



SUNRISE HYDRAULIC TIPPER KIT

USER MANUAL



MODEL: HTKS

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HYDRAULIC TIPPER KIT

The Sunrise hydraulic tipper kit cylinder is made of high-grade carbon steel tubes, ensuring excellent stability and flexibility during tipping. Its mechanical properties allow it to withstand higher stress levels, making it ideal for heavy-duty applications. Our cylinders have a significantly higher loading capacity than those made with light-duty welded tubes commonly found in other cylinders. Sunrise cylinder utilizes hot rolled tubes which provides superior structural strength and load-bearing capabilities, in contrast to welded tubes which are prone to weakness at the welding line.

Specifications

Capacity	4.5T to 6T
Stages	Pick 4,5 or 6
Stroke	Pick 825mm, 1000mm 1030mm, 1225mm
Pump voltage	12V
Volume of power pack	8L
Hydraulic oil temp	-40°C to +80°C
Max duration of extension	2 hours
Dimensions of the pump	620 x 185 x 160mm approx.
Max Working Pressure	200 Bar
Dimensions	Refer to Tech Sheet
Fluid Type	46 Grade Hydraulic Oil

PARTS LIST

Tipper Ram Hoist

Part Number: HTR



Power pack pump tank

Part Number: HTPP



Sunrise Wired Tipper Remote

Part Number: HTRPP



Hydraulic Tipper Ram Cradle

Part Number: HTCS



Fluid Connection Hose

Part Number: HTFCH



5m Battery Lead

Part Number: HTBL



OPTIONAL PARTS

Hydraulic Tipper Wireless Remote

Part Number: HTRW



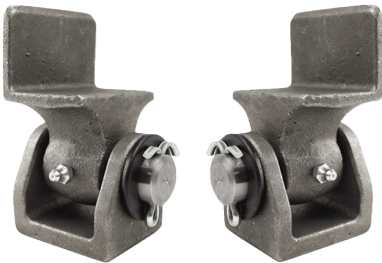
Suits many tipper trucks and trailers
Quick and easy to set up
Controls tipper up and down
Allows for safer operation during loading and unloading
Operate the hydraulic system from multiple locations
Get the best view for the loading and unloading process

More information:

<https://sunriseint.com.au/product/hydraulic-tipper-wireless-remote/>

Tipper Kit Rear Pivot Hinge

Part Number: RPHG7T

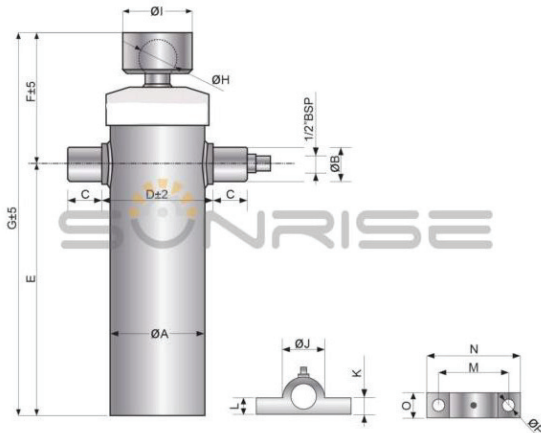


Capacity: 7000kg (7T)
2 pivots per kit
Weldable design
25mm Greaseable bars
Made from quality steel
Maximum safety and service life

More information:

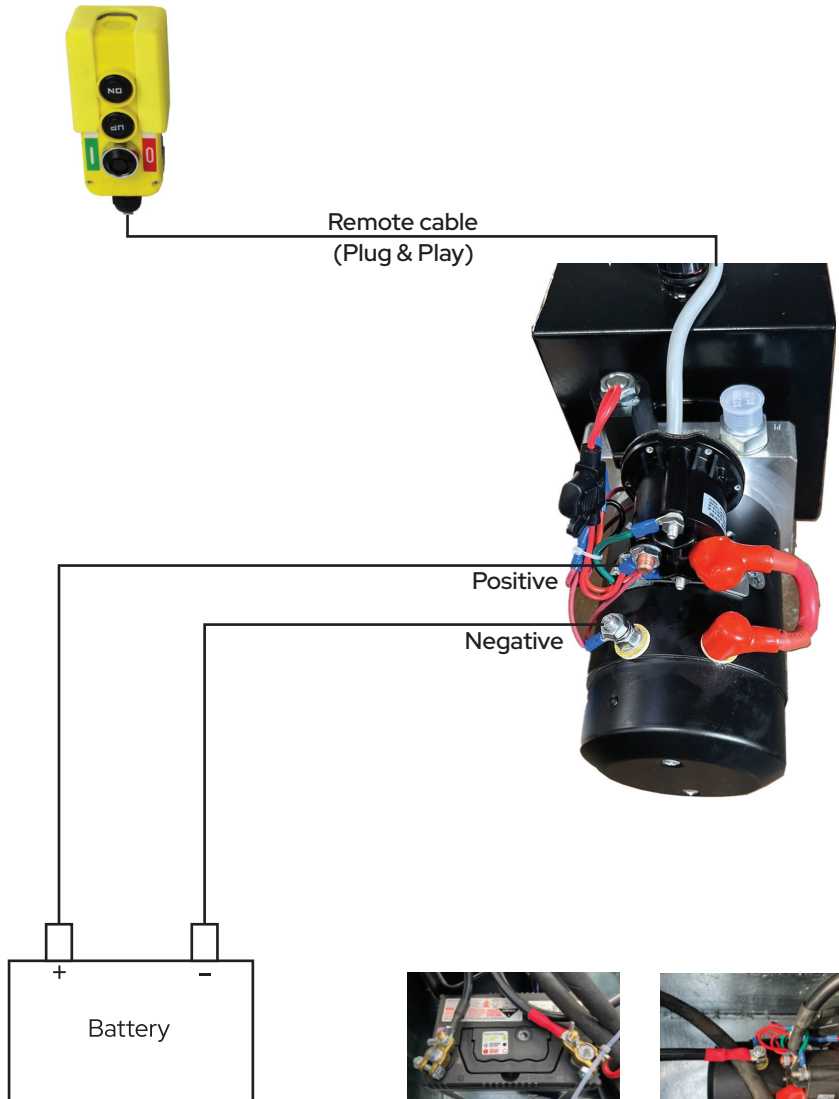
<https://sunriseint.com.au/product/tipper-kit-rear-pivot-hinge-greaseable-7t-l-r-set/>

TECH SHEET



	HTK4S825	HTK5S1030	HTK5S1245	HTK6S1000
STAGE	4	5	5	6
STROKE (mm)	825mm	1030mm	1245mm	1000mm
PIVOTS (48° mm)	1020mm	1270mm	1540mm	1230mm
WEIGHT (kg)	20kg	24kg	28kg	20kg
CAPACITY (T)	4.5T	5T	5T	5T
A	108mm	123mm	123mm	123mm
B	40mm	40mm	40mm	40mm
C	40mm	40mm	40mm	40mm
D	148mm	148mm	148mm	148mm
E	233mm	234mm	276mm	230mm
F	160mm	160mm	160mm	148mm
G	389mm	377mm	435mm	393mm
H	45mm			
I	88mm			
J	45.5mm			
K	18mm			
L	33mm			
M	105mm			
N	140mm			
O	37mm			
P	15mm			

WIRING DIAGRAM



INSTRUCTION MANUAL

Usage Warnings

Tipping poses inherent risks, making it crucial to adhere to correct procedures to prevent harm to the hydraulic system, the vehicle, and the safety of individuals. Incorrect selection or use of cylinders and their associated accessories can result in severe injuries, fatalities, and damage to the cylinder and cargo. The hydraulic cylinder must never be employed for lifting people.

Common factors contributing to tipper overturns include:

- Tipping on unstable or sloped terrain
- Dumping materials like mud, clay, or substances that adhere to the body
- Dumping in windy or gusty weather conditions

In the event of a tipper overturn, it's essential to recognize that the damage to the cylinder is an outcome, not the root cause of the overturning incident.

Usage Recommendations

- The telescopic cylinder is specifically designed for lifting purposes and must never be used for any other application.
- Under no circumstances should the telescopic cylinder be utilized as a mechanical limit stop for moving loads.
- The cylinder's design is intended for lifting loads along the longitudinal axis, and side-loading should be avoided whenever possible.
- Always ensure that the load remains within the maximum payload capacity of the vehicle.
- Ensure that the load is evenly distributed within the body.
- Operate and tip on a solid, level surface.
- Verify that tire pressures are correct before initiating the tipping operation.
- Prior to tipping, unlock the tailgate, taking care to stand clear of the area.
- Before tipping, thoroughly inspect the work area, ensuring it is free from people, ground-level obstructions, and overhead hazards such as cables.
- Avoid tipping in windy conditions.
- Activate the cylinder only when the tractor and trailer are aligned in a straight line. Avoid a jack-knife position of the tractor and trailer during dumping.
- Throughout the entire tipping process, the operator must remain in control of the tipper kit at all times. If any issues arise or the body does not tip smoothly, immediately lower the body completely, slowly, and without sudden interruption. Inspect and rectify any potential problems before resuming the tipping operation.
- Ensure that the vehicle is stationary when initiating the tipping process.
- Do not attempt to move the truck or jam the brakes while the cylinder is partially or fully extended in an attempt to dislodge stuck loads in the dump body or trailer.
- If the load becomes stuck or the body does not tip smoothly, lower the body completely, very slowly, and without any sudden interruption before resuming the tipping operation. If the issue persists, manually unload the dump body or trailer or use alternative mechanical means.

- Refrain from driving or distributing materials until the body is fully lowered.
- Exercise particular caution and ensure even load discharge in icy conditions.
- Always disengage the power take-off (PTO) during the lowering process. Return the tipper control lever to the neutral position once the tipper body is fully lowered.
- Never work beneath a raised body unless it is properly supported and located in a safe environment.
- Do not tamper with the pressure relief valve or end-of-stroke valve for the cylinder.
- Be aware that pressure spikes, especially exceeding the maximum working pressure of the cylinder, can result in severe injury, fatalities, and damage to the cylinder and cargo.
- Avoid leaving an unchromed cylinder extended for more than two hours.
- For tipping tankers, follow these additional steps:
 - Activate the stabilizers before unloading.
 - Raise the tank to a maximum angle of 25° and wait until 50% of the load has discharged.
 - Then complete the tank raising process.

Maintenance Warnings

Only fully trained, highly professional, and qualified personnel with technical expertise should be allowed to install, repair, or service this equipment. Failure to do so can result in serious damage and/or injury.

In case of any uncertainties or if assistance is required, please contact your supplier or reach out to the Sunrise Sales & Customer Service nearest to you.

- The hydraulic cylinder is designed exclusively for lifting purposes and should never be utilized as a stabilizer for supporting the body of the equipment.
- Working underneath a raised body is strictly prohibited unless it is correctly propped and in a safe environment.
- Ensure that the body prop is securely positioned between the body underframe and chassis for stability and safety.
- Use only hydraulic oil with the recommended density as specified in the manufacturer's guidelines.
- Employ high-quality hydraulic oil specifically intended for hydraulic circuits to maintain the equipment's performance.
- Avoid using vegetable cutting oil additives or any oil with different constituents from the original hydraulic oil, and never mix different products together.
- Never leave the vehicle with the body in a raised or tipped position, as this can lead to potential accidents.
- Refrain from cleaning the hydraulic cylinder with a high-pressure water cleaner to prevent damage and maintain the cylinder's integrity.
- When performing welding tasks, do not attach the ground clamp to the hydraulic cylinder, as this can result in electrical hazards.
- Always take measures to shield the hydraulic cylinder from welding spatter and other foreign materials that could cause damage or impair its functionality.

General Maintenance Suggestions

Regular maintenance is crucial to ensure the safe and extended operation of both the telescopic cylinder and the vehicle. Incorporating a vehicle inspection into the operator's daily routine is essential as it aids in identifying potential issues before they lead to damage

Weekly

- Verify the oil level in the oil tank (depending on the tank type, the oil level should be visible in the sight glass or level gauge).
- Apply grease to all moving parts of the cylinder and its related accessories.
- Inspect the condition of all hydraulic components in the hydraulic system, including the PTO, pump, tipping valve, oil tank, hydraulic pipes, and tipper level control.

Monthly

- Ensure the proper functioning of the end-of-stroke device (if installed) and pressure relief valve.
- Check and lubricate the stabilizer frame and the tipper hinge (if applicable).
- Examine the hydraulic pipes, securing all flexible pipes to the chassis, tightening any loose pipe connections, and ensuring they are free from knots and kinks.
- Regularly inspect hydraulic connections and hoses, replacing them if they are worn or damaged.
- Verify the tightness of fixing bolts.
- Replace any damaged or worn bolts with new ones of equivalent or higher grade.
- Examine the mounting of the cylinder, the cylinder top nut (located at the top of the outer cover), all brackets, cradle supports, tipper valve, PTO, and pump.
- Check the oil level in the hydraulic tank with the tipping cylinder at rest.
- Inspect the vehicle for any signs of damage.
- Apply lubrication to all greasing points on the tipper.
- If the hydraulic oil is dirty or contaminated, drain and clean the oil tank (and hoses) and refill it with new oil.
- Clean the cylinder and remove dirt and excessive grease.

6 Monthly

- Clean the return filter if one is installed.
- Replace the air breather filter.

Yearly

- Refill the tank with clean hydraulic oil by first draining the tank. Then replace the return line filter.
- During oil draining, take care to prevent spills and dispose of the old oil in an environmentally responsible manner.
- Apply grease to non-painted and moving parts if the tipping system is to be stored for an extended period.

TROUBLE SHOOTING

Fault	Potential causes	Checks
The cylinder doesn't extend when the air control is in "tip" position	PTO not engaged	Engage PTO
	Pump doesn't deliver oil	Disconnect hose at valve and check if oil circulates Check there are no kinks or leaks from any oil or air oies
	No oil in the tank	Fill the oil tank
	Air pressure is not enough	Increase pneumatic pressure
	Cylinder connected to wrong valve port	Connected cylinder to port "OUT"
The body stops on the way up	Material in excess or badly distributed	Remove or better spread the material
	Not oil enough in the tank	Fill the oil tank
The cylinder extends when the air control is in "low" position	Pneumatic hoses wrongly connected with the valve and/or the cab control	Connected up as instructed
Cylinder jerks when extending	Air in the oil supply	Engage PTO and tip hoist to full stroke on tick over. DO NOT REV ENGINE. Turn engine off when hoist is at full stroke Drop down the body until resting on chassis correctly Repeat the procedure until the air will be completely escaped.
	Pump is damaged	Repair or replace pump
The body doesn't drop	PTO not disengaged	Check PTO has disengaged and eventual warning light is out
	Air in the system	Rev the engine until the relief (overload) valve blows (i.e. until you hear a high pitched noise coming from the tipper valve) Keep the engine revs going for 5 seconds Lower the body If the body still won't come down, put the tipper lever in "hold", prop the body, switch the PTO to "out" and turn off the engine. And contact Sunrise Sales&Service Agent
Air supply correctly but the tipping valve doesn't work	Air in the system	Remove all the pneumatic hoses (except the feed and exhaust ones). Check if air passes through relevant port when control moved on to correct position. Replace this valve if faulty. Check all pipes for sharp bends. Disconnect both air pipes from valve and check air flow with air control in relevant position. If no air escapes from air pipe and replace pipes. Put air control in "low" position, remove pipe from valve "TIP" port; if air leaks from this port then the O-ring of the air cylinder is faulty
	Air pipe "kinked" or restricted	
	Internal leak in the tipping valve	

Fault	Potential causes	Checks
The cylinder doesn't go up or it goes up very slowly	Air pressure is not enough	Check air pressure, air control, air pipes and tipping valve as described before.
	Pump fault	Replace pump
The cylinder goes up, but it doesn't go down or it goes down very slowly	Return filter is blocked	Replace oil filter
	Air control fails	Check air-supply in lowering position
	Knock-off valve does not work properly	Check through the separate instructions for knock-off valves
	The oil used is too thick	Refill with the oil recommended
The cylinder drops when clutch is depressed	The non return valve in port "IN" does not work or it is not properly fitted.	Replace the valve
The cylinder doesn't extend smoothly	Oil level in tank too low	Check oil level in the tank, fill oil tank if necessary
	Air in the oil	Bleed the system
	Pump does not work properly	Replace the pump
Valve works properly but suddenly fails	Broken air pipe	Check air pipes and replace as required
	Plunger blocked by dirt	Clean hydraulic system (oil tank included)
	Knock-off valve fails	Replace the tipping valve if necessary Check knock-off valve
Valve selector shaft does not move even when air pressure is enough	The selector shaft is sticking or trapped	Loosen the fixing bolts by half a turn and try to switch the valve again (the torque of the bolts should not exceed 15 Nm)
The cylinder doesn't fully extend	Oil level in tank too low	Fill oil tank
	Relief pressure valve is open and the oil goes back to the oil tank	Knock-off valve fails Remove or redistribute the material in the body
The body will not stay up with the tipper lever in "hold" position	Tipping valve not working properly	Put the tipper lever back in "raise" and lift the body Rev the engine until the relief (overload) valve blows (i.e. until you hear a high pitched noise coming from the tipper valve) Keep the engine revs going for 5 seconds If the body still will not stay up, lower the body and contact Sunrise Sales&Service
Excessive noise	Not enough oil	Refill with the oil recommended
	Damaged or kinked pipes	Check air pipes and repair or replace as required
The cylinder goes down too fast	Unloaded material in the tipping body	Lower the body with special care, completely, very slowly and without any sudden interruption. If necessary, unload the dump body or trailer manually or with an alternative mechanical aid, before resuming tipping operation.
Fuses	A fuse is generally not required as when the tipper kit first starts the battery draws a lot of power and will typically always blow a small fuse at the 20 or 50 amp range	Replace fuse or use without

WARRANTY

Sunrise stands behind the quality of its products and offers the following warranty terms:

- 1. Defective Materials and Workmanship:** Sunrise warrants products manufactured by Sunrise against operational failure resulting from defective materials or workmanship. This warranty is valid during proper and normal use within the warranty period, starting from the date of purchase from Sunrise. Sunrise reserves the right to determine what constitutes proper and normal use.
- 2. Exclusions from Warranty:** The following components are not covered by this warranty:
 - Packing, wipers, bearings, and bushings, which may experience wear due to internal or external contamination or normal operating conditions.
 - Failures caused by forms of oxidation.
- 3. Excluded Damages:** Sunrise does not warranty any damage directly or indirectly caused by accidents, abuse, or defects in hydraulic repair kits.
- 4. Alterations and Modifications:** Products that have been altered, modified, or repaired by non-professional/approved personnel or without written approval from Sunrise are not covered by this warranty.
- 5. Inadequate Tools and Procedures:** Sunrise will not be liable or responsible for damages resulting from inadequate tools, incorrect procedures, or the use of incorrect aftermarket components.
- 6. Limitation of Liability:** Sunrise shall not, under any circumstances, be liable for:
 - Labor expenses related to removal and installation.
 - Loss of time, manufacturing costs, materials, or loss of profits.
 - Incidental, special, or consequential damages, whether direct or indirect.
 - Repair or Replacement: Sunrise's sole obligation is to repair or replace, at its discretion and free of charge, any part of the product found to be defective upon inspection.
- 7. Extended Warranty:** If a product is repaired under warranty, it will carry the remainder of the original warranty period.
- 8. Cylinder Warranty:** Please note that failure to observe our advice and instructions will automatically void any warranty on the cylinders.

Please keep in mind that the above warranty terms are subject to Sunrise's discretion and should be read in conjunction with any specific warranty documentation provided with the product and other warranty material stated on our website. If you have any questions or require warranty service, please contact Sunrise for further assistance.

REGISTRATION FORM

Please keep the following registration form with the vehicle together with this User Manual.

OPERATOR'S INFORMATION:

Name

First

Last

Phone Number

Email

Address

TIPPING CYLINDER INFORMATION:

Code

Serial No

Power Take Off

Pump

Gearbox

Valve

Name of the Body or Trailer Producer

☐ Steel Body

☐ Aluminum Body

Cubic Meters of the Vehicle

Service/Dealer

Date of Mounting



03 9794 0415



sales@sunriseint.com.au

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