



Rotowiper® – Tow Behind Model – 1.8m to 3.2m

ASSEMBLY & OPERATORS

MANUAL



ROTOWIPER LTD

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For Your Records.

Purchased From

Model Serial #

Date of Purchase

Congratulations on your purchase and

WELCOME TO THE WORLD OF ROTOWIPER®



Warranty

- 1- The manufacturers and agents of Rotowiper® guarantee the workmanship and materials in your Rotowiper® for a period of Twelve (12) months from the date of purchase.
- 2- The manufacturers reserve the right to repair or replace at our option any parts or workmanship that has failed.
- 3- All repairs must be approved by the manufacturers before they are carried out.
- 4- All repairs are to be carried out at the Factory or at an approved dealer; the machine must be delivered freight paid. The manufacturers and dealers are not responsible for any freight costs.
- 5- What is not covered under warranty –**
 - i. Any damage to crops, pasture or other machinery. The advice given here is in good faith and comes from feed back over the years from successful users. The manufacturers and dealers cannot control the application and ratio's or any excessive herbicide application due to a component failure as the operator is responsible for application.
 - ii. Any damage caused by misuse or negligence: these can include but are not limited to –
 1. Bearing failure
 2. Carpet tears, delamination
 3. Jet blockages
 4. Filter blockages
 5. Pump Failure due to lack of maintenance.
 6. Electrical failure due to moisture or incorrect fitting.

While all care has been taken into account when assembling this manual and guidelines the final decision of what herbicide(s) and when to use them is up to the operator.

The manufacturers are constantly upgrading and improving Rotowiper® so specifications etc can alter.

So we can help you can you please fill out the warranty form at the rear of this manual and post it to the manufacturer.

Towing – Rotowiper® can be towed by Tractor, Utility, Quad bike. Whatever your choice, make sure it is of sufficient size for your Rotowiper® and the terrain that you are in. The manufacturers and dealers can't be held responsible for any damage caused from towing with an incorrect vehicle.



Assembly

- 1- Unpack your Rotowiper® and Check that all parts are there
 - a. 1 x Right hand Side arm (Hose attached)
 - b. 1 x Left hand side arm
 - c. 1 x Tank frame
 - d. 1 x Draw Bar
 - e. 1 x Drive Wheel (Pulley fitted)
 - f. 1 x Idle Wheel
 - g. 1 x Belt Guard
 - h. 1 x Tank assembly
 - i. Inside Tank
 - i. 2 x suspensions
 - ii. 1 x Bolt Bag includes -
 1. 2 x 175 x 20mm Pins
 2. 2 x 110 x 16mm Pins
 3. 2 x 80 x 16mm Pins
 4. 2 x Belt Adjusters, Nuts, Washers
 5. 1 x Idler Axle, Spacers, Nut, Washers
 6. 1 x Drive Axle, Spacer, Nut, Washers
 7. 6 x R Clips
 8. 2 x 75x10mm Bolts
 9. 2 x 25x10mm Bolts
 10. 1 x 75x12mm Bolt
 11. 4 x 10mm Nyloc nuts
 12. 1 x 12mm Nyloc nut
 13. 1 x Tank Strap
 - iii. 1 x Wiring Loom
 - iv. 1 x Filter bowl, screen, sealing rubber

Lay your parts out on a clean flat area

Tools Required

- 1- Spanners 16mm, 17mm, 18mm, 24mm
- 2- Sockets 16mm, 17mm, 18mm, 24mm
- 3- Light hammer

Please read Assembly instructions in full before commencing.



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Drive wheel Installation & Adjustment.



- 1- Stand Machine so legs are vertical – careful not to damage shields



- 2- Lay out Drive Wheel and Parts
Guard, Axle, Adjusters, Spacer, spring washer, Nut.



- 3- Fit Belt as Shown

1-Turn inside out so flat side is around drum, 2- Twist right way again so v inwards on your Fingers, 3- Twist 180 deg clockwise so the belt crosses.



- 4- Fit Belt onto Pulley



Fit Axle, Adjuster, guard



Spacer (looking from other side)



Showing Guard fitted

Make sure Spacer is fitted with large side towards Frame, Fit second tensioner, nut and washer.

- 5- Adjust belt evenly until tension is firm but not over tight and tighten axle.



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Idle Wheel Installation.

- 1- Lay out Idle wheel and parts  Axle, 2 x spacers, Spring Washer, Nut.



- 2- Fit wheel as shown  Spacers between wheel bearings and frame, one each side. Tighten nut.



- 3- Lay Rotowiper® down on it's wheels

Side Arm Installation.

- 1- Lay out Side arms (ears up), and draw bar as shown
Fit 75 x 12 mm bolt through side arms and draw bar and finger tight Nyloc nut.



- 2- Fit Side arms to main unit using 175 x 20mm pins and R Clips



- 3- Attach tank frame to side arms
Using 75 x 10mm bolts and Nyloc nuts, finger tight nuts only.



- 4- Attach draw bar to tank frame using 25 x 10mm Bolts and Nyloc nuts..
5- Tighten All nuts



Height Adjuster Installation.

- 1- Unpack height adjuster and lay out as shown with 1x 110 x 16 pin and 1x 80 x 16 pin and R- Clip's



- 2- Install lower sleeve to body with 80 x 16 pin and R-Clip, Install Threaded portion



with 110 x 16 Pin and R-Clip as shown

- 3- Repeat the same on the other side.

Tank Installation.

- 1- Remove nut from stud on tank frame, fit strap and tighten nut.



- 2- Fit Tank and tighten strap



- 3- Fit sediment filter making sure O-ring is fitted.

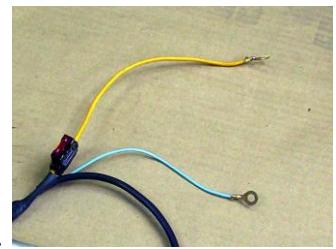


- 4- Connect hose at frame and body.



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Electrical Installation.



- 1- Connect wiring loom to battery - Fuse to positive terminal.



- 2- Connect Plug to Rotowiper® Tank
Thread under pump shield

Summary

- 1- Recheck that nuts and bolts are tight
- 2- Recheck that all R-Clips are properly fitted
- 3- Check that you have no parts left over.
- 4- Now you are ready to learn how to make the best use of your Rotowiper®
- 5- Please read the operating instructions before use to maximise the effectiveness of your Rotowiper®.

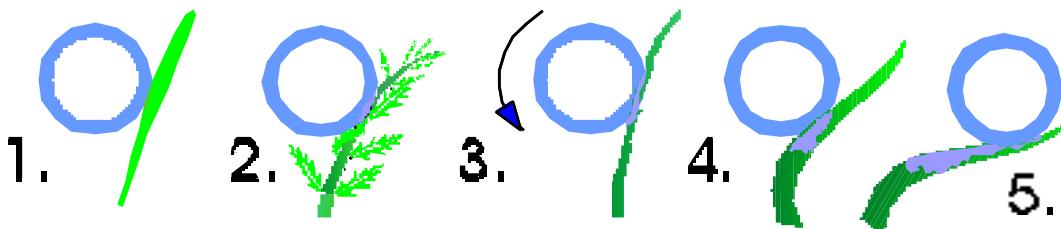


Your assembled Rotowiper®



Principles of Rotowiper®

- 1- Rotowiper® uses a unique carpeted drum which rotates in the opposite direction of travel. This movement insures that the roller has a constant supply of herbicide (see page 9) which is in effect brushed on to your targeted weeds.
- 2- As the roller rotates it applies the herbicide to the stem and the underside of the leaf, this being one of the more receptive areas for the weed to absorb the herbicide.
- 3- Small weed's exert little pressure on the carpet therefore they only remove a little herbicide
- 4- Large weeds exert more pressure therefore remove more herbicide
- 5- This means you are only applying the herbicide that is required and not wasting it.
- 6- As the herbicide runs down the stem it encircles the stem and reaches the base of the weed.



7- The advantages

- a. You have only applied herbicide to the targeted weeds (see page 9)
- b. You have only applied the herbicide that is required to do the job.
- c. You have used less chemical than other alternative applicators.
- d. You can let your stock back in after any withholding time.
- e. You have increased your profits by effectively giving your pasture more moisture and sunlight to grow.
- 8- As with any system of herbicide application the best results are achieved by planning what you are going to do and with what chemical. Once you have made your plan, stick to it.
- 9- What herbicide? On page 12 we have listed a range of herbicides and mixes, these are suggestions only! The water that you use, the area you are in, all have different results with different chemicals, the best solution is to try small sample areas that you can monitor easily and use what is best for you in your area – Your local farm supply merchant will give you the best advice as they know your area well. Generally herbicides that can be sprayed can be wiped but usually as a weaker mix.

Now you understand how Rotowiper® works we can tell you how to make it work for you.



Operation of Rotowiper®

- 1- Pasture preparation. Best results are achieved if at least $\frac{1}{2}$ your targeted weed is clear of your pasture, this allows a good area to be exposed to your Rotowiper® and leaving clearance from your pasture. Usually you can put your stock in your pasture and let them eat it down, then put your Rotowiper® through it.



- 2- Adjust the height of your Rotowiper® by lifting the side arm up and moving the adjusting nut down the jack, depending on what vehicle you are using to tow your Rotowiper® (page 2) you can achieve working heights 0-650mm
- 3- Fill your tank with the required herbicide (**SEE PAGE 10 FOR FIRST TIME USE**).
- 4- Apply herbicide to your roller by pressing the switch (it is a momentary switch and must be pressed to activate pump), move slowly forward until roller is saturated but not dripping, (see page 10) stop applying herbicide.
- 5- Travel at a speed up to 10kph which is safe and doesn't create too much bounce on your Rotowiper® as this can shake herbicide onto your pasture. Excessive speed can damage your weeds and a damaged weed won't absorb the herbicide as well.
- 6- As the herbicide on your roller is used, replace it by pressing the switch, remember that you have the best eyes and brain. If you see a heavy patch of weeds approaching you can increase the amount of herbicide before you get there - just don't let it drip. Just before you come out of it, stop applying herbicide so that you don't get any drips on your pasture.
- 7- Make sure your Roller stays as free from dust and dirt as possible as this will neutralise some herbicides such as Roundup®
- 8- When you have finished come to a halt in a gate way or race to avoid drips from the roller damaging pasture.

Though we have mentioned pasture here the same can apply for many crops as the weeds grow faster than the crop.

You can put your Rotowiper® through the crop to control the weeds giving your crop more moisture and sunlight.



First Time use.

- 1- Do steps 1 and 2 from page 9
- 2- Instead of using herbicide use a mix of 1 ltr Dishwashing liquid to 45 ltr water in your Rotowiper® tank. The quantity of dish washing liquid depends on your water type.
- 3- Start by pressing the switch and moving off slowly so you can saturate the carpet, don't worry if you get it to a dripping stage as you have no herbicide in the tank and you can understand what an oversaturated carpet looks like.
- 4- What you are trying to achieve is a saturated carpet which will show a nice foam line



along the seal at the front of the carpet as shown. (The colour of your carpet may vary from that shown).

- 5- After you have gone through a patch of weeds, stop and look at how the moisture has encircled the stem of the plant and how it is on the underside of the leaf.
- 6- Now is a good time also to see what happens when the carpet is to dry and also to wet as you are not going to damage any crops.

7- Notes –

- a. **The amount of froth depends on –**
 - i. The amount of detergent in the tank
 - ii. The type of water you are using
 - iii. The amount of rubbing on the seal from the weeds
 - iv. The amount of herbicide being removed, the less the greater the froth
- b. **Speed**
 - i. Don't go so fast you break parts of the weed off as a damaged plant shuts down and won't absorb the herbicide as well.
 - ii. Don't go so fast that the Rotowiper® bounces and shakes the herbicide from the carpet
- c. **Moisture**
 - i. Remember moisture can also be absorbed from plants to carpet if there is a lot of dew around, so don't apply more than is required.
 - ii. Practice makes perfect. Too much and you can damage your pasture / crop. Too little and the kill wont be as successful
- d. **Herbicide mixes**
 - i. Your local farm supply store and you have the best knowledge of what works best in your area, the suggestions on Page 12? Are suggestions only from farmers that have had success with them?
 - ii. Add detergent to your mix so you can have an accurate gauge of roller wetness. Again the detergent used will vary from area to area, generally cheap detergents don't work as well as the better quality ones.



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- iii. Detergent doesn't replace a penetrant
- iv. Ratios- again your local supplier knows your area, take the time to do tests on your farm, a slow kill is far more effective than a fast kill as a slow kill reaches the root system.
- v. Mixing different herbicides. This can prove very effective such as Roundup® and Escort® The Roundup® will penetrate easier but the Escort® will translocate through the root system with better results.

Remember you, the operator are in the best position to determine – Herbicide type; Ratio's; speed; moisture levels.

Ratios for 10 litres of water

10:1 = 1.00 Litres of Herbicide
20:1 = 0.50 Litres of Herbicide
40:1 = 0.25 Litres of Herbicide

NOTES -



SUGGESTED HERBICIDES FROM SUCCESSFUL USERS

Please Note: That because a herbicide is not mentioned here, it has no bearing on its usefulness or economy or in any way suggests that it should not be used with Rotowiper®. In fact, herbicides which work with spray booms to kill the target weeds, should work equally well with Rotowiper®.

We recommend the addition of a 'Sticking Agent' or Penetrant in the mixture which should be in the cleanest available water and include the Herbicide(s). (Detergent and Penetrant mix well)

Californian Thistle:	Roundup	@ 20 Water to 1 Roundup
(Creeping Thistle):	Diacamba (Banvel 200)	@ 40 to 1
	Versatil	@ 40 to 1
	Escort	@ 1 Gram per litre of water

Treat at the stage where the first down is visible. To attack sooner will miss many young stems. Follow up for two more seasons at least. Severe infestations are best broken up with Roundup in the first year, and add other herbicides in the subsequent years to avoid residual build up in soil, which will affect clover growth.

Nodding Thistle: Plants below 300mm high respond to:-

Tordon	@ 40 to 1
Escort	@ 1 Gram per litre of water

Plants above 300mm high may require a mix of:-

Roundup	@ 40 to 1 PLUS
Escort	@ .5 Gram per litre of water

Dock: Treat when seeds are first visible. (*Only successful known mix*)

Roundup	@ 40 to 1 PLUS
Escort	@ .5 Gram per litre

Rushes: Treat when growing strongly and avoid dirty stems after floods.

If you cannot get at least 90% kill, there is a serious problem.
Roundup @ 20 to 1

Scotch Thistle: Go as fast as possible without breaking branches.

Treat as soon as high enough, well before flowering if possible.
Roundup @ 20 to 1

Bracken: Treat when new growth is showing up well – For mature plants

Escort, (Brushoff, Allay)	@ 1 Gram per litre PLUS
Roundup	@ 40 to 1

Repeated follow-ups will be required for several years.

Graze grass very hard first. (Mix will destroy grass)

IMPORTANT NOTICE: Users please note that mixtures of Roundup with Escort & other Herbicides will kill almost all plants touched by the Roller. Take great care cleaning Roller after such mixes!

The Manufacturers & Dealers of Rotowiper® accept no responsibility what-so-ever, regardless of circumstances for any result of using Rotowiper® & any of the above information:



Californian Thistles (Calis)

There are many theories on how to control this pest, below please find observations and suggestions from our own experiences and feed-back from the farming community.

- 1- There is no simple complete treatment which is both economical and effective. The very nature of the rhizome root system and the fact that when the clover is dormant and can best withstand some herbicide the calis are also underground well out of harms way.
- 2- We believe that with a basic understanding of how the calis grow, the available herbicides, the Rotowiper® system and a determined operator the calis can be reduced to less than a nuisance within 3 years.
- 3- Calis unlike other thistles have a rhizome root system which continues from one year to the next and once established it can almost choke out all other growth. This dense growth causes another problem as we believe that the amount of herbicide required to kill a plant is related to the area of dry matter, like dosing cattle the larger the beast the larger the dose.
- 4- This large and ever spreading root system produces a wave of stems all about the same growth stage. Different ages maturing at different times. This shows up as flowering earlier in the centre of the patch, this uniform strip will flower and shed at the same time and will be attached to the oldest and most mature roots which if inspected will have dark brown bark on them. Careful study will show the youngest roots will have the shortest and least robust steams on them. These are also the ones which will grow the quickest when the competition has gone. For this reason we believe that you should wait until these steams are high enough to get a good contact with the roller to absorb enough herbicide, otherwise they will have a clear run as the older ones die back.
- 5- Control with the Rotowiper®. Our recommendation is 1 litre of Roundup® to 20 litres of water for the first attack, this should be timed to when the down is just starting to come off the oldest stems. We know that Roundup® will not travel past the first root node but this is outweighed by the fact that it does not reside in the ground to effect the growth of other plants. A continued attack in this manner will reduce the calis.
- 6- When your numbers have reduced you are faced with whether to apply a mix of herbicide to get past the root node, but this can result in residual damage to the soil. A lot of farmers just use Roundup®
- 7- When the happy day has arrived that all the root systems have been dealt with, remember that there is still a bank of seeds in the ground, you must be ever vigilant and keep on top of them with yearly applications. If you don't you can find yourself back at the start again.



Maintenance –

1- Before use

- a. Grease roller bearings
- b. Check sediment filter
- c. Check Nuts and bolts are tight
- d. Check wheel bearings are in good condition, wheels spin freely

2- After use

- a. Flush Tank out with clean water by removing filter bowl; be careful where excess herbicide goes!
- b. Flush Spray lines out by refitting Filter and filter bowl and leave pump running until all traces of herbicide have been removed
- c. Hose herbicide from carpet
- d. Hose Rotowiper® down
- e. Store with Roller off the ground and cover to protect from the elements.

Trouble Shooting –

1- Pump doesn't work –

- a. Poor or loose connections at battery – Clean and refit connections.
- b. Blown fuse – Replace with new 10amp Fuse
- c. Plug not plugged into tank – plug in and check connections are clean.
- d. Faulty Switch – Replace Switch
- e. Faulty loom – Repair or replace loom.
- f. Faulty pump – Repair or Replace pump.

2- Carpet has dry spots –

- a. Blocked jets – remove shields, check and replace as required - make sure they face down (Use only Genuine Rotowiper® jets to insure correct pattern).

3- Very wet carpet

- a. Pump stuck on – Replace switch
- b. One way valves in Spray line stuck open – Replace valves as a pair

4- Carpet Drips a lot

- a. Check for torn or damaged carpet – Replace Carpet (page 15)

Use only genuine **Rotowiper®** parts, carpet, valves etc as they are made especially for us. They may look the same but the are not!



Carpet Replacement

- a. Remove Roller from machine by undoing bearing bolts.
- b. Remove old carpet by removing all screws (Bit included with new carpet kit)
- c. Silicon old screw holes up to avoid fluid entry into roller after new carpet fitted.
- d. Clean roller up.
- e. Draw straight line on roller using string as a guide.(fig 1)
- f. Put Roller on Floor
- g. With Carpet in front of you place Right hand end on line at edge (Fig 2) and align with your line, fit the first screw in the corner. Pull tight along your line and fit another screw at the end. Fit 4 more screws evenly spaced
- h. Put Roller back up on trestles or similar.
- i. Starting in the centre pull carpet around roller and using Sellotape (supplied) as shown (Fig 3) Pull tight and do at least three wraps of tape. It is easier if overlap is upwards.
- j. Repeat every 200mm working out from centre (fig 4)
- k. Using screws supplied starting at centre (Fig 4) put screw in about 20mm from edge, work outwards one side at a time spacing screws spaced every 100mm, when you get to the end fit 2 screws as shown (fig 5)
- l. When both sides are done fit a screw in each gap giving a final spacing of approx 50mm.



Fig 1 – Drawing line with string



Fig 2 – Fitting carpet



Fig 3 Sellotape



Fig 4 Starting to screw from centre



Fig 5 End screws



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Specifications –

- 1- Carpet width – Either of 1.8(5'10"), 2.4(7'10"), 2.8(9'2"), 3.2(10'5")
- 2- Tank – 45L (11.8 US Gal)
- 3- Pump – 7.6 LPM (2.0 GPM) – 4.1 Bar (60 PSI) – 7 amp
- 4- Fuse – 10 amp

Optional Accessories



- 1- **Foam Marker** For accurate marking of your path. Mechanically driven so there is no further drain on your battery, especially Quad bikes with small batteries and charging system's



- 2- **Hand Wash Kit** Wash the herbicide from your hands in the paddock and keeps your gloves out of dust and dirt, which can reduce the effectiveness of some herbicides



- 3- **Lance Kit** Turns your Rotowiper® into a spot sprayer - comes complete with lance, hose and wiring loom.



- 4- **Jockey Wheel** Makes lifting your Rotowiper® on and off your towing vehicle easy, even with a full Herbicide tank.



Where Rotowiper® is made-

Rotowiper® is made in Ashburton, South Island of New Zealand, approximately 1 hour south of Christchurch.



Rotowiper® is sold in several countries around the world

- 1- New Zealand
- 2- Australia
- 3- Ireland
- 4- England
- 5- Germany
- 6- United States of America
- 7- South Africa
- 8- Chile

Contact and Parts

Your local Dealer can obtain the parts for you through the factory or distributor, or if you have trouble locating your local dealer contact can be made with the factory at –

Rotowiper Ltd, 48 Bremners Road, PO Box 333 Ashburton 7740, New Zealand

Phone 03-3084497 Fax 03-3082462 Mobile 027 3119471

Email - nzsales@rotowiper.co.nz Web www.rotowiper.co.nz



Warranty Registration

Why fill the form in?

- 1- With the information provided we can continue our policy of improvement.
- 2- We can help customise with required options to suit your environment.
- 3- We can be sure you have read the manual and have a reference of your machine for any parts enquiries.

MODEL

SIZE

SERIAL # LOCATED ON END PLATE

YOUR NAME

ADDRESS

.....
.....
.....
.....
.....

PHONE #

PURCHASE DATE

DEALER

I HAVE READ AND UNDERSTAND THE CONDITIONS OF WARRANTY AND
UNDERSTAND THAT NEITHER THE MANUFACTURER OR DEALER CAN BE
HELD RESPONSIBLE FOR ANY DAMAGE CAUSED BY THE USE OF ROTOWIPER®
AS WE HAVE NO CONTROL OVER APPLICATION AND USER.

Name Signed
Date

Please post to – **Warranty Registration**
Rotowiper Ltd
PO Box 333
Ashburton 7740
New Zealand