

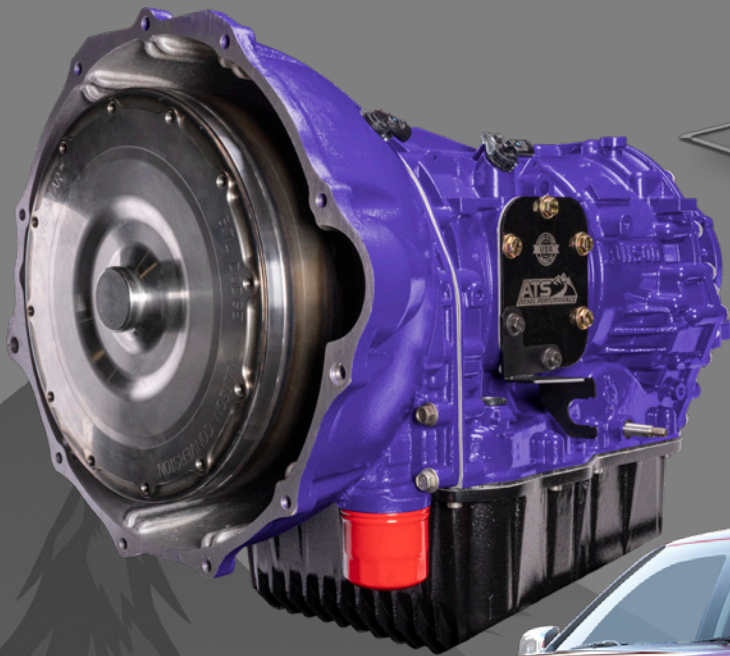


# TRANSMISSION INSTALLATION INSTRUCTION MANUAL



ATS SWAP CUMMINS TO ALLISON CONVERSION KIT (PN:306-19)

2007½+ RAM 6.7L CUMMINS COMMON RAIL





**Installation Manual v1.1:  
ATS Swap Cummins to Allison Conversion Kit (Complete Kit) PN: 306-19  
2007½+ Ram 6.7L Cummins Common Rail**



**PLEASE READ ALL INSTRUCTIONS BEFORE ATTEMPTING INSTALLATION.**

Thank you for purchasing the ATS Allison LCT-1000 Conversion Kit for 2007½-2021 Ram 6.7L Cummins. Backed by our proprietary TRANSLator® technology and our exclusive, patent-pending Allison to Cummins Bellhousing, this kit enables the Allison transmission to operate under complete factory functionality from your late model Ram; from push button start to tow/haul mode, electronic range select and electronic transfer case functionality.



**NOTE:** Vehicle will need to have ECM flashed to an Aisin® calibration; you will need to ensure that this procedure can be completed before proceeding with installation.

**BILL OF MATERIALS**

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2007½-2009 68RFE to Allison	Page 11
2007½-2012 Aisin AS69RC to Allison	Page 12
2010-2012 68RFE to Allison	Page 13
2013-2014 68RFE to Allison	Page 14
2015+ 68RFE to Allison	Page 15
2013+ Aisin AS69RC to Allison	Page 16

**WIRING DIAGRAMS can be downloaded from Page 17**

## TRANSMISSION INSTALLATION INSTRUCTIONS

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1. Remove factory transmission following manufacturer's procedure.
2. Loosely place dipstick tube on driver's side of engine (upper bracket will mount to engine oil dipstick tube).  
**NOTE:** If you have a new flex-plate to install, do so at this time.

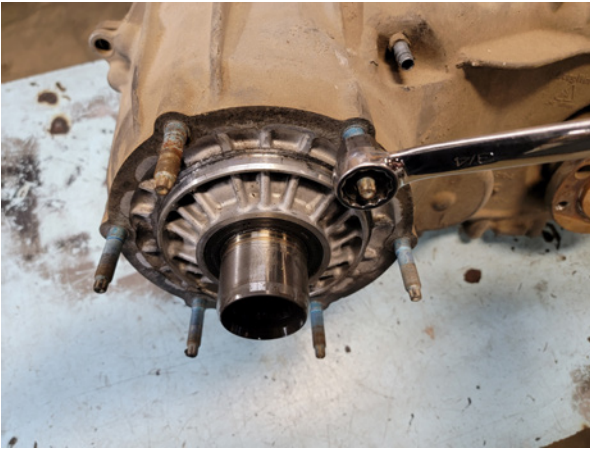


3. Bolt transmission to engine using original bellhousing bolts. (While getting transmission aligned to engine, guide dipstick tube into transmission)



4. Install supplied torque converter bolts.

5. Remove factory studs from transfer case using a stud remover or the "double nut" method. (Fig 4)



6. Install transfer case adapter onto transfer case using supplied flat head bolts and supplied transfer case gasket. \*Arrow should be facing down



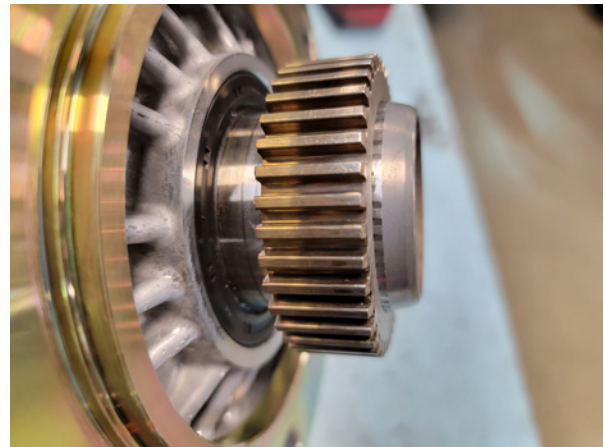
7. Install supplied transfer case studs into adapter by hand, It is recommended that red Loctite is used.

8. Heat Output Speed Tone Wheel using hot plate or torch to 450-500 degrees Fahrenheit.



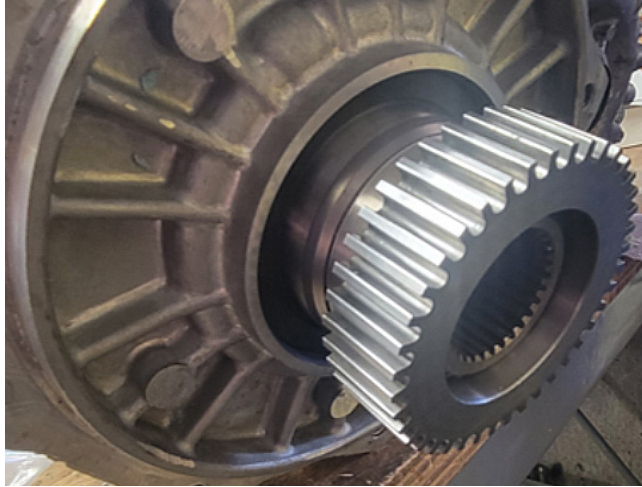
9. Once heated install tone wheel onto input shaft of transfer case.

10. Tone wheel will sit at the bottom of the chamfer on the transfer case when fully installed. (A dead blow hammer can be used to assist in getting tone wheel fully set onto input shaft)



11. **IMPORTANT! (2013+ AS69RC ONLY)**

Install tone wheel until it is fully seated on the tip of the headgear. At this time the double spline adapter can be placed in the headgear.



12. Ensure O-Ring is installed into groove on transfer case adapter and install transfer case onto transmission using supplied nuts.



13. Install front driveshaft onto transfer case using factory bolts.

**14. IMPORTANT! (2013+ 68RFE ONLY)**

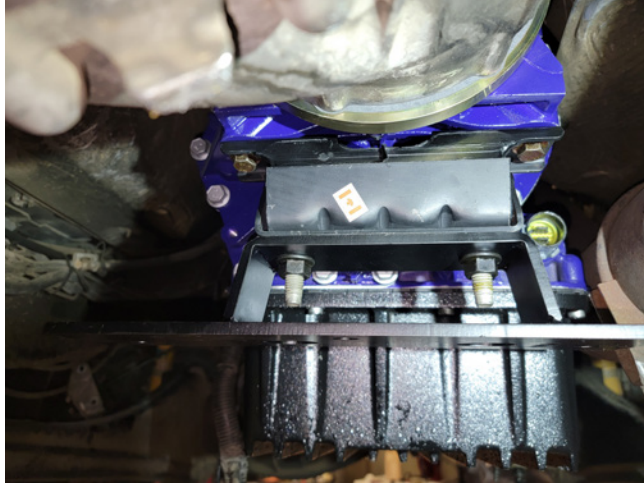
Install front driveshaft onto front differential using supplied spacer and M12-1.75x85mm cap head bolts and washers.



**15. Install Transmission Mount onto transmission using provided M10-1.5x30mm bolts.**

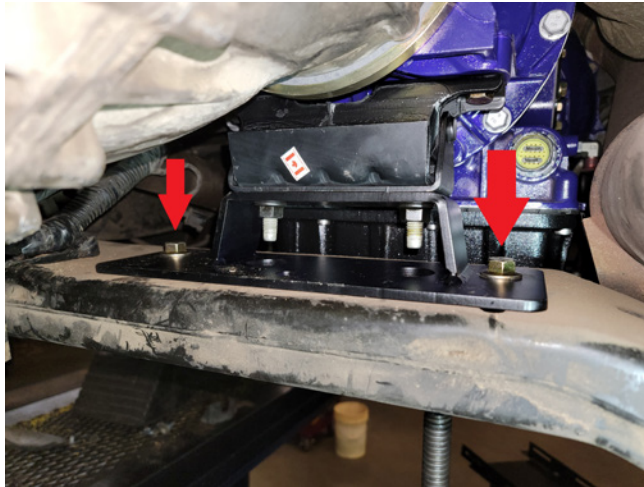


16. Install Transmission Mount to Cross-Member Adapter onto transmission mount using supplied M12-1.75 flange head nuts.



17. Install crossmember using factory hardware.

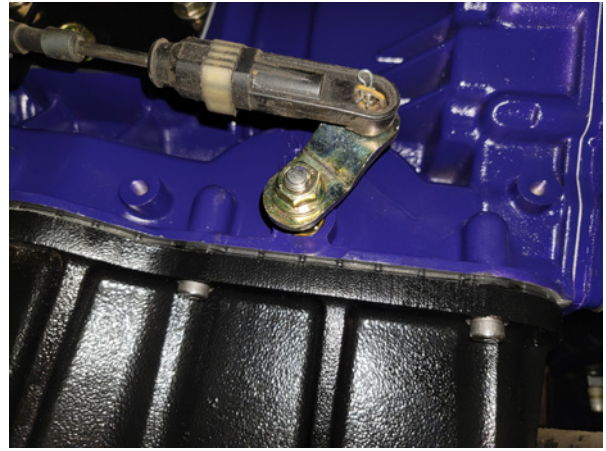
18. Lower transmission onto crossmember. Install 2 M12-1.75x30mm bolts and M12-1.75 nuts into outer holes on crossmember adapter leaving center one out at this time as the transmission harness will be mounted here.



19. Rear driveshaft length will need to be modified locally, once driveshaft has been modified install using factory hardware.



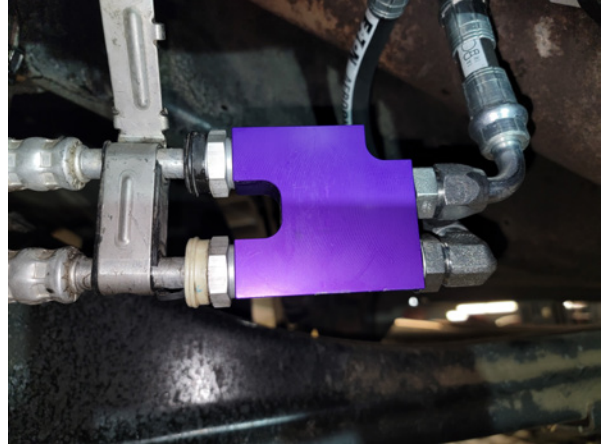
20. Install supplied Shift Cable bracket onto PTO cover on driver's side of transmission.
21. Install supplied Manual Valve Arm onto manual valve shaft using supplied M10-1.5 nut.
22. Install Transmission Shift Cable into bracket on PTO cover and onto Manual Valve arm and secure cable with provided cotter pin.



23. **IMPORTANT! (2007½-2012 AS68RC and 2007½-2012 68RFE ONLY)**  
Cut rigid cooler lines at bellhousing 90 degrees on bellhousing bolt and deburr. Compression fitting should be fully installed on rigid cooler lines before attaching supplied lines to transmission. (The shorter line with a 90 and 45 degree fitting will go to the lower fitting on transmission and the compression fitting furthest from the bell housing)



24. **IMPORTANT! (2013-2018 AS69 and 2013-2018 68RFE ONLY)**  
Install supplied Transmission Oil Cooler Bypass Block onto factory cooler lines.



25. **IMPORTANT! (2019+ AS69RC and 2019+ 68RFE ONLY)**  
Install supplied Transmission Oil Cooler Bypass Block onto factory cooler lines. (color may vary)



26. **IMPORTANT! (2013+ AS69RC and 2013+ 68RFE ONLY)**  
Connect longer supplied oil cooler line to bottom fitting on transmission and then to the bottom fitting on cooler bypass block. Connect straight fitting of shorter cooler line onto upper fitting on transmission and 90-degree fitting onto upper fitting in cooler bypass block.
27. Ensure all fittings and cooler lines are tight.

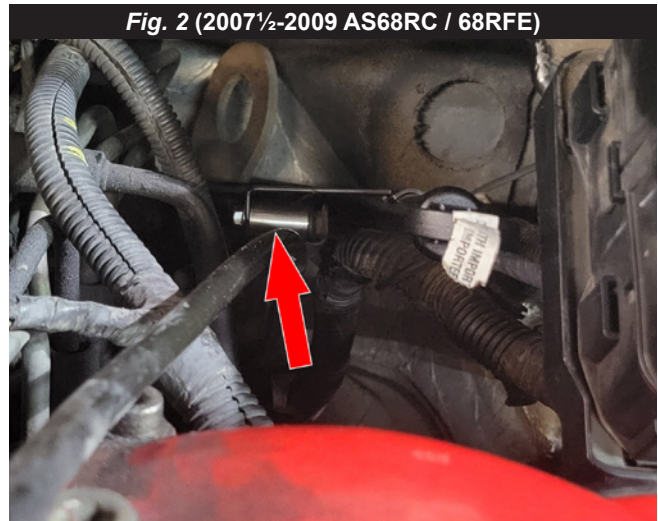
28. When all fittings are tight cooler bypass block should be oriented as close to vertical as possible.



29. Install supplied M6-1.0x16mm bolt into mounting tab on dipstick tube to engine oil dipstick tube. (Fig. 1)

**IMPORTANT! (2007½-2009 AS68RC and 2007½-2009 68RFE ONLY)**

Install supplied M6-1.0x16mm bolt *with spacer* into mounting tab on dipstick tube to engine oil dipstick tube. (Fig. 2)



## END OF TRANSMISSION INSTALLATION.

See page 17 for **Electrical Wiring Diagrams**.

For electronics instructions, refer to the **ELECTRONICS INSTALLATION MANUAL**.

For shifter modification instructions, refer to the **SHIFTER MODIFICATION INSTRUCTION MANUAL**.



If you need to order either/both of these instructions, please call (800) 949-6002, or you can download them by scanning the QR codes above.

Scan the QR code above to download installation instructions. Installation instructions are in Adobe PDF format.

## 2007½-2009 68RFE to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT

1. 309-1: Allison Conversion Hardware Kit
    - 1x 93474A212: Zinc Yellow-Chromate Plated Flanged, M6x1.00mm, 16mm Long Screw
    - 2x 93474A223: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, 30mm Long Screw
    - 5x 001-153: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, Nut
    - 3x 001-152: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, 30mm Long Screw
    - 1x 97765A130: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, Nut
    - 1x 300-33: Assembly – Shift Linkage, Allison Conversion
      - i. 1x300-35: Machined Shift Linkage Pivot Ball
      - ii. 1x300-44: 18-8 Stainless Steel Hairpin Cotter Pin, 1/8-3/16 Pin Diameter
      - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
  2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit
    - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
    - 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
    - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
    - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
    - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
    - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
    - 2x
  3. 309-6: 68RFE 4WD to Allison Conversion Parts Kit
    - 1x 300-118: T-Case Adapter Ring 68RFE to Allison 1000
    - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
    - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
    - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
    - 6x 001-150: 3/8" - 24 Zinc Finish Case Hardened Serrated Flange Nut
    - 6x 001-145: M10-1.5 x 30mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
  4. 309-14: 7.5-12 Allison Conversion Cooler Kit
    - 1x 310-10: 07.5-12 Allison Conversion Cooler Line, To Cooler
    - 1x 310-11: 07.5-12 Allison Conversion Cooler Line, From Cooler
- ALLISON CONVERSION COMPRESSION FITTINGS**
- 2x 1290-85: Flared Compression Allison Conversion Nut
  - 2x 900605-8S: Allison Conversion Compression Flared Sleeve
  - 2x 2027-8-8S: -8 JIC Male Union
5. 300-312: Allison Conversion Linkage Bracket Short 7.5-9 6.7L Cummins

### ELECTRONICS KIT

1. 309-3: Allison Conversion Electronics 6.7L Cummins Kit
  - 1x 601-950-1000: ATS TRANSlator Box
  - 1x 300-298: Allison TCM
  - 1x 600-140: OBD2 Bracket
  - 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
  - 1x 601-21: Allison Conversion TCM Bracket
  - 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated M6x1mm, 20mm Long Screw
  - 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, ¾" Long Screw
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, ½" Long Screw
  - 10x 001-80: 6" Zip Ties Black
2. 601-33: Harness Kit- ATS Allison Conversion 2007½-2009 68RFE
  - 1x 601-11: ATS Allison Conversion Main Harness
  - 1x 601-14: ATS Allison Conversion Adapter, Wiring 2007½+, 68RFE, TRS41
  - 1x 601-35: ATS Allison Conversion Adapter, Wiring 2007½-2009 68RFE
  - 1x 601-15: ATS Allison Conversion Adapter, Wiring, 2007½+ AS68RC/AS69RC, 2007½-2009 68RFE
  - 1x 601-57: 2007½+ 68RFE, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - iii. 1x T-Loom Cover
    - iv. 1x Rubber Grommet

## 2007½-2012 Aisin AS68RC to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT:

#### 1. 309-1: Allison Conversion Hardware Kit

- 1x 93474A212: Zinc Yellow-Chromate Plated Flanged, M6x1.00mm, 16mm Long Screw
- 2x 93474A223: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, 30mm Long Screw
- 5x 001-153: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, Nut
- 3x 001-152: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, 30mm Long Screw
- 1x 97765A130: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, Nut
- 1x 300-33: Assembly – Shift Linkage, Allison Conversion
  - i. 1x300-35: Machined Shift Linkage Pivot Ball
  - ii. 1x300-44: 18-8 Stainless Steel Hairpin Cotter Pin, 1/8-3/16 Pin Diameter
  - iii. 1x300-34: Shift Linkage Plate, Allison Conversion

#### 2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit

- 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
- 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
- 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
- 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
- 1x 24273960: 2011-2016 Duramax Transmission Dipstick
- 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube

#### 3. 309-9: AS68RC 4wd to Allison Conversion Parts Kit

- 1x 300-118: T-Case Adapter Ring 68RFE to Allison 1000
- 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
- 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
- 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
- 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
- 6x 001-145: M10-1.5 x 30mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
- 1x 305-900-2326: ATS Billet Flexplate, 68RFE, 2007.5-2018 Dodge RAM 6.7L Cummins

#### 4. 309-14: 7.5-12 Allison Conversion Cooler Kit

- 1x 310-10: 07.5-12 Allison Conversion Cooler Line, To Cooler
- 1x 310-11: 07.5-12 Allison Conversion Cooler Line, From Cooler

### **ALLISON CONVERSION COMPRESSION FITTINGS**

- 2x 1290-85: Flared Compression Allison Conversion Nut
- 2x 900605-8S: Allison Conversion Compression Flared Sleeve
- 2x 2027-8-8S: -8 JIC Male Union

#### 5. 300-312: Allison Conversion Linkage Bracket Short 7.5-9 6.7L Cummins

### ELECTRONICS KIT

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- 1x 601-950-1000: ATS TRANSlator Box
- 1x 300-298: Allison TCM
- 1x 600-140: OBD2 Bracket
- 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
- 1x 601-21: Allison Conversion TCM Bracket
- 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated m6x1mm, 20mm Long
- 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
- 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
- 2x 90064A450: External Hex Head Drilling Screw, Number 10, ¾" Long
- 2x 90064A430: External Hex Head Drilling Screw, Number 10, ½" Long
- 10x 001-80: 6" Zip Ties Black

#### 2. 601-32: Harness Kit- ATS Allison Conversion 2007½-2012 AS68RC

- 1x 601-11: ATS Allison Conversion Main Harness
- 1x 601-13: ATS Allison Conversion Adapter, Wiring, 2007½+, Aisin AS68RC/ AS69RC TRS41
- 1x 601-28: ATS Allison Conversion Adapter, Wiring 2007½-2012, Aisin AS68RC
- 1x 601-15: ATS Allison Conversion Adapter, Wiring, 2007½+ Aisin AS68RC/AS69RC, 2007½-2009 68RFE
- 1x 601-57: 2007½-2012 Aisin AS68RC, Allison Conversion Wiring Plug Kit
  - i. 2x
  - ii. 1x
  - iii. 1x
  - iv. 1x
  - v. 1x **Removed From Secondary Harness:** T-Loom Cover
  - vi. 1x 001-81: Rubber Grommet

## 2010-2012 68RFE to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT

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    - 1x 93474A212: Zinc Yellow-Chromate Plated Flanged, M6x1.00mm, 16mm Long Screw
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      - ii. 1x300-44: 18-8 Stainless Steel Hairpin Cotter Pin, 1/8-3/16 Pin Diameter
      - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
  2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit
    - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
    - 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
    - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
    - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
    - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
    - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
  3. 309-6: 68RFE 4WD to Allison Conversion Parts Kit
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    - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
    - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
    - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
    - 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
    - 6x 001-145: M10-1.5 x 30mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
  4. 309-14: 2007½-2012 Allison Conversion Cooler Kit
    - 1x 310-10: 2007½-2012 Allison Conversion Cooler Line, To Cooler
    - 1x 310-11: 2007½-2012 Allison Conversion Cooler Line, From Cooler
- ALLISON CONVERSION COMPRESSION FITTINGS**
- 2x 1290-85: Flared Compression Allison Conversion Nut
  - 2x 900605-8S: Allison Conversion Compression Flared Sleeve
  - 2x 2027-8-8S: -8 JIC Male Union
5. 300-45: Plate -Bracket, Shift Linkage, Allison Conversion 68RFE

### ELECTRONICS KIT

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  - 1x 300-298: Allison TCM
  - 1x 600-140: OBD2 Bracket
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  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, ¾" Long Screw
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, ½" Long Screw
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  - 1x 601-14: ATS Allison Conversion Adapter, Wiring 2007½+, 68RFE, TRS41
  - 1x 601-23: ATS Allison Conversion Adapter, Wiring, 2010-2012, 68RFE
  - 1x 601-25: ATS Allison Conversion Adapter, Wiring, 2010+, 68RFE
  - 1x 601-57: 2007½+ 68RFE, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - iii. 1x T-Loom Cover
    - iv. 1x Rubber Grommet

## 2013-2018 Aisin AS69RC to Allison Conversion Kit (Complete Kit) Bill of Materials

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    - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
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  - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
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  - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
  - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
  - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
  - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
3. 309-7: AS69RC 4wd to Allison Conversion Parts Kit (*EXCLUDING 2019 HIGH OUTPUT*)
  - 1x 304-425-2380: BorgWarner 4446 Transfer Case Head Gear with Extended Spline Hub
  - 1x 300-119: T\_case Adapter Ring, Allison With AS69RC Cummins
  - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
  - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
  - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
  - 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
  - 8x 1139981: M10-1.5 x 40mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
  - 1x 305-900-2326: ATS Billet Flexplate, 68RFE, 2007.5-2018 Dodge RAM 6.7L Cummins
4. 309-12: 2013-2018 Allison Conversion Cooler Kit
  - 1x 310-8: 2013-2018 Allison Conversion Cooler Line, To Cooler
  - 1x 310-9: 2013-2018 Allison Conversion Cooler Line, From Cooler
  - 2x 310-001-2416: ATS Adapter Fitting Assembly, 68RFE Thermal Bypass Valve Up-Grade, 2015-2019 RAM 6.7L Cummins
  - 1x 310-7: 13-18 Allison Conversion Cooler Bypass Block
  - 1x 2062-8-8S: 90 DEG -8 to 3/4-16 Fitting
  - 1x 202702-8-8S: Straight -8 to 3/4-16 Fitting
5. 300-45: Plate -Bracket, Shift Linkage, Allison Conversion 68RFE

### ELECTRONICS KIT

1. 309-3: Allison Conversion Electronics 6.7L Cummins Kit
  - 1x 601-950-1000: ATS TRANSlator Box
  - 1x 300-298: Allison TCM
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  - 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
  - 1x 601-21: Allison Conversion TCM Bracket
  - 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated m6x1mm, 20mm Long
  - 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, ¾" Long
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, ½" Long
  - 10x 001-80: 6" Zip Ties Black
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  - 1x 601-11: ATS Allison Conversion Main Harness
  - 1x 601-13: ATS Allison Conversion Adapter, Wiring, 2007½+, AS68RC/ AS69RC TRS41
  - 1x 601-15: ATS Allison Conversion Adapter, Wiring, 2007½+ AS68RC/AS69RC, 2007½-2009 68RFE
  - 1x 601-59: 2013+ AS69RC, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - v. 1x **Removed From Secondary Harness:** T-Loom Cover
    - vi. 1x 001-81: Rubber Grommet

## 2013-2014 68RFE to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT

1. 309-1: Allison Conversion Hardware Kit
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  - 2x 93474A223: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, 30mm Long Screw
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  - 3x 001-152: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, 30mm Long Screw
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    - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit
  - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
  - 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
  - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
  - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
  - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
  - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
3. 309-6: 68RFE 4WD to Allison Conversion Parts Kit
  - 1x 300-118: T-Case Adapter Ring 68RFE to Allison 1000
  - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
  - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
  - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
  - 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
  - 6x 001-145: M10-1.5 x 30mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
4. 309-12: 2013-2018 Allison Conversion Cooler Kit
  - 1x 310-8: Allison Conversion Cooler Line, To Cooler
  - 1x 310-9: Allison Conversion Cooler Line, From Cooler
  - 2x 310-001-2416: ATS Adapter Fitting Assembly, 68RFE Thermal Bypass Valve Up- Grade, 2015-2018 RAM 6.7L Cummins
  - 1x 310-7: 13-18 Allison Conversion Cooler Block
  - 1x 2062-8-8S: 90DEG -8 to 3/4-16 Fitting
  - 1x 202702-8-8S: Straight -8 to 3/4-16 Fitting
5. 300-45: Plate -Bracket, Shift Linkage, Allison Conversion 68RFE
6. 309-10: 68RFE 2013+ Front Driveshaft Spacer Kit
  - 1x 400-1: Allison-68RFE Conversion Driveshaft Spacer
  - 4x 11137057: M12-1.75x85mm ZnSHCS
  - 4x 11510893: M12 Zinc Plated Steel DIN 433 Small OD Flat Washer

### ELECTRONICS KIT

1. 309-3: Allison Conversion Electronics 6.7L Cummins Kit
  - 1x 601-950-1000: ATS TRANSlator Box
  - 1x 300-298: Allison TCM
  - 1x 600-140: OBD2 Bracket
  - 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
  - 1x 601-21: Allison Conversion TCM Bracket
  - 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated M6x1mm, 20mm Long Screw
  - 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, 3/4" Long Screw
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, 1/2" Long Screw
  - 10x 001-80: 6" Zip Ties Black
2. 601-30: Harness Kit- ATS Allison Conversion 2013-2014 68RFE
  - 1x 601-11: ATS Allison Conversion Main Harness
  - 1x 601-14: ATS Allison Conversion Adapter, Wiring 2007 1/2+, 68RFE, TRS41
  - 1x 601-17: ATS Allison Conversion Adapter, Wiring, 2013-2014, 68RFE
  - 1x 601-25: ATS Allison Conversion Adapter, Wiring, 2010-202#, 68RFE
  - 1x 601-57: 7.5-202# 68RFE, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - iii. 1x T-Loom Cover
    - iv. 1x Rubber Grommet



## 2019+ Aisin AS69RC to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT:

1. 309-1: Allison Conversion Hardware Kit
  - 1x 93474A212: Zinc Yellow-Chromate Plated Flanged, M6x1.00mm, 16mm Long Screw
  - 2x 93474A223: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, 30mm Long Screw
  - 5x 001-153: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, Nut
  - 3x 001-152: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, 30mm Long Screw
  - 1x 97765A130: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, Nut
  - 1x 300-33: Assembly – Shift Linkage, Allison Conversion
    - i. 1x300-35: Machined Shift Linkage Pivot Ball
    - ii. 1x300-44: 18-8 Stainless Steel Hairpin Cotter Pin, 1/8-3/16 Pin Diameter
    - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit
  - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
  - 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
  - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
  - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
  - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
  - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
3. 309-7: AS69RC 4wd to Allison Conversion Parts Kit (*EXCLUDING 2019 HIGH OUTPUT*)
  - 1x 304-425-2380: BorgWarner 4446 Transfer Case Head Gear with Extended Spline Hub
  - 1x 300-119: T\_case Adapter Ring, Allison With AS69RC Cummins
  - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
  - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
  - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
  - 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
  - 8x 1139981: M10-1.5 x 40mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
  - 1x 305-900-2326: ATS Billet Flexplate, 68RFE, 2007.5-2018 Dodge RAM 6.7L Cummins
4. 309-13: 2019+ Allison Conversion Cooler Kit
  - 1x 310-8: 2013-2018 Allison Conversion Cooler Line, To Cooler
  - 1x 310-9: 2013-2018 Allison Conversion Cooler Line, From Cooler
  - 1x 310-6: 19+ Allison Conversion Cooler Bypass Block
  - 1x 2062-8-8S: 90 DEG -8 to 3/4-16 Fitting
  - 1x 202702-8-8S: Straight -8 to 3/4-16 Fitting
  - 310-010-2464: Plate, Base, Cooler Block, Dodge 2019+ 68RFE
5. 300-45: Plate -Bracket, Shift Linkage, Allison Conversion 68RFE

### ELECTRONICS KIT

1. 309-3: Allison Conversion Electronics 6.7L Cummins Kit
  - 1x 601-950-1000: ATS TRANSLator Box
  - 1x 300-298: Allison TCM
  - 1x 600-140: OBD2 Bracket
  - 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
  - 1x 601-21: Allison Conversion TCM Bracket
  - 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated m6x1mm, 20mm Long
  - 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, ¾" Long
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, ½" Long
  - 10x 001-80: 6" Zip Ties Black
2. 601-31: Harness Kit- ATS Allison Conversion 2013+ Aisin AS69RC
  - 1x 601-11: ATS Allison Conversion Main Harness
  - 1x 601-13: ATS Allison Conversion Adapter, Wiring, 2007½+, AS68RC/ AS69RC TRS41
  - 1x 601-15: ATS Allison Conversion Adapter, Wiring, 2007½+ AS68RC/AS69RC, 2007½-2009 68RFE
  - 1x 601-59: 2013+ AS69RC, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - v. 1x **Removed From Secondary Harness:** T-Loom Cover
    - vi. 1x 001-81: Rubber Grommet

## 2015+ 68RFE to Allison Conversion Kit (Complete Kit) Bill of Materials

### INSTALLATION KIT

1. 309-1: Allison Conversion Hardware Kit
  - 1x 93474A212: Zinc Yellow-Chromate Plated Flanged, M6x1.00mm, 16mm Long Screw
  - 2x 93474A223: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, 30mm Long Screw
  - 5x 001-153: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, Nut
  - 3x 001-152: Zinc Yellow-Chromate Plated Flanged, M12x1.75mm, 30mm Long Screw
  - 1x 97765A130: Zinc Yellow-Chromate Plated Flanged, M10x1.50mm, Nut
  - 1x 300-33: Assembly – Shift Linkage, Allison Conversion
    - i. 1x300-35: Machined Shift Linkage Pivot Ball
    - ii. 1x300-44: 18-8 Stainless Steel Hairpin Cotter Pin, 1/8-3/16 Pin Diameter
    - iii. 1x300-34: Shift Linkage Plate, Allison Conversion
2. 309-5: Allison Conversion 6.7L Cummins Warehouse Kit
  - 1x 300-30: Weldment – Transmission Mount, Rear, Allison Conversion
  - 1x 300-508: Allison 11-16 Transmission Mount Modified for 6.7L Cummins Allison Conversion
  - 1x 000-3: Loctite 26205 Thread Locker, 262 Series Red High-Strength
  - 1x 300-49: Modified (Reluctor) Ton Wheel, Allison Conversion
  - 1x 24273960: 2011-2016 Duramax Transmission Dipstick
  - 1x 24267704: 2011-2016 Duramax Transmission Dipstick Tube
3. 309-6: 68RFE 4WD to Allison Conversion Parts Kit
  - 1x 300-118: T-Case Adapter Ring 68RFE to Allison 1000
  - 6x 001-146 High-Strength Black-Oxide Steel Threaded Rod, 3/8-24, 1-1/2" Long
  - 1x 331304A: Gasket, NP/BW W perfs, GM Transfer Case
  - 1x 002-43: X-Profile Oil-Resistant Buna-N O-Ring 1/8 Fractional Width(-251)
  - 6x 001-150: 3/8"- 24 Zinc Finish Case Hardened Serrated Flange Nut
  - 6x 001-145: M10-1.5 x 30mm DIN 7991 Hex Drive Class 10.9 Black Oxide Flat Socket Cap Screw
4. 309-13: 2019+ Allison Conversion Cooler Kit
  - 1x 310-8: Allison Conversion Cooler Line, To Cooler
  - 1x 310-9: Allison Conversion Cooler Line, From Cooler
  - 1x 310-6: 2019+ Dodge Allison Conversion Cooler Block
  - 1x 310-010-2464: Plate, Base, Cooler Block, Dodge 2019+ 68RFE
  - 1x 2062-8-8S: 90DEG -8 to 3/4-16 Fitting
  - 1x 202702-8-8S: Straight -8 to 3/4-16 Fitting
5. 300-45: Plate -Bracket, Shift Linkage, Allison Conversion 68RFE
6. 309-10: 68RFE 2013+ Front Driveshaft Spacer Kit
  - 1x 400-1: Allison-68RFE Conversion Driveshaft Spacer
  - 4x 11137057: M12-1.75x85mm ZnSHCS
  - 4x 11510893: M12 Zinc Plated Steel DIN 433 Small OD Flat Washer

### ELECTRONICS KIT

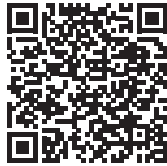
1. 309-3: Allison Conversion Electronics 6.7L Cummins Kit
  - 1x 601-950-1000: ATS TRANSlator Box
  - 1x 300-298: Allison TCM
  - 1x 600-140: OBD2 Bracket
  - 1x 300-41: Plate – Under Dash Controller Mount, Allison Conversion
  - 1x 601-21: Allison Conversion TCM Bracket
  - 5x 001-6: Steel Square-Neck Carriage Bolts, Zinc Plated M6x1mm, 20mm Long Screw
  - 5x 001-147: Zinc Yellow-Chromate Plated Nylon-Insert Flange Locknut, M6x1mm
  - 2x 001-151: Zinc Yellow-Chromate Plated Flanged, M8x1.25mm, 16mm Long Screw
  - 2x 90064A450: External Hex Head Drilling Screw, Number 10, 3/4" Long Screw
  - 2x 90064A430: External Hex Head Drilling Screw, Number 10, 1/2" Long Screw
  - 10x 001-80: 6" Zip Ties Black
2. 601-49: Harness Kit- ATS Allison Conversion 2015+ 68RFE
  - 1x 601-11: ATS Allison Conversion Main Harness
  - 1x 601-14: ATS Allison Conversion Adapter, Wiring 2007 1/2+, 68RFE, TRS41
  - 1x 601-48: ATS Allison Conversion Adapter, Wiring, 2015+, 68RFE
  - 1x 601-25: ATS Allison Conversion Adapter, Wiring, 2010+, 68RFE
  - 1x 601-57: 2007 1/2+ 68RFE, Allison Conversion Wiring Plug Kit
    - i. 2x
    - ii. 1x
    - iii. 1x **Removed From Secondary Harness** T-Loom Cover
    - iv. 1x 001-81 Rubber Grommet

## Associated Wiring Diagrams

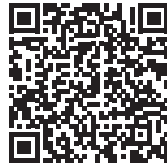
Scan the following QR codes to view the associated wiring diagrams. The number below each QR code is a part number associated with a wiring harness or wiring assembly found in the bills of materials (BOM) on the preceding pages. If you find that any of the links in these QR codes is broken, or if you are unable to download them for any reason, please call ATS Diesel Performance at (800) 949-6002 Monday-Friday 7:30 am-6:00 pm (MST)



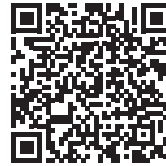
**601-11**



**601-13**



**601-14**



**601-15**



**601-17**



**601-23**



**601-25**



**601-28**



**601-35**



**601-48**



### LIMITED WARRANTY STATEMENT:

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ATS Diesel Performance warrants the original purchaser that any parts purchased shall be free from defects in material and workmanship. ATS Diesel Performance is the warrantor of this product, in the event this product is purchased from a distributor or retailer other than ATS Diesel Performance the customer must contact ATS Diesel Performance for any warranty concerns, not the purchasing dealer. A defect is defined as a condition that would render the product inoperable. This warranty does not cover deteriorating of plating, paint or any other coating. ATS liability is limited to the repair or replacement, at ATS's option, of any warrantable product returned prepaid with a complete service history and proof of purchase to the factory. A valid proof of purchase is a dated bill of sale. Repaired or replaced, product will be returned to the customer, freight collect on a like-for-like part number basis. Accepted warranty units, which have been replaced, become the sole property of ATS.

A Return Product Authorization number obtained in advance from an ATS customer service representative must accompany products returned for warranty determination. ATS will be the final authority on all warranty decisions.

This warranty shall not apply to any unit which has been improperly stored or installed, subjected to misapplication, improper operating conditions, accidents, or neglect; or which has been improperly repaired, altered or otherwise mistreated by the owner or his agent.

This warranty shall terminate at the end of 12 months in service with the original user. Labor cost incurred by the removal and replacement of an ATS product, while performing warranty work, will be the responsibility of the vehicle owner; in no case does the obligation of ATS Diesel Performance exceed the original purchase price of the product as indicated on the original bill of sale.

Except as set forth in this warranty, ATS disclaims any implied warranty, including implied warranties of merchantability and fitness for a particular purpose. ATS also disclaims any liability for incidental or consequential damages including, but not limited to, repair labor, rental vehicles, hotel costs or any other inconvenience costs. This warranty is in lieu of all warranties or guarantees, either expressed or implied, and shall not extend to any customer or to any person other than the original purchaser residing within the boundaries of the continental US or Canada.



**NOTE:** We strive to make our instructions as clear and complete as possible. To achieve this, our instructions are under constant construction. We encourage you to visit our Technical Support Webpage (<https://www.atsdiesel.com/instructions>) to check for the most up-to-date manuals and diagrams as well as other information. If you have any suggestions as to how we can improve this installation manual, let us know at: [suggestions@atsdiesel.com](mailto:suggestions@atsdiesel.com)



### CONTACT US

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Website: [www.atsdiesel.com](http://www.atsdiesel.com)

Email: [info@atsdiesel.com](mailto:info@atsdiesel.com)



### TROUBLESHOOTING:

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Thank you for purchasing the ATS Allison LCT1000 Conversion Kit. This manual is to assist you with your installation and operation of the unit. Please use the contact information to the left for assistance with any troubleshooting or questions regarding this installation. If you are installing the unit for a customer, please pass this manual on to your customer for future reference.

# PATENTED INNOVATION MEANS MORE POWER TO THE GROUND.

ATS WARRANTY  
**5yr/500k**



Proudly manufactured in Arvada, Colorado, U.S.A.