

Detroit Speed
Detroit Speed/JRi Front Strut Kit
1982-92 Camaro/Firebird
P/N: 030332DS & 030332-DDS

The Detroit Speed/JRi Front Strut Kit is a high-performance aluminum body strut body with "Detroit Tuned" valving. The kit is a direct bolt-on assembly that includes the Detroit Speed Caster/Camber Plate Kit. An adjustable aluminum spindle bracket allows independent tuning of strut travel in relationship to vehicle ride height. The top spindle mounting uses removable hole inserts allowing wheel camber to be adjusted in 1/16" increments and is available in single or double adjustable versions.



| Item | Description | Quantity |
|------|--|----------|
| 1 | Front Strut Assembly (Single or Double Adjustable) | 2 |
| 2 | Camber Slug, 0 | 2 |
| 3 | Camber Slug, 1/16" | 2 |
| 4 | Camber Slug, 1/8" | 2 |
| 5 | Camber Slug, 3/16" | 2 |
| 6 | Camber Slug, 1/4" | 2 |
| 7 | Caster/Camber Plate Kit | 1 |
| 8 | Strut Mount Retainer Kit | 1 |
| 9 | Front Strut Kit Hardware | 1 |
| 10 | Instructions | 1 |

Hardware Checklist – DSE/JRi Single Adjustable Front Strut Kit (P/N: 030332DS)

| Item | Description | Quantity | Check |
|------|--|----------|-------|
| 1 | M16-2.0 x 80mm Flange Bolt | 4 | |
| 2 | M16-2.0 Flange Top Lock Nut | 4 | |
| 3 | M14-1.5 Nylock Jam Nut | 2 | |
| 4 | M14 Shaft Spacer – 0.875" OD x 0.562" ID x 1" L | 2 | |
| 5 | M14 Monoball Bushing – 0.750" OD x 0.562" ID x .740" L | 2 | |

Hardware Checklist – DSE/JRi Double Adjustable Front Strut Kit (P/N: 030332-DDS)

| Item | Description | Quantity | Check |
|------|--|----------|-------|
| 1 | M16-2.0 x 80mm Flange Bolt | 4 | |
| 2 | M16-2.0 Flange Top Lock Nut | 4 | |
| 3 | 5/8"-18 Nylock Jam Nut | 2 | |
| 4 | 5/8" Top Spacer – 0.920" OD x .0630" ID x 0.250" L | 2 | |
| 5 | 5/8" Shaft Spacer – 0.875" OD x 0.630" ID x 1" L | 2 | |
| 6 | 5/8" Monoball Bushing – 0.750" OD x 0.630" ID x 0.740" L | 2 | |

Hardware Checklist – DSE Caster/Camber Plate Kit

| Item | Description | Quantity | Check |
|------|--|----------|-------|
| 1 | M14-2.0 Nylock Jam Nut | 2 | |
| 2 | M14 Top Spacer | 2 | |
| 3 | Monoball Bushing – 0.750"OD x 0.670"ID x 0.720"L | 2 | |
| 4 | M10 Star Adjuster | 6 | |
| 5 | M8 Nylock Nut | 6 | |
| 6 | M8 Washer | 6 | |

Fastener Torque Specifications

| Application | Torque (ft-lbs) |
|------------------------|-----------------|
| M16 Lower Strut Mount | 150 |
| 5/8"-18 Nylock Jam Nut | 50 |
| M14 Nylock Jam Nut | 45 |
| M10 Strut Slider Mount | 30 |
| M8 Wheelhouse Mount | 20 |

NOTE: There is a front suspension installation video available through the Detroit Speed website in the tech/install video section shown here:

<https://www.detroitsspeed.com/1982-92-camaro-firebird-installation-videos>.

Installation:

1. To begin installation, chock the rear wheels and loosen the front lug nuts. Raise and support the front of the vehicle with jack stands under the frame. Remove the front wheels.
2. Support the lower control arm with a floor jack to support the suspension. **CAUTION: The coil springs are under tension. The proper spring compressor must be used.** Remove the two M16 strut bolts and nuts attaching the strut to the spindle. At this time the spindle and the lower control arm should drop down clear of the strut assembly with the floor jack.
3. If your caliper brake hose is short you may need to remove it from the chassis clip for this installation.

4. Remove the cover from the upper mount assembly to gain access to the upper strut mount. Remove the factory upper strut nut (Figure 1) and remove the strut.



Figure 1 – Remove Upper Strut Mount

5. Remove the three nuts holding the factory upper strut mount assembly from the wheelhouse (Figure 2). Hold the stud retainer plate in place as it will be loose from inside the wheel well.



Figure 2 – Remove the Upper Strut Mount Assembly

6. Next, install the Detroit Speed Caster/Camber Plate Kit. The M14 Nylock Nut (Item #1), and the Monoball Bushing (Item #3) from the Caster/Camber Plate Kit instructions will not be used during this installation.

7. Install the Detroit Speed strut retainer in the wheel well. Be sure to install the correct one as there is a left and a right hand part. **NOTE:** If you have a 1982-86 vehicle, you will need to slot the back hole in the strut tower to allow the new strut plate to fit correctly and have full adjustment (Figure 3)

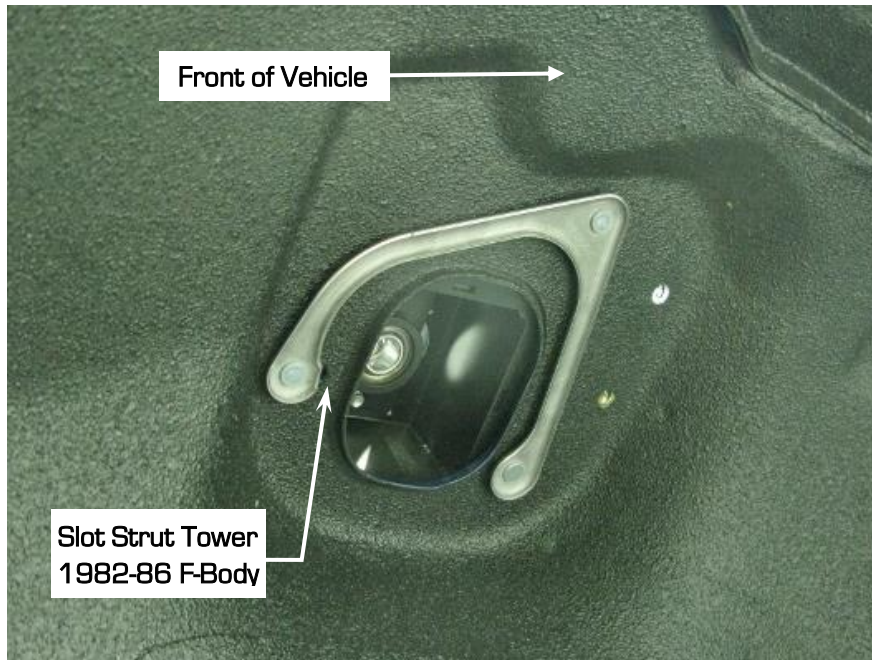


Figure 3 - Detroit Speed Strut Mount Retainer

8. Install the caster/camber plate onto the wheelhouse with the stud retainer plate in place. Install the M10 star adjusters along with the M8 Nylock nut and washer on all three mounting studs (Figure 4). A good starting place will be to line up the star adjusters so the "O" tab is in the 4th notch from the center of the vehicle on the star adjuster base plate. Torque the M8 Nylock nuts to 20 ft.-lbs.

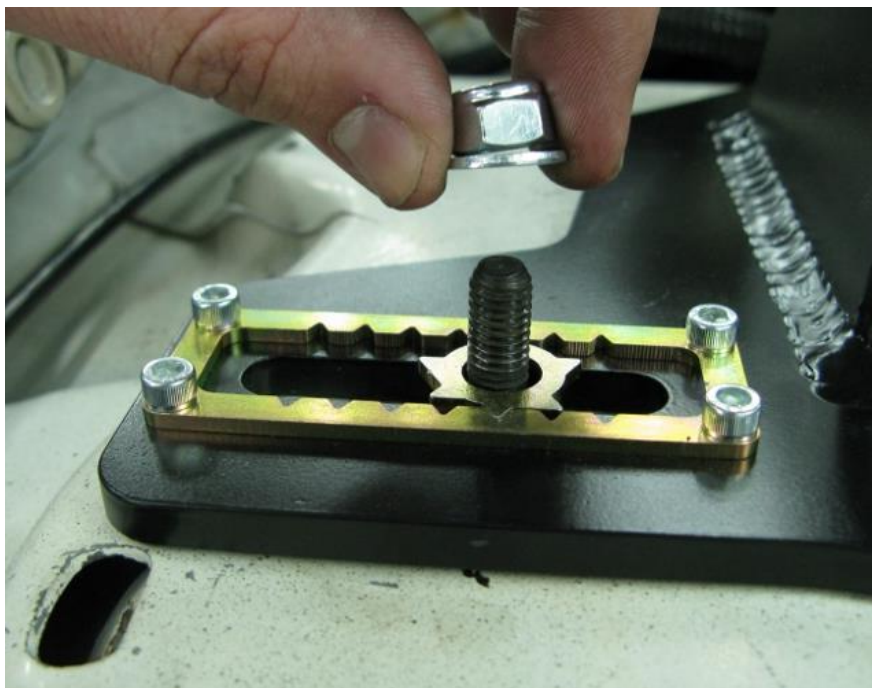


Figure 4 - Install Caster/Camber Plate

9. Place the 0.875" OD x 1" L shaft spacer over the top of the shaft of the Detroit Speed/JRi strut assembly (Figure 5). Next place the 0.750" OD x 0.740" L monoball bushing over the top of the strut.



Figure 5 - Install Strut Shaft Spacer

10. Install the strut assembly into the caster/camber plate kit from the bottom side. The monoball bushing should slide into the monoball (Figure 6).

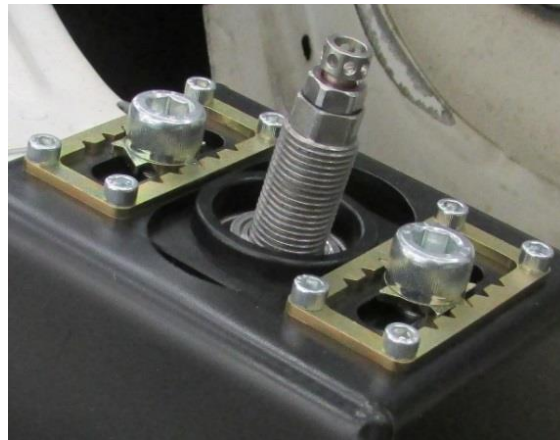


Figure 6 - Install Strut Assembly

11. Install the top spacer over the top of the strut followed by the Nylock jam nut and tighten (Figure 7). Hold the strut from turning with a 1/2" wrench on the hex at the top of strut shaft or a 3/4" wrench on the hex underneath the vehicle while tightening the jam nut (Figure 8). **CAUTION:** When tightening the Nylock nut, failure to hold the shaft from turning too many times while under pressure can cause the inner shaft nut to loosen and fall off. This would result in sending the shocks back to be repaired at the customer's expense. Do not torque at this time.



Figure 7 - Top Spacer and Nylock Nut

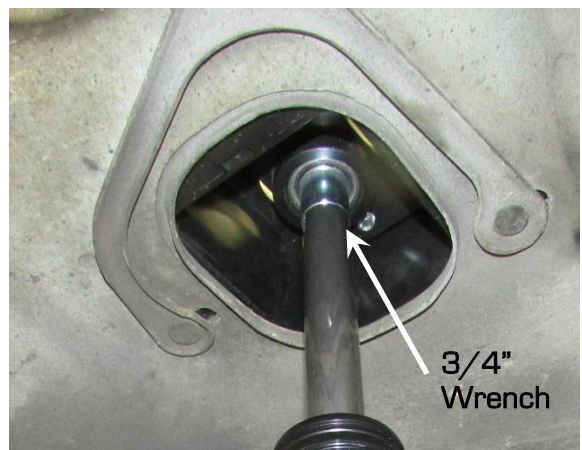


Figure 8 - Hold Strut at Hex

12. With the strut hanging, insert a "0" camber slug into the recessed oval slot in the top hole on the inside of the strut bracket (Figure 9). **NOTE:** The other camber slugs that are included in the kit are intended for track use and can be used for more aggressive camber settings. You can then make fine adjustments to the camber and caster using the Detroit Speed Speed-*LIGN* technology described in step 17 and 18 on the upper strut mounts.



Figure 9 - "0" Camber Slug

13. Attach the spindle to the new strut using the M16 flange head bolts and nuts provided. Torque the M16 nuts to 150 ft. /lbs. (Figure 10). Final torque the upper strut Nylock jam nut to torque setting provided in the table on page 2 using a 1/2" wrench on the hex at the top of the strut shaft to hold it from turning. **NOTE:** The strut bracket can have the camber slug pointing to the front or the rear of the vehicle.



Figure 10 - Install Strut

14. Re-attach the caliper brake hose to the chassis clip at this time if it has been removed. Install the strut adjustment knob with the set screw on the top of the strut (Figure 11 on the next page).



Figure 11 – Install Adjustment Knob

15. Repeat steps 2 through 14 for the opposite side of the vehicle.
16. Re-install the front wheels and torque to the manufacturer's recommended torque specs. Lower the vehicle to the ground.
17. The Detroit Speed patent pending Speed-*LIGN* adjustment device allows quick, accurate, and repeatable adjustments to be made without needing any additional components. Adjustments are simply made by loosening the attaching fastener enough so the Speed Speed-*LIGN* adjuster can be released from the notched frame and then moved to the desired notch/position. Once the fastener is tightened, the Speed-*LIGN* adjuster locks the fastener in the desired position in the slot. The Speed-*LIGN* adjuster and the notched frame are clearly marked so that the adjuster position can be read and recorded.
18. The star adjusters have "0", "1/16" and "1/8" etched onto them for reference. When moving the star adjuster one notch on the star adjuster cage, that is equal 1/4" of movement. A professional alignment must be performed at this time. DSE recommends using the specifications shown below when using the "0" camber slug (Figure 12).

| Alignment Specs w/ Detroit Speed Caster | |
|---|---------------------|
| Camber | - 0.70° ± 0.20° |
| Caster | + 5.50° ± 0.50° |
| Toe (Total) | 0° [-1/32" Toe-out] |

Figure 12 – Alignment Settings with "0" Camber Slug

19. The installation is now complete (Figure 12 & 13 on the next page), refer to the appropriate sections below for adjustability of the single and double adjustable shock options.

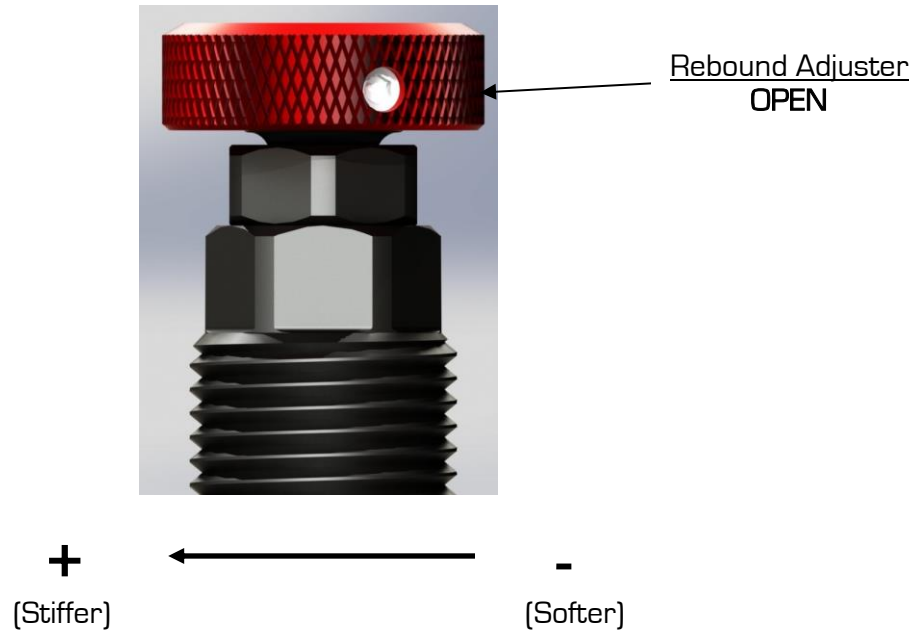


Figure 12 - Passenger Side



Figure 13 - Driver Side

Detroit Speed Single Adjustable Shocks

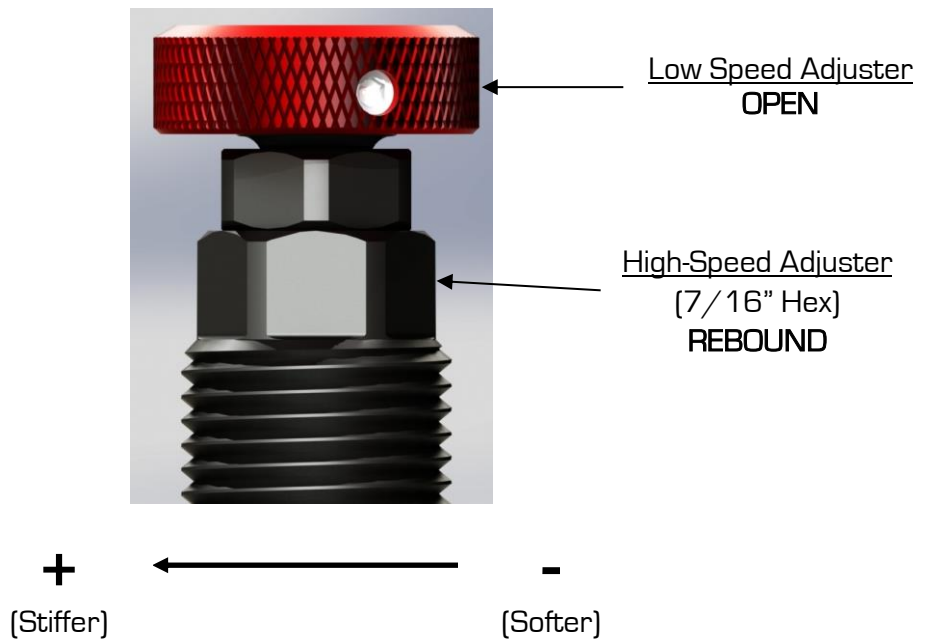


To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to the rebound setting. The rebound is controlled by the knob at the upper strut mount (Strut is mounted body side down). The knob rotates clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping.

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.

Rebound (Shaft Knob)..... 15 Open (counterclockwise)[-]
Detroit Speed Recommended Settings

Detroit Speed Double Adjustable Shocks



To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to both the high and low speed settings. The low-speed adjuster is controlled by the knob at the upper shock mount (Strut is mounted body side down). The knob rotates clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping.

The high-speed adjuster is a “sweep” style adjuster and the adjustment is measured by how many hex “flats” pass a given point. The high speed sweeper is directly below and is turned with a 7/16” wrench. The high-speed adjuster has 14 flats and is at its full soft position when the hex is bottomed out against the shaft end. The high-speed adjusters reference position is full soft and referred to as +0 (+0 = full soft, +14 = full stiff). Mark a line for reference to keep track of your adjustments.

The top knob is the low speed sweeper and can be turned by hand. It is a “clicker” style adjuster meaning that its adjustment is measured by detent grooves located inside the high-speed shaft and has 30 clicks. It uses a right-hand thread in its operation which means; as you increase low-speed, the adjuster will move down. The low speed adjuster’s reference position is full stiff and referred to -0 (-0 = full stiff, -30 = full soft). The adjuster is at full stiff when it cannot turn towards the stiff position anymore. **NOTE: Do not exceed 30 clicks on the low speed screw. When turning to full soft, as soon as you feel clicks stop, stop turning and return to the last clicking setting. This is the end of your adjustment.**

NOTE: The low-speed adjustment does not change when adjusting the high-speed, even though the adjuster turns when adjusting the high-speed shaft.

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.

Low Speed Rebound (Shaft Knob)..... 15 Open (counterclockwise)(-)
High Speed Rebound (Sweeper)..... 4 Sweeps (clockwise)(+)

Detroit Speed Recommended Settings

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