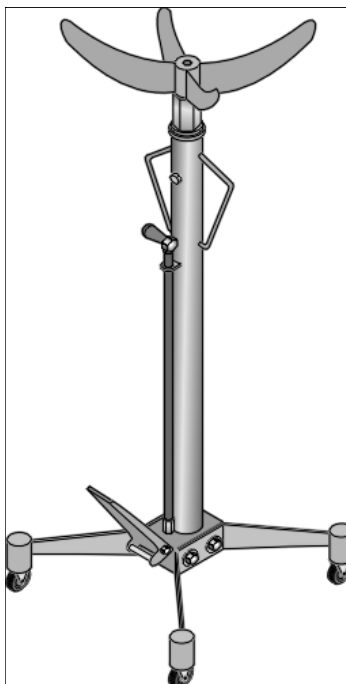




TRANSMISSION JACK

Model 33610

ASSEMBLY and OPERATING INSTRUCTIONS



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<http://www.harborfreight.com>



3491 Mission Oaks Blvd. / Camarillo, CA 93011

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For technical questions and replacement parts, please call 1-800-444-3353.

rev 02/00

SPECIFICATIONS

Cylinder Extension	44" to 76"
Capacity	600 lbs.
Weight	58 lbs.

SAVE THIS MANUAL

You will need the manual for the safety warnings and cautions, assembly instructions, operating procedures, maintenance procedures, trouble shooting, parts list, and diagram. **Keep your invoice with this manual. Write the invoice number on the inside of the front cover.** Keep both this manual and your invoice in a safe, dry place for future reference.

SAFETY WARNING & CAUTIONS

WARNING: When using hydraulic equipment, basic safety precautions should always be followed to reduce the risk of personal injury and hazards due to over pressurization. **READ ALL INSTRUCTIONS BEFORE USING THIS TOOL!**

1. **KEEP WORK AREA CLEAN.** Cluttered areas invite injuries.
2. **OBSERVE WORK AREA CONDITIONS.** Do not use tools in damp, wet, or poorly lit locations. Don't expose to rain. Keep work area well lit.
3. **KEEP CHILDREN AWAY.** Children must never be allowed in the work area. Do not let them handle machines, tools, or hoses.
4. **STORE IDLE EQUIPMENT.** When not in use, tools must be locked up in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **DO NOT FORCE THE TOOL.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool's capacities.
6. **USE THE RIGHT TOOL FOR THE JOB.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. Do not use a tool for a purpose for which it was not intended.
7. **DRESS PROPERLY.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Non-skid footwear is recommended. Wear restrictive hair covering to contain long hair.
8. **USE EYE AND EAR PROTECTION.** Always wear ANSI approved chemical splash goggles when working with chemicals. Always wear ANSI approved impact safety goggles at other times. Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
9. **DO NOT OVERREACH.** Keep proper footing and balance at all times. Do not reach over or across running machines.
10. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. The handles must be kept clean, dry, and free from oil and grease at all times.
11. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make it a habit to check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
12. **AVOID UNINTENTIONAL STARTING.** Do not carry any tool with your finger on the trigger.
13. **STAY ALERT.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.

14. CHECK DAMAGED PARTS. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn on and off properly.
15. REPLACEMENT PARTS AND ACCESSORIES. When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
16. DO NOT OPERATE TOOL IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
17. Failure to heed all instructions and warnings may result in death, personal injury, and/or property damage.
18. When using the Transmission Jack, whenever possible, keep personnel clear of the area under load.
19. Not to be used for aircraft purposes.

UNPACKING

When unpacking, check to make sure the following parts are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Item#	Description
N/A	Saddle Assembly
38	Saddle A

Item#	Description
N/A	Leg Assembly
18	Reservoir Assembly

WARNING:

ALWAYS EVALUATE YOUR TASK BEFORE USING THIS JACK. This jack is designed to support a transmission or a differential as individual components. Assemblies such as a differential with axle, or a transmission with bell housing, can be bulky and difficult to balance on the jack's platform or cradle.

LIFTING OR SUPPORTING SUCH ASSEMBLIES, EVEN WITHIN THE WEIGHT LIMIT, CAN CREATE AN OFF-BALANCE SITUATION, CAUSING THE JACK TO TIP OVER AND LEAD TO SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE.

The load should be evenly distributed on the jack, and should not extend beyond the area of the castor wheelbase. Always use safety straps or chains to secure the load.

If you are working and the load becomes off-balance and/or the jack begins to tip over,

DO NOT ATTEMPT TO CATCH OR LIFT WHEN FALLING. SERIOUS PERSONAL INJURY CAN BE SUFFERED! In this event, clear the area as quickly and safely as possible in order to avoid injury from the falling load, including getting hit with flying fragments.

IF IN DOUBT ABOUT THE SAFETY OF YOUR PROJECT, WE ADVISE YOU TO HAVE THE WORK DONE BY A PROFESSIONAL FAMILIAR WITH APPLICABLE SAFE PRACTICES.

ASSEMBLY

- Step 1: Remove the four BOLTS (#35) and SPRING WASHERS (#13) from the BASE (#1) of the Reservoir Assembly.
- Step 2: Attach the Leg Assemblies to the BASE using the BOLTS and SPRING WASHERS from Step 1 as shown in Figure 1. Tighten the BOLTS.

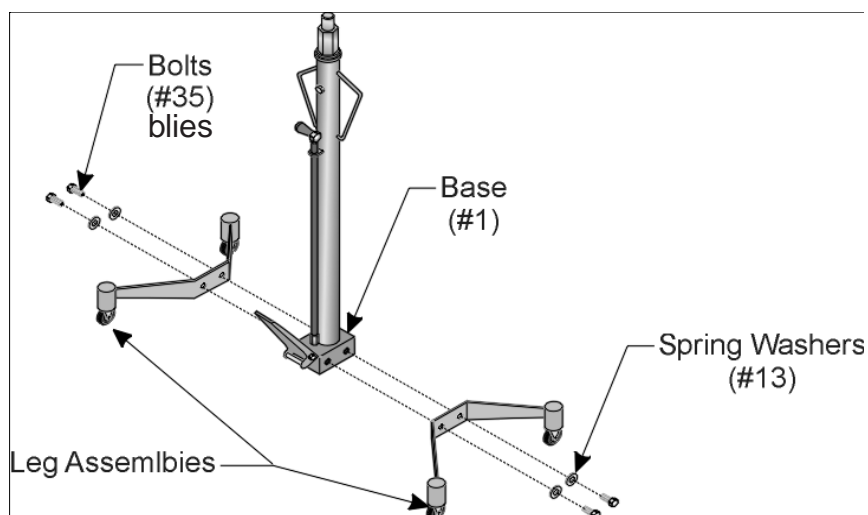


Figure 1 — Attaching Leg Assemblies

- Step 3: Remove the NUTS (#44), Washers, and BOLTS (#43) to remove the STATIONARY PLATES (#42) from the SADDLE (#40). The STATIONARY PLATES are installed upside down for shipping purposes.
- Step 4: Reinstall the STATIONARY PLATES using the NUTS, Washers, and BOLTS as shown in Figure 2.

For Differential Service

Your Transmission Jack comes with two different Saddles. SADDLE A (#38) is used to remove and install Differentials.

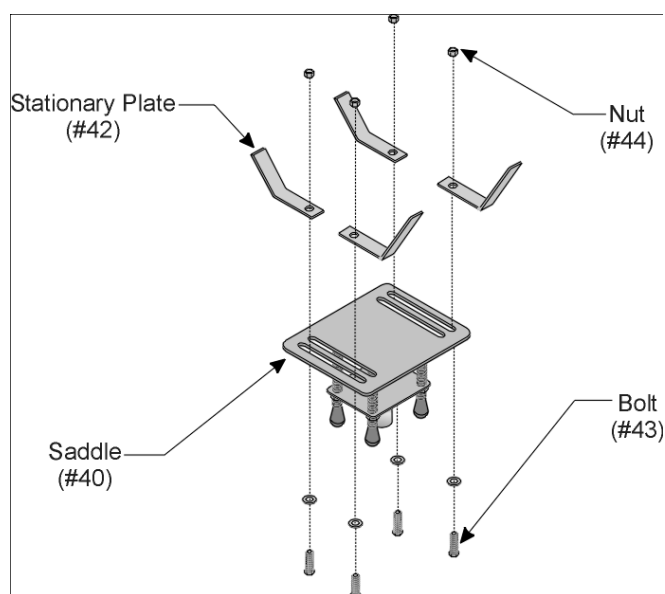


Figure 2-Installing the Stationary Plates

Place the SADDLE A (#38) over the tip of the RAM (#25) as shown in Figure 3.

Your Differential Jack is ready for use.

For Transmission Service

Your Transmission Jack comes with two different Saddles. SADDLE (#40) is for use in removing and installing Transmissio

Place the Saddle Assembly from Step 4 above onto the tip of th RAM as shown in Figure 4.

Your Transmission Jack is ready for use.

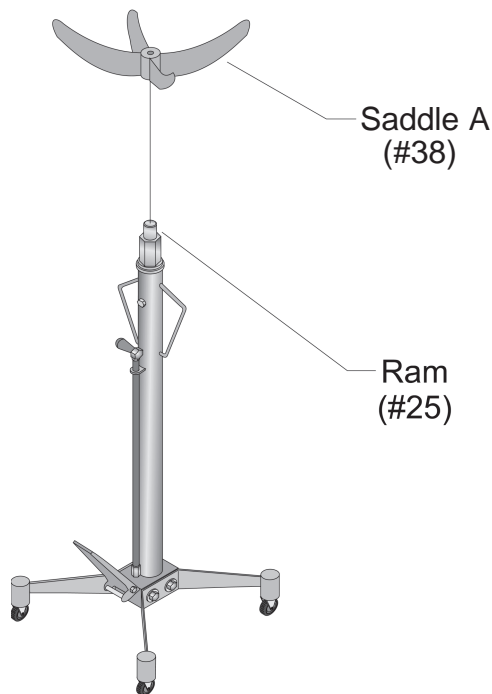


Figure 4--Placing Saddle A

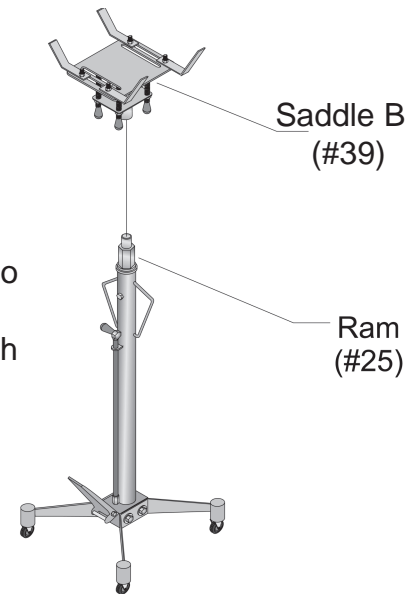


Figure 3--Placing Saddle B

OPERATION

Warning: Only use the Jack on a hard, flat and level surface. When not transporting a load, block the wheels to prevent inadvertent movement.

Before use, make sure your vehicle is properly and safely suspended on an in-floor hydraulic lift. You will not be able to use your Transmission Jack by raising the vehicle with a standard floor jack and jack stands.

Make sure the Transmission or Differential you will be removing or installing does not exceed the 600 lbs. weight capacity of your Transmission Jack.

Differential Removal

- Step 1: Roll the Transmission Jack underneath the differential of your vehicle.
- Step 2: Make sure the RELEASE VALVE (#31) is turned fully clockwise to close the BODY RELEASE VALVE (#27).
- Step 3: Raise the SADDLE A (#38) up under the differential by stepping on the PEDAL PUMP PISTON (#11) as shown in Figure 5.

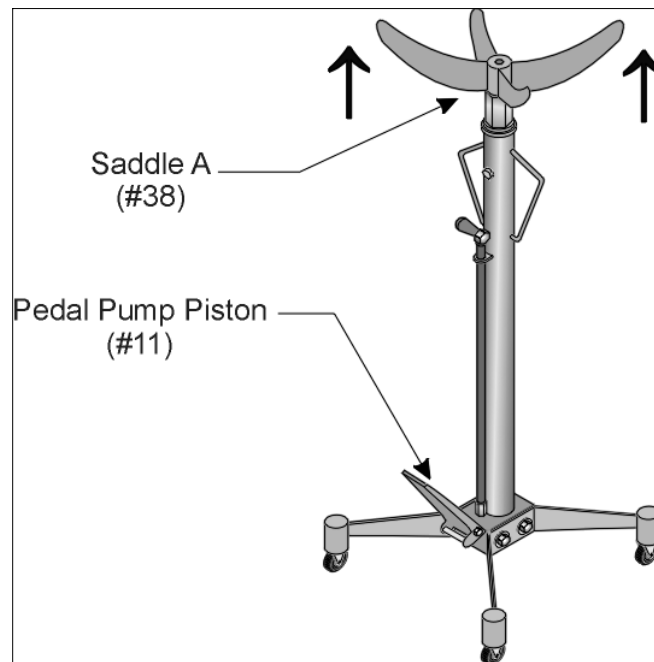


Figure 5--Raising the Saddle

- Step 4: When the SADDLE A makes contact with the differential, make sure the differential is properly and safely positioned and centered within the cradle arms of the SADDLE A. If in doubt, reposition the SADDLE A.
- Step 5: Lift the SADDLE A an additional inch after contact is made between the differential and the SADDLE A. This will remove the load of the differential from the vehicle's chassis. The weight of the differential is now supported by the Transmission Jack.
- Step 6: Remove the differential attachment points as appropriate to your vehicle. Refer to your vehicle's Service Manual.

It is recommended that you have an assistant present to help steady the differential assembly as you remove the attaching hardware. Use caution when loosening the differential from the chassis. Make sure the differential does not move while it is being supported by the Transmission Jack.

- Step 7: When you are ready to lower your differential, make sure there is nothing restricting the free downward movement of your differential.
- Step 8: To lower the differential, turn the RELEASE VALVE counterclockwise **slowly** as shown in Figure 6. Do not lower the differential in one quick drop as you may upset the balance of the differential within the SADDLE A.

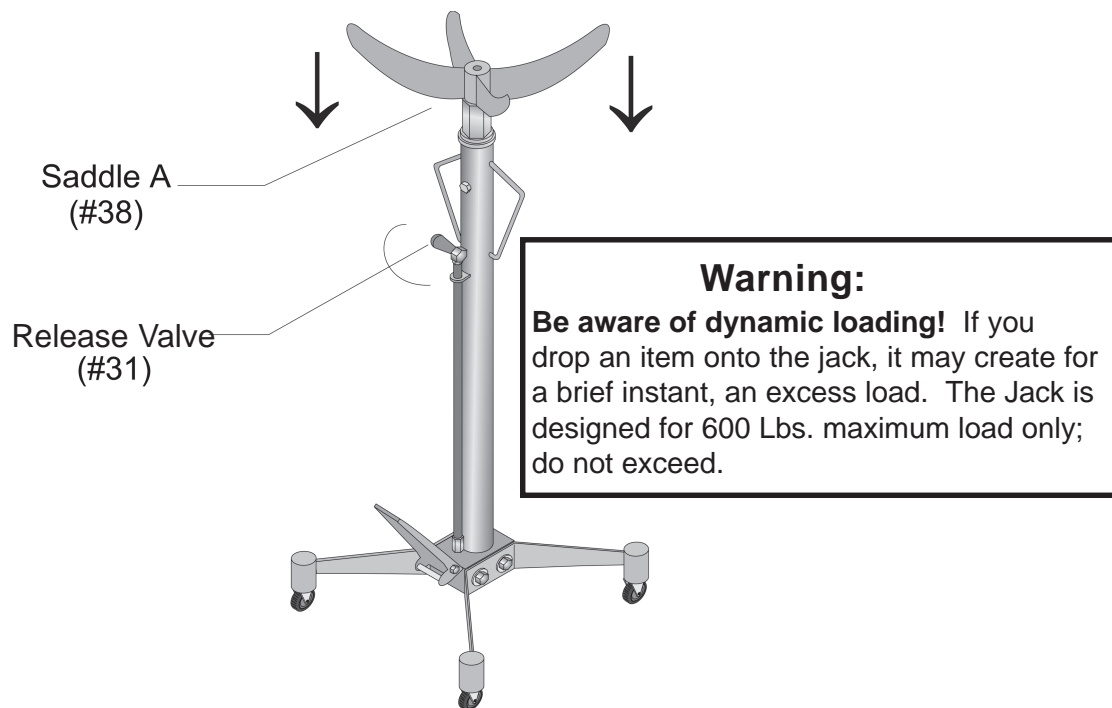


Figure 6--Lowering the Saddle

Step 9: Move the Transmission Jack from beneath your vehicle. Position the Transmission Jack for convenience. You may perform needed maintenance of the differential while it is on the Transmission Jack.

Differential Installation

Step 1: Position the Transmission Jack underneath your supported vehicle.

Step 2: Turn the RELEASE VALVE clockwise to close the BODY RELEASE VALVE.

Step 3: Raise the SADDLE A by stepping on the PEDAL PUMP PISTON.

Step 4: When the differential is in the proper position, reattach the differential to your vehicle.

Step 5: After the differential is safely attached to your vehicle, lower the SADDLE A by turning the RELEASE VALVE counterclockwise.

Step 6: Inspect the vehicle to insure the differential has been properly installed.

Transmission Removal

Step 1: Roll the Transmission Jack underneath the transmission of your vehicle.

Step 2: Make sure the RELEASE VALVE (#31) is turned fully clockwise to close the BODY RELEASE VALVE (#27).

Step 3: Raise the SADDLE (#40) up under the transmission by stepping on the PEDAL PUMP PISTON (#11) as shown in Figure 7.

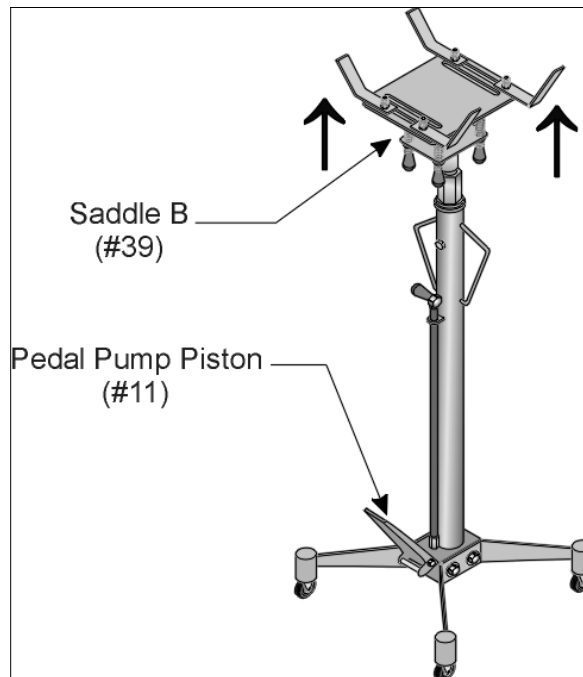


Figure 7--Raising the Saddle

Step 4: When the vehicle is safely raised, maneuver the Transmission Jack underneath the vehicle. You will want to position the Transmission Jack so that the pairs of STATIONARY PLATES (#42) will hold the forward and rearward ends of the transmission, respectively, as shown in Figure 8.

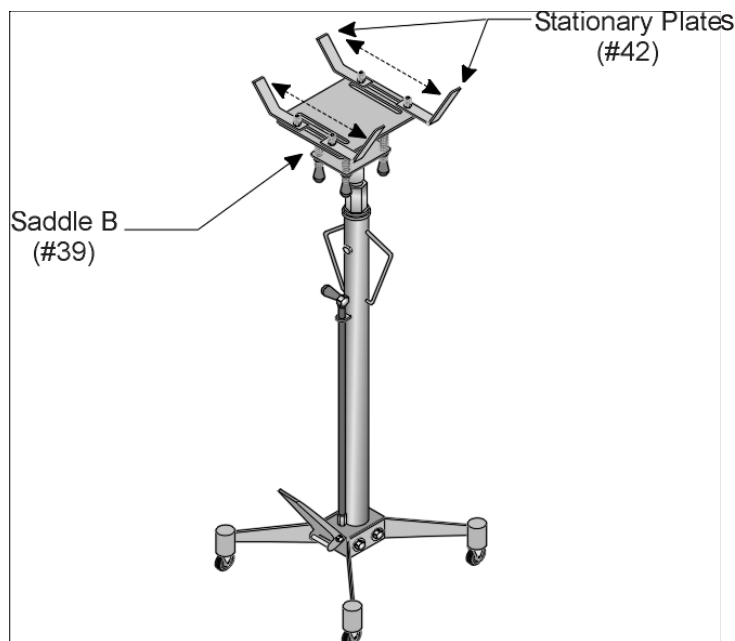


Figure 8--Placing the Stationary Plates

Step 5: If necessary, loosen the NUTS (#44) to adjust the positions of the STATIONARY PLATES to best cradle the transmission. Tighten the NUTS before continuing.

- Step 6: Raise the SADDLE (#40) of the Transmission Jack by pressing the PEDAL PUMP PISTON (#11). Raise the SADDLE until it makes contact with the transmission.
- Step 7: Make sure the STATIONARY PLATES are properly positioned to securely cradle the transmission. Adjust as necessary; See Step 5 above.
- Step 8: Raise the SADDLE an additional half-inch. This will transfer the weight of the transmission to the Transmission Jack.
- Step 9: Following the Steps in your vehicle's Service Manual, remove the driveshaft, and any and all mounting bolts and/or nuts.
- Step 10: Depending on the type of transmission, you may need to move the Transmission Jack and transmission rearward a few inches to free the input shaft of the transmission, if so equipped.

Warning: Only use the Jack on a hard, flat and level surface. When not transporting a load, block the wheels to prevent inadvertent movement.

- Step 11: With the transmission free from the vehicle and resting between the STATIONARY PLATES, you may lower the SADDLE by slowly turning the RELEASE VALVE counterclockwise. The transmission is heavy and care should be taken when lowering to prevent it from rocking.
- Step 12: Roll the Transmission Jack from beneath the vehicle. Position the Transmission Jack for convenience. You may perform needed maintenance of the transmission while it is on the Transmission Jack.

Transmission Installation

- Step 1: Position the Transmission Jack underneath your supported vehicle.
- Step 2: Turn the RELEASE VALVE clockwise to close the BODY RELEASE VALVE
- Step 3: Raise the SADDLE by stepping on the PEDAL PUMP PISTON.

Step 4 :When the transmission is in the proper position, reattach the transmission to your vehicle.

- Step 5: If necessary, you can adjust the angle and attitude of the transmission by turning the ADJUSTABLE SCREWS (#41). Thread the ADJUSTABLE SCREWS clockwise (as viewed from below) to raise up that portion of the SADDLE. Thread the ADJUSTABLE SCREWS counterclockwise (as viewed from below) to lower that portion of the SADDLE. Thread the ADJUSTABLE SCREWS counterclockwise (as viewed from below) to lower that portion of the SADDLE as shown in Figure 9.

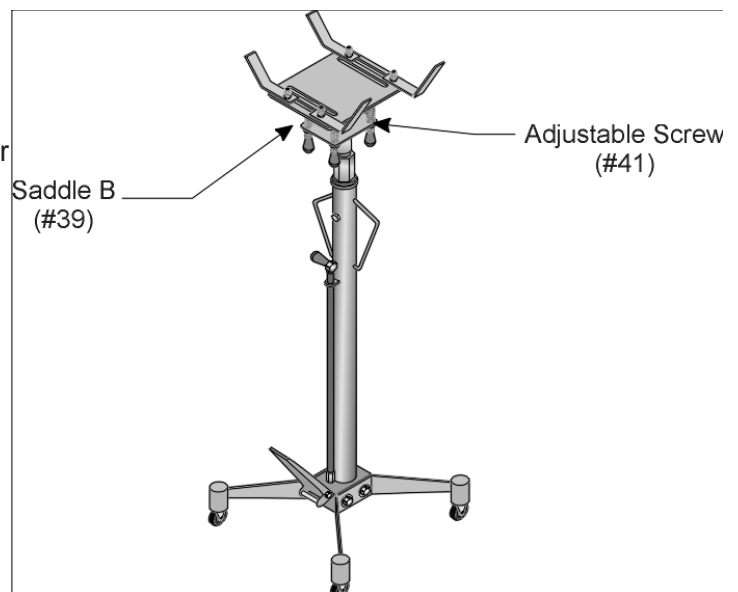


Figure 9--Adjusting the Angle and Attitude

Your transmission should now be in position to allow you to mount it to the engine and vehicle. If the transmission is not in correct position, repeat Steps 3-5 as needed.

Step 6: After the transmission is safely attached to your vehicle, lower the SADDLE by turning the RELEASE VALVE counterclockwise.

Step 7: Inspect the vehicle to insure the transmission has been properly installed.

MAINTENANCE

Bleeding the Transmission Jack

Should you experience little lifting ability with your Transmission Jack, follow the Steps below to bleed the Transmission Jack. Make sure the Transmission Jack is not lifting anything while performing Maintenance.

Step 1: Unscrew and remove the AIR VENT VALVE (#34) from the RESERVOIR (#18) as shown in Figure 10.

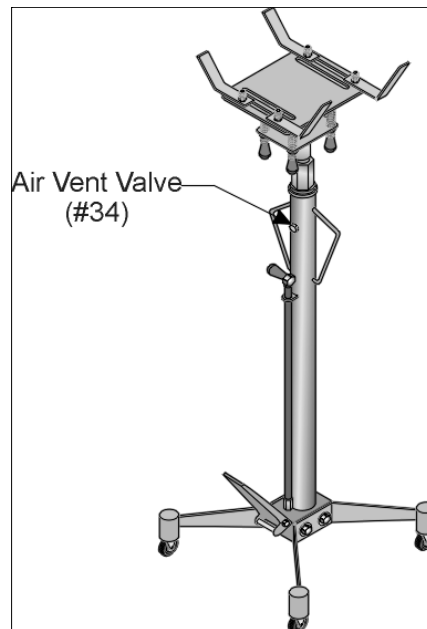


Figure 10--Removing the Air Vent Valve

Step 2: Raise the Jack's RAM up to the full height.

Step 3: Turn the RELEASE VALVE (#31) counterclockwise to open the BODY RELEASE VALVE (#27). Quickly press the RAM (#25) down into the RESERVOIR.

Step 4: Insert the AIR VENT VALVE back into the RESERVOIR. Tighten.

Your Transmission Jack has been bled.

Seal Replacement

Replacement O-RINGS and SEALS can be purchased if you need to have your jack serviced. If you need to have your jack serviced, take it to a qualified mechanic along with your O-RINGS and SEALS. The Transmission Jack cannot be user serviced.

Lubrication

Lubricate the following points before first use and at least twice per month (more often during heavy use) as shown in Figure 11.

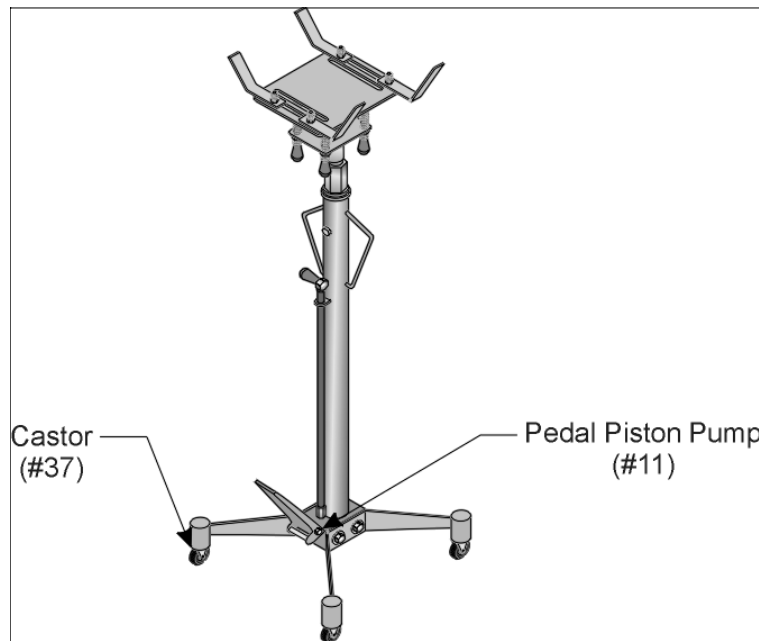


Figure 11--Lubrication Points

PARTS LIST

Item#	Description	Qty	Item#	Description	Qty
1	Base	1	23	O-Ring	1
2	Ball 1/4"	2	24	Dust Seal	1
3	Ball 3/8"	1	25	Ram	1
4	Snap-Ring C	1	26	Washer	1
5	Spring	1	27	Body Release Valve	1
6	Seal	1	28	O-Ring	1
7	Bushing	1	29	Release Rod	1
8	O-Ring	1	30	Nut M8	1
9	O-Ring	1	31	Release Valve	1
10	Pump Piston	1	32	Gripper	1
11	Pedal Pump Piston	1	33	O-Ring	1
12	Bolt M10X60	1	34	Air Vent Valve	1
13	Spring Washer	1	35	Bolt M10X15	4
14	Nut M10	1	36	Leg	2
15	Cylinder	1	37	Castor	4
16	Filter	1	38	Saddle A	1
17	Flat O-Ring	1	39	Saddle B	1
18	Reservoir	1	40	Saddle	1
19	Top Nut	1	41	Adjustable Screw	4
20	Seal	1	42	Stationary Plate	4
21	Back Up Ring	1	43	Bolt M12X25	4
22	O-Ring	1	44	Nut M12	4

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

ASSEMBLY DIAGRAM

