

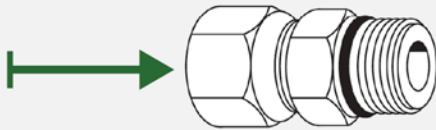
Rockwheel Installation Guide

Rockwheel Americas provides target hydraulic and relief settings for every attachment rented or sold. If you do not have these settings available - please call us at 814.466.7134 with your serial# and excavator/carrier information so we can help you get the correct settings.

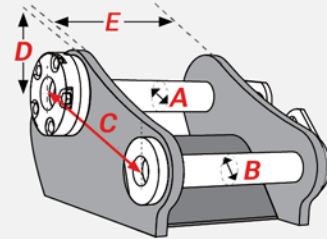
These are **machine specific installation instructions** that are critical for optimal performance and to ensure no damage to the Rockwheel. If the cutter-excavator combination is changed, contact Rockwheel Americas for new install settings. Incorrect installation will void machine warranty.

Begin by Checking

- 1 Hose Fitting Compatibility**
Fitting size listed below
Avoid hose couplers that restrict flow



- 2 Mounting Bracket Compatibility**



- 3 Aux Circuit Set to One-Way Flow Only**



- 4 Drum Rotation**
Bottom toward operator



Hydraulic Settings and Installation Details

Free Flow Settings (GPM) ¹	
Drum Speed at Free Flow Rate	*Count drum RPM while freewheeling
Relief Pressure Setting (PSI) ²	
Check Back Pressure on Return ³	
Rockwheel Hose End Fittings	
Case Drain Requirement ⁴	

¹ Free flow is flow rate when unit is spinning freely and not under load

² Relief pressure is when flow goes to zero and the Rockwheel stalls

³ Unit delivered with gauge ports in all hoses

⁴ **G40, G50, & G60 ALWAYS require a case drain.** Drain line should run unrestricted to tank with an in-line filter recommended

START-UP and INSTALLATION PROCEDURE

For optimum performance and productivity from your hydraulic cutting unit follow the instructions below. Failure to do so can result in poor cutting performance and damage to the hydraulic motor.

Correct installation of the cutter is required or the warranty is void.

Note: The hydraulic cutter is driven by a hydraulic motor which is powered by the attachment circuit of the carrier machine. It is **important not to exceed the power rating** of the hydraulic motor. The table below shows motor power ratings for all Alpine RockWheels

RockWheel Model	Power Rating	
	hp	kW
C2	12.7	9.5
G5	30	22
G5-Twin	60	44
D10	40	30
D15	55	41
D20, TC20, CB20	95	70
D30, TC30, CB30	150	110
G40	190	140
G50	190	140
G60	300	220
G125	536	400

Table 1 Rockwheel power ratings

Filtration: The hydraulic cutter is integrated with the carrier's hydraulic system. Therefore the customer is encouraged to properly maintain the return and drain line filters to protect against contamination.

How to Install a Rockwheel

Installation should be done only by personnel familiar with the workings of hydraulic systems

Installing the cutting unit requires checking and setting the hydraulic output of the attachment circuit and connecting the cutting unit to excavator. **Do not operate cutting unit without following install procedure or warranty is invalidated**

Checking the Attachment Circuit: To be done prior to connecting hoses to cutting unit.

- Using a flow meter, check the available flow in the auxiliary circuit. If necessary adjust the flow to achieve the flow rate specified. This flow test should be done with the restriction valve on the flow meter completely open. Record maximum flow rate.
* Engine RPM should be at maximum when conducting the flow test.
- With flow meter still attached, begin turning the flow restriction valve on the flow meter. This loads the pump and typically results in decreased flow and increased pressure. Record the flow rate (GPM or L/min) and pressure (PSI or Bar) at intervals of approx. 500-psi (35-bar). Continue until flow reaches zero. The pressure when flow is zero is the relief pressure. This is the pressure at which the cutter head will stall.



You will now have a range of flow–pressure readings.

- For each flow-pressure reading calculate power (HP or kW) using this formula:
- Check the power calculations with Table 1 to ensure that the hydraulic input power does not exceed the RockWheel’s motor power rating at any point.

$$\text{Power (HP)} = \frac{\text{GPM} \times \text{PSI}}{1714}$$

$$\text{Power (kW)} = \frac{\text{L/min} \times \text{Bar}}{600}$$

Example: A customer has a D30 RockWheel that has a hydraulic motor with power rating of 150 hp (110 kW). Using flow meter she records the following flow - pressure readings:

Pressure		Flow	Power
500-psi	@	100-gpm	29 hp
1000-psi	@	100-gpm	58 hp
1500-psi	@	98-gpm	86 hp
2000-psi	@	95-gpm	111 hp
2500-psi	@	90-gpm	131 hp
3000-psi	@	82-gpm	144 hp
3500-psi	@	69-gpm	141 hp
4000-psi	@	35-gpm	82 hp
4500-psi	@	0-gpm	Relief Pressure – Rockwheel will stall

At no point does the power exceed the rating of the cutting unit motor.

- If the motor power rating is exceeded, adjustments must be made for the flow and/or pressure. This is to be done by qualified personnel familiar with adjusting the excavator pump. If the power is below motor rating the flow and/or pressure may be increased. Excessively underpowering the cutter will compromise performance.

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TIP: If soft ground conditions are anticipated, use a higher flow and lower max pressure. This will give more head speed but the cutter will stall easier. For hard material cutting, better results will be achieved with higher relief pressure and slower cutter head speed.

Remember: Flow = speed Pressure = torque & Cutting force

6. After adjustments are made to the hydraulic flow and pressure repeat steps 2 to 4 to ensure correct power output from the hydraulic circuit. Record these values on the Installation & Commissioning Report which must be returned to your sales representative to validate warranty. Continue to Hydraulic Connection

Hydraulic Connection

To be done after flow and pressure testing

1. Attach the RockWheel to the excavator and connect the hydraulic lines. Feed and return lines are clearly marked on the cutting unit. (Fig. 1).

TIP: The Rockwheel revolves in one direction only. Therefore it is best to use a single-direction circuit (Hydraulic Hammers utilize this type of circuit).

2. Slowly bring the cutting unit up to full speed. Control speed using engine rpms or proportional control. Hydraulic motor should be running quietly. If any noises are coming from the cutting unit, stop immediately and contact Alpine.
3. Check pressure in motor return line using the gage port included with the hose assembly.

The RockWheel can be operated without the need for a separate drain line as long as the pressure in the **return line does not exceed 725-psi (50-bar)**. In the majority of cases the pressure in the return line will be no greater than 220-psi (15-bar) for this type of circuit.

Pressure spikes will occur during the operation of the RockWheel, but these should not exceed 725-psi (50-bar). In the event of the pressure exceeding 725-psi (50-bar) a relief to atmosphere valve prevents any damage. A separate drain line will have to be fitted in this event.

If return pressure exceeds 725-psi (50-bar) see instructions below on installation of a leak oil drain line.



Fig. 1
1. Return Line
2. Supply line

4. Check that the cutting unit and adaptor bracket are properly fastened to the excavator and all hydraulic hoses and fittings are correctly fastened.
5. **Complete and return the installation & commissioning report** (attached below)

Commissioning Report

Customer: _____

Dealer: _____

Rockwheel Model: _____

Rockwheel Serial Number: _____

Excavator Make/Model/Year: _____

Pressure in drain line (if applicable): _____ PSI / bar

Excavator Serial #: _____

Pressure in return line: _____ PSI / bar

Flow in attachment control circuit: _____ GPM / LPM

Pressure when cutter stalls: _____ PSI / bar

Relief pressure in attachment circuit: _____ PSI / bar

Underwater operation? **[Yes] [No]**

***Required: Aux circuit set to single flow direction?**

If yes – gearbox breather plugged? **[Yes] [No]**

Please record the flow at each PSI listed below, then calculate the input power for each line. This is done to be sure the input power does not exceed the Rockwheel's maximum power. ***IMPORTANT** Please circle units when recording values

Input Power Calculation

$$HP = \frac{GPM \times PSI}{1714}$$

$$kW = \frac{LPM \times Bar}{600}$$

	GPM / LPM	HP / kW
500 PSI (34 bar) _____	_____	_____
1000 PSI (69 bar) _____	_____	_____
1500 PSI (103 bar) _____	_____	_____
2000 PSI (138 bar) _____	_____	_____
2500 PSI (172 bar) _____	_____	_____
3000 PSI (207 bar) _____	_____	_____
3500 PSI (241 bar) _____	_____	_____
4000 PSI (276 bar) _____	_____	_____
4500 PSI (310 bar) _____	_____	_____
5000 PSI (345 bar) _____	_____	_____

Further information (type of application; geology): _____

The receipt of the cutting unit in perfect condition, the receipt of the operating instructions as well as the instructions obtained for the proper operation and maintenance of the hydraulic cutting unit and correct hydraulic connections and adjustments of the base vehicle

Customer: Name / Signature _____

Date: _____

Location: _____

Rockwheel Americas: Name / Signature _____