

Instructions for Pneumatic Tank Lifter



I.L. 33-252-TL-1D

DESCRIPTION

The pneumatic tank lifter is an efficient and economical compressed air operated lifter designed to raise and lower frame-mounted breaker tanks. It replaces the old windlass type tank lifter.

The lifter consists of two air cylinders and an air hose control assembly. The air cylinder is a self-contained unit of cylinder, piston, and piston rod. The air hose control assembly consists of two control valves, one to raise the breaker tank and one to lower it, and three hose connections to connect from the air reservoir through the control valves to the two air cylinders.

The lifter operates on compressed air obtained from the mechanism air reservoir and this air forces the cylinder away from the piston which in turn raises the breaker tank. The tank is lowered by exhausting the air from the lifter by closing the "Up" control valve and opening the "Down" control valve. The operator can halt the tank in any position to check clearance to frame angles, or to guide the tank into the tank top groove, or to block the tank above the foundation, by stopping the air flow when closing both, the "Up" and the "Down" control valves.

When the pneumatic tank lifter is used on the 144G1500 - 3000/4000A., 345G1500/2500 - 2000A., 345G2500 - 3000A., and 460G2500/3000 - 1200/2000A., breakers, the breaker tank must be blocked about 9 inches above the foundation because the cylinder piston rod is not long enough to lower these tanks. See Sketch B for assembly of the piston rod extension which will permit lowering of the tank from the blocking to the foundation.

USE OF TANK LIFTER

1. Before the cylinders are used, the following steps should be taken:

(a) Remove cylinders from carrying case. Open the sampling valve, see Sketch C, in the cylinder attachments to prevent entrapment of air on the piston.

(b) Pour about 1 ounce of thin lubricating oil, such as Wynn's Friction-Proof Oil, through the screen at the bottom of each cylinder.

(c) Work piston rod back and forth by hand over entire length of stroke to work oil onto cylinder walls.

2. Pull the piston rod out to its full travel. See Sketch C. Assemble two of the special washers provided with the lifter onto each piston rod. Attach the two air cylinders to the breaker tank through the special lifting lugs provided on each side of the tank. Assemble each rubber bushing in each tank flange as shown on Sketch C. Push piston rod through the tank lug, rubber bushing, and tank top mounting hole and assemble special washer and nut on the rod as shown on Sketch C. Rotate air cylinders as mounted to obtain maximum clearance and best alignment.

3. Close the Sampling Valves.

4. Connect air hose; assemble long hose to drain valve on air compressor reservoir (remove plastic drain hose first), and the other two hoses, one each to the air cylinders, as shown on Sketch A. The hose should snap into place to lock and should be checked by a tug on each hose. To release hose, turn knurled ring on Hevi-Duty check unit to the right.

TO LOWER TANK

1. Make certain sampling valves are closed.

2. Check air compressor unit to assure minimum pressure of 100 PSIG. Open "Raise" control valve to build up pressure in cylinder.

3. Loosen all tank supporting nuts to have a gap of approximately .5 inch between the nuts and the breaker tank brackets. Be certain the nuts are still full threaded on the studs.

4. Lower the pressure in the tank lifters by opening the "Down" control valve. It may be necessary to apply a side force at the tank bottom to overcome the seal between the breaker tank and the gasket. The nuts will prevent a rapid descent of the breaker tank after the seal is broken.

5. Repressurize the tank lifter by closing the "Down" control valve and opening the "Raise" control valve to lift the breaker tank from the nuts. The tank supporting nuts may now be removed.

6. Open the "Down" control valve to lower the breaker tank. Be certain there is clearance between the breaker tank and the frame. Make sure the tank lifter sampling valves (Sketch C) clear the breaker frame and the air hoses remain free.

CAUTION: As the breaker tank is descending avoid getting caught between the tank and frame or severe injury could result. Do not attempt to work on the breaker with the tank lifters not fully exhausted. Keep the "Down" valve completely open.

TO RAISE TANK

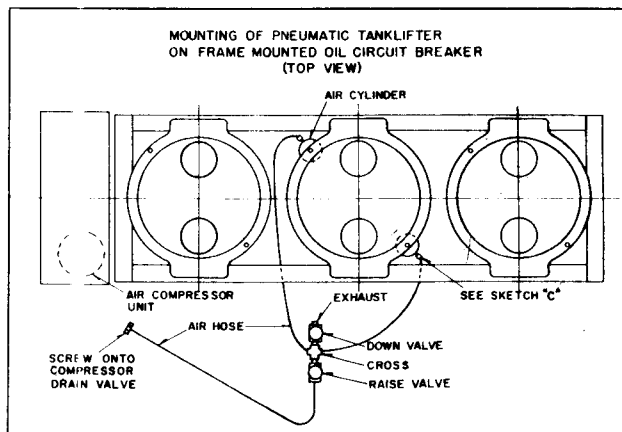
1. Assemble tank lifter as per preceding instructions.
2. Close sampling valves.
3. Close "Down" control valve.
4. Open "Raise" control valve to lift breaker tank about one foot above foundation or blocking. Check alignment of lifter piston rods making certain the tank lifters are directly under the breaker top.
5. Open "Raise" valve to lift the breaker tank slowly making certain the breaker tank clears the frame. Be sure the tank lifter sampling valves are clear and the air hoses free.
6. Keep the "Raise" valve open until the breaker tank is seated properly in the groove and support nuts are torqued to the proper tightness.

7. Close air reservoir drain valve. Open the "Down" control valve and the sampling valves to exhaust the air from the hoses and tank lifter cylinders.

8. Remove the cylinders and hose assembly. Close all valves. Place cylinders in carrying case and hose assembly in carton. Store in a dry place.

CARE AND MAINTENANCE

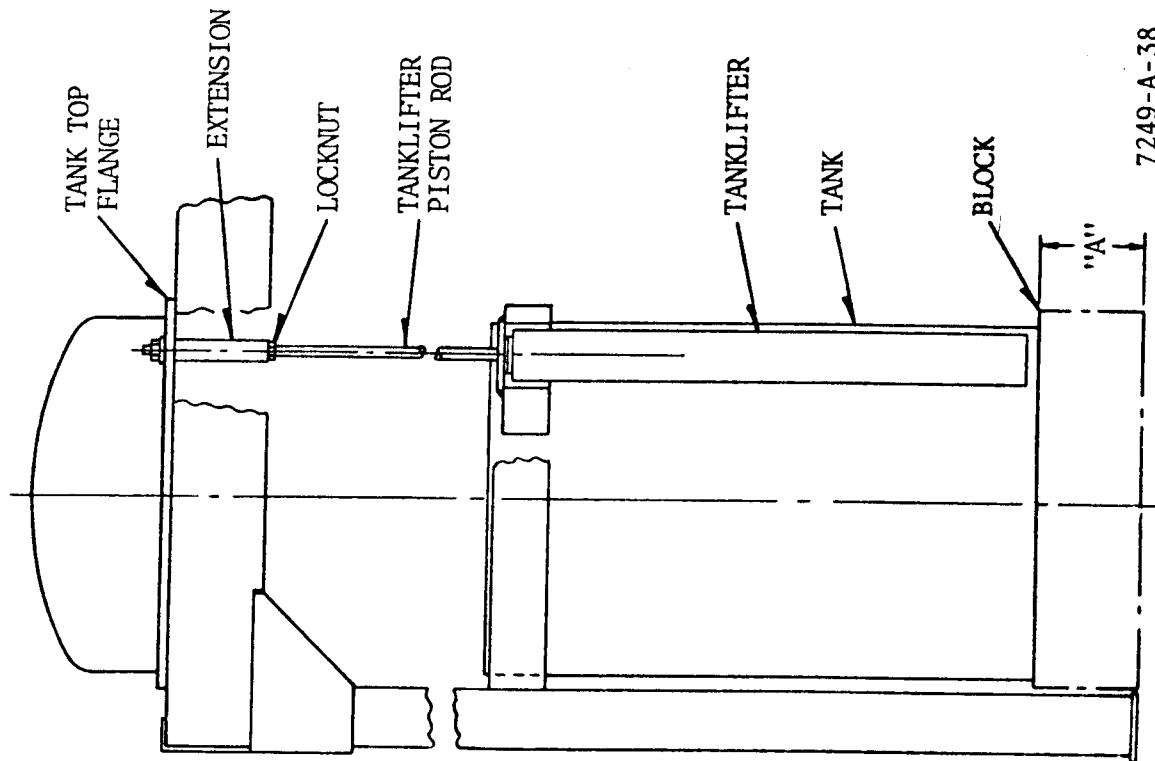
1. When it is necessary to inspect piston, piston rod, or rings, the cylinder components may be removed from the cylinder. Caution should be exercised when removing the special retaining ring. The piston rod should be removed with care to prevent scoring the cylinder walls.
2. Protect the tank lifter from water and dirt. Keep clean and oiled for best performance.



Sketch A

SEQUENCE OF OPERATION

1. LOWER TANK TO APPROX. DIM. INDICATED FR. BOTTOM OF FRAME AND BLOCK TANK (AS SHOWN).
2. OPEN "DOWN" VALVE AND TWO SAMPLING VALVES TO EXHAUST AIR IN CYLINDERS.
3. REMOVE NUT AND WASHER ON TANK TOP FLANGE HOLDING TANKLIFTER AND ASSEMBLE NUT AND EXTENSION TO PISTON ROD (DO NOT SCORE PISTON ROD).
4. REASSEMBLE TANKLIFTER TO TANK TOP FLANGE.
5. CLOSE TWO SAMPLING VALVES AND "DOWN" VALVE.
6. OPEN "RAISE" VALVE TO BUILD UP PRESSURE IN CYLINDERS, RAISE TANK AND REMOVE BLOCK.
7. CLOSE "RAISE" VALVE AND OPEN "DOWN" VALVE TO LOWER TANK TO BOTTOM OF FRAME.

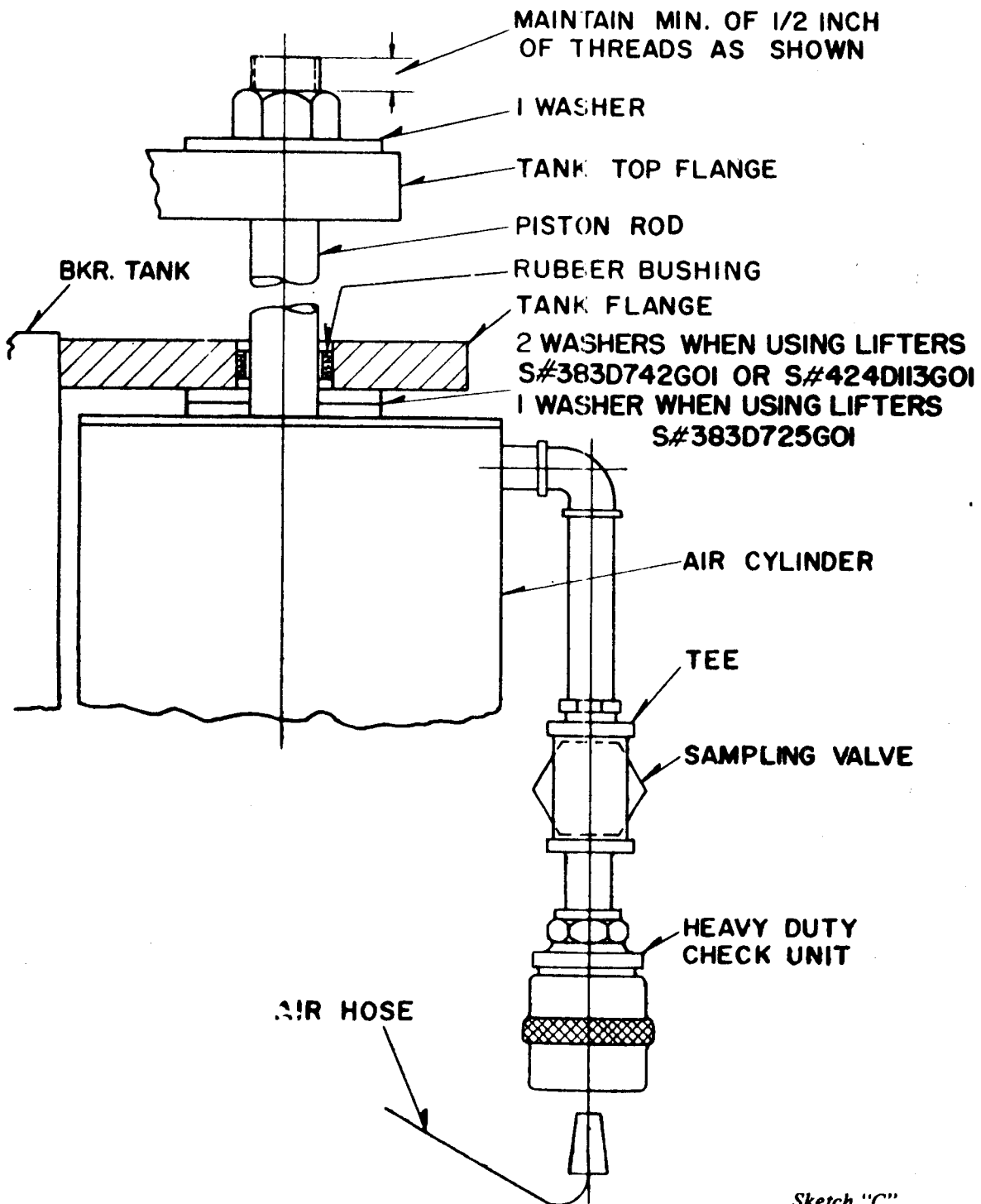


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| BREAKER RATING | | "A" DIM. | TANKLIFTER EXTENSION REQD. |
|-----------------|--------------|----------|----------------------------|
| 144-G-1500 | 3000/4000 A. | 9 | 170C824G01 |
| 345-G-1500/2500 | 2000/3000 A. | | |
| 460-G-2500/3000 | 2000/3000 A. | | |
| 690-G-2500 | 1200 A. | 11 | 170C824G02 |
| 690-G-3500 | 1200 A. | 33 | 170C824G03 |
| 690-G-3500 | 1200 A. | 24 | 170C824G04 |

SKETCH "B"

**MOUNTING OF PNEUMATIC TANKLIFTER
ON FRAME MOUNTED OIL CIRCUIT BREAKER
(SIDE VIEW)**



Sketch "C"