

MOR/ryde Drive Axle Suspension System

**(Slipper Leaf Spring)
Installation Instructions**



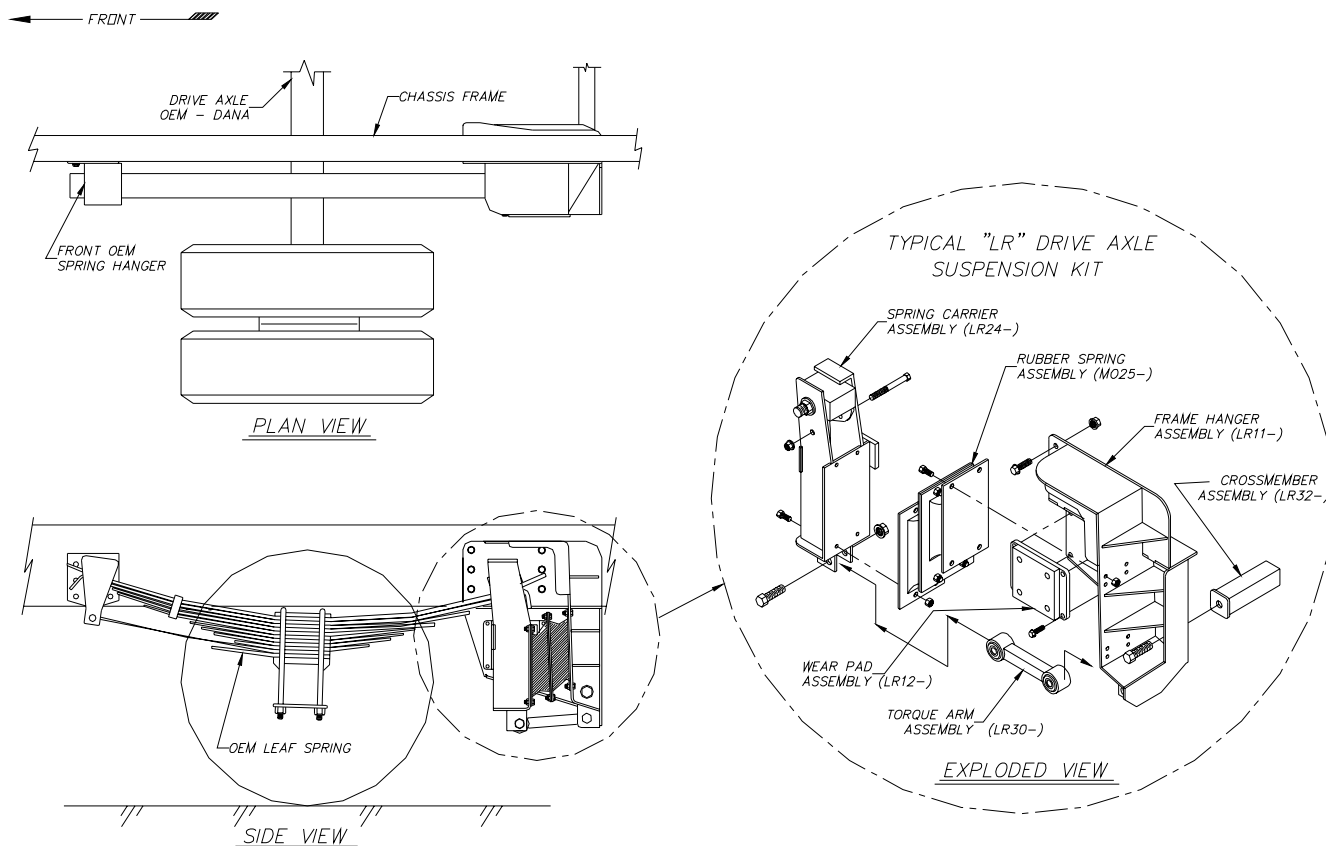
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MOR/ryde Slipper Leaf Spring Installation Instructions

Instructions will assume procedures apply to both sides of vehicle.

TYPICAL DRIVE AXLE SUSPENSION KIT



Required Tools for Installation of MOR/ryde Slipper Leaf spring Suspension Kit

*Floor Jack	Pneumatic Air Chisel
*Safety Stands	Screwdriver
Socket Set	Drift Pin
9/16" Swivel Socket	Large C-Clamp (6" min.),
Wrench Set	Porta-Power,
Cutting Torch	Small Pipe Clamp
Hand Drill	
1/2" Drill Bit	
1 1/8" Swivel Socket	
**Reciprocating Saw	
**Wire Welder	
* Check for Adequate Capacity. It must support the rear of the vehicle.	
** May be Required for Tailpipe Modifications	

Torque Chart Foot-LBS +/- 10%

Bolt Size	Grade 5	Grade 8
1/4 - 20	7	10
5/16-18	14	20
3/8-16	25	35
7/16-14	40	55
1/2-13	60	90
5/8 - 11	115	170
5/8-18	125	185
3/4 - 10	190	280



Step 1

Block the front wheels and set the emergency brake.



Step 2

Position a suitable floor jack under the rear differential and raise the chassis so the rear tires are approximately 6" off the ground. Place suitable safety stands under each frame rail. These safety stands should be positioned approximately 2'-3' behind the rear spring hangers. Lower the floor jack so the leaf spring is unloaded with the chassis fully supported by the safety stands. Leave the floor jack positioned under the differential supporting the drive axle.



Step 3

Remove the rear spring hanger. Be sure the leaf spring is not applying any pressure to the spring hanger. This picture shows a slipper spring hanger bolted to the frame.



Step 4

If the slipper spring hanger is riveted to the frame, cut off the rivet heads with a cutting torch or pneumatic air chisel. Remove hanger and lower axle. Grind rivets flush with frame.



Step 5

Knock the rivets through the frame with a pneumatic air chisel.



Step 6

If you are installing on an International chassis and there is a 2"x2" angle bolted to the frame flange, this should be removed at this time. If there is not an angle present proceed to Step 7.



Step 7

Using the 3/8" x 7/8" bolts provided, bolt the Rubber Shear Spring Assembly to the Spring Carrier. Note the stair step direction of Rubber Shear Spring relative to the Spring Carrier as shown on page 2. It should be stepping up as it goes away from the carrier.



Step 8

Hang the Spring Carrier onto the leaf spring. Install the 1/2" bolt thru the Spring Carrier arms. The bolt head should seat into the hex pocket cutout. The bolt heads must face the chassis frame rail. Note the direction of the Rubber Shear Spring Assembly, they must run uphill (stairstep upwards) towards the rear of the vehicle.



Step 9

Bolt Frame Hanger Assembly to the frame rail. Hanger Assembly is designed to match the existing holes in the frame. A drift pin may be very useful to position the Hanger Assembly onto the frame. **Do not tighten the Hanger bolts at this time.** Install the Torque Arm using the 3/4" x 3 1/2" bolt onto the Hanger Assembly. Install the square Cross-member between the Frame Hanger Assemblies using the 3/4" x 1 1/2" bolts. Now tighten all Frame Hanger bolts and Cross-member bolts to appropriate torque.



Step 10A

Bolt Rubber Spring Assemblies to the Frame Hanger. Drift pins and a vise clamp are useful for this step. Use drift pin to align holes and vise clamp to pull parts together. Lower hole position will raise rear of vehicle.



Step 10B

A Porta-Power may be required to lower the leaf spring enough to align rubber spring holes to the Hanger holes.



Step 11

Install Torque Arm Assembly into the channel brackets. Pushing off of the back of the axle, a Porta-Power can be used to position the Spring Carrier close enough to the Frame Hanger Assembly to install the Torque Arm. Attach both ends of the Torque Arm between the channel brackets with the provided 3/4" bolts. Remove Porta-Power.



Step 12

If a Porta-Power is not available, a large C-clamp can be used. Position C-clamp between back side of Frame Hanger and front side of Spring Carrier. Tighten clamp until Torque Arm ends will install into the channel brackets. Using the provided 3/4" bolts attach each end of Torque Arm to channel brackets. Remove C-clamp.



Step 13

Be sure all bolts are properly torqued. Raise vehicle, remove jack stands and lower vehicle. Be sure to check exhaust pipe clearance, pipe should have a minimum of 1" clearance to MOR/ryde steel or 2" to rubber components.



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