

# Power Train Lift

Max. Capacity: 1,250 lbs.

Detail "A"

Grease  
these  
areas.

Grease  
these  
areas.

Detail "B"

Grease  
these  
areas.

Detail "C"

Sheet No. 1 of 4

Issue Date: Rev. E, March 26, 2013

| Item No.                            | Part No.      | No. Req. | Description                                                     |
|-------------------------------------|---------------|----------|-----------------------------------------------------------------|
| 1                                   | *             | 2        | Cap Screw (3/8-16 x 2-3/4" lg.)                                 |
| 2                                   | *             | 2        | Cap Screw (5/8-11 x 5-1/2" lg.; Grade 8)                        |
| 3                                   | *             | 6        | Washer (for 5/8" bolt)                                          |
| 4                                   | <b>538474</b> | 2        | Upper Lift Arm                                                  |
| 5                                   | <b>538475</b> | 1        | Swivel                                                          |
| 6                                   | <b>538532</b> | 1        | Mast                                                            |
| 7                                   | *             | 2        | Lockwasher (for 3/8" bolt)                                      |
| 8                                   | *             | 2        | Nut (3/8-16)                                                    |
| 9                                   | *             | 4        | Cap Screw (7/16-14 x 4-1/2" lg.)                                |
| 10                                  | *             | 4        | Washer (for 7/16" bolt)                                         |
| 11                                  | *             | 2        | Locknut (5/8-11)                                                |
| 12                                  | *             | 4        | Washer (for 7/8" bolt)                                          |
| 13                                  | *             | 2        | Locknut (7/8-9)                                                 |
| 14                                  | <b>538476</b> | 2        | Lower Lift Arm                                                  |
| 15                                  | *             | 2        | Retaining Ring (for 5/8" shaft)                                 |
| 16                                  | *             | 1        | Pivot Pin                                                       |
| 17                                  | <b>539540</b> | 4        | Caster                                                          |
| 18                                  | <b>538473</b> | 1        | Load Plate                                                      |
| 19                                  | *             | 4        | Flange Nut (7/16-14)                                            |
| 20                                  | *             | 4        | Acorn Nut (1/2-20)                                              |
| 21                                  | *             | 4        | Washer                                                          |
| 22                                  | <b>538530</b> | 1        | Base                                                            |
| 23                                  | <b>215223</b> | 4 ft.    | Non-skid Adhesive Strip (apply 1 ft. strip to each leg)         |
| 24                                  | <b>538501</b> | 1        | Tee                                                             |
| 25                                  | *             | 2        | Cap Screw (7/8-9 x 6-1/2" lg.; Grade 8)                         |
| 26                                  | *             | 1        | Cap Screw<br>(5/16-18 x 1-1/2" lg.; Torque to 350–400 in. lbs.) |
| 27                                  | *             | 4        | Socket Hd. Cap Screw                                            |
| 28                                  | <b>539302</b> | 1        | Pump Bracket                                                    |
| 29                                  | <b>544511</b> | 1        | Hydraulic Assembly                                              |
| <b>Parts Included but not Shown</b> |               |          |                                                                 |
|                                     | <b>215225</b> | 1        | Warning Decal                                                   |
|                                     | <b>540387</b> | 1        | Trade Name Decal                                                |
|                                     | <b>217825</b> | 1        | Danger Decal                                                    |

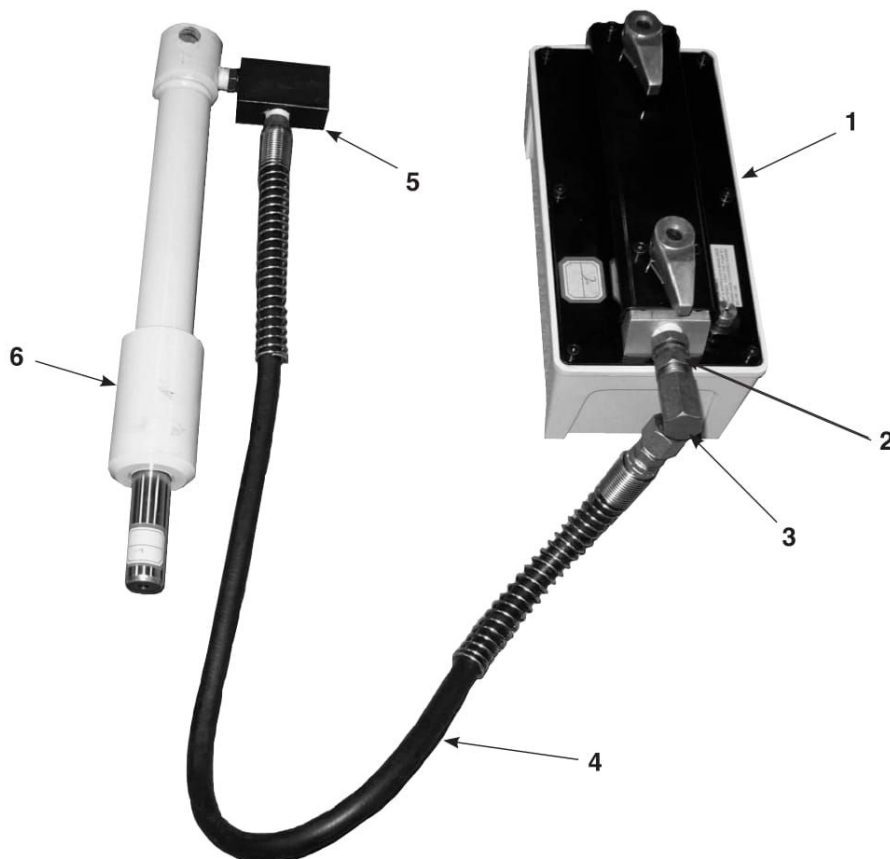
Item numbers marked with an asterisk (\*)  
are contained in  
Hardware Kit No. 549846.

Refer to any operating instructions included with the product for detailed information about operation, testing, disassembly, reassembly, and preventive maintenance.

Items found in this parts list have been carefully tested and selected by OTC. **Therefore: Use only genuine OTC replacement parts.**

Additional questions can be directed to our Technical Service Dept.

### Pump and Ram Assembly No. 544511



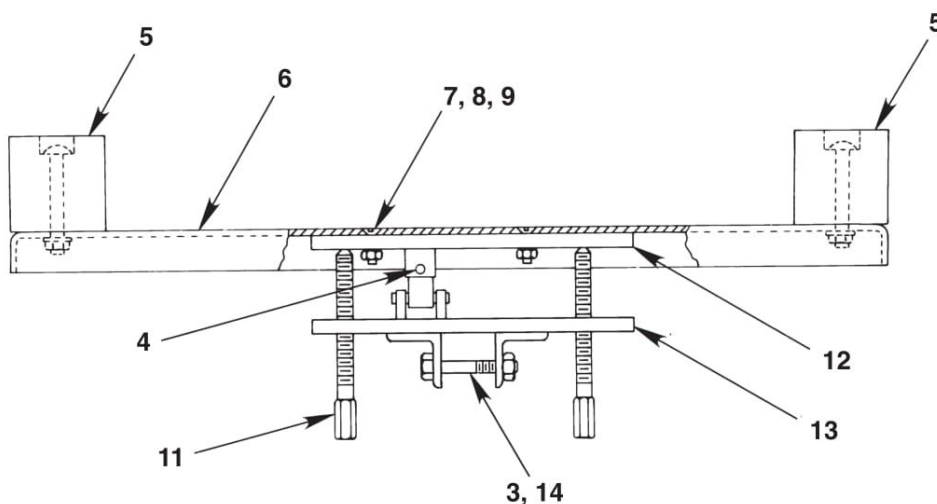
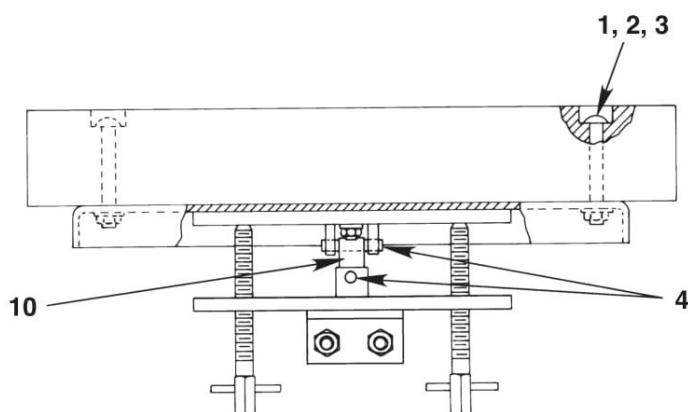
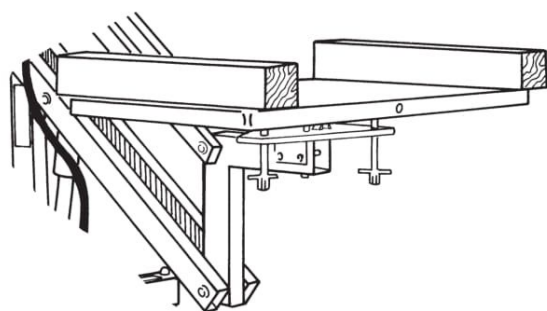
Item numbers marked with an asterisk (\*) are contained in Hardware Kit No. 549846.

| Item No. | Part No. | No. Req'd | Description                             |
|----------|----------|-----------|-----------------------------------------|
| 1        | 544649   | 1         | Pump (see Form No. 545251)              |
| 2        | *        | 1         | Straight Fitting                        |
| 3        | *        | 1         | 90° Elbow Fitting                       |
| 4        | 543823   | 1         | Hose                                    |
| 5        | 544603   | 1         | Flow Control Valve                      |
| 6        | 544648   | 1         | Cylinder Assembly (see Form No. 545250) |

**Bleeding the Hydraulic System:** Air can accumulate in the hydraulic system, causing the cylinder to respond slowly or in an unstable manner. To remove the air:

1. Fully retract the piston rod.
2. Remove the bleed plug.
3. Run the pump to slowly extend the piston rod until oil starts to flow out the bleed hole.
4. Install the bleed plug again.
5. Check the oil level in the reservoir, and add oil if needed.

## Tilt Table



Item numbers marked with an asterisk (\*) are contained in Hardware Kit No. 549846.

Item numbers marked with a double dagger (‡) are contained in Hardware Kit No. 567849.

| Item No.                            | Part No. | No. Req'd | Description                           |
|-------------------------------------|----------|-----------|---------------------------------------|
| 1                                   | *        | 4         | Carriage Bolt (7/16-14 x 3-1/2" lg.)  |
| 2                                   | *        | 4         | Washer (for 7/16" bolt)               |
| 3                                   | *        | 6         | Nut (7/16-14)                         |
| 4                                   | *        | 2         | Nut and Bolt (M10 x 1-1/2" lg.)       |
| 5                                   | 541207   | 2         | Block                                 |
| 6                                   | 539219   | 1         | Mounting Plate                        |
| 7                                   | *        | 2         | Flat Head Screw (3/8-16 x 1-1/4" lg.) |
| 8                                   | *        | 2         | Washer (for 3/8" bolt)                |
| 9                                   | *        | 2         | Nut (3/8-16)                          |
| 10                                  | 539261   | 1         | Block                                 |
| 11                                  | ‡        | 3         | Adjusting Screw                       |
| 12                                  | 539260   | 1         | Mounting Plate                        |
| 13                                  | ‡        | 1         | Cradle Support Adapter                |
| 14                                  | *        | 2         | Cap Screw (7/16-14 x 3" lg.)          |
| <b>Parts Included But Not Shown</b> |          |           |                                       |
|                                     | 306422   | 1         | Strap Assembly                        |
|                                     | 556572   | 3         | Warning Decal                         |

## Safety Precautions



**WARNING:** To prevent personal injury or equipment damage,



- Read and understand the assembly and operating instructions before using the Power Train Lift. If the operator cannot read these instructions, safety precautions and instructions must be read and discussed in the operator's native language.



- Wear eye protection that meets the requirements of OSHA and ANSI Z87.1.
- Do not modify the Power Train Lift or use attachments unless supplied by OTC.
- Before using the lift, inspect the unit for leaks, or damaged, loose, or missing parts. Immediately replace cut, frayed, or damaged hoses.



- Do not use the Power Train Lift for removal of fuel tanks without using the approved OTC Fuel Tank Handler, and then only according to the instructions included with the handler. Explosion, death or serious injury, and property damage can result from incorrect tank removal.

- Securely tighten the strap assembly around the component being lifted.
- Never attempt to lift a load heavier than the rated capacity of the lift.



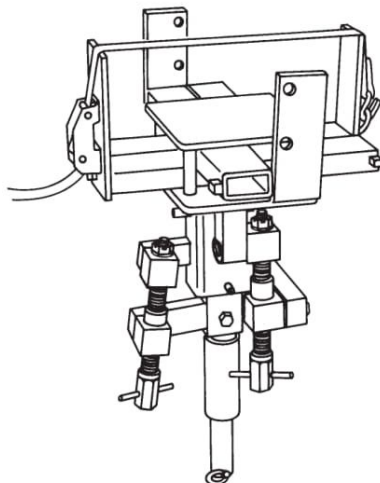
- Do not lift or move a load that has a center of gravity extending beyond the legs or wheels. Tipping can result in personal injury.
- Do not move the lift while the load is raised. Lower the load completely before moving or storing the load.
- Slowly and carefully move a load on an incline or around a corner. Tipping can result in personal injury.
- Use the lift on hard, level surfaces only.
- Do not stand under a load that is supported by the lift.
- The component must be securely held in place before it is removed from the lift.
- Disconnect the air supply if the Power Train Lift will not be used for several hours.

## Assembly Instructions

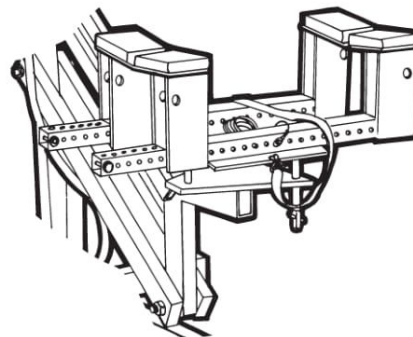
Item numbers refer to the illustration on Sheet 1.

1. Mount casters (Item No. 17) to base (22) using acorn nuts and washers (20 & 21). Do not over-tighten.
2. Mount mast (6) to base using four 4-1/2" lg. cap screws (9) and four 7/16 washers (10) installed on top of the angle iron. Install load plate (18) under the base on the two rear cap screws. Secure mast to base with four 7/16-14 locking flange nuts (19).
3. Mount the cylinder swivel block (5) to the end of the cylinder using 1-1/2" lg. socket hd. cap screw (26). Torque screw to 350 / 400 in-lbs. Apply grease to the swivel as shown in Detail A.
4. Mount the cylinder to the mast using the pivot pin (16), two 5/8" washers (3), and two 5/8" retaining rings (15). *Note: Assemble washers and retaining rings on the outside of the cylinder pivot angle iron. Apply grease to the pivot area.*
5. Install one lower lift arm (14) onto the end of the cylinder swivel block.
6. Install one 7/8" washer (12) on the 6-1/2" lg. cap screw (25). Grease the cap screw and both sides of the mast area as shown in Detail B. Insert the pin through the lower lift arm and mast.
7. Install the other lower lift arm over the cylinder swivel block and cap screw. Install another 7/8" washer with a locknut (13) finger tight on the cap screw. *Note: Assemble washers on the outside of the lift arms.*
8. Install one 5/8" washer (3) on the 5-1/2" lg. cap screw (2). Grease the cap screw and upper lift arm pivot hole area as shown in Detail C. Insert the cap screw through an upper lift arm (4) and upper mast pivot hole. Grease the other side of the mast pivot hole area, and install the other upper lift arm on the cap screw. Install another 5/8" washer with a locknut (11) finger-tight on the cap screw.
9. Grease the pivot hole areas for the tee (24). Install one washer on each remaining pivot pin. Grease the pins and insert them through the boom tube and holes. Install another washer with locknut on the pin. *Note: Assemble washers on the outside of the boom tubes.*
10. Tighten all four locknuts until each joint has no visible side play. Back off each nut 1/8 turn. The pivots should be snug, but not over-tightened.
11. Mount the pump bracket to either side of the mast using two 2-3/4" lg. cap screws (1), two 3/8" lockwashers (7), and two 3/8" nuts (8). Mount the pump to the bracket using the four screws included in the literature pack.

The Power Train lift is ready to use with the tilt table, or the optional universal transmission adapter assembly or the optional fuel tank handler.



**No. 540233**  
**Universal Transmission**  
**Adapter Assembly (optional)**



**No. 62339 Fuel Tank Handler**  
**(optional)**

## Operating Instructions

These operating instructions apply to the basic Power Train Lift used with the Tilt Table, or the optional Universal Transmission Adapter, or the optional Fuel Tank Handler.

### Removal

1. Follow the vehicle manufacturer's recommended service procedure for removal of the component.
2. Position the Power Train Lift under the vehicle.
3. Connect shop air supply to the pump. (90 PSI is needed to raise 1,250 lbs.) Turn the PUMP lever on the pump to raise the lift so it just touches the component. Opening the lever all the way quickly raises the lift; jogging or opening the lever slightly raises the lift slowly.
4. Adjust the blocks on the tilt table to fit the component to be removed. Secure the blocks to the mounting plate by tightening the nuts. (If using the Universal Adapter Assembly, adjust the support arms to fit the pan flange. If using the Fuel Tank Handler, adjust the pads to support the tank.)
5. Turn the adjusting screws to align the lift with the component. Raise the lift to the correct position.
6. Place the strap assembly around the component. Securely tighten the strap to the hook holes.
7. Remove any remaining bolts in the component.
8. Lower the Power Train Lift by opening and closing the RELEASE lever once; then holding the lever open. *Note: A flow control valve controls the rate of descent. If a hose is cut or the pump malfunctions, the load will not drop suddenly.*
9. Move the lift out from under the vehicle.

### Installation

1. Position the Power Train Lift under the chassis.
2. Raise the lift and turn the adjusting screws to align the component in the correct position.
3. Follow the vehicle manufacturer's recommended service procedure for installing the component.

## Maintenance

1. Use a good grade lubricant to lube the pivot points (Details A, B, and C), adjusting screws, and swivel casters.

### Hydraulic Pump Adjustments

**CAUTION:** To prevent the risk of personal injury, remove any load from the lift before adjusting levers.

#### PUMP Lever Adjustment

The pump should not start until the PUMP lever has been moved 1/8 turn.

1. Loosen the set screw (3) on the PUMP lever (4). Using a screwdriver, turn the adjusting screw (1) clockwise until the pump begins to run.
2. Slowly turn the adjusting screw counterclockwise until the pump stops running. Back the screw out another 1/8 of a turn. *Note: To keep the return spring in place, keep the lever at a height of 9/32".*
3. Tighten the set screw to hold the adjustment.

#### RELEASE Lever Adjustment

The lift should not start to come down until the RELEASE lever has been moved 1/8 turn.

1. Loosen the set screw (5) on the RELEASE lever (6).
2. Start the pump and raise the lift to its highest position to build hydraulic pressure in the system.
3. Use a screwdriver to turn the adjusting screw (2) counterclockwise until pressure is released. Back the screw out another 1/8 turn. *Note: To keep the return spring in place, keep the lever at a height of 9/32".*
4. Tighten the set screw to hold the adjustment.

*Note: If the lift doesn't hold pressure after you have adjusted levers, flush the pump before making any further adjustments. Hold the RELEASE lever open and start the pump several times.*

