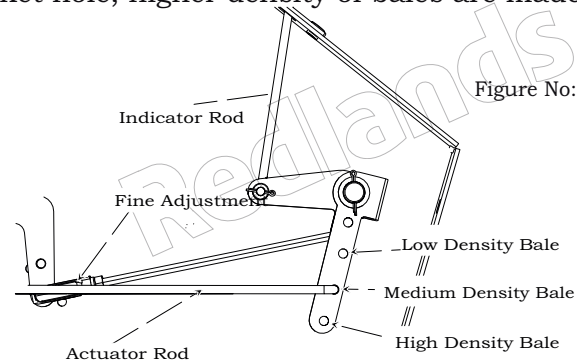


Figure No: 57

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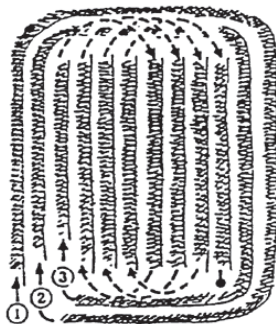
(2) Adjustment by traveling speed lower traveling speed make higher density of bale.

Adjustment the traveling speed according to condition of the operation.

8.6. Operation method in field

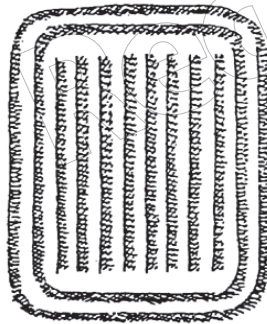
1.Method of windrow making

Make windrows of the width from 70 cm to 80cm and the height from 30cm to 40cm as uniformly as possible. The windrows which are made for efficiency and smooth operation are recommended.



Order of making windrows

Figure No: 58



Finishing

Figure No: 59

2.Field operation

Warning :

Bystanders must be away from the machine when pick-up is running. Stop the tractor engine when taking away stuck baling material from the pick-up.

(1) Put on the switch of the buzzer and rotate PTO and then travel the machine by striding over a windrow.

Adjust PTO speed depending on baling material condition and the moisture content of it.

Baling material condition Moisture content	PTO speed
Standard	540rpm
Dried-short	350-450rpm
Moist - Stuck pick-up	540-600rpm

Normal operation speed is 3-5km/hr. Adjust the operation speed depending round on the field condition.

Caution : Do not stop PTO while twine is binding round on a bale

(2) Quantity of the baling material inside of the chamber can know from the indicator. The indicator rod rise up when a bale coming to complete.

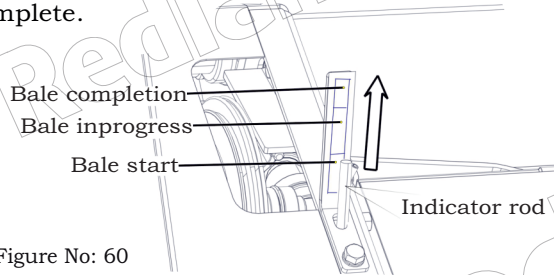


Figure No: 60

(3) When a bale reaches to complete, buzzer sounds and twine binds on a bale automatically.

Caution : If the twine binding will not start, forward about 1m.

(4) when twine binding is finished, twine is cut and binding stops. Pull the rope of power package while PTO is running and open the gate and then eject a bale

Warning : Bystanders must be away from the machine when the gate is opened.

Do not eject a bale at inclined field. Eject the bale always in level field.

(5) Return lever of power package after bale ejection to close gate and then start the operation.

(6) Do not eject a bale at inclined field. Eject the bale always in level field.

8.7. Transportation

- (1). Stop PTO of the tractor.
- (2). Pull down the lever and lock it by lock plate.
- (3). Disconnect the electrical connection from tractor.
- (4). Lift up the machine by operating 3 point connection lifting lever.
- (5). Lock 3 point connection of the tractor not to come down the machine in the transportation.

9. Safe keeping - Off season

9.1. Maintenance after operation

1. Remove baling material from pick-up in the field.
2. Remove piled dust from the binding unit.
3. Remove baling material stuck material on the rolls.
4. Remove dust from driving device in the side of the machine.
5. Replace damaged or worn parts with new.
6. Inspect driving and connection parts in accordance with inspection spots table.
7. Lubricate in accordance with lubrication spots table.
8. Apply grease on PTO shaft, PIC shaft, power joint and other parts which are not painted to prevent rusting.
9. After machine and tractor separate, column should be set down.
10. Detach universal joint after separating the machine.

9.2. Detaching from a tractor

1. Slide down the stand and insert pin into the highest position of a hole.

2. Lower the hydraulic control lever of the tractor until tires of the machine touch the ground.
3. Stop the tractor engine and apply parking brake.
4. Detach power joint from the tractor PTO shaft.
5. Detach right side of lower link, left side of lower link and top link.

9.3. Storage in out of season

1. Clean every parts of the machine.
2. If any damaged or worn parts are found, they must be replaced with new one.
3. Apply grease or oil in accordance with lubrication points table. Apply oil to rotating, pivoting parts and sliding parts such as clump pin of power joint. Apply grease on PTO shaft & PIC shaft and spine holes of power joint yoke.
4. Paint or apply oil on damaged surface of parts to prevent rusting.
5. Store the machine in well ventilated room.
6. If to keep the machine in out door, cover the machine with a plastic sheet.

10. Maintenance instructions

The maintenance should be done regularly as per detailed information given in manual in order to avoid serious accident or poor maintenance. Some of the consuming parts (tynes, shear bolt, knives and twine) need to be replaced in order to keep the baler in perfect working condition.

Warning !

- Before adjusting the twine binding device, stop the tractor engine and disengage the tractor PTO
- Before doing adjustment in opening gate, lock the stop valve of fixed gate
- Before servicing and or maintenance operations, stop the tractor engine, remove the ignition key and engage the parking brake. Disengage the tractor PTO.

Caution !

- Hydraulic circuit of tractor should be locked when the machine is lifted for maintenance or repairing operations to prevent the falling down of the machine
- Maintenance or inspection should be done on solid surface. Never perform any maintenance activity when the machine is parked in slant, uneven or soft surface.

10.1. Routine maintenance table

The Routine maintenance table chart is guidelines to be used when operating in normal conditions . Adjust the maintenance intervals for adverse environmental and working conditions . The intervals should be shortened for sandy, dusty, extremely hot, operating conditions.

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Maintenance parts	Parts check list	Frequency
Gear box	Check oil level /oil leaks	Every 8 hours
	Oil change	Every 250 hours / 3 months
Worm Gear box	Check oil level	Every 8 hours
	Oil change	Every 250 hours / 3 months
Hydraulic system	Check leaks	Every 8 hours
	Check parts of the hydraulic lifting system of tail gate	Every 50 hours
	Oil change	Every 250 hours / 3 months
PTO Cardan shaft	Check guards	Daily
	Lubrication	Daily
Twine binder	Check knives	100 bales
	Check and Clean twine routing bushes & pulley	20 hours
Manual chain lubrication	Apply chain oil with brush	Daily
Pick-up reel	Check pickup chain (height adjustment) / tyne bar rotation	Daily
	Up float motion of protective spocks	Daily
	Check pick-up tynes , guide strips	Every 8 hours
	Check Slip clutch Wear	Every 50 hours
Tyres	Check tyre condition and air pressure	Every 8 hours
	Check tightening torque of the wheel bolts	Every 50 hours
Rollers	Check roller transmission chain tension	Every 8 hours
	Check bearings	3 months
	Check all fastener with appropriate torque	3 months

10.2.Lubricant - specification Table

Oil lubrication

Si.No	Oil lubrication	Quantity	Oil specification
1	Gear box	0.65 Litre	Gear oil : SAE 80W90
2	Worm gear box	0.3 Litre	Gear oil : SAE 80W90
3	Bucher hydraulic pump	1.1 Litre	Hydraulic Oil - ISO VG68
4	Automatic chain lubrication	1.5 Litre	Lubrication Oil - ISO VG 15


Grease lubrication

Si.No	Grease Lubrication	No of Points	Grease Specification
4	Swing bracket flange RH	1	AP 3
5	Swing bracket flange LH	1	AP 3
6	16T Sprocket (shear bolt)	1	AP 3
7	Universal joint (PTO)	2	AP 3

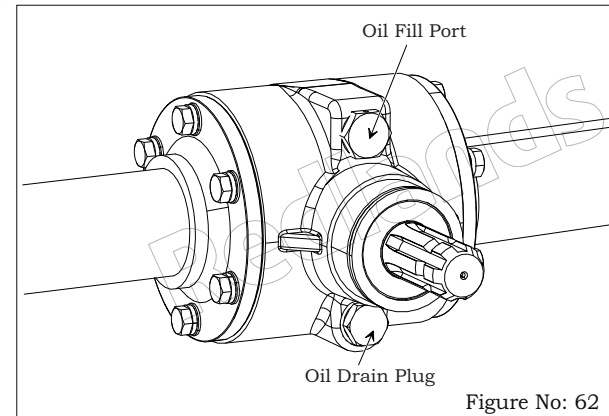
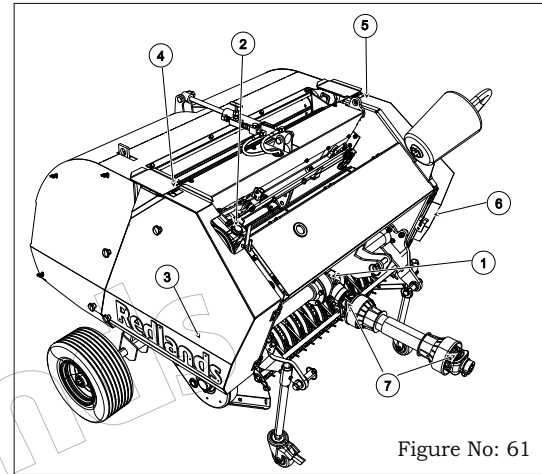
10.3. Lubrication points

The figures show all the points, that require lubrication according to the lubrication schedule. Each lubrication point identified with corresponding balloon / label number with the descriptions given in lubrication chart table.

10.4. Gear box oil

WARNING: Ensure the tractor is shut down before changing oil	
	Ensure that the tractor engine has been shut down, the key has been removed from the ignition and the brakes have been applied before changing oil. The PTO shaft should also be removed.

Check oil level once in a week, Use a wrench to remove the gearbox drain plug. Oil is added through the oil filling port above input splined shaft. The gearbox oil should be changed after the first 50 hours and then every 250 / 3 months hours once frequently. Drain the oil from the gearbox, by removing the drain plug. Install the drain plug and add 0.65 Litre oil of grade SAE 80W90.



10.5. Worm gearbox lubrication

Check oil level once in a week Use a wrench to remove the oil level indicator plug. Oil is added through the oil filling port at top of the gear box. The gearbox oil should be changed after the first 50 hours and then every 250 / 3 months hours once frequently. Drain the oil from the gearbox, by removing the drain plug. Install the drain plug and add 300ml oil of grade SAE 80W90.

10.6. Bucher hydraulic pump

If oil level is low or impurities found change hydraulic oil and the oil filling port at top of the hydraulic tank. otherwise change hydraulic oil every 250 hours/ 3 months once. Drain the oil from the hydraulic tank, by removing the drain plug at bottom of the tank. Install the drain plug and add 1.1 Litre hydraulic oil of grade ISO VG68.

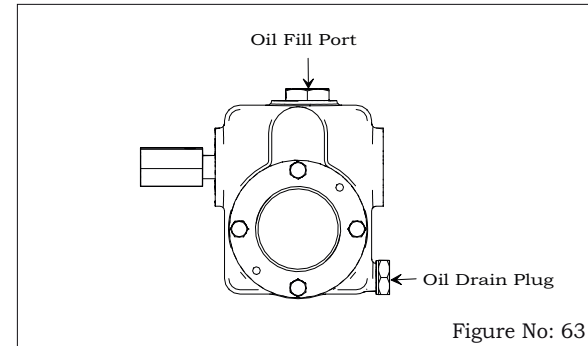


Figure No: 63

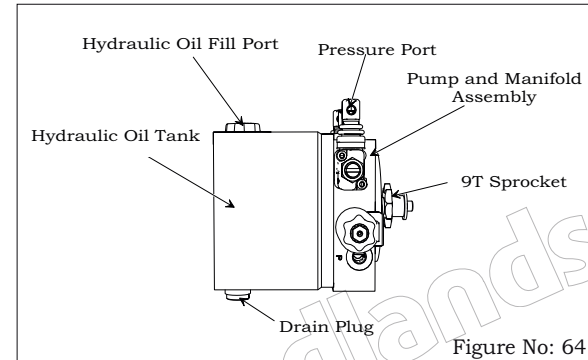


Figure No: 64

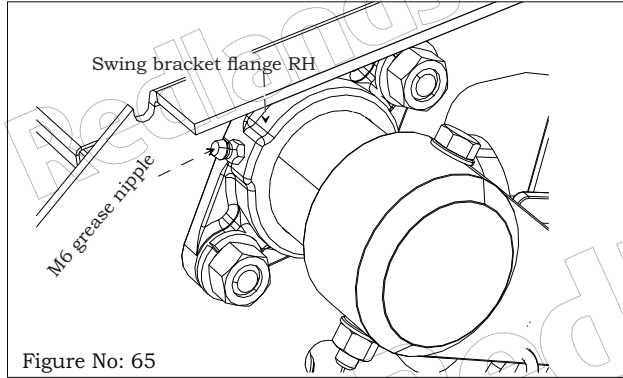
ENVIRONMENT: Safe disposal of oil



Respect the environment! Never spill oil or grease on the ground, never pour them down the drain and never discard them where they can pollute the environment. Always take waste materials to a recycling centre.

10.7. Swing bracket flange RH

Apply AP3 grease in M6 grease nipple provide in swing bracket flange RH, every 10 hours once.

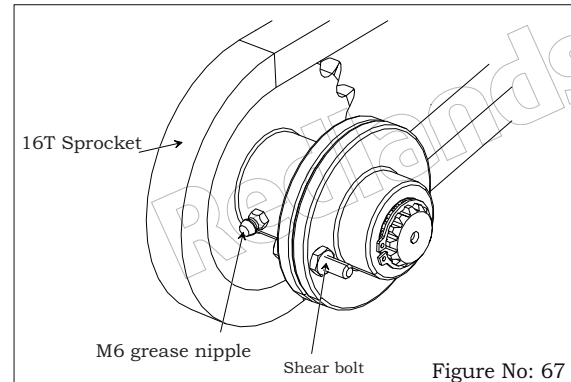
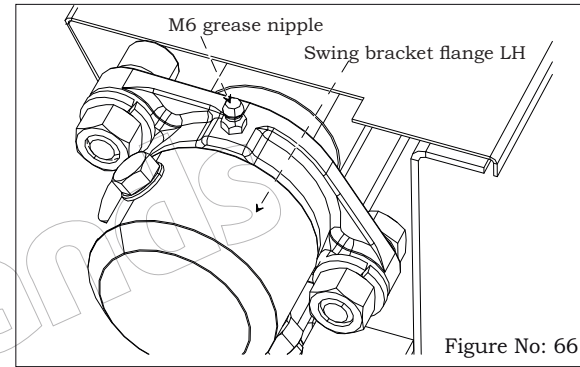


10.9. 16T Sprocket (shear bolt)

Apply AP3 Grease in M6 grease nipple provide in Swing bracket flange LH, every 10 hours once.

10.8. Swing bracket flange LH

Apply AP3 grease in M6 grease nipple provide in Swing bracket flange LH, every 10 hours once.



10.10. Roller chain lubrication - Manual

Lubricate all the chains every day or more often in abrasive conditions. Use new motor oil, ISO VG 15 grade. Oiling the chains in the middle of the day or at the end of the day is preferred. This will allow the oil to soak into the pins and barrels of the chains. Apply the oil, when the chains are warm. After all the chains have been oiled, operate the baler at idle speed for a few minutes to let the oil soak in.

10.11. Automatic roller chain lubrication

The machine is equipped with a fully automatic oiling system which is responsible for lubricating of chain drive system in the machine.

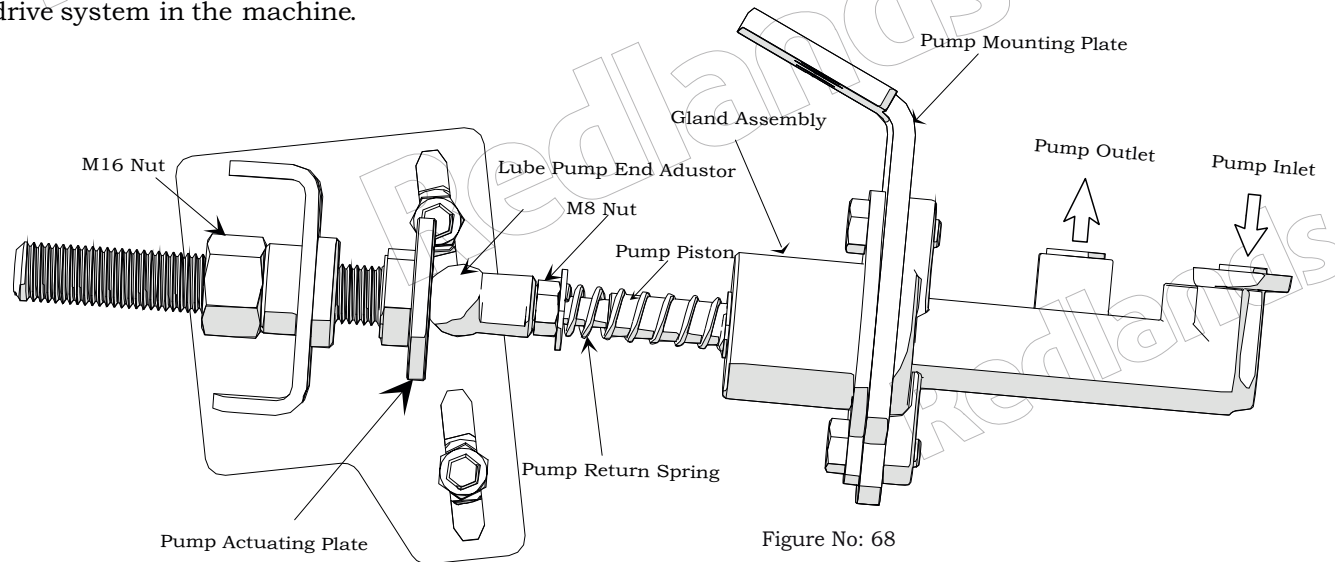


Figure No: 68

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The machine is equipped with a fully automatic oiling system which is responsible for lubricating of chain drive system in the machine.

The oil reservoir tank can hold approximately 1.5 litre of oil and this is enough oil for approximately 8 working hours. It should be kept between the minimum and maximum markings at all times. Redlands recommend the use of only top quality chain oil; this will prolong the life of the machine chain.

10.12.Lubrication oil pump adjustment

The oil pump is factory pre-set and under normal circumstances should not require any adjustment. If insufficient oil delivery is noticed on a brush outlet to chain, then the pump can be adjusted as per figure shown by increasing the stroke length and vice versa .

The delivery is regulated by adjusting the pump stroke length. The pump output is increased by increasing the stroke length of pump towards right side direction using M16 Hex bolt and pump output is decreased by decreasing the stroke length of pump towards left side direction using M16 Hex bolt Adjustment of M16 Hex bolt for increasing or decreasing pump output should be adjusted for 1mm to 2mm of stroke length of pump

	NOTE: Oil in the reservoir tank should always be clean
	The oil in the oil reservoir tank should always be clean, strained and free of any impurities during top-up, as this will ensure proper operation and lubrication .

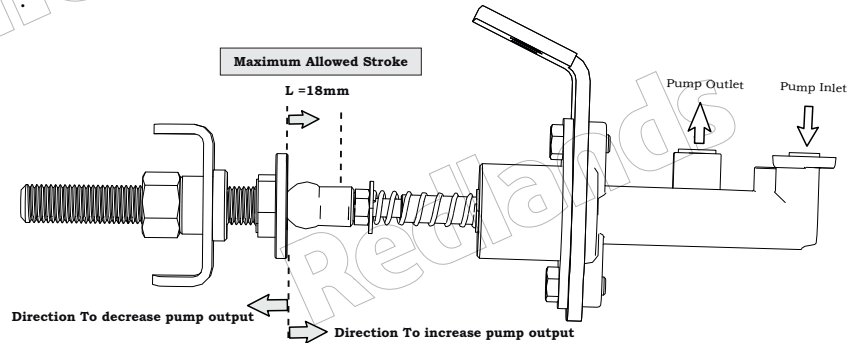


Figure No: 69

10.13. PTO shaft greasing

It is critical that the PTO be greased regularly, especially the equal angle. To grease the PTO, remove it from the tractor. Check the lubrication schedule for service intervals for the PTO shaft and shields. On balers equipped with a shield chain. Unfasten the shield chain. Rotate the PTO shield as required to get at the grease fittings. The equal angle fitting, between the front U-joint fittings, requires 16 to 20 shots of grease each time.

10.14. Maintenance after operation

01. Remove baling material from pick-up in the field.
02. Remove piled dust from the binding unit.
03. Remove baling material stuck material on the rolls.
04. Remove dust from driving device in the side of the machine.
05. Replace damaged or worn parts with new
06. Inspect driving and connection parts in accordance with inspection spots table.

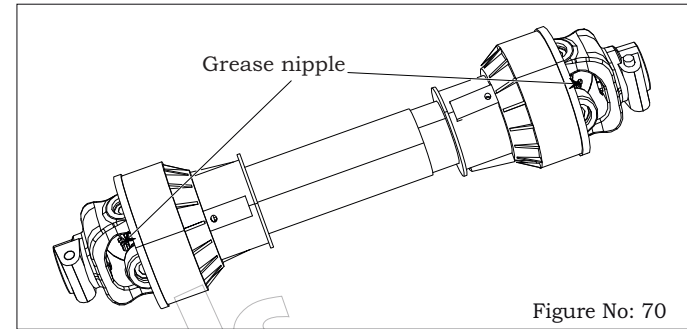


Figure No: 70

IMPORTANT: Make sure the PTO shield chain is re-attached to the baler after servicing the joints.

NOTE: Check lubrication decal on PTO for proper lubrication.

07. Lubricate in accordance with lubrication spots table.
08. Apply grease on PTO shaft, PIC shaft, power joint and other parts which are not painted to prevent rusting.
09. After machine and tractor separate, column should be set down.
10. Detach universal joint after separating the machine.

10.15.Chain tension adjustment

Roller chain is elongated gradually by usage. Adjust tension of roller chain for transmitting the power smoothly.

10.15.1. Fixed and movable frame chain tension

Adjust tension of roller chain on the fixed and on a movable frame long chain by adjusting the length of the tension springs.

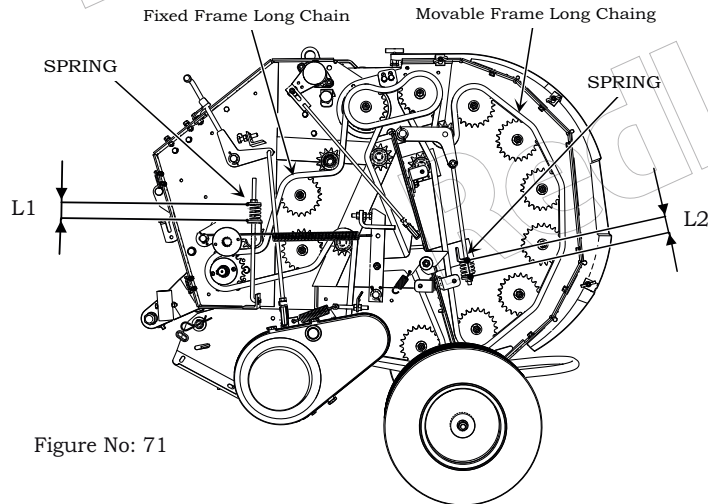


Figure No: 71

The length of the spring is mentioned below.
L1 = 36mm and L2 = 38mm

10.15.2. Adjustment of Small Chain Tension Plate

Adjust tension of roller chain between frame and gate by tension plate. Proper roller chain tension gives 3mm deflection when roller chain is pushed by a finger.

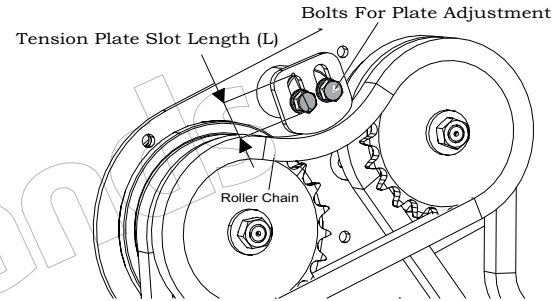


Figure No: 72

10.15.3. Adjustment of power package chain

Tension for roller chain to drive the power package is adjusted by changing the position of power package.

Push middle part of chain between both sprockets by finger. Correct tension is approximately 5mm of deflection when the chain is pushed.

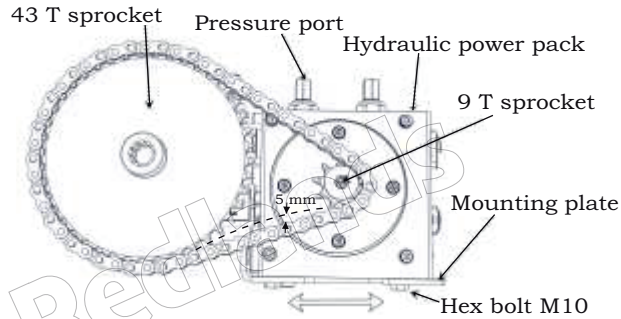


Figure No: 73

10.15.4. Adjustment of pickup chain tension

Loose bolt, revolve tension roll to adjust chain, after adjustment, fasten the bolt. The most suitable tension is 3mm pressed down at the centre of the chain.

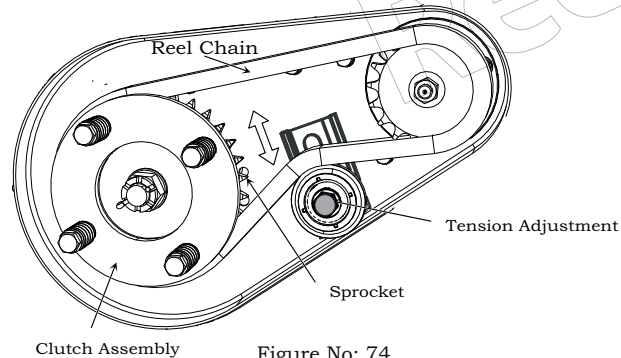


Figure No: 74

10.16. Adjustment of clutch spring

Sliding clutch springs are adjusted to 27mm to 30mm (L)

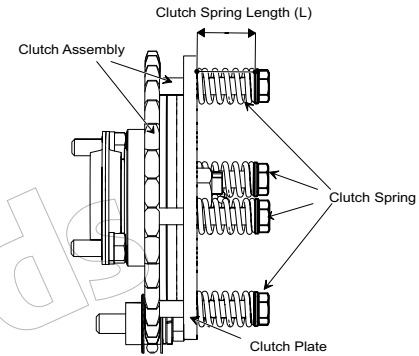


Figure No: 75

10.17. Adjustment of twine spring tension

Adjust spring length to 35 mm.

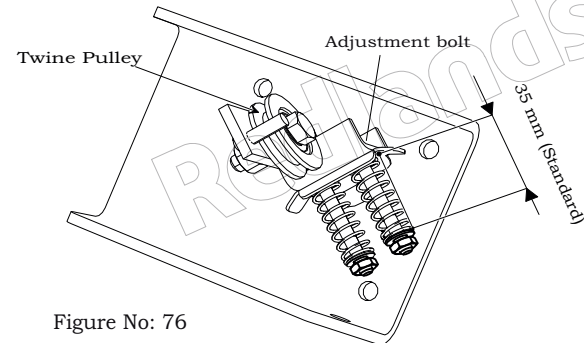


Figure No: 76

10.18.Adjustment of arm tension spring

Adjust length of the spring at 8mm.

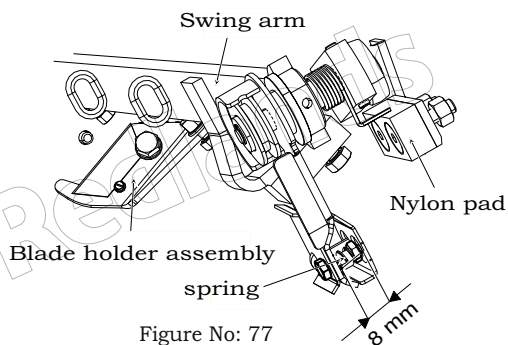


Figure No: 77

10.19.Adjustment/Replacement of binding knife (blade)

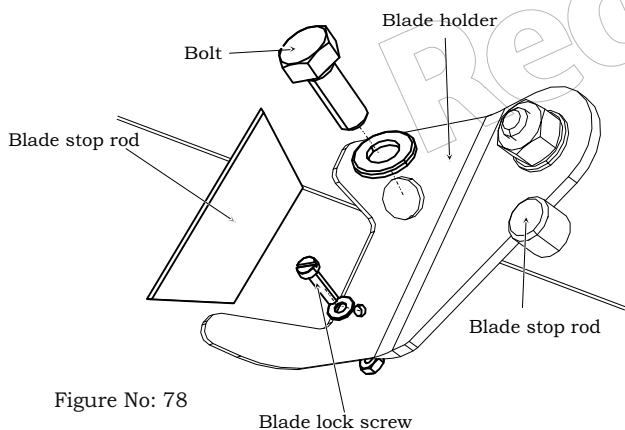


Figure No: 78

Remove the blade and attach it after reversing if the knife is blade .

Replace the knife to new one if reversed side is also blunt

10.20.Adjustment of Pick-up suspension spring

- Proper suspension springs length on both sides of pick-up is $L = 48\text{mm}$.
- Adjust spring length according to field condition, if the pick-up does not follow the field unevenness, adjust the spring.
- Both springs length should be the same after the adjustment.

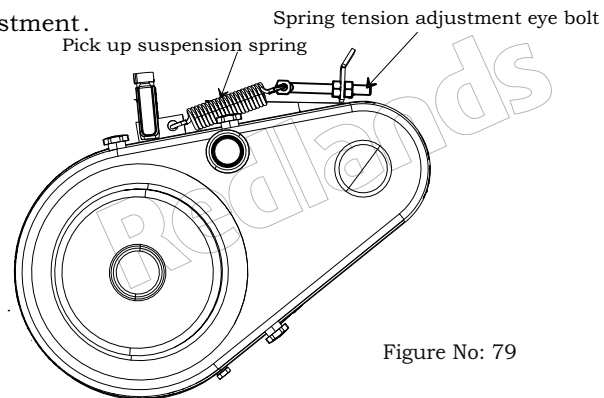


Figure No: 79

10.21. Adjustment of bale density detection link

(1) Adjust the clearance between stopper and collar on gate by bolt

L1 = 1 - 2mm is proper.

(2) Remove the fork end on from lower end of release rod and then pull the release rod to lower.

Adjust the dimension between lower side of fork end slot and the hole of stopper as mentioned below in above situation.

L2 = 2 mm is proper.

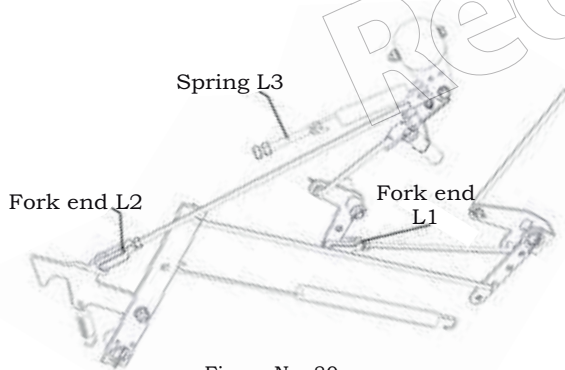


Figure No: 80

(3) Adjust the dimension between latch and cutout of control bar as below.

L3 = 8mm is proper.

Adjust this dimension to L3 = 6mm. If bale weight is too heavy (More the 25 kg) because of too much moisture content.

10.22. Adjustment for closing speed of gate

Closing speed can be adjusted by turning of knob on the slow return valve.

Speed is decreased by turning it to right and is increased by turning it to left.

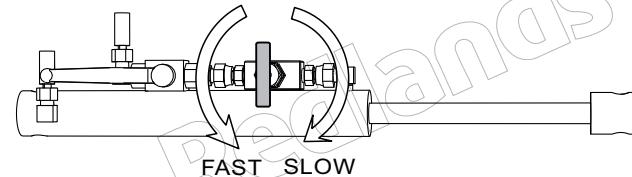


Figure No: 81

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11. Trouble shooting

The purpose of this section is to identify and correct possible operational issues that may occur while using the machine. The various problems that may occur have been divided into tables, according to the reference operator unit. It is advisable to examine all tables to know the possible irregularities in a more thorough way and adjust the machine in accordance with instructions given in the trouble shooting table.

Caution

- a) Lock the hydraulic circuit of the tractor when the machine is lifted up for maintenance or inspection.
- b) Inspection or maintenance should be done on a solid ground.
- c) Never inspect or maintain on slant, uneven, or soft ground.
- d) Stop the tractor engine, disengage PTO and make sure all moving parts stop during inspection.
- e) Inform the Redlands dealer if the cause of trouble and troubleshooting is not clear.

11.1.Pickup Assembly

Problem	Possible cause	Correction
Reel clutch slipping	Bale too high density or blockage in pickup	Reduce bale weight / remove blockage
	clutch facing Worn out	Replace clutch facing
	Sudden excess quantity straw feeding	3 point linkage control to adjust height of the baler to reduce feed rate
	Oil spill over in clutch facing	Clean clutch facing
	Clutch spring tension less	Adjust / Replace

11.1.1.Pickup assembly

Problem	Possible cause	Correction
Abnormal noise	Bend or breakage of tynes	Replace Tynes
	Bend or breakage of guide strips	Replace guide strips
	Winding of straw or foreign objects	Removal of winding material
	Breakage of cam roller bearing LR201	Replacement of cam roller bearing LR201
	Insufficient chain tension	Adjustment in accordance with “adjustment of chain tension” in stickers
Material is not picking properly	Wrong pick-up setting	Adjustment in accordance with “Adjustment pick-up height from ground” in operator’s manual
	Too much clearance between pick-up tynes and ground	Adjustment in accordance with “Adjustment of pick-up height from ground” in operator’s manual
	Too much moving height from ground	Adjustment of height of pickup device
	Operating at over speed	Reduce operating speed
	Breakage of tynes	Replace tynes with new one
Baling material is clogged between pickup and bale chamber.	Too fast PTO rotation	Adjustment PTO rotation in accordance with “Field operation” in operator’s manual
	Wet straw or more moisture content	Operating machine at 10 to 40% moisture content
	Operating at over speed	Reduce operating speed
	Too wide and too high windrow	Making windrows in accordance with “Method of windrow making” in operator’s manual
	Too much declined pick-up	Shortening top link for obtaining forward declined machine position

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11.1.Pickup assembly

Problem	Possible cause	Correction
Pick-up does not rotate	Wrong chain tension adjustment	Adjustment in accordance with “Adjustment of chain tension” in operator’s manual or sticker
	Breakage of chain	Replacement of broken chain with new one.
	Breakage of shear bolt / pickup roller / shaft for pickup	Replace shear bolt / pickup roller / shaft for pickup
	Obstruction by any foreign object	Remove foreign object
Pick-up pushes long stem straw to forward	Matching of pick-up center and rice straw center in the pick-up operation	Picking up by right side or pick-up
	Short length straw	Adjust PTO speed

11.2. Universal joint

Problem	Possible cause	Correction
Abnormal noise	Insufficient lubrication in cross joint, yoke and shield	Application of grease to cross joint, yoke and shield
	Too much sharp angle of universal joint	Adjustment of tractor top link length, lower link stabilizer and lower link upper limit

11.3. Twine binding assembly

Problem	Possible Cause	Correction
Binding swing arm does not fall, when bale is finished	Binding is not set in correct initial position	Adjustment in accordance with “Method of twine treading” in operator`s manual
	Insufficient lubrication	Lubricate properly
	Wrong adjustment in tension spring/ push rod / link rod / other linkages	Adjustment in accordance with “Adjustment of twine tension”
	Twine is coming off from twine pulley	Adjustment in accordance with “Method of twine threading”

11.3. Twine binding assembly

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Problem	Possible cause	Correction
Twine binding does not work properly	Lower density in bale left side	Supply of lager quantity of material to left side of the machine
	Pivot and sub bracket tip wear	Replace Pivot and sub bracket
Twining binding swing arm falls automatically before bale is finished	Binding is not set in correct initial position	Adjustment in accordance with “Method of twine threading” in operator`s manual
	Wear in linkages bushes, Mounting bolts loose, H1, H2, pull spring tension weak	Check and replace all linkages bushes, Check and tight all mounting bolts, Replace H1, H2, pull spring
Twine comes off from bale / Twine is not cut smoothly	Longer leading twine length because of dull knife, continuous winding	Replacement of knife and adjust leading twine length in accordance with “ Method of twine threading”
	Fewer twine binding number in plastic wheel	Adjustment in accordance with “ Adjustment of twine binding number”
	Too loose twine tension	Tighten nylon nuts of twine tension plate one or two turns.

11.3. Twine binding assembly

Problem	Possible cause	Correction
The twine is not picked-up by the bale while rotating.	Twine-holding clamp too tight. The twine will not run and will break.	Loosen the twine clamps
	Pressure spring for roller broken. The twine is not led into the compression chamber.	Replace the damaged springs.
The twine is not cut.	The blade does may have become blunt	Replace the blade or sharpen them.
Twine is picked-up by the bale, but the swing arm not moving	Loose clamp on the twine wrapping the pulley.	Adjust clamp pressure (increase if necessary).
	Worn clamp.	Replace the clamp.
	Screw fastening the pulley is loose.	Tighten the pulley screw.
	Not wrapped twine by 1.5 turns on pulley.	Correctly wrap the twine on the pulley
	V groove wear in plastic pulley	Replace the plastic pulley
	One way clutch bearing failure	Replace the bearing
	Barrel-shaped bale.	Lack of product on the sides. Correct the baler guide.
	Too dry and too compressed straw, the twine cannot support lay down and loosens.	Reduce the pressure. Pick-up the straw during those hours not so hot. Reduce the power take-off speed.

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11.4. Electrical

Problem	Possible cause	Correction
Buzzer does not sound	Switch off	Switch on
	Running out of battery voltage	Replace/ Recharge of battery in tractor
	Wrong cable connection	Correction of cable connection
	Cable breakage	Replace broken cable with new one
	Too much distance between switch lever and binding arm	Adjustment of switch location
Pump not working	Loose connection in circuit / solenoid coil connector or relay	Check connection loose in solenoid coil connector or relay

11.5. Gearbox

Problem	Possible cause	Correction
Shear bolt is cut	Too high PTO speed	Operation in normal PTO speed
	Clogging or winding material in pickup	Remedy in accordance with “Pick-up” clause of trouble shooting
	Sudden overload in pickup roller	Adjust speed of operation
	Loosened shear bolt	Tighten shear bolt

11.6. Tail gate opening in Hull frame

Problem	Possible cause	Correction
Bale does not come out	Density too high	Adjustment in accordance with “Adjustment of bale density”
	Hydraulic cylinder not fully open	Check stroke (220mm) of hydraulic cylinder
	Declined field	Ejection of a bale in flat place
Tail gate not open	Hydraulic stop ball valve in closed condition	Open the stop ball valve
	Leakage or breakage of hydraulic circuit	Remedy in accordance with “Inspection of hydraulic system gate opening and closing”
	Wrong adjustment of load bracket locking hook	Adjustment in accordance with “Adjustment of bale density detection link”
	Disengagement of PTO	Engage PTO & eject bale while PTO is running
	Insufficient oil in power package tank	Fill oil (1.2 litre) in oil tank

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11.7. Bale finish

Problem	Possible cause	Correction
Light bale	Pressure setting is not correct.	Adjust the pressure
	Swing arm in wrong setting	Adjust the swing arm default setting
	The forward speed is too high.	Decrease forward speed
Too heavy bale	Bale density adjustment push rod setting in maximum condition	Adjust bale density
	Struck up in linkages	Check and adjust linkages setting
	The working pressure is too high.	Decrease working pressure.
Conical shape bale	Excessive feeding on one side	Adjust baler forward movement on the windrow.
Barrel-shaped bale.	Run diversions too frequent, with excessive feeding at the middle.	Adjust baler forward movement on the windrow. Feed more at sides.
Chopped and laminated straw on the bale surface.	The straw is too dry.	Harvest during cooler hours.
	The working pressure is too high.	Decrease pressure.
	The power take-off rpm are too high.	Decrease rpm to 350 - 450; avoid idling.
	The straw is too dry. The working pressure is too high.	Decrease pressure.

WARRANTY REGISTRATION CERTIFICATE

Redlands Ashlyn Motors PLC warrants the tractor operated round straw baler mentioned here against manufacturing defects for a period of 12 months from the date of sale. During the warranty period of 12 months from the date of sale, Redlands Ashlyn Motors PLC or authorized dealers will repair/replace components that are found to be defective. This warranty does not apply on machine that has been damaged by accident or misuse, or as a result of service or modification by other than Redlands Ashlyn Motors PLC. This warranty is also not applicable in such cases where the machine has been opened by anyone other than Redlands engineers. All disputes are subject to Thrissur jurisdiction.

Address of the Customer :

Details of Machine : Redlands Round Straw Baler

Model :

Machine Serial No. :

Date of Issue :

Date of Expiry of warranty period :

For Redlands Ashlyn Motors PLC

Redlands

WARRANTY TERMS AND CONDITIONS

Redlands tractor drawn Round Baler is manufactured following best quality practices in respect of the material and workmanship. Redlands Ashlyn Motors PLC warrants the Round Straw Baler to be free from manufacturing and material defect under normal use subject to following conditions:

1. Redlands Ashlyn Motors PLC will replace or repair defective part at their authorized dealers, service point, free of charge, within a period of 12 months from the date of sale.
2. The warranty is applicable only to the first registered owner.
3. The warranty shall be applicable only if the service is done at the authorized dealers or service point and spares parts replacement to be procured from Redlands only.
4. During the warranty period, Redlands Ashlyn Motors PLC obligations shall be limited to repairing/replacing free of charge, such part of the machine, which on examination is found to have manufacturing defect. Such defective part which have been replaced will become the property of the company.

Warranty shall not apply to:

1. Normal ageing, deterioration or rusting of plated parts, paints, rubber parts, soft items, plastic parts, etc.
2. Damage due to inappropriate use and maintenance such as improper loading and unloading in the transportation. The using condition exceeds the range stipulated by the product description, over-load use, etc.
3. Remodeling, regulating, disassembling the parts and the spare parts which are not allowed in the product description to regulate and disassemble.
4. Damages due to use of non-genuine parts.
5. Parts not cover under warranty are guide strips, spocks(tyne), blade, tyres, rims, all springs, horn, shear bolt M6/M8, clutch facing, consumables (oil, Jute rope),etc.,

Redlands Ashlyn Motors PLC reserves the right to finally decide on all warranty claims. Redlands Ashlyn Motors PLC reserves the right to make changes in the design of the Round Straw Baler without any obligation to install these changes on previously supplied machines.



Redlands

Redlands Ashlyn Motors Plc

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CONTACT

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OPERATORS MANUAL

18/07/2020-RAM001/SB/01

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