



Item 85999

Hydraulic Dump Trailer

Owner's Manual



WARNING

This trailer is intended for OFF ROAD use ONLY. It is **NOT** intended for use on public roads or highways. Always using an approved helmet and protective gear **COULD SAVE YOUR LIFE!**

Federal, state, provincial, and municipal governments have different regulations pertaining to operating off road vehicles. Learn and follow the regulations in your area.



WARNING

**READ AND UNDERSTAND THIS INSTRUCTION MANUAL
PRIOR TO USING THIS PRODUCT. FAILURE TO DO SO MAY
RESULT IN SERIOUS INJURY OR DEATH.**

Keep this instruction manual for future reference.

This instruction manual is intended for your benefit. Please read and follow the safety, installation, maintenance and troubleshooting steps described within to ensure your safety and satisfaction. The contents of this instruction manual are based upon the latest product information available at the time of publication. The manufacturer reserves the right to make product changes at any time without notice.

The safety instructions provided in this manual are not intended to cover all possible conditions and practices that may occur when operating, maintaining and cleaning power equipment.

Always use common sense and pay particular attention to all the DANGER, WARNING, CAUTION and NOTICE statements in this manual.

WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Addresses practices not related to personal injury.
CAUTION	

Maintain labels. Labels on this product, if applicable, carry important information. If unreadable or missing, contact Star-Asia USA, LLC for free replacement labels.

The label on your tool may include the following symbols. The symbols and their definition are as follows:

Symbol	Property or Statement	Symbol	Property or Statement
	Read and understand this instruction manual prior to using this product.		MOVING OBJECT HAZARD. Keep all people out of the path of moving equipment when operating or loading.
	Wear ANSI approved (or applicable national standard) goggles or properly fitted protective glasses with top and side protection.		CRUSH HAZARD. NEVER allow bystanders, children, or pets to cross near an object being loaded or dumped.
	Use approved hearing protection such as ear plugs or ear muffs.		PINCH POINT HAZARD. Keep hands clear of pinch points.
	Use NIOSH approved dust mask or respirator.		MOVING PARTS CAN CRUSH AND CUT Keep away from moving parts and ensure all guards in place during operation.
	Wear anti-vibration safety gloves when operating.		SKIN INJECTION HAZARD. Protect hands and body from high pressure fluids.
	Wear foot protection.		PRESSURIZED SYSTEM. Shut off and relieve system pressure prior to maintenance.
	Do not stand or step on this surface.		RISK OF FIRE. Hydraulic fluids are combustible.
			BURN HAZARD. Hot surface, do not touch. Allow surface to cool prior to maintenance.

INTENDED USE

Designed to be used for OFF ROAD and farm applications, for use with ATVs and UTVs, the ATV Dump Trailer has a maximum tow capacity of 3000 lbs (1363 kg), a maximum tipping capacity of 1000 lbs (454 kg). The tandem trunnion axles and a pivoting hitch allow the trailer to be towed over rough terrain or obstacles and help to stabilize the trailer while loading and unloading. The trailer includes a hydraulic system used for tipping the trailer bed which is conveniently powered by a 12v hydraulic system (battery not included). The rear gate and side panels are hinged and removable so it can be converted into a flat bed trailer.

SPECIFICATIONS

Specification	Value
Max. Tow Capacity:	1500 Lbs (684 kg)
Max. Tip Capacity:	1000 Lbs (456 kg)
Length:	134 in. (3410 mm)
Width:	51 in. (1300 mm)
Height:	54-3/4 in. (1390 mm)
Weight:	700 Lbs
Ball hitch size:	2 in. (50.8 mm)
Axle Clearance:	9 in. (230 mm)

Specification	Value
Frame Clearance	13 in. (330 mm)
Tire size, tubeless:	22 x 11-10
Oil Reservoir Cap.:	3.63 Quarts (4 L)
Hyd. Pump:	12 V 800W 1cc/r 18Mpa Rel.
Bed dimensions:	78-3/4 x 46 x 15-3/4 in. (2000 x 1170 x 400 mm)
Recommended Battery & Size:	BCI Group 51 12 VDC (9-3/8 x 5 x 8-3/4 in.) (238 x 129 x 223 mm)

UNPACKING & INSPECTION

When unpacking, please inspect the product carefully to ensure the product is intact and undamaged. If any parts are missing or broken, please call 1-800-386-0191 as soon as possible.



WARNING

Do not use this product if damaged during shipment, handling, or after misuse.

Do not use the product until the parts have been replaced or the fault rectified. Failure to do so may result in serious personal injury or property damage.



WARNING

The trailer and its parts are heavy. It is recommended a minimum of two people are needed for unpacking, lifting, moving, and assembling.

Follow proper lifting techniques at all times as recommended by the Occupational Safety and Health Administration.

Remove the parts and accessories from the packaging and inspect for damage. Make sure that all items in the contents are included.

Package contents : See Parts List

GENERAL SAFETY RULES



WARNING

READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS. Failure to follow the warnings and instructions may result in electric shock, serious injury and/or DEATH.

Save this instruction manual for future reference.

WORK AREA SAFETY

- Assemble, adjust, and operate in a safe work environment. Keep your work area clean, well-lit and free of distractions. Place lights so you are not working in a shadow.
- Keep anyone not wearing appropriate safety equipment away from the work area.
- If working alone, always arrange to have someone check on you at pre-arranged, regular intervals.
- Do not allow children or pets in the work area, and do not allow children or pets on or near the equipment.
- Do not use in the presence of flammable gases, dust, or liquids.

PERSONAL SAFETY

- Wear Personal Protective Equipment (PPE) approved by the American National Standards Institute (ANSI) or the Canadian Standards Association (CSA).
- Always wear impact safety goggles or eye wear that provide front and side protection for the eyes. Eye protection equipment should comply with ANSI Z87.1 or CSA Z94.3-07 standards based on the type of work performed.
- Wear hearing protection with an appropriate Noise Reduction Rating to withstand increased decibel levels when working near engines.
- Control the tool, personal movement and the work environment to avoid personal injury or damage to the equipment.
- Do not operate, adjust, or perform maintenance on any part of this trailer when tired or under the influence of drugs, alcohol, or medications.
- Wear protective clothing designed for the work environment and equipment.
- Avoid wearing clothes or jewelry that can become entangled when operating or working on the trailer. Keep long hair covered and bound.
- Wear gloves that provide protection based on the work materials.
Note: Do not wear gloves when operating a tool that can snag the material and pull the hand into the tool.
- Do not overreach when using. Wear non-skid footwear to maintain proper footing and balance and to enable better control in unexpected situations.
- Keep fingers away from the pinch points around the trailer.
- The operator's ability to safely operate this off-road equipment is largely dependent upon the operator's ability to exercise proper judgment. The operator must be of sufficient age, understanding, mental capacity, and physical capability to safely operate this equipment. ALWAYS FOLLOW THE RECOMMENDED AGE RESTRICTION OF 16 YEARS FOR OPERATORS.

SPECIFIC SAFETY PRECAUTIONS



WARNING

DO NOT let comfort or familiarity with the product (gained from repeated use) replace strict adherence to the safety rules. If you use this product unsafely or incorrectly, you may suffer serious personal injury.

- Use the correct tool for the job. This equipment was designed for a specific function. Do not modify or alter this equipment or use it for an unintended purpose.

- Do not use the trailer if any parts are damage broken or misplaced. Repair or replace the parts, as necessary.
- Do not use the trailer if it appears or sounds to be operating abnormally. Seek a qualified technician to repair and verify the trailer and its components are operating correctly before using.
- Assembly, maintenance, and/or repair of the trailer and its components should only be performed by persons

of sufficient mechanical skill, experience, and judgment (such as outdoor equipment dealers, motorcycle dealer/shops, or power equipment repair shops) so that no unsafe condition or modification is made.

- Ensure the ATV or UTV power is OFF and the brakes are locked prior to hitching, loading, and unloading of the trailer to avoid unintentional movement.
- Slow down and be prepared to stop while towing.
- Loose clothing, long hair, or articles worn by an operator must be fully contained or covered to prevent being caught in any rotating parts.
- Wet, slippery, rough, or steep terrain is potentially dangerous and may result in injury if proper caution is not observed. Slow speeds are required to safely operate this trailer under these conditions. The operator must use mature judgment, skill, and experience to choose a speed suitable for terrain and riding

conditions.

- Disconnect the trailer from the ATV or UTV and chock the wheels after each use and before servicing the trailer.
- Always extend and engage the stabilizers and landing jack prior to using the crane for greater stability.
- Operators under 18 years of age must always be appropriately supervised by an adult at all times while operating this equipment.
- Operation of this trailer requires skills acquired through practice over a period of time. Take time to learn the basic techniques well before operation of the trailer and any of its components.
- Operate only on safe and familiar terrain. Avoid steep inclines, and allow for extra braking distances, especially on wet surfaces.

ASSEMBLY & INSTALLATION



WARNING

This is a complex and dangerous machine. The trailer and its components can be dangerous when assembled incorrectly. If you do not feel completely comfortable assembling it, then seek the services of a qualified technician to assemble it.

The trailer comes mostly pre-assembled, however the main pieces will need to be assembled by the user or by a competent technician. Follow these steps to ensure proper assembly.

Tools needed for assembly:

- Metric open-end/box end wrench set
- Socket driver and metric sockets
- Torque wrench up to 100 ft-lbs

- Tape Measure
- Rubber Mallet or Dead Blow Hammer

ITEMS IN PARENTHESES () REFER TO THE ITEM NUMBERS IN THE PARTS LIST.

Step 1: Open the shipping crate. Remove the straps on the shipping crate and remove the cardboard covering.

Step 2: Unpack the accessible items. With the top removed carefully remove each piece and set them aside. Place similar items together to easily find them.

Step 3: Check that the parts in the crate are correct.

Check that parts match the items in the parts list and that the quantity is correct. If any parts are missing or broken, contact Star-Asia at 1-800-386-0191 as soon as possible.

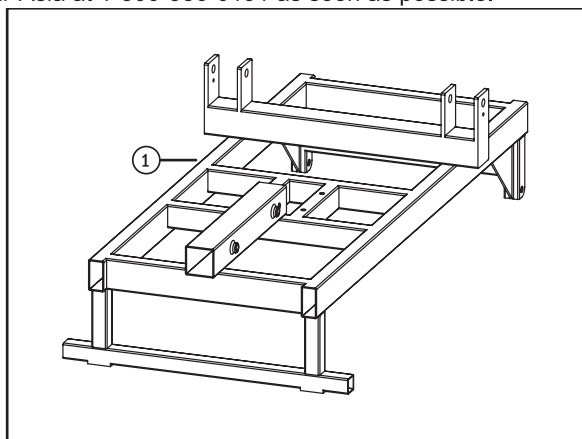


Fig. 1

Step 4: Lay out the frame parts. In a well-lit area with enough room to assemble and move the trailer around, set the Main Frame (1) onto the floor with the axle tangs facing upwards as shown in Fig. 1.

Step 5: Install the plastic plugs on the frame. By hand, insert the Plastic Plugs (2 & 3) into their respective holes, as shown in Fig. 2. Use a rubber mallet or dead blow hammer so they sit flush to the frame.

Step 6: Install the Trundle Axles and Pivot Pin. Install both Trundle Axles (16) onto the Main Frame (1) using the Axle Pivot Pin (21), and Cotter Pin (21). Secure the Pivot Pin in place by using the M8 Bolt (40), Washer (38), Lockwasher (39) and Self Locking M8 Nut.

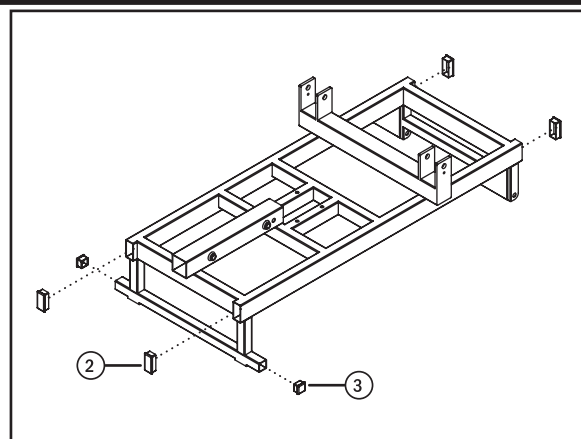


Fig. 2

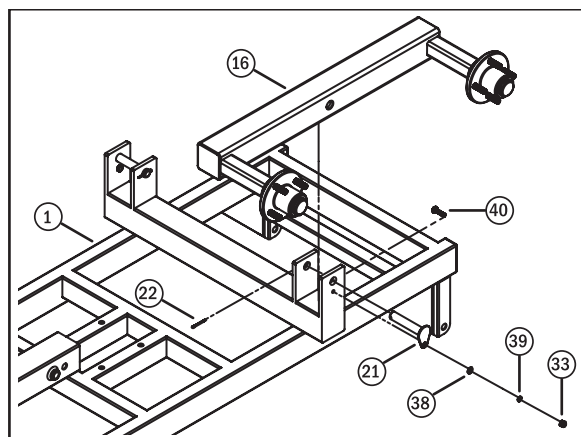


Fig. 3

Step 7: Install the Wheels onto the Trundle Axles. Install the Wheels (17 & 18) onto the Trundle Axles (16) using the Lug Nuts (29). The tires are directional, so it is important to install the wheels on the correct side. Fig. 4 shows the left side tires being installed because the frame is inverted. Use a torque wrench to tighten the Lug Nuts (29) between 75 and 80 ft-lbs (100 and 110 Nm). Repeat this for the wheels on the other Trundle Axle.

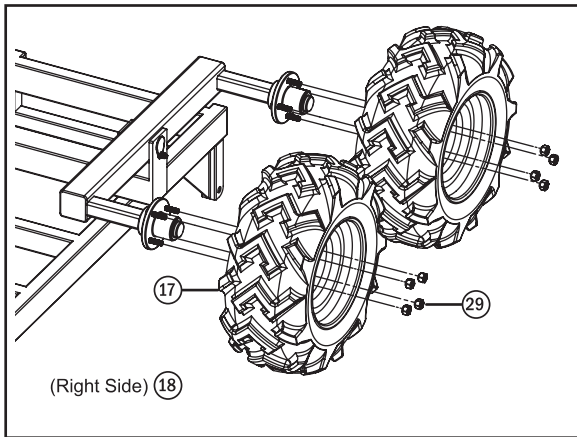


Fig. 4

**WARNING**

The trailer and its parts are heavy. It is recommended a minimum of two people are needed for unpacking, lifting, moving, and assembling. Follow proper lifting techniques at all times as recommended by the Occupational Safety and Health Administration.

**WARNING**

PINCH POINT HAZARD. When assembling, moving, and operating, keep limbs, hands, fingers, and clothing clear of all areas where it is possible be caught between moving parts or between a moving part and a stationary one.

Step 8: Turn the main frame over. With the assistance of at least one other person, carefully turn the Main Frame over so it is resting on the tires.

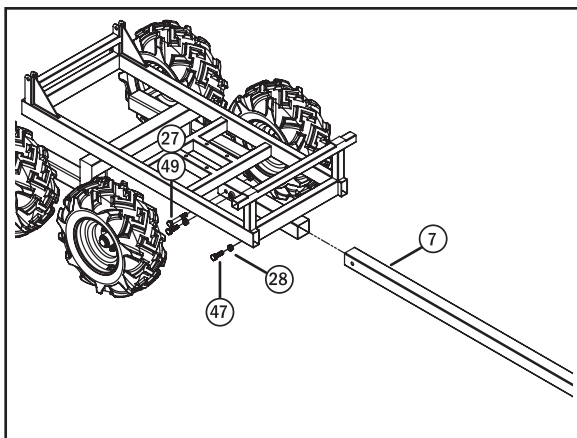


Fig. 5

Step 9: Install the Tow Bar. Insert the Tow Bar (7) into the Main Frame (1) as shown in Fig. 5. Align the hole at the end of the Tow Bar with the hole in the frame, then use the M16 Bolt (49) and M16 Locking Nut (27) to secure it in place. Use a torque wrench and tighten this bolt and nut between 125 and 135 ft-lbs (170 and 185 Nm). Place an M16 Nut (28) onto an M16 Bolt (47) and install the bolts into the two threaded holes on the Main Frame. Tighten these between 75 and 80 ft-lbs, then tighten the nuts to prevent the bolts from loosening.

Step 10: Install the Hydraulic Storage Box. Install the Hydraulic Storage Box (6) onto the Tow Bar with the lid opening facing away from the main frame. The distance from the frame to the outside of the box should be about 14-3/4 to 15 in. (375 to 380mm). Place two M12 Nuts (30) onto two M12 x 50 Bolts (46), then install the bolts into the Hydraulic Storage Box (6) as shown in Fig. 6. Use a torque wrench to tighten these between 50 to 55 ft-lbs (68 to 75 Nm).

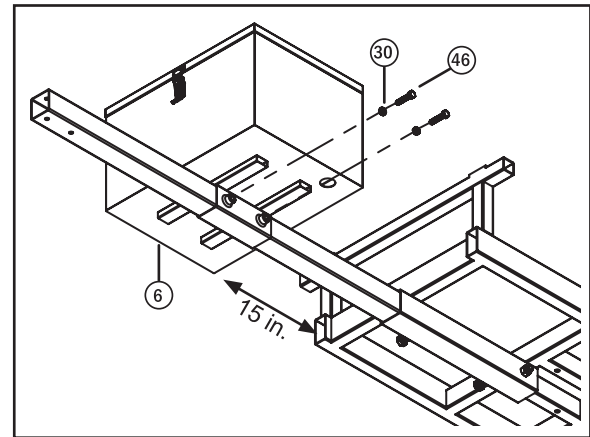


Fig. 6

Step 11: Install the Leveling Jack. Install the Leveling Jack (8) onto the Tow Bar and slide it close enough to the Hydraulic Storage Box (6) so that there is enough room to operate the crank handle on the jack. Tighten the bolt on the side (Fig. 7), then tighten the jam nut to prevent the bolt from becoming loose to secure it in place.

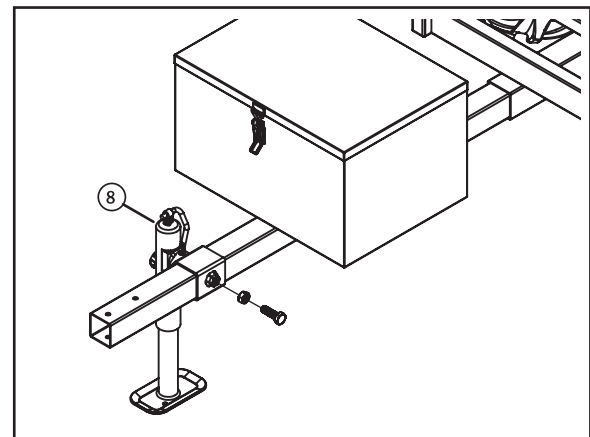


Fig. 7

Step 11: Install the Hitch Coupler. Install the Hitch Coupler Assembly (9) into the Tow Bar. Align the two holes and use the M10x90 Bolts (43), M10 Flatwashers (36), Spacers (34), M10 Lockwashers (37), and M10 Locking Nuts (31) to secure in place as shown in Fig. 8. Use a torque wrench and tighten between 30 to 35 ft-lbs (40 to 48 Nm).

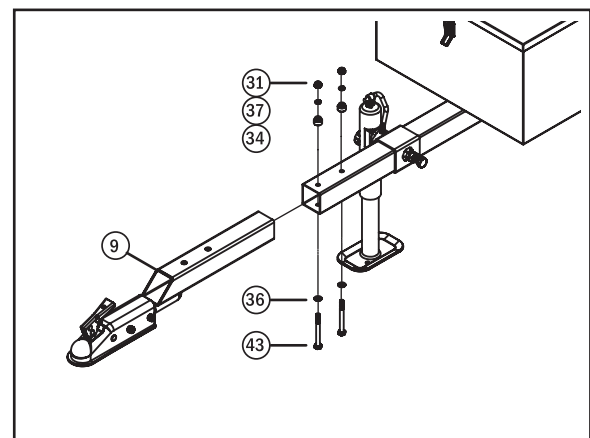


Fig. 8

Step 12: Install the Hydraulic Cylinder. Install the Hydraulic Cylinder (10) by placing it into the center bracket of the Main Frame (1) with the input port on the same side as the two metal tie down straps attached to the Main Frame. Use the two Cylinder Clamps (23)

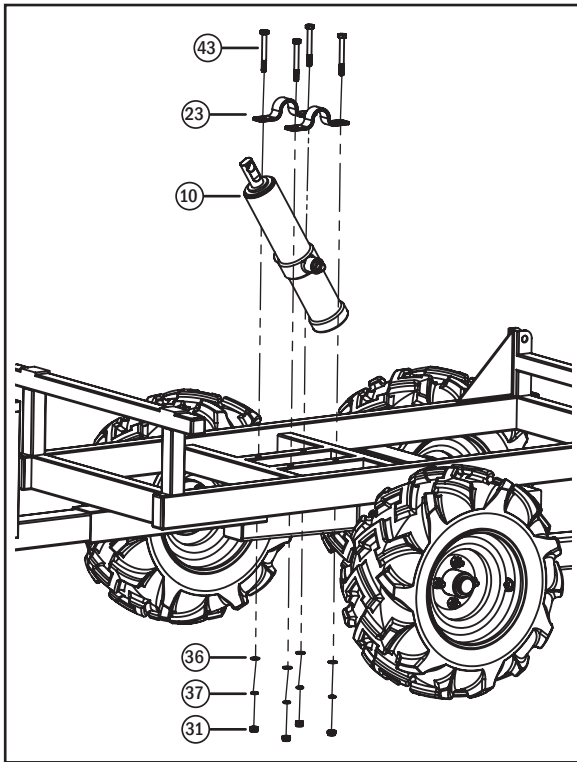


Fig. 9

to clamp it in place by using four M10x90 Bolts (43), M10 Flatwashers (36), M10 Lockwashers (37), and M10 Locking Nuts (31) to secure in place as shown in Fig. 9. Use a torque wrench and tighten between 30 to 35 ft-lbs (40 to 48 Nm).

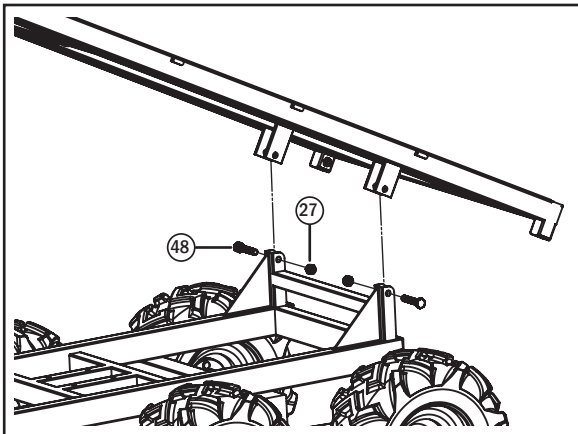


Fig. 10

Step 13: Install the Bed. With the assistance of at least one other person, carefully place the Bed (11) onto the Main Frame, aligning the rear brackets on the Main

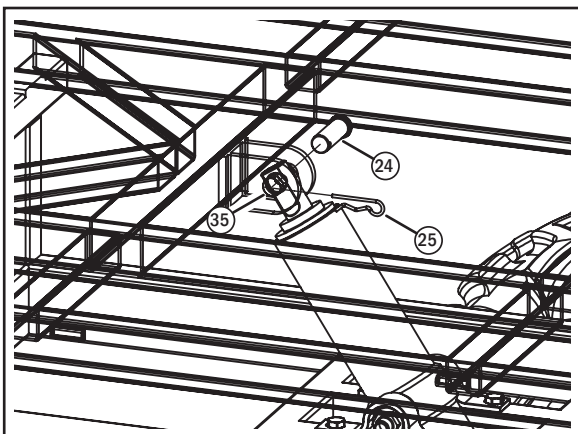


Fig. 11

Frame between the brackets on the Bed. Align the holes and insert the two M16 x 80 Bolts (48) from the outside. Use two M16 Lock Nuts (27) and tighten only so the nut touches the inner bracket. Because these bolts act as a pivot point for the bed, do not over-tighten.

Step 14: Attach the Hydraulic Cylinder. Rotate the Hydraulic Cylinder (10) so the piston hole aligns with the bracket on the bed. Insert the piston Linchpin (24) through, then place the Linchpin Washer (35) onto the pin

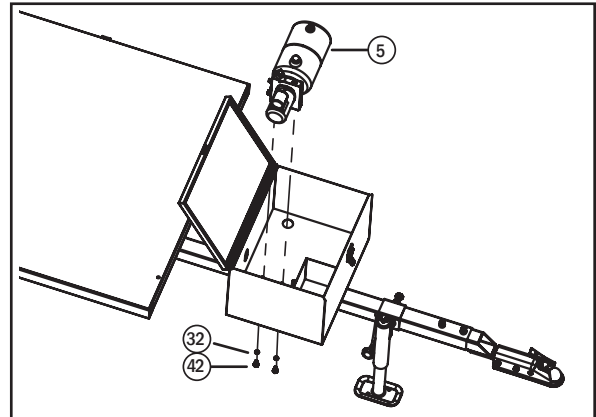


Fig. 12

and install the R-Pin (25) through the hole on the Linchpin, as shown in Fig. 11.

Step 15: Install the Hydraulic Pump. Install the Hydraulic Pump (5) into the Hydraulic Storage Box (6) with the pump located behind the battery and oil tank on the opposite side as shown in Fig. 12. Align the two holes and install the M10 x 40 Bolts (42), and M10 Nut (32), from the bottom. Use a torque wrench to tighten these between 30 to 35 ft-lbs (40 to 48 Nm).

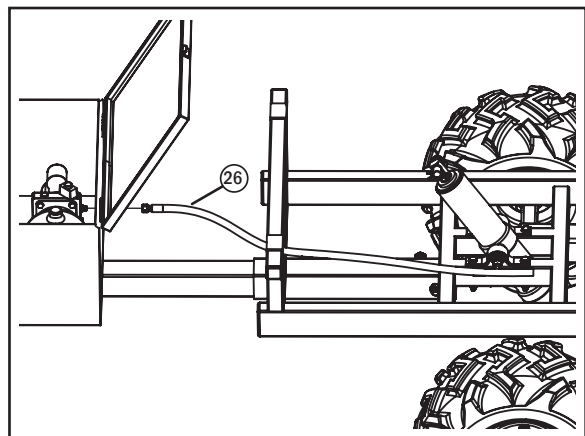


Fig. 13

Step 16: Install the Hydraulic Hose. Install the Hydraulic Hose (26) between the Hydraulic Pump (5) and Hydraulic Cylinder (10) as shown in Fig. 13. Attach the 90° fitting on the Hydraulic Hose to the input port of the Hydraulic Cylinder, then route the hose forward towards the Hydraulic Storage Box (6), passing over the two metal tie down straps on the Main Frame. Attach the straight connector on the Hydraulic Hose to the Hydraulic Pump output port. Secure the Hydraulic Hose using the two metal tie down straps mentioned earlier.

Step 17: Install the Safety Cage. Install the Safety Cage (14) onto the Bed (11) as shown in Fig. 14. Align the three holes and install the M10 x 120 Bolts (45), M10 Flatwashers (36), M10 Lockwashers (37), and Locking Nuts (31). Use a torque wrench to tighten these between 30 to 35 ft-lbs (40 to 48 Nm).

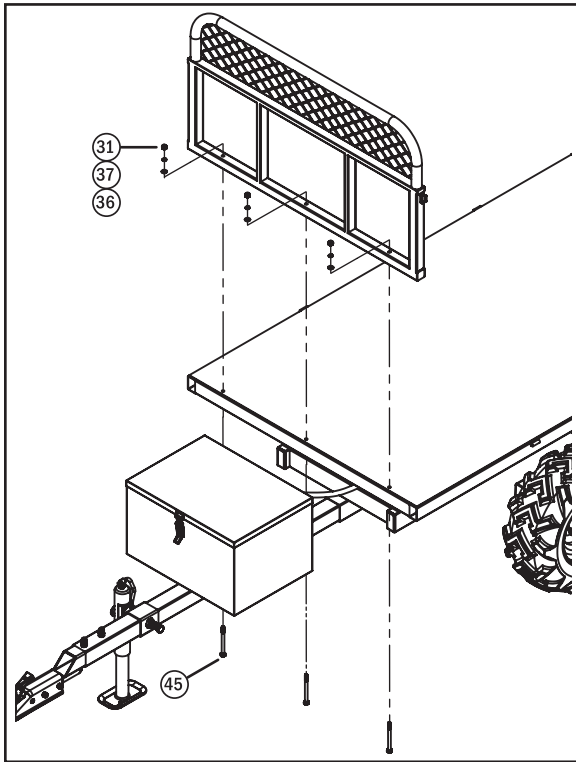


Fig. 14

Step 17: Install the Bed Stakes. Install the Left and Right Bed Stakes (12 & 13) with the latch catch on the same side as the wheels and as shown in Fig. 15. Use two M10 x 40 Bolts with two M10 Nuts (32) and install the bolts into the two threaded holes on the Bed. Tighten these Bolts enough to prevent the stakes from coming out, then tighten the nuts to prevent the bolts from loosening.

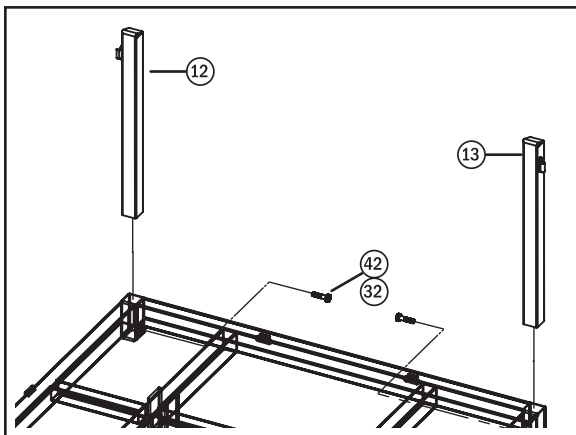


Fig. 15

Step 18: Install the Side Gates. Install the Left and Right Side Gates (19 & 20) by aligning the hinge pins on the

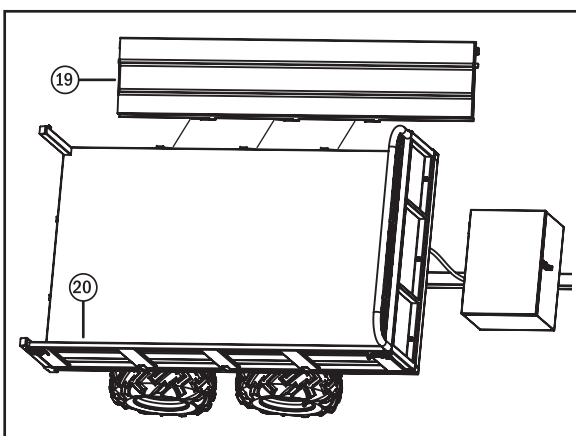


Fig. 16

gate to the corresponding hinge tubes on the Bed, as shown in Fig. 16. Latch the gate at the front, onto the Safety Cage, and at the rear, onto the Bed Stake.

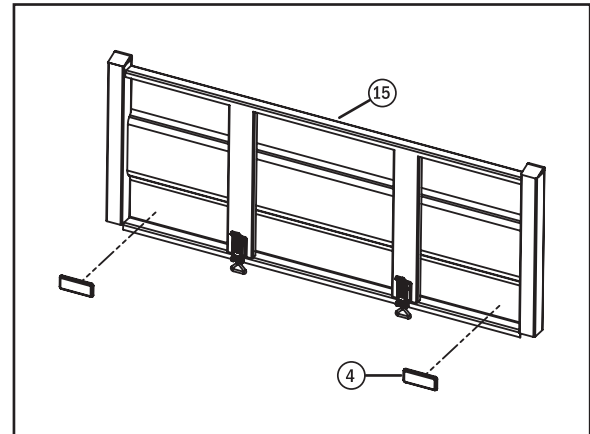


Fig. 17

Step 19: Install the Reflectors on the Tailgate. Install the reflectors on the tailgate as shown in Fig. 17, on the same side as the latches and approximately 1 in. (25 mm) from the bottom and 1 in. (25 mm) from the side bar. It's recommended to use rubbing alcohol to clean the spot where the reflector will be placed. On the back of the reflector, remove the backing on the adhesive. Place the reflector on the surface and press firmly.

Step 19: Install the Tailgate onto the Bed. Install the Tailgate (15) as shown in Fig. 18. Use the two M10 x 100 Bolts (44), with the head on the outside, and two M10 Locking Nuts (31) to attach the tailgate. Tighten only so the nut touches the inner bracket of the tailgate. Because these bolts act as a pivot point for the bed, do not over-tighten.

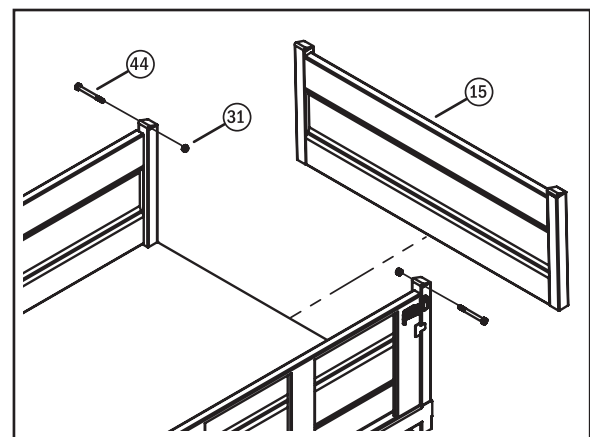


Fig. 18

OPERATION

HYDRAULIC SAFETY



MOVING OBJECT HAZARD.

Keep all people out of the path of moving equipment and objects being loaded or unloaded.

CRUSH HAZARD. NEVER allow bystanders, children, or pets to cross under or near the bed while being loaded, or dumped. NEVER

work under a bed that is supported only by the hydraulic cylinder. Use blocking, cribbing, and other mechanical devices to support the bed to guard against a falling load. Stay clear of a lifted load before it is properly supported.

- Never leave the bed in the upright position unattended. Always relieve the hydraulic pressure and ensure the bed is resting on the main frame after each use.
- Do not exceed the rated 1000 lbs (454 kg) capacity of the cylinder or any equipment in the system.
- Periodically inspect the hydraulic pump and cylinder for wear or damage. Do not use damaged or worn equipment.
- Do not modify or attempt to adjust the hydraulic system. Do not use a larger pump with a higher pressure rating when using this cylinder.
- Do not subject the cylinder to shock loads, (a load dropped suddenly on an extended cylinder). This will cause the system pressure to surge and will exceed the rated pressure, and may result in potential failure of the cylinder.
- Do not operate with a damaged hydraulic hose. Do not allow the hose to kink, twist, curl, crush, cut, or bend as to cause fluid flow within the hose to be blocked or reduced. Avoid subjecting the hose to sharp objects or heavy impact. Periodically inspect the hose for wear or damage.



SKIN INJECTION HAZARD.

Protect hands and body from high pressure fluids.

PRESSURIZED SYSTEM.

Shut off and relieve system pressure prior to maintenance.

- Carefully check the hydraulic hoses and connections are not leaking. Keep hands and other body parts clear of any leak. DO NOT attempt to stop a leak with any part of the body. **IN CASE OF ACCIDENTAL SKIN INJECTION, SEEK IMMEDIATE MEDICAL TREATMENT!**



RISK OF FIRE. Hydraulic fluid is FLAMMABLE and can be EXPLOSIVE under certain conditions, creating the potential for serious injury or death if improperly handled. Avoid exposing the hydraulic system to excessive heat and open flames.



Before operating the pump, ensure all connections have been tightened with proper tools. Do not over-tighten. Connections should only be tightened securely and leak free. Over-tightening could cause premature thread failure or high pressure fittings to burst.



THIS PUMP IS DESIGNED FOR SHORT DUTY ONLY. DO NOT OPERATE CONTINUOUSLY.

Operation of the pump should only be done for ≤ 30 seconds at a time, and allow the pump to cool after heavy use.

Operate the hydraulic pump only to advance and retract the cylinder. DO NOT continue pumping while the cylinder is fully extended. This may cause an internal build-up of pressure, causing damage to the cylinder seals.

RECOMMENDED HYDRAULIC OILS:

Hydraulic system operation is affected by the ambient

and operating temperatures of the system. Mineral based hydraulic oils are recommended. A higher viscosity oil such as SAE 20W (ISO Grade 46 or 68) is recommended in warmer climates, and a lower viscosity oil, such as SAE 10W or 15W, (ISO Grade 32) in lower temperature climates.

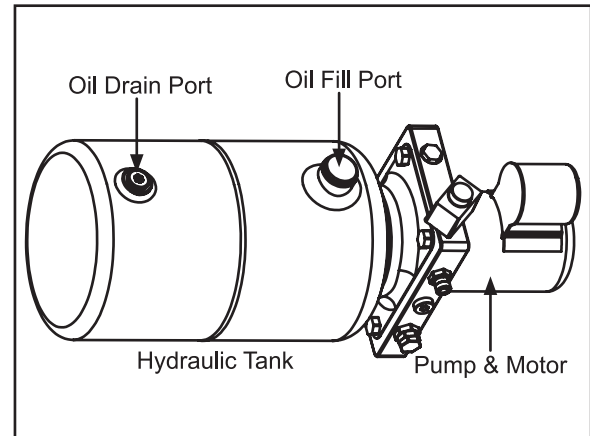


Fig. 18

FILLING THE HYDRAULIC TANK:

Fill the reservoir through the oil fill port (Fig.18) by removing the fill port cap and using a funnel to add oil. Add hydraulic oil until the level is about 1 in. (25 mm) from the bottom of the oil fill port (approx 2.65 Quarts, 2.5 Liters). DO NOT OVERFILL.

NOTICE

THE HYDRAULIC SYSTEM HAS AIR IN IT BEFORE START UP.

BECAUSE THIS SYSTEM IS A BLEEDER-LESS DESIGN, THE SYSTEM WILL NEED TO BE FULLY CYCLED SEVERAL TIMES TO CIRCULATE OIL THROUGHOUT THE SYSTEM TO REMOVE AIR FROM THE SYSTEM. THIS WILL CAUSE THE OIL LEVEL TO DROP. CHECK THAT THE HYDRAULIC OIL IS SUFFICIENT AFTER FIRST USE.

INSTALLING A BATTERY (Not Included):

The recommended battery is:

BCI Group 51, or Group 51R, 12 VDC

Battery Dimensions: 9-3/8 x 5 x 8-3/4 in. (238 x 129 x 223 mm)

The battery is installed into the battery compartment of the Hydraulic Storage Box. To install a battery:

1. Check that the battery size and voltage is correct and ensure the battery is fully charged (12.6V or higher) before installation.
2. Remove the hold-down bracket.
3. Check that the battery compartment is clean and free of debris. Clean, if necessary, then allow the compartment to dry completely.
4. Place the battery into the battery compartment with the terminals closest to the pump.
5. Align the hold-down bracket and secure the battery in place. Do not over-tighten.
6. Connect the positive red wire from the pump, to the positive (+) terminal of the battery. If desired, apply dielectric grease to prevent corrosion.
7. Connect the negative black wire from the pump, to the negative (-) terminal of the battery. If desired, apply dielectric grease to prevent corrosion.

Charging a battery (Battery Charger Not Included):

A normal functioning, fully charged battery should provide 60 to 90 minutes of operation, and will need to

be recharged periodically. A battery that is reading 12.0V or less should be removed to be charged, or optionally, charged while in the battery compartment. If charging while installed in the battery compartment, disconnection from the pump is recommended.

Bleeding the hydraulic system:

It is not necessary to bleed this system since it is designed to be a bleed-less system; however, it is necessary to fully cycle the system several times (usually 5-7 times) to circulate the air from the system. The pump is designed to be higher than the piston input port to allow the air to flow back into and vented out at the pump reservoir. Check that the main frame is level and adjust using the leveling jack, if necessary. Once the Main Frame is level, cycle the system several times.

Hydraulic system troubleshooting:

Problem	Possible Cause	Solution
Erratic Action	Air in system	Bleed air & check for leaks
	Oil viscosity too high	Change to lower viscosity oil
	Cylinder sticking	Check for dirt/debris, leaks, or misalignment
	Internal cylinder leak	Replace cylinder
Cylinder does not extend	Low oil in pump	Fill with oil & cycle system to remove air
	Air-locked pump	Fill with oil & cycle system to remove air
	Loose fittings	Check & tighten hose fittings
	Plugged/blocked hydraulic hose	Flush system & replace hose
	Pump not operating	Replace pump
	Load exceeds capacity	Reduce load
Cylinder extends partially	Low oil in pump	Fill with oil & cycle system to remove air
	Cylinder binding	Check for dirt/debris, leaks, or misalignment
Cylinder advances slower than normal	Loose/leaky fittings	Check & tighten hose fittings, or replace hose
	Plugged/blocked hydraulic hose	Flush system & replace hose
	Pump not operating correctly	Replace pump
Cylinder advances but does not maintain pressure	Loose/leaky fittings	Check & tighten hose fittings, or replace hose
	Internal cylinder leak	Replace cylinder
	Pump not operating correctly	Replace pump
Cylinder Leaks Oil	Small weep is acceptable, if excessive:	Replace cylinder
	Loose/leaky fittings	Check & tighten hose fittings, or replace hose
Cylinder will not retract or retracts slower than normal	Plugged/blocked hydraulic hose	Flush system & replace hose
	Air in system	Bleed air & check for leaks
	Cylinder binding	Check for dirt/debris, leaks, or misalignment
	Oil reservoir overfilled	Drain oil

HOOKING UP TO THE TOWING VEHICLE:

⚠ WARNING When connecting to a vehicle, **NEVER** exceed the lowest rating of any part of your towing system. Refer to your ATV or UTV manual for information about its tow rating.

- Ensure the ATV or UTV power is OFF and the brakes are locked prior to hitching, loading, and unloading of the trailer to avoid unintentional movement.
- Never use the trailer if the hitch coupler latching mechanism is not functioning correctly.
- Ensure the tires on both the ATV/UTV and trailer are in good condition and inflated to the maximum recommended air pressure.
- Secure any load using appropriate retaining hardware (such as tie down straps) to prevent the load from falling off or shifting while moving.
- Always fully retract the Leveling Jack and pin in the horizontal position before towing.
- Use a hitch with a 2 in. (50.8 mm) Hitch Ball that exceeds the trailer haul rating.
- Ensure the tow bar is level. Do not exceed a height differential with the tow bar greater than +/-5°. If it exceeds this amount, then use an adjustable height hitch ball mount or adjust the base plate height so the tow bar is level.
- Place a lock into the locking mechanism on the coupler and lock it to ensure the ball coupler and ball hitch does not come apart.
- Connect a safety chain (if desired) to the vehicle by passing the chains underneath and crossing below the coupler, then securely attaching to the towing vehicle. The chain should not be too loose, and should allow enough slack to permit turning.
- The trailer is NOT configured for use on public roadways and is intended for off-road use ONLY. Consult with your federal and state transportation departments regarding trailer safety regulations. State and provincial laws require a trailer to have working tail lights and turn signals

WHEN TOWING:

⚠ WARNING Towing the trailer is dangerous and may result in serious injury or property damage. Follow these rules when towing:

- DO NOT use the trailer to transport animals or people.
- DO NOT exceed the trailer's maximum load rating of 1584 lbs (720 kg).
- Plan the route before towing. Be aware of any potential hazards.
- SLOW DOWN. A towed trailer that sways or seems unstable is dangerous. DO NOT continue towing if instability continues. Gradually slow down, move to a safe location, and inspect all connections. A towed trailer that is stable at slow speed may not be stable at high speed. Stability decreases when going down hill.
- Installation must be in accordance with the instructions detailed herein.
- Check that the leveling jack has been fully retracted and securely placed in the stowed position, and ensure any wheel chocks or blocking have been removed.
- Do not allow passengers to ride on the trailer.
- Allow for an increased stopping distance due to the added tow weight.
- Allow for an increased turning radius when turning.
- Minimize backing up with a trailer in tow.
- Adjust the coupler for proper fit to the ball and check all

connections before and often during each trip.

- Wet, slippery, rough, or steep terrain is potentially dangerous and may result in injury if proper caution is not observed. Slow speeds are required to safely operate this trailer under these conditions. The operator must use mature judgment, skill, and experience to choose a speed suitable for terrain and riding conditions.
- Disconnect the trailer from the ATV or UTV and chock the wheels after each use and before servicing the trailer.
- Operators under 18 years of age must be appropriately supervised by an adult at all times while operating this equipment.
- Operation of this trailer requires skills acquired through practice over a period of time. Take time to learn the basic techniques well before operation of the trailer and any of its components.
- Operate only on safe and familiar terrain. Avoid steep inclines, and allow for extra braking distances, especially on wet surfaces.
- **ALWAYS check the height of any objects that the trailer will pass under before attempting to drive**

LOADING THE TRAILER:



CRUSH HAZARD. NEVER allow bystanders, children, or pets to cross under or near an object being loaded. **NEVER LIFT A LOAD OVER A PERSON.**

- Chock the wheels on the trailer.

Ensure the ATV or UTV power is OFF and the brakes are locked prior loading.

- Extend the leveling jack when loading to provide additional support.

- Check to ensure the bed has been fully lowered and is resting on the Main Frame.
- Check that the trailer is steady and will not move when being loaded.
- If loading from the side, open and remove the gate on that side. If loading from the rear, remove the tailgate and leave the bed stakes to provide support for the side gates.
- Ensure any load placed in the bed is balanced and as close to the center as possible.
- Tie down and secure any load that may shift during movement to prevent the trailer from tipping.

TIPPING THE TRAILER:

- Always ensure there is proper lighting and clear visibility near and around the trailer.
- Always wear appropriate PPE such as steel-toe footwear, safety glasses, and gloves.
- Stand clear of the load that is being tipped, and ensure all bystanders, children, or pets are clear. Be prepared to move out of the way of any object that may shift, fall, or roll unexpectedly.
- Ensure there are no overhead obstacles that will prevent or interfere with the bed if it is tipped.
- Tip the bed only on level ground. Do not tip the bed if the trailer is on a sloped surface.
- Use a spotter when backing the trailer to the spot where the bed will be tipped.
- Chock the wheels on the trailer. Ensure the ATV or UTV power is OFF and the brakes are locked prior to tipping.
- Remove the tailgate if the load is higher than the middle of the tailgate.

CARE & MAINTENANCE

To keep your machine looking optimal and running smoothly for many years, proper periodic maintenance is recommended.



Only qualified service personnel should repair this equipment. An improperly repaired device may present a hazard to the user and/or others.

- NEVER work under a bed that is supported only by the hydraulic cylinder. Use blocking, cribbing, and other mechanical devices to support the bed to guard against a falling load. Stay clear of a lifted load before it is properly supported.
- Maintain the trailer and hydraulic system with care. A machine in good condition is efficient, easier to control and will have fewer problems.
- Inspect the trailer and hydraulic components periodically, at least every six-months and prior to each use. Repair or replace damaged or worn components. Use only identical replacement parts when servicing.
- Keep the surfaces clean, dry and free from oil/grease at all times.
- Maintain the machine's labels and name plates. These carry important information. If unreadable or missing, contact Star-Asia LLC for replacements.
- Have a qualified technician inspect the engine and hydraulic system:
 - a. At least once a year,.
 - b. after receiving a shock load, or
 - c. if the system is performing abnormally or making abnormal sounds.

RUST AND CORROSION:

Although the trailer has been treated to help eliminate rust and corrosion, it may be necessary to protect the trailer from the elements by parking it under a tin roof or carport to help prevent weathering from rain and snow. It is recommended to apply car wax to painted surfaces at least once a year. Use a rust inhibiting paint in areas where the color coating may have chipped or become deeply scratched.

Apply a coat of lithium grease on all exposed threads, adjustment bolts, and inside nuts or threaded holes that are not being used.

Use a tarp to cover the machine when stored for an extended period.

GREASE ALL PIVOT JOINTS AT LEAST ONCE PER YEAR.

Apply a high quality EP, or molybdenum EP grease. Wipe away any excess grease to prevent dust or dirt from collecting on the joint.

BEFORE EACH USE:

- Check that the tires are properly inflated.
- Check fasteners have not become loose. On fasteners that have lock nuts, be sure to back off the lock nut, check the fastener, then tighten the lock nut to prevent the fastener from backing off.



SKIN INJECTION HAZARD.

Protect hands and body from high pressure fluids.

PRESSURIZED SYSTEM.

Shut off and relieve system pressure prior to maintenance.

- Carefully check the hydraulic hoses and connections are not leaking. Keep hands and other body parts clear of any leak. DO NOT attempt to stop a leak with any part of the body. ***IN CASE OF ACCIDENTAL SKIN INJECTION, SEEK IMMEDIATE MEDICAL TREATMENT!***
 - Make sure there is adequate lighting to perform work.
 - Check that there is oil in the hydraulic system. Add or fill, as necessary.
 - Check that there is nothing obstructing movement of the operator or for things that may hinder operation or cause a hazardous situation.
 - Clear all bystanders and pets from the work area.
 - Ensure operator and others in the work area are wearing the proper Personal Protective Equipment.
- AFTER EACH USE:**
- Ensure the Bed is in the lowest position (resting on the Main Frame).
 - Turn the Engine control switch to the OFF position.
 - Clean the machine and around it. Use a horsehair bench brush to brush debris off the machine.
 - To prevent others from starting the machine, consider unplugging the spark plug.
 - Cover the machine to protect it from the elements.

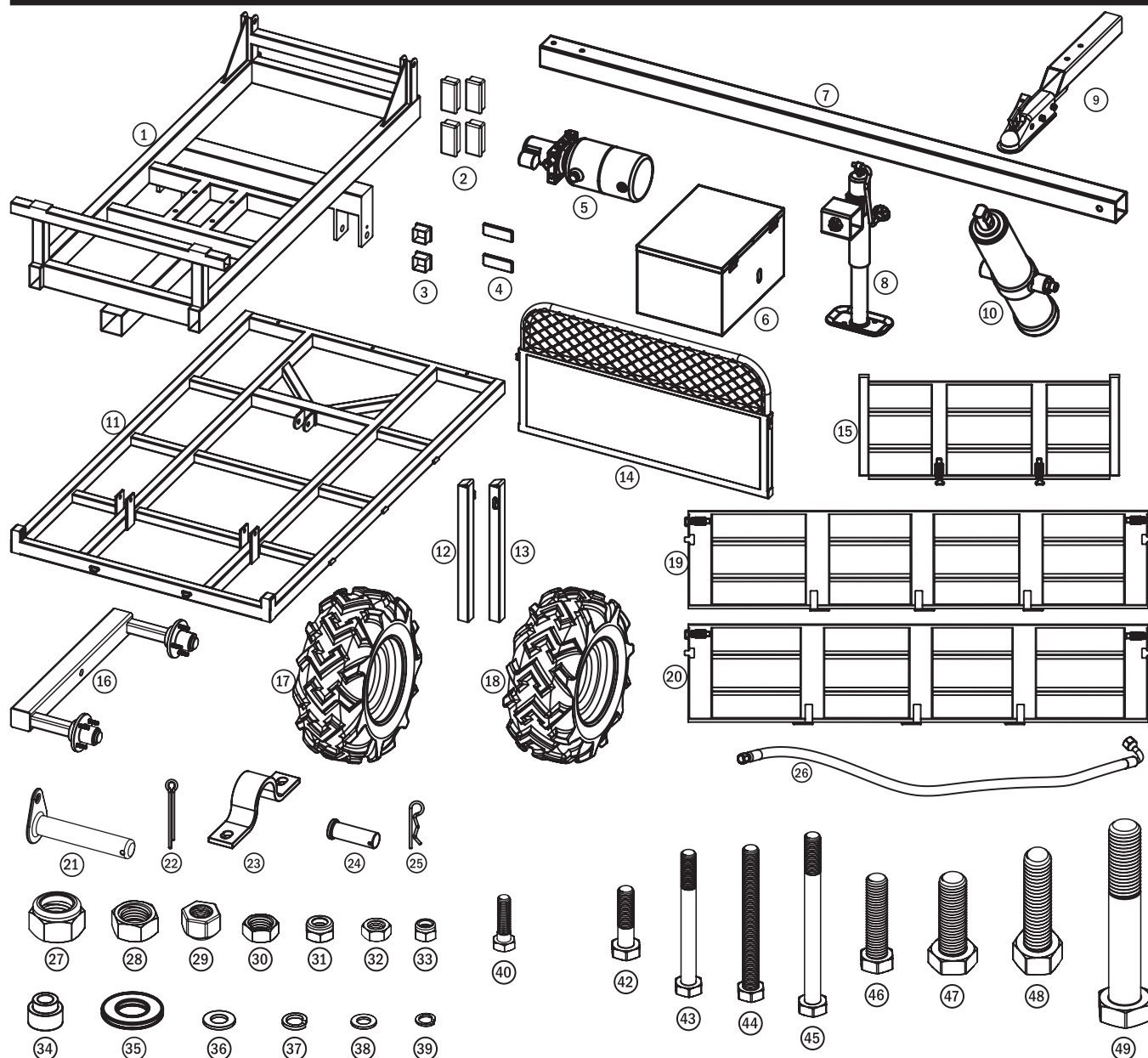
DISPOSAL

Recycle a trailer damaged beyond repair at the appropriate facility.

Contact your local municipality for a list of disposal facilities or by-laws for electronic devices, batteries, oil or other toxic liquids.

IMPORTANT! DO NOT pollute the environment by allowing uncontrolled discharge of waste oil.

PARTS LIST



Item	Description	Qty
1	Main Frame	1
2	End Cap, Plastic	4
3	End Cap, Plastic Small	2
4	Reflector	2
5	Hyd. Pump, 12V w/ Controller	1
6	Hydraulic Storage Box	1
7	Tow Bar	1
8	Landing Jack Assy.	1
9	Hitch Coupler Assy., Swivel	1
10	Hydraulic Cylinder Assy	1
11	Bed	1
12	Bed Stake, Left	1
13	Bed Stake, Right	1
14	Safety Guard	1
15	Tail Gate	1

Item	Description	Qty
16	Axle, Tandem	2
17	Wheel & Tire, Left	2
18	Wheel & Tire, Right	2
19	Side Gate, Left	1
20	Side Gate, Right	1
21	Pivot Pin, Axle	2
22	Cotter Pin, 5x50	2
23	Bracket, Hyd. Cyl. Clamp	2
24	Linchpin, Hyd. Cyl.	1
25	R-Pin	1
26	Hydraulic Hose	1
27	Nut, Self Locking M16	3
28	Nut, Hex M16	2
29	Nut, Wheel Lug 12mm	16
30	Nut, Hex M12	2
31	Nut, Self Locking M10	11
32	Nut, Hex M10	4

Item	Description	Qty
33	Nut, Self Locking M8	2
34	Spacer, Coupler Fastener	2
35	Washer, Linchpin	1
36	Washer, Flat M10	9
37	Lockwasher, M10	9
38	Washer, Flat M8	2
39	Lockwasher, M8	2
40	Bolt, Hex Hd. M8 x 30	2
42	Bolt, Hex Hd. M10 x 40	4
43	Bolt, Hex Hd. M10 x 90	6
44	Bolt, Hex Hd. M10 x 100	2
45	Bolt, Hex Hd. M10 x 120	3
46	Bolt, Hex Hd. M12 x 50	2
47	Bolt, Hex Hd. M16 x 50	2
48	Bolt, Hex Hd. M16 x 80	2
49	Bolt, Hex Hd. M16 x 100	1



90 DAY LIMITED WARRANTY

Star Asia-USA, LLC (hereinafter "seller") warrants to the original purchaser only, that this product will be free from defects in material or workmanship for a period of 90 days from date of purchase for home domestic use.

Warranty Performance

Warranty coverage is conditioned upon purchaser furnishing seller or its authorized service center with adequate written proof of the original purchase date. Products returned, freight prepaid and insured, to our factory or to an Authorized Service Center will be inspected and repaired or replaced, at seller's option, free of charge if found to be defective and subject to warranty. Defective parts not subject to normal wear and tear will be repaired or replaced, at our option during the above stated warranty periods. In any event, reimbursement is limited to the purchase price paid. Other than the postage and insurance requirement, no charge will be made for repairs or replacements covered by this warranty. Under no circumstances shall the manufacturer bear any responsibility for loss of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages, There are no warranties which extend beyond the description of the face hereof.

Exclusions

This warranty does not cover parts damaged due to normal wear, abnormal conditions, misapplication, misuse, abuse, accidents, operation at other than recommended pressures or temperatures, improper storage of freight damage. Parts damaged or worn by operation in dusty environments are not warranted. Failure to follow recommended operating and maintenance procedures also voids warranty. Additional items not covered under warranty: product failure caused by rain, excessive humidity, corrosive environments or other contaminants; cosmetic defects that do not interfere with product's functionality. This warranty shall not apply when: the product has been used for commercial or rental purposes; defects in materials or workmanship or damages result from repairs or alterations which have been made or attempted by others or the unauthorized use of nonconforming parts; this damage is due to abuse, improper maintenance, neglect or accident; or the damage is due to use of the product after partial failure or use with improper accessories. Warranty does not apply to accessory items. Seller will not be liable for: labor charges, loss or damage resulting from improper operation, maintenance or repairs made by persons other than a Star Asia-USA, LLC Authorized Service Center. The use of other than genuine Star Asia-USA, LLC repair parts will void warranty.

Warranty Disclaimers

NO WARRANTY, ORAL OR WRITTEN, OTHER THAN THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS PRODUCT, ANY IMPLIED WARRANTIES OF SELLER REGARDING THIS PRODUCT INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. BUYER'S OR USER'S REMEDIES ARE SOLELY AND EXCLUSIVELY AS STATED ABOVE. STAR ASIA-USA, LLC SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES. IN NO EVENT, WHETHER AS A RESULT OF A BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL SELLER'S LIABILITY EXCEED THE PRICE OF THE PRODUCT WHICH HAS GIVEN RISE TO THE CLAIM OR LIABILITY. ANY LIABILITY CONNECTED WITH THE USE OF THIS PRODUCT SHALL TERMINATE UPON THE EXPIRATION OF THE WARRANTY PERIODS SPECIFIED ABOVE.

Limitations on Warranty Disclaimers

Any implied warranties shall be limited in duration to 90 days from the date of purchase. In some states of the U.S.A. and in some provinces of Canada there is no limitation for how long an implied warranty is valid, so the aforementioned limitation may not apply to you. In no event shall a seller be liable for any incidental or consequential damages (including but not limited to liability for loss of profits) arising from the sale or use of this product. In some states of the U.S.A. and in some provinces of Canada the exclusion or limitation of incidental or consequential damages is not allowed, so that aforementioned limitation or exclusion may not apply to you.

This Limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state in the U.S.A., Canada and the Commonwealth of Puerto Rico. For warranty coverage within other countries, contact your local star Asia-USA, LLC dealer or importer.

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