INSTALL INSTRUCTIONS

ESLK1AL

Electronic Self Leveling Kit



TABLE OF CONTENTS

- Introduction……(3)
- Safety……(4)
- Product Owner Responsibilities……(5)
- Kit Installation……(6-10)
- Details……(11)
- Troubleshooting……(12)
- Schematics……(13-15)
- Notes……(16)

Introduction

Important

- It is important that the entire installation instructions be read thoroughly before proceeding with installation.
- If your kit was ordered raw, open every box and locate all parts. There are several smaller bushing pieces and bolts that are pack- aged separately inside the main box.

Product Installer Responsibilities

- Installer is responsible for installing this product in accordance with Kelderman Mfg. Inc. specifications and installation instructions.
- Installer is responsible for providing proper installation of vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation of this product.

Definition of Terms

- **Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- **Caution:** A potential hazardous situation may result in property damage.
- **Note:** Provide information or suggestions that help correctly perform a task.
- **Torque:** When italicized “torque” alerts the installer to tighten fasteners to a specified value.

SAFETY

Your Safety and the Safety of Others is Very Important.

- Read and understand all safety precautions and instructions before installing this product.

CAUTION: Trucks Equipped with Parking Sensors or Other Like Devices.

- Relocation of these devices will alter the field of view. It is the responsibility of the owner to understand how these changes affect the operation of these systems.

WARNING: Components Under Pressure.

- Bleed all pressure from the air system before performing any maintenance or service. Serious injury could occur if components are removed while system is pressurized.

WARNING: Careless Installation Can Result in Serious Injury or Property Damage

- Wear eye protection.
- Disconnect the battery before doing any work on the vehicle.
- Work on flat level ground.
- Ensure truck is properly supported by jack stands. Never work under a vehicle supported only by hydraulic jacks.
- Take precautions when lifting product. Due to the size and weight of this product two people are recommended for installation.
- Never work directly under the product until it has been securely fastened to the vehicle.
- Avoid sharp, hot, and moving components when routing electrical cables and air lines.
- If drilling, inspect both sides of the surface and remove/relocate any objects located in the way.
- Ensure all bolts are properly tightened before driving.

Product Owner Responsibilities

- Product owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified by Kelderman Mfg. Inc. Of particular importance is the re-torque of fasteners.
- This re-torque must be performed within 2500 miles of this product being put into service.
- Product owner is responsible for "*down time*" expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.

Service Intervals

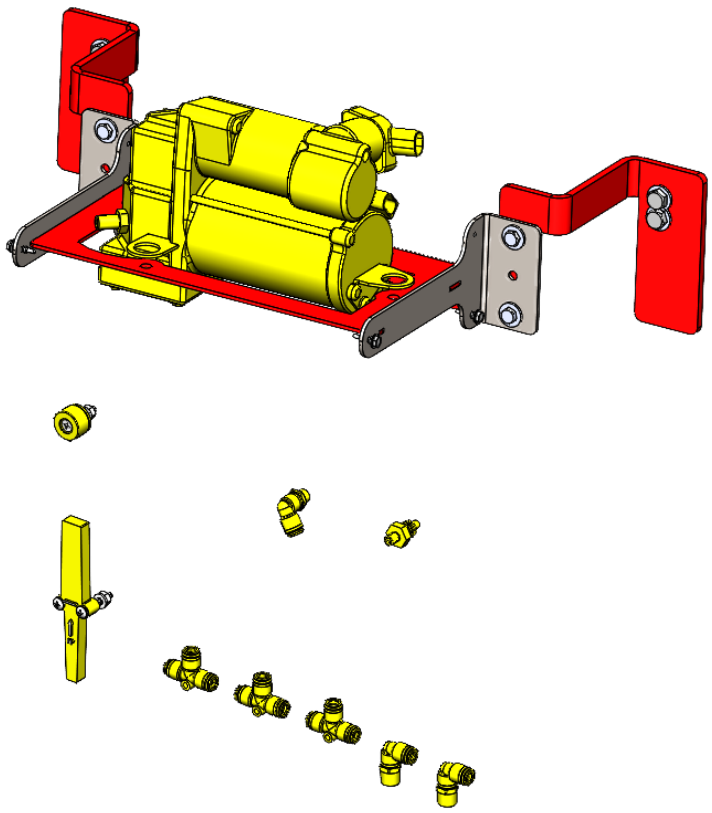
First 2,500 Miles

- Check for any loose or rubbing hoses and wires.
- Re-torque all hardware.

Every 30,000 Miles

- Check for any loose or rubbing hoses and wires.
- Re-torque all hardware.

BILL OF MATERIALS

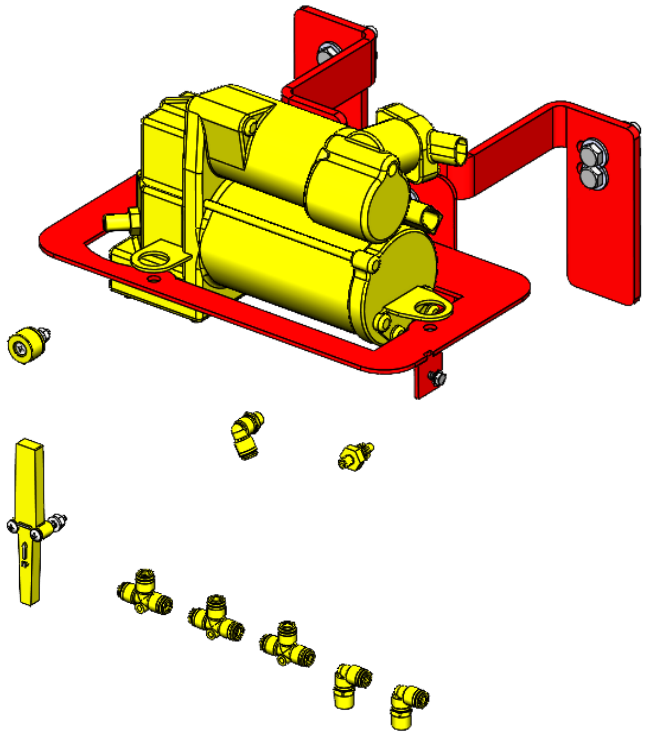


*80006 – Air Compressor box cover not shown

Part Number: 51675 BOM

Quantity	Part Number	Description
1	10039981	Weldment - AMK Compressor Mount
1	51630	Plate - 1/4" - AMK Box Mount (Left) - w/Bends
1	51631	Plate - 1/4" - AMK Box Mount (Right) - w/Bends
1	80006	Air Compressor Box Cover - Plastic
1	80011-10966	Position Magnet - 7/8" Dia
1	80339	Kelderman "AMK" Compressor, Dryer, Filter
1	80026	Wiring Harness - AMK Magnet Style
3	80032	Isolator Feet (Pair) w/Hardware
1	80045	Height Sensor - AMK "Toyota Style"
1	80083	Straight Male Connector Tube 1/4" x 1/8"-27 NPT
35 ft	80102	Nylon Air Brake Tubing - (1/4" OD TUBE Color: Black)
1	80104	Schrader Valve 21633 AQ62-SV-4
4	80116	1/4" Tee (Plastic Fitting)
1	80325	Fitting - Female 1/8"-27 NPT to Male M10-1.0 O-Ring
1	80510	Bolt Kit - Mounting Bracket Bolt Kit (Air Tank)
1	80605	Bolt Kit - AMK Sensor
1	80609	Bolt Kit - AMK Mounting Kit
2	13836	Self Tapping Screw: #10-16 X 3/4" HEX HEAD
1	14048	CS Allen Head Machine Screw: #10-24 x 1-1/4" - Z
1	14050	Nylon Lock Nut: #10-24 - Z
1	14062	Flat Washer SAE: #10 - SS

BILL OF MATERIALS



*80006 – Air Compressor box cover not shown

Part Number: 10041607 BOM

Quantity	Part Number	Description
1	51616	Weldment - AMK Compressor Mount
1	51630	Plate - 1/4" - AMK Box Mount (Left) - w/Bends
1	51631	Plate - 1/4" - AMK Box Mount (Right) - w/Bends
1	80006	Air Compressor Box Cover - Plastic
1	80011-10966	Position Magnet - 7/8" Dia
1	80339	Kelderman "AMK" Compressor, Dryer, Filter
1	80026	Wiring Harness - AMK Magnet Style
3	80032	Isolator Feet (Pair) w/Hardware
1	80045	Height Sensor - AMK "Toyota Style"
1	80083	Straight Male Connector Tube 1/4" x 1/8"-27 NPT
35 ft	80102	Nylon Air Brake Tubing - (1/4" OD TUBE Color: Black)
1	80104	Schrader Valve 21633 AQ62-SV-4
4	80116	1/4" Tee (Plastic Fitting)
1	80325	Fitting - Female 1/8"-27 NPT to Male M10-1.0 O-Ring
1	80510	Bolt Kit - Mounting Bracket Bolt Kit (Air Tank)
1	80605	Bolt Kit - AMK Sensor
1	80609	Bolt Kit - AMK Mounting Kit
2	13836	Self Tapping Screw: #10-16 X 3/4" HEX HEAD
1	14048	CS Allen Head Machine Screw: #10-24 x 1-1/4" - Z
1	14050	Nylon Lock Nut: #10-24 - Z
1	14062	Flat Washer SAE: #10 - SS

HARNESS MOUNTING

To install harness…

- Connect battery negative (black wire with ring terminal) to battery (-) terminal or chassis ground.
- Connect battery positive (red wire with ring terminal and fuse holder) to battery (+) terminal or bus bar if equipped.
- Connect Key power wire to any 12v key source or ignition wire. **Recommended to tie into the key powered 12v accessory circuit with a fuse tap**. This way if a fuse blows essential vehicle functions wont be lost.
- **(Optional)** Connect white wire to ground **THROUGH** a toggle switch, momentary switch, or button. Only necessary if you want manual bag dump feature. Otherwise it is recommended to cut wire out of the harness below the loom.
- Away from heat sources i.e. exhaust, aftertreatment, oil coolers, ac coolers, etc.
- Away from rotating drivelines.
- Provide adequate strain relief for wires exiting connectors to prevent harness failure.
- Ensure harness doesn't interfere with suspension articulation.

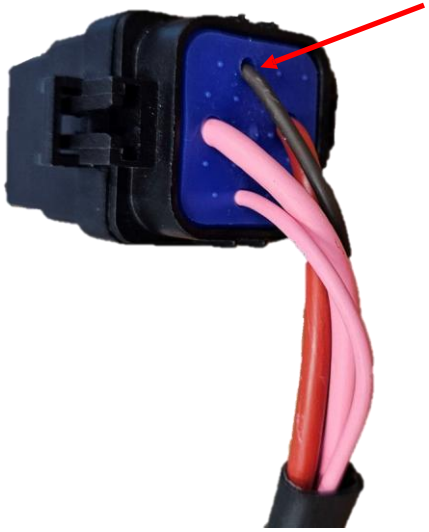
RELAY MOUNTING

Mount Relay…

- In a way such that the wires come out of the base straight. If the wires are not straight the waterproof seal in the relay base does not work.
- In a spot generally protected from the elements.
- Away from heat sources i.e. exhaust, aftertreatment, oil coolers, ac coolers, etc.

Bad installation

Water entry point



Good installation

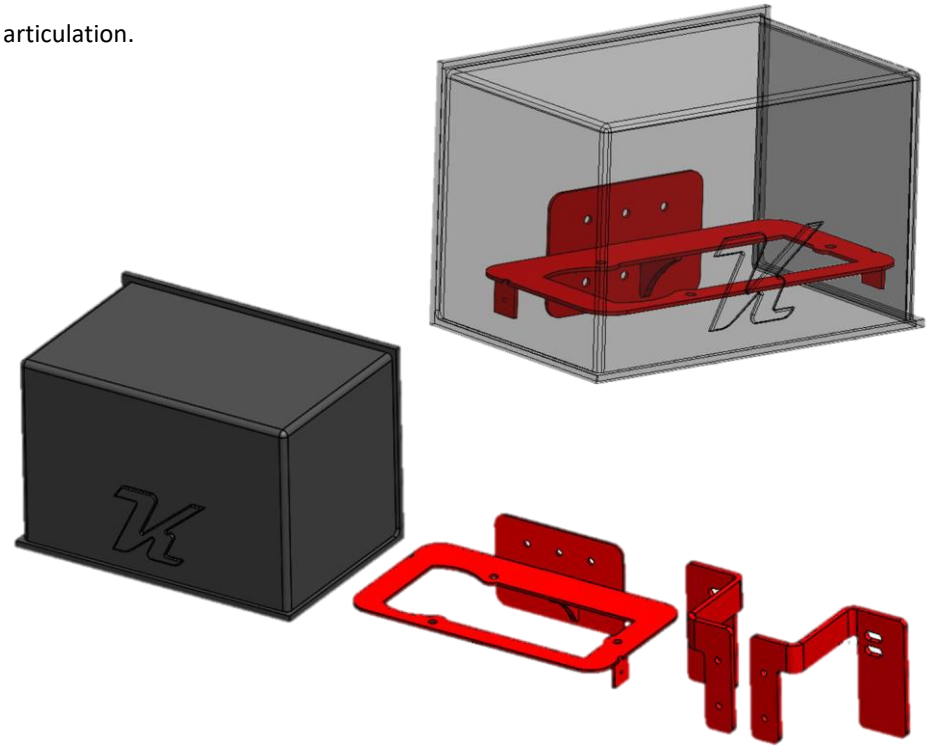


COMPRESSOR MOUNTING

Mount compressor…

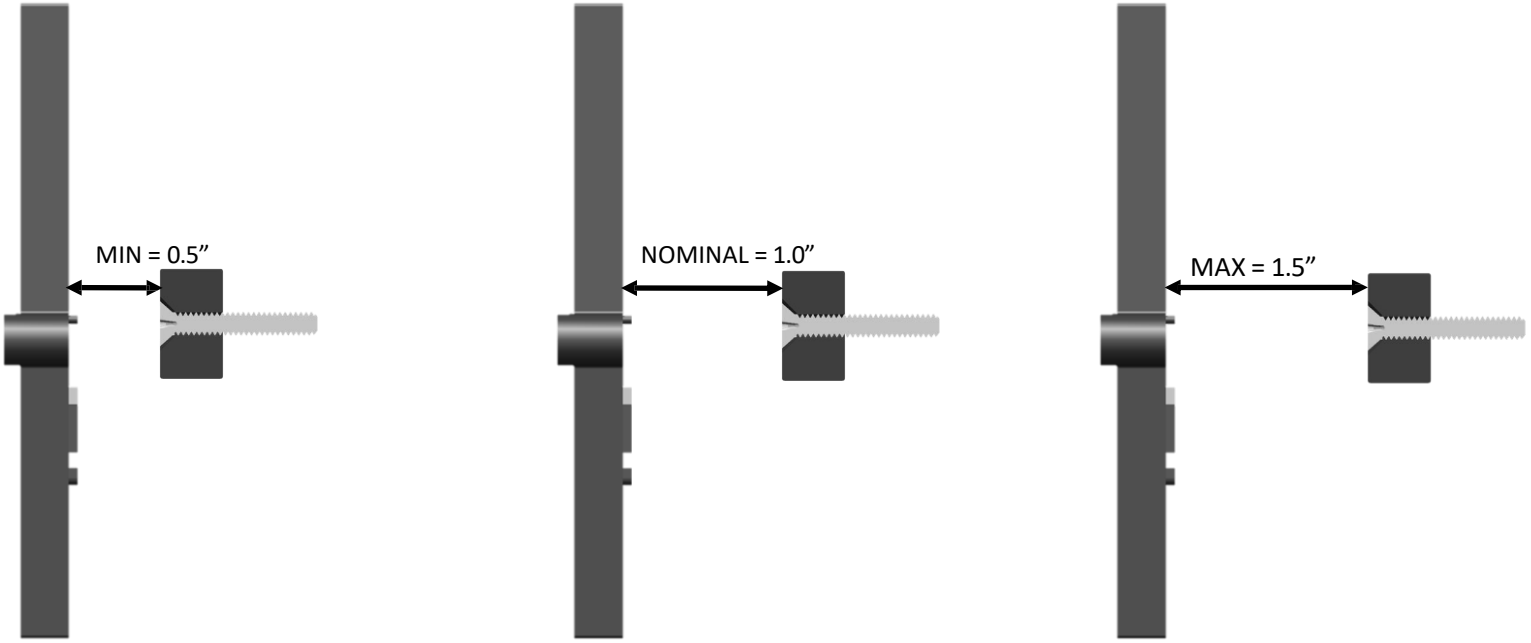
- Use provided brackets to mount compressor to vehicle and mount cover using provided self tapping screws.
- in a spot generally protected from the elements.
- Away from heat sources i.e. exhaust, aftertreatment, oil coolers, ac coolers, etc. Compressor life will be shortened if it is too close to a heat source.
- Ensure compressor doesn't interfere with suspension articulation.





ECU/Magnet Mounting

- Magnet should be positioned between 0.5 inches and 1.5 inches from the ECU with 1.0 inches being ideal.
- **The countersunk side of the magnet should always face the magnet or the ECU wont see the magnet**



DETAILS

Ride Height

Magnet at centerline

No action needed magnet is at center-line



Below Height

Magnet above centerline

After 10 seconds compressor will turn on to fill bags until magnet reaches centerline.



Over Height

Magnet below centerline

After 10 seconds valve will open to re-move air from bags until magnet reaches centerline.

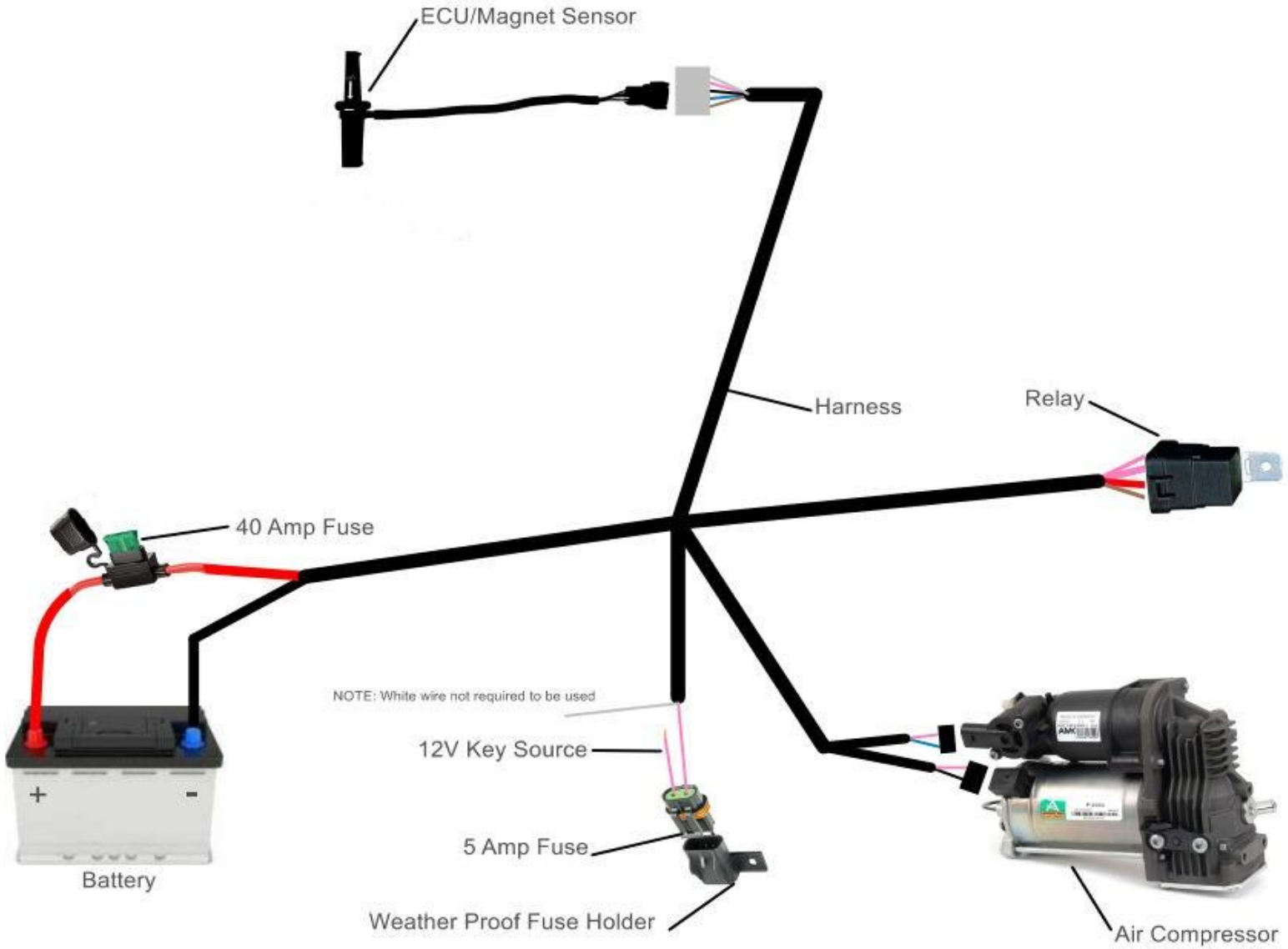


TROUBLESHOOTING

Air Suspension Diagnostic Sequence

- **Verify battery voltage and main power/ground connections**
  - Battery voltage: ~12.6–14.4 V
  - Confirm clean, solid, corrosion-free battery and ground connection
- **5 A and 40 A fuses**
  - Visually inspect and test continuity
  - Replace any blown fuse
    - **Critical**: If fuse blows again immediately, go directly to coil resistance checks (Step 4) next
- **Handle repeated fuse blowing**
  - 5 A fuse repeated → likely short in control circuit or decayed coil resistance
  - 40 A fuse repeated → likely compressor fault, major short, or power-side issue
- **Measure coil resistances** (Unplug 8 pin connector and probe)
  - **Dump valve coil**
    - Measure resistance: Pin 3 (Blue) to Pin 1 (Red)
    - Normal: 15–20 Ω
    - < 10 Ω → Replace dump valve coil
    - < 5 Ω → Replace dump valve coil AND height sensor
  - **Compressor relay coil resistance**
    - Measure resistance: Pin 4 (Brown) to Pin 1 (Red)
    - Normal: 75–90 Ω
    - < 60 Ω → Replace relay
    - < 20 Ω → Replace relay AND height sensor → If out of spec, replace faulty part(s), then retest fuses and power
- **Verify key power at 8-pin connector**
  - Key ON: Measure voltage Pin 7 to Pin 1
  - Should be ~12 V
  - If missing and fuse good → suspect harness or ignition source
- **Verify ground at 8-pin connector**
  - Continuity check: Pin 7 (Black) to known chassis/battery ground
  - If poor/no continuity → repair ground or suspect harness
- **Check dump override wire (White) – if equipped**
  - Verify NOT shorted to ground (continuity or resistance test)
  - If shorted → correct wiring or replace switch
- **Verify height sensor magnet**
  - Clean magnet of any magnetic debris/metal particles
  - Confirm correct orientation/direction
- **Jump test compressor**
  - Jump Pin 7 (Black) to Pin 4 (Brown)
  - Compressor should run
  - While jumped, measure voltage at compressor plug (~battery voltage)
    - Voltage present, no run → compressor faulty
    - No voltage → relay or wiring faulty
- **Jump test dump valve**
  - Jump Pin 7 (Black) to Pin 3 (Blue)
  - Dump valve should open (exhaust air)
  - While jumped, measure voltage at dump valve plug (~key power voltage)
    - Voltage present, no open → dump valve faulty
    - No voltage → harness issue
- **If both jump tests pass and key power is present at Pin 1** → ECU / controller is most likely faulty

ESLK1AL

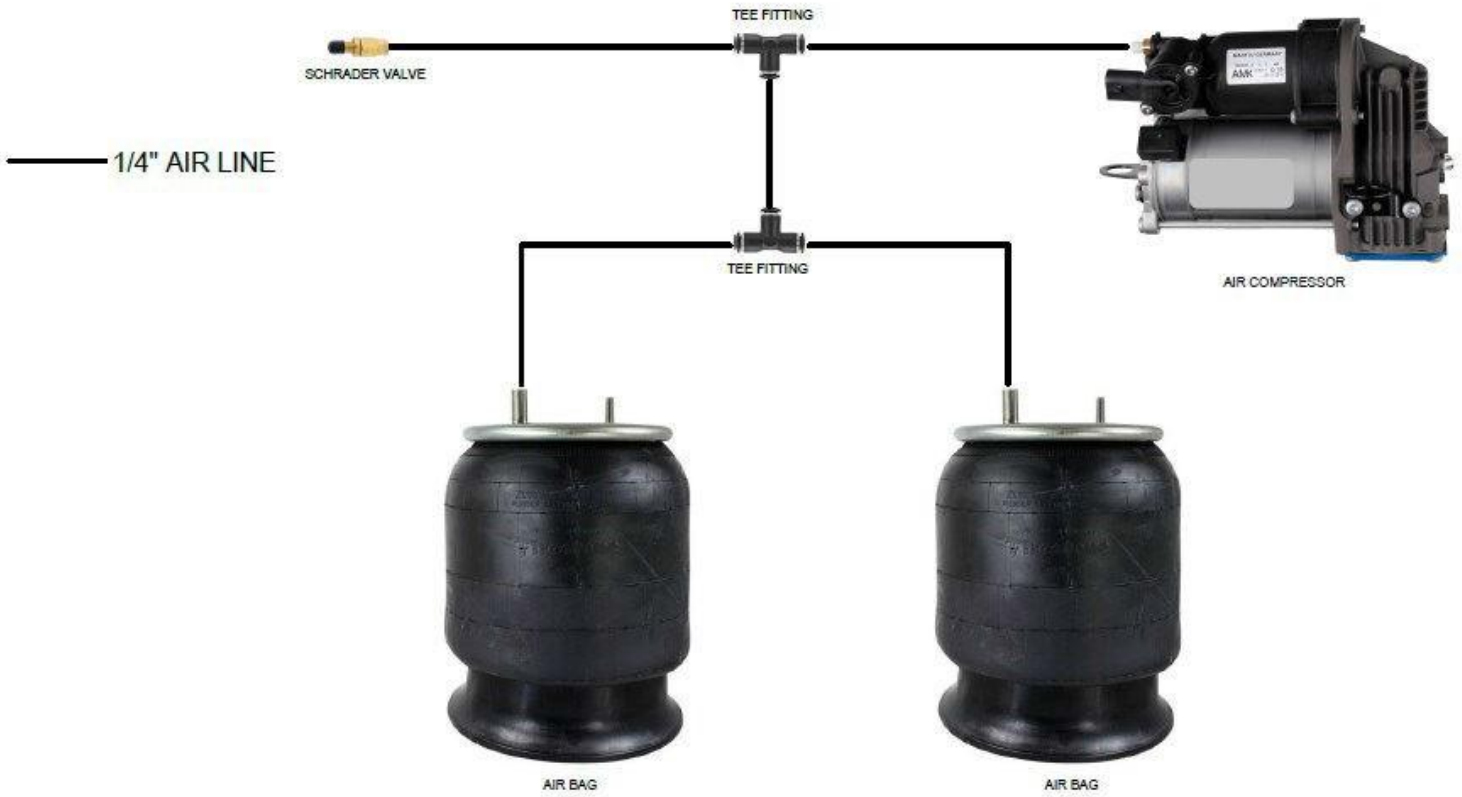


Rev.	Date	Description	Appd. by	Status
A				Open

Prj:	ESLK1AL
Prj nb:	
Title:	ESLK1AL
Sheet nb.	1 of 1
Desg. by:	

Kelderman Manufacturing
2686 Hwy 92
Oskaloosa Iowa

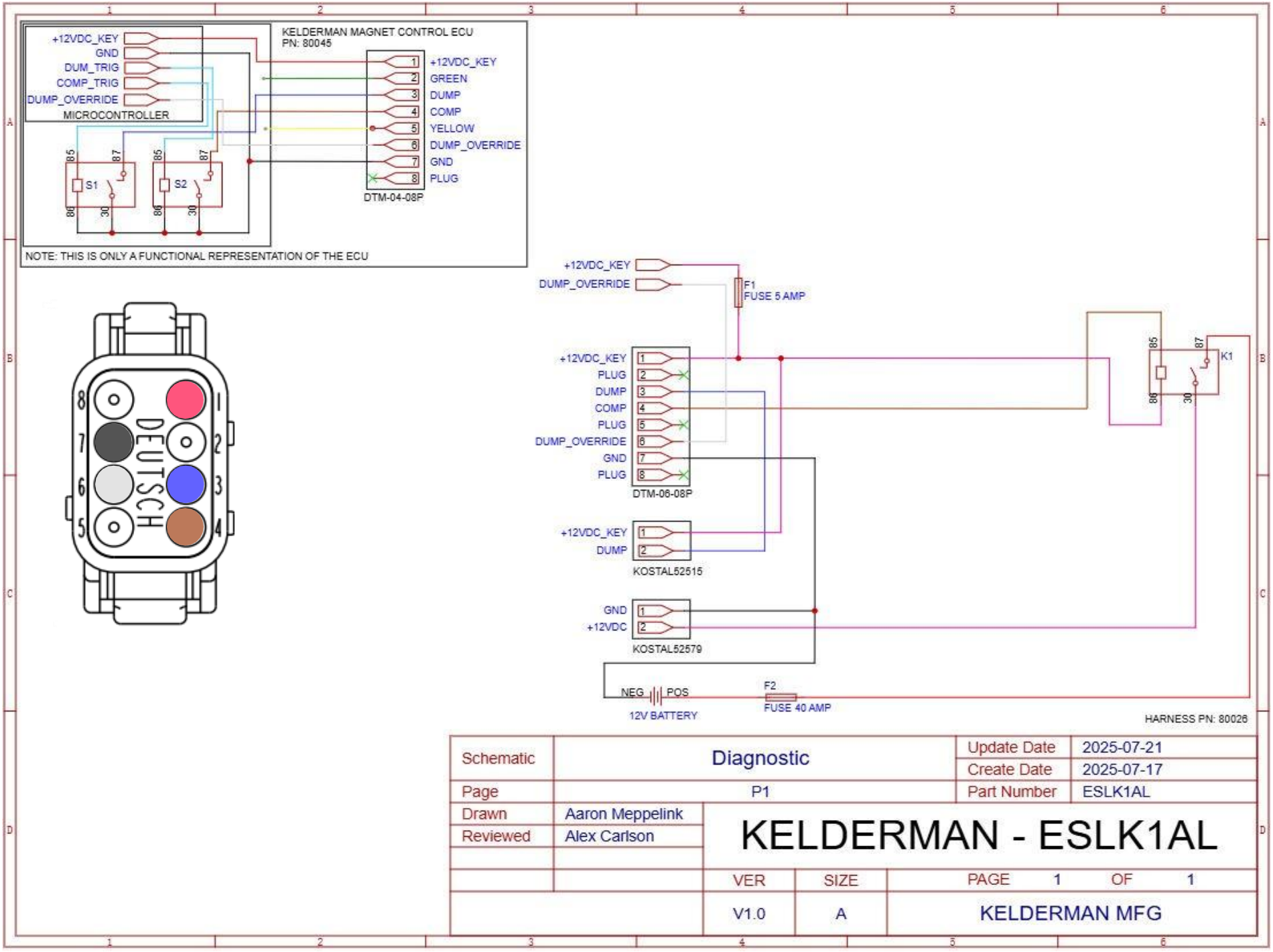
MAGNET AIR CONTOLS PLUMBING DIAGRAM



Rev.	Date	Description	Appd. by	Status
A				Open

Prj: Magnet Control Plumbing Diagram
Prj nb:
Title: Magnet Control Plumbing Diagram
Sheet nb. 1 of 1
Desg. by:

Kelderman Manufacturing
2686 Highway 92 East
Oskaloosa, Iowa 52577
info@kelderman.com
(800) 334-6150


KELDERMAN MAGNET CONTROL ECU
PN: 80045
+12VDC_KEY
GND
DUM_TRIG
COMP_TRIG
DUMP_OVERRIDE
MICROCONTROLLER
S1
S2
85
87
86
30
1 +12VDC_KEY
2 GREEN
3 DUMP
4 COMP
5 YELLOW
6 DUMP_OVERRIDE
7 GND
8 PLUG
DTM-04-08P
NOTE: THIS IS ONLY A FUNCTIONAL REPRESENTATION OF THE ECU
DEUTSCH
+12VDC_KEY
DUMP_OVERRIDE
F1
FUSE 5 AMP
+12VDC_KEY
PLUG
DUMP
COMP
PLUG
DUMP_OVERRIDE
GND
PLUG
DTM-06-08P
K1
+12VDC_KEY
DUMP
KOSTAL52515
GND
+12VDC
KOSTAL52579
NEG
POS
12V BATTERY
F2
FUSE 40 AMP
HARNESS PN: 80026
Schematic
Diagnostic
Update Date
2025-07-21
Create Date
2025-07-17
Page
P1
Part Number
ESLK1AL
Drawn
Aaron Meppelink
Reviewed
Alex Carlson
KELDERMAN - ESLK1AL
VER
SIZE
PAGE 1 OF 1
V1.0
A
KELDERMAN MFG

NOTES

CONTACT INFORMATION

SCAN ME

SCAN QR CODE FOR KEL-DERMAN WARRANTY

Kelderman Manufacturing appreciates your business. We strive to meet the needs of our customers by providing the highest quality products. If you have any questions concerning our products please call or email us at the following:

2686 Highway 92
Oskaloosa, Iowa 52577

Phone: 1-800-334-6150
Email: info@kelderman.com

See YouTube page for additional videos:

https://www.youtube.com/user/keldermantrucks