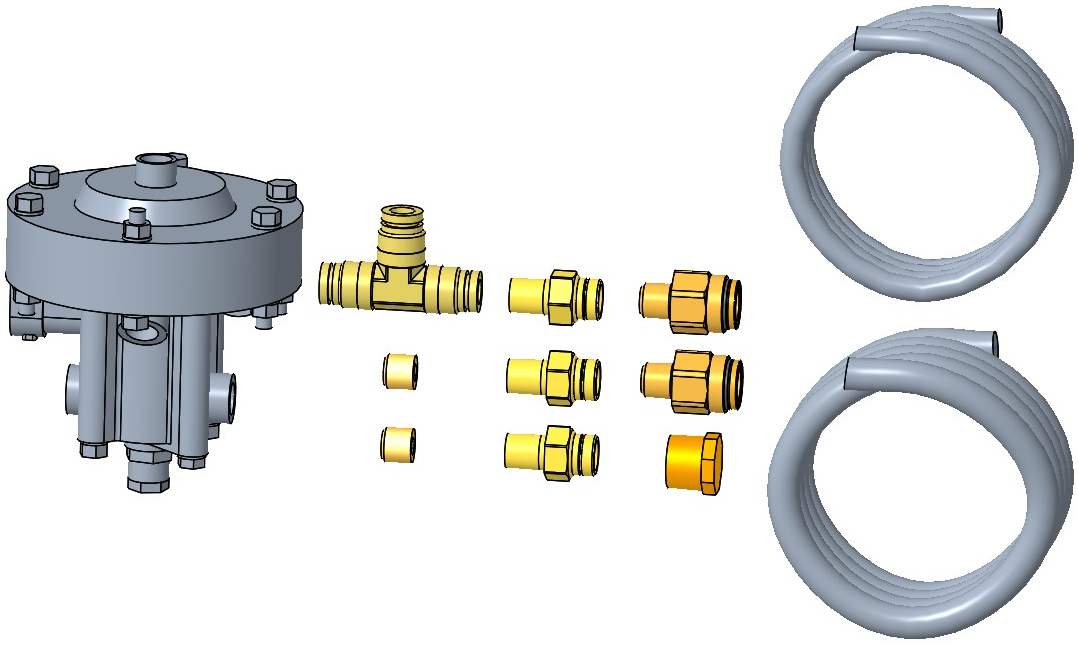
Auxiliary Suspensions

INSTALLATION INSTRUCTIONS PARTS LIST

RATIO RELAY KIT (13501016)



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JUNE 30, 2023

IMPORTANT: IT IS IMPORTANT THAT THE ENTIRE INSTALLATION INSTRUCTIONS BE READ THOROUGHLY BEFORE PROCEEDING WITH SUSPENSION INSTALLATION.

1. INTRODUCTION

Thank you for choosing a Link Auxiliary Suspension Ratio Relay Kit. We want to help you get the best results from this suspension and to operate it safely. This instruction contains information to assist in the installation of the Ratio Relay Valve for your Link Auxiliary Suspension. This instruction is intended solely for use with this product.

All information in this instruction is based on the latest information available at the time of printing. Link Manufacturing reserves the right to change its products or manuals at any time without notice.

Damaged components should be returned to Link with a pre-arranged Returned Materials Authorization (RMA) number through the Customer Service Department. The damaged component may then be replaced if in compliance with warranty conditions.

2. SAFETY SYMBOLS, TORQUE SYMBOL, and NOTES

⚠DANGER	**DANGER indicates a hazardous situation which if not avoided, will result in death or serious injury.**
⚠WARNING	**WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**
⚠CAUTION	**CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.**
NOTICE	***NOTICE* indicates a potentially hazardous situation which, if not avoided, may result in property damage.**
TORQUE	***TORQUE* indicates named fasteners are to be tightened to a specified torque value.**
NOTE:	**A Note provides information or suggestions that help you correctly perform a task.**

3. SAFE WORKING PRACTICES:

3.1 ⚠CAUTION
When handling parts, wear appropriate gloves, eyeglasses, ear protection, and other safety equipment.

3.2 ⚠CAUTION
Practice safe lifting procedures. Consider size, shape, and weight of assemblies. Obtain help or the assistance of a crane when lifting heavy assemblies. Make certain the path of travel is clear.

4. INSTALLATION GUIDELINES

4.1 In order for this suspension to operate properly, it must operate in the parameters specified by Link.

4.2 The installer must verify the vehicle is configured properly for the lift axle(s) being added.

4.3 It is the responsibility of the installer to determine the location of the suspension in order to obtain proper load distribution.

4.4 Suspension Identification: Each assembly has an identification label located on the hanger of the suspension on the drivers side of the vehicle. The label includes the Link part number for the axle and the suspension serial number.

4.5 No alterations of any Link suspension component is permitted without proper authorization from qualified Link personnel.

4.6 No welding of any suspension components is permitted except when specified by Link.

4.7 ⚠CAUTION
The vehicle manufacturer should be consulted before any modifications are made to the frame of the vehicle. Cutting or altering the frame in certain areas may affect the manufacturer's warranty.

4.8 ⚠WARNING
It is the responsibility of the installer to ensure that compliance with FMVSS 121 is maintained by the braking system.

4.9 ⚠CAUTION
Proper tightening of fasteners is important to the performance and safety of the suspension. Follow all torque specifications throughout the instructions.

NOTES:

1) This kit contains the items needed to install the ratio relay valve for your Link Auxiliary Suspension on a typical truck. Your specific situation may require additional components or may not use all the provided components. Please contact Link Customer Service if you have questions.
2) Considerations should be made to route all wiring and airline in protected locations away from any moving parts.
3) Cable ties or other fastening devices may be required to secure airline, wire and/or fittings to truck/suspension.
4) For fittings without pre-applied thread sealant, apply Permatex #807 or comparable anaerobic pipe thread sealant to fill three exterior pipe threads on brass fittings and tighten 1-½ revolutions beyond hand tight.

NOTICE **This kit is for an auxiliary suspension in which the driver wants to insure that the auxiliary axle does not overpower the drive axle(s).**

STANDARD RATIO RELAY CONFIGURATION

PLUMBING INSTRUCTIONS—Refer to FIG. 1, FIG.2, FIG. 3, and Parts List for Details

FIG. 1

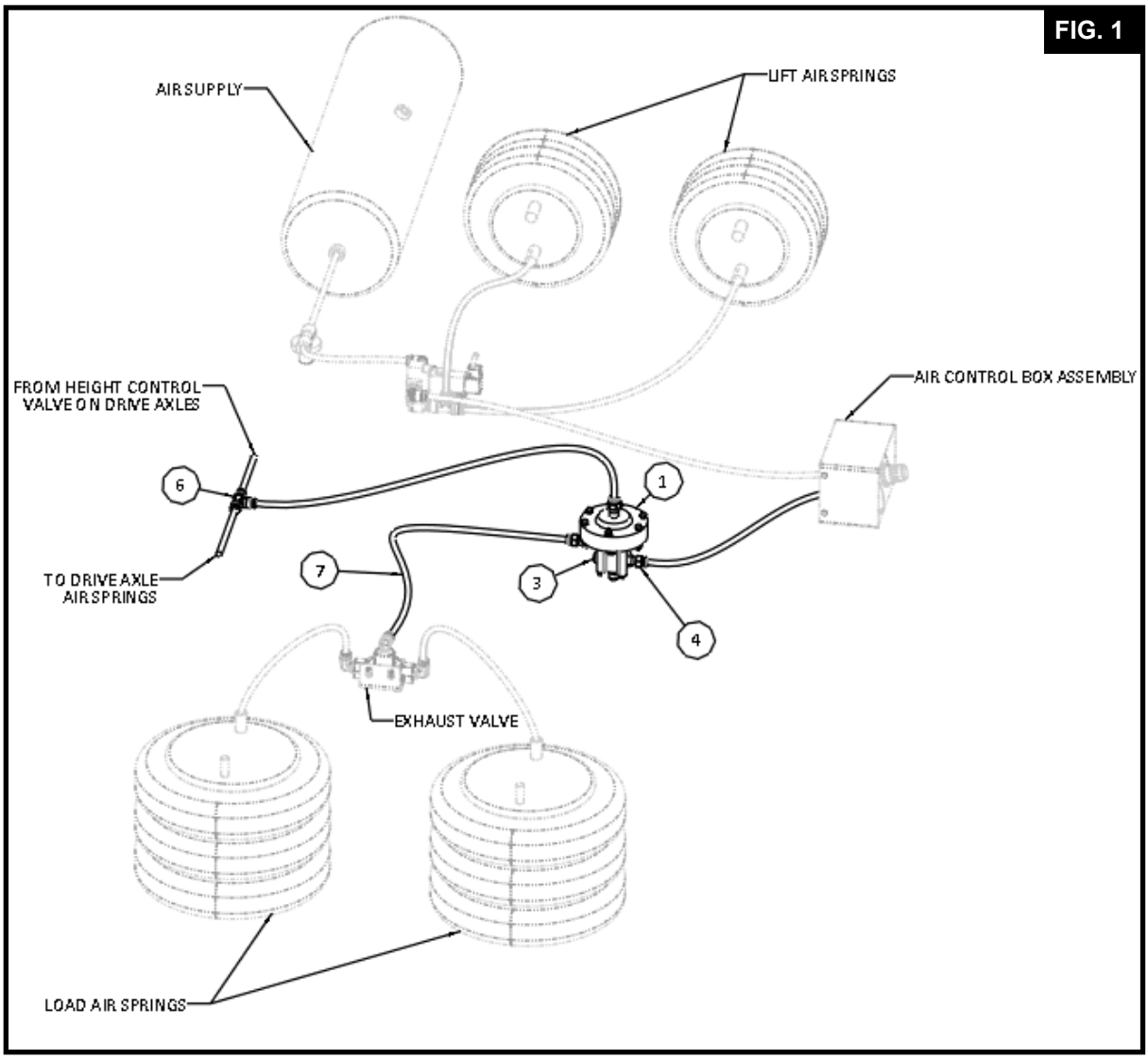


Fig.1: Ratio Relay Solenoid Valve Routing

1. Plug gage port and one emergency port (see FIG. 2 for Relay Port Information) on ratio relay valve using 0.25” Plug (2X Item #3).
2. With the three remaining ports in the ratio relay valve thread in the 3/8” air fittings (3X Item #4).
3. Connect outlet port of air control box to open emergency port of ratio relay valve with provided 3/8” hose.
4. Connect the control port of ratio relay valve to 3/8” tee. Connect one end of the tee (Item #6) to the drive axle air spring line and the other to the drive axle height control valve.
5. Now connect the service port of the ratio relay valve to the exhaust valve connected to the load springs.

NOTE: By adjusting the exhaust port out, that decreases the ratio pressure to the load springs. Vice versa, by adjusting in, the ratio pressure to the load air springs increases.

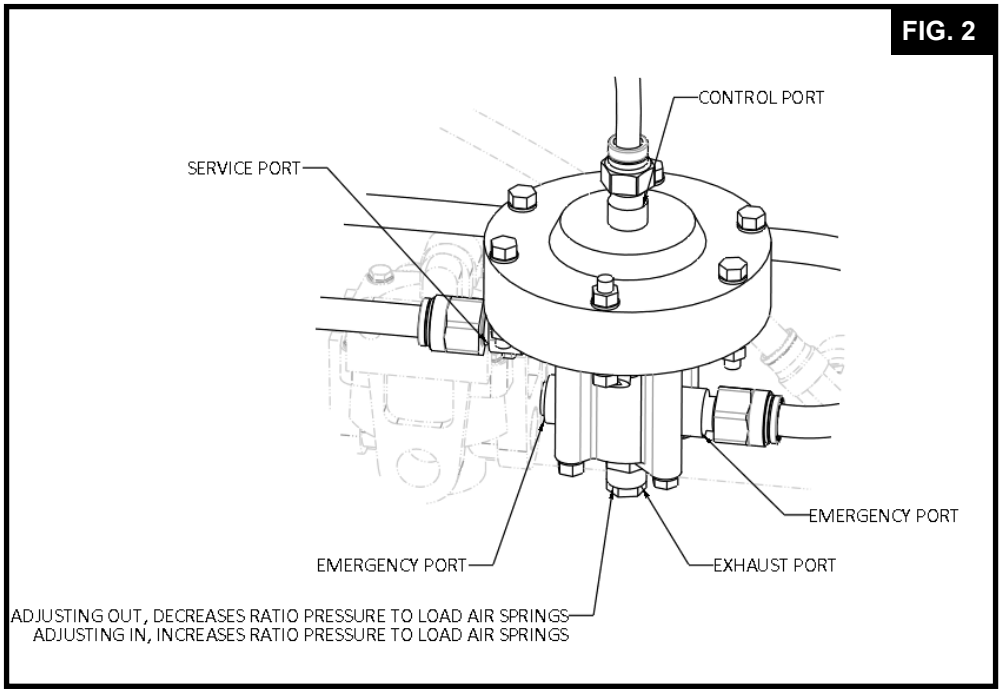


Fig 2. Ratio Relay Port Designations

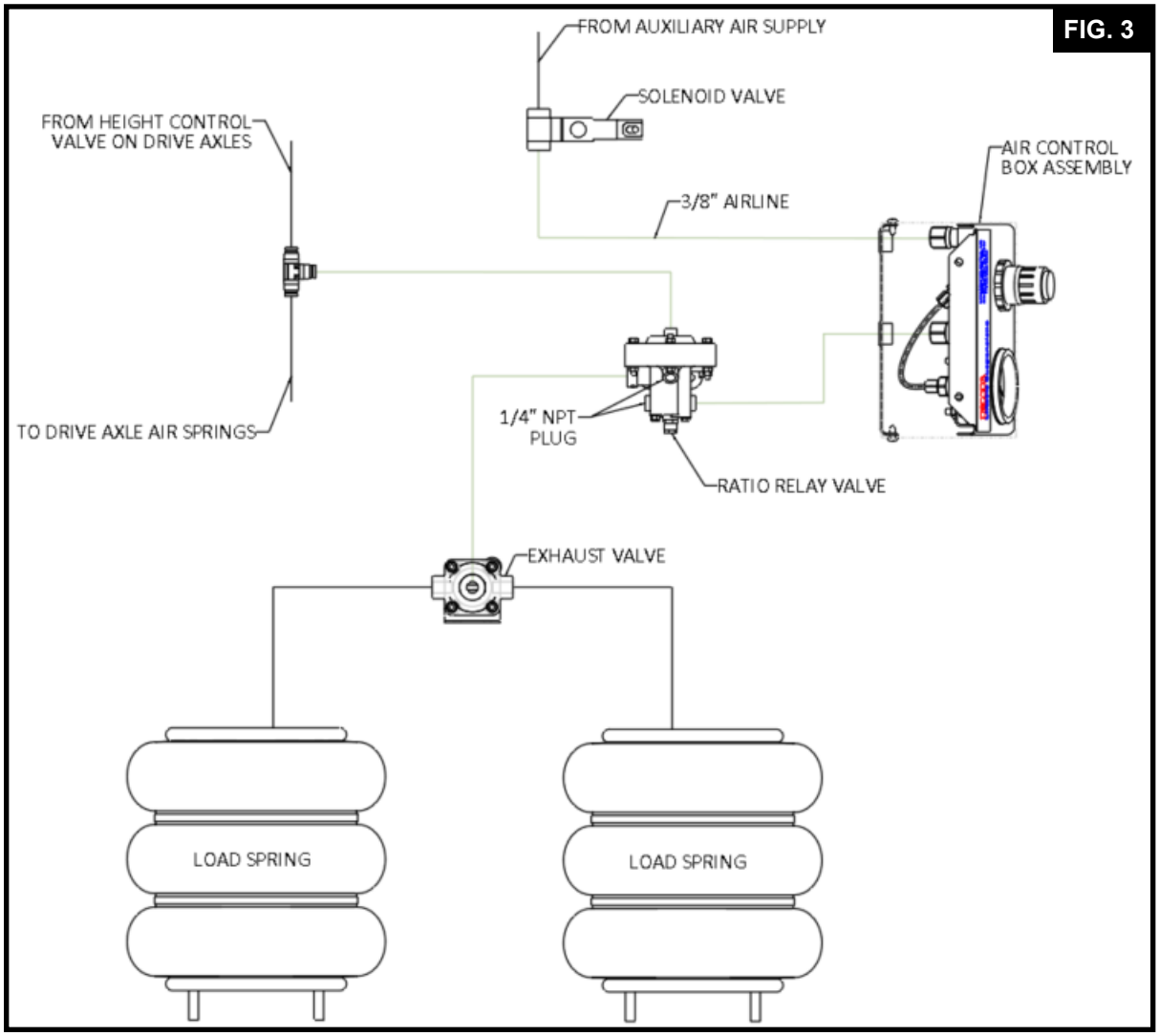


Fig 3: Solenoid Ratio Relay Valve Airline Routing

NOTES:

1) This kit contains the items needed to install the ratio relay valve for your Link Auxiliary Suspension on a typical truck. Your specific situation may require additional components or may not use all the provided components. Please contact Link Customer Service if you have questions.
2) Considerations should be made to route all wiring and airline in protected locations away from any moving parts.
3) Cable ties or other fastening devices may be required to secure airline, wire and/or fittings to truck/suspension.
4) For fittings without pre-applied thread sealant, apply Permatex #807 or comparable anaerobic pipe thread sealant to fill three exterior pipe threads on brass fittings and tighten 1-½ revolutions beyond hand tight.

GT VALVE RATIO RELAY CONFIGURATION

PLUMBING INSTRUCTIONS—Refer to FIG. 2, FIG.4, FIG.5, and Parts List for Details

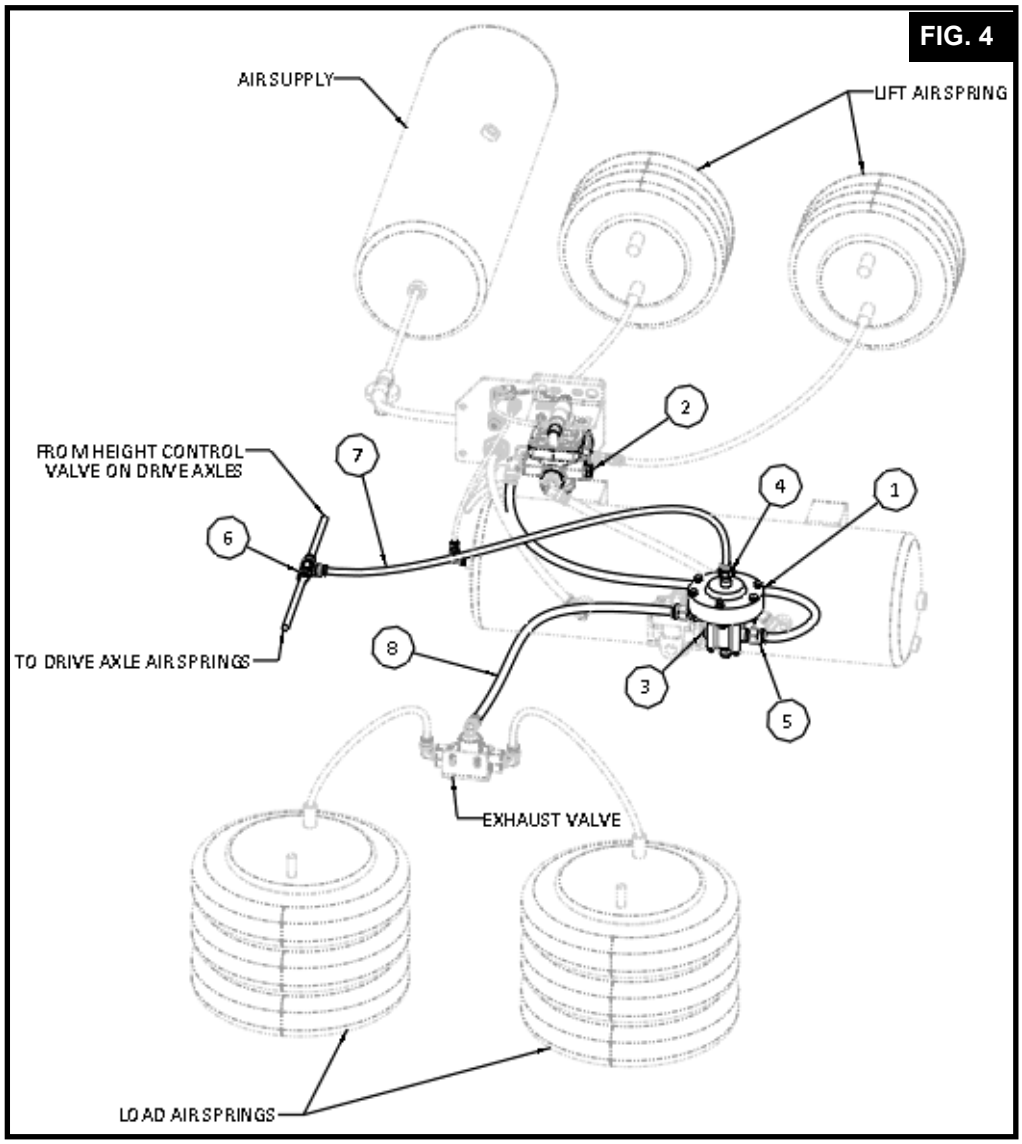


Fig 4: GT Valve Ratio Relay Airline Routing

1. Plug gage port and one emergency port (see FIG. 2 for Relay Port Information) for on ratio relay valve (1X Item #1) using 0.25" Plug (2X Item #3).
2. Thread the two 1/2" NPT air fittings (2X Item #5) into the service and emergency ports. Thread the remaining 3/8" NPT fitting (1X Item #4) into the top control port on the ratio relay valve.
3. Use the provided 1/2" airline (Item #8) to connect the ratio relay valve to one of the load spring ports. Plug the other load spring port with the 1/2" NPT plug (ITEM #2).
4. Connect the service port to the exhaust valve connected to the load springs using the provided ½" airline (Item #8).
5. Connect the control port of ratio relay valve to 3/8" tee using the provided 3/8" hose (Item #7). Connect one end of the tee (Item #6) to the drive axle air spring line and the other to the drive axle height control valve.

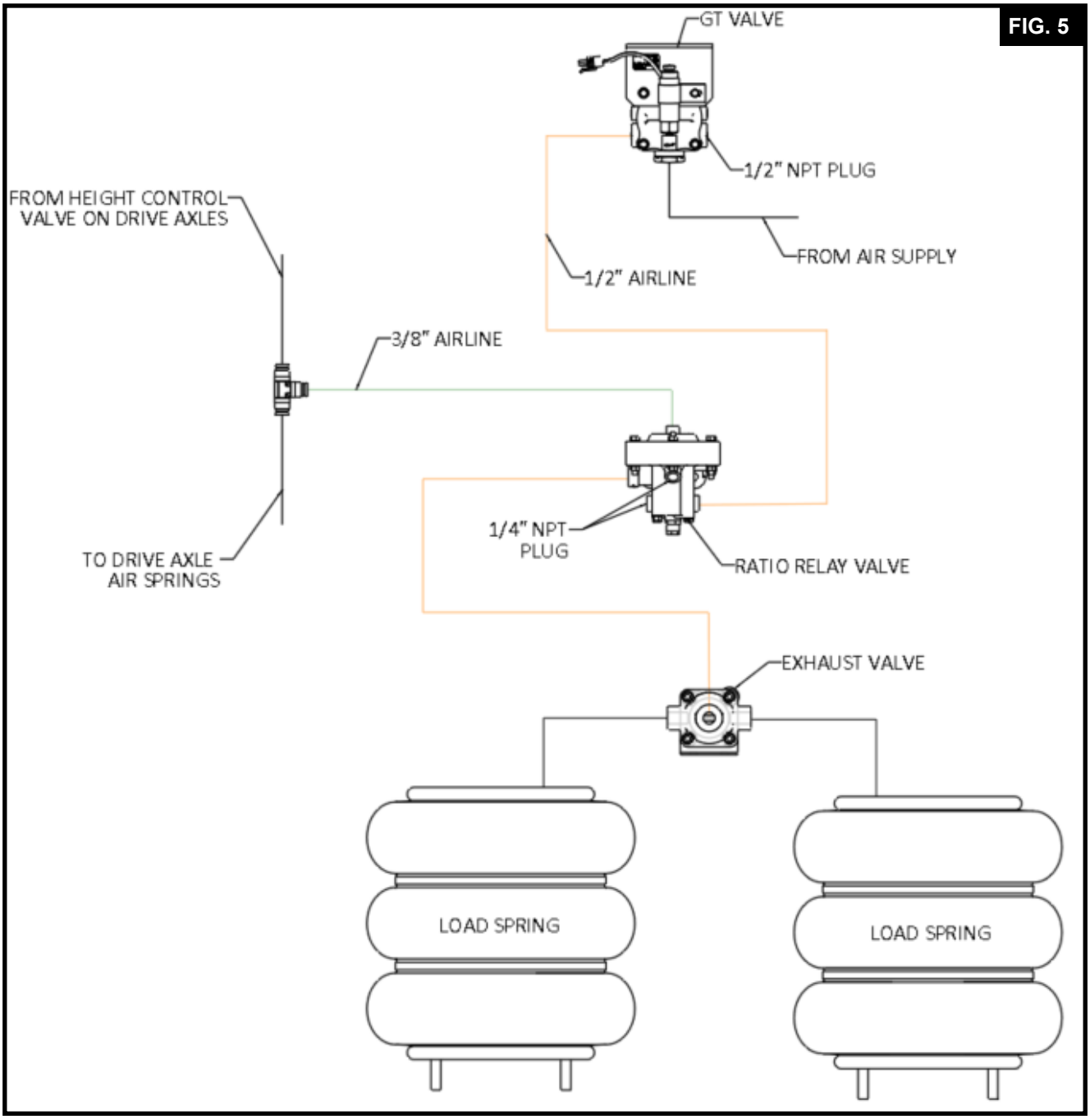
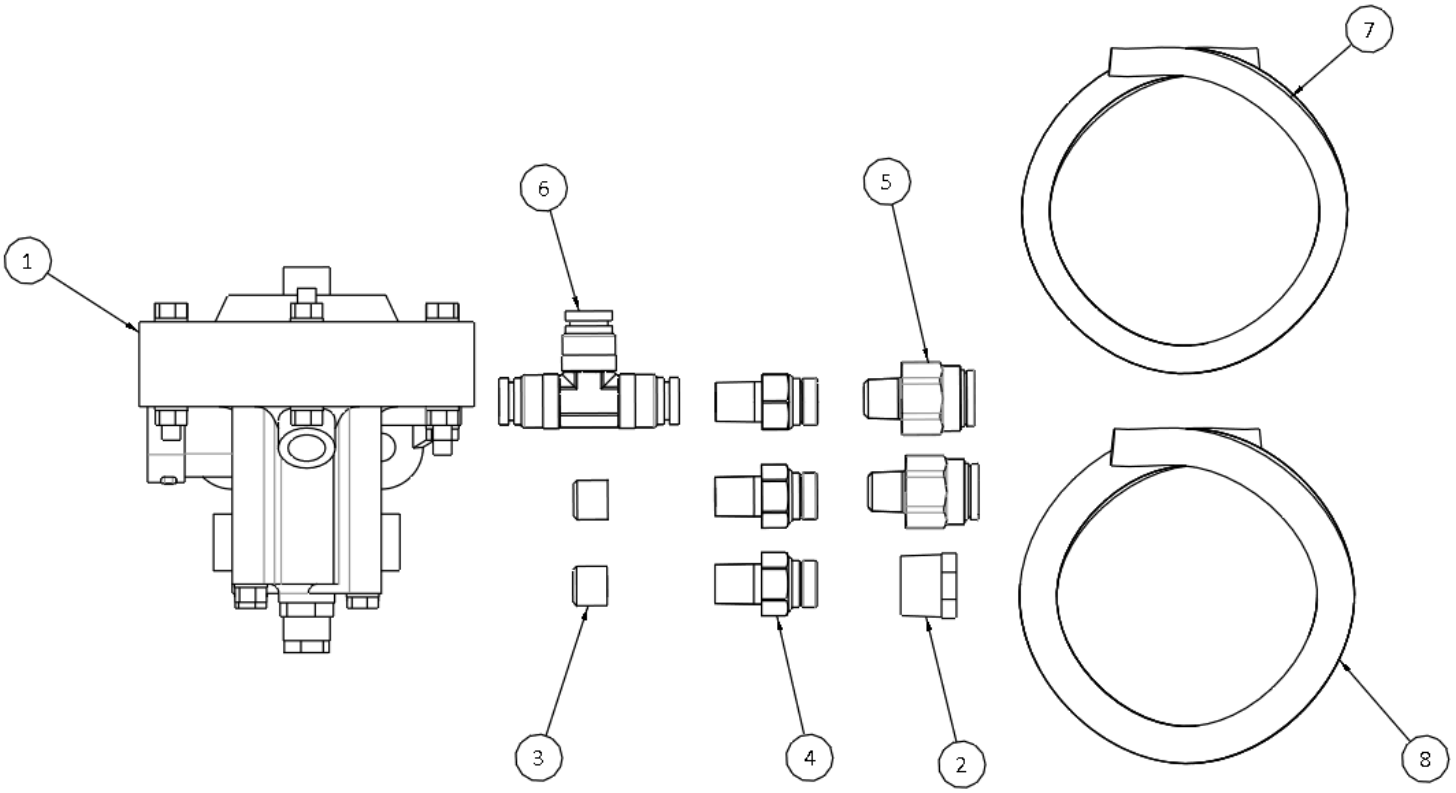


Fig.5: GT Valve Ratio Relay Airline Routing

Control and Installation Kit Parts List

13501016



ITEM	DESCRIPTION	QTY
1	Ratio Relay Valve	1
2	1/2” NPT Plug	1
3	1/4” NPT Plug	2
4	3/8” Tube, 1/4” NPT Male Connector	3
5	1/2” Tube, 1/4” NPT Male Connector	2
6	3/8” Tube Tee Union	1
7	3/8” Hose	1
8	1/2” Hose	1

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