

Air Conditioner Mod – Compressor Clutch Shim Adjustment

<http://www.ford-trucks.com/forums/584249-ac-problems.html>

02-25-2007, 01:39 PM #1 (permalink)


av8orhd 
New User Join Date: Feb 2007
Posts: 1

AC problems

I've got a 2000 F350 PSD XLT. When I turn on the AC it runs and cools fine. However, the first time the clutch cycles off or you select another position then back to an AC position the clutch will not reengage. The high and low pressure check good. Any ideas on how to trouble shoot this. Thanks.

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02-25-2007, 11:30 PM #3 (permalink)

 **SpringerPop** 
SUPPORTER
Too old to be too smart
2000 Ford F-350 Join Date: Oct 2004
Location: LA LA Land
Posts: 4,570

av8orhd,

It is soooooo nice when someone accurately describes the symptoms, as you have done here.

You have a classic case of the air gap in your compressor having worn too wide.

Try this to test:

Turn on the A/C and run it until the clutch won't re-engage. Be REAL CAREFUL now! Take a plastic screwdriver handle and "tap" the end of the (not spinning) clutch. Does it immediately engage and operate normally until it next cycles off, and then won't re-engage on its own?

If so:

Get out your feeler gauges, or your calibrated eyeballs, and determine that the air gap is about .050" to .060" (fifty or sixty thousandths). That's too much! It's supposed to be around .030. But wait! There's no need to replace the compressor and have to re-charge the system. There's a "dirt-cheap" fix!

See the little bolt right in the middle of the compressor shaft? Take it out. You won't be letting any Freon out. Pull the clutch plate straight out. There is one or more "shims" that look like small washers in there, either on the end of the shaft or down in the hole that fits on the shaft. Take off about .030" worth of them and reassemble. Go ahead, use a little blue (NOT green!) Loctite on the bolt as insurance.

Make sure you now have at least .025" of gap. Start the engine and check to insure your problem is gone.

That's all there is to it.


Pop

-Marv-
"Some of us pride ourselves on the money we've spent on our trucks,
and some of us on what we have NOT"
2000 F350 Lariat 7.3 A/T CCLB4X4, CCV, Sonnax/springs, Dahl, spin-on trans filter, coolant filter, 6637 & cover, bypass oil, HPX.
[Email SpringerPop](#)

Last edited by SpringerPop; 02-25-2007 at 11:50 PM.

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Air Conditioner Mod – Compressor Clutch Shim Adjustment

09-23-2007, 01:10 AM #5 (permalink)  



firedewd
SUPPORTER
Junior User

Join Date: Jun 2005
Location: Arvada, Colorado
Posts: 81



This worked to fix my AC problem THANKS!

A couple of things to help:

Take a plastic screwdriver handle and "tap" the end of the (not spinning) clutch. Does it immediately engage and operate normally until it next cycles off, and then won't re-engage on its own?

This can be done with the engine off and the key turned to "on". The clutch will engage but it won't be spinning. Also, when you do this test with the engine not running and the clutch is engaged, it will hold the clutch in place so you can loosen the bolt. Just remember to turn the key to off/lock before starting repair.

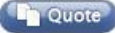

Good Luck!



They told me it's not rocket surgery! 


2000 F250 CC SB PS
Wilderness 5th Wheel
Starcraft Tent Trailer

The sooner I fall behind,
the more time I have to catch up!







Last edited by firedewd; 09-23-2007 at 01:16 AM.

Yesterday, 01:46 AM #13 (permalink)  



SpringerPop
SUPPORTER
Too old to be too smart
2000 Ford F-350

Join Date: Oct 2004
Location: LA LA Land
Posts: 4,570
     

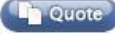


Just be sure to not take ALL the spacer shims out (unless it's necessary), as the clutch MUST have some air gap.

It HAS to be able to cycle on and off.

If it has NO air gap, it won't cycle off, and WILL damage the compressor by over-pressurizing the high side.

Pop


-Marv-
"Some of us pride ourselves on the money we've spent on our trucks,
and some of us on what we have NOT"
2000 F350 Lariat 7.3 A/T CCLB4X4, CCV, Sonnax/springs, Dahl, spin-on trans filter, coolant filter, 6637 & cover, bypass oil, HPX.
Email SpringerPop


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<http://www.ford-trucks.com/forums/863563-good-a-c-mechanic-in-dfw.html>

06-29-2009, 02:19 PM #5 (permalink)  



empiretc
SUPPORTER
Postmaster

Join Date: Dec 2003
Location: South Texas
Posts: 3,875


Quote:

Originally Posted by **Dazed_Confused** 
My "new" mechanic charged me \$40 to remove the washer and close the "gap". And, at the time, I thought he was a hero and that it was the best \$40, I'd ever spent -- until the AC stopped working 4 days later.

I have been toying with this "gap" of the compressor clutch over the past week. It takes a 5/16 socket, a large screwdriver and 10 minutes of your time to mess wit it.

After reading Pops post, I checked mine and it was off. So i removed the clutch and installed a different shim. I noticed little to no difference in the way mine cooled. I really wasn't having a problem per say, but I am willing to try anything to make it blow cooler as the weather her is dreadful. 100* day with a heat index of 110*


After speaking to an HVAC friend of mine a few days ago, he recommend I REMOVE the shim completely. I picked his brain about it, but he insisted to trust him. "the weather here is not like the weather in Nebraska", he said.

We both agree the older F**d a/c systems suck, but he has a 1981 Granada that blows 36* at the vent! When asked about it, all he will say is "I fixed it the way I wanted it".

So for right now, I am going to try running without the shim for a while. So far, I haven't noticed much of a difference in vent temps, but I will give it a couple days.

Good or bad idea??

David
1999.5 (05~07 looks) CrewCab ShortBox 2WD - 200k
6637; A/C Valve; Sonnax; SS HPX; Muffler Delete; Pyro/Boost/Trans/Water/Volt/Fuel & Oil pressure; DP 80HP Econo; Hutch; Harpoon; Stancor GPR w/ LED; 16" Pusher Fan; Tekonsha Prodigy; Kleinn 500 Air Horns

Air Conditioner Mod – Compressor Clutch Shim Adjustment

06-29-2009, 02:25 PM

#8 (permalink)



mxdadof2
Senior User

Join Date: Jan 2009
Location: Brandon,MS
Posts: 150

Quote:

Originally Posted by **empiretc**

I have been toying with this "gap" of the compressor clutch over the past week. It takes a 5/16 socket, a large screwdriver and 10 minutes of your time to mess wit it.

After reading Pops post, I checked mine and it was off. So i removed the clutch and installed a different shim. I noticed little to no difference in the way mine cooled. I really wasn't having a problem per say, but I am willing to try anything to make it blow cooler as the weather her is dreadful. 100 day with a heat index of 110**

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Good or bad idea??

David,

I removed the shim completely as well and have had absolutely no problems what so ever. The one thing I was told to make sure of was that after removing the shim that the clutch does engage and disengage as it should which mine does . I havent had any trouble out of it since and the most important thing is the wife is happy now!!!!!!!!!!!!!!

Ron- 01' 7.3 PSD EC 4x4 no mods yet... but working on those.....

PAA Member #80
Mississippi Chapter Member



06-30-2009, 06:15 AM

#15 (permalink)



Kwikkordead
SUPPORTER
Post Fiend
1999 Ford F-550

Join Date: Jun 2004
Location: North Seattle, WA.
Posts: 17,609

Ford is not known for manufacturing a good AC system.

<http://www.aircondition.com/tech/questions/15/>

Dan
1999 F550 4x4 ZF6 pulling a Cedar Creek 36RLTS. Lotta mods.
1999 VW Jetta TDI 5speed stick, all stock.
1996 Audi A4 Quattro. Unstoppable in the snow and ice.
<http://www.gratitudecampaign.org/shortmovie.php>

