

## Power Hoist



**PART# 26-200, 3 Ton Power Hoist**  
**PART# 26-201, 6 Ton Power Hoist**  
**PART# 26-202, 10 Ton Power Hoist**

# Operation Manual



This safety alert symbol identifies important safety messages in this manual. Failure to follow this important safety information may result in serious injury or death.



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# IMPORTANT SAFETY INFORMATION



**WARNING**

## **WARNING:**

Read and thoroughly understand all instructions and safety information before assembling or operating this power hoist. Failure to do so may cause serious injury or death. Do not allow anyone to operate this power hoist who has not read this manual. As with all power equipment, a power hoist can be dangerous if assembled or used improperly. Do not operate if you have doubts or questions concerning safe operation.

The installer assumes responsibility for property damage or personal injury.

Call our customer service department at 720-437-7640, or email at [customerservice@tooltuffdirect.com](mailto:customerservice@tooltuffdirect.com) if you have any questions or concerns about the safe operation of this equipment.



**DANGER**

## **INTENDED USE**

Do not use the power hoist for any purpose other than a pickup or trailer dump bed hoist. Any other use is unauthorized and may result in serious injury or death.

## **PERSONAL PROTECTIVE EQUIPMENT**

When operating this power hoist it is essential that you wear safety gear including safety glasses, steel toe shoes and tight fitting gloves (no loose cuffs or draw strings).



**CAUTION**

Do Not wear loose clothing or jewelry that can be caught by moving parts of the power hoist. Keep clothing and hair from all moving parts when operating.



## IMPORTANT SAFETY INFORMATION



DANGER

### GENERAL SAFETY

Failure to follow warnings, cautions, assembly and operation instructions in the Operation Manual may result in serious injury or death. Read the Operation Manual before installation and operation of this power hoist.



DANGER

Do not permit children to operate this equipment at any time. Do not permit others that have not read and understood the complete Operation Manual to operate this equipment.



DANGER

Do not operate the power hoist when under the influence of alcohol, drugs or medication. Do not allow a person who is tired or otherwise impaired or not completely alert to operate the power hoist.



DANGER

Never exceed the gross vehicle weight or gross axle weight rating of the trailer or vehicle. Overloading the vehicle or trailer could cause component damage resulting in injury or death.



DANGER

Take adequate steps to prevent brake system damage during installation of the hoist. Prior to vehicle use, verify the installed equipment does not interfere with the brake system.

## IMPORTANT SAFETY INFORMATION



**DANGER**

Take adequate steps to prevent power hoist component or vehicle exhaust system damage. Heat from the vehicle exhaust system could cause hydraulic component failure. Damage to the power hoist components or vehicle exhaust system could cause injury or death.



**DANGER**

Always follow hoist and vehicle or trailer maintenance schedule.



**DANGER**

Never shake the trailer or vehicle lifting frame with the body raised, damage to the power hoist can occur.



**DANGER**

Never drive forward or rearward with the lifting body raised, damage to the power hoist can occur. If a load is stuck, lower lifting body and free the load.



**DANGER**

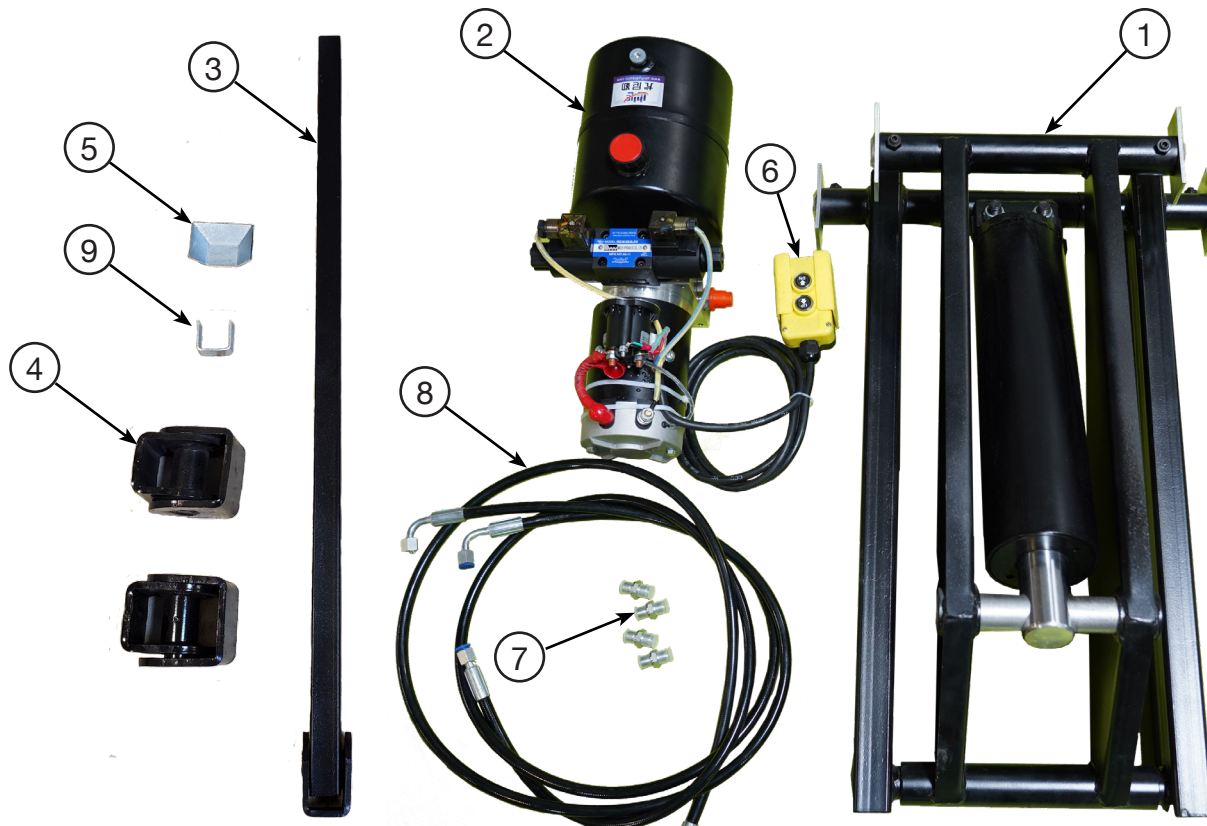
Never position yourself or others under a lifting frame. Being under a raised lifting frame could result in serious injury or death. Always support an unloaded lifting frame with the supplied safety arm. Never use the safety arm on a loaded lifting frame.



**DANGER**

Always support an unloaded lifting frame with the supplied safety arm. Never use the safety arm on a loaded lifting frame.

# PARTS LIST



ITEM #	P/N	DESCRIPTION	MODEL	QTY
1	26-203	POWER HOIST FRAME, 3 TON	3 TON	1
	26-204	POWER HOIST FRAME, 6 TON	6 TON	1
	26-205	POWER HOIST FRAME, 10 TON	10 TON	1
2	31-333	POWER UNIT, POWER HOIST, 3 TON	3 TON	1
	31-334	POWER UNIT, POWER HOIST, 6 TON	6 TON	1
	31-335	POWER UNIT, POWER HOIST, 10 TON	10 TON	1
3	26-206	SAFETY ARM, 23.5"	3 TON	2
	26-207	SAFETY ARM, 35.5"	6 TON	2
	26-208	SAFETY ARM, 47.25"	10 TON	2
4	26-210	HING, 2-1/2" WELD ON	3 TON	2
	26-209	HINGE, 3-5/8" WELD ON	6 TON	2
	26-209	HINGE, 3-5/8" WELD ON	10 TON	2
5	26-211	CUP, SAFTY ARM STOP	ALL	2
6	31-332	REMOTE SWITCH W/ CORD, HYDRAULIC PUMP	ALL	1
7	31-052	HYDRAULIC FITTING, SAE8 MALE COUPLER	ALL	4
8	31-059	HYDRAULIC HOSE, HOIST	ALL	2
9	26-212	SAFETY ARM HOOK	ALL	1

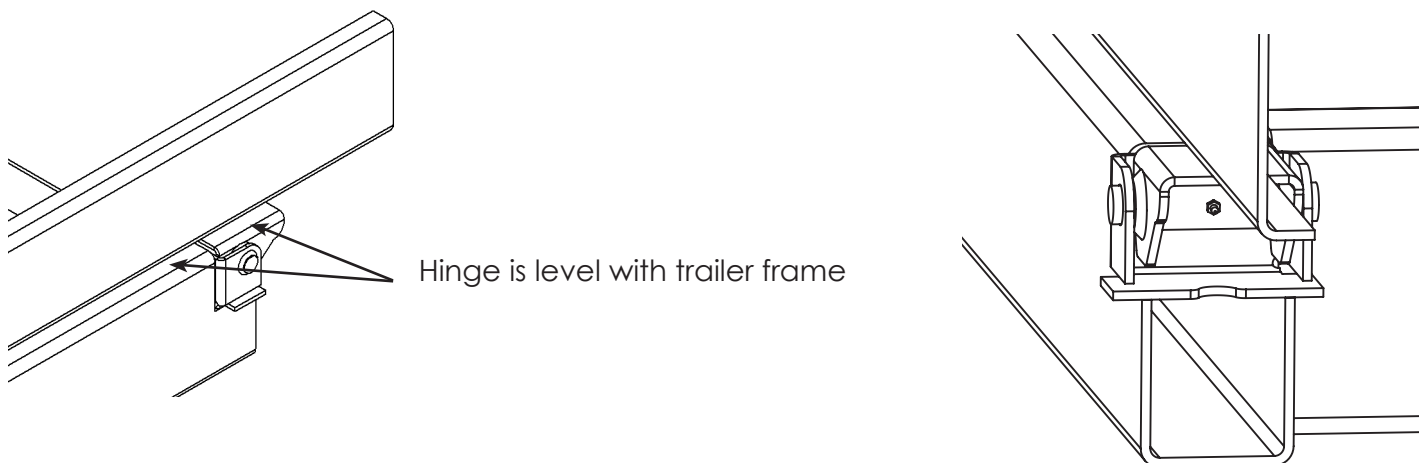
\*\*The images may not accurately represent the parts.

# ASSEMBLY INSTRUCTIONS

## STEP 1:

### Install the hinge to the vehicle lifting frame and bed frame.

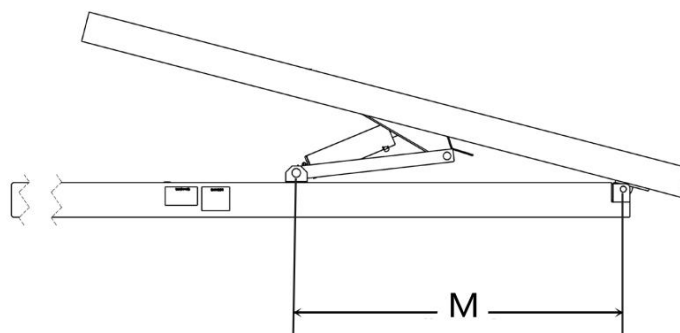
Notch the vehicle lifting frame so that the hinge pad is level with the vehicle frame. Verify that the hinge can open and close freely prior to welding to the lifting frame. Center hinge and weld at all contact surfaces.



## STEP 2:

### Install the power hoist frame to the vehicle or trailer frame.

Reference the table below to determine the recommended location for the power hoist frame. Center the hoist frame to the vehicle frame. Loosen the mounting plates on the power hoist frame and weld the hoist frame to the vehicle lower frame.

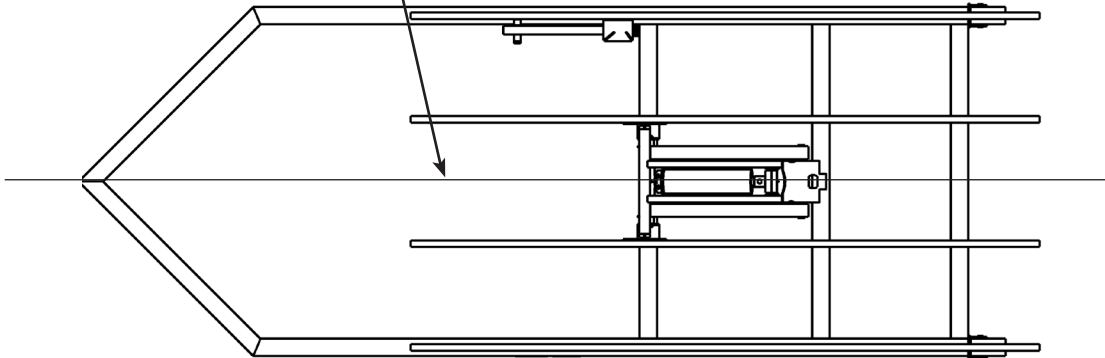


Part Number	Model	M Dimension
26-200	3-Ton Power Hoist	59 in
26-201	6-Ton Power Hoist	54 in
26-202	10-Ton Power Hoist	67.7 in



# ASSEMBLY INSTRUCTIONS

Center power hoist frame  
on trailer frame



### STEP 3:

#### Complete installation of power hoist to frame.

Loosen the mounting plates on the power hoist frame and weld the hoist frame to the vehicle bed frame.

### STEP 4:

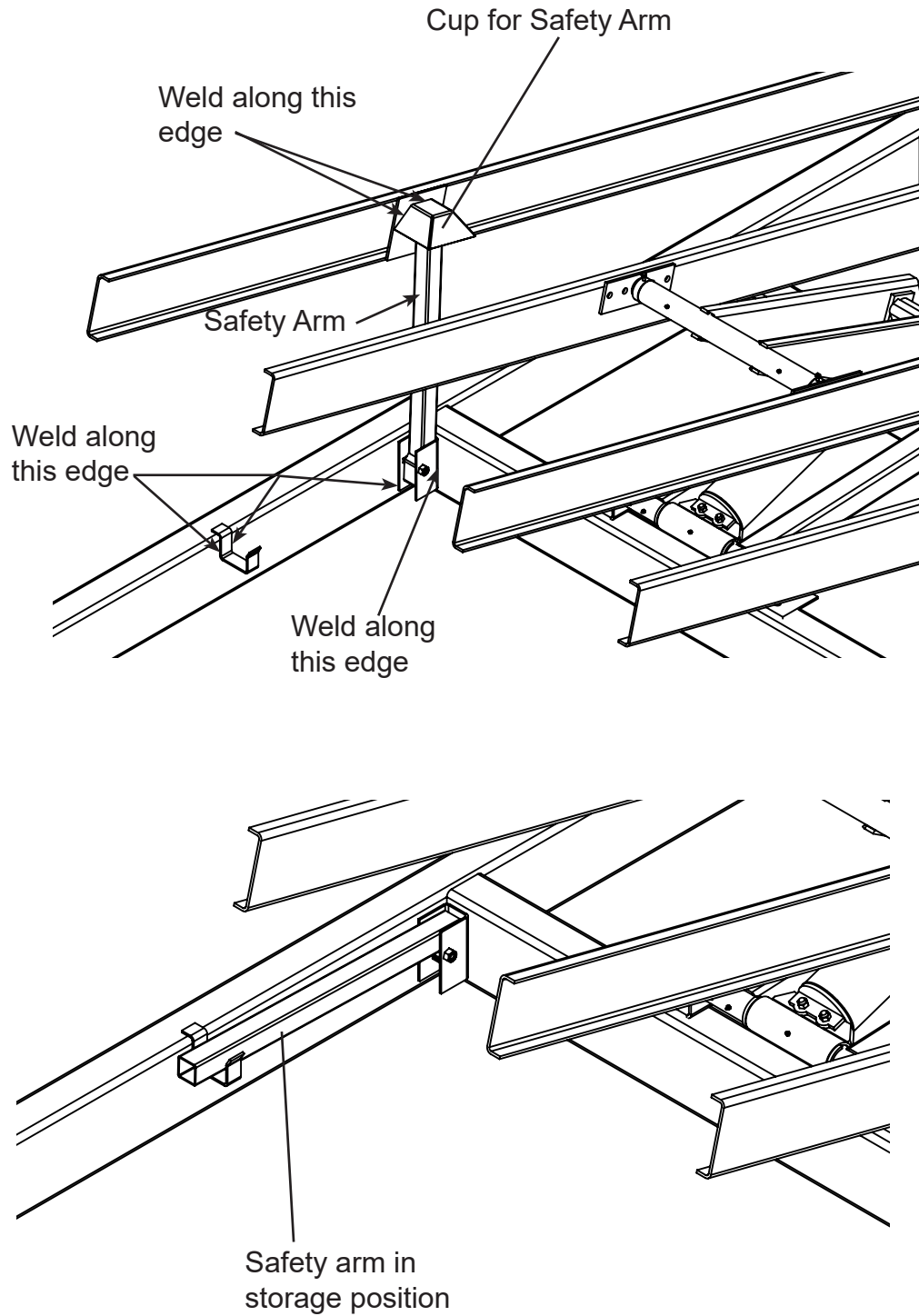
#### Install the safety arm.

Reference the table below to determine the best location to install the safety arm to the vehicle frame. Weld the safety arm, safety arm cup and storage arm hook to the vehicle frame.

*Table: Maximum unloaded Tilt Body Weight in Pounds Using One Safety Arm*

		Trailer tilting body length in feet						
		8	10	12	14	16	18	20
Distance between rear hinge and safety arm in inches	50	3854	3083	2569	2202	1927	1713	1542
	60	4625	3700	3083	2643	2313	2056	1850
	70	5396	4317	3597	3083	2698	2398	2158
	80	6167	4933	4111	3524	3083	2741	2467
	90	6938	5550	4625	3964	3469	3083	2775
	100		6167	5139	4405	3854	3426	3083
	110		6783	5653	4845	4240	3769	3392
	120		7400	6167	5286	4625	4111	3700
	130			6681	5726	5010	4454	4008
	140			7194	6167	5396	4796	4317
	150				6607	5781	5139	4625
	160				7048	6167	5481	4933
	170					6552	5824	5242
	180					6938	6167	5550
	190					7323	6509	5858
	200						6852	6167
210						7194	6475	
220							6783	
230							7092	

# ASSEMBLY INSTRUCTIONS



# ASSEMBLY INSTRUCTIONS

## STEP 4:

### Install the power unit.

Install the power unit to the vehicle frame. Brackets may need to be welded or bolted to the vehicle frame to mount the power unit. Insure the power unit is in a location that is easy to access and service.

## STEP 5:

### Install the hydraulic fittings.

Attach the hydraulic fittings to the power unit and hydraulic cylinder with the seal toward the power unit and cylinder. The flat face of the hydraulic fitting without seal goes towards the hydraulic hose.

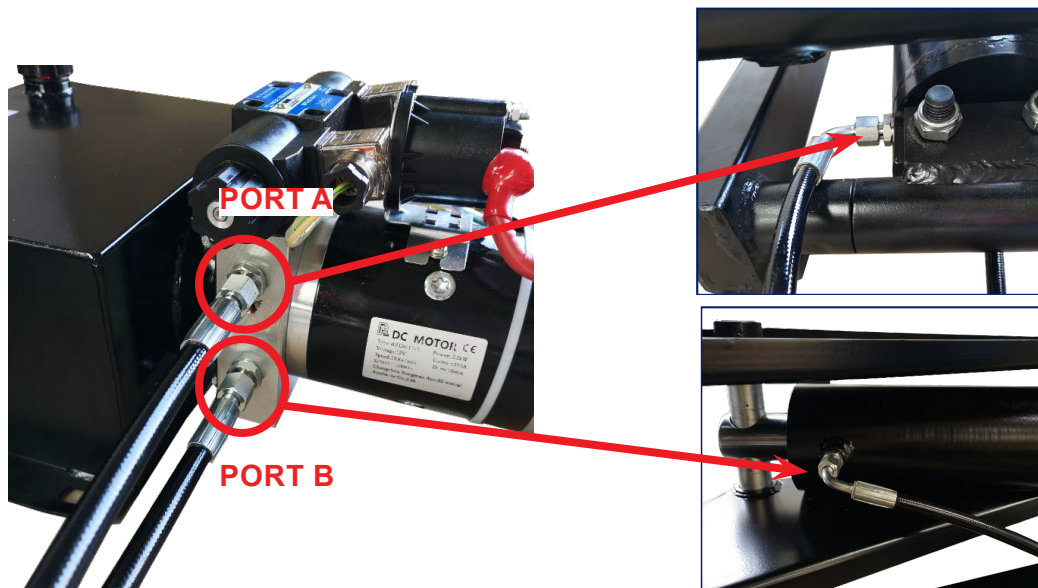


## STEP 6:

### Install the hydraulic hoses.

Attach the hydraulic hoses to the power unit and hydraulic cylinder. Reference the below photos for correct assembly of the hoses.

The upper port (A) of the power unit attaches to the port near the end of the hydraulic cylinder. The lower port (B) of the power unit attaches to the port near the piston rod of the hydraulic cylinder.



# ASSEMBLY INSTRUCTIONS

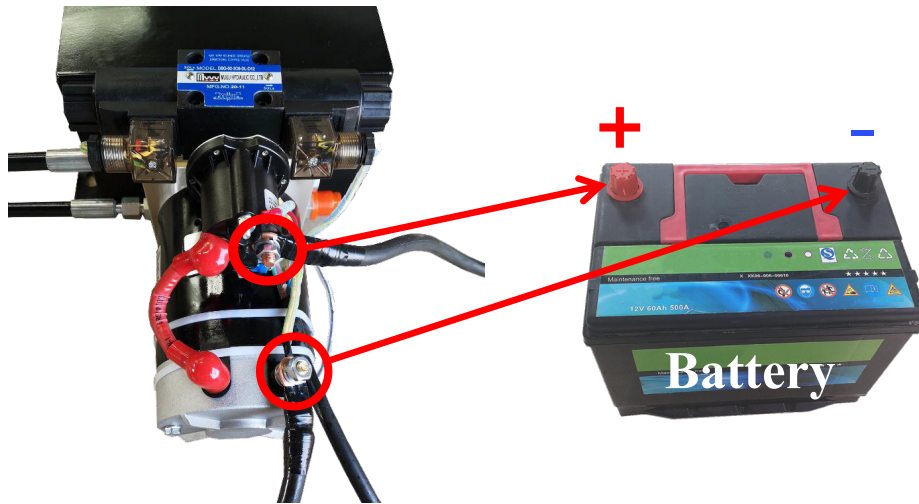
## STEP 7:

**Connect the battery to the power unit, reference the battery cable selection chart.**

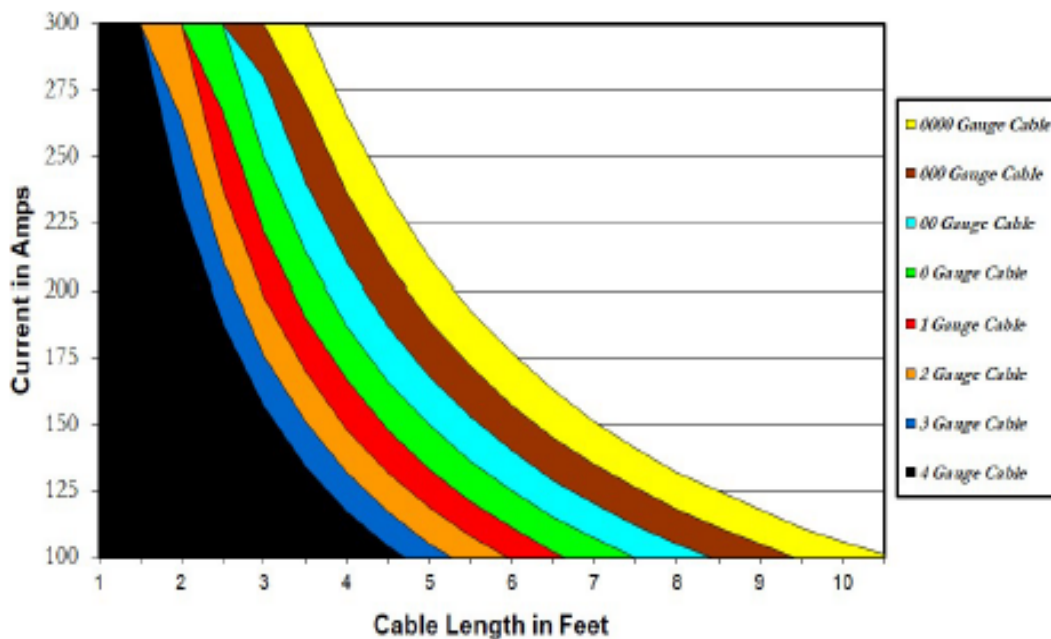
Attach the positive battery terminal to the power unit solenoid stud.

Attach the negative battery terminal to the grounded stud on the end of the power unit.

Mount the battery in a weather tight enclosure on the vehicle or trailer.



**DC Battery Cable Selection Guide**



## STEP 8:

**Fill the reservoir with hydraulic fluid.**

The hydraulic fluid recommendation can be found on page 14.

Fill the reservoir to the top line on the dipstick during initial setup. After air has been cycled out of the system fill the reservoir to the fill line.

## IMPORTANT SAFETY INFORMATION



WARNING

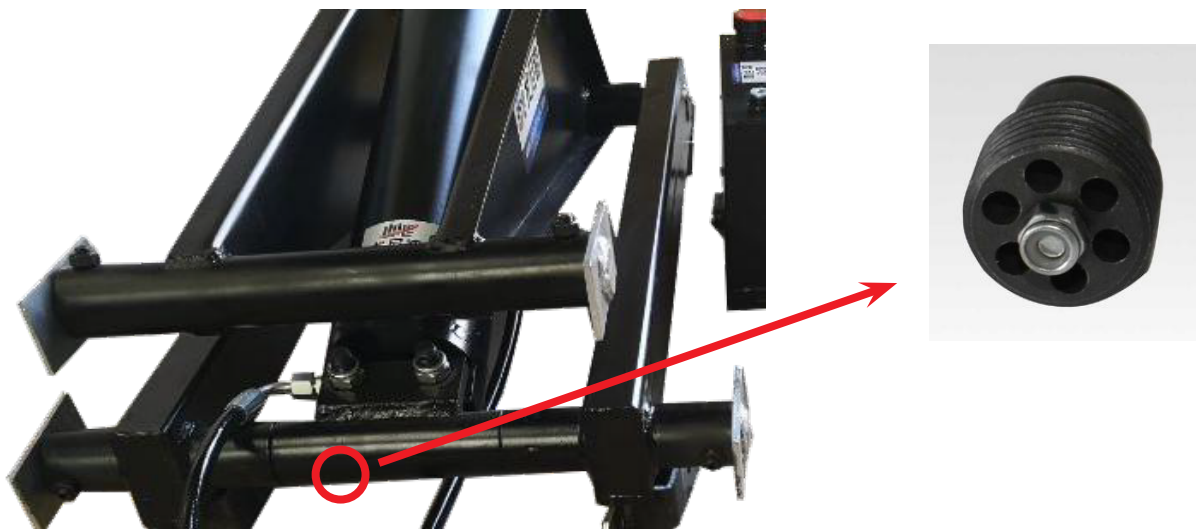
### WARNING:

Always support an unloaded body with the safty arm. The safety arm is intended to only support the weight of an unloaded body.



DANGER

Being under a raised body could result in serious injury or death should the body unexpectedly descend. The power hoist frame has an installed explosion-proof valve which can effectively prevent the hydraulic cylinder from lowering suddenly if a failure occurs but should not be relied on.



### SAFETY ARM USE:

- 1) Raise the trailer body to the maximum height and shut of the hydraulic power hoist.
  - 2) Rotate the safety arm in the vertical position.
  - 3) SLOWLY lower the trailer body until the vertical safty arm contacts the safety arm stop cup.
- Reverse the procedure to place arm back in hanger for transport.



DANGER

### DANGER:

Never loosen a hydraulic connection under pressure. Doing so can result in a hydraulic injection and can result in catastrophic failure of the hoist resulting in equipment damage, severe injury or death.



## **ALWAYS PERFORM MAINTENANCE OPERATIONS WITH THE LIFT FRAME LOWERED**

### **Hydraulic recommendation:**

ISO Viscosity Grade 22-46 cSt @ 40°C hydraulic fluid is recommended. Anti-wear, anti-foaming & rust inhibitor additives are recommended.

ATF can be used for colder climates. ATF Dexron III does not have anti-foaming agents in the fluid. Fluid aeration and cavitation can occur. Be cautious when adding fluid to the reservoir. The oil should be clean and free of impurities.



### **WARNING:**

Do not mix different grades and types of hydraulic fluid.

Do not use synthetic, biodegradable or water base hydraulic fluids.

Tractor hydraulic fluid is not recommended.

### **Maintenance:**

Hydraulic oil change is required after the initial 100 operation hours. Routine oil change should be performed every 3000 hours or 2 years after initial change.

Check hydraulic fluid level regularly before operation.

Check electrical connections regularly for corrosion on all connections and battery cables.

Load test battery often before use.

### **Cleaning:**

Never pressure wash or hose down the power unit. The DC motor is not sealed, extended exposure to moisture will cause premature failure.

Spray light amounts of cleaner/degreaser on the power and dry with compressed air and/or rag.

Remove the red cap from the power unit tank breather cap and clean the filter element with dishwashing soap and water. Make sure the filter element is completely dry before reinstalling it back on the breather cap.

# TROUBLE SHOOTING



WARNING

This information is intended for use by a service technician who is familiar with hydraulic components and understands the required safety precautions.



WARNING

**Tampering or adjusting the relief valve will void warranty and could cause catastrophic failure which could result in equipment damage, severe injury or death.**



WARNING

Shorting of the electrical system can occur during installation or servicing. Electrical components can cause sparks and/or fire which can lead to property damage, personal injury or death. ALWAYS disconnect the battery prior to installing, servicing or repairing of the power unit.

SYMPTOMS	Possible Cause	Correction	Notes
System inoperative	Dead or low battery	Load test battery	Charge or replace battery
	Poor ground	Ground battery directly to DC motor	Use jumper cables to jump ground only
	Dirty contacts in hand control	Clean contact in hand control with eraser	Cleaning contacts with abrasive material will cause frequent failure
	Corrosion on battery terminals	Inspect battery cables & clean battery terminals	Use of dielectric grease will prevent corrosion buildup
	Start solenoid failure	Jump start solenoid	Replace solenoid
	Rust in DC motor	Bypass start solenoid	If motor doesn't run after bypassing start solenoid, remove rear cover of motor for quick inspection.

# TROUBLE SHOOTING

SYMPTOMS	Possible Cause	Correction	Notes	
Motor runs, cylinder not extending	Low battery / poor ground	Load test battery	Charge or replace battery	
	Dirty contacts in hand control	Clean contact in hand control with eraser	Cleaning contacts with abrasive material will cause frequent failure	
	Directional valve issue	Check for bent valve stem	Replace valve if stem is bent	
		Ensure coil is energizing	Double check you are getting power to coil before replacing	
		Remove valve and inspect O-rings	Replace O-rings if damaged	
		Check cross drilled holes between O-rings of valve for debris	Replace valve if spool is not shifting (for most directional valves the spool will cover half of the cross drilled holes when valve is at its rest or activated positions)	
	Ensure valve is shifting (use dipstick push on valve spool to shift valve. Look through cross drilled holes between O-rings ensuring valve is shifting)			
	Pump not priming	Remove check valve plug & activate motor momentarily to prime		
Relief valve	If relief valve is bypassing check pressure gage to ensure valve is set at proper setting as marked on power unit	Double check with equipment manufacturer ensuring the manufacturer did not adjust pressure setting at factory.		
Cylinder	Check to see if fluid is passing through the rod seals to tank	Rebuild or replace the cylinder if fluid is passing through the cylinder without moving the rod		



# TROUBLE SHOOTING

Possible	Possible Cause	Correction	Notes
Motor runs, cylinder is not retracting	Dead or low battery	Load test battery	Charge or replace battery
	Poor ground	Ground battery directly to DC motor	Use jumper cables to jump ground only
	Coil on solenoid valve not activating	Ensure power is getting to coil, check all electrical connections and check for magnetism	Replace coil if you are getting power to the coil but it is not energizing.
		Check ground wire or valve stem. For loose connections or corrosion. (If coil is single wire lead, check the contacting point where solenoid rests on valve stem for corrosion)	
		Loose wire in quick connector or control box	
		Clean contact in hand control with eraser	
	Debris in screen of load holding valve (motor would be running and bypassing over relief valve)	Remove load holding valve. Inspect screen & valve for debris. (DO NOT REMOVE VALVE FOR INSPECTION IF SYSTEM IS UNDER PRESSURE)	Use dipstick on power unit to manually shift the valve. This is accomplished by inserting the dipstick in the nose of the valve and applying pressure. Replace valve if it doesn't shift.
	Debris in flow control valve if present	Remove flow control valve & inspect valve for debris.	Top of valve is threaded, use 1/4-20 bolt to remove flow control valve.
	Directional valve issue	Check for bent valve stem	Replace valve if stem is bent
		Ensure coil is energizing	Double check you are getting power to coil before replacing
		Remove valve and inspect O-rings	Replace O-rings if damaged
		Check cross drilled holes between O-rings of valve for debris	Replace valve if spool is not shifting (for most directional valves the spool will cover half of the cross drilled holes when valve is at its at rest or activated positions)
		Ensure valve is shifting (use dipstick push on valve spool to shift valve. Look through cross drilled holes between O-rings ensuring valve is shifting)	
Relief valve	If relief valve is bypassing check pressure gage to ensure valve is set at proper setting as marked on power unit	Double check with equipment manufacturer insuring the manufacturer did not adjust pressure setting at factory.	
Cylinder	Check to see if there is hydraulic pressure in the lines	If there is no pressure in lines and cylinder will not retract replace or repair cylinder	

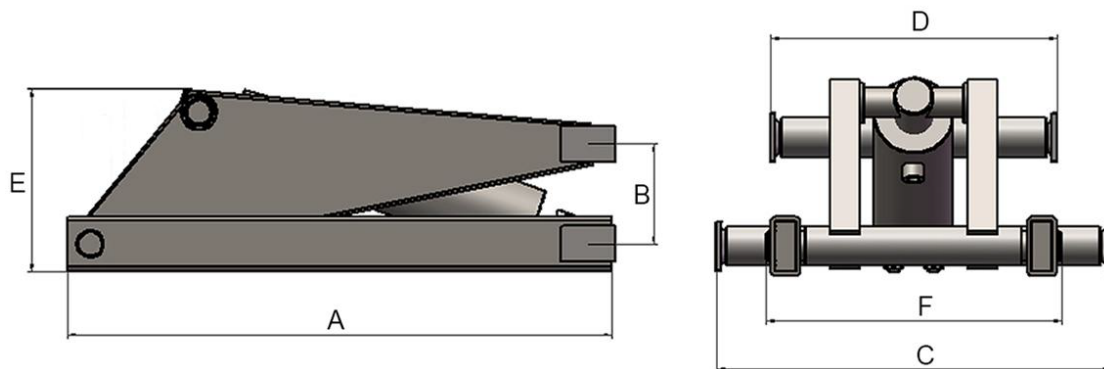
## TROUBLE SHOOTING

SYMPTOMS	Possible Cause	Correction	Notes
Reservoir overflows when lowering	Low fluid level	Add fluid to reservoir when cylinder is fully retracted	Before running power, unit ensure all air bubbles have dissipated to prevent further aeration of fluid
	Loose inlet	Remove reservoir & tighten or replace inlet tube on pump	
	Reservoir too small for hydraulic system	Consult equipment manufacturer for correct reservoir size	

SYMPTOMS	Possible Cause	Correction	Notes	
Struggles to lift load	Dead or low battery	Load test battery	Charge or replace battery	
	Poor ground	Ground battery directly to DC motor	Use jumper cables to jump ground only	
	Directional valve is not completely shifting	Check for bent valve stem	Replace valve if stem is bent	Replace valve if spool is not shifting (for most directional valves the spool will cover half of the cross drilled holes when valve is at its at rest or activated positions)
		Check cross drilled holes between O-rings of valve for debris	Ensure valve is shifting (use dipstick push on valve spool to shift valve. Look through cross drilled holes between O-rings ensuring valve is shifting)	
	Debris in screen of load holding valve	Remove load holding valve. Inspect screen & valve for debris. (DO NOT REMOVE VALVE FOR INSPECTION IF SYSTEM IS UNDER PRESSURE)	Use dipstick on power unit to manually shift the valve. This is accomplished by inserting the dipstick in the nose of the valve and applying pressure. Replace valve if it doesn't shift.	
	Rust in motor	Bypass start solenoid	If motor doesn't run at a higher RPM after bypassing start solenoid, remove rear cover of motor for quick inspection.	
Worn seals in cylinder	Packing on piston of cylinder could be bad and be wedged against bore of cylinder	Have cylinder tested by certified technician		

# SPECIFICATIONS

## FRAME DIMENSIONS



MODEL P/N	LIFTING (TONS) CAPACITY	WEIGHT (KG / LBS)	MAX LIFTING ANGLE	SIZE (IN)					
				A	B	C	D	E	F
26-200	3	27 / 59	50°	23.6	4.3	15.7-19.7	11.4-15.3	8.1	11.8
26-201	6	58 / 127		29.5	5.3	19.7-23.6	14.2-18.1	9.8	14.5
26-202	10	93 / 205		37.4	6.1	23.6-27.5	15.7-19.7	11.2	16.1

## HYDRAULIC CYLINDER

MODEL	26-200 (3 TON)	26-201 (6 TON)	26-202 (10 TON)
STROKE (IN)	10.4	12.9	15.7

## HYDRAULIC POWER UNIT

MODEL	VOLTAGE (V)	POWER (KW)	OIL TANK (L)	LIFTING TIME (SEC)
26-200	12V/24V	1.1 KW	3 L	22
26-201	12V/24V	1.6 KW	5 L	40
26-202	12V/24V	2.2 KW	8 L	50

Power unit output pressure is 3200 PSI from Port A.

# WARRANTY

## IMPORTANT NOTICE

We, the manufacturer, reserve the right to change the product and/ or specifications in this manual without notification. The manual is for information usage only and the pictures and drawings depicted herein are for reference only.

## Warranty

Tool Tuff Direct makes no express warranty for this product except those specifically set forth herein. Tool Tuff Direct warrants its products to be free from defect in design, material and workmanship for a period of 6 months from original date of purchase, and to be suitable for and to perform in accordance with the use(s) and specifications stated in product materials.

**EXCLUSION OF IMPLIED WARRANTIES: TOOL TUFF DIRECT MAKES NO WARRANTY OF MERCHANTABILITY OF THE GOODS SOLD UNDER THIS AGREEMENT. PREMIUM SUPPLY MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS SOLD.**

Warranty does not cover normal wear, misuse, neglect, abuse, improper maintenance, overload beyond rated capacity, accidents, cosmetic defects, consumables, non-authorized replacement parts or accessories, operation with inadequate supply of hydraulic oil, improper fluid types or unauthorized adjustments.

## Warranty Repair and Service

If a defect in a product is discovered and is covered by this warranty, Tool Tuff Direct will have the option to repair, refurbish or replace any warranted item(s), such option to be exercised in Tool Tuff Direct sole discretion. This warranty inures to the benefit of the original purchaser only, is non-transferable, and has no cash value. Call our customer service department at **720-213-4383** for warranty questions.

**Record the information below for future reference.**

**Model No.** \_\_\_\_\_

**Serial No.** \_\_\_\_\_

**Date of Purchase** \_\_\_\_\_

**Place of Purchase** \_\_\_\_\_



Serial number tag  
location

For Service or Questions:  
**Call 720-213-4383**

## REGISTRATION

### Acceptance of responsibility:

I (purchaser) have read the Operation Manual and Limited Warranty or someone has read and explained all instructions to me. I understand this warranty does not cover any labor and that all disputes will be settled by binding arbitration. Warranty void if any attempt to repair or replace defective parts has been made by unauthorized personnel. The mark next to each item below confirms my acceptance of responsibility for the use and maintenance of this power hoist kit. I understand that I alone am responsible for the proper maintenance, care and safe operation of this power hoist kit.

- Received, read and understand the Operation Manual
- Understand the safety warnings
- Specifications accepted
- Operations understood
- Maintenance requirements understood

I (purchaser) understand that persons who have not read and understand the operations manual should not be allowed to use the machinery. Children should not operate or be near the equipment. Anyone operating the power hoist must have read the safety and operations manual.

Is this power hoist used in a business:

No: \_\_\_\_\_ Yes, business type: \_\_\_\_\_

Owner / Purchaser Signature: \_\_\_\_\_

The warranty may be refused if the registration is not legible, completed and signed. It is the responsibility of the purchaser to assure that the registration form is received.

# REGISTRATION

WARRANTY VOID IF REGISTRATION IS NOT POST MADE WITHIN 15 DAYS OF PURCHASE.

Mail to:  
TOOL TUFF DIRECT  
15000 West 44th Ave, Suite B  
Golden, CO 80403

Serial #: \_\_\_\_\_  
Purchase Date: \_\_\_\_\_  
Purchased From: \_\_\_\_\_  
Purchaser: \_\_\_\_\_  
Purchaser's Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Attach a copy of receipt or proof of purchase.

Registration may be completed by scanning the Registration pages and emailing them to:  
[customerservice@tooltuffdirect.com](mailto:customerservice@tooltuffdirect.com)

For Service or Questions:  
**Call 720-213-4383**

