

Front Suspension

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Description and Operation

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Front Suspension Description and Operation

The front suspension has 2 primary purposes:

- Isolate the driver from irregularities in the road surface.
- Define the ride and handling characteristics of the vehicle.

The front suspension absorbs the impact of the tires traveling over irregular road surfaces and dissipates this energy throughout the suspension system. This process isolates the vehicle occupants from the road surface. The rate at which the suspension dissipates the energy and the amount of energy that is absorbed is how the suspension defines the vehicles ride characteristics.

Ride characteristics are designed into the suspension system and are not adjustable. The ride characteristics are mentioned in this description in order to aid in the understanding of the functions of the suspension system. The suspension system must allow for the vertical movement of the tire and wheel assembly as the vehicle travels over irregular road surfaces while maintaining the tire's horizontal relationship to the road.

This requires that the steering knuckle be suspended between a lower control arm and a strut assembly. The lower control arm attaches from the steering knuckle at the outermost point of the control arm. The attachment is through a ball and socket type joint. The innermost end of the control arm attached at 2 points to the vehicle frame through semi-rigid bushings. The upper portion of the steering knuckle is attached to a strut assembly. The strut assembly then connects to the vehicle body by way of an upper bearing. The steering knuckle is allowed to travel up and down independent of the vehicle body structure and frame.

This up and down motion of the steering knuckle as the vehicle travels over bumps is absorbed predominantly by the coil spring. This spring is retained under tension over the strut assembly. A strut is used in conjunction with this system in order to dampen out the oscillations of the coil spring. A strut is a basic hydraulic cylinder.

The strut is filled with oil and has a moveable shaft that connects to a piston inside the strut. Valves inside the shock absorber offer resistance to oil flow and consequently inhibit rapid movement of the piston and shaft. Each end of the shock absorber is connected in such a fashion to utilize this recoil action of a spring alone. Each end of the strut is designed as the connection point of the suspension system to the vehicle and acts as the coil spring seat. This allows the strut to utilize the dampening action to reduce the recoil of a spring alone. The lower control arm is allowed to pivot at the vehicle frame in a vertical fashion. The ball joint allows the steering knuckle to maintain the perpendicular relationship to the road surface.

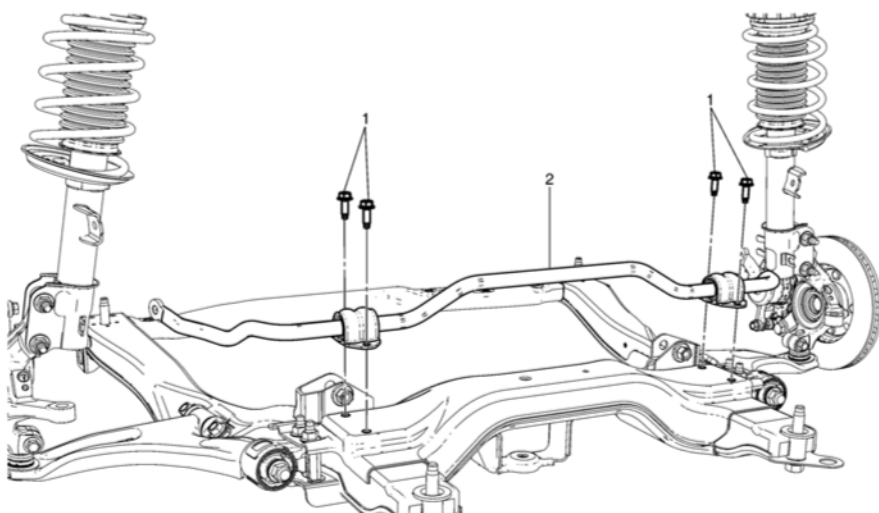
Front suspensions systems utilize a stabilizer shaft. The stabilizer bar connects between the left and right lower control arm assemblies through the stabilizer link and stabilizer shaft insulators. This bar controls the amount of independent movement of the suspension when the vehicle turns. Limiting the independent movement defines the vehicles handling characteristics on turns.

Repair Instructions

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Stabilizer Shaft Replacement





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Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .	
2. Remove the front tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation .	
3. Separate both of the outer tie rod ends. Refer to Steering Linkage Outer Tie Rod Replacement .	
4. Remove both of the stabilizer shaft links. Refer to Stabilizer Shaft Link Replacement .	
1	Front Stabilizer Shaft Clamp Bolt (Qty:â€%4) Caution: Refer to Fastener Caution . Tighten 25â€%N-m (18 lbâ€%ft)
2	Front Stabilizer Shaft

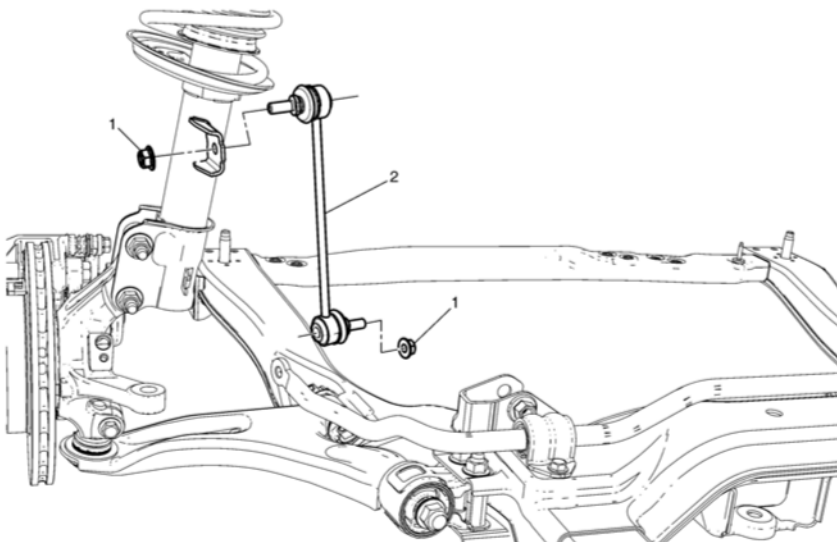
Related Part Information

Part Name	Catalog Name	Part Code
Front Stabilizer Shaft	SHAFT KIT,FRT STAB	0049Z
Front Stabilizer Shaft	SHAFT,FRT STAB	0050A
Front Stabilizer Shaft	SHAFT,FRT STAB	0100A
Rear Stabilizer Shaft	SHAFT,RR STAB	0049A
Rear Stabilizer Shaft	SHAFT,RR STAB	0050A
Rear Stabilizer Shaft	SHAFT,RR STAB (RPR)	0050B
Rear Stabilizer Shaft	SHAFT KIT,RR STAB	0051A
Rear Stabilizer Shaft	SHAFT,RR STAB	SJ503
Front Stabilizer Shaft	SHAFT,FRT STAB	SJ504
Front Stabilizer Shaft	SHAFT,FRT STAB	SS291
Rear Stabilizer Shaft	SHAFT,RR STAB	SS292
Front Stabilizer Shaft	SHAFT PKG,FRT STAB	SJ080

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Stabilizer Shaft Link Replacement





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Callout	Component Name
	Preliminary Procedure 1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle. 2. Remove the front tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation. 3. Remove the drivetrain and front suspension frame skid plate, if equipped. Refer to Drivetrain and Front Suspension Frame Skid Plate Replacement.

Callout	Component Name
1	Front Stabilizer Shaft Link Nut (Qty:â€%2) Caution: Refer to Fastener Caution. Note: 1. When removing the stabilizer shaft link nuts, remove both of the upper nuts first and then lift up the stabilizer bar ends in order to get the tool access to lower nuts. 2. When removing and installing nut, fix the rotational pivot bolt with the appropriate tool. Tighten 43â€%N-m (32 lbâ€%ft)
2	Front Stabilizer Shaft Link

Related Part Information

Part Name	Catalog Name	Part Code
Front Stabilizer Shaft Link	LINK,FRT STAB SHF	1000A
Front Stabilizer Shaft Link	LINK,FRT STAB SHF	1000B
Front Stabilizer Shaft Link	LINK KIT,FRT STAB SHF	1000C
Front Stabilizer Shaft Link	LINK,FRT STAB SHF	1000D
Front Stabilizer Shaft Link	LINK,FRT STAB SHF (RPR)	X0011
Rear Stabilizer Shaft Link	LINK,RR STAB SHF	1550A
Rear Stabilizer Shaft Link	LINK,RR STAB SHF	1550B
Rear Stabilizer Shaft Link	LINK KIT,RR STAB SHF	1550C
Rear Stabilizer Shaft Link	LINK,RR STAB SHF (RPR)	1550D
Front Stabilizer Shaft Link	LINK,FRT STAB SHF	SS293
Rear Stabilizer Shaft Link	LINK,RR STAB SHF	SS297

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Stabilizer Shaft Insulator Replacement

The stabilizer shaft insulator is not serviced separately. If the stabilizer shaft insulator is defective, it will have to be replaced as the stabilizer shaft assembly. Refer to [Stabilizer Shaft Replacement](#).

Related Part Information

Part Name	Catalog Name	Part Code
Front Stabilizer Shaft Insulator	INSULATOR,FRT STAB SHF	0299A
Front Stabilizer Shaft Insulator	INSULATOR,FRT STAB SHF	0300A
Front Stabilizer Shaft Insulator	INSULATOR,FRT STAB SHF (RPR)	0300B
Rear Stabilizer Shaft Insulator	INSULATOR,RR STAB SHF	0695A
Rear Stabilizer Shaft Insulator	INSULATOR,RR STAB SHF	0700A
Rear Stabilizer Shaft Insulator	INSULATOR,RR STAB SHF (RPR)	0700B
Front Stabilizer Shaft Insulator	INSULATOR,FRT STAB SHF	SS294
Rear Stabilizer Shaft Insulator	INSULATOR,RR STAB SHF	SS295

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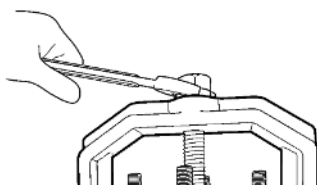
Front Wheel Bearing and Hub Replacement

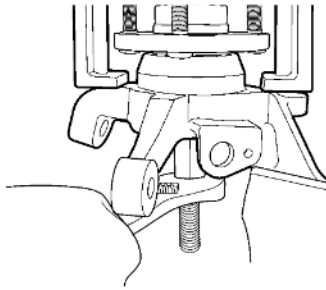
Special Tools

- CH-46560-04 Thread Rod (Component of DT-50178)
- CH-46560-05 Hex Nut (Component of DT-50178)
- DT-47540 Wheel Hub Spacer (Hub Removal & Installation Adapter, Component of DT-50178)
- DT-47541 Wheel Bearing Spacer (Wheel Bearing Removal Adapter, Component of DT-50178)
- DT-47542 Wheel Bearing Spacer (Hub & Bearing Installation Plate, Component of DT-50178)
- DT-47543 Wheel Bearing Spacer (Wheel Bearing Installation Adapter, Component of DT-50178)
- DT-50178 Hub/Bearing Remover/Installer Kit
- DT-50178-01 Bridge Support (Component of DT-50178)

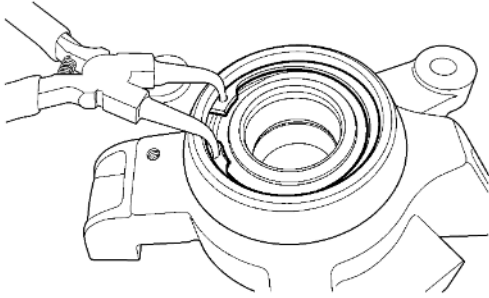
Removal Procedure

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Remove the front wheel and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
3. Remove the brake rotor. Refer to [Front Brake Rotor Replacement](#).
4. Remove the steering knuckle assembly. Refer to [Steering Knuckle Replacement](#).
5. Use a vice in order to hold the steering knuckle assembly.





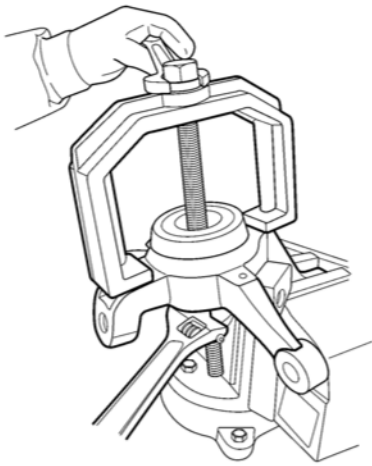
6. [Click here for full size](#)
7. Using the *DT-50178-01* bridge support , *CH-46560-04* thread rod , *CH-46560-05* hex nut , and *DT-47540* wheel hub spacer , remove the wheel hub from the steering knuckle.



8.

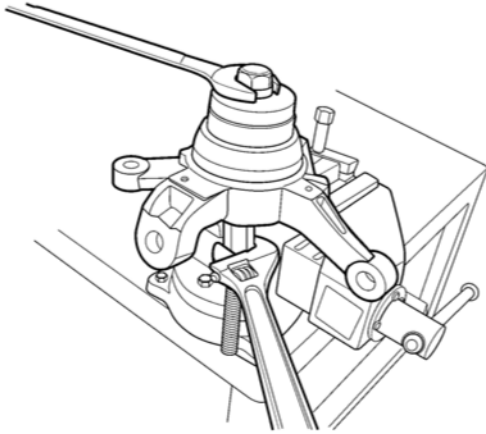
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9. Remove the wheel bearing retaining ring from the steering knuckle.

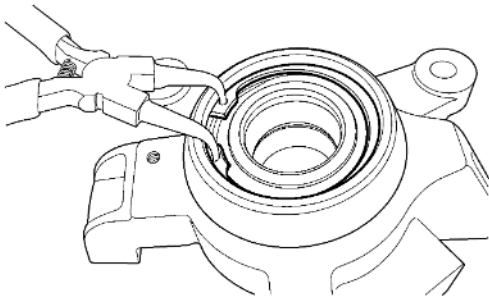


10. [Click here for full size](#)
11. Using the *DT-50178-01* bridge support , *CH-46560-04* thread rod , *CH-46560-05* hex nut , and *DT-47541* wheel bearing spacer , remove the wheel bearing from the steering knuckle.
12. Discard the wheel bearing.
13. Clean the bore of the steering knuckle.

Installation Procedure



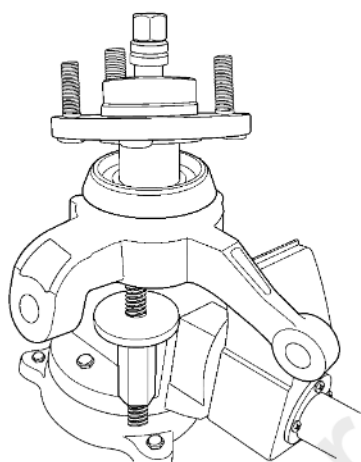
1. [Click here for full size](#)
2. Use a vice in order to hold the steering knuckle.
3. Using the *DT-47542* wheel bearing spacer , *CH-46560-04* thread rod , *CH-46560-05* hex nut , and *DT-47543* wheel bearing spacer , install the NEW wheel bearing to the steering knuckle.



4.

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5. Install the wheel bearing retaining ring to the steering knuckle.



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7. Using the *DT-47542* wheel bearing spacer , *CH-46560-04* thread rod , *CH-46560-05* hex nut , and *DT-47540* wheel hub spacer , install the wheel hub to the steering knuckle.
8. Verify that the wheel hub rotates smoothly.
9. Install the steering knuckle assembly. Refer to [Steering Knuckle Replacement](#).
10. Install the brake rotor. Refer to [Front Brake Rotor Replacement](#).
11. Install the front wheel and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
12. Lower the vehicle.

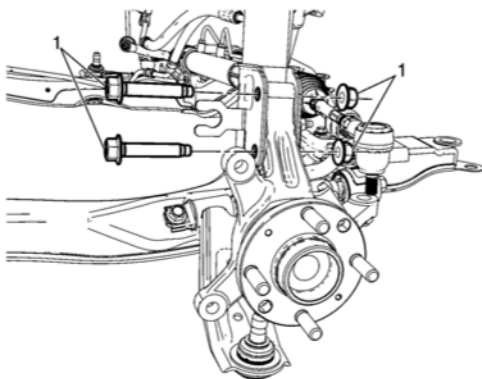
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Steering Knuckle Replacement

Removal Procedure

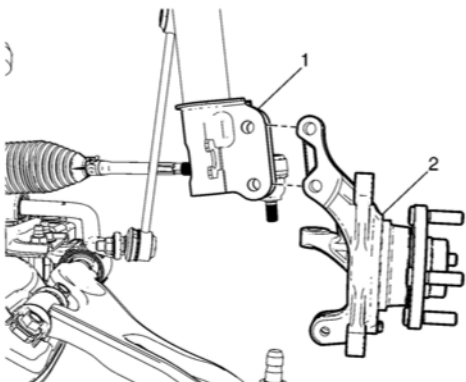
1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Remove the front tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
3. Disconnect the outer tie rod end from the steering knuckle. Refer to [Steering Linkage Outer Tie Rod Replacement](#).
4. Separate the control arm ball joint from the steering knuckle. Refer to [Lower Control Arm Replacement](#).
5. Separate the wheel drive shaft from the steering knuckle. Refer to [Front Wheel Drive Shaft Replacement](#).
6. Remove the brake rotor. Refer to [Front Brake Rotor Replacement](#).
7. Remove the wheel speed sensor, if equipped with ABS. Refer to [Front Wheel Speed Sensor Replacement](#).
8. Remove the brake rotor splash shield from the steering knuckle. Refer to [Front Brake Shield Replacement](#).



9.

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10. Remove the bolts and nuts (1) attaching the strut to the knuckle.



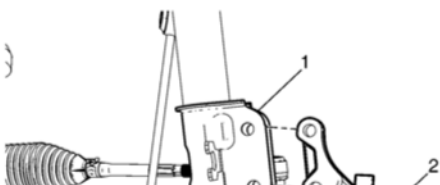


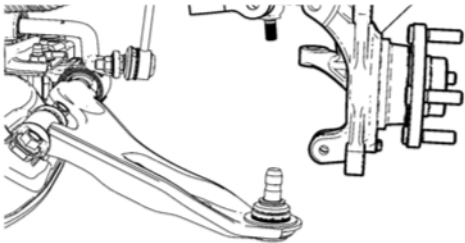
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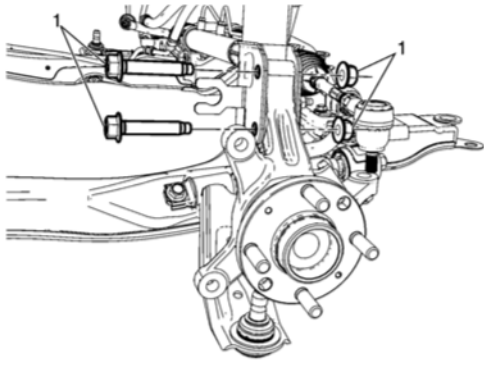
12. Remove the steering knuckle assembly (2) from the strut assembly (1).

Installation Procedure





1. [Click here for full size](#)
2. Install the steering knuckle assembly(2) to the strut assembly(1).



3.

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4. Caution:

Refer to [Fastener Caution](#).

5. Install the strut to knuckle retaining bolts and nuts (1) and tighten to 80â€%N-m (59â€%lbâ€%ft).

6. Tighten the nuts at the final pass to an additional 38 degrees.

7. Install the brake rotor splash shield to the steering knuckle. Refer to [Front Brake Shield Replacement](#).

8. Install the wheel speed sensor, if equipped with ABS. Refer to [Front Wheel Speed Sensor Replacement](#).

9. Install the brake rotor. Refer to [Front Brake Rotor Replacement](#).

10. Install the wheel drive shaft to the steering knuckle. Refer to [Front Wheel Drive Shaft Replacement](#).

11. Install the control arm ball joint to the steering knuckle. Refer to [Lower Control Arm Replacement](#).

12. Install the outer tie rod end to the steering knuckle. Refer to [Steering Linkage Outer Tie Rod Replacement](#).

13. Install the front tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).

14. Lower the vehicle.

15. Measure and adjust the wheel alignment. [Wheel Alignment Measurement](#)

Related Part Information

Part Name	Catalog Name	Part Code
Steering Knuckle	KNUCKLE SET,STRG (W/HUB & STRUT)	0023A
Steering Knuckle	KNUCKLE,STRG (W/HUB & STRUT)	0025A
Steering Knuckle	KNUCKLE,STRG(W/STRUT,W/O HUB)	0025B
Steering Knuckle	KNUCKLE,STRG (W/ HUB) (RPR)	0049A
Steering Knuckle	KNUCKLE,STRG (W/HUB)	0050A
Steering Knuckle	KNUCKLE,STRG (W/ HUB W/O CLPR)	0055A
Steering Knuckle	KNUCKLE,STRG	0035A
Steering Knuckle	KNUCKLE KIT,STRG	SZ055
Steering Knuckle	KNUCKLE,STRG	X0014
Steering Knuckle	KNUCKLE,STRG(CSTG)	X0061
Steering Knuckle	KNUCKLE,STRG(MCHG)	X0076
Steering Knuckle	KNUCKLE,STRG	X0109
Steering Knuckle	KNUCKLE,STRG	0050B
Steering Knuckle	KNUCKLE,STRG	SS032
Steering Knuckle	KNUCKLE,STRG	SS052

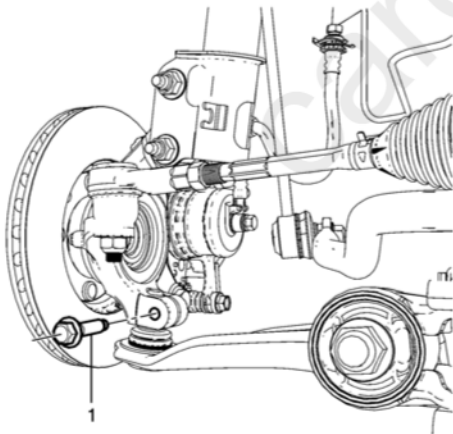
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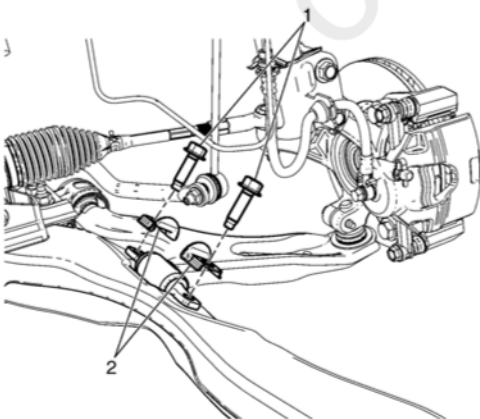
Lower Control Arm Replacement

Removal Procedure

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).



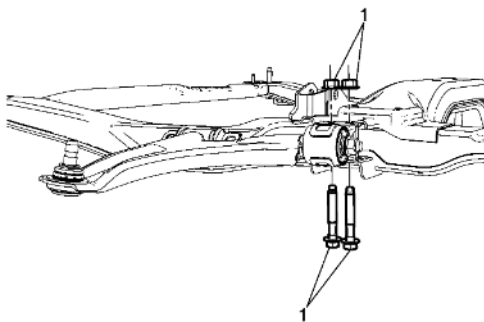
3. [Click here for full size](#)
4. Remove the lower control arm ball joint to steering knuckle retaining bolt(1) and separate the ball joint from the steering knuckle.



5.

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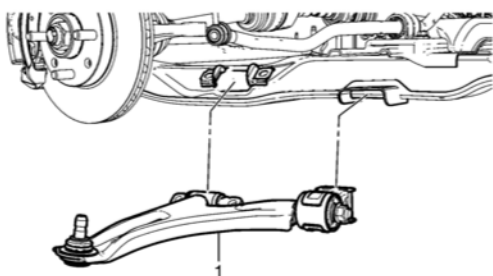
6. Remove the front lower control arm to cradle bolts(1) and the front lower control bushing brackets(2).



7.

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8. Remove the rear lower control arm to cradle bolts and nuts (1).

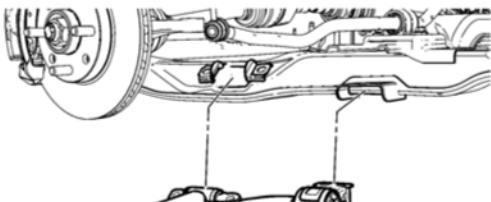


9.

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10. Remove the lower control arm (1) from the cradle.

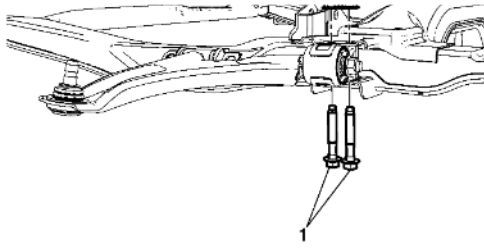
Installation Procedure





1. [Click here for full size](#)
2. Position the lower control arm(1) in the vehicle.





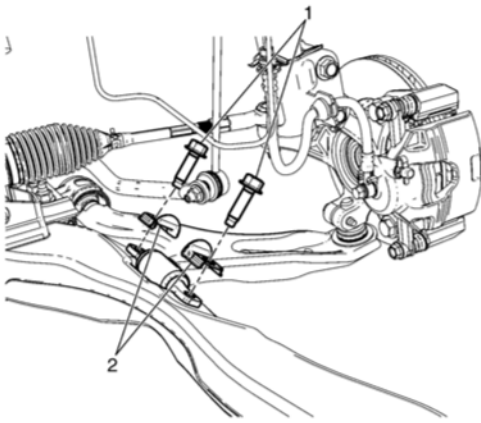
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4. Caution:

Refer to [Fastener Caution](#).

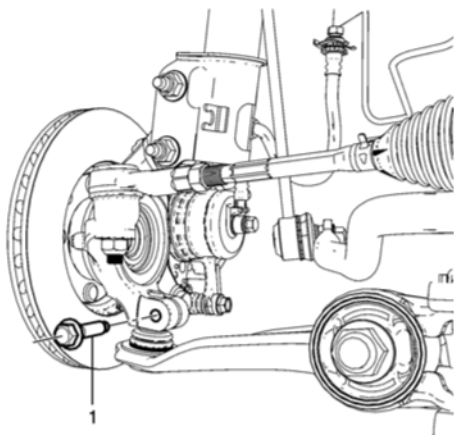
5. Install the rear lower control arm to cradle bolts and nuts (1) and tighten to 110 N-m (81 lb-ft).



6.

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7. Install the front lower control arm bushing brackets(2) and the front lower control arm to cradle bolts(1) and tighten to 110N-m (81lb-ft).



8.

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9. Warning:

Ensure that the lower control arm ball joint stud is correctly seated in the steering knuckle. Visually check that the notch in the lower control arm ball joint stud is lined up with the bolt hole in the steering knuckle. Failure to correctly align these components may cause the lower control arm to detach from the knuckle which will result in severe personal injury and damage to the vehicle.

10. Install the lower control arm ball joint to the steering knuckle.

11. Install the lower control arm ball joint to steering knuckle retaining bolt(1) and tighten to 63â€%N-mâ€% (46â€%lbâ€%ft).

12. Install the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).

13. Lower the vehicle to the ground.

14. Measure and adjust the wheel alignment. [Wheel Alignment Measurement](#)

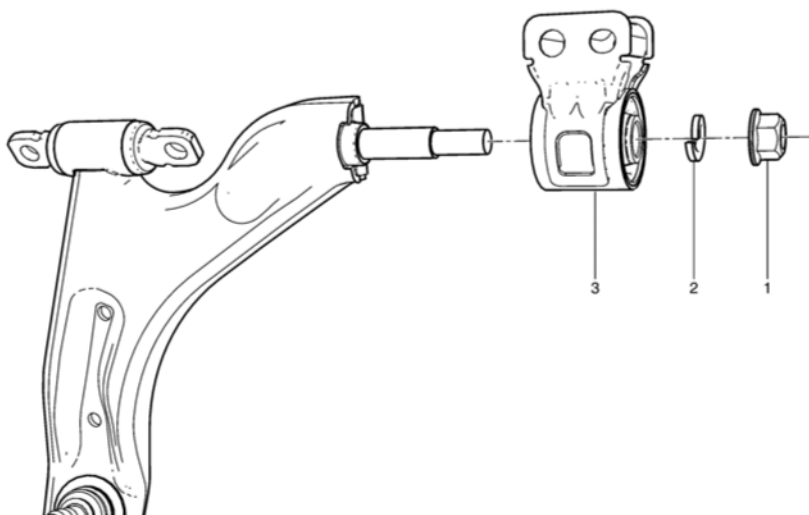
Related Part Information

Part Name	Catalog Name	Part Code
Front Lower Control Arm	ARM,FRT LWR CONT (W/BUSH)	0699A
Front Lower Control Arm	ARM KIT,FRT LWR CONT	0699Z
Front Lower Control Arm	ARM,FRT LWR CONT	0700A
Front Lower Control Arm	ARM,FRT LWR CONT	0700B
Rear Suspension Lower Control Arm	ARM,RR SUSP LWR CONT	7824Y
Rear Suspension Lower Control Arm	ARM,RR SUSP LWR CONT	7825A
Rear Suspension Lower Control Arm	ARM,RR SUSP LWR CONT (RPR)	7825B
Rear Suspension Lower Control Arm	ARM,RR SUSP LWR CONT	7850A
Rear Suspension Lower Control Arm	ARM,RR SUSP LWR CONT (CSTG)	7851B
Front Lower Control Arm	ARM,FRT LWR CONT	SS301

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Front Lower Control Arm Bushing Replacement





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Callout	Component Name
	Preliminary Procedure 1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle. 2. Remove the front tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation. 3. Remove the lower control arm. Refer to Lower Control Arm Replacement.
1	Lower Control Arm Rear Bushing Nut Caution: Refer to Fastener Caution. Tip Note the position of the bushing during removal. Tighten 110 N·m + 53° (81 lb·ft + 53°)

Callout	Component Name
2	Washer
3	Lower Control Arm Rear Bushing Procedure Hold the rear bushing when tightening the rear bushing bolt.

Related Part Information

Part Name	Catalog Name	Part Code
Front Lower Control Arm Bushing	BUSHING,FRT LWR CONT ARM	0875A
Front Lower Control Arm Bushing	BUSHING,FRT LWR CONT ARM	0875B

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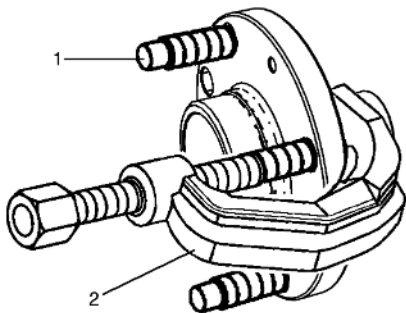
Wheel Stud Replacement

Special Tools

CH-43631 Ball Joint Remover

Removal Procedure

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
3. Without disconnecting the hydraulic brake flex hose, remove and support the brake caliper and bracket as an assembly, and remove the brake rotor. Refer to [Front Brake Rotor Replacement](#).
4. Remove the front wheel hub. Refer to [Front Wheel Bearing and Hub Replacement](#).

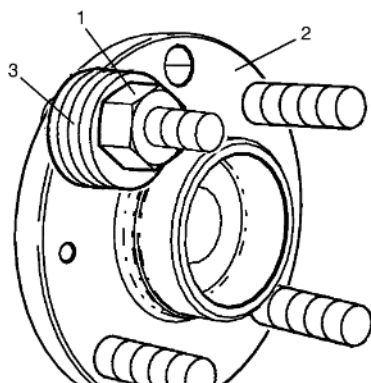


5.

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6. Using the *CH-43631* ball joint remover (2), remove the wheel stud (1) from the hub and discard the stud.

Installation Procedure





1. [Click here for full size](#)
2. Install a NEW wheel stud to the wheel hub.
3. Add enough washers (3) in order to draw the stud into the hub.
4. Install the wheel nut (1).
5. Tighten the wheel nut until the head of the wheel stud is fully seated against the back of the wheel hub flange (2).
6. Remove the wheel nut (1) and the washers (3).
7. Install the front wheel hub. Refer to [Front Wheel Bearing and Hub Replacement](#).
8. Install the brake rotor, and install the brake caliper and bracket as an assembly. Refer to [Front Brake Rotor Replacement](#).
9. Install the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
10. Lower the vehicle.

Related Part Information

Part Name	Catalog Name	Part Code
Rear Wheel Stud	STUD,RR WHL	X0002
Front Wheel Stud	STUD,FRT WHL	X0004
Front Wheel Stud	STUD,FRT WHL (RPR)	X0020
Rear Wheel Stud	STUD,RR WHL (RPR)	X0021

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Strut Assembly Removal and Installation

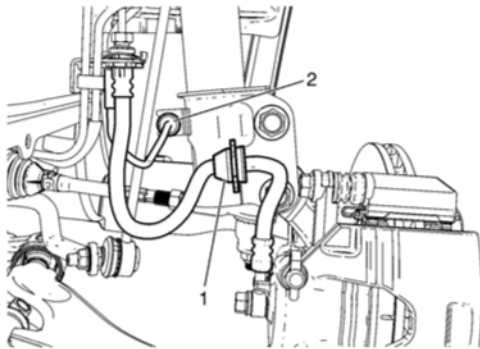
Special Tools

CH-49375 Wrench

For equivalent regional tools, refer to [Special Tools](#).

Removal Procedure

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).

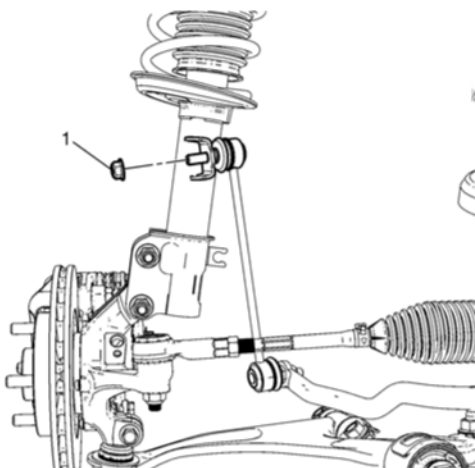


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4. Detach the brake hose grommet(1) from the strut bracket.

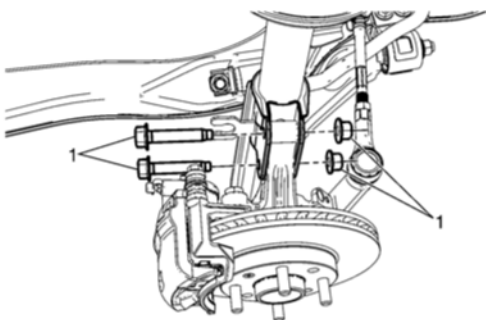
5. Detach the wheel speed sensor wiring harness grommet(2) from the strut bracket, if equipped with ABS.



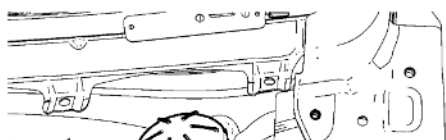
6.

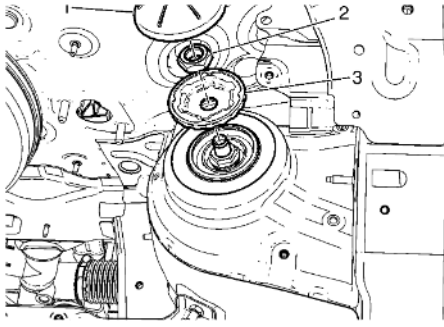
[Click here for full size](#)

7. Remove the stabilizer shaft link to strut retaining nut(1) and separate the stabilizer link from the strut.



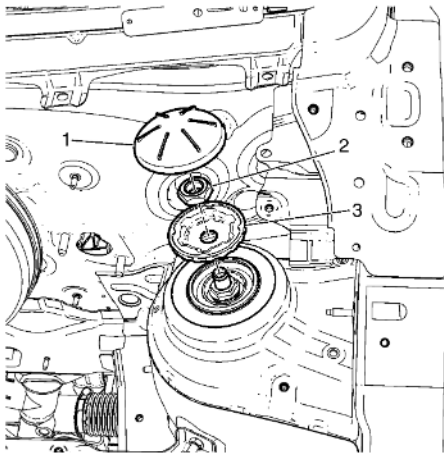
8. [Click here for full size](#)
9. Remove the steering knuckle to strut bolts and nuts (1).
10. Lower the vehicle.
11. Remove the plenum lower panel. Refer to [Plenum Lower Panel Replacement](#).





12. [Click here for full size](#)
13. Remove the strut cover(1).
14. Caution:
Completely fix the strut pivot with the special tool not to rotate when removing the strut upper mounting nut. Failure to do this could cause damage to the vehicle or component.
15. Using the CH-49375 wrench, remove the strut upper mounting nut(2).
16. Remove the strut mounting plate(3).
17. Separate the front strut from the steering knuckle.
18. Remove the front strut assembly from the vehicle.

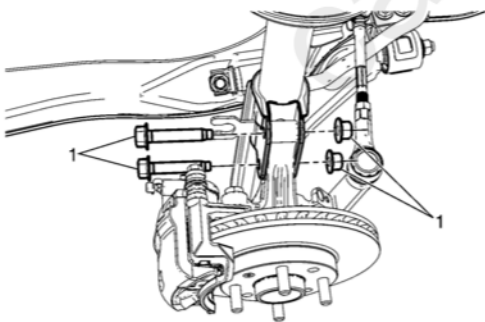
Installation Procedure



1. [Click here for full size](#)
2. Install the front strut assembly to the vehicle.
3. Install the strut mounting plate(3).
4. Caution:
Refer to [Fastener Caution](#).
5. Caution:

Completely fix the strut pivot with the special tool not to rotate when removing the strut upper mounting nut. Failure to do this could cause damage to the vehicle or component.

6. Using the *CH-49375* wrench, install the strut upper mounting nut(2) and tighten to 65 N-m (48 lb-ft).
7. Install the strut cover(1).
8. Install the plenum lower panel. Refer to [Plenum Lower Panel Replacement](#).
9. Caution:
Refer to [Vehicle Lifting and Jacking Caution](#).
10. Raise and support the vehicle.



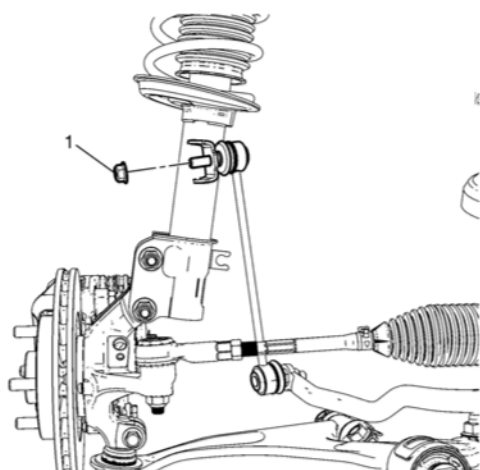
11.

[Click here for full size](#)

12. Install the front strut to the steering knuckle.

13. Install the steering knuckle to strut retaining bolts and nuts (1) and tighten to 80 N-m (59 lb-ft).

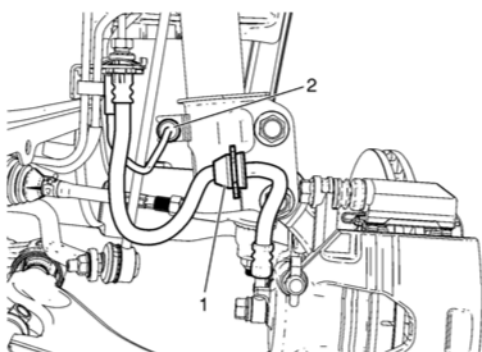
14. Tighten the nuts at the final pass to an additional 38 degrees.



15.

[Click here for full size](#)

16. Install the stabilizer link to the strut and install the stabilizer shaft link to strut retaining nut(1) and tighten to 43â€%N-m (32â€%lbâ€%ft).



17. [Click here for full size](#)
18. Install the wheel speed sensor wiring harness grommet(2) to the strut bracket, if equipped with ABS.
19. Install the brake hose grommet(1) to the strut bracket.
20. Install the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#).
21. Lower the vehicle.
22. Measure and adjust the wheel alignment. [Wheel Alignment Measurement](#)

Related Part Information

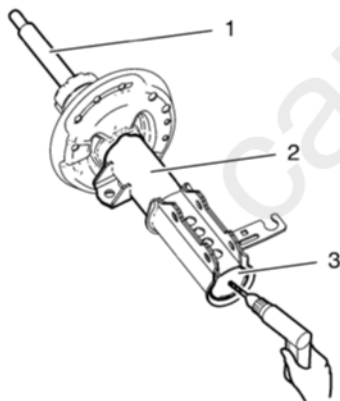
Part Name	Catalog Name	Part Code
Front Suspension Strut	STRUT PKG,FRT SUSP	0599Y
Front Suspension Strut	STRUT KIT,FRT SUSP	0599Z
Front Suspension Strut	STRUT,FRT SUSP	0600A
Front Suspension Strut	STRUT,FRT SUSP(W/SPR)	0625A
Front Suspension Strut	STRUT,FRT SUSP (W/SPR)	0626A
Front Suspension Strut	STRUT,FRT SUSP (W/SPR)	0627A
Front Suspension Strut	STRUT,FRT SUSP (W/ SPR) (RPR)	0628A
Front Suspension Strut	STRUT,FRT SUSP (W/CMPRN VLV)	0630A
Rear Suspension Strut	STRUT,RR SUSP (W/ SPR)	2694A
Rear Suspension Strut	STRUT,RR SUSP (W/ SPR)	2695A
Rear Suspension Strut	STRUT KIT,RR SUSP	2699Z
Rear Suspension Strut	STRUT,RR SUSP	2700A
Rear Suspension Strut	STRUT,RR SUSP (W/ CMPRN VLV)	2710A

1. SUSPENSION
2. FRONT SUSPENSION
3. REPAIR INSTRUCTIONS
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Shock Absorber Disposal

Warning:

Use the proper eye protection when drilling to prevent metal chips from causing physical injury.



1. [Click here for full size](#)
2. Clamp the strut in a vise horizontally with the rod (1) completely extended.
3. Drill a hole in the strut at the center of the end cap (3) using a 5mm (3/16in) drill bit. Gas or a gas/oil mixture will exhaust when the drill bit penetrates the strut. Use shop towels in order to contain the escaping oil.
4. Remove the strut from the vise.
5. Hold the strut over a drain pan vertically with the hole down.
6. Move the rod (1) in and out of the tube (2) to completely drain the oil from the strut.

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1. SUSPENSION
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Strut, Strut Component, or Spring Replacement

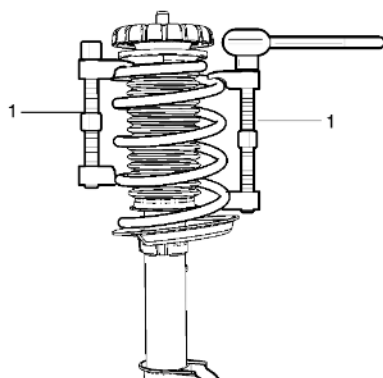
Special Tools

CH-46558 Front Spring Compressor

For equivalent regional tools, refer to [Special Tools](#).

Disassembly Procedure

1. Remove the strut assembly. Refer to [Strut Assembly Removal and Installation](#).
2. Install the strut assembly to the vise.

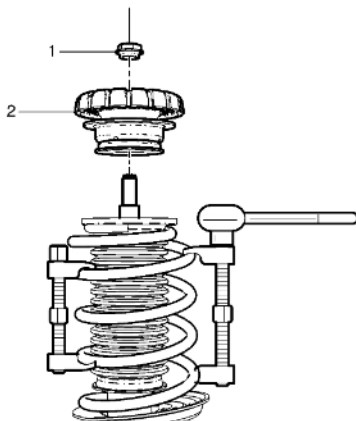


3.

[Click here for full size](#)

4. Install the *CH-46558* front spring compressor (1) to the coil spring.

5. Compress the coil spring using the *CH-46558* front spring compressor (1).

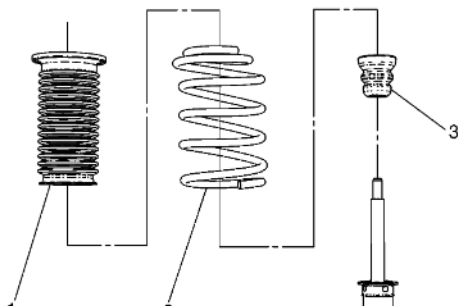


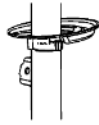
6.

[Click here for full size](#)

7. Remove the strut nut(1) from the strut.

8. Remove the upper strut mount(2) from the strut.



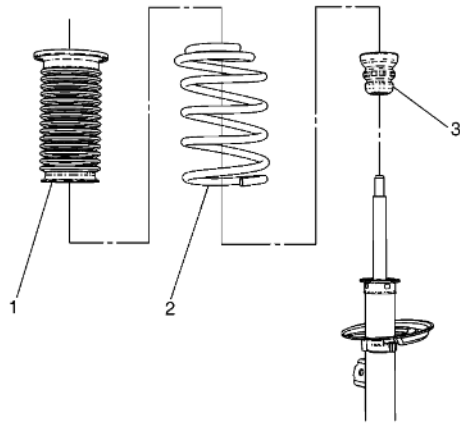


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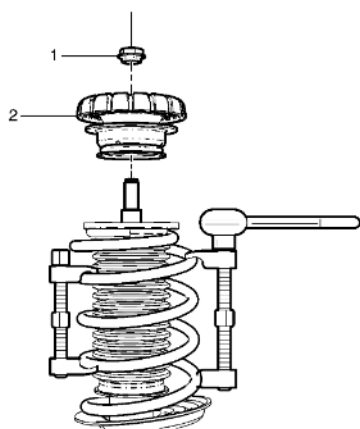
[Click here for full size](#)

10. Remove the cartridge upper cover (1) from the strut.
11. Remove the CH-46558 front spring compressor from the coil spring.
12. Remove the coil spring (2) from the strut.
13. Remove the strut bumper (3) from the strut.
14. Remove the strut from the vise.

Assembly Procedure



1. [Click here for full size](#)
2. Install the strut to the vise.
3. Install the strut bumper(3) to the strut.
4. Install the coil spring(2) to the strut.
5. Install the CH-46558 front spring compressor to the coil spring.
6. Compress the coil spring using the CH-46558 front spring compressor .
7. Install the cartridge upper cover(1) to the strut.



8.

[Click here for full size](#)

9. Install the upper strut mount(2) to the strut.

10. Caution:

Refer to [Fastener Caution](#).

11. Install the strut nut(1) to the strut and tighten to 65â€”N-m (48â€”lbâ€”ft).

12. Remove the *CH-46558* front spring compressor (1) from the coil spring.
13. Remove the strut assembly from the vise.
14. Install the strut assembly to the vehicle. Refer to [Strut Assembly Removal and Installation](#).

Related Part Information

Part Name	Catalog Name	Part Code
Front Spring Lower Insulator	INSULATOR,FRT SPR LWR	1775A
Front Spring	SPRING SET,FRT	0049A
Front Spring	SPRING KIT,FRT	0049Z
Front Spring	SPRING,FRT	0050A
Front Spring	SPRING,FRT	0050B
Front Spring	SPRING,FRT	0100A
Front Spring Lower Insulator	INSULATOR,FRT SPR LWR	0261B
Front Suspension Strut Mount	MOUNT KIT,FRT SUSP STRUT	0549Z
Front Suspension Strut Mount	MOUNT,FRT SUSP STRUT	0550A
Front Suspension Strut Mount	MOUNT,FRT SUSP STRUT	0550B
Front Suspension Strut	STRUT PKG,FRT SUSP	0599Y
Front Suspension Strut	STRUT KIT,FRT SUSP	0599Z
Front Suspension Strut	STRUT,FRT SUSP	0600A
Front Suspension Strut	STRUT,FRT SUSP(W/SPR)	0625A
Front Suspension Strut	STRUT,FRT SUSP (W/SPR)	0626A
Front Suspension Strut	STRUT,FRT SUSP (W/SPR)	0627A
Front Suspension Strut	STRUT,FRT SUSP (W/ SPR) (RPR)	0628A
Front Suspension Strut	STRUT,FRT SUSP (W/CMPRN VLV)	0630A
Front Suspension Strut Bumper	BUMPER,FRT SUSP STRUT	0875A
Front Suspension Strut Bumper	BUMPER,FRT SUSP STRUT	0885A
Rear Spring	SPRING KIT,RR(W/FRT UPR CONT ARM)	0048A
Rear Spring	SPRING KIT,RR	0049A
Rear Spring	SPRING,RR	0050A
Rear Spring	SPRING,RR	0050B
Rear Spring	SPRING,RR	0050C
Rear Spring	SPRING,RR	0051A
Rear Spring	SPRING SET,RR	0060A
Rear Spring	SPRING,RR	0100A
Rear Spring	SPRING,RR (RPR)	0100B
Rear Spring	SPRING,RR (TMPRY)	0100G
Rear Suspension Strut	STRUT,RR SUSP (W/ SPR)	2694A
Rear Suspension Strut	STRUT,RR SUSP (W/ SPR)	2695A
Rear Suspension Strut	STRUT KIT,RR SUSP	2699Z
Rear Suspension Strut	STRUT,RR SUSP	2700A
Rear Suspension Strut	STRUT,RR SUSP (W/ CMPRN VLV)	2710A
Front Spring	SPRING,FRT	SS289
Rear Spring	SPRING,RR	SS290

Specifications

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1. SUSPENSION
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Fastener Specifications

Single Use Non-Threaded Fasteners/Components

Application
Note:
All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.
Front Wheel Bearing Assembly

Reusable Threaded Fastener Tightening Specifications

Application	Specification
	Metric (English)
Note:	
All fasteners listed in this table can be reused after removal.	
Front Stabilizer Shaft Clamp Bolts	25â€‰N-m(18â€‰lbâ€‰ft)
Front Stabilizer Shaft Link to Stabilizer Bar Retaining Nuts	43â€‰N-m(32â€‰lbâ€‰ft)
Front Stabilizer Shaft Link to Strut Retaining Nuts	43â€‰N-m(32â€‰lbâ€‰ft)
Lower Control Arm Ball Joint to Steering Knuckle Retaining Bolt	63â€‰N-m(46â€‰lbâ€‰ft)
Lower Control Arm Rear Bushing Nut	
• First Pass:	110â€‰N-m(81â€‰lbâ€‰ft)
• Final Pass:	53â€‰Degrees
Lower Control Arm to Cradle Retaining Bolts â€” Front	110â€‰N-m(81â€‰lbâ€‰ft)
Lower Control Arm to Cradle Retaining Bolts and Nuts â€” Rear	110â€‰N-m(81â€‰lbâ€‰ft)
Strut Nut	65â€‰N-m(48â€‰lbâ€‰ft)
Strut to Steering Knuckle Retaining Bolts and Nuts	
• First Pass:	80â€‰N-m(59â€‰lbâ€‰ft)
• Final Pass:	38â€‰Degrees
Strut Upper Mounting Nut	65â€‰N-m(48â€‰lbâ€‰ft)

Special Tools and Equipment

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- 1. SUSPENSION
- 2. FRONT SUSPENSION
- 3. SPECIAL TOOLS AND EQUIPMENT
- 4.

Special Tools

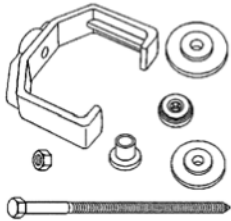
Illustration	Tool Number/ Description
	DT-50178 Wheel Hub Bearing Remover/Installer Kit
Click here for full size	

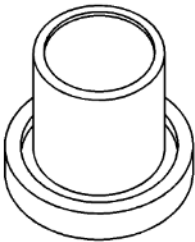
Illustration	Tool Number/ Description
 Click here for full size	DT-47540 Wheel Hub Spacer (Hub Removal and Installation Adapter, Component of DT-50178)

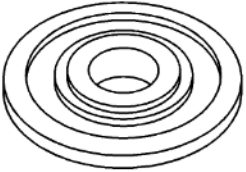
Illustration	Tool Number/ Description
 Click here for full size	DT-47541 Wheel Bearing Spacer (Wheel Bearing Removal Adapter, Component of DT-50178)

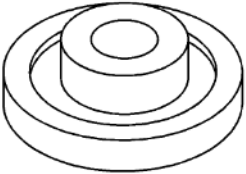
Illustration	Tool Number/ Description
 Click here for full size	DT-47543 Wheel Bearing Spacer (Wheel Bearing Installation Adapter, Component of DT-50178)

Illustration	Tool Number/ Description
 Click here for full size	DT-50178-01 Bridge Support (Component of DT-50178)

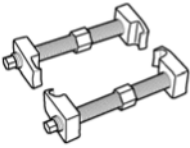
Illustration	Tool Number/ Description
 Click here for full size	CH-46558 J-45400 Front Spring Compressor

Illustration	Tool Number/ Description
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