Tech Articles

Welcome to NICOclub. The following links are to our ever-growing Technical Arcives pages. If you have any articles which can help the Nissan-infiniti community, please contact us for submission.

Car Specific Forums

- 350Z
- 240sx
- 240sx Convertible
- 300ZX
- Foria
- Q45
- M45/M35
- G35
- Skyline
- Maxima/I30/I35
- Altima
- Sentra
- J30/M30
- Murano
- Armada/QX56
- Versa

NICO Global Sites

- 350Zclub.org
- GTRclub.org
- 240sx.org
- 240sxConvertible.com

Technical Articles > **General: Basics of Turbocharger Rebuilding**

Overview:

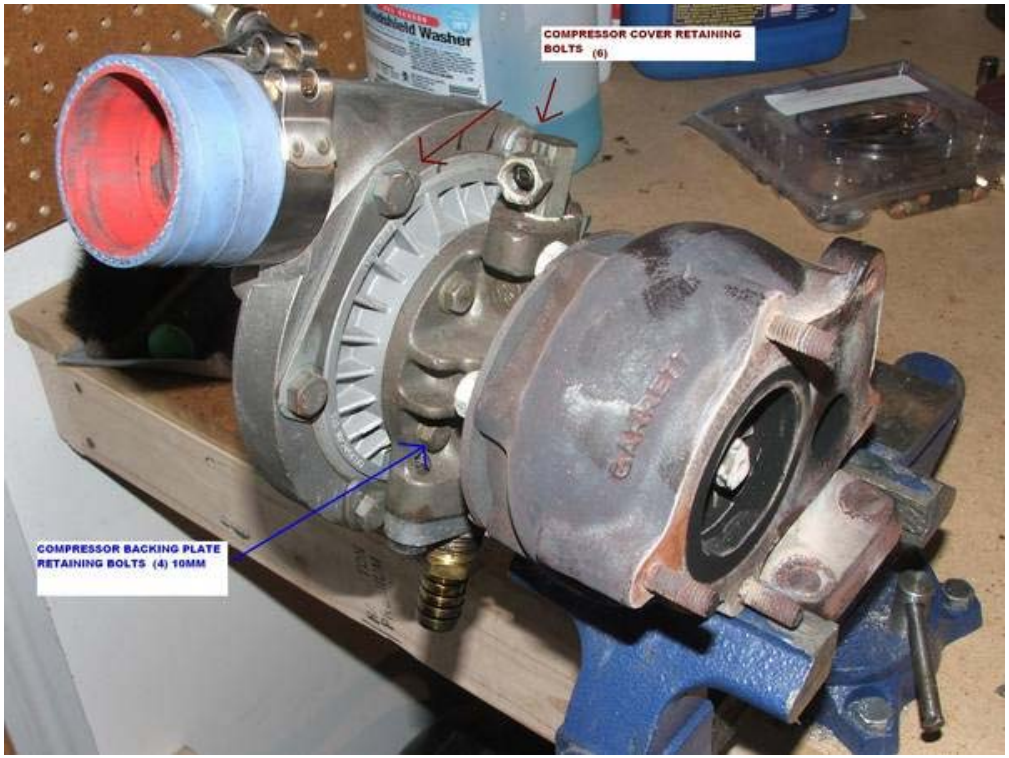
This writeup was preformed on a T3 super sixty. Each turbo will be a little different but the concept is the same.

Tools:
13mm wrench
7/16 12-point socket
5/8 six-point socket
carb cleaner
brass brush
assembly lube
inside snap ring pliers with "itty-bitty ends"
A vise makes a handy place to hold the turbo but it is not nec.

Procedure:

1.) Remove Turbo from Manifold. I secured mine in a vise just to make it easier to work with.

2.) Remove all oil fittings and Scribe the Compressor housing and backing plate so you can re-align easily when you re-assemble



3.) Remove 6 compressor housing retaining bolts.

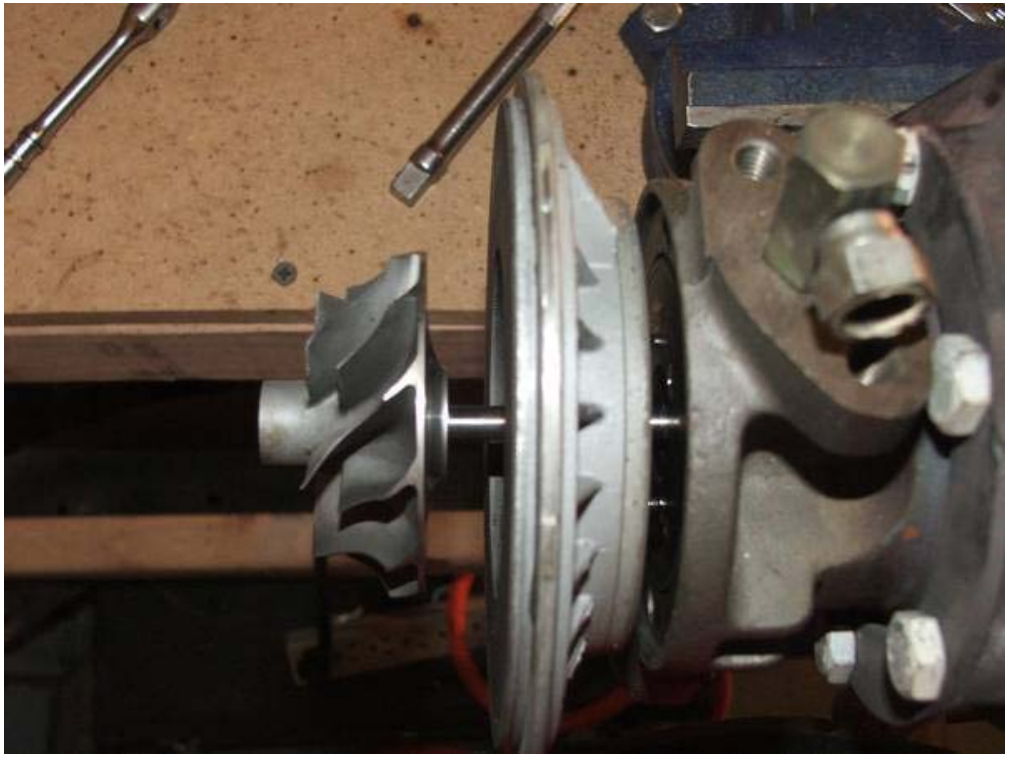
4.) After the bolts are loose you will have to remove the compressor housing. I had to tap mine lightly with a hammer to loosen it.

- **Infiniti Cars**
- **Infiniti Parts**

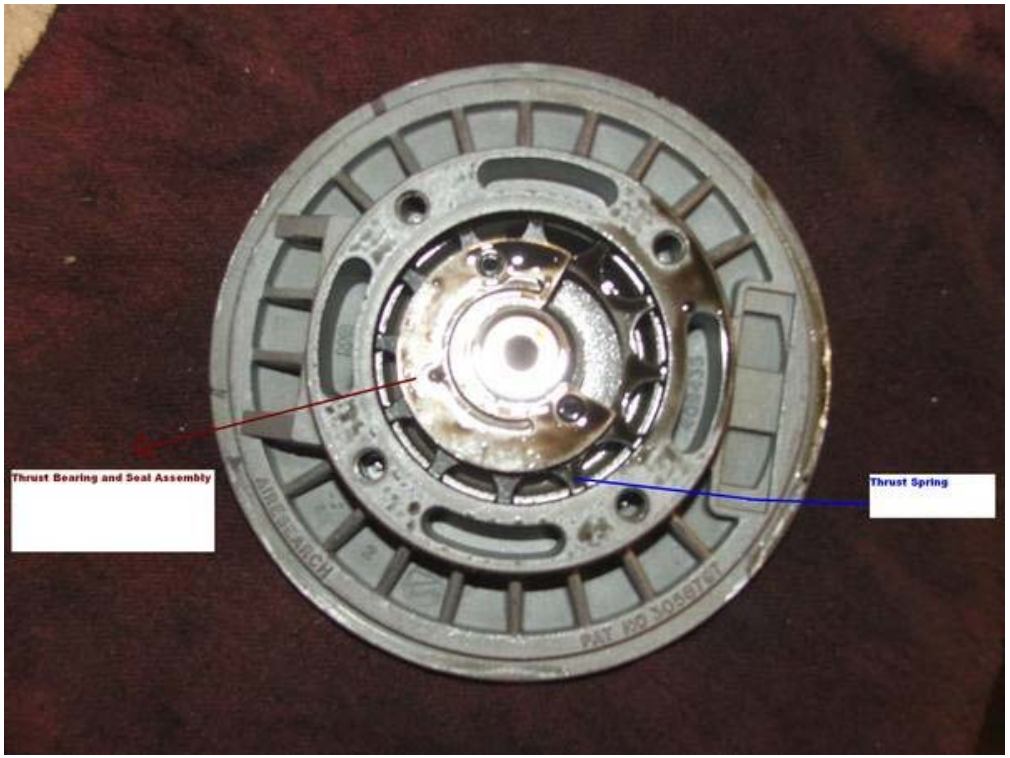
Engine Forums

- **CA**
- **KA**
- **KA-T**
- **RB**
- **RWD-SR**
- **Transverse SR**
- **VQ**
- **VG and VE**
- **VH and VG**

5.) The compressor wheel will now be exposed. You will need a 12 point socket on the compressor side and a six point on the turbine side to remove the nut holding the wheel on. After you remove the nut, the compressor wheel should just slide off of the shaft. I would use a magic marker to index it on the shaft for reassembly. Be very careful with it, you don't want to bend any of the blades.



6.) Remove 4 Compressor housing backing plate bolts and slide off backing plate. Note rubber gasket on back and seal assembly.



7.) Put the backing plate on a rag face down. You should be looking at the thrust bearing and seal assembly. If you push the center of the assembly from wheel side to back side it should all come out. Pay attention to the order of the parts behind the thrust bearing. There are several different types of seals so each one is different but you should just be able to remove and replace the seal. Pop out the “Star Wheel” behind the TB it will probably be bowed when you remove it. It should be flat when you reinstall it. I used a 36mm socket to push it in evenly. After you have R&R the assembly (be sure to give everything a coat of oil when you reassemble) set the cover aside.

8.) Remove the Center section from the exhaust housing. Remove all the turbine housing bolts except for the two at the top and bottom of the housing (next to the oil in and out) Use these two bolts to “Jack up” the Center section ¼ turn at a time. The turbine housing needs to come off the center section parallel to the turbine wheel. If allowed to come off at an angle it will bind on the turbine wheel and damage it. After EACH ¼ Turn spin the shaft to make sure it is not binding. IF you feel to much binding tighten bolts and restart. Use a lot of penetrating oil also.

9.) After the exhaust housing is off a light tap from the compressor wheel side of the shaft should remove it from the center section. Slide off the “Dog Bowl” shaped cover. My seals leaked pretty badly so there was a lot of build up here. I used a brass brush, a dental pick, and carb cleaner to remove all of the gunk. You should also find a snap ring around the base of the shaft next to the exhaust wheel replace it with the new one from the kit. Set the wheel and shaft aside

10.) REPLACING THE JOURNAL BEARINGS. There is a Journal bearing on both sides of the center section. To remove them you will need a set of snap ring pliers with really small ends. I bought a set at harbor freight and

ground done the points to fit in the snap rings. Remove the snap rings and the bearings should slide out. Give the new ones a good coat of oil or assembly lube if you want to be a professional. Put the new ones back in and replace the snap rings making sure that they are seated properly.

11.) Reassembly. Replace everything in the opposite order of break down. Use oil or assembly lube on all moving parts and make sure you replace all the gaskets on the compressor side. Line up all of you index marks when putting it back together and it should still be in prefect balance. Leave the compressor housing bolts loose until it is back on the car just in case your alignment it off. Compressor nut torque is 18-20 in-lb (NOT ft-l b) I did mine hand tight plus a ¼ turn since I don't have a torque wrench that small. Prime the oil system with the coil unplugged to get oil to the turbo before you crank it up.

Note: Some shafts have a reverse thread on the compressor side and should be noted upon compressor wheel removal. -WDRacing

Here are some pics and notes from another member's gt25 rebuild:

Tools:

1) Bent nose needle pliers (modified tip)
2) 8mm 12pt, 3/8" socket
3) 3/8" rachet
4) 13mm combination wrench
5) T15 Torx bit
6) Pick
7) Small straight nose needle pliers
8) Flair nut combination wrench 10mm 12mm
*Not pictured but you'll need some liquid wrench

Above shows the marking of relationships between compressor wheel, shaft nut and CHRA (center housing rotating assembly)

Above shows the relationship markings between the turbine wheel and the CHRA

An exploded view.