

Air Lift[™]
PERFORMANCE

Kit 78521

Ford Mustang S550

Front Application



AIR LIFT
PERFORMANCE[™]

INSTALLATION GUIDE

For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

Failure to read these instructions can result in an incorrect installation.

PERFORMANCE SUSPENSION PARTS

Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of this Ford Mustang S550 Performance kit.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information includes a hardware list, step-by-step installation information, maintenance tips, safety information and a troubleshooting guide.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information which is highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this guide.

 **DANGER**

INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 **WARNING**

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 **CAUTION**

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE

Indicates a procedure, practice or hint which is important to highlight.

IMPORTANT SAFETY NOTICES

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

Gross Vehicle Weight Rating: The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

Payload: The combined, maximum allowable weight of cargo and passengers that the vehicle is designed to carry. Payload is GVWR minus the Base Curb Weight.

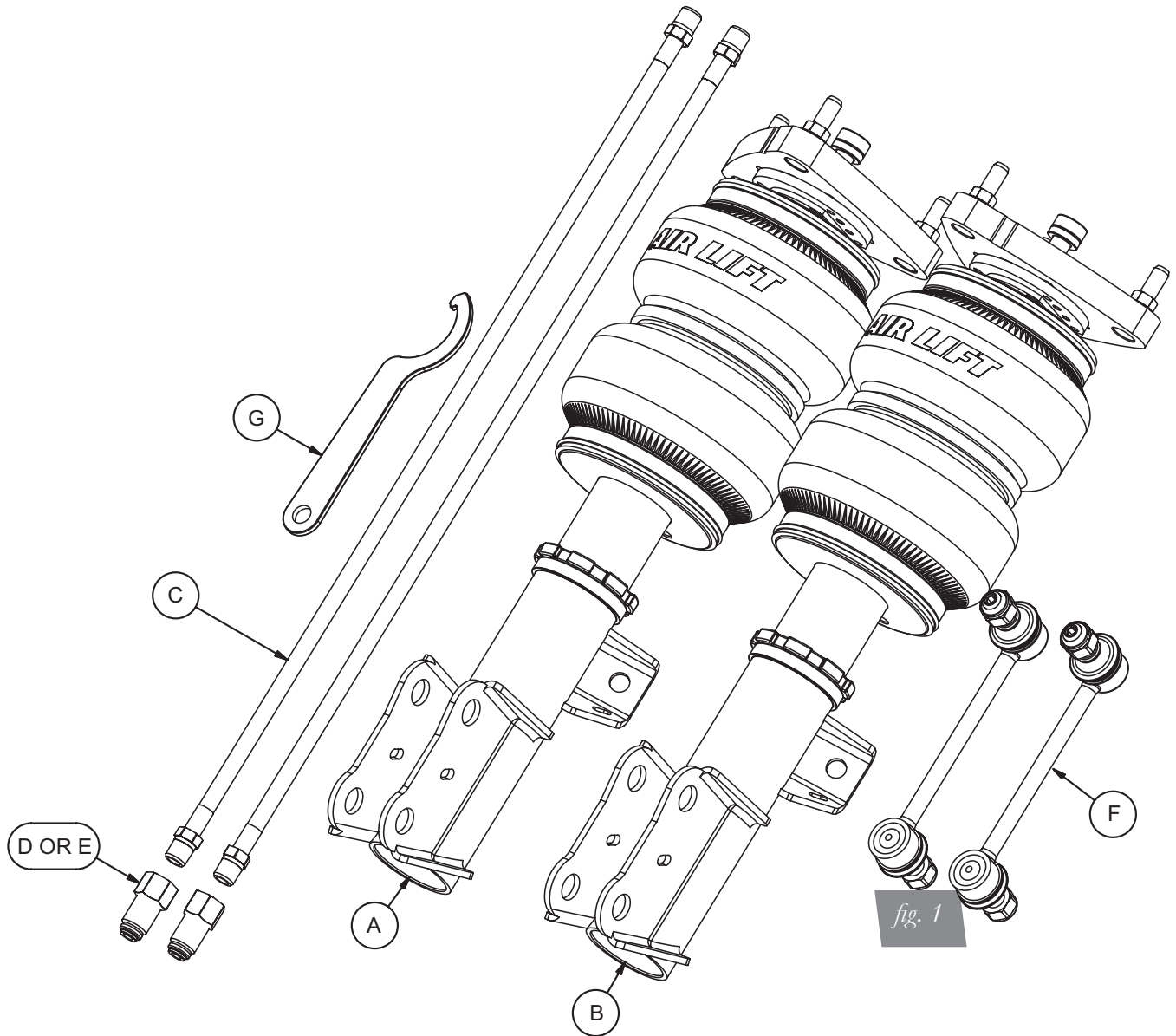
 **WARNING**

DO NOT INFLATE AIR SPRINGS WHILE OFF OF THE VEHICLE. DAMAGE TO ASSEMBLY MAY RESULT AND VOID WARRANTY.

 **CAUTION**

DO NOT WELD TO, OR MODIFY PERFORMANCE STRUTS/SHOCKS IN ANY WAY. DAMAGE TO UNIT MAY OCCUR AND WILL VOID WARRANTY.

Installation Diagram



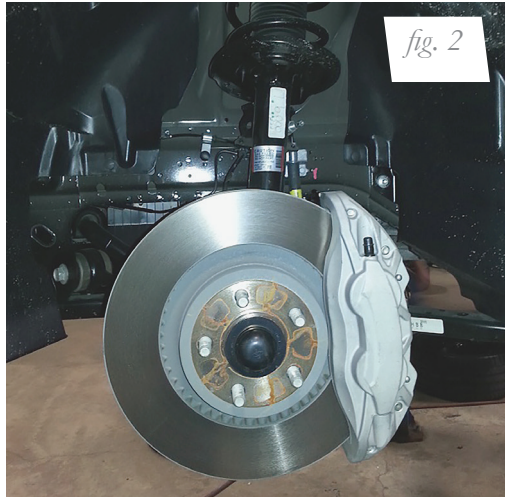
HARDWARE LIST

Item	Part #	Description	Qty
A	35308	ASM, Strut, S550 Mustang Right Front	1
B	35307	ASM, Strut, S550 Mustang Left Front.....	1
C	20997	Leader Hose, 1/4" ID	2
D	21810	Union, 1/4"FNPT X 1/4" PTC, DOT	2
E	21987	Union, 1/4"FNPT X 3/8" PTC, DOT	2
F		End Link - 215mm.....	2
G		Spanner Wrench.....	1

Installing the Air Suspension

PREPARING THE VEHICLE

1. Elevate and support the vehicle from approved lifting points.
2. Remove the front wheels (fig. 2).

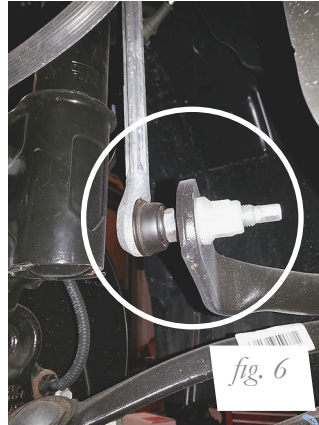


REMOVING THE STOCK SUSPENSION

1. Unclip the sensor wire from the two attaching points on the strut (figs. 3 and 4).



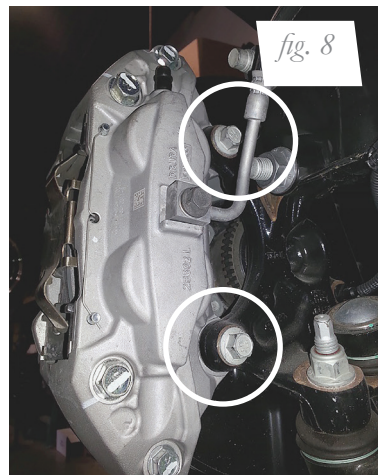
2. Unthread the stabilizer bar end link nuts from the strut and bar. Remove the end link (figs. 5-7).



3. Unbolt the brake caliper. Remove the brake caliper and brake rotor. Secure the brake caliper out of the way while preventing strain on the brake line (figs. 8 and 9).

NOTE

The lower strut attaching bolts have a splined section that bites into the knuckle. Because of this, the brake caliper and rotor will need to be removed in order to push the bolts out.



4. Remove the two lower strut nuts and use a hammer to remove the bolts, while taking care not to damage the threads (fig. 10). Support the knuckle to prevent damage to the lower ball joint.

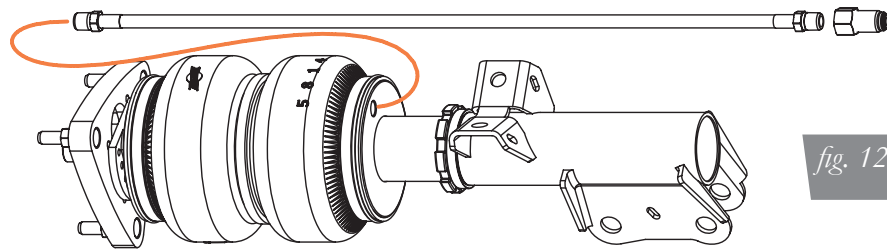


5. Within the engine compartment, unthread the three upper mount nuts and remove the strut from the vehicle (fig. 11).



AIR SUSPENSION INSTALLATION

1. Begin by installing the leader line into the air spring. Apply thread sealant to the threads of the leader hose. Tighten the appropriate fitting to the air line (one and three-quarter turns beyond hand-tight). Tighten the leader line into the air spring (one and three-quarter turns beyond hand-tight) (fig. 12).



2. Attach the camber plate to the strut tower and torque nuts to 41 Nm (30 ft-lbs.) (fig. 13).



3. Reinstall the lower mount bolts through the knuckle with the bolt heads toward the front of the vehicle (figs. 14 and 15). A hammer may be required to push the bolts through the knuckle. Torque to 250 Nm (184 ft-lbs.).



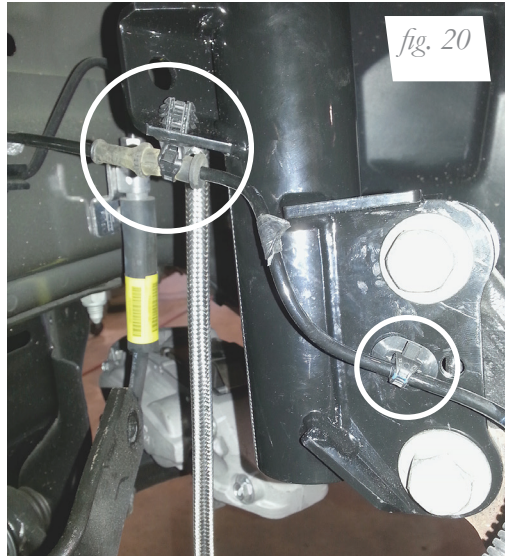
4. Reinstall the brake rotor and brake caliper. Torque fixed brake caliper bolts to 115 Nm (85 ft-lbs.). For sliding calipers (not shown), torque the guide pin bolts to 33 Nm (24 ft-lbs.) (figs. 16 and 17).



5. Install the new stabilizer end link. Torque nuts to 103 Nm (76 ft-lbs.) (figs. 18 and 19).



- Clip the sensor wires into the attaching points on the strut (fig. 20).



- Fully compress the suspension using a jack. With the suspension compressed, review the best routing for the leader hose that is clear of all suspension and steer components. Routing should also allow for the suspension to extend and steer without kinking or pulling the line tight or rubbing on other components. Following the brake line routing is often a good place to start. Check clearances to all other components.
- With the suspension fully compressed, take a measurement from the fender to some reference point – typically the center of the axle. Record this measurement as Max Compression.
- Cycle the suspension to Max Extension and record the measurement from the same reference points.
- Add ME and MC then divide by 2. Set the suspension to this point. This position will give 50% stroke in either direction and is a starting point for ride height (fig. 21).

Formula for Calculating Ride Height
 $(ME+MC) \div 2 = \text{MID STROKE}$

fig. 21

- With the suspension at this position, loosen, then re-torque the lower control arm bolts to manufacturer’s specifications (Table 1).

Torque Specifications		
Location	Nm	ft-lbs.
Camber plate to chassis nuts	41	30
Strut lower mount bolt/nuts	250	184
Stabilizer end link nuts	103	76
Fixed brake caliper bolts	115	85
Sliding brake caliper guide pin bolts	33	24
Wheel lugs	201	148
Air fitting (use thread sealant)	1-and-3/4 turns beyond hand-tight	

Table 1

DAMPING ADJUSTMENT

The struts in this kit have 30 settings, or “clicks”, of adjustable compression and rebound damping characteristics. Damping is changed through the strut rod using the supplied adjuster (figs. 22 and 23) or a 3mm allen wrench.

Turn the adjuster clockwise and the damping settings are hardened. Turn the adjuster counterclockwise and the damping is softened.

Each strut is preset to “-17 clicks”. This means that the strut is adjusted 17 clicks away from full stiff. Counting down from full stiff is the preferred method of keeping track of, or setting, damping. This setting was developed on a 2015 Mustang 2.3L EcoBoost and may need to be adjusted to different vehicles and driving characteristics.



fig. 22

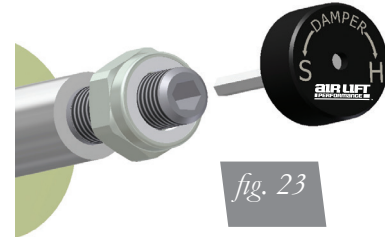


fig. 23

ALIGNING THE VEHICLE

1. Using the control system, set the vehicle height to the new custom ride height.
2. If the custom ride height is lower than stock, we recommend loosening all pivot points (bolts, nuts) on any control arm, strut arm or radius rod that contains bushings. Once they have been loosened, re-torque to stock specifications.

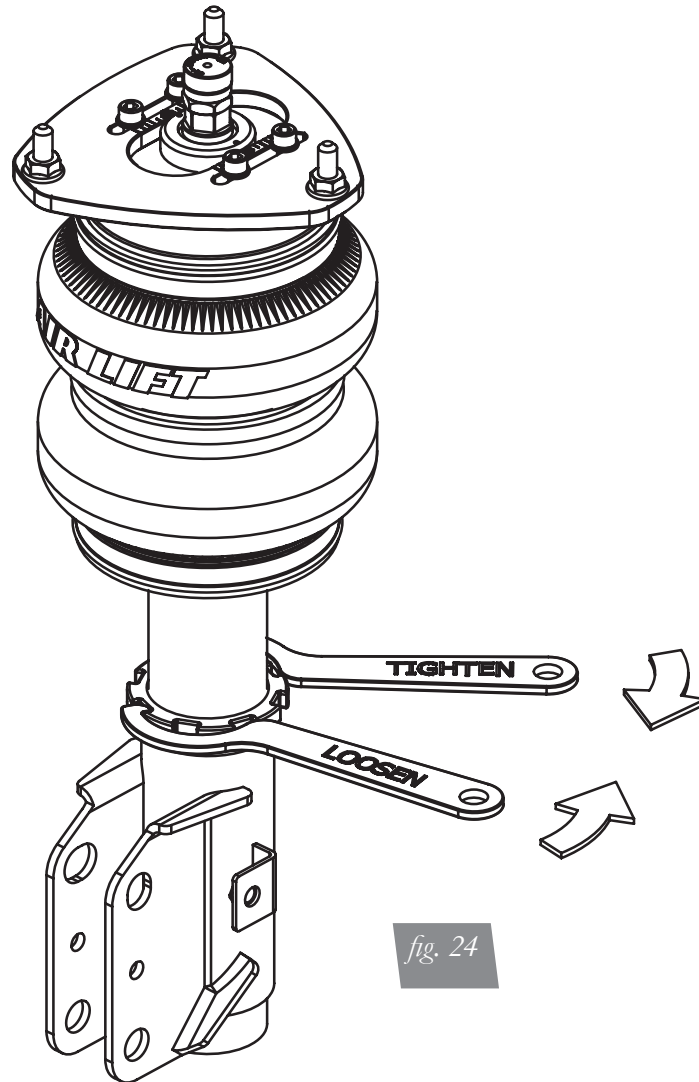
NOTE

It may be necessary to cycle the suspension to loosen the bushing up from its mount. This will help re-orient the bushing at its new position and increase life of the bushings based on the custom ride height.

ADJUSTING EXTENDED OR DROP HEIGHT USING LOWER MOUNT

Your struts have been pre-set at the factory to provide maximum drop height while maintaining adequate tire clearance to the air spring. If you wish to gain more extended height (lift), which is the same as reducing drop height, or want to lower the chassis further and there is still adjustment available at the lower mount, please use the following procedure:

1. Support the vehicle with jack stands or a hoist at approved lifting points.
2. Remove the wheel.
3. Using the supplied spanner wrench, loosen the lower locking collar (fig. 24).



4. Deflate the air spring to 0 PSI on the corner you are adjusting.
5. Disconnect lower mount from suspension.
6. Spin the lower mount to the desired location.

NOTE

Not all models will have further drop height available.

7. Re-install lower mount to suspension and torque fasteners.
8. Tighten the lower locking collar to the lower mount using significant force.

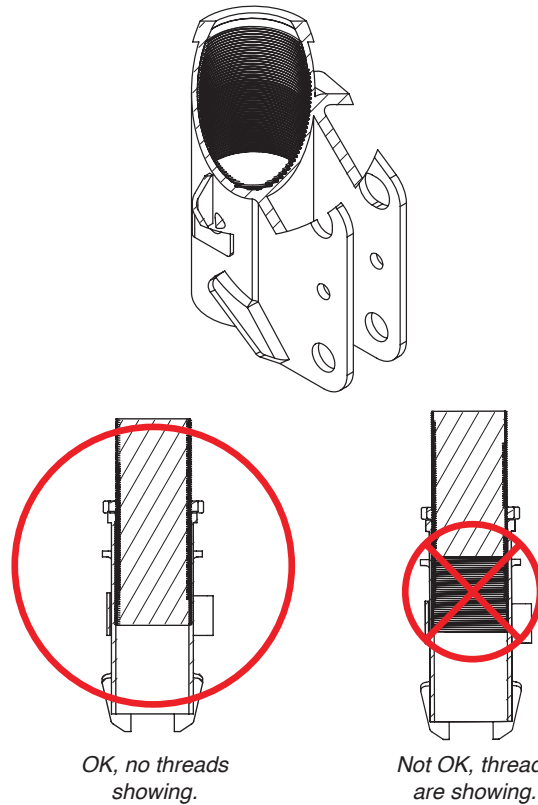
CAUTION

WHEN ADJUSTING HEIGHT UPWARDS, MAKE SURE THAT THE STRUT BODY ENGAGES ALL THE THREADS OF THE LOWER MOUNT (FIG. 25). WHEN ADJUSTING DOWNWARDS, MAKE SURE THERE IS ADEQUATE AIR SPRING CLEARANCE TO THE TIRE/WHEEL ASSEMBLY. CLEARANCE MUST BE CHECKED WITH SYSTEM FULLY DEFLATED AS WELL AS FULLY INFLATED TO ENSURE THAT NO RUBBING OCCURS. FAILURE TO MAINTAIN ADEQUATE CLEARANCE CAN RESULT IN AIR SPRING FAILURE AND WILL NOT BE COVERED UNDER WARRANTY.

CAUTION

DO NOT ADJUST HEIGHT BY SPINNING AIR SPRING ON STRUT! DOING SO MAY CAUSE AN AIR LEAK AND COMPROMISE THE ASSEMBLY.

FOR STRUTS:



FOR SHOCKS:

