

**Detroit Speed
A-Body Rear Coilover Conversion Kit
1964-1972 A-Body (Stock Rear Axle)**

P/N: 042404DS, 042405DS, 042406DS, 042414DS, 042415DS & 042416DS

The Detroit Speed A-body Rear Coilover Conversion Kit is a terrific way to upgrade the rear suspension in your A-body vehicle. The kit replaces the existing coil spring and shock combination with a "Detroit Tuned" coilover shock and spring package. The kit is a complete bolt-on package and includes all necessary parts to complete the conversion.



| Item | Description | Quantity |
|------|--|----------|
| 1 | Detroit Speed Coilover Shocks | 2 |
| 2 | Coilover Springs | 2 |
| 3 | RH Upper Coilover Shock Mounting Plate | 1 |
| 4 | LH Upper Coilover Shock Mounting Plate | 1 |
| 5 | RH Upper Coilover Shock Doubler Plate (1964-66 only) | 1 |
| 6 | LH Upper Coilover Shock Doubler Plate (1964-66 only) | 1 |
| 7 | RH Lower Coilover Shock Mounting Bracket | 1 |
| 8 | LH Lower Coilover Shock Mounting Bracket | 1 |
| 9 | 3/4" O.D. x 1/2" I.D. x 3/4" Long Spacer | 2 |
| 10 | 3/4" O.D. x 1/2" I.D. x 1/2" Long Spacer | 2 |
| 11 | Detroit Speed/JRi Spanner Tool | 1 |
| 12 | Instructions | 1 |

| Hardware Checklist – Detroit Speed Rear Coilover Kit | | | |
|--|--|----------|-------|
| Part Number | Description | Quantity | Check |
| 9304090 | 1964-66 A-Body Hardware Kit | 1 | |
| 980041FS | 5/16"-24 x 1" L Grade 8 Hex Head Bolt | 2 | |
| 950041FS | 5/16"-24 x 3/4" L Countersunk Head Cap Screw | 2 | |
| 970041FS | 5/16" SAE Washer | 4 | |
| 960049FS | 5/16"-24 Grade 8 Nylock Nut | 4 | |
| 950040FS | 3/8"-24 x 1" L Socket Head Cap Screw | 6 | |
| 970035FS | 3/8" AN Washer | 10 | |
| 960032FS | 3/8"-24 Grade 8 Nylock Nut | 4 | |
| 980039FS | 1/2"-20 x 4-1/2" L Grade 8 Hex Head Bolt | 2 | |
| 980038FS | 1/2"-20 x 2-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 980040FS | 1/2"-20 x 1-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 970037FS | 1/2" Grade 8 SAE Flat Washer | 6 | |
| 960004FS | 1/2"-20 Grade 8 Nylock Nut | 4 | |
| 9304092 | 1967 A-Body Hardware Kit | 1 | |
| 980041FS | 5/16"-24 x 1" L Grade 8 Hex Head Bolt | 2 | |
| 950041FS | 5/16"-24 x 3/4" L Countersunk Head Cap Screw | 2 | |
| 970041FS | 5/16" SAE Washer | 4 | |
| 960049FS | 5/16"-24 Grade 8 Nylock Nut | 4 | |
| 950040FS | 3/8"-24 x 1" L Socket Head Cap Screw | 6 | |
| 970035FS | 3/8" AN Washer | 12 | |
| 960032FS | 3/8"-24 Grade 8 Nylock Nut | 6 | |
| 980039FS | 1/2"-20 x 4-1/2" L Grade 8 Hex Head Bolt | 2 | |
| 980038FS | 1/2"-20 x 2-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 980040FS | 1/2"-20 x 1-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 970037FS | 1/2" Grade 8 SAE Flat Washer | 6 | |
| 960004FS | 1/2"-20 Grade 8 Nylock Nut | 4 | |
| 9304091 | 1968-72 A-Body Hardware Kit | 1 | |
| 980041FS | 5/16"-24 x 1" L Grade 8 Hex Head Bolt | 2 | |
| 950041FS | 5/16"-24 x 3/4" L Countersunk Head Cap Screw | 2 | |
| 970041FS | 5/16" SAE Washer | 4 | |
| 960049FS | 5/16"-24 Grade 8 Nylock Nut | 4 | |
| 950040FS | 3/8"-24 x 1" L Socket Head Cap Screw | 4 | |
| 970035FS | 3/8" AN Washer | 8 | |
| 960032FS | 3/8"-24 Grade 8 Nylock Nut | 4 | |
| 950042FS | 7/16"-20 x 1-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 970042FS | 7/16" Grade 8 SAE Washer | 4 | |
| 960050FS | 7/16"-20 Grade 8 Nylock Nut | 2 | |
| 980039FS | 1/2"-20 x 4-1/2" L Grade 8 Hex Head Bolt | 2 | |
| 980038FS | 1/2"-20 x 2-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 980040FS | 1/2"-20 x 1-1/4" L Grade 8 Hex Head Bolt | 2 | |
| 970037FS | 1/2" Grade 8 SAE Flat Washer | 6 | |
| 960004FS | 1/2"-20 Grade 8 Nylock Nut | 4 | |

| Fastener Torque Specifications | |
|---------------------------------------|-----------------|
| Application | Torque (ft-lbs) |
| 5/16" Hardware | 25 |
| 3/8"-24 Socket Head Cap Screw | 35 |
| 7/16"-20 Hex Head Bolt (68-72 A-Body) | 50 |
| 1/2"-20 Hex Head Bolt | 60 |
| Lower Link Axle Bolt | 80 |

PLEASE NOTE: ALL ADJUSTABLE TYPE SHOCKS GET MOUNTED BODY SIDE UP, SHAFT SIDE DOWN IN ORDER TO HAVE ACCESS TO MAKE SHOCK ADJUSTMENTS AS WELL AS BRACKET FITMENT

1. To begin installation, chock the front wheels and loosen the rear lug nuts. Jack up the rear of the vehicle and support the vehicle with jack stands under the frame. Remove the rear wheels.
2. Using a floor jack to support the rear axle, remove the shocks and springs from the vehicle. **CAUTION:** The springs may be under pressure and may require the use of a spring compressor.

Lower coilover Bracket Installation (1964-1972 applications)

3. Due to manufacturing variations amongst the A-body rear axles, it is first necessary to verify two of the mounting holes in the axle bracketry. Remove the nut from the bolt that retains the lower link to the rear axle. **NOTE:** The bolt should be installed from the outboard side of the vehicle. Remove and reinstall the bolt if necessary.
4. Install the coilover conversion bracket on the rear axle bracket. Install the nut on the lower link axle bolt along with the provided 1/2" - 20 x 1-1/4" L Hex Head Bolt and 1/2" - 20 Nylock Nut along with two 1/2" Flat Washers. Lightly snug the hardware at this time.
5. If the holes are not present in the rear axle, mark the two upper mounting holes and remove the coilover conversion bracket from the rear axle. Drill the holes using a 5/16" drill bit. If the holes are present, it may be necessary to enlarge the existing holes to 5/16".
6. Reinstall the coilover bracket on the rear axle by placing the bracket over the lower link bolt. Reinstall the factory nut. Install the 1/2" - 20 x 1-1/4" bolt along with the 1/2" - 20 Nylock Nut and the 1/2" Flat Washers. At this time, the upper mounting bolts can also be installed. Insert the 5/16" - 24 x 3/4" L Counter Sunk Bolt in the inboard mounting hole and the 5/16" - 24 x 1" L Hex Head Bolt in the outboard mounting hole. Both bolts use the provided 5/16" - 24 Nylock Nuts and 5/16" Flat Washers. Torque the 1/2" hardware to 80 ft-lbs and the 5/16" hardware to 25 ft-lbs.
7. The installed bracket should follow the image shown in Figure 1 on the next page.



Figure 1 - Lower Coilover Bracket

8. Repeat the above steps for the opposite side.
9. The Lower Coilover Bracket Installation is now complete. To install the Upper Coilover Mounting Bracket, go to Step 10 for 1964-1966 models, Step 16 for 1967 models, or Step 22 for 1968-1972 models.

Upper Coilover Bracket Installation (1964-1966 A-Body)

10. Assemble the coilover shock by removing the snap ring using a set of snap ring pliers to remove the upper spring seat. Once the upper spring seat is removed you can install the spring over the end of the shock. With the spring in place, install the upper spring seat along with the snap ring. With the coilover shock assembled, thread the adjusting ring on the shock until it is approximately 2" from the bottom of the threads. This is a good starting point and will need to be adjusted later with the vehicle completely assembled.
11. The factory upper shock mounting holes must be enlarged to 3/8".
12. Before installing the upper coilover bracket on the frame, the coilover shock assembly must be pre-installed on the upper coilover bracket. Thread the 1/2" - 20 x 2-1/4" L hex head bolt along with the 3/4" long shock spacer through the coilover shock eyelet into the upper coilover bracket. Use High Strength Loctite 262 and torque to 60 ft-lbs.
13. Install the upper coilover shock mount with the coilover shock installed into the chassis. Place the upper mounting doubler plate on the top side of the chassis. Thread one of the 3/8" - 24 x 1" L Socket Head Cap Screws into the doubler plate using a 3/8" AN Washer. Use high strength red Loctite 262 on this bolt. In the two remaining holes, insert two 3/8" - 24 x 1" L Socket Head Cap Screws through the doubler plate and thread the provided 3/8" Nylock Nuts onto the bolts along with the 3/8" AN Washers. Torque all of the hardware at this time to 35 ft-lbs.
14. Repeat Steps 10 through 13 on the opposite side.
15. Proceed to Step 26.

Upper Coilover Bracket Installation (1967 A-Body)

16. Assemble the coilover shock by removing the snap ring using a set of snap ring pliers to remove the upper spring seat. Once the upper spring seat is removed you can install the spring over the end of the shock. With the spring in place, install the upper spring seat along with the snap ring. With the coilover shock assembled, thread the adjusting ring on the shock until it is approximately 2" from the bottom of the threads. This is a good starting point and will need to be adjusted later with the vehicle completely assembled.
17. The two factory upper shock mounting holes must be enlarged to 3/8". An additional mounting hole must be added for the upper shock mounting plate. Place the mounting bracket against the frame and line up the two factory shock mounting holes with the upper mounting plate and mark the additional third hole in the frame. Remove the upper mounting plate and drill a 3/8" hole at the marked location.
18. Before installing the upper coilover bracket on the frame, the coilover shock assembly must be pre-installed on the upper coilover bracket. Thread the 1/2" - 20 x 2-1/4" L hex head bolt along with the 3/4" long shock spacer through the coilover shock eyelet into the upper coilover bracket. Use High Strength Loctite 262 and torque to 60 ft-lbs.
19. Install the upper coilover shock mount with the coilover shock installed into the chassis. Insert three 3/8" - 24 x 1" L Socket Head Cap Screws through the bracket and tighten using three 3/8" - 24 Nylock Nuts and six 3/8" AN Washers. Torque all hardware to 35 ft-lbs.
20. Repeat Steps 16 through 19 on the opposite side.
21. Proceed to Step 26.

Upper Coilover Bracket Installation (1968 - 1972 A-Body)

22. Assemble the coilover shock by removing the snap ring using a set of snap ring pliers to remove the upper spring seat. Once the upper spring seat is removed you can install the spring over the end of the shock. With the spring in place, install the upper spring seat along with the snap ring. With the coilover shock assembled, thread the adjusting ring on the shock until it is approximately 2" from the bottom of the threads. This is a good starting point and will need to be adjusted later with the vehicle completely assembled.
23. The factory upper shock mounting holes must be enlarged to 3/8".
24. Install the upper shock mounting plate using two 3/8" - 24 x 1" L Socket Head Cap Screws along with two 3/8" - 24 Nylock Nuts and four 3/8" AN Washers in the factory upper shock mounting holes. At the third hole, install the 7/16" - 20 x 1-1/4" L Hex Head Bolt along with two 7/16" Flat Washers and a 7/16" Nylock Nut. Torque the 3/8" bolts to 35 ft-lbs and the 7/16" bolt to 50 ft-lbs.
25. Repeat Steps 22 through 24 on the opposite side.

Final Installation Procedures

26. With all the coilover shock mounting brackets installed and the coilover shocks mounted at the upper mount, jack up the rear axle of the vehicle to line up the coilover shock with holes in the lower mounting bracket. **CAUTION:** Be sure the coilover shocks are out of the way when jacking up the rear axle.

27. Insert a 1/2" - 20 x 4-1/2" L Hex Head Bolt along with a 1/2" long shock spacer through the mounting bracket and the lower coilover shock monoball. **NOTE:** The shock monoball should be in between the welded tube on the bracketry and the floating spacer. Once the bolt is installed, install a 1/2" Flat Washer and thread a 1/2" Nylock Nut onto the bolt using anti-seize on the threads. Torque the bolt to 60 ft-lbs.

28. Repeat the two previous steps for the opposite side.

29. Thread the coilover adjusting nut until there is some tension on the spring. Once tension is reached, turn the nut an additional three to four turns. Ride height will be adjusted later as this is simply a starting point. DSE recommends cleaning the threads of the shock. Once the threads are clean, DSE recommends applying dry bicycle chain lube to the threads of the shock body before adjusting the spanner nut and compressing the coilover spring. Allow the chain lube to dry before adjusting the spanner nut.

30. Once the vehicle is set on the ground, settle the suspension by jouncing both the front and rear by hand by pressing down on the body. Check the ride height at this point and adjust as necessary by turning the coilover adjusting nut. If you have the non-adjustable shocks, the spanner nut has a soft tip set screw that will need to be tightened before the vehicle is driven.

NOTE: Detroit Speed does include a Spanner Tool (P/N: 031060DS) to adjust ride height however if you have the adjustable coilover shocks, Detroit Speed does offer an Adjustment Tool available as P/N: 031061DS if needed. A photo can be seen in Figure 2.



Figure 2 - Spanner Wrench & Adjustment Tool

31. The installation is now complete. A finished installation can be seen in Figure 3 below. If the upgrade was purchased for the Single Adjustable, Double Adjustable Shocks or the Double Adjustable Shocks w/Remote Canisters, refer to the appropriate sections below for adjustability.



Figure 3 - Completed Installation

Detroit Speed Single Adjustable Shock Applications

To change from the recommended "Detroit Tuned" valving, adjustments can be made independently to the rebound setting. The rebound is controlled by the knob at the lower shock mount (Shock is mounted body side up). The knob rotates clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping. Refer to Figure 4



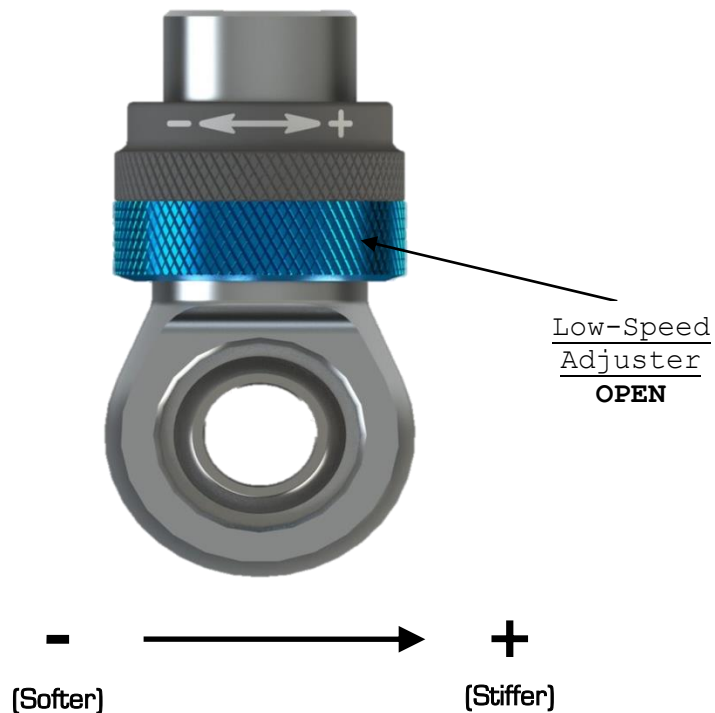
Figure 4- Detroit Speed Single Adjustable Shock

To return to the Detroit Speed recommended settings, turn the knob clockwise (+) to full damping. Once at full damping, turn counterclockwise (-) to reach the recommended settings. Refer to Figure 4a for the rebound settings.

Rebound (Shaft Knob) 20 Open (counterclockwise, -)

Figure 4a - Detroit Speed Recommended Settings

Adjuster Operation



- **Adjuster (60 Clicks)**

The low-speed adjuster is a “clicker” style adjuster meaning that its adjustment is measured by detents located inside the blue adjuster knob. There are 16 clicks per 1 revolution of the knob. It uses a right-hand thread in its operation which means as you increase low-speed, the adjuster will move up on the eyelet. The recommended change for an adjustment is 8 clicks at a time. The low-speed adjuster’s reference position is **full stiff** (closed, or all the way up) and referred to -0 (-0 = full stiff, -60 = full soft).

- **Tuning Notes**

- **Racetrack**

- For more grip, soften the damping.
 - For increased platform control, stiffen the damping.

- **Street**

- For a more comfortable ride, soften the damping

***DO NOT FORCE KNOB WHEN IT STOPS TURNING, YOU MAY DAMAGE THE ADJUSTER AND INTERNAL HARDWARE**

Detroit Speed Double Adjustable Shock Applications

To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to both the high and low speed settings. The rebound is controlled by the sweepers at the lower shock mount. The sweepers rotate clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping. The sweepers can be seen in Figure 5.



Figure 5 – Detroit Speed Double Adjustable Shock

When adjusting the low speed rebound start at full (+) position, when adjusting the high speed rebound start at full (-) position. To return to the Detroit Speed recommended settings turn the sweeper clockwise (+) to full damping for the low speed setting, and counterclockwise (-) to full damping for the high speed setting. Once at full damping, turn counterclockwise (-) for the low speed setting, and clockwise (+) for the high speed setting to reach the recommended settings. Refer to Figure 5a for recommended settings.

- Low Speed Rebound (Sweeper)..... 20 sweeps (counterclockwise, -)
- High Speed Rebound (Sweeper)..... 2 sweeps (clockwise, +)

Figure 5a – Detroit Speed Recommended Settings

Detroit Speed Double Adjustable Shocks w/Remote Canisters

To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to both the high and low speed settings. The rebound is controlled by the sweepers at the lower shock mount. The sweepers rotate clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping. Refer to Figure 6.

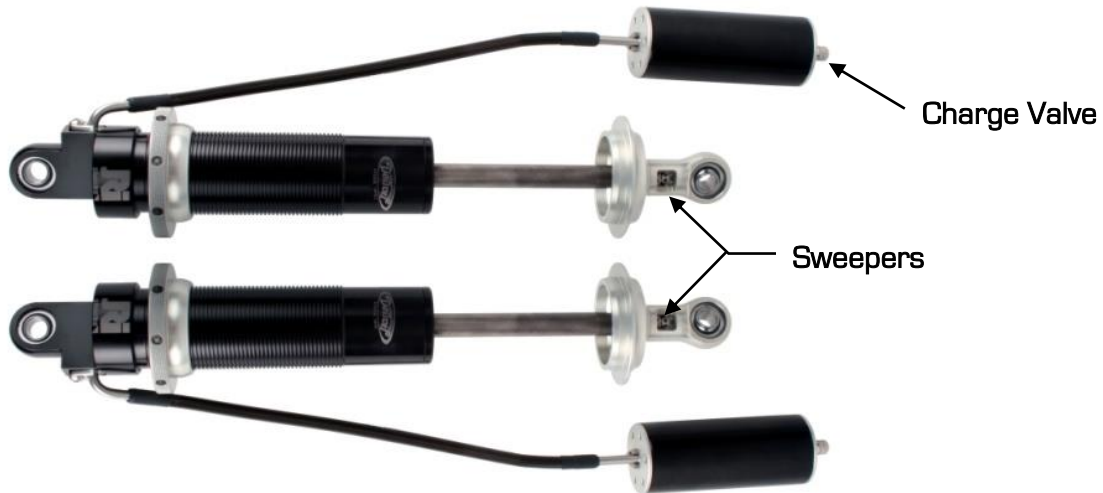


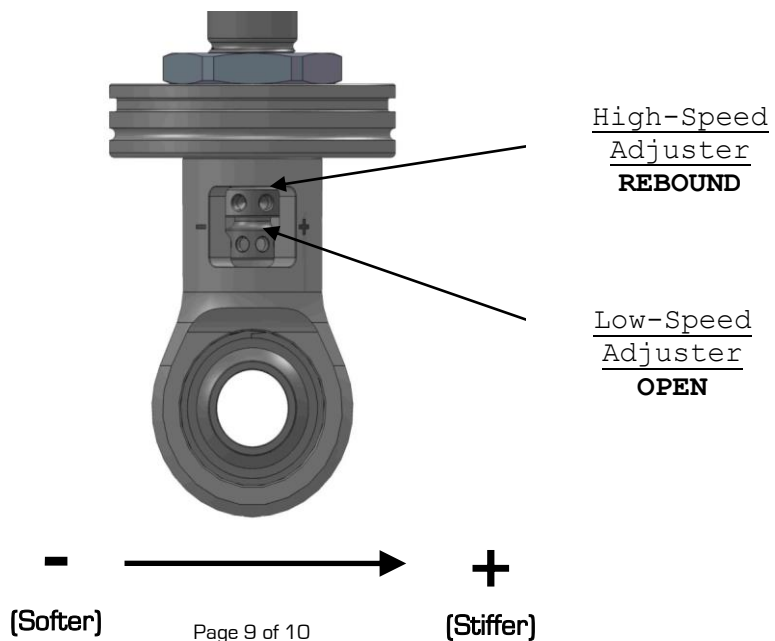
Figure 6 – Detroit Speed Double Adjustable Shock w/Remote Canister

When adjusting the low speed rebound start at full (+) position, when adjusting the high speed rebound start at full (-) position. To return to the Detroit Speed recommended settings turn the sweeper clockwise (+) to full damping for the low speed setting, and counterclockwise (-) to full damping for the high speed setting. Once at full damping, turn counterclockwise (-) for the low speed setting, and clockwise (+) for the high speed setting to reach the recommended settings. Refer to Figure 6a for recommended settings.

- Low Speed Rebound (Sweeper)..... 20 sweeps [counterclockwise, -]
- High Speed Rebound (Sweeper)..... 2 sweeps [clockwise, +]

Figure 6a – Detroit Speed Recommended Settings

Adjuster Operation



- **High-Speed Adjuster (12 Sweeps)**

The high-speed adjuster is a “sweep” style adjuster meaning that its adjustment is measured by the location of the adjuster in the eyelet window. It uses a left-hand thread in its operation which means; as you increase high-speed, the adjuster will move down in the window*. The high-speed adjuster’s reference position is **full soft** and referred to as +0 (+0 = full soft, +12 = full stiff).

- **Low-Speed Adjuster (30 Clicks)**

The low-speed adjuster is a “clicker” style adjuster meaning that its adjustment is measured by detent grooves located inside the high-speed shaft. It uses a right-hand thread in its operation which means; as you increase low-speed, the adjuster will move up in the window. The low-speed adjuster’s reference position is **full stiff** and referred to -0 (-0 = full stiff, -30 = full soft).

**The low-speed adjustment does not change when adjusting the high-speed.*

To aid in the installation of the reservoirs, we also offer a set of Billet Aluminum Remote Canister Mounts. The canister mounts are available exclusively through Detroit Speed, P/N: 032102DS. They are shown in Figure 7.



Figure 7 – Billet Aluminum Remote Canister Mounts

If you have any questions before or during the installation of this product, please contact Detroit Speed at tech@detroitsspeed.com or 704.662.3272

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