STRAIGHT THROUGH FLOW ASSEMBLY INSTRUCTIONS

Electronic fuel injection systems operate under high pressure (40-100 PSI). TO PREVENT FIRE, BEFORE STARTING THE ENGINE CHECK THE ENTIRE FUEL SYSTEM FOR FUEL LEAKS. REPAIR ALL LEAKS BEFORE ATTEMPTING TO START THE ENGINE.

1. Place thermal insulators over intake mounting studs with a gasket on each side of insulator.
2. Place manifolds as follows: Tall manifolds go on ports 2 & 5. Short manifold with throttle pivot shaft goes on port 3. Remaining manifolds go on 1, 4 & 6. Tighten manifold mounting nuts evenly, and torque to 16 ft/lbs.
3. Insert threaded hose nipples into manifolds for vacuum signal. Manifolds on 1, 4 & 6 will use 90-degree elbow fittings.
4. Attach vacuum lines from nipples to junction block.
5. Attach the thick throttle linkage mounting bracket to manifold 2. Place throttle cross bar with double arm over ball on manifold 2 mounting bracket. Put ball of thin mounting bracket into cross bar and attach to manifold 5. Torque mounting bracket bolts to 16 ft/lbs.
6. Place coupling sleeves on manifolds 1, 3, 4, & 6 with two hose clamps on each sleeve. Do not tighten the clamps at this time.
7. Install throttle position sensor on throttle body with ‘D’ style shaft.
8. Place throttle body with TPS on cylinders 4, 5, 6. Slide nipples on end cylinders into coupling sleeves. The center cylinder will bottom against the top of the intake manifold. Tighten the hose clamps on the end cylinders. Tighten the clamp on the center throttle body, attaching it to the manifold. Rotate the throttle shaft, verify that there is no sticking or binding. Repeat the procedure for cylinders 1, 2, & 3.
9. On both throttle bodies, loosen the throttle stop screws, allowing the throttle plates to close all the way. From fully closed, adjust the idle screw ½ turn, opening the throttle plates. Snug the locking screws.
10. Identify the air filter housing bottom half for each side of the engine. The air filter housing for cylinder 1 will have the return spring attachment close to the fan.
11. If a Manifold Air Temperature (MAT) sensor is going to be used, pick a location on one of the two air filter bottom housings. Drill a ¾ diameter hole and insert the rubber grommet.
12. Attach the 4 posts to each bottom air filter housing with loctite.

13. Insert the respective air filter housings into the throttle bodies, until they stop on the shoulder. Tighten the clamps.
14. Adjust the throttle links to the full short position. Attach throttle links to cross bar.
15. Place the straight throttle actuator arm on cylinder 1 throttle shaft with the ball pivot pointing in the direction of the flywheel. Attach the links to the arm. Lengthen the link by two turns. With the throttle plates closed, rotate the arm up approximately 5mm away from bottom air filter plate. Provide approximately 1mm space between the arm and throttle body, and tighten the lock the screw on the arm. Check the linkage for travel and verify no binding. Attach the return spring.
16. Place the offset arm on cylinder 4 throttle shaft. Connect the throttle link to the cross bar. Lengthen the link by 2 turns. Slide the arm up to the idle stop and tighten the screw.
17. Attach the fuel rail mounting blocks to the fuel rails.
18. Lightly oil each fuel rail injector port and fuel injector O-rings. Being careful not to damage the O-rings, insert the injectors into the fuel rail. Orient the injectors so the plugs point out away from the engine. Then insert the fuel rail with injectors into the intake manifolds. Insert screws through the attaching blocks and tighten.

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19. Mount the fuel pressure regulator in a good location. It is important that the regulator be at a level equal to or above the fuel rails to prevent trapped air in the fuel system. Attach fuel lines for the fuel system.

IMPORTANT:

BE SURE FUEL LINES HAVE PLENTY OF ROOM FOR ENGINE MOVEMENT.

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