Procedure:
Installation of the MKIII (A3) VR6 Turbo assembly

Warning: Some trimming of the bumper assembly is required in order to mount the front mounted intercooler assembly.

Notes: There are some differences to the install procedure depending on the turbocharger used. The T3/T4 based turbo system incorporates a 2.5" downpipe that exits on the passenger side where the T04 based turbo system incorporates a 3" downpipe that exits on the driver side of the engine bay.

CAUTION: TAKE GREAT CARE IN HANDLING THE TURBOCHARGER. PROTECT THE OIL INLET HOLE AND KEEP IT COVERED AT ALL COST UNTIL TURBO IS FULLY MOUNTED AND OIL FEED FITTING IS INSTALLED. THE MINUTE AMOUNT OF DEBRIS IN THE OIL FEED HOLE WILL DESTROY THE TURBO UPON STARTUP.

Parts Checklist:

- A – VR6 Turbo Manifold
- B – Turbocharger
- C – Wastegate assembly
- D – Downpipe
- E – Oil feed line
- F – Oil return line
- G – Oil pan (welded with oil drain fitting)
- H – Turbo inlet pipe (mass airflow to turbo inlet)
- I – Turbo pressure pipes (turbo air out to t-body)
- J – Intercooler and pipes (optional)
- K – Blow off valve
- L – FMU (rising rate regulator)
- M – Turbo Eprom
- N – Larger Injectors (Optional on high boost applications)

Other items required:

- Hose clamps
- Silicone vacuum hoses
- Breather filter, 1" for valve cover PCV
- 5/16" fuel lines and small clamps
- 1/8" to ¼barb fittings for boost signals
- 1/8" brass tee for oil feed tap into oil filter housing
- Misc. fasteners and gaskets for turbo assembly
- Boost Gauge
- Air/Fuel Gauge

Instructions:

Remove non-turbo components from stock setup.

1. Remove stock downpipe and exhaust manifold.

2. Remove stock airbox and stock air inlet pipe from throttle body.

3. Drain oil from oil pan.

4. Remove oil pan.

Install turbo components.

1. Install turbo modified oil pan with fitting prewelded.

2. Install Turbo manifold onto cylinder head.

3. Bolt turbo to manifold. Use metal gasket between turbo and manifold.

Notes on turbo clocking:

Turbo must be clocked so that oil feed hole points upright and oil drain points downwards. Up to 40 degrees of rotation from vertical is allowed. If necessary, loosen the 6 bolts on the center housing to reclock the turbo. Do not remove the bolts from the housings.

4. Install oil feed line assembly.
    a. Screw the 45 degree feed fitting to top of turbo.
    b. Screw the straight feed fitting to the top of the oil filter housing. Unscrew the oil pressure sender from top of oil filter housing, install 1/8" pipe tee. Reinstall the pressure sender and oil feed fitting on extra port.
    c. Install oil feed line between fitting on top of turbo and oil filter housing tee.

5. Install oil return line assembly.
    a. Screw straight fitting adapter directly onto the oil drain flange. Use bench vise to torque together. Use Teflon tape to ensure proper seal
    b. Screw one end of oil return line to the fitting and oil drain flange.
    c. Bolt assembled line assembly with flange onto oil drain hole (at bottom of turbo) along with the oil drain gasket. Use (2) 8mm x 20mm bolts.
    d. Loop other end of oil drain line around the drive shaft and screw into the oil pan fitting.

DO NOT KIND THE OIL DRAIN LINE. Any obstructions to the flow of oil back to the pan will cause backup of oil to the turbo causing subsequent damage to the turbocharger itself.

6. Install wastegate.
    a. T3/T4 – bolt wastegate swingvlave to side of turbo. Bolt actuator and bracket to the turbo compressor. Shorten the actuator rod to 1/6" short of the actuator. Pull on the rod (spring loaded) and hook actuator rod to the swingvalve flap leaving some preload and tension on the swingvalve flap.

    b. T4 with external gate – bolt directly up to the 2 bolt flange on the manifold. Using 5/16" SAE bolts.

    c. Install wastegate signal hose (1/4") from nipple on side of turbo compressor to the wastegate boost port. External wastegate: Install on boost port and leave vacuum port open. Internal wastegate actuator: Use nipple furthest away from rod (if dual port actuator).

7. Install downpipe. Bolt to turbo and cat.

8. Install turbo inlet pipe. Connect 90 degree 3" silicone elbow to turbo inlet along with 3" pipe. Connect MAF to end of pipe and connect 3" cone style filter to end of MAF.

9. Install turbo pressure pipes to throttle body. 1" nipple in the pressure pipe is provided for idle stabilizer valve on OBD I engines. The nipple should be capped for OBDII engines.

   DO NOT RUN THE CRANKCASE BREATHER HOSE INTO THE AIR PRESSURE TRACK (BETWEEN TURBO OUTLET AND THROTTLE BODY).

   If intercooler is used, refer to installation instructions for mounting intercooler and pipes..

10. Install Blow of valve on flange on pressure pipes. Use larger nipple on blow off valve for signal. Vacuum signal for blow off valve comes from teeing into the stock fuel pressure regulator.

11. Install FMU (rising rate regulator).

    a. Mount FMU upright under engine bay.
    b. Pull return line (blue marking) from fuel rail and install on OUT port on FMU.
    c. Install 5/16" fuel line between fuel rail out port and IN port on FMU.
    d. Install vacuum/boost signal by teeing into vacuum signal on stock fuel pressure regulator.

12. If larger injectors are provided, remove upper intake manifold to unbolt fuel rail and replace with larger injectors.

13. Install Turbo Eprom by accessing ECU box under raintray on passenger side.

14. Install boost gauge by teeing into vacuum/boost port on stock fuel pressure regulator.

15. Install Air/fuel gauge by tapping into black 02 sensor wire in exhaust stream.

16. Fill engine with engine oil.

17. Start engine and allow engine to idle for 15-20 minutes. Engine will exhibit light smoking due to oil residue left on turbo parts and should dry up.

18. Check for leaks. Shut down the engine immediately and correction leaks before restarting.

Intercooler kit installation:

1. Remove bumper cover.

2. Refer bumper cutting instructions on MKIII FMIC install procedure and mount intercooler core assembly.

3. Install pipes as follows:

4.