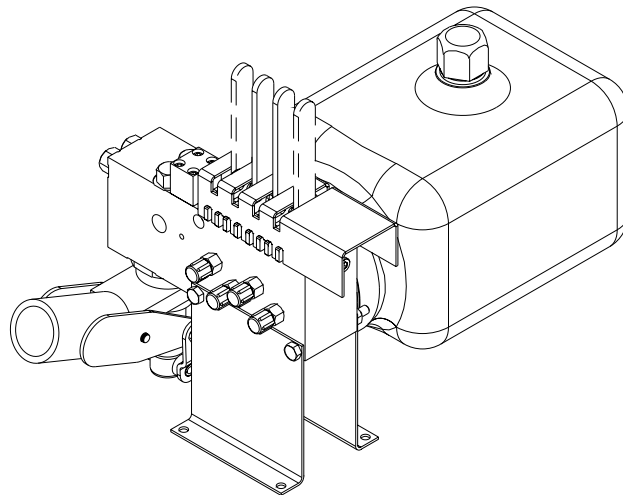




# OPERATOR'S MANUAL

## HWH® HYDRAULIC LANDING GEAR SYSTEM

**FEATURING:**  
*Hydraulic Switches With Hand Pump*  
*Two Double-Acting Jacks*  
*or*  
*Two Double-Acting Jacks and Two Single-Acting Jacks*



**HWH CORPORATION**  
(On I-80, Exit 267 South)  
2096 Moscow Road | Moscow, Iowa 52760  
Ph: 800/321-3494 (or) 563/724-3396 | Fax: 563/724-3408  
[www.hwh.com](http://www.hwh.com)

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# OPERATOR'S MANUAL

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## WARNING !

READ ENTIRE HWH AND VEHICLE OPERATOR'S MANUALS BEFORE OPERATING.

JACKS UNDER LOAD WILL RETRACT WHEN LEVER IS MOVED TO RETRACT POSITION WITHOUT THE PUMP RUNNING.

CHOCK TRAILER WHEELS SECURELY BEFORE USING THE LANDING GEAR.

DO NOT LIFT THE TOW VEHICLE WITH THE LANDING GEAR.

BLOCK FRAME AND TIRES SECURELY BEFORE CRAWLING UNDER THE TRAILER, CHANGING TIRES, OR ENTERING AREAS WHERE BODY MAY BE CRUSHED BY SUDDEN DROPPING OR SLIDING OF TRAILER.

THE TRAILER MAY DROP AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING CAUSING INJURY OR DEATH.

NEVER PLACE HANDS OR OTHER PARTS OF THE BODY NEAR HYDRAULIC LEAKS. OIL MAY PENETRATE SKIN CAUSING INJURY OR DEATH.

WEAR SAFETY GLASSES WHEN INSPECTING OR SERVICING THE SYSTEM TO PROTECT EYES FROM DIRT, METAL CHIPS, OIL LEAKS, ETC. FOLLOW ALL OTHER APPLICABLE SHOP SAFETY PRACTICES.

IMPORTANT: IF COACH IS EQUIPPED WITH A ROOM EXTENSION, READ ROOM EXTENSION SECTION BEFORE OPERATING LEVELING SYSTEM.

## HOW TO OBTAIN WARRANTY SERVICE

### THIS IS NOT TO BE INTERPRETED AS A STATEMENT OF WARRANTY

HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**FIRST:** Notify the dealership where you purchased the vehicle or had the leveling system installed. Dealership management people are in the best position to resolve the problem quickly. If the dealer has difficulty solving the problem, he should immediately contact the Customer Service Department, at HWH CORPORATION.

**SECOND:** If your dealer cannot or will not solve the problem, notify the Customer Service Department:  
HWH CORPORATION 2096 Moscow Rd. Moscow IA. 52760  
(563) 724-3396 OR (800) 321-3494. Give your name and address, coach manufacturer and model year, date the coach was purchased, or the date of system installation,

description of the problem, and where you can be reached during business hours (8:00 a.m. till 5:00 p.m. c.s.t.). HWH CORPORATION personnel will contact you to determine whether or not your claim is valid. If it is, HWH CORPORATION will authorize repair or replacement of the defective part, either by appointment at the factory or by the authorization of an independent service facility, to be determined by HWH CORPORATION. All warranty repairs must be performed by an independent service facility authorized by HWH CORPORATION, or at the HWH CORPORATION factory, unless prior written approval has been obtained from proper HWH CORPORATION personnel.

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# OPERATING PROCEDURES

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## GENERAL INSTRUCTIONS

Maintain adequate clearance in all directions for vehicle, room extensions, awnings, doors, steps, etc. Vehicle may move in any direction due to landing gear extending or retracting, settling of the landing gear or the vehicle, equipment malfunction, etc..

If parking on soft ground or asphalt paving, a wood block or pad should be placed under the jacks.

**WARNING:** DO NOT MOVE THE TRAILER IF ONE OR MORE LANDING GEAR OR JACKS ARE EXTENDED TO THE GROUND. DO NOT LIFT THE TOW VEHICLE WITH THE LANDING GEAR. DO NOT LEVEL THE TRAILER IF HITCHED TO THE TOW VEHICLE.

## PREPARATION FOR TRAVEL

When the landing gear and jacks are completely stored or the trailer is supported on the landing gear and jacks, the operating levers should be in the neutral position.

Any room extension should be fully retracted before traveling.

**WARNING:** DO NOT MOVE THE VEHICLE WHILE THE LANDING GEAR AND JACKS ARE STILL IN CONTACT WITH THE GROUND OR IN THE EXTENDED POSITION. THIS VEHICLE IS EQUIPPED WITH STRAIGHT- ACTING LANDING GEAR AND JACKS. MOVING THE VEHICLE

**WITH THE LANDING GEAR AND JACKS EXTENDED CAN CAUSE SEVERE DAMAGE TO THE LANDING GEAR, JACKS AND OR THE VEHICLE AND CREATE A DRIVING HAZARD. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT ALL LANDING GEAR AND JACKS ARE FULLY RETRACTED INTO THE STORE/TRAVEL POSITION.**

If the landing gear and jacks cannot be extended or retracted according to the SET UP or PREPARATION FOR TRAVEL procedures, refer to the AUXILIARY HAND PUMP procedures.

## ROOM EXTENSION PROCEDURES

**IMPORTANT:** If the vehicle is equipped with a room extension read this section carefully.

**IMPORTANT:** It is recommended to level and stabilize the vehicle before extending the room.

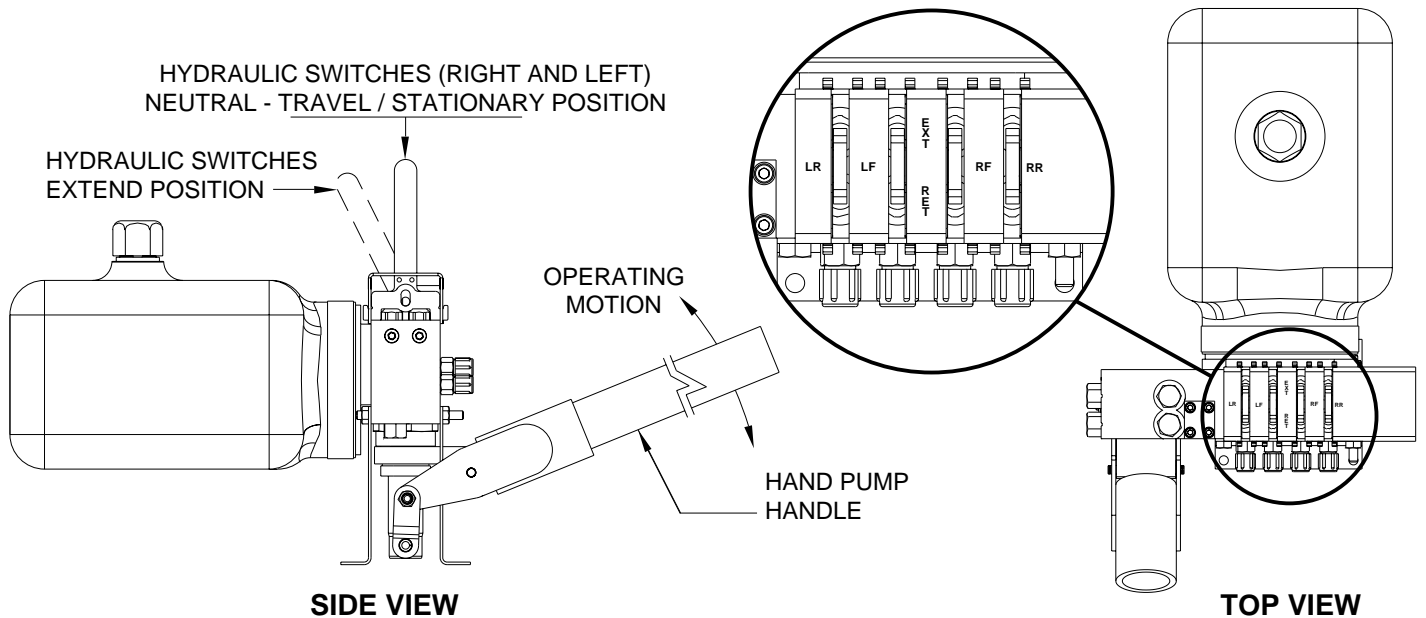
**IMPORTANT:** Extending or retracting any leveling jacks or landing gear when the room is extended is not recommended.

Refer to the vehicle owner's manual for proper operation of room extensions.

**IMPORTANT:** Do not use a room extension support when the vehicle is supported by the landing gear system.

# OPERATING PROCEDURES

## SET UP PROCEDURE



**WARNING:** DO NOT STAND BETWEEN THE TOW VEHICLE AND THE TRAILER OR BEHIND THE TRAILER WHEN UNHITCHING THE TRAILER OR OPERATING THE HWH LANDING GEAR OR JACKS.

If parking on soft ground or asphalt paving, a wood block or pad should be placed under the jacks.

**NOTE:** There is a hydraulic switch for each landing gear jack. Each can be operated individually by moving one hydraulic switch only. IT IS RECOMMENDED TO OPERATE BOTH JACKS AT THE SAME TIME WHEN UNHITCHING, LIFTING OR SUPPORTING THE TRAILER WITH THE LANDING GEAR.

1. Refer to the trailer manufacturer for instructions on unhitching the trailer from the tow vehicle.

2. Move the desired hydraulic switch(es) to the "EXTEND" position.

**IMPORTANT:** DO NOT USE THE HAND PUMP IF THE FLUID LEVEL IN THE TANK IS LESS THAN ONE HALF FULL.

The hand pump is a two stage pump that will produce enough pressure to extend the landing gear and lift the trailer as well as retract the landing gear. When operating the hand pump to lift the trailer or when the jacks are fully retracted, the pump handle will seem to "snap" as the pump goes to the second stage. The pump action will be easier at first as the second stage starts to create more pressure.

3. To operate the hand pump, insert the hand pump handle into the handle receptacle and move the handle in an up and down motion.

**IMPORTANT:** BE CAREFUL TO NOT TWIST THE TRAILER WHEN OPERATING THE LANDING GEAR AND OR JACKS WITH THE INDIVIDUAL OPERATING LEVERS.

4. Return the hydraulic switches to the "NEUTRAL" position.

5. For vehicles equipped with rear jacks use the Right Rear and Left Rear hydraulic switches along with the hand pump to extend the rear jacks as desired.

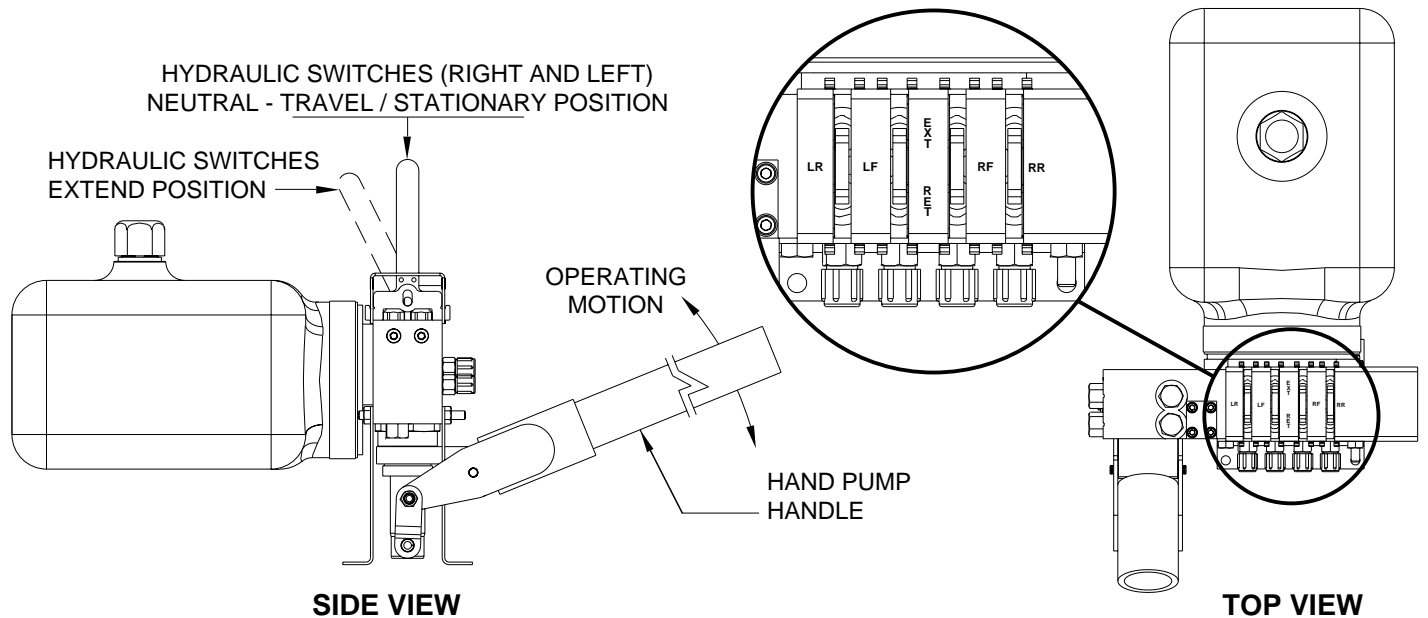
**IMPORTANT:** KEEP THE HYDRAULIC SWITCHES IN THE "NEUTRAL" POSITION WHEN THE TRAILER IS SUPPORTED ON THE LANDING GEAR AND JACKS.

It is recommended to operate the hand pump occasionally to check it's operation.

The hand pump should not lose it's prime, but if it does, see MAINTENANCE - PRIMING THE HAND PUMP.

# OPERATING PROCEDURES

## PREPERATION FOR TRAVEL



**WARNING:** DO NOT STAND BETWEEN THE TOW VEHICLE AND THE TRAILER OR BEHIND THE TRAILER WHEN UNHITCHING THE TRAILER OR OPERATING THE HWH LANDING GEAR OR JACKS.

The trailer can be hitched to the tow vehicle using the front hydraulic switches without the hand pump. By slowly pulling the hydraulic switches to the "RETRACT" position, the weight of the trailer can be lowered onto the tow vehicle.

1. Hitch the trailer to the tow vehicle according to the trailer manufacturer's instructions. DO NOT pull the hydraulic switches to the full retract detent (lock) position until the trailer is securely hitched to the tow vehicle.

**WARNING:** THE TRAILER SHOULD BE SECURELY HITCHED TO THE TOW VEHICLE BEFORE MOVING THE HYDRAULIC SWITCHES TO THE FULLY LOCKED "RETRACT" POSITION.

**NOTE:** It is recommended to pull both front hydraulic switches at the same time while lowering the trailer. This will reduce twisting of the trailer.

2. When the trailer is securely hitched to the tow vehicle, pull all hydraulic switches to the full "RETRACT" position. They should lock in place.

**IMPORTANT:** DO NOT USE THE HAND PUMP IF THE FLUID LEVEL IN THE TANK IS LESS THAN ONE HALF FULL.

The hand pump is a two stage pump that will produce enough pressure to extend the landing gear and lift the trailer as well as retract the landing gear. When operating

the hand pump to lift the trailer or when the jacks are fully retracted, the pump handle will seem to "snap" as the pump goes to the second stage. The pump action will be easier at first as the second stage starts to create more pressure.

3. To operate the hand pump, move the hydraulic switches to the desired position. Insert the hand pump handle into the handle receptacle and move the handle in an up and down motion.

**NOTE:** If the vehicle is equipped with rear jacks that have retract springs, the hand pump is not needed to retract the rear jacks.

4. Move the hydraulic switches to the "NEUTRAL" position when all jacks are fully retracted.

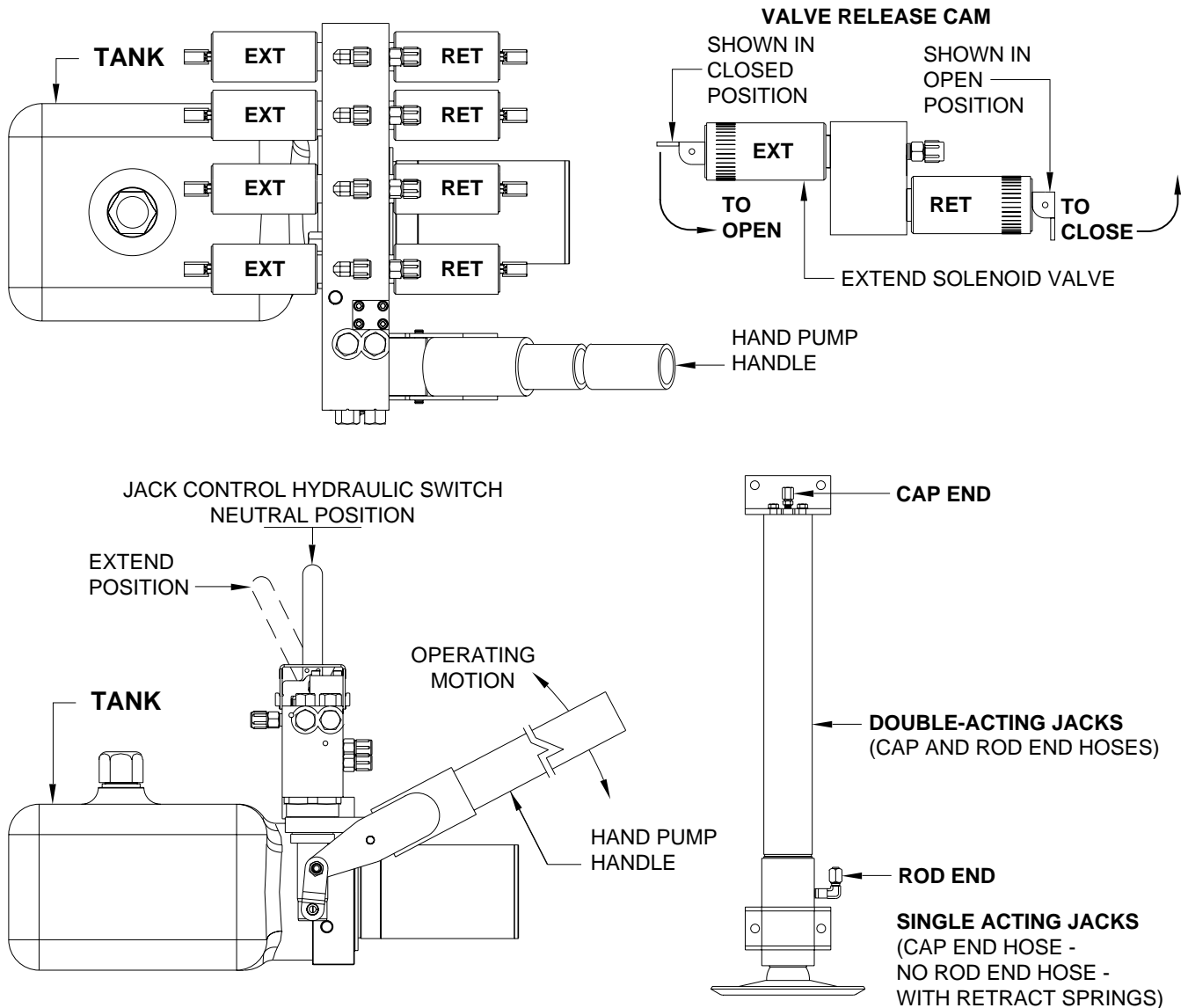
**WARNING:** DO NOT MOVE THE VEHICLE WHILE THE LANDING GEAR JACKS ARE STILL IN CONTACT WITH THE GROUND OR IN THE EXTENDED POSITION. THIS VEHICLE IS EQUIPPED WITH STRAIGHT-ACTING LANDING GEAR JACKS. MOVING THE VEHICLE WITH THE LANDING GEAR JACKS EXTENDED CAN CAUSE SEVERE DAMAGE TO THE LANDING GEAR JACKS AND OR THE VEHICLE AND CREATE A DRIVING HAZARD. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT ALL LANDING GEAR JACKS ARE FULLY RETRACTED INTO THE STORE/TRAVEL POSITION.

It is recommended to operate the hand pump occasionally to check it's operation.

The hand pump should not lose it's prime, but if it does, see MAINTENANCE - PRIMING THE HAND PUMP.

# MAINTENANCE

## PRIMING THE HAND PUMP



To prime the hand pump, it will be necessary to remove a hose from one of the jacks. One of the front jacks would be best, but use the easiest hose to get to.

If the system has Double-Acting cylinders on the front, remove the rod end hose from either of the front jacks. Place the end of the hose in a bucket. Make sure the tank is at least half full. Pump the hand pump until a healthy flow of oil is coming from the hose.

**IMPORTANT: DO NOT ALLOW THE FLUID LEVEL IN THE TANK TO LOWER MORE THAN 1 INCH BEFORE ADDING FLUID.**

Reattach the hose and retry the hand pump. Repeat the procedure if the hand pump does not move the jacks.

If the system has only Single-Acting jacks with return springs, remove the easiest hose to access and place the end in a bucket. Using the release cam, manually open the EXTEND solenoid valve for that jack (if equipped with solenoid valves) or move the jack control hydraulic switch to "EXTEND" for that jack. Make sure the tank is at least half full. Pump the hand pump until a healthy flow of fluid comes from the hose.

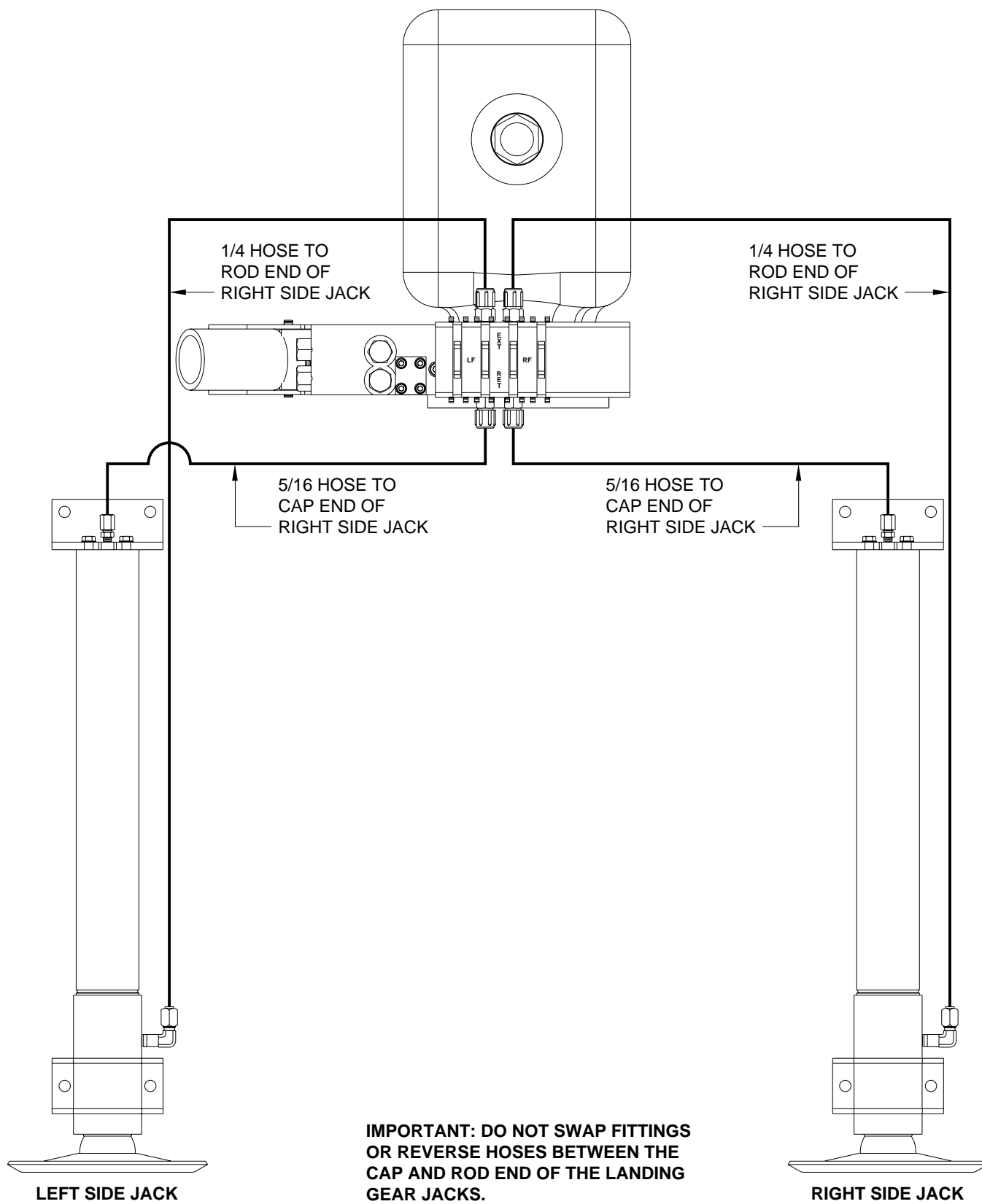
**IMPORTANT: DO NOT ALLOW THE FLUID LEVEL IN THE TANK TO LOWER MORE THAN 1 INCH BEFORE ADDING FLUID.**

Reattach the hose and retry the hand pump. Repeat the procedure if the hand pump does not move the jacks.

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**HYDRAULIC LINE CONNECTION DIAGRAM**  
**LANDING GEAR SYSTEM**  
**2 - DOUBLE-ACTING JACKS**

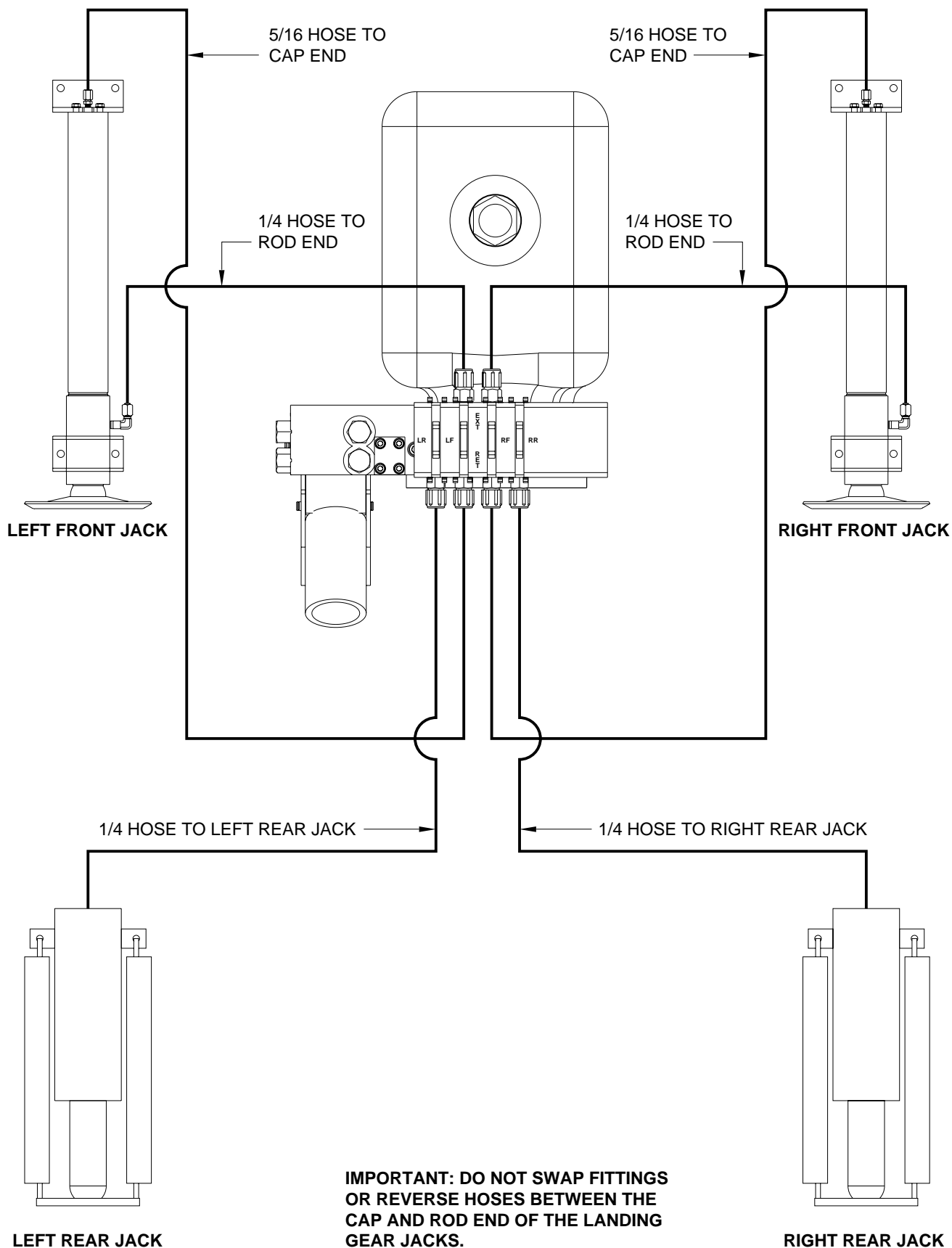
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# HYDRAULIC LINE CONNECTION DIAGRAM

## LANDING GEAR SYSTEM

### 2 - DOUBLE-ACTING JACKS (FRONT) & 2 - SINGLE ACTING JACKS (REAR)



**IMPORTANT: DO NOT SWAP FITTINGS OR REVERSE HOSES BETWEEN THE CAP AND ROD END OF THE LANDING GEAR JACKS.**

LEFT REAR JACK

RIGHT REAR JACK

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