



Part # KLM69353(AL)

Part # KLM16650(AL)

Version 1.2

1999-2016 Ford F-350/450/550

Chassis Cab 2-Stage Rear Air Suspension



1. Place the vehicle on a flat surface. Jack the frame up so the wheels are just off the ground and place a jack stand on each side of the frame in front of the axle. Remove the rear shackle hanger and tail light bracket. Keep the lower shackle bolt as it will be re-used in step 4!



Remove these brackets

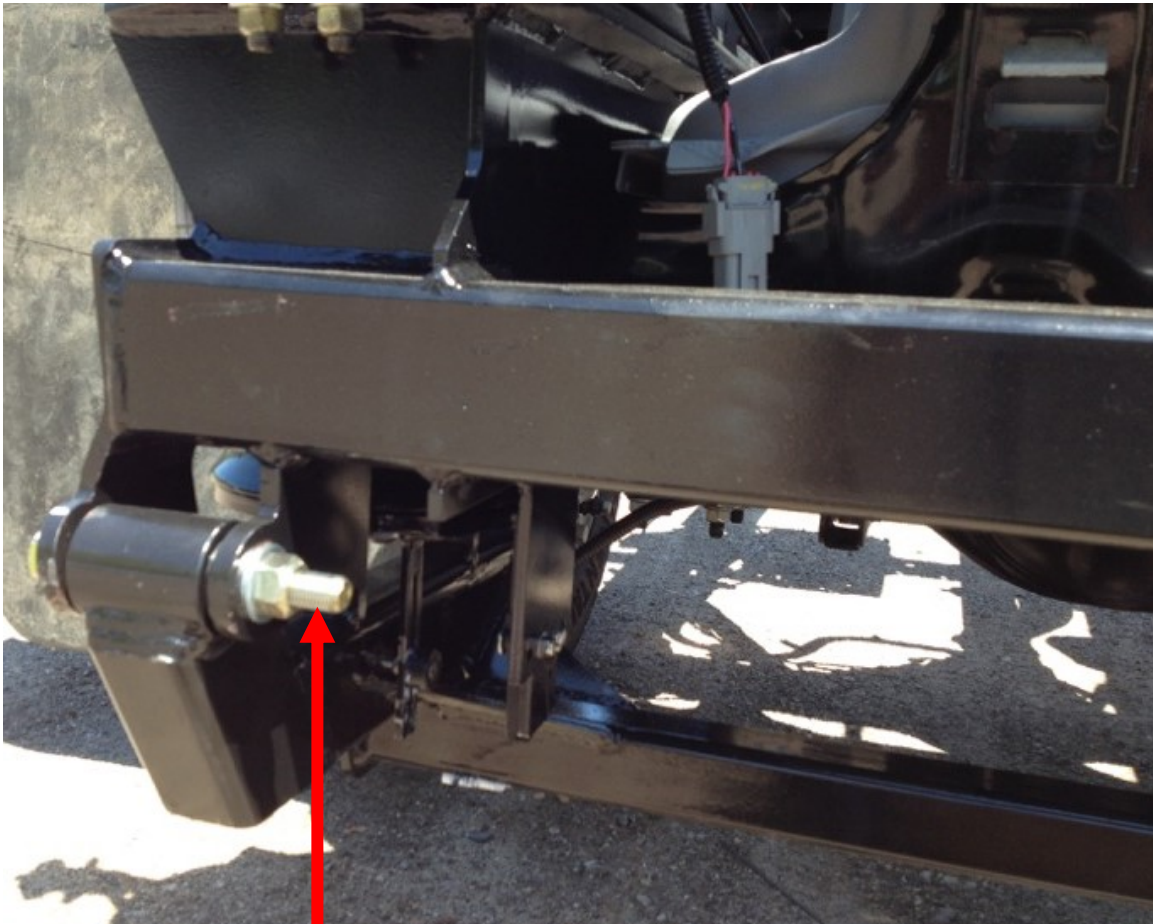
2. Locate the air suspension top frame. It fastens to the four holes on each side of the frame with the 1/2 x 1 1/2" bolts (use flat washers on each side of the bolt). Use the adjustable mounts (Part # 30616-PS and 30615-DS) and 1/2 x 1 1/2" bolts to connect the rear of the upper framework to the back portion of the truck frame. Insert the bolts from inside out and torque the bolts to 85 ft./lbs. If the frame has an extension welded to the end, you may have to drill the rear four holes. The adjustable mounts are slotted where they attach to the upper framework just for this situation.



3. Locate the 5770 air bags (part # 10589-F550). They fasten into the upper framework with the 1/2" and 3/4" flat/lock washers and nuts. Torque the nuts to 35 ft./lbs. Locate the air fitting. Insert the air fitting into the air bag and tighten finger tight. Use a wrench to then turn it one full turn.



4. Locate the lower swing arm (Part # 11489). The back (pivot point) fastens into the upper frame work with the 5/8 x 5 1/2" bolts. Insert the bolts from the outside in. Use a flat washer on each side. Do not torque this bolt yet. Connect the bottom of the air bag to the swing arm with the 5/8" nut, flat and lock washer. Torque this nut to 35 ft./lbs. **DO NOT OVERTIGHTEN. THIS BOLT IS MOLDED INTO THE RUBBER ON THE AIR BAG. IF OVERTIGHTENED IT COULD RIP THE AIR BAG.** Fasten the front of the swing arm to the leaf spring shackle with the OEM shackle bolt that was removed in Step 1. Once this bolt is connected, torque it to 135 ft./lbs. and torque the 5/8" pivot bolt also to 135 ft./lbs.



5/8x 5 1/2" bolt



OEM bolt

5. Using a torch or plasma cutter, cut the rear part of the overload spring off. Cut it right above the clamp that holds the main leaf spring pack together. Failure to do this will result in the overload leaf striking the overload pad on nearly every bump. Without cutting the leaf off, the vehicle ride quality will not be improved. Removing the overload pad is not a good option. If the air ride system would lose air, the overload spring could potentially come into contact with the floor of the vehicle and cause damage.

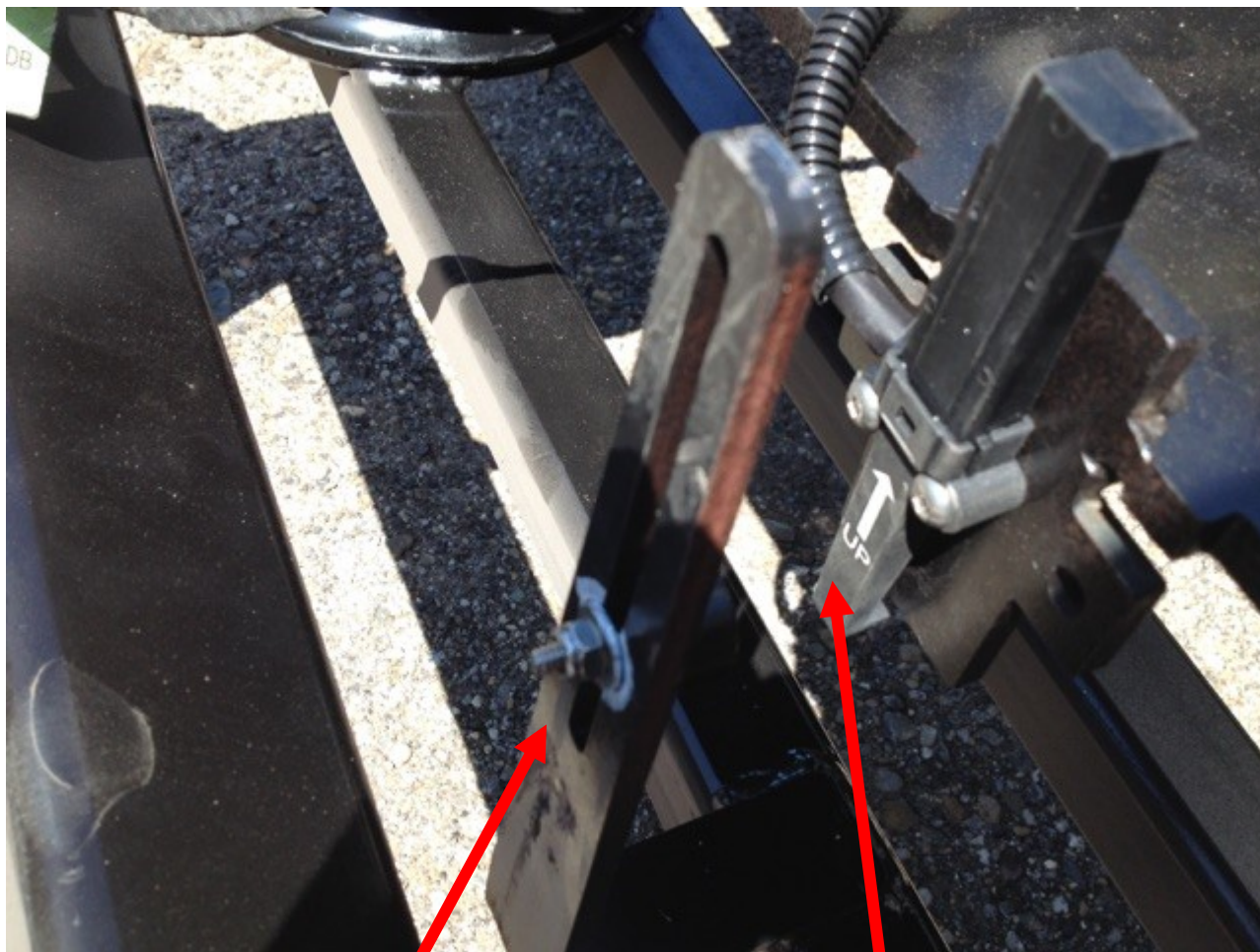
Cut leaf spring here



On F450 and F550s, cut the back section only on the overload spring. Cut where the arrow shows.

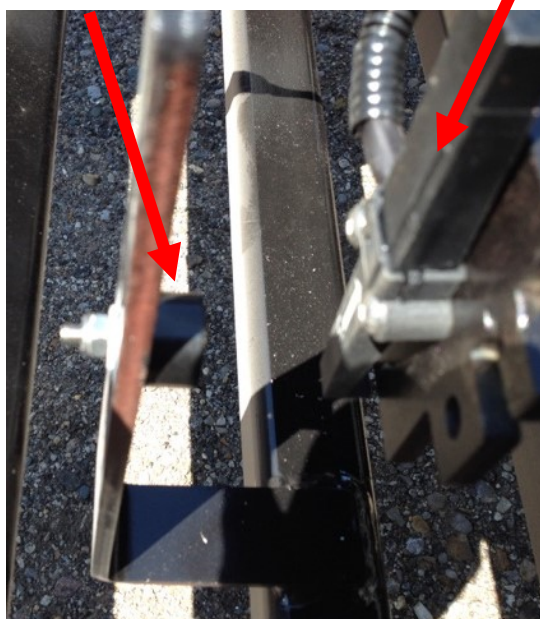


6. Locate the optional control system. There are two systems typically used, the Air Lift Wabco system and the AMK system. They both operate the same way, but the installation of the magnet is different. The sensor mounts to the flat plate on the upper frame work. The magnet fastens to the long slotted mount on the swing arm. The magnet on the Air Lift Wabco kit needs to be mounted directly across from the dotted line on the sensor, where as the AMK magnet mounts 1" below the solid line.

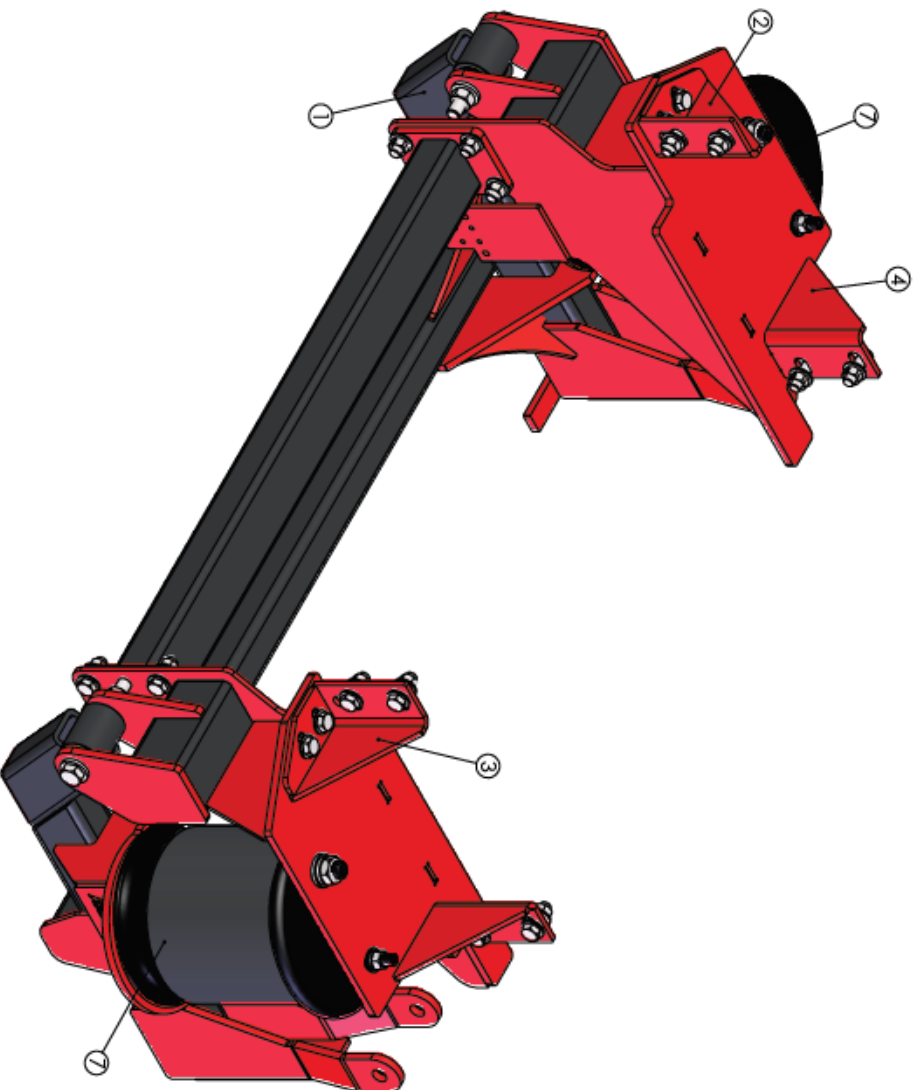


Magnet is fastened with this bolt

AMK sensor pictured



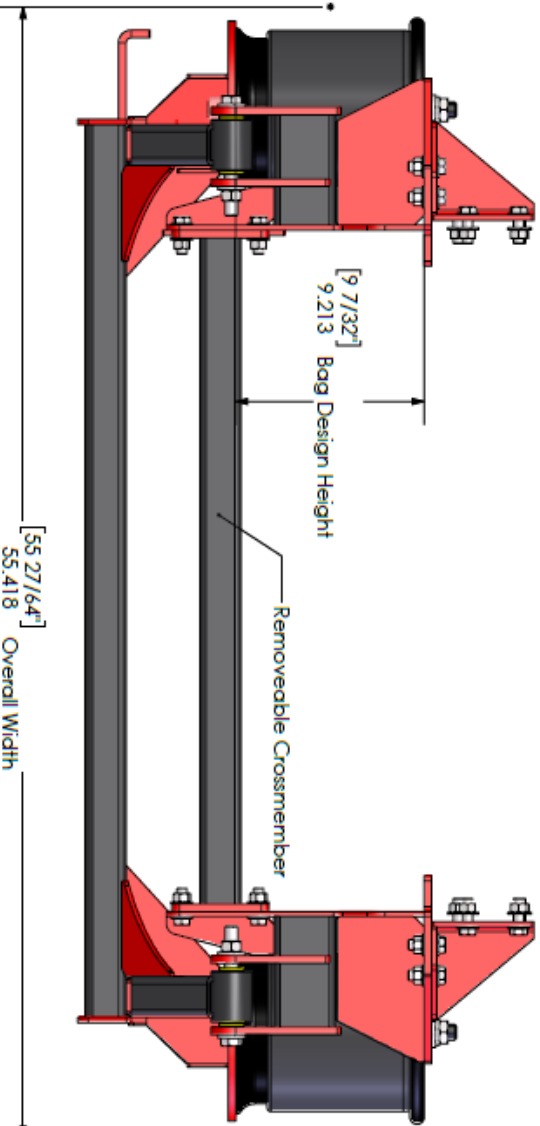
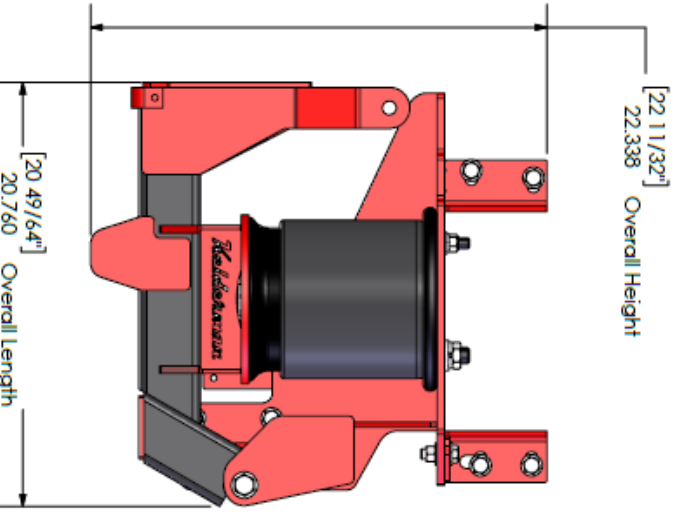
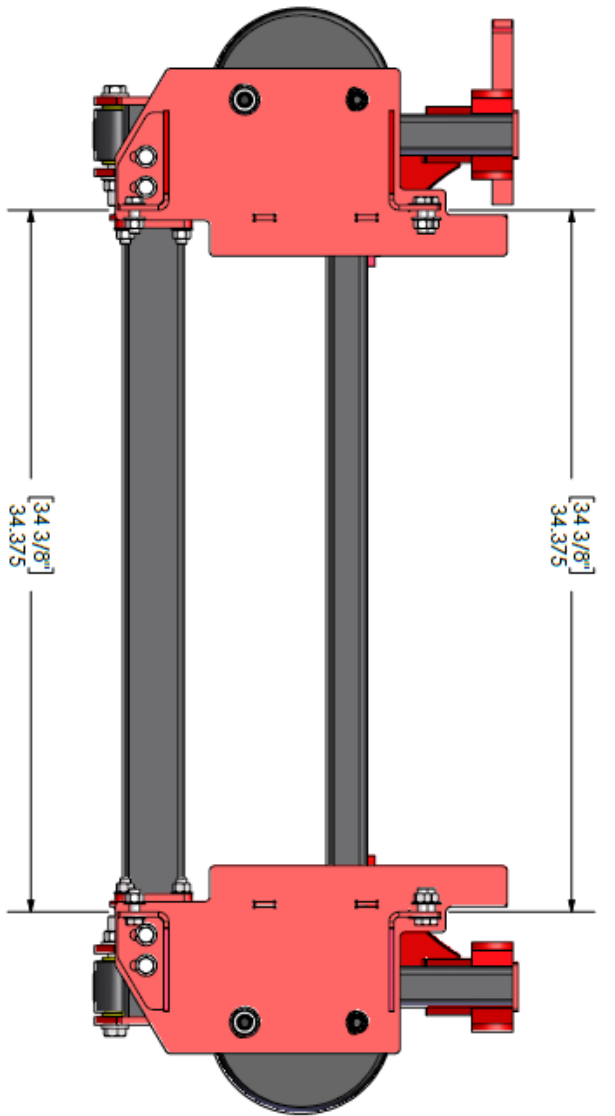
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	69182	Weldment - Swing Arm	1
2	30615	Weldment - (DS) Frame Mounting Bracket	1
3	30616	Weldment - (PS) Frame Mounting Bracket	1
4	69621	Weldment - (DS) Top Frame	1
5	69622	Weldment - (PS) Top Frame	1
6	69623	Weldment - Crossmember	1
7	80012-5770	Firestone 5770	2



REV	ECN	CHANGE DESCRIPTION	CHANGED BY	DATE

3RD ANGLE PROJECTION UNLESS OTHERWISE SPECIFIED STD. TOLERANCES XX ±.000 XXX ±.010 RX, CMAX 1/32" R99-2.5	MATL. SPECS: A DO NOT SCALE DRAWING 1:16 Approximate Weight = 204.87 lbs
DESCRIPTION: Kelderman 2-stage Rear - A1 Fuel Systems PROJECT: 2017+ F450-560 Chassis Cdb - Propane Gas PART NUMBER: KLM-69620 DESIGN BY: 1817 DATE: 12/20/2018	DESIGN BY: 1817 DATE: 12/20/2018





REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

	PRO ANGLE PROTECTION UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. STD. TOLERANCES: XX.X - ±.000 XX.XX - ±.002 XX.XXX - ±.010 F.R.C. DIA. ±.010 Deg ± .3°	MATL. SPECS: DO NOT SCALE DRAWING A 1:1.6 (Approximate Weight = 204.87 lbs)
DESCRIPTION: Kelderman 2-Stage Rear - AT Fuel Systems PROJECT: 2017+ FA50-550 Chassis Cdb - Propane Gas PART NUMBER: KLM-57620	DATE: 12/20/2016 DESIGN BY: 2817	REVISIONS: REVISION NO. DATE BY 1 12/20/2016 2817

