

# 1989–2001 JEEP CHEROKEE XJ 4.0L FAN SHROUD KIT PARTS LIST & INSTALLATION GUIDE



## PARTS INCLUDED

- 1PC** Mishimoto Aluminum Fan Shroud
- 3PC** Mishimoto 10" Slim Electric Fans
- 1PC** A/C Fan Adapter Harness
- 1PC** Application-Specific Wiring Harness
- 1PC** Insulating Adhesive-Backed Foam Strip
- 1PC** Mounting Hardware Pack

## TOOLS NEEDED

- 7mm Socket
- 8mm Socket
- 10mm Socket
- T30 Torx
- 1/4" Drive Ratchet & Extension
- 2.5mm Allen Key
- Soldering Iron
- Pliers

**INSTALL TIME** 3 Hours

**INSTALL DIFFICULTY** Five wrench icons of increasing size, indicating a difficulty level of 5 out of 5.

## DISCLAIMER

- Raise vehicle only on jack stands or on a vehicle lift.
- Allow vehicle to cool completely prior to attempting installation.
- Do not run the engine or drive the vehicle while overheating; serious damage can occur.
- Please dispose of any liquids properly.
- Mishimoto is not responsible for any vehicle damage or personal injury due to installation errors, misuse, or removal of Mishimoto products.
- Mishimoto suggests that a trained professional install all Mishimoto products.

## INSTALL PROCEDURE

1. Remove the bolts on the upper support bar. (4x T30 torx bolts)



2. Remove the bolts that secure the upper support bar. You will need to remove the battery to reach one of the covered bolts. (6x 10mm bolts)



3. Unscrew the bolts that secure the radiator to the upper support bar. (2x 8mm bolts)
4. Remove the bolts on the fan shroud. These can be 10mm or 8mm. (2x 8/10mm bolts)



5. Detach the metal support just behind the grille's top edge. (4x 10mm bolts)

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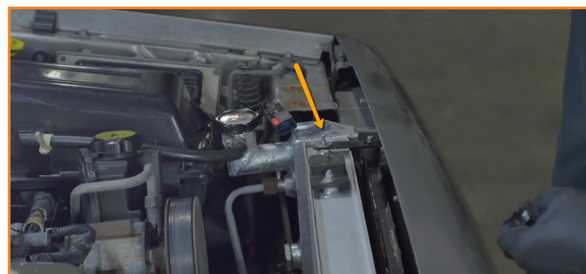
6. Take out the loose upper support bar.
7. Separate the fan shroud connector. Push the red tab on the side and then depress the black tab at the center.



8. Lift the AC condenser fan out from behind the radiator.
9. Remove the adjacent fan shroud. You may need to unscrew bolts on the fan clutch assembly. Replace the nuts once the fan is out. (4x 10mm nuts)



10. Remove the brackets that hold the AC condenser to the radiator. (2x 8mm nuts)



11. Put the push probe sensor about 3" down from the top of the radiator and 1" over from the header plate.



12. If you're not using a push probe sensor, you are going to instead install the NPT plug and sensor onto your end tank or splice it into the hose on your cooling system. With the NPT plug, this will attach to the passenger-side end tank on your Mishimoto radiator.



13. An earlier version Mishimoto radiator will require you to obtain an adapter by contacting Mishimoto Customer Service. The two spots where you can cut the hose and install the adapter are on either

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side of the compressor. Line up the adapter with the hose before making your cut to avoid removing too much. Once the adapter is installed with worm gear clamps, wrap the NPT plug with Teflon tape and thread it into the adapter.



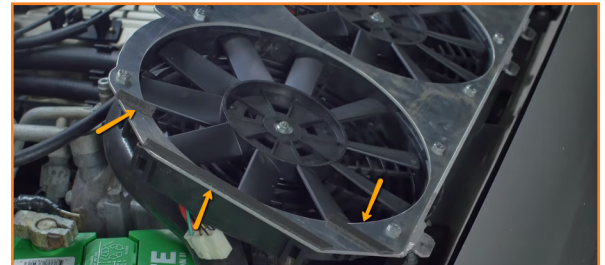
14. Reattach the AC condenser to the radiator. (2x 8mm nuts)
15. Install the fan controller unit to the back of the fan shroud in the orientation shown here. (2x 4mm bolts, 2x 4mm nuts)



16. Measure 1 1/2" over from the passenger side of the fan shroud and place a foam strip on the top and bottom.



17. Place a longer foam strip along both the passenger side and driver side edges.



18. Lower the fan shroud behind the radiator.
19. Reposition the nut clips on the upper support bar.



20. Align the clips on the coolant hose so they correspond with the new clip positions.
21. Attach the fan shroud to the upper support bar. (2x 8/10mm bolts)
22. Reattach the upper support bar. (6x 10mm bolts)
23. Connect the fan shroud wiring on the driver side. Use the provided jumper cable if the connectors do not match. Tuck the wiring out of the way and zip tie it to the fan.



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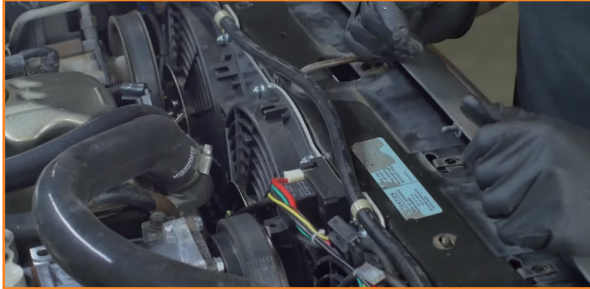
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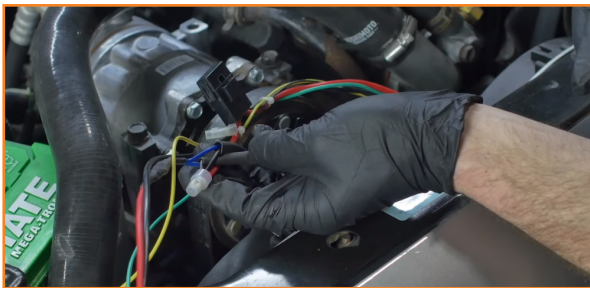
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24. Plug in the connector for the fan controller.



25. At this stage in the install, you will begin the wiring setup. Use the diagram provided at the end of this guide for a reference in completing the steps that follow.
26. Follow the red wire from the fan controller to the fuse. Just after the fuse, about 3" or 4", cut the red wire.
27. Take the black wires coming from each fan and cut off the bullet connectors. Strip the ends so they are the same length as the red wire. Crimp together the three wires and seal the assembly with the provided end terminal connector.



28. Cut the bullet connectors off the blue wire coming from each fan. Twist the two cut wires together. Put them inside the male spade connector and crimp the connector. Apply solder to the assembly.



29. Run the provided red wire behind the battery to the positive terminal. The other end runs to the blue wire. Cut the excess wire.



30. Strip both ends of the red wire. Crimp the shown connector onto one end. Apply solder and seal the connector using 1" of heat shrink.



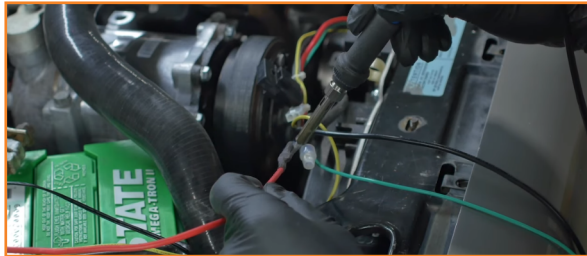
31. Slide 2" of heat shrink onto the opposite end. Crimp a female spade connector onto this end and apply solder. DO NOT yet seal with heat shrink.
32. Attach the female and male spade connectors. Slide the heat shrink over the connection and apply heat to seal it.

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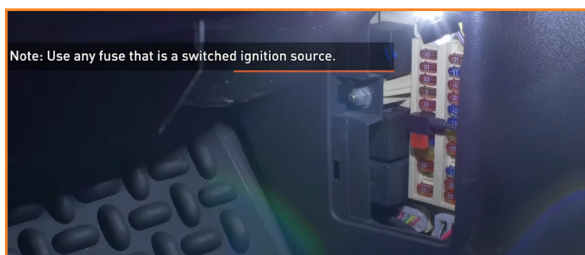
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33. Run the black wire from the fan controller to the battery's negative terminal. Repeat previous steps for attaching a connector to this wire—strip, crimp, solder, and seal the assembly.



34. Take the long red wire and attach a fuse jumper to the red wire using two spade connectors. Apply heat shrink over the two spades. You can use any fuse here as long as it's a switched ignition source.
35. Find an access point to get through the firewall. The easiest way to do that is to do so through the fuse box, which is in the passenger-side foot well. Ours was completed through an access point on the driver-side firewall. Yours may be different.

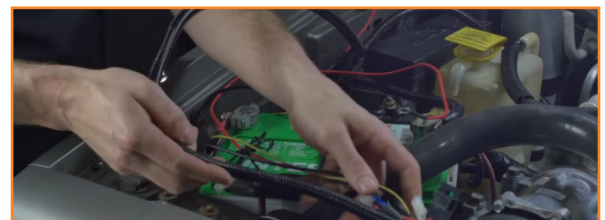


36. Remove the fuse box cover. Plug the fuse on the red wire into the box. Replace the fuse box cover.

37. Combine the yellow wire from the fan controller with the other end of the red wire. Strip the other end of the red wire from the fuse box. Do the same with the yellow wire coming from the fan controller. Slide heat shrink over the yellow wire. Connect the red and yellow wires using a crimp connector. Seal the assembly with the heat shrink.



38. The green wire is optional. Tuck it away and secure it if not being used. The green wire allows you to hook up to a positive battery source and it will kick on the fans. Some builds may want to hook the green wire up to a positive switch inside the cabin, so the fans before are activated by temperature.
39. Connect the temperature sensor. Secure any loose wiring.
40. Apply the wiring cover included in your kit. Start nearest to the fan controller and work your way around to the back of the engine.



41. Secure the wiring so it is out of the way.
42. Connect the positive line to the positive terminal on the battery, and negative line to the negative terminal.

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43. Zip tie all loose wiring to keep it from getting into the engine.



44. Reinstall the metal support just behind the grille's top edge. (4x 10mm bolts)
45. Secure the edge of the upper support bar. (4x T30 torx bolts)
46. Secure the upper support bar to the radiator. (2x 8mm bolts)
47. Check when the fans turn on before getting on the road. Run the engine to get it up in temperature and make sure the fans turn on at the right time. If the fans are not turning on at the right temperature, adjust the temperature by simply removing the small rubber plug at the back of the fan controller and using a flat head screwdriver to change whether they come on sooner or later in the temperature range.



**Congratulations! You have finished installing the Mishimoto 1989-2001 Jeep Cherokee XJ 4.0L Fan Shroud Kit.**

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**WIRING DIAGRAM**

