

MAINTENANCE PROCEDURES FOR LANDING GEAR

IMPORTANT: All steps in this document must be performed at least every 3 months.

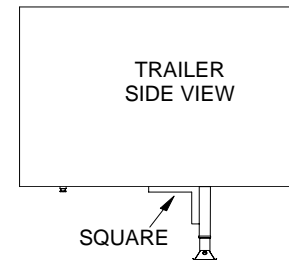
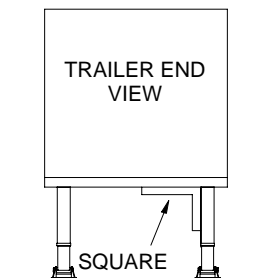
STEP 1: INSPECT LEGS AND MOUNTINGS:

Inspection		Possible Causes
	Cross shaft connection bolts and lock nuts must be secure, but allow side-to-side play in the cross shaft.	<ol style="list-style-type: none"> 1. Cross shaft bolt too tight 2. Incorrect cross shaft length
	Tighten or replace bolts as necessary.	<ol style="list-style-type: none"> 1. Bolts not tightened to proper torque 2. Improper coupling procedures
	Inspect the mounting bracket for cracks or other signs of damage.	<ol style="list-style-type: none"> 1. Overloading 2. Improper coupling techniques
	Repair or replace any broken or damaged parts of the landing gear assembly.	<ol style="list-style-type: none"> 1. Legs not fully retracted 2. Overloading
	Extend the legs and, using a straightedge, inspect for bent lower leg and damaged footwear.	<ol style="list-style-type: none"> 1. Legs not fully retracted when moving trailer 2. Improper ground clearance 3. Improper coupling procedures
	Check for interference between powder metal bushing and trailer mounting surface.	Holes too small or in incorrect location on mounting
	Inspect the crank handle bolt and lock nut. Tighten or replace as necessary.	Crank handle bolt too tight (the crank handle bolt must be loose enough to allow free engagement)
	Check for proper crank shaft shifting in both high and low gear.	

Important: Landing gear with excessive play should be rebuilt or replaced.

STEP 2: INSPECT ALIGNMENT:

Inspection		Possible Causes
	Using a square, check that both legs are square to the trailer and parallel with each other as shown.	<ol style="list-style-type: none"> 1. Improper installation 2. Loose bracing bolts 3. Improper coupling techniques



STEP 3: INSPECT FOR PROPER OPERATION:

Action	Inspection (Look for the following damage indicators:	Possible Causes
1. Shift to high gear 2. Extend leg to the ground 3. Inspect for smooth operation	Lower leg wobbling or twisting.	1. Bent leg 2. Bent lift screw
	Lower leg makes a sudden drop (hopping).	Damage to lift screw threads
	Inconsistent torque at different positions the crank handle throughout the travel.	Bent screw
	Without load in <u>high gear</u> the torque should not exceed 9 ft-lbs (approx. 7 ½ lbs at the crank handle).	Damage to lift screw or lift nut.
4. Position leg approx. 1" from the ground. 5. Place a pry-bar under the foot. 6. Move the leg up and down.	The vertical leg movement should not exceed 3/16".	Damage to lift screw threads
7. Extend leg to the ground 8. Shift to low gear 9. Crank an additional 8 to 10 turns	With an empty trailer in <u>low gear</u> the torque should not exceed 22 ft-lbs (approx. 19 lbs at the crank handle).	

If any of the above indicators are present the landing gear should be disassembled and inspected for actual wear and/or damage. Replace as required.

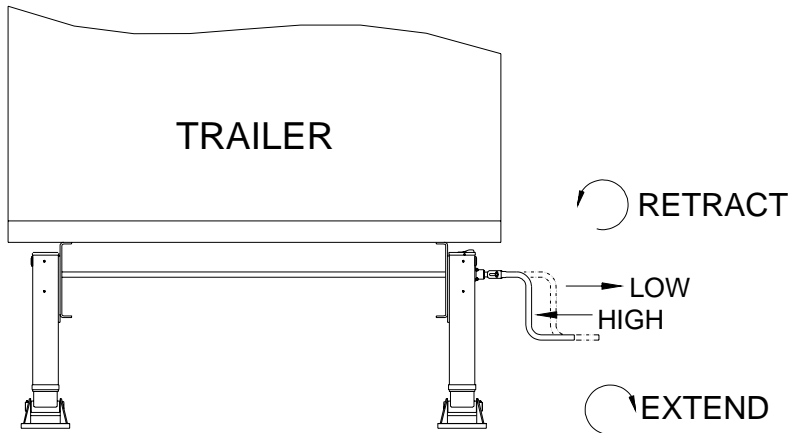


FIGURE 1

- Push crank handle **in** for **high** gear.
- Pull crank handle **out** for **low** gear.
- Turn crank:
Counterclockwise - Retract
Clockwise - Extend

Note: Both inside and outside mounts crank the same.



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STEP 4: INSPECT FOR CORROSION:

Vehicle components are getting over exposed to road salts due to the very corrosive melting agents being used on the roads.

Action:

1. Remove the cross shaft
2. Turn each leg by hand to find out if one or both legs are exhibiting the problem.
3. Determine the best solution by using the chart below.

Inspection (Corrosion indicators):	Suggested Solution
If torque is 9 ft-lbs or less	Re-lubricate as described in Step 5
1. If torque is between 10-20 ft-lbs 2. The grease is NOT rusty brown	1. Remove the leg cover 2. Push the grease away from the screw 3. Pour 2-3 oz of 90-180 weight gear lube as close to the screw as possible 4. Let the leg stand over night 5. Run the legs up and down to break any rust loose 6. Re-lubricate as outlined in Step 5
1. If torque is between 10-20 ft-lbs 2. The grease IS rusty brown	1. Remove the leg cover 2. Push the grease away from the screw 3. Pour 2-3 oz of 10W30 motor oil as close to the screw as possible 4. Let the leg stand over night 5. Run the legs up and down to break any rust loose 6. Re-lubricate as outlined in Step 5
If the Leg is completely seized	1. Remove the bottom "drive fit" grease fitting by clamping w/vise grip pliers and moving up and down and side-to-side while pulling 2. Spray Kroil or PB Blaster penetrating oil into the grease fitting hole. Direct the spray toward the screw for 30 seconds 3. Let the leg stand over night 4. Put the landing gear in low gear and extend and retract the legs to break them free 5. Re-lubricate as outlined in Step 5



STEP 5: LUBRICATE:

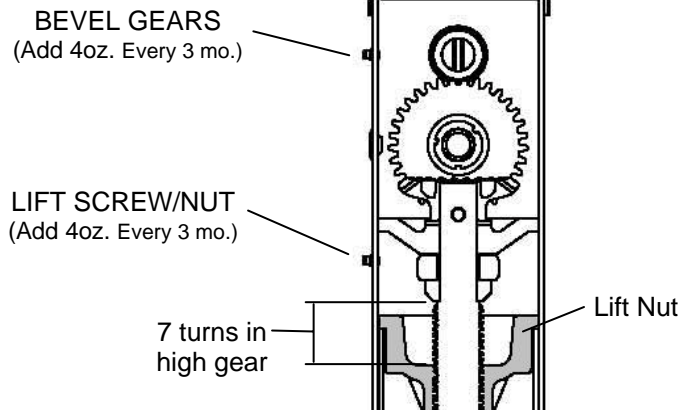
The only solution for corrosion problems is regular re-lubing of the legs in both the gearbox (upper grease zerk) and the screw/nut cavity (lower grease zerk). This action will place a fresh coat of grease on all the surfaces protecting them from rust.

- a) Lubricate at least every 3 months and more frequently in applications where the landing gear are exposed to excessive moisture, water spray, dust, or if they are not used for extended periods.
- b) Lubricate with the trailer securely coupled to a tractor (see coupling instructions Jost publication LT LG400-01).
- c) Employ a lubricant compatible with the original type of grease used:

Standard – Lithium base 1-2% Moly EP-2
Low temperature – Arctic-grade, all weather white grease

Warning: Do not use any lubricants containing Teflon

Lubrication Instructions:	
	Fully retract the landing gear, then using high gear extend 7 turns.
	Lubricate through the grease fittings as shown. At least 4oz. at each fitting.
	Extend and retract the landing gear to apply grease to the entire length of the screw.



TROUBLE-SHOOTING POINTS

Problem	Cause	Correction
Hard to crank landing gear	<ol style="list-style-type: none"> 1. Turning crank in wrong direction. 2. Attempting to raise or lower trailer in high gear. 3. Legs are already fully extended or retracted. 4. Cross shaft binding: <ul style="list-style-type: none"> - over-tightened bolts. - cross shaft bent or too long. 5. Mis-aligned landing gear legs. 6. Lack of grease. 7. Damaged lift screw or lift nut. 8. Interference between powder metal bushing and trailer mounting surface. 	<ol style="list-style-type: none"> 1. See below for proper crank handle rotation. 2. Shift to low gear (see figure 1). DO NOT ATTEMPT TO LIFT OR LOWER IN HIGH GEAR. 3. Turn crank in opposite direction to retract or extend. 4. Inspect cross shaft bolts. Back off bolts to allow lateral (side-to-side) movement of cross shaft. Use self-locking type nuts only. 5. Legs must be parallel and extend and retract evenly. Remove cross shaft; adjust landing gear legs to same height. 6. Grease landing gear as directed above (Maintenance Procedures). 7. Check landing gear for signs of impact (accident) damage. Disconnect cross shaft and crank legs individually to determine which leg is damaged. Replace damaged leg. 8. Hole in trailer mounting surface may need to be enlarged.
Shaft turns but legs do not operate	<ol style="list-style-type: none"> 1. Broken shaft or shaft bolt. 2. Broken pinion gear or bevel gear or gear pins. 	<ol style="list-style-type: none"> 1. Replace broken bolt(s) and shaft as needed. 2. Replace broken gear(s) or pin.
Shaft does not turn	<ol style="list-style-type: none"> 1. Broken gear teeth. 2. Damaged lift screw. 3. Seized lift screw or nut 4. Bent inner or outer leg tube. 	<ol style="list-style-type: none"> 1. Replace broken gear(s). 2. Replace inner leg or entire landing gear leg. 3. Replace inner leg or entire landing gear leg. 4. Replace bent inner leg or outer leg, or entire landing gear leg.
Crank shaft skips when cranking	<ol style="list-style-type: none"> 1. Broken gear teeth. 	<ol style="list-style-type: none"> 1. Replace broken gear(s).