



RTC420NG3

Operating Instructions & Parts Manual



Motorized Tank Dolly

(Updated 3/26/2018)

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FORWARD

Introduction to the RTC420 Motorized Tank Dolly

The RTC420NG3 is a motorized tank dolly designed to carry a single, full 420 lb D.O.T propane cylinder, which eliminates the need for a follow-up delivery to the cylinder, after installation. Operation of this unit requires only one person, increasing efficiency and speed of the installation.

The dolly is a three-wheel design — two drive wheels and a castor assembly. During the entire process of picking the tank up in your yard, loading it on a delivery vehicle, and spotting it at the customers location, the operator never supports the entire weight of the tank and its contents, which makes for a much easier and safer installation for the technician.

Our Dolly is designed and manufactured to give you exceptional results and many years of use. This manual provides instructions for the use and care of your tank carrier. It also contains important safety information. Please read it carefully before using the RTC420. We encourage you to make as many photocopies of this manual as necessary to distribute among your operators. You may also contact us if you would like to receive additional printed copies. This manual will also be available in electronic form on our web site at: www.renaldo.org. Follow the link for Renaldo Sales & Service, Inc. on our home page.

The descriptions and specifications in this manual are subject to change. Renaldo Sales & Service, Inc. reserves the right to change the design of our equipment at any time as part of our normal product improvement process. Upgrades, and enhancements may have taken place after this manual was printed. For the latest technical information and specifications on your RTC420 Tank Carrier, please contact Renaldo Sales.

Thank you for your confidence in our equipment and we look forward to providing you the best methods of transporting your bulk storage tanks for many years to come.



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GENERAL SAFETY

Terminology Used in This Manual

This section outlines basic safety measures and terms that apply to the use and maintenance of the RTC420NG3.

The RTC420 is a powered D.O.T. (Certified by the US Department of Transportation) cylinder carrier that should be used and maintained with respect and caution. Misuse or carelessness may result in serious injury or damage to equipment and property. Always follow safety rules.



This safety alert sign is used in this book and on the carrier. When you see this sign carefully read what it says. Your safety is at stake. This safety sign may be used with the words DANGER, WARNING, CAUTION, NOTICE and IMPORTANT.

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

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

CAUTION indicates a hazardous situation, which if not avoided, may result in minor or moderate injury.

NOTICE can keep you from doing something that might damage the machine or other personal property. It may also be used to alert the operator against unsafe practices.

IMPORTANT can help you do a better job, or make your job easier in some way.

Not knowing how to use this machinery can be hazardous. Trial and error is not the way to do it. Before running the RTC420NG, NG3 or NH tank carrier you need to read this manual and view the "Operations, Maintenance & Safety" DVD presentation that accompanied your unit



WARNING: Gasoline and propane gas fumes ignite or explode and will cause serious injury. NO SMOKING, NO FLAME, NO SPARK when operating the RC420NG3 Motorized Tank Dolly.

INTRODUCTION

Propane Cylinder Dolly

The RTC420 is a motorized propane tank dolly for 420 lb. (100 Gal.) D.O.T. cylinders. It can also accommodate a single 300 lb., 200 lb., or 100 lb. propane cylinder, as well as a 55-gallon drum. One of the biggest advantages of this system is the ability to handle and transport these vessels at full capacity.

The RTC420 series of tank dollies has a maximum carrying capacity of 900 lb. This is equivalent to a full (85%) 420 lb. cylinder. Currently, we manufacture only one motorized



version of this dolly – The RTC420NG3. (Discontinued units are the RTC420NH and RTC420NG)

NG signifies Narrow Gear w/ one forward gear and one reverse gear. It should be noted that this unit is no longer manufactured, but still widely used throughout the industry. It was manufactured from 2001 through 2006.

NG3 signifies Narrow Gear w/ three forward gears and one reverse gear. Manufactured from 2006 - present

NH signifies Narrow Hydrostatic w/ hydrostatic transmission. This unit has been discontinued as of 2016. Renaldo Sales & Service still provides replacement parts, including replacement HydroGear Transmissions.

MAIN COMPONENTS & CONTROLS

RTC420NG3 Main Components

1. Transmission handle & shifting quadrant
2. Break Release/Throttle control handle
3. Break/Throttle control cable
4. Frame lock & release
5. Choke control cable
6. 10" castor assembly
7. Lower frame assembly
8. Upper frame assembly
9. Engine kill switch
10. Kenedyne ratchet & strap
11. Four protective bumpers

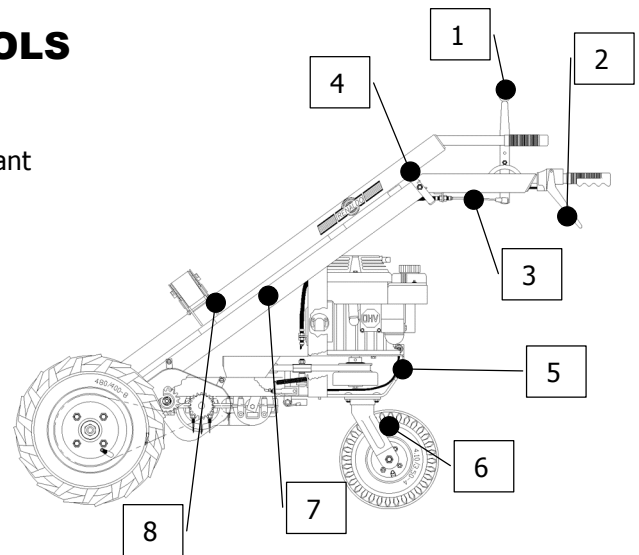


Figure 1 - RTC420NG3 Side View

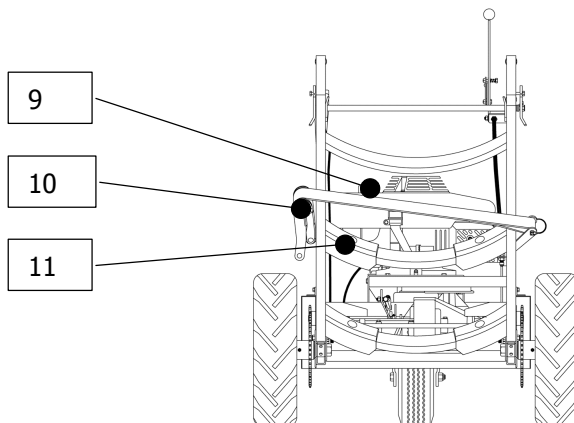


Figure 2 - RTC420NG3 Front View



OPERATION

Attaching the Tank to the Dolly

Under power, drive up to the cylinder you wish to move until you are immediately adjacent it. Put the transmission in neutral, and kill the engine. Release the frame lock that secures the set of handlebars, and fully tilt the top set of handlebars up until they remain in the vertical position, as shown in Figure 4. It may be necessary to move the dolly closer to the tank. The tank should be cradled between the handlebars. The RTC420NG series of dollies will free wheel when the transmission is in neutral and the break/throttle control (Figure 1, #2) is engaged.



NOTICE: The cylinder should never come in contact with metal. Occasionally, check the protective pads and nylon strap for wear.

The yellow nylon strap wraps around the cylinder and through the fixed ratchet assembly. Take care not to twist the strap. Tighten the ratchet until the tank seems securely strapped in. Wrap the excess strap around the ratchet to avoid getting it caught in the drive chains. Once attached to the tank dolly, move to either side of the tank dolly. Brace your foot against the drive tire and pull back on the handlebar until the tank falls back into the transport position. The handlebars will lock together. Tipping the cylinder back requires the operator to have the capability of being able to pull approximately 100-pounds.



CAUTION: DO NOT try to pull the tank back onto the unit while standing directly behind the unit. Doing so will cause undue strain to your lower back and spine. The dolly is designed reduce the occurrences of Worker's Compensation injuries. Not increase them.



Lowering the Tank on to the Dolly

MOVING PROPANE CYLINDERS

In general, if you can walk the path to the location where a tank is to be spotted, the RTC420 can be used to transport it there. Use common sense when determining if the RTC420 can traverse an obstacle such as mud, a ditch, or extremely rough terrain.

The forward and reverse direction of the tank carrier is controlled by the transmission. See the transmission manual that came with your dolly for care, maintenance, repair and operating instructions.

The **RTC420NG3** has a three-speed (three forward & one reverse) transmission.

Engage the transmission in the direction you want to go and squeeze the throttle/brake control handle to release the disc brake and move the unit under power. Note that even though the transmission is in gear, the unit will not move until you engage the break/throttle control handle. If the operator were to loose control of the unit, the unit would immediately stop as soon as the handlebars are released.



WARNING: A full 100-gallon (420 lb.) D.O.T. cylinder weights approximately 900 lbs.

When transporting a cylinder, be aware that the liquid content is sloshing around inside the cylinder. This creates a rocking momentum. When the tank dolly stops, the liquid in the tank is still moving forward. This forward momentum can cause the dolly to lift forward, picking the back dolly wheel up off the ground. Apply downward pressure on the handlebars at all times, with both hands. All Renaldo RTC420 Dollies are designed to carry a full 100-gallon (420 lb.) DOT cylinder.

Free Wheeling

The RTC420NG3 will freewheel when the transmission handle is in the neutral position and the brake/throttle control handle is engaged. The engine can either be on or off.



Figure 4 - Handlebars in upright position to attach tank.

With the handlebars in the upright position, as shown above. Thread the loose end of the strap through the fixed ratchet assembly and tighten. Take care to secure the strap from becoming tangled in the drive chain, while under motion.



Figure 5 - Handlebars in down position for transport.

Set tank gently to the down position for transport. From the side of the unit, depending on weather you are right or left handed, pull the tank back onto the mover for transport. The handlebars will lock together in the down position.



Moving up and Down Hills



NOTICE: When the installation or removal of a tank requires the operator to traverse hilly terrain, it is strongly recommended that you travel down steep inclines in the reverse direction. Back down hills whenever possible!

If you must travel down a steep grade in the forward direction, proceed as slowly as possible. Keep both hands on the handlebars and apply downward pressure to counterbalance the weight of the tank. **DO NOT ATTEMPT TO STOP MID-WAY.** Remember that forward momentum, gravity, plus the weight of the cylinder, and the material shifting inside the cylinder are working against you. If you stop abruptly, the forward momentum created as the unit stops could topple the dolly end-over-end.

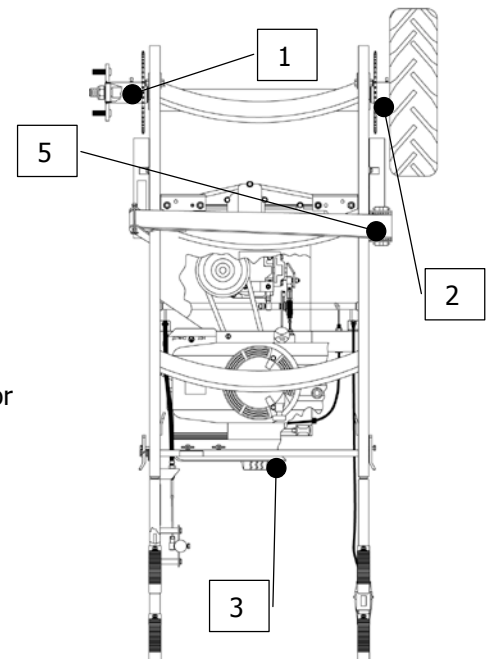
MAINTNANCE

Lubrication

There are 5 points of lubrication — 4 grease fittings, two roller chains, and one ratchet.

1. Wheel bearing (L)
2. Wheel bearing (R)
3. 10" castor assembly (Wheel Bearing & Castor Bearing)
4. (L-R) drive chains (not shown)
5. Ratchet assembly (Figure 2, #9)

Figure 6 - Lubrication points



Remove the chain guards to access drive chain. Use a lightweight oil or silicone spray once every month to keep the chain flexible and rust free. If exposed to water and/or cleaning solutions on a regular basis, lubricate the chains more frequently.

Do not over lubricate grease fittings and roller chains. It may seem like the equipment is experiencing heavy use, day after day. In actuality, the unit may be in operation only one or



two hours a day. Judge accordingly. Renaldo Sales recommends that the unit be serviced once per month, or every 40 hours.

Inspecting The Dolly for Safety

While lubricating the dolly, inspect idler sprockets and drive sprockets for any sign of wear, missing teeth, or fatigue. Adjust the tension of the chain using the idler sprocket assembly, located under the left and right side chain guards. Keep the chains tight, but do not over tighten.



CAUTION: DO NOT OPERATE THE DOLLY WITHOUT THE CHAIN GUARDS IN PLACE.

Pay careful attention not to get the power unit strap caught in the drive chains, while under motion.

Also, pay close attention to the condition of the strap. Check it for nicks and cuts. The main power unit strap is the only thing holding the tank to the dolly. Take care of it, and remember to not leave it on a job site. Without a strap the dolly is useless. Inventory an extra one.

We also recommend that you inspect the following components:

1. The four tank bumpers, making sure they are secure and in place.
2. The transmission control cable; looking for kinks or damage, which would prevent full range of motion.
3. The break/throttle control cable; inspect for kinks or sticking.
4. The condition of the castor assembly.
5. The drive belt.



ENGINE

- Honda 6.5 HP GSV190

A copy of the manual for your engine has been included in your information package. Please refer to that for any maintenance and operations issues. Some aspects of your engine have been modified by Renaldo Sales to accommodate the features of your RTC420NG3, but it is functionally unchanged.

Renaldo's stocks a limited supply Honda Engine replacement parts. We may be able to help you with OEM parts and/or part numbers. However, for faster service please consult your local Yellow Page listings for the nearest, authorized, Honda or Small Engine Repair Center.

Engine Kill Switch

The RTC420NG3 is supplied with a manually operated kill switch, which is located on top of the engine. This kill switch is the only way to turn the RTC420NG3 off. The circuitry involving the low oil shutoff feature of the Honda 6.5 GSV190 has been disabled to accommodate the kill switch. **Check engine oil frequently!**

TRANSMISSIONS

Throughout the years of manufacturing our tank dollies, we have used several different variations of a gear drive and hydrostatic transmissions. This was done out of necessity, as various transmission manufactures discontinue, or make improvements to their product line. Being a small, custom OEM of specialty carts and dollies, the volume of transmissions we use does not warrant special consideration from the manufacture, making standardization impossible.

In general, all the transmissions incorporated into our 420 dollies are sealed, and require no maintenance what so ever. It is NOT necessary to check the transmission fluid levels. Do not attempt to open any of the sealed ports on the transmission housing, as you will void the manufacturers warranty, if applicable.

Although one less thing to worry about, a maintenance-free transmission has its drawbacks. If the operator observes fluid leaking, or a puddle of transmission fluid under the dolly, it will become necessary to replace the entire transmission. An exact replacement may not be available, for the reasons mentioned above. We will endeavor to provide you with a suitable replacement, but modification to the dolly may be required. If you are unable to perform these modifications, you may ship your dolly back to Renaldo Sales for retrofit.

If you are experiencing trouble with your transmission contact us for instructions.



PARTS LIST: RTC420NG3

See Figure 7 on Page 10

No.	Part Name	Material	QTY.	Part No.
1	480/400-8 Bar Tire / 30-401 8 x 375 40N4 Rim L or R	STK	2	DM408-L(R)-RMTC
*	Idler Sprocket Assembly (Parts 2-5)		2	RTC-ISA
2	Chain Idler Sprocket Bushing	CRS	2	II-1 (RTC)
3	Chain Idler Sprocket, 1/2" Bore	STK	2	04017E08-4017E
4	1/2-13UNC X 2" Flat Socket Head Cap Screw	STK	2	SHCS-050-0200
5	1/2-13UNC Unistrut Nut	STK	2	P3013-1/2
6	Woodruff Key 3/16" x 3/4"	STK	2	BPK9N
7	Drive Sprocket - 3/4" Bore 3/16 Key Two Set Screws	STK	2	604019125-40B19
8	Modified Gear Shifting Arm (NG) 784230	GALV	1	JJ-3 (RTC)
9	Shifting Linkage Assembly w/ 2, 1/4" x 1/4" Ball Joints	STK	1	HH-3 (RTC)
10	Brake Linkage Assembly	STK	1	HHH-1 (RTC)
11	Brake Linkage Bracket	STK	1	HH-1A
12	1/4 X 1/4-28UNF Ball Joint With Dirt Shield	STK	1	3535-ES250
13	1/4-28 w/ 1/4 Pin Hole, Clevis Assembly	STK	1	3535-280177/CPC
14	Nylon Bushing 1/2 OD x 3/8 ID x 1/2 LG	STK	6	NF68-4
15	Shifting Control Pivot Tube	CRS	1	FF-3 (RTC)
16	Linkage Lever Rod Assembly	CRS	1	FF-1 (RTC)
17	2-1/2 Music External Brake Spring	STK	1	LE-063E-06-M
18	Honda 6.5 HP Engine	STK	1	GSV190-LN1L
19	Transmission Control Cable	STK	1	3203BB4-036B
20	3/16 (10-32) X1/4 Ball Joint w/ Dirt Shield	STK	2	ES250-2
21	Bottom Frame Assembly	CRS	1	B-1 (RTC)
22	1/4-20NC x 3/4 Hex Head Bolt W/Lock Nut & Washer	CRS	2	HEX 01-03
23	Large Gear Shift Lever Stop	ALUM	2	K-4 (RTC)
24	Choke Control Cable	STK	1	RTC28302-H
25	Choke Cable Bracket	S.S	1	C-1 (RTC)
26	Kill Switch	STK	1	73475
27	Cable with Z Fitting, Throttle Conduit Control	STK	1	RTC28326
28	Throttle Control Cable & Handle	STK	1	RTC50659
*	Complete Locking Latch Assembly/ Spring, Hardware (29-31)		1	E-2 (RTC)
29	Left Locking Latch	CRS	1	E-1 (RTC)
30	Right Locking Latch w/ Threaded Rod	CRS	1	E-2A (RTC)
31	Pivot Lock Torsion Spring	STK	1	RTC790
34	1/4" Cable Mount	STK	1	200403
35	Break/Throttle Return Torsion Spring	STK	1	RTC680
36	Throttle/Brake Control Pivot Tube	CRS	1	H-11 (RTC)
37	Drive Pulley Retaining Bushing	CRS	1	KK-2
38	Belt Idler Pulley 2" DIA w/ 3/8" Hole.	STK	1	F3011
39	5/16-18NC x 3 Hex Bolt	STK	10	HEX 02-13
40	Left Hand Chain Guard	CRS	1	JJ-1L (RTC)
41	Right Hand Chain Guard	CRS	1	JJ-1R (RTC)
42	Self Tapping Sheet Metal Screw	STK	8	14 x 3/4
43	3/4-10NC X 7 Hex Head Bolt	STK	2	HEX 08-23
44	3/4-10NC 2B Hex Head Lock Nut	STK	2	HEX 08-34
45	1/2 NF Wheel Nut	STK	8	P101301
46	1/2" Wheel Stud	CRS	8	14227
47	3/4" X 1 Schatz Ball Bearing Used After 1995	STK	4	SCAF4856
48	Inside Wheel Hub Spacer	CRS	2	GG-2 (RTC)
49	1/4-28 NF Straight Grease Fitting	STK	2	AL1641B
50	3/8-24NF x 1 Hex Head Bolt, Lock Washer & 3/8 SAE Washer	STK	1	HEX 03-05NF
51	Special Pulley 5-1/2" OD AB Belt 5/8 Bore With Std. Key Way	STK	1	RS51258
52	Woodruff Key 3/16 x 3/4	STK	1	BPK9N
53	Modified TEC Gear Transmission For RTC420NG (5 Speed)	STK	1	C-6 RTC

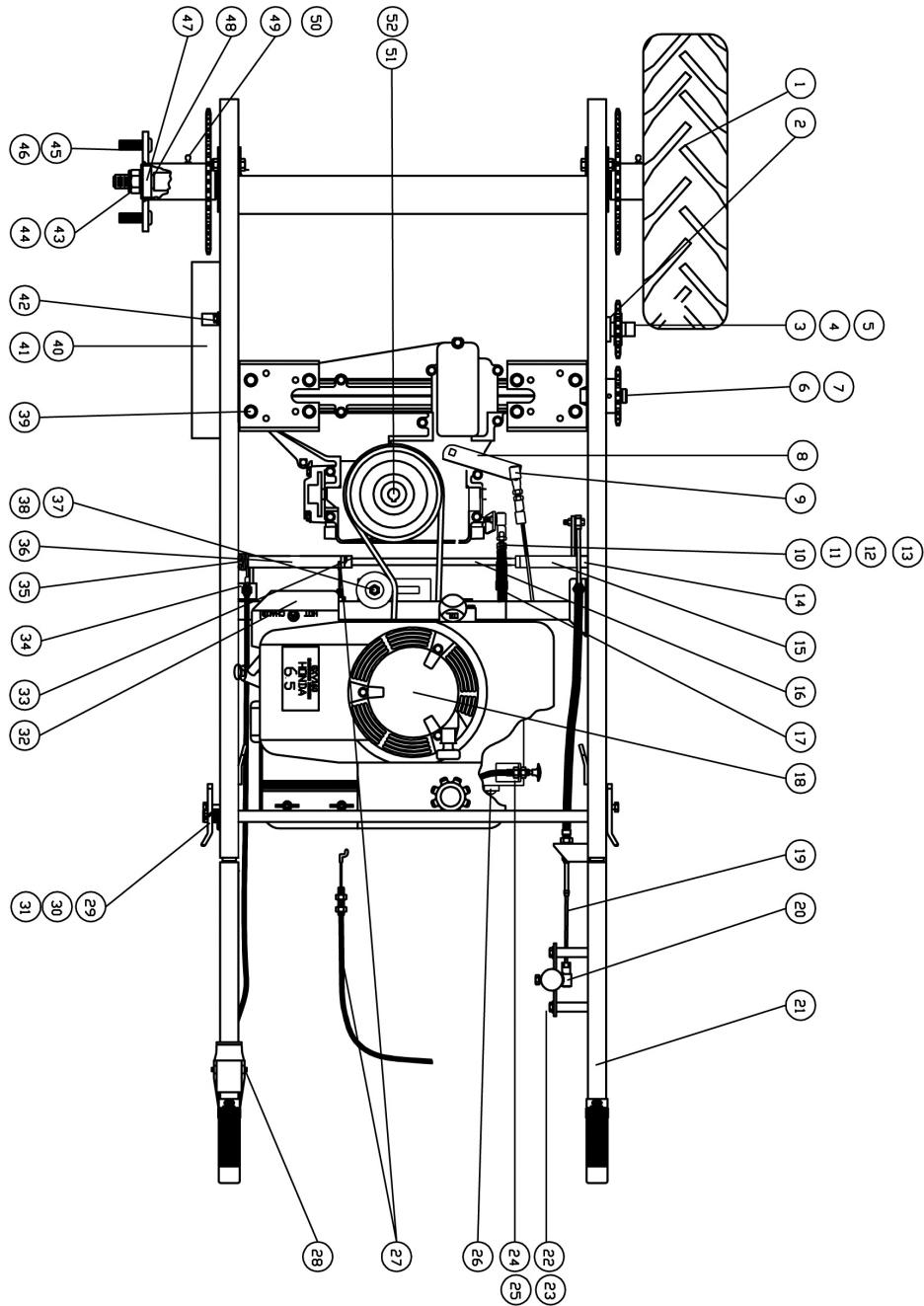


Figure 7 - RTC420NG3 Top View Parts Breakdown



PARTS LIST: RTC420G3 (Continued)

See Figure 8 on Page 13

No.	Part Name	Material	QTY.	Part No.
53	1/8 x 1 Cotter Pin	STK	1	COT 07-03
54	2" Kinedyne Ratchet, Modified	STK	1	C-4 (RTC)
55	2" X 10' Kinedyne strap	STK	1	40Y1000SP
56	Bottom Half of Frame Assy	CRS	1	B-1 (RTC)
57	Top Half of Frame Assy	CRS	1	A-1 (RTC)
58	Top Frame Rest Bumpers	Nylon 6	2	B-16 (RTC)
59	Hydro/Shift Handle	STK	1	C72728
60	Ribbed Hand Grip (Replaces Smooth Grips)	STK	2	354
61	Ribbed Hand Grip (bottom)	STK	2	354
62	5/16NC x 1 1/4 Hex Head Bolt& Elastic Locknut	STK	3	HEX 02-06
63	Clutch Retaining Washer	CRS	1	KK-1 (RTC)
64	Hilliard Extreme Duty Clutch, 7/8" Bore (2300 RPM)	STK	1	LD4P-109
*	Replacement Springs for Clutch (2300 RPM)	STK	4	8444-9U-012
65	3/8-16UNC x 2 1/2 Carriage Bolt	STK	1	CAR 03-03
66	Clutch Washer	CRS	1	K-2 (RTC)
67	3/8-16NC 2B Locking Jam Nut (Nylock)	STK	1	HEX 03-33J
68	3/8-16UNC X 1 Carriage Bolt	STK	4	CAR 03-03
69	3/8 SAE Lock and/or Flat Washer	STK	4	HEX 03-38
70	3/8-16UNC Hex Nut	STK	4	HEX 03-34
71	410-4 Ply Sawtooth Tire w/ Swivel Castor	STK	1	354FS4-1

ITEMS NOT SHOWN ON DRAWINGS

No.	Part Name	Material	QTY.	Part No.
N/A	Tapecon Made in America Decal	STK	1	MSAP-6
N/A	40 Roller Chain For RTC420NG	STK	2	ARC040R1C X 39
N/A	41 Chain Master Link	STK	2	41-1 S/C C/L
N/A	Renaldo Logo Decal	STK	2	REN-001
N/A	Serial Number Decal (not shown)	STK	1	n/a
N/A	Caution Ride Decal	STK	1	RTCD-420-2
N/A	Hydro Lever Neutral Decal	STK	1	RTCD-420-8
N/A	Release For Brake Decal	STK	1	RTCD-420-3
N/A	Forward and Reverse Decal	STK	1	EZTCD-02
N/A	Caution 800lb. Decal	STK	1	RTCD-420-5
N/A	Cross Brace Tank Bumper w/ Fasteners	STK	4	AA-5 (RTC)

420NG Options

No.	Part Name	Material	QTY.	Part No.
N/A	ASME Tank Adaptor w/ strap	STK	1	RTC120
N/A	Dual Wheel Kit w/ Tires	STK	1	RTC-DUAL
N/A	RTC2516 Trailer Tug Adaptor	STK	1	RTC-2516

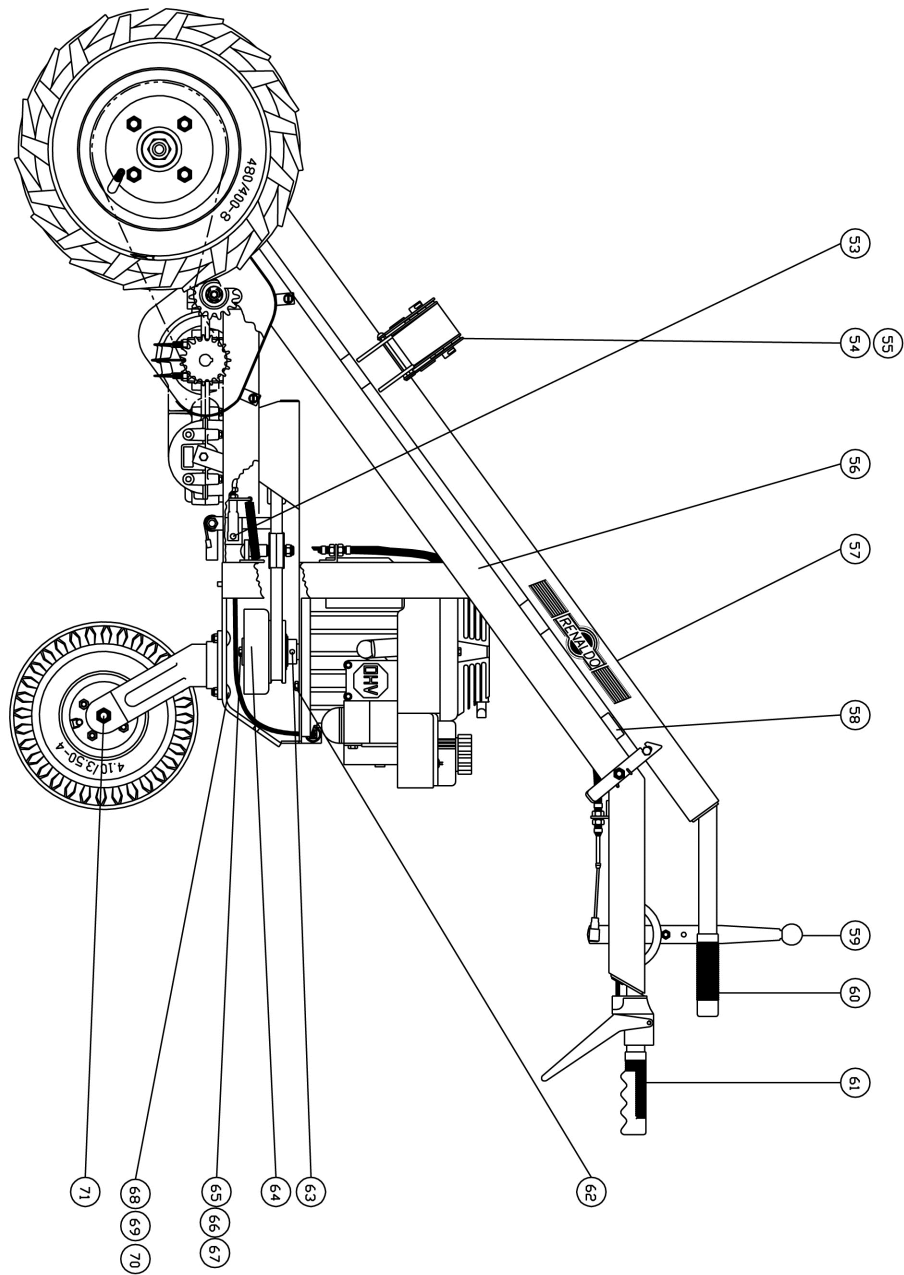


Figure 8- RTC 420NG3 Side View Parts Breakdown





LIMITED WARRANTY & PURCHASE INFORMATION

Effective January 1, 2018

Manufactured in the USA by Renaldo Sales & Service, Inc.

****This warranty supersedes all previous RENALDO warranties and is exclusive with no other guarantees or warranties expressed or implied.**

LIMITED WARRANTY - Subject to the terms and conditions hereof, RENALDO SALES & SERVICE, INC., NORTH COLLINS, NEW YORK, warrants to the purchaser that all new and unused equipment furnished by Renaldo is free from defect in workmanship and material as of the time and place of delivery by Renaldo or its dealer for a period of one (1) year. Renaldo makes NO WARRANTY with respect to hydraulic pumps, engines, transmission, trade accessories or other items manufactured by others. Such blowers, hydraulic pumps, engines, transmissions, trade accessories and other items are sold subject to the warranties of their respective manufacturers, if any. Renaldo's warranty does not apply to components having normal useful life of less than one (1) year, such as propane stove burners, propane torch, hoses, chain sprockets, belts, blades, and straps where failure does not result from defect in workmanship or material.

In the case of Renaldo's breach of warranty or any other duty with respect to the quality of any good, the exclusive remedies therefore shall be, at Renaldo's option; (1) repair or (2) replacement or, where authorized in writing by Renaldo in appropriate cases, (3) the reasonable cost of repair or replacement at an authorized Renaldo representative or, (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the products at customer's risk and expense. Renaldo's option of repair or replacement will be F.O.B. factory at North Collins, New York, or F.O.B. at a Renaldo authorized service facility, therefore, no compensation for transportation cost of any kind will be allowed. Upon receipt of notice or apparent defect or failure, Renaldo shall instruct the claimant on the warranty claim procedures to be followed.

Any expressed warranty not provided herein and any implied warranty, guarantee or representation as to performance, and remedy for breach of contract which, but for this provision, might arise by implication, operation of law, custom of trade or course of dealing, including any implied warranty of merchantability or of fitness for particular purpose with respect to any and all equipment furnished by Renaldo is excluded and disclaimed by Renaldo.

Except as expressly provided by Renaldo in writing, Renaldo products intended for ultimate purchase by commercial, industrial and agricultural users and for operation by persons trained and experienced in the use and maintenance of equipment manufactured by Renaldo's and not for consumers or consumer use. Renaldo's warranties do not extend to, and no reseller is authorized to extend Renaldo's warranties to any other consumer.

Date Purchased _____ Dealer (If Applicable) _____

Model _____ Model Serial Number _____

Engine Serial Number _____ Quality Check _____

For additional technical support and part information, please contact:

Renaldo Sales & Service, Inc.

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