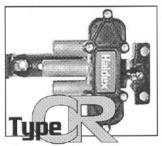
### L31177 (94100466) Rev. 4/03





**Controlled Response Height Control Valve** 

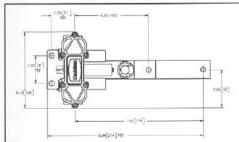


Figure 1. Specification Diagram

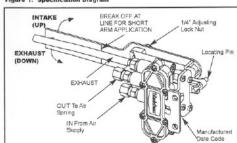


Figure 2. Features of Type CR HCV

### GENERAL INFORMATION

The Haldex Controlled Response (CR) Height Control Valve (HCV) automatically adds air to, or exhausts air from air suspension to maintain a constant static design height. The Type CR Height Control Valve does not respond to short duration dynamic changes in axle position.

- The Haldex Type CR HCV can be used for right hand or left hand and long or short control arm applications. Refer to installation instructions herein for proper plumbing connection.
- All valve ports are 1/8" NPT.
- Compression fittings for 1/4", 3/8" or metric tubing, or push-in fittings are available specify when ordering
- Optional dump functions are available using Part No. 90554902 or Part No. 90554335.
- Several different linkage assemblies can be
- purchased. Contact your Haldex Distributor for details

other brands of height control valves.

# NOTE: The Haldex Type CR can be interchanged with Optional Dump unction

### PRE-INSTALLATION INFORMATION

IMPORTANT: The Height Control Valve (HCV) and linkage are designed to maintain the vehicle ride height as loads increase and decrease. Proper set up of the HCV(s) is critical to the system performance. Prior to any assembly or disassembly, please read all instructions. Should you feel unable to properly perform the installation and adjustments of a Haldex Type CR HCV contact Haldex Technical Services or have a certified mechanic

CAUTION: Incorrect installation of valves and associated components can impair suspension and vehicle performance. It is extremely important that the original equipment manufacturer's specifications of a one- or two-HCV system are followed when installing the air control system. Refer to vehicle and suspension manufacturer's instructions for recommended valve location.

DO NOT install a single height control valve of any type if the suspension or vehicle manufacturer specifies a two (2) height control valve system.

DO NOT use antifreeze or other solvents in air supply line. Use of solvents or antifreeze can damage seals and voids the valve warranty.

ALWAYS use a Pressure Protection Valve (PPV) and filter such as the Haldex Part Number 90554107. Attach PPV directly to the air reservoir for supply to the Type CR HCV.



### INSTALLATION INSTRUCTIONS

NOTE: Prior to installation, rotate control arm 3-5 times 360 degrees in both the intake and exhaust directions to remove any adverse effects of

Prepare the vehicle for installation. The vehicle should be in an unloaded condition before starting installation procedures. Be certain all dump switches are off. Park the vehicle making sure all vehicle wheels are on a hard, level surface. Raise and properly support all auxiliary axles. Do not set the parking brakes, instead use safety wheel chocks to secure the vehicle.

WARNING: Failure to support auxiliary axles could allow axle to drop causing death or serious personal injury. Failure to use wheel chocks could allow vehicle to roll resulting in death or serious personal injury.

Check to make sure there is enough room to work around and under the vehicle where the HCV linkage is attached.

- Determine the location of the linkage end mounted to the vehicle's axle so that when the linkage is connected to the control arm of HCV proper ride height can
- Install fittings in valve before mounting to vehicle if possible. Haldex recommends fittings with pre-applied sealing compound. If they are not available use a drop of oil or threadlocker. DO NOT use teflon tape or pipe sealing compound.
- 4. Mount the Type CR HCV to the vehicle frame or a mounting bracket.
- 5. a) Connect air line from air springs to the center port. (Figure 2) b) Connect air line from the air supply to the bottom port. (Figure 2) c) The top port is ALWAYS the exhaust port. Install the supplied exhaust fitting to top port and slip the exhaust hose over the exhaust fitting. (Figure 2)
- 6. Air up the vehicle and check all fittings for leaks.
- Raise the suspension by moving the control arm of the Height Control Valve up. Either place spacer blocks between the frame and axle or jack stands between the vehicle frame and ground. (Figure 3 and 4)

CAUTION: Spacer blocks or jack stands must be of sufficient strength to support

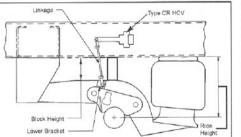


Figure 3. Block Height

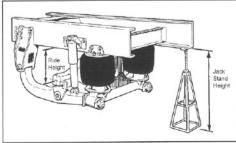


Figure 4. Jack Stand Height

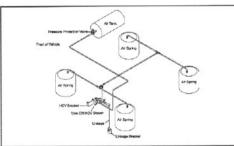


Figure 5. Single CR HCV Piping Diagram

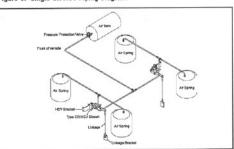


Figure 6. Dual CR HCV Piping Diagram

### INSTALLATION INSTRUCTIONS (cont'd)

NOTE: The spacer blocks or lack stands should be at a height which will allow the vehicle to come to rest on them at the correct ride height of the suspension

With spacer blocks or jack stands in position, lower the vehicle by moving the control arm of the valve down and deflate all air from the air springs and system. Recheck for proper ride height.

NOTE: It may be necessary to shim spacer blocks or jack stands to achieve the proper ride height

- 8. Once proper ride height has been achieved, move control arm on Height Control Valve to a 45° "down" position for 10-15 seconds. Return the control arm slowly to the center position. Then insert the wood locating pin into the adjusting block and bracket on valve.
- 9. Loosen the 1/4" adjusting lock nut on the adjusting block of Height Control Valve. With the suspension at ride height and the HCV control arm at the center position, install a linkage from the control arm to the pre-determined location (Step 2) for the linkage connection to the vehicle's axle.

NOTE: If the linkage is not long enough, loosen and rotate the valve or replace the linkage

- 10. Retighten the 1/4" adjusting lock nut at the adjusting block to 24-48 in.lbs.
- 11. Remove the wood locating pin that was installed in Step 7. To remove the spacer blocks or jack stands disconnect the linkage at the vehicle's axle and move the control arm up. Then remove the spacer blocks or jack stands and reconnect the linkage. The suspension will return to and maintain the proper ride height.
- 12. If proper ride height is not obtained or air springs do not inflate properly, check air pressure, check for proper piping and/or repeat Steps 6-10. As a final check, soap spray test all air line connections for air leaks and verify that all fasteners are tight. If unit is still not functioning properly, contact Haldex Technical Services.

### PERIODIC AIR CONTROL MAINTENANCE

Drain all moisture from air reservoir at regular intervals. Normal air system maintenance should be practiced.

The air filter in the Haldex Pressure Protection Valve is removable and can be deaned or replaced, if necessary

| Part Number | Fittings Provided     | Control Arm |
|-------------|-----------------------|-------------|
| 90054007    | 1/4" Tube Compression | Long        |
| 90054113    | 1/4" Tube Compression | Short       |
| 90554183    | 3/8" Tube Compression | Long        |
| 90054549    | 3/8" Tube Compression | Short       |
| 90554147    | 1/8" NPT W/O Adaptors | Long        |
| 90554114    | None                  | Long        |

Figure 7. Height Control Valve Chart

### These Additional Parts Available From Haldex Will Enable You To:

Add a suspension dump feature to your truck or trailer.

Part No. 90554902 . . . Normally Closed Dump Valve for "Auto Dump" Installations

.Normally Open Dump Valve for Manual Dump Installations 90554335 .For Remote Mounted "Auto" or Manual Dump Installations 90554615 . 90054088 . . . For Switch To Pilot Manual Dump Valves

Upgrade your Pressure Protection Valve to include an inline filter.

Description

90554107 . .PPV With Inline Filter Weigh your vehicle.

Part No. Description 42123039 . . .SM130 Economic Pressure Gauge and Decal

.SM140 Robust Pressure Gauge and Decal; Mounted in a Weatherproof Fiberglass Box



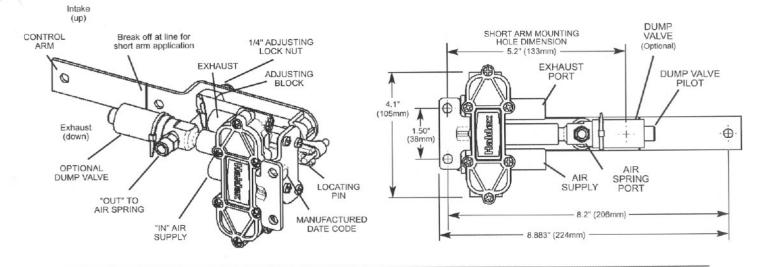
Commercial Vehicle Systems North American Sales Division 10707 N.W. Airworld Drive Karsas City, MO 64153-1215 Fax: (816) 880-9768

Commercial Vehicle Systems Haldex Limited 525 Southgate Drive, Unit 1 Guerch, Ontario CANADA MIG 3W6 Phone: (519) 826-7723 Fax (519) 825-9497

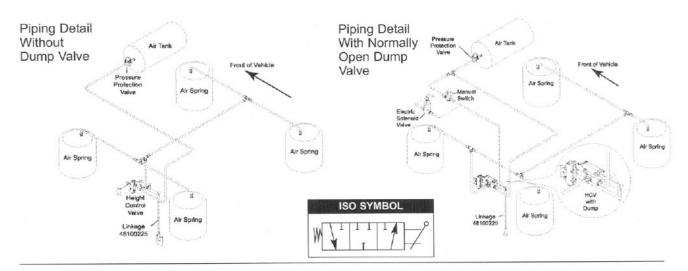
Rev. 4/03 ART ONLY L31177 (94100466)

THE HALDEX TYPE CR CONTROLLED RESPONSE HEIGHT CONTROL VALVE

# PRODUCT SPECIFICATIONS



# AIR CONTROL PIPING DETAIL



# AVAILABLE OPTIONS

| PART NO.  | TUBING SIZE   | DUMP VALVE  |  |
|-----------|---------------|---|--|
| 90054007* | 1/4"          |   |  |
| 90554114  | LESS FITTINGS | _   |  |
| 90554147  | METRIC        | -   |  |
| 90554183* | 3/8"          | -   |  |
| 90554334  | 1/4" or 3/8"  | Normally Open, Apply Air Pressure to Dump. Dump Valve Part No. 90554335     |  |
| 90554648  | 1/4" or 3/8"  | Normally Closed, Release Air Pressure to Dump. Dump Valve Part No. 90554902 |  |

NOTE: Parts are individually packed. Bulk packages and OEM Air Control Kits are available with OEM specified fittings. Contact your Haldex sales professional for assistance.

\* Direct replacement for 90554186 Height Control Valve.



## **Haldex Commercial Vehicle Systems**

**North American Sales Division Haldex Brake Products Corporation** 

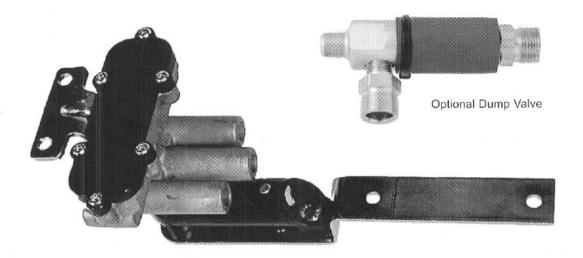
10707 NW Airworld Drive Kansas City, MO 64153-1215 Phone: 816-891-2470 Fax: 816-801-4198

### North American Sales Division **Haldex Limited**

525 Southgate Drive, Unit 1 Guelph, Ontario CAN N1G 3W6 Phone: 519-826-7723 Fax: 519-826-9497



THE HALDEX
TYPE CR
CONTROLLED
RESPONSE HEIGHT
CONTROL VALVE



# TIME DELAY HEIGHT CONTROL VALVE FOR TRACTOR AND TRAILER AIR SUSPENSIONS AND INDUSTRIAL APPLICATIONS

# FEATURES AND BENEFITS

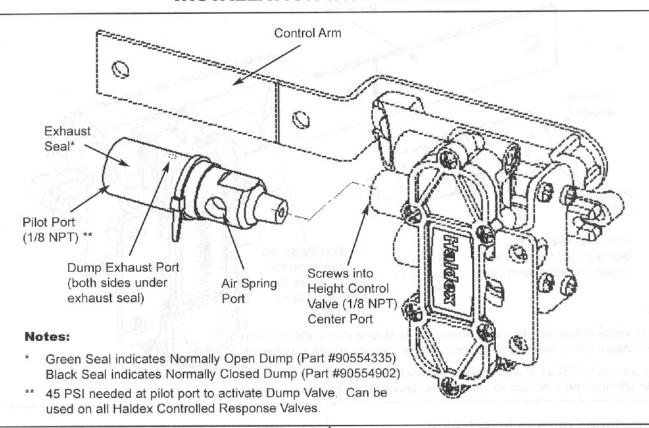
- Controlled response time delay technology maintains chassis position and conserves air to increase compressor life.
- Robust die cast zinc body, precision machined steel and durable plastic components to insure operation in extreme conditions.
- Available with 1/4", 3/8" or metric filter fittings, with integral dump valves and break away arms. Combined with flexible right or left mounting options, these features allow ease of installation and reduce inventories.
- Minimum deadband range provides excellent control of suspension ride height to maintain drive system pinion angles.
- Optional integrated dump valve provides the ability to automatically or manually exhaust air from the suspension.







# Normally Open or Normally Closed Dump Valve For Type CR (Controlled Response) Height Control Valve INSTALLATION INSTRUCTIONS



### Installation Instructions

- Make sure the dump valve and center port of the HCV are free of dirt and debris.
- Lubricate the 1/8 NPT male threads on the dump valve with a drop of threadlocker or oil. Do not use pipe tape or pipe compound.

**IMPORTANT:** Valve may malfunction if the threadlocker or oil drips into the HCV or the dump valve.

Screw the dump valve into the center port of the HCV until hand tight.

# **Installation Instructions (continued)**

- Using a 5/8" wrench, tighten the dump valve one complete turn until the air spring port is directly opposite the control arm of the HCV.
- Use Vibraseal fitting or lubricate with threadlocker.Do not use pipe tape or pipe compound.
- Torque fittings to 5 to 10 ft. lbs.

IMPORTANT: Do not exceed the torque specifications on the dump valve or fittings. Exceeding the torque specifications may result in a

Exceeding the torque specifications may result in a cracked valve or a stripped fitting.



Commercial Vehicle Systems North American Sales Division 10707 N.W. Airworld Drive Kansas City, MO 64153-1215

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Rev. 1/03 ART ONLY L31182 (94100539)

### TROUBLE-SHOOTING

IMPORTANT -- Most trouble or failures do not put the suspension out of operation. Road repairs are not necessary for anything less than a major breakdown. Temporary steps can be taken to

continue careful operation for many miles until such time it is convenient to make repairs.

Broken or worn shock absorbers, rubber bushings, or other components should be replaced as soon as conveniently possible.

POSSIBLE CAUSE POSSIBLE REMEDY All Air Springs Flat Insufficient air pressure. Build up air pressure.

Leak or broken line in air system. Locate and repair.

? Air Filter Clogged. Replace ?

Dump solenoid burned out. Replace

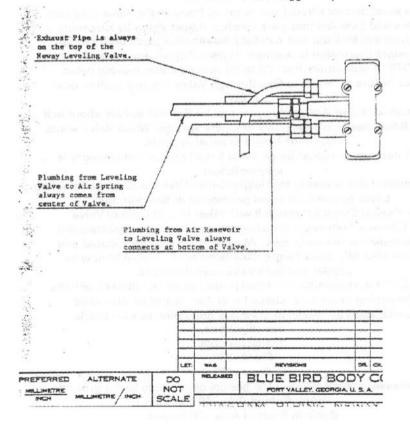
TROUBLE-SHOOTING - Continued

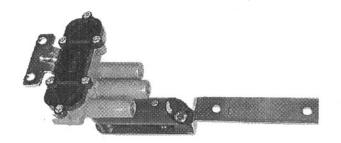
Suspension Deflates Rapidly When Parked Leak in Air Suspension System. Locate and repair. Leaking Air Spring. Check for puncture or wear; repair or replace

f
Air Spring Blown Out
Punctured or cut. Replace
Suspension operated without air
pressure in springs.
Check item s listed under "All
Air Springs Flat".
Continued or repeated over-extension
of Air Spring
Suspension riding too high.
Adjust Height Control Valves.
Shock Absorber broken: replace.

Vehicle Rides Too High or Low Improperly adjusted Height Control Valves. Readiust.

? Slow Recovery of Dump System Air Filter Clogged Replace





### HEIGHT CONTROL VALVE ADJUSTMENT

Adjust Height Control Valves for proper frame height by setting one valve at a time as follows:

- Position vehicle on level floor and air compressor running to maintain air pressure while adjusting valves.
- Disconnect both Height Control Valve Linkage Assemblies from the External Actuating Levers.
- 3. Move both Actuating Levers to a vertical down position to exhaust all air from the Air Springs.
- Connect one Valve Actuating Lever only with its respective Link Assembly. Let Air Springs that are controlled by this Valve fill until Valve shuts off.
- 5. Measure distance from floor to top of frame in the same area that Valve and Link Assembly are located. Adjust Valve by loosening adjustment lock nut and carefully move nylon block until proper height dimension is reached. Tighten Adjustment Lock Nut. NOTE: It will require from (2) to (5) seconds after moving nylon block before air starts to flow through Valve due to a built-in time delay.
- Disconnect Link Assembly again and let Springs deflate about half way. Reconnect Link Assembly to inflate springs. When Valve shuts off, check height dimension again.
  - If necessary, repeat Steps 5 and 6 until proper frame height is accomplished.
- 8. Disconnect this properly set Height Control Valve and move Actuating
  Lever to a vertical down position to deflate springs.
  - 9. Repeat Steps 4 through 8 with other Height Control Valve.
    10. Connect both valve actuating levers with their respective link assemblies at the same time. When springs are fully inflated and valve shut off, check height dimension again. It should now be proper and both valves synchronized.

NOTE: If it is impossible to obtain proper valve adjustment with the foregoing procedure, check for proper height control valve installation as shown in drawings pertaining to the vehicle specifications.

Frame Heights Front - 37" Rear - 38"

FC measurements taken at the bottom of the body to the ground:
Front: Behind Axle - 19 inches
Back: In Front of Axle - 20 inches

### RIDEWELL VEHICLE AIR SUSPENSION

The RIDEWELL AR SUSPENSION uses pressurized air, drawn from the conventional vehicle air system, to form the load carrying, shock absorbing springs. Automatic height control valves regulate the air pressure required for varying loads, and maintains a constant vehicle ride height at all times. Its basic characteristics is its ability to provide a cushioned ride through the light to loaded range. The RIDEWELL AR SUSPENSION differs greatly from conventional leaf spring suspensions. This manual is presented to provide an understanding of its operation, function, and characteristics, and to assist in applying PREVENTIVE MAINTENANCE AND CORRECTIVE SERVICE, when necessary. The RIDEWELL AIR SUSPENSION is designed and engineered to provide continuing trouble-free operation, requiring the minimum of service and maintenance.

### PRE-OPERATIONAL CHECK LIST

Before the vehicle is placed into service in an over-the-road operation, the following items should be inspected:

- 1. With the vehicle engine running to maintain air pressure in excess of 100 PSI and parked on a level floor, check --
- A All air springs should be of equal firmness.
- B. Dimension from floor to top of frame should be checked.

Front Frame Height - 37"

Rear Frame Height - 38"

- C. The air springs must have a clearance of at least 2" around the rubber air springs.
- 2. With the engine shut off, check suspension air system for leaks.
- 3. Check all nuts and bolts for tightness. (See Page 5 for Torque Specifications.)

### OPERATING INSTRUCTIONS

The air suspension is controlled by automatic valves that maintain a constant vehicle height by pressurizing or exhausting air in the springs as needed to support the load being carried.

The vehicle-air pressure must be built up and maintained in excess of 100 PSI to inflate the air springs before operating.

Mechanical stability through the suspension system allows careful operation of the loaded vehicle with pressurized air springs on one side only without excessive lean. To deflate and/or cut off pressure to damaged air springs, disconnect the height control valve actuating levers from their link assemblies and rotate to vertical down position.

IMPORTANT NOTE — Most trouble or failures do not put the suspension out of operation. Road repairs are not necessary for anything less than a major breakdown. Temporary steps can be taken to continue careful operation for many miles until such time it is convenient to make repairs. Safe air brake pressure of 65 PSI is automatically maintained by a brake protection valve in the event of an air loss due to a failure in the suspension air system. Rubber bumpers inside the air springs carry the loaded vehicle, should all air springs go flat.

### INSPECTION CHECK LIST

First 1,000 and 5,000 miles - Physical Inspection

- 1. Check all-nuts, bolts, and air connections for tightness.
- 2. Check all air springs for equally inflated firmness.
- 3. Check ride height dimension.

Daily - Visual Inspection

- 1. Check air springs for inflation.
  2. Check for loose or broken parts.

  2. Check for loose or broken parts.

Every 30 Days - Visual Inspection

- 1. Check all nuts, bolts and air connections for tightness.
- 2. Check air springs for equally inflated firmness.
- 3. Check for broken and abnormally worn parts.
- 4. Check for wear from insufficient clearance around air springs, shock absorbers, air brake chambers and tires.

Every 90 Days - Physical Inspection

- 1. Thoroughly check all items listed for 30-day Inspection.
- 2. Lift rear of vehicle until suspension is fully extended. Check the following:
- a. Air Springs should be completely deflated.
- b. Inspect the air spring for wear at the contact area to the pedestal.
- c. Clean pedestal thoroughly with wire brush.
- d. Check shock absorbers for oil leakage and worn rubber bushings.
- e. Repeat procedure for front of vehicle.
- 3. Remove blocks to let vehicle down. All air springs should equally inflate
- if height control valves function properly and air reservoir pressure is maintained.

### SERVICE NOTES / TORQUE SPECIFICATIONS (Lubricated Threads)

BOLT OR STUD SIZE \* RECOMMENDED TORQUE

1/4" at Leveling Valves 5.5 Ft. Lbs.

1/2" at Air Spring 25 Ft. Lbs.

3/4" at Air Spring 25 Ft. Lbs.

7/8" at Tract Bar 400 Ft. Lbs.

7/8" at Rear Axle "U" Bolts 350 Ft. Lbs.

1 1/4" at Ft. Torque Beams 750 Ft. Lbs.

1 1/2" at Rear Torque Beams 1100 Ft. Lbs.

\*All Torque Valve +-10%

BRASS AR FITTING CONNECTIONS

BRASS PIPE FITTING - SIZE \*RECOMMENDED TORQUE

1/8 N.P.T. 4 Ft. Lbs:

1/4 N.P.T. 10 Ft. Lbs.

Note: Use Loctite or equivalent sealer at brass pipe fitting connections.

Do not allow sealer to enter any valve body or connection.

Lubrication --

Your Ridewell Suspension requires no lubrication at any time.

Lubricate axles according to axle manufacturer's recommendations.

Caution: Because the air suspension is controlled by sensitive

valves, the air supply must be kept reasonably free of foreign

matter, moisture, and oil. Air tanks should be drained regularly

and air compressor rings maintained.

RIDEWELL VEHICLE AIR SUSPENSION AND RELATED PARTS SPECIFICATIONS, AIR BAGS, SHOCKS, HEIGHT CONTR

\_\_\_\_\_

AIR SPRING/BAG PARTS NUMBERS FOR '82 FC35RB;

8992 PREFERRED or 8997 (LONG STUD) FRONT

The front air spring is Bluebird part number 263581 at a price of \$209.92. The Ridewell part num

The rear air spring is Bluebird part number 0961250 at a price of \$195.14. The Ridewell part num

\_\_\_\_\_

HEIGHT CONTROL VALVE PART NUMBERS FOR A 1982 FC35RB;

NEWAY (OLD) - 90054520

HALDEX (NEW) - 90054007 - FLEET PRIDE @ \$63.03 EACH PLUS TAX

-----

SHOCKS FOR A 1982 FC35RB;

FRONT - KONI (ADJUSTABLE) - 90 2497SP1 - BLUEBIRD # 0036380 @ \$128.14 EACH PLUS TAX 2/24/05

REAR - GABRIEL (NON-ADJUSTABLE) - BLUEBIRD # 091284 @ \$54.36 EACH PLUS TAX 6/14/05

REAR SHOCK BUSHINGS - BLUEBIRD # 0614982 @ \$0.60 EACH (TWO PER SHOCK REQ.) PLUS TAX 6/15/05

KONI SHOCKS Adjustment Procedure 76, 80, 82, 86, 87, 88, 90, 8040, 8240 Series

Rebound Adjustment Procedures

Remove the shock absorber from the vehicle and hold it vertically with the lower eye or pin atta Fully collapse the shock absorber, at the same time turning the dust cap or piston rod slowly to Some shock absorbers include a bump rubber concealed under the dust cover and it must be removed The damper may have already been adjusted. Therefore check whether the shock absorber is in the Keeping the shock absorber collapsed, make 1 half turn (180 degrees) to the right (clockwise). I Pull the shock absorber out vertically without turning for at least 1 cm to disengage the adjust ADJUSTING DIRECTION

Clockwise = Firmer

Counter Clockwise = Softer

RIDEWELL AIR SUSPENSION uses pressurized air, drawn from the conventional vehicle air system The RIDEWELL AIR SUSPENSION differs greatly from conventional leaf spring suspensions. This manu The RIDEWELL AIR SUSPENSION is designed and engineered to provide continuing trouble-free operat http://fl.grp.yahoofs.com/v1/EM36Rfc-k0ORId7QjsbB5GRSeGF9Gkp8evao03PEr6VryO7k6sBGNwp5r... 3/16/2007

# PRE-OPERATIONAL CHECK LIST

Before the vehicle is placed into service in an over-the-road operation, the following items sho With the vehicle engine running to maintain air pressure in excess of 100 PSI and parked on a le All air springs should be of equal firmness.

Dimension from floor to top of frame should be checked.

Front Frame Height - 37" Rear Frame Height - 38"

The air springs must have a clearance of at least 2" around the rubber air springs.

With the engine shut off, check. suspension air system for leaks.

Check all nuts and bolts for tightness. (See Page 5 for Torque Specifications.)

### -2-OPERATING INSTRUCTIONS

The air suspension is controlled by automatic valves that maintain a constant vehicle height by

?
The vehicle-air pressure must be built up and maintained in excess of 100 PSI to inflate the air
?
Mechanical stability through the suspension system allows careful operation of the loaded vehicl
?
IMPORTANT NOTE --- Most trouble or failures do not put the suspension out of operation. Road rep
?
-3-

INSPECTION CHECK LIST

First 1,000 and 5,000 miles - Physical Inspection

Check all-nuts, bolts, and air connections for tightness.

Check all air springs for equally inflated firmness.

Check ride height dimension.

Daily - Visual Inspection

Check air springs for inflation.

Check for loose or broken parts.

Every 30 Days - Visual Inspection

Check all nuts, bolts and air connections for tightness.

Check air springs for equally inflated firmness.

Check for broken and abnormally worn parts.

Check for wear from insufficient clearance around air springs, shock absorbers, air brake chambe

Every 90 Days - Physical Inspection

Thoroughly check all items listed for 30-day Inspection.

Lift rear of vehicle until suspension is fully extended. Check the following:

Air Springs should be completely deflated.

Inspect the air spring for wear at the contact area to the pedestal.

an pedestal thoroughly with wire brush.

Cneck shock absorbers for oil leakage and worn rubber bushings.

Repeat procedure for front of vehicle.

Remove blocks to let vehicle down. All air springs should equally inflate if height control valv

-4-

SERVICE NOTES

TORQUE SPECIFICATIONS (Lubricated Threads)

BOLT OR STUD SIZE \*RECOMMENDED TORQUE

1/4" at Leveling Valves 5.5 Ft. Lbs.
1/2" at Air Spring 25 Ft. Lbs.
3/4" at Air Spring 25 Ft. Lbs.
7/8" at Tract Bar 400 Ft. Lbs.
7/8" at Rear Axle "U" Bolts 350 Ft. Lbs.
1 1/4" at Ft. Torque Beams 750 Ft. Lbs.
1 1/2" at Rear Torque Beams 1100 Ft. Lbs.

All Torque Valve +-10%

BRASS AIR FITTING CONNECTIONS

```
1/8 N.P.T. 4 Ft. Lbs.
1/4 N.P.T. 10 Ft. Lbs.
```

Note: Use Loctite or equivalent sealer at brass pipe fitting connections. Do not allow sealer to

Your Ridewell Suspension requires no lubrication at any time. Lubricate axles according to axl Caution: Because the air suspension is controlled by sensitive valves, the air supply must be ke

-5-HEIGHT CONTROL VALVE ADJUSTMENT

Adjust Height Control Valves for proper frame height by setting one valve at a time as follows:

Position vehicle on level floor and air compressor running to maintain air pressure while adjust

Disconnect both Height Control Valve Linkage Assemblies from the External Actuating Levers.

Move both Actuating Levers to a vertical down position to exhaust all air from the Air Springs.

nect one Valve Actuating Lever only with its respective Link Assembly. Let Air Springs that a

Measure distance from floor to top of frame in the same area that Valve and Link Assembly are lo

NOTE: It will require from (2) to (6) seconds after moving nylon block before air starts to flow

Disconnect Link Assembly again and let Springs deflate about half way. Reconnect Link Assembly t

If necessary, repeat Steps 5 and 6 until proper frame height is accomplished.

Disconnect this properly set Height Control Valve and move Actuating Lever to a vertical down po

Repeat Steps 4 through 8 with other Height Control Valve.

? ? -6-

HEIGHT CONTROL VALVE ADJUSTMENT - Continued

Connect both valve actuating levers with their respective link assemblies at the same time. When NOTE: If it is impossible to obtain proper valve adjustment with the foregoing procedure, check Frame Heights

Front - 37" Rear - 38" IMPORTANT -- Most trouble or failures do not put the suspension out of operation. Road repairs a Broken or worn shock absorbers, rubber bushings, or other components should be replaced as soon

### POSSIBLE CAUSE POSSIBLE REMEDY

```
All Air Springs Flat
Insufficient air pressure. Build up air pressure.
Leak or broken line in air system. Locate and repair.
    Filter Clogged. Replace
Dump solenoid burned out. Replace
?
-7-
? ?
TROUBLE-SHOOTING - Continued
Suspension Deflates Rapidly When Parked
Leak in Air Suspension System. Locate and repair.
Leaking Air Spring. Check for puncture or wear; repair or replace
Air Spring Blown Out
Punctured or cut. Replace
Suspension operated without air pressure in springs. Check items listed under "All Air Springs F
Continued or repeated over-extension of Air Spring Suspension riding too high. Adjust Height Con
```

Shock Absorber broken; replace.

?
Vehicle Rides Too High or Low
Improperly adjusted Height Control Valves. Readjust.
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Slow Recovery of Dump System
Air Filter Clogged Replace
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