

OWNERS MANUAL

WITH INSTALLATION
INSTRUCTIONS

banks SIDEWINDER

TURBO

BANKS SIDEWINDER® TURBO SYSTEM
FOR CHEVROLET/GM 6.2L DIESEL TRUCKS
NEW BODY STYLE

THIS MANUAL IS FOR USE WITH SYSTEM PART NUMBER 21007

banks

GALE BANKS ENGINEERING

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SIDEWINDER TURBO SYSTEM GM 6.2L DIESEL TRUCKS NEW BODY STYLE

Dear Customer:

You have just purchased the finest, most technologically advanced turbocharging system available for light truck diesel engines. GALE BANKS ENGINEERING has utilized the knowledge and experience gained through years of turbocharged engine design to combine performance, durability and good looks into a professional quality turbocharger system. Best performance and installation of your Sidewinder system will be realized by thoroughly reading and following the installation instructions before and throughout the installation.

Your Sidewinder turbo system operates by utilizing the engine's exhaust gasses to spin a turbine wheel, which in-turn drives a compressor through a common shaft. The compressor draws air through the air cleaner and forces it into the engine at a greater density and pressure than that which the atmosphere would normally provide. This additional air will burn more completely the available fuel, or additional fuel, resulting in greater performance and efficiency. The volume and pressure (boost) that the turbocharger puts out is controlled by the size of the turbocharger in relation to the size of the engine, the position of the accelerator and the load on the vehicle. A small amount of engine oil is fed to the turbocharger shaft assembly to lubricate the shaft bearings, and then returned to the engine. Your GALE BANKS ENGINEERING Sidewinder Turbo System is emissions legal in all 50 states when used with the Banks Turbo Exhaust System.

We at GALE BANKS ENGINEERING are confident that you will be pleased with the performance of your Sidewinder turbocharged diesel and hope we may be of service in the future.

IMPORTANT

To obtain optimum performance from your BANKS Sidewinder turbo system, it is necessary to make an adjustment to the fuel injection pump. This adjustment is easily made by following the enclosed instructions. However, it is extremely important that the instructions be followed very carefully. Before starting the injection pump adjustment procedure, please note the following:

1. The engine must be COLD (preferably overnight) before starting the injection pump adjustment procedure. DO NOT attempt to turn the engine over or adjust the injection pump while the engine is warm.
2. To gain access to the injection pump adjusting screw, it is necessary to rotate the engine crankshaft, so that the screw is properly positioned. As noted in the instructions, the crankshaft is rotated

by hand, IN THE CLOCKWISE DIRECTION ONLY, by turning the vibration damper mounting bolt using an appropriate socket, extension and breaker bar. (On some late model trucks it may be necessary to remove the front crankshaft pulley to gain access to the vibration damper bolt.) DO NOT ROTATE THE CRANKSHAFT USING THE STARTER, for any reason. Even though the fuel solenoid is de-energized, the engine can still start. This is extremely hazardous and can result in both severe personal injury and major mechanical damage. Again when making the injection pump adjustment, DO NOT ROTATE THE CRANKSHAFT WITH THE STARTER.

3. If you removed the front crankshaft pulley to gain access to the vibration damper bolt, be sure to reinstall the pulley (and belts) before starting the engine.

GENERAL INSTALLATION PRACTICES

1. For ease of installation and trouble-free operation of your BANKS Wastegated Sidewinder Turbo System, PLEASE READ THIS ENTIRE 24-PAGE INSTRUCTION PACKAGE BEFORE STARTING ANY WORK. (If any pages are missing from this package, please call GALE BANKS ENGINEERING immediately for a replacement.) Become thoroughly familiar with all components and phases of the installation before starting any work. Determine what additional tools or materials you may need to complete the installation, and at what stages you will require welding if it is to be done by other than yourself.

2. Inspect all components supplied for any foreign material that may have entered during shipping and handling. Wash all fuel and oil hoses with solvent and blow dry with compressed air before assembly. Inspect all castings for damage resulting from shipping. Check all machined surfaces for nicks or other damage. Clean all castings with solvent and blow dry with compressed air prior to assembly.

3. Any time the vehicle is raised off its wheels, it should be supported by jack stands or ramps of adequate capacity for the vehicle's weight. NEVER PERFORM ANY WORK UNDER A VEHICLE SUPPORTED ONLY BY ITS BUMPER OR A HYDRAULIC JACK.

4. Use the Teflon tape provided on all pipe thread connections. Hold tape back from the first two threads of the fitting so tape will not flake off into the fluid. (This is especially critical on oil lines.)

5. Any threads to be secured with Loctite must be clean, dry and free of any oil or grease. Clean threads with lacquer thinner as required.

6. Pay particular attention to the routing of all hoses and wiring. Keep them away from exhaust heat, moving parts and sharp edges that may cause cuts or other damage. Route or tie hoses away from critical areas as required. Keep all hoses a minimum of 1" from hot exhaust parts; 1½" or more is recommend-

ed whenever possible.

7. Collet stainless steel locknuts are used on the turbo studs. The locknuts should be installed as shown in Figure 14. The nuts will spin on freely and lock only when tightened.

8. Muffler and exhaust piping are not included with this kit. An exhaust parts kit containing these components is available separately from GALE BANKS ENGINEERING, or you may have a local muffler shop fabricate the exhaust system. The BANKS 3" exhaust system is required for emissions legal installations.

9. General assembly diagrams are provided in addition to the specific step or section diagrams noted in the text. General assembly diagrams show relationships of individual components for reference; however, numbered step-by-step procedures should be followed for proper assembly sequence.

10. Right-hand and left-hand designations refer to the driver's right or left, as seated in the vehicle (i.e. Right-hand refers to the passenger side of the vehicle), unless noted otherwise.

11. All BANKS components are designed, tested and manufactured to standards far exceeding factory OEM specifications. However due to normal variations in production vehicles, it may be necessary to slightly modify some exhaust system components for proper fit.

Notification

The Banks Ram-Air Filter comes pre-oiled and no oiling is necessary for initial installation. Service the filter as specified in the Cleaning and Oiling the Banks Ram-Air Filter Section of this manual.

FIGURE 1

SEE PARTS LIST, PAGE 22

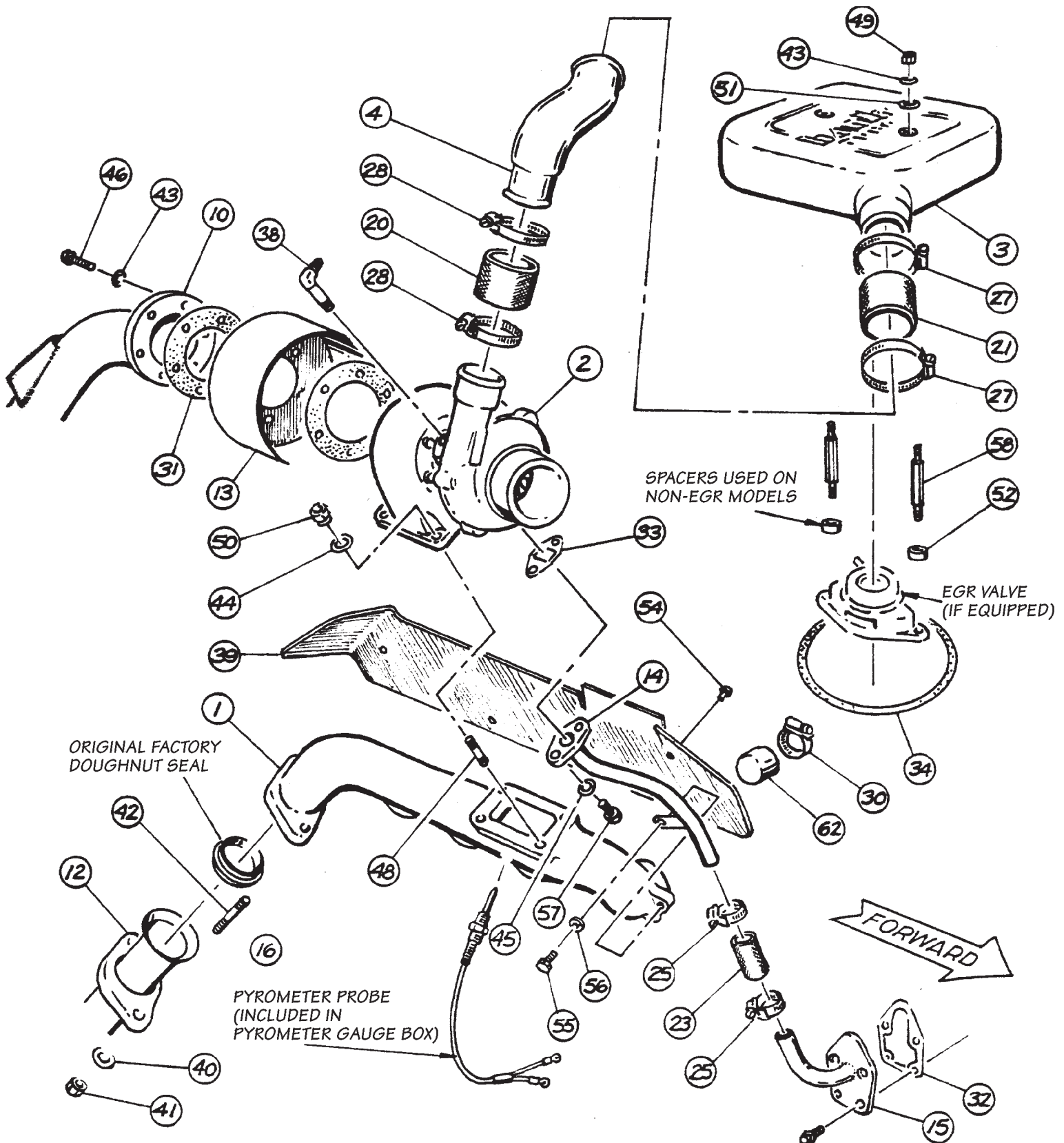
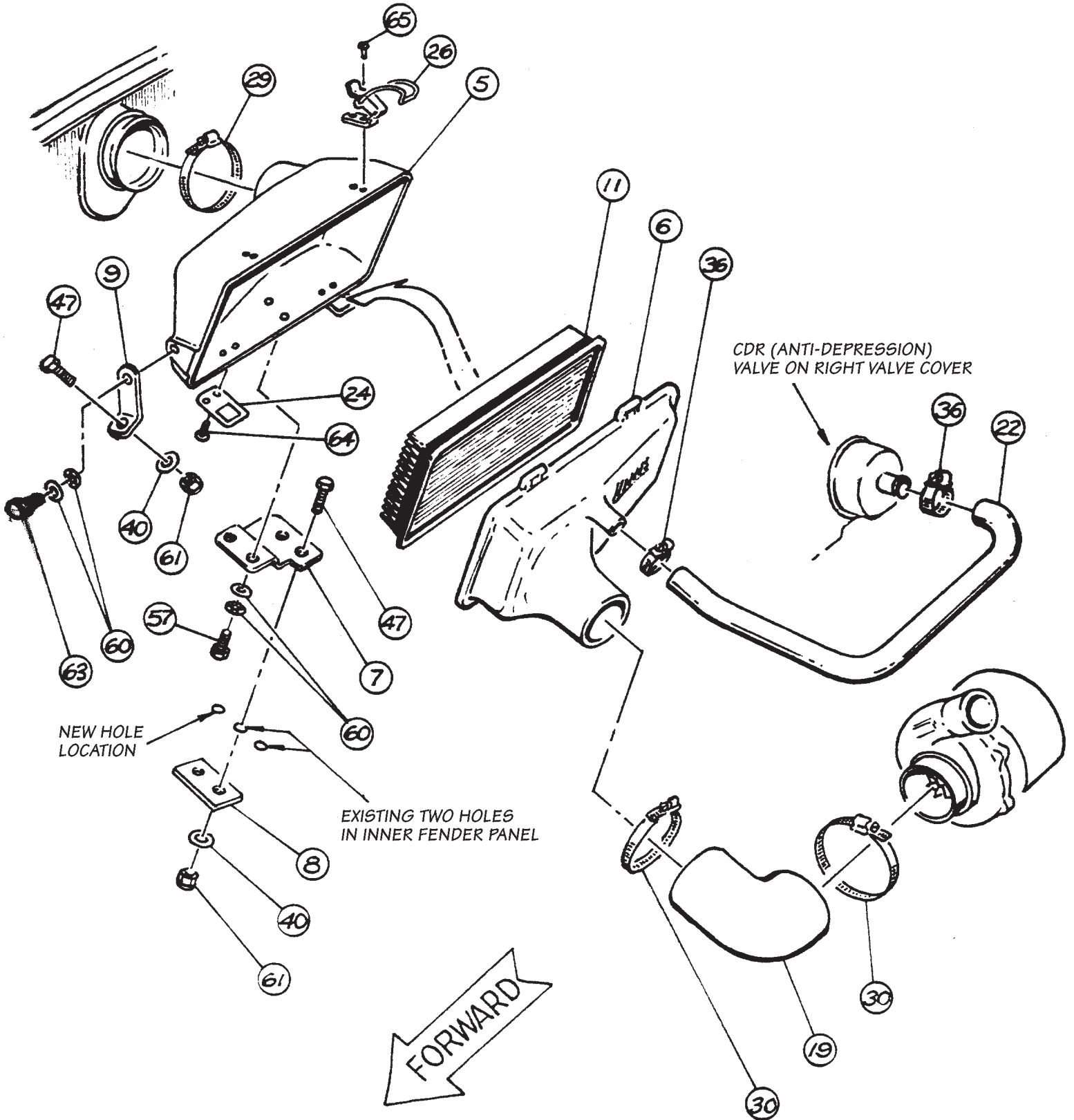


FIGURE 2

SEE PARTS LIST, PAGE 22



INSTALLATION INSTRUCTIONS

1. Disconnect ground cables from both batteries. Remove the air filter, housing, intake silencer and flexible duct, from the engine and inner fender panel. Cover the intake manifold opening with a clean rag to prevent foreign objects from entering the intake manifold.

2. Adjust the injector pump. Refer to the INJECTION PUMP ADJUSTMENT section at the back of these instructions. When the pump adjustment is completed, make sure that the ground cables from both batteries are disconnected, then continue with the following steps.

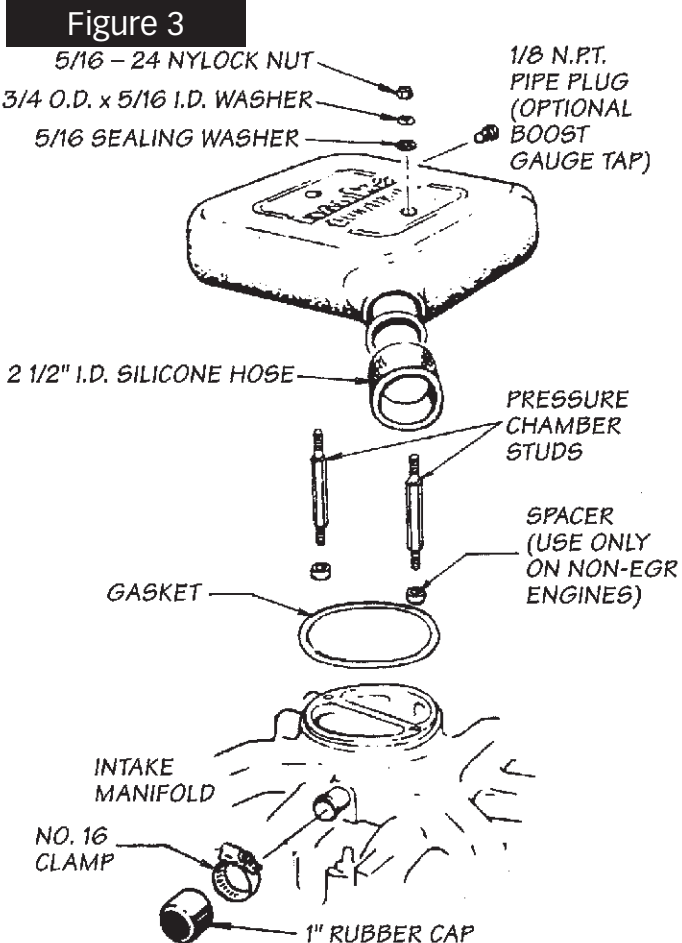
3. Remove anti-depression valve (CDR) and hose from right hand valve cover and intake manifold. Re-install the valve but not the 1" rubber hose.

Install 1" dia. rubber cap over fitting on intake manifold where hose was removed. Use a No. 16 hose clamp, provided, to secure the cap. See Figure 3.

Remove and discard air inlet gasket from the intake manifold. Remove air filter mounting studs.

4. A. EGR EQUIPPED MODELS ONLY: Install two pressure chamber mounting studs, provided, to replace studs removed in the previous step. NOTE: One end of stud has metric threads, this end threads into intake manifold, through the EGR valve.

NON EGR MODELS ONLY: Install two new pressure chamber studs with two 5/16" thick spacers between

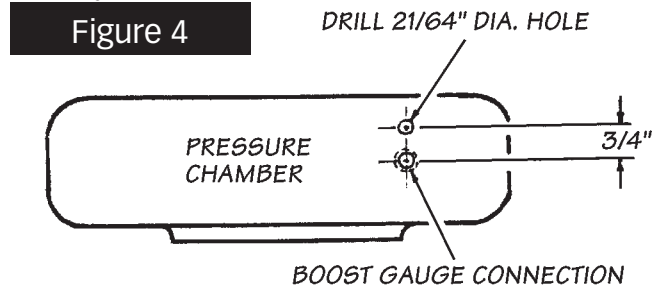


studs and intake manifold. Spacers are included in the Banks Heavy Duty Emissions Kit (ordered separately, part no. 21058). See Figure 3.

B. NON EGR MODELS ONLY: Go to Part C.

EGR EQUIPPED MODELS ONLY: Drill a 21/64" hole in the pressure chamber casting in the location shown in Figure 4. NOTE: Drill bit is provided in the Banks Light Duty Emissions Kit (ordered separately, part no. 21056)

IMPORTANT: Remove all burrs from the drilled hole and all chips from inside the pressure chamber. Clean and dry the area around the hole inside the pressure



chamber.

Push one end of the blue silicone hose through the drilled hole in the pressure chamber until half its length (6 inches) is inside the pressure chamber. Once this hose is started through the hole, it will be easier to reach inside the pressure chamber to pull it through.

When the hose is in position through the hole, run a bead of silicone sealant around the hose where it enters the inside of the pressure chamber.

C. Install new air inlet gasket provided on the intake manifold.

D. EGR EQUIPPED MODELS ONLY: Push the inner half of the blue silicone hose over the nipple on top of the EGR valve. (Remove any hose clamps previously used on the nipple). See Figure 5.

E. Install pressure chamber over studs, secure with two sealing washers, 5/16" ID x 3/4" OD flat washers and 5/16"-24 locknuts. Slip a piece of blue 2 1/2" ID x 2 3/8" silicone hose on the air inlet nipple. Install a 1/8" NPT pipe plug in the left rear corner of the pressure chamber. (Omit the pipe plug if a boost gauge is to be installed.) See Figure 3.

5. Raise the vehicle and support it on jack stands. Disconnect and remove exhaust pipes. Remove and retain exhaust pipe "doughnut" gaskets. (If doughnut gaskets are not in reusable condition, replacements may be ordered from GM, part no. 15522434.)

6. Remove the block-off plate from the right front corner of the engine block, above the oil pan gasket.

Clean gasket surfaces on engine block.

Figure 5

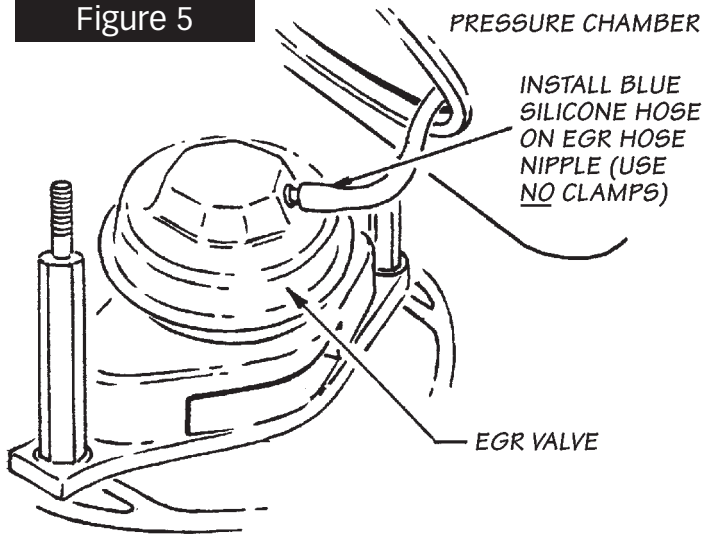
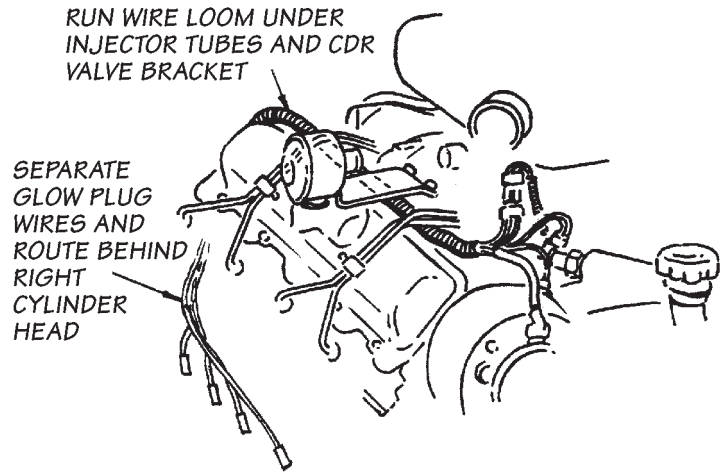


Figure 6



Install new adapter/drain plate to engine block using original bolts and new gasket supplied. Use silicone sealer on the gasket surfaces. Fuel line tubing may have to be bent slightly to clear the oil drain tube portion of the adapter/drain plate. Re-attach ground strap. See Figure 1. Lower the vehicle.

7. Disconnect the four glow plug wires from the right side of the engine and remove the glow plugs.

Remove the right (passenger side) exhaust manifold from engine. Retain all mounting bolts. Clean the cylinder head mounting surface.

8. Remove both heater hoses from heater core, engine and radiator connections. Drain coolant as required.

Open the plastic clips that attach the wire loom to the injector tube brackets on the right valve cover. Disconnect the wires in the loom from the plugs on the various accessories the loom serves. (AC compressor, temp. switch, injector pump, etc.)

Carefully separate glow plug wiring from wire loom, pull out glow plug wires to obtain as much length on each wire as possible. (Wires will now be run under the exhaust manifold and up to the glow plugs.)

Once glow plug wires have been separated, allow them to hang free at the rear of the right hand cylinder head. Route the remaining wire loom bundle (in plastic sleeve) under the injector tubes along the upper edge of the right valve cover. Re-connect the wire loom plugs to the appropriate accessories. See Figure 6.

9. INSTALL NEW HEATER HOSES AS FOLLOWS: Make a sharp 90° bend near one end of each of hoses provided. See Figure 7.

A. Install the bent end of the 3/4" dia. hose on the inner (closest to engine) heater core nipple.

CAUTION: The heater core is of plastic construction. Use care when pushing hose onto nipples not to break off nipples. The hoses fit very tightly over the nipples. A lubricant such as silicone spray or WD-40, applied to the inside of the hose will help in pushing it onto the

nipples.

Open a No. 12 hose clamp and install it over the hose/nipple assembly of the previous step.

Route this hose along the top edge of the right hand valve cover, under the bracket for the anti-depression (CDR) valve and over the injector tubes.

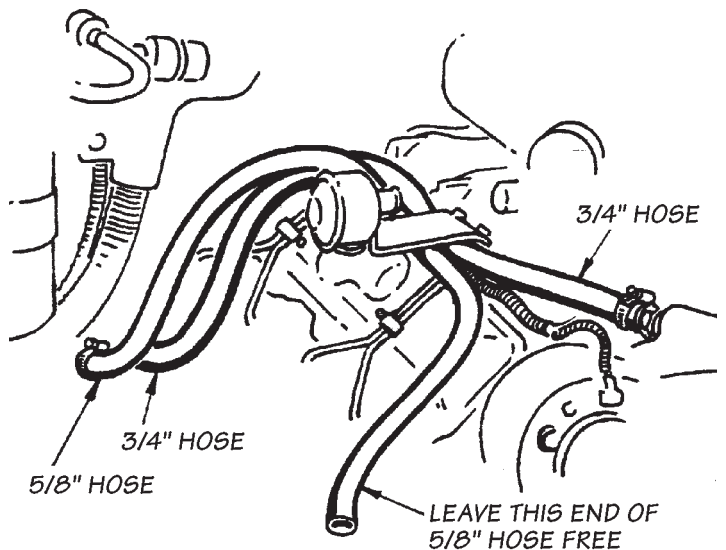
B. Install the bent end of the other heater hose provided, on the other heater core hose nipple. Clamp this hose as outlined in step 9A. Clamp with a No. 10 hose clamp.

Route this heater hose alongside the hose previously installed, under the anti-depression valve bracket.

Install the free end of the dia. hose on the nipple connection of the engine (on water cross-over casting). Clamp as outlined in step 9A.

Leave the end of the 5/8" dia. hose free for connection later.

Figure 7



10. Install the exhaust manifold heat shield on the Banks exhaust manifold. Hammer three $\frac{1}{8}$ " dia. x $\frac{1}{4}$ " long drive screws through the heat shield into the manifold.

Install the pyrometer probe (in the pyrometer gauge box) into the Banks exhaust manifold. Install four $\frac{3}{8}$ " x $1\frac{3}{4}$ " studs in the turbo mounting flange of the exhaust manifold. Install two $\frac{3}{8}$ " x $2\frac{1}{4}$ " studs in the 2-bolt cross-over pipe flange on the manifold.

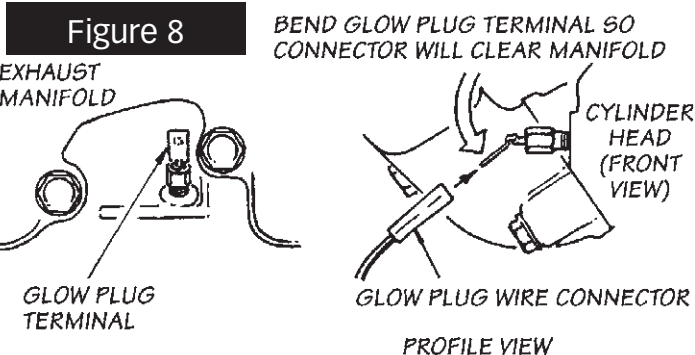
Insert the eight original exhaust manifold mounting bolts into the Banks exhaust manifold; note the location of the four short bolts. Use rubber bands over each pair of bolt threads to hold the bolts in place. (No gasket is required.) Install the exhaust manifold, removing the rubber bands once all the bolts are started in place. Tighten bolts to 25 ft.lb. (Use anti-seize on threads.)

Check that heater hoses are tucked close to the firewall, as far away from exhaust heat as is possible, and that they will not rub on sharp edges of heat shielding.

11. Re-install glow plugs. Carefully bend glow plug spade terminals up and away from hot manifold surfaces. See Figure 8.

CAUTION: To avoid breaking terminals off the glow plugs, grip the terminal tab where it is spot welded to the terminal stud with a pair of long nose pliers, then bend tab with another pair of pliers. See Figure 8.

NOTE: Some glow plugs may tighten into a position



where it is not possible to bend the tab to provide clearance to the exhaust manifold. At these locations, cut the existing connectors off of the glow plug wires, as close to the connector as possible. Crimp a 90° female spade terminal onto the wire, and adjust terminal and wire to clear exhaust manifold when installed. The glow plugs may also be installed in other cylinders to obtain other final tightening positions before bending their terminal tabs. See Figure 9.

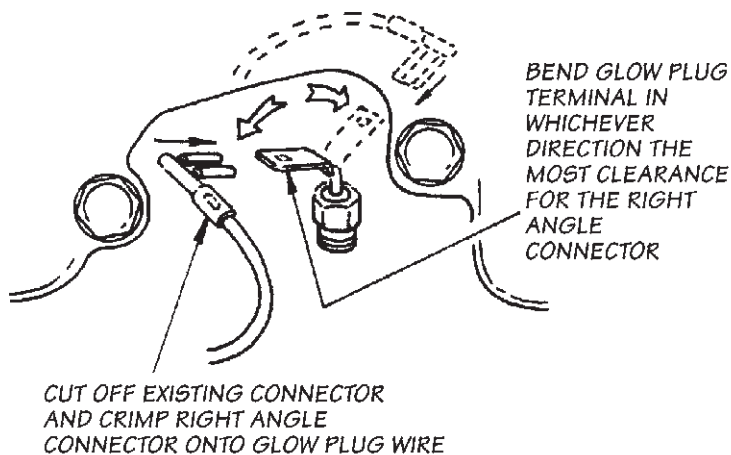
Re-connect all glow plug wires to glow plugs. Make sure wires and connectors are routed as far away from exhaust manifold surfaces as is practical. Glow plug wires should route down and behind the rear of the exhaust manifold, and up to each glow plug.

12. A. Mount the turbocharger oil drain tube to the turbocharger center bearing housing using the turbo drain gasket, two $\frac{3}{8}$ " - 16 x $\frac{3}{4}$ " hex head bolts, and two $\frac{3}{8}$ " split lock washers. See Figure 12.

IMPORTANT: Remove the plastic shipping plugs from the oil inlet and oil drain flange on the turbocharger.

Figure 9

FOR THOSE INSTANCES WHERE GLOW PLUG TERMINAL CANNOT BE BENT TO ALLOW CONNECTOR TO CLEAR MANIFOLD . . .



B. Loosen, but do NOT remove, the six bolts that hold the turbine housing (hot side) to the center bearing housing of the turbocharger.

Temporarily mount the turbocharger to the exhaust manifold (no gasket is used).

Rotate the turbo center bearing housing as required to install a $\frac{1}{4}$ "-20 x $\frac{1}{2}$ " mounting bolt through the tab on the turbo oil drain tube into the exhaust manifold. Do NOT tighten the bolt. Lightly snug one of the six bolts on the turbo to secure the position of the turbine housing.

C. Loosen, but do not remove the six bolts that hold the compressor housing (cold side) of the turbocharger to the turbocharger center bearing housing.

Temporarily install the large end of the intake "boost" tube into the silicone hose on the pressure chamber. Rotate the turbo compressor housing so it lines up with the other end of the boost tube. Lightly snug one of the six bolts on the compressor housing to secure this position.

Remove the boost tube.

D. Install a $\frac{1}{4}$ " NPT x - 4 tube, 90° elbow fitting in the oil inlet of the turbocharger center bearing housing. Use Teflon tape on the threads. Aim the elbow so it points up, toward the engine.

E. Remove the turbocharger from the engine, tighten all 12 compressor and turbine housing bolts, and bend the lock tabs against the bolt heads.

13. A. Drop the exhaust head pipe into place between the engine and the right frame rail.

B. Slip a piece of $\frac{5}{8}$ " ID x $1\frac{1}{2}$ " long blue silicone hose onto the tube on the oil drain adapter/drain plate. Slip a pair of No. 10 hose clamps over the hose.

Drop the turbocharger in place over the exhaust manifold studs. (No gasket is used, or needed, between the turbocharger and exhaust manifold.) Guide the turbocharger oil drain tube into the oil drain hose on the adapter. Secure the turbocharger with four $\frac{3}{8}$ " ID x $\frac{5}{8}$ " OD washers and four $\frac{3}{8}$ "-24 stainless collet lock nuts. See Figure

FIGURE 10

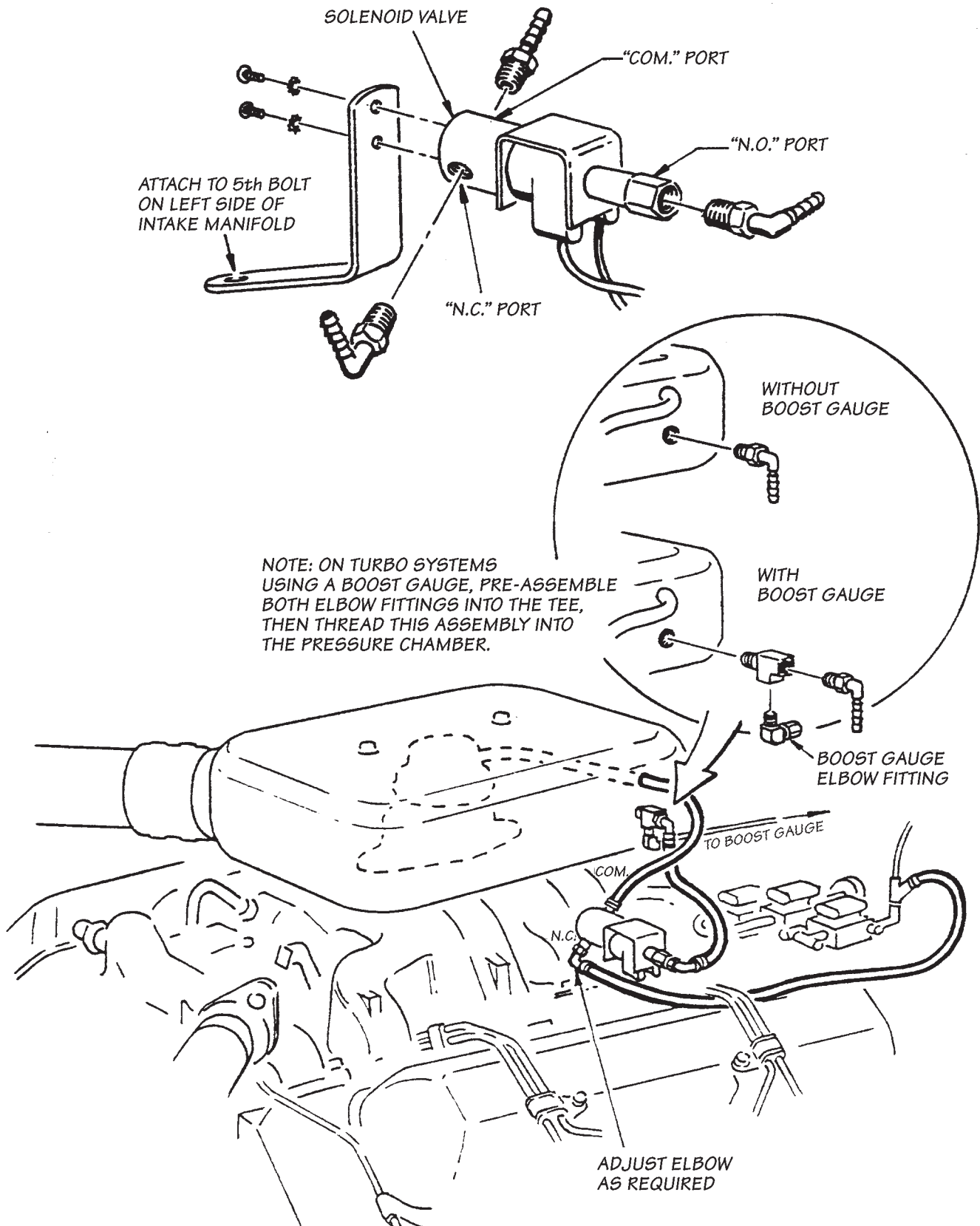


FIGURE 11

SOLENOID WIRING

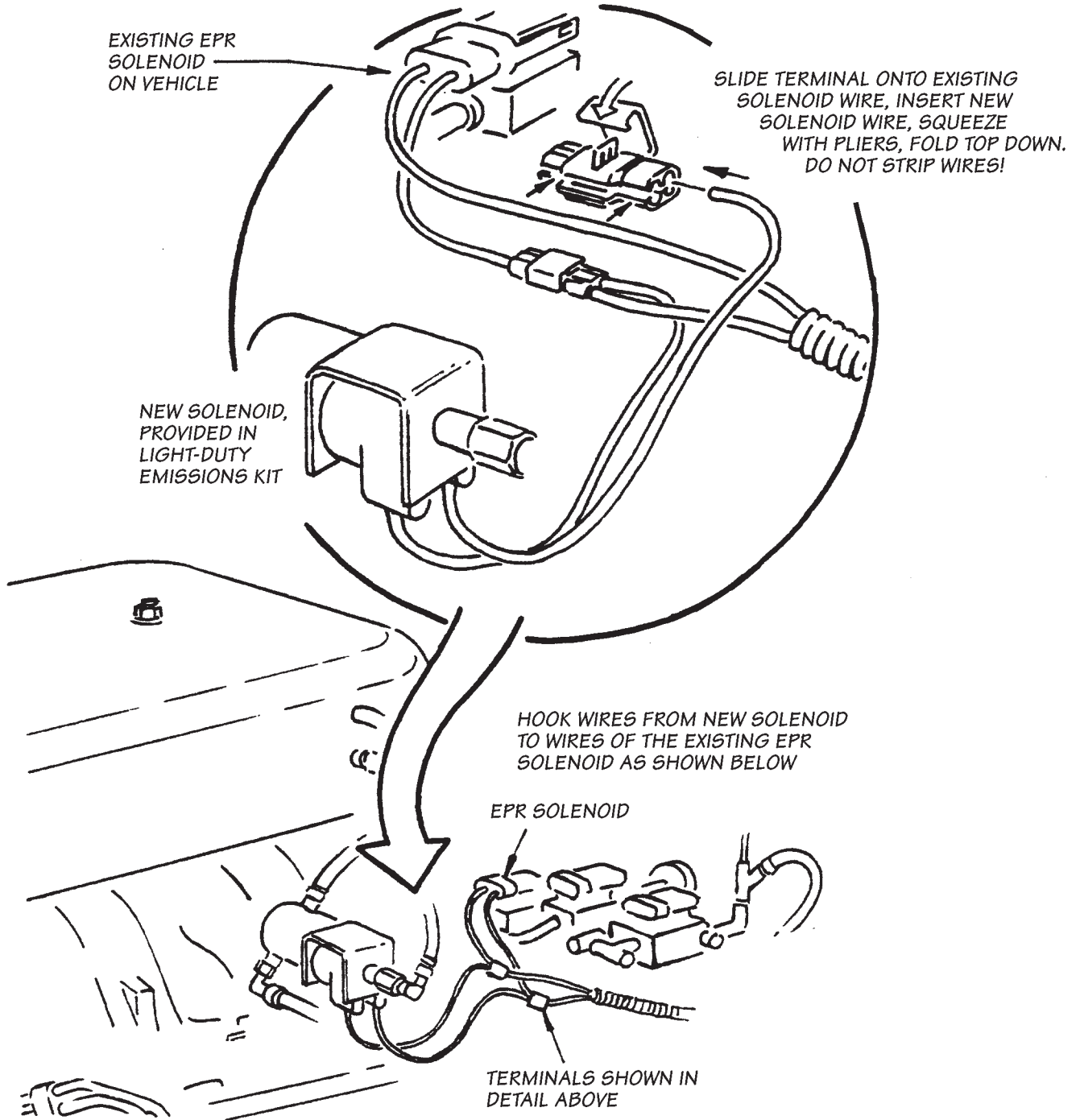


Figure 12

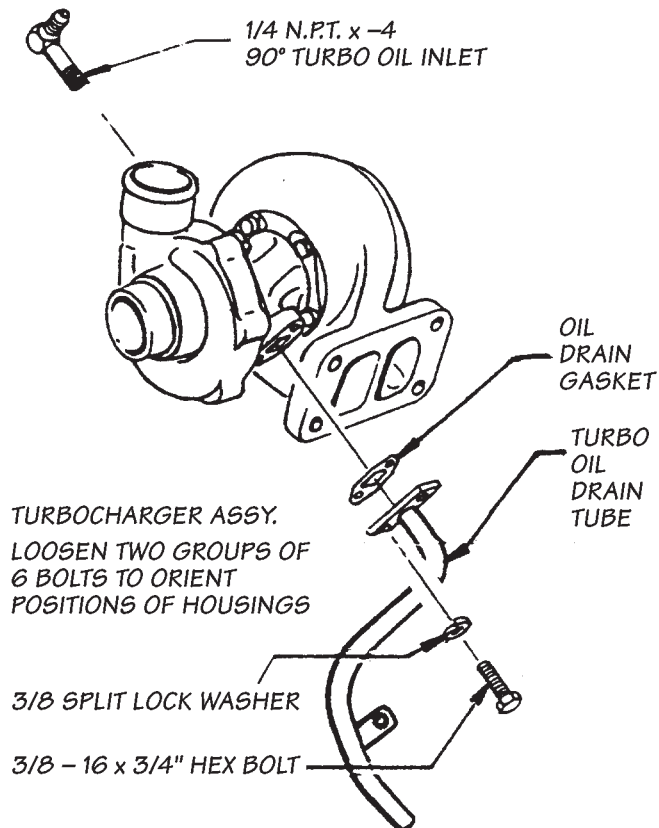


Figure 14

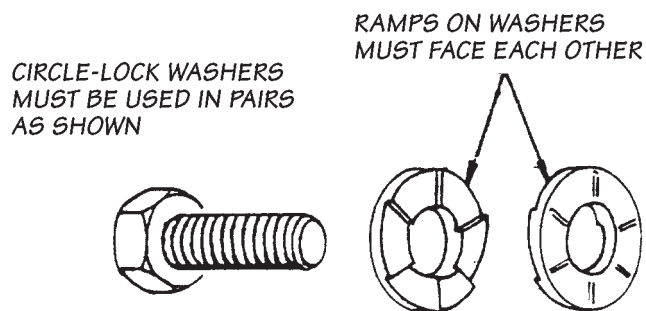
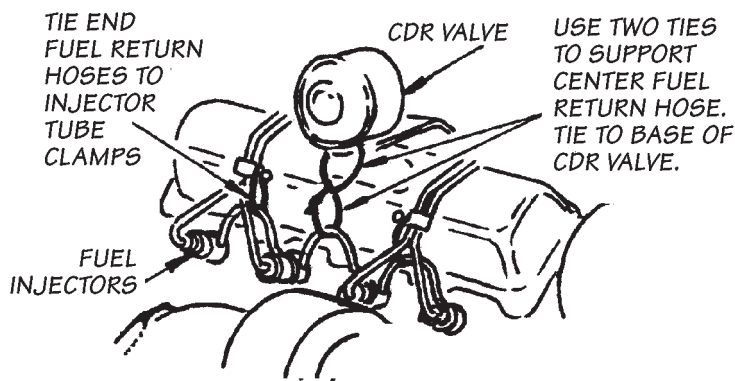


Figure 15



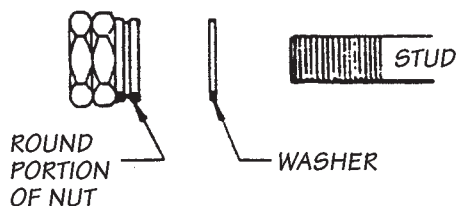
13 for proper installation of collet lock nuts.

Bolt the oil drain support to the exhaust manifold with a 1/4-20 x 1/2" bolt and 1/4" split lock washer. Tighten the oil drain hose clamps. Install the boost tube using the 2" ID x 1 1/4" long blue silicone hose and two No. 36 liner hose clamps at the turbo connection. Secure upper hose with two No. 40 liner hose clamps. Make sure clamps are installed behind hose beads.

C. Bolt the exhaust head pipe, turbo heat shield and gaskets to the turbocharger with six 5/16" - 18 x 1" stainless hex bolts, and 5/16" ID x 9/16" OD washers. The head pipe should hug the exhaust manifold as closely as possible to provide maximum clearance to the frame.

D. Locate the three loops of return fuel hose between the fuel injectors on the right cylinder head. Tie the two end hose loops to the injector tube clamp brackets with 11" nylon cable ties. This is done to pull the hose away from exhaust heat. Tie the center hose to the CDR (anti-depression) valve with two 11" cable ties looped together. Do not pull cable ties too tight, this may pinch the hose or pull it off of the injector nipple

Figure 13



fittings. See Figure 15.

Raise the vehicle. Install a 6" x 14" piece of heat shielding around the head pipe to protect the firewall/floorboard area. Locate the upper end of the shield at the bottom edge of the shield that is welded to the head pipe. Secure the wrap-around shield with wire ties, provided.

14. Locate the 1/4" pipe plug above the oil filter (and oil cooler connections, if equipped). This plug can be difficult to see, it may be easier to feel for its presence. See Fig. 16.

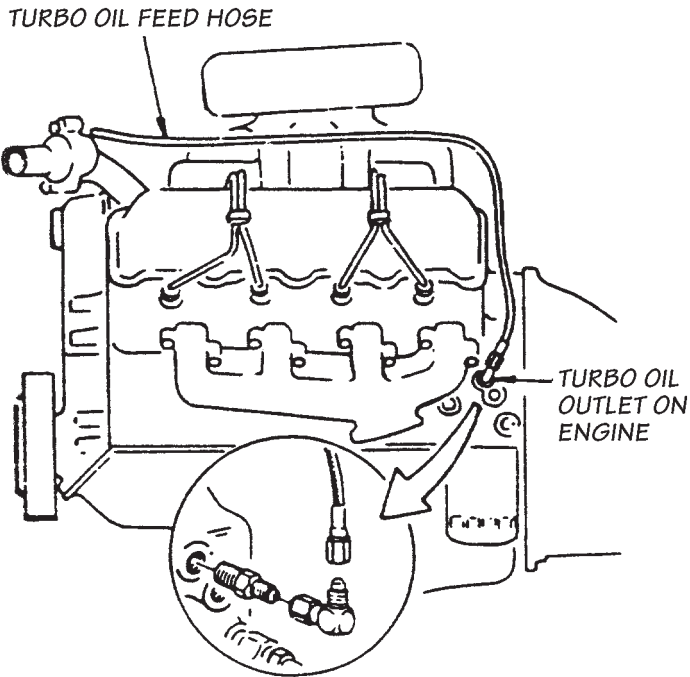
The plug is 1/4" female square drive. Use a pipe plug socket, such as a Snap-On PP408, to remove the plug. Do NOT use 1/4" ratchet, extension adapters, etc. as they may break.

Install a 1/4" NPT x 4 AN adapter in place of the 1/4" NPT pipe plug removed. Use Teflon tape on the pipe thread end. Install a -4 male x female, 90° swivel elbow on the adapter fitting. Aim the elbow up and tighten.

Connect one end of the stainless braided Teflon hose assembly to the swivel elbow.

Route the hose assembly up the back of the left cylinder head, then forward above the intake manifold runners. Check that hose does not contact sharp edges on the firewall. Adjust and re-tighten swivel elbow, if required.

Figure 16



- 15. EGR EQUIPPED MODELS ONLY:**
Go to step 16.

NON EGR MODELS ONLY: Remove the three studs from the outlet of the left hand exhaust manifold. These may be loosened by jamming two of the original nuts against each other, and turning the inner nut, or with a stud removal tool. Save the three original nuts for re-use.

NON EGR MODELS ONLY: Install three 10mm x 3 1/2" long studs in the outlet of the left hand exhaust manifold. These are contained in the Banks 6.2L Heavy Duty Parts Kit.

NON EGR MODELS ONLY: Install the remaining exhaust manifold outlet doughnut gasket in the cast iron spacer (contained in the Heavy Duty Parts Kit). Tap the gasket in place with a hammer to seat it in the spacer.

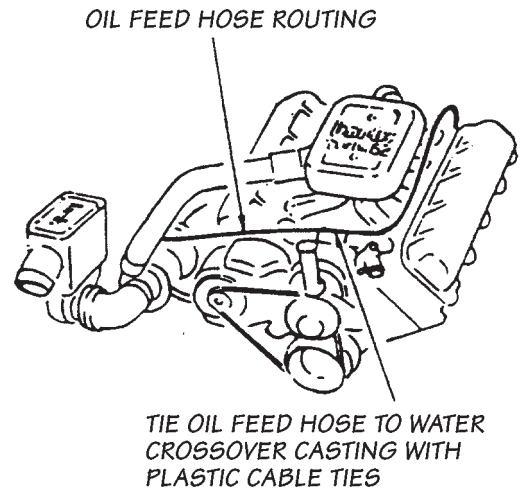
- 16.** Install the crossover pipe between the right and left exhaust manifolds. Use two 3/4" - 16 crimp lock nuts to secure the 2-bolt flange to the right hand manifold. On the left hand side, install the original EPR valve (heat riser valve) if equipped, or the spacer from the Heavy Duty Parts Kit. Make sure a doughnut gasket is in place in the EPR valve. Reuse the original metric nuts. Leave nuts loose enough to adjust the position of the pipe, then tighten.

If there are transmission coolant lines in close proximity to the right manifold and/or piping, carefully bend lines away from high heat areas.

EGR EQUIPPED MODELS ONLY: Re-connect vacuum line to the EPR valve on the left exhaust manifold.

- 17. A.** Lower the vehicle, remove right hand battery. Connect the free end of the braided Teflon hose assem-

Figure 17



bly to the oil inlet fitting on the turbocharger. Tie the hose to the cross-over casting at the front of the engine with plastic cable ties. See Figure 17. NOTE: If the hose is not long enough to reach the turbo when routed over the intake manifold, run the hose under the manifold and to the turbo.

- B.** Remove plastic connector from inner fender panel (push in on plastic to disengage from fender). Save connector for reinstallation. See Figure 21.

Remove one screw at front corner of battery on right hand inner fender panel to loosen air duct inside fender. See Figure 21.

Remove plastic button from inside air duct (use pliers to pull out pin in center of button). Remove air duct from inside of fender by pulling on duct and wiggling back toward the firewall.

- C.** Use a hacksaw to cut off the portion of the duct shown (see illustration). Removal of the forward portion of the duct allows for greater air flow into the air cleaner and increased performance.

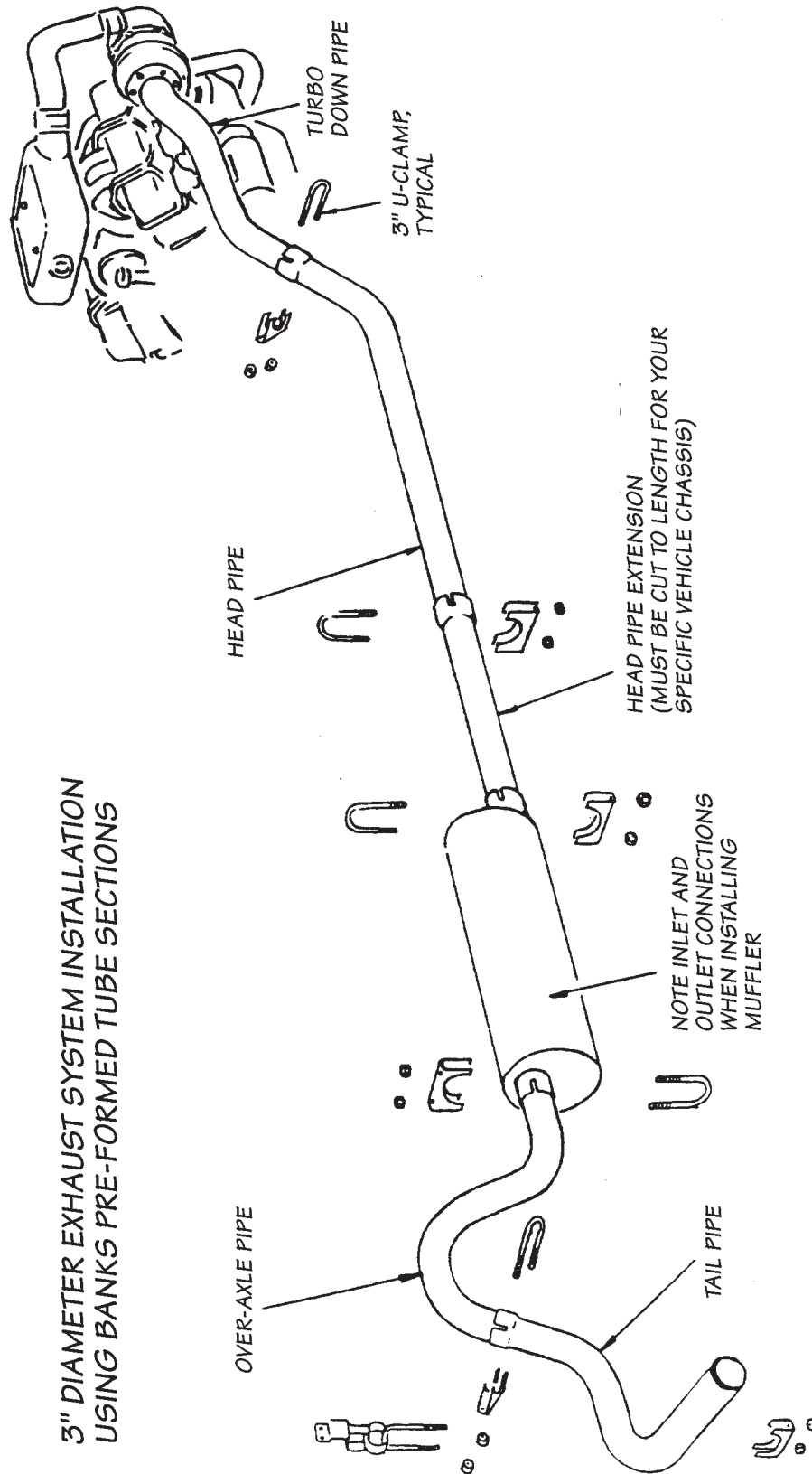
- D.** Reinstall shortened air inlet duct and plastic connector in fender, retain with plastic button. Make sure all inner fender panel bolts are in place in the wheel well, to prevent water from being thrown up by the tire through holes where the air inlet duct could pick it up. See Figure 21.

NOTE: In extreme dust conditions, such as frequent travel on dirt roads or in an agricultural usage, it is advisable to block off the lower air inlet opening that faces the ground using a piece of sheet metal or similar method. This prevents premature contamination of the air filter element by excessive dust kicked up by the front tire. See Figure 21 for location.

- 18. A.** Locate the two bolt holes in the top of the right hand inner fender panel, that previously supported the air intake silencer. Measure, mark and drill a third 3/8" dia. hole, 1 1/8" outboard (away from engine) and in line with the existing two holes. See Figure 2.

Slip a pair of 3/4"-16 x 1" long hex bolts through two of

FIGURE 18



3" DIAMETER EXHAUST SYSTEM INSTALLATION
USING BANKS PRE-FORMED TUBE SECTIONS

FIGURE 19

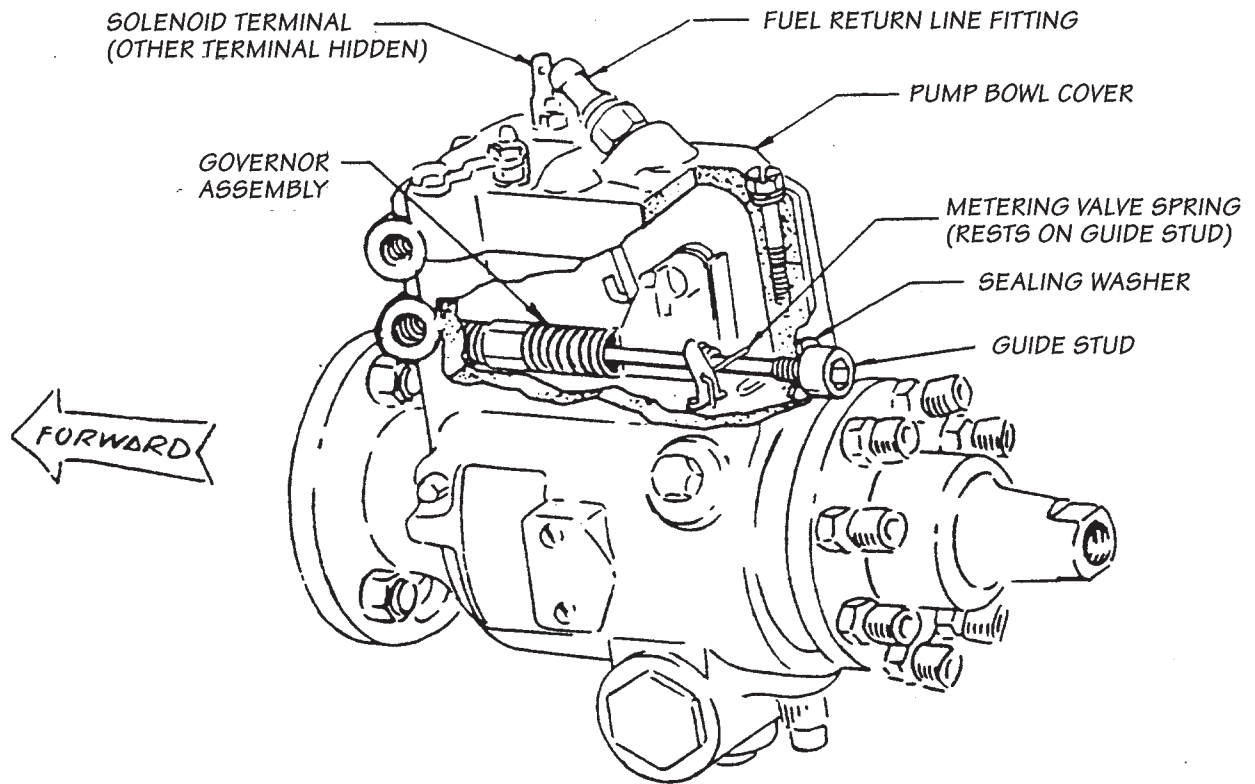


FIGURE 20

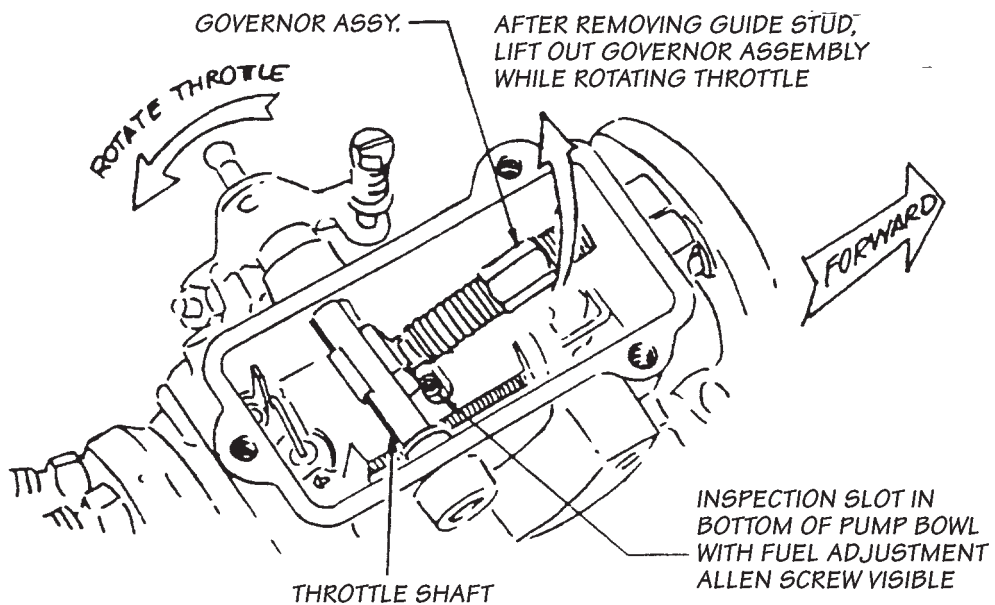
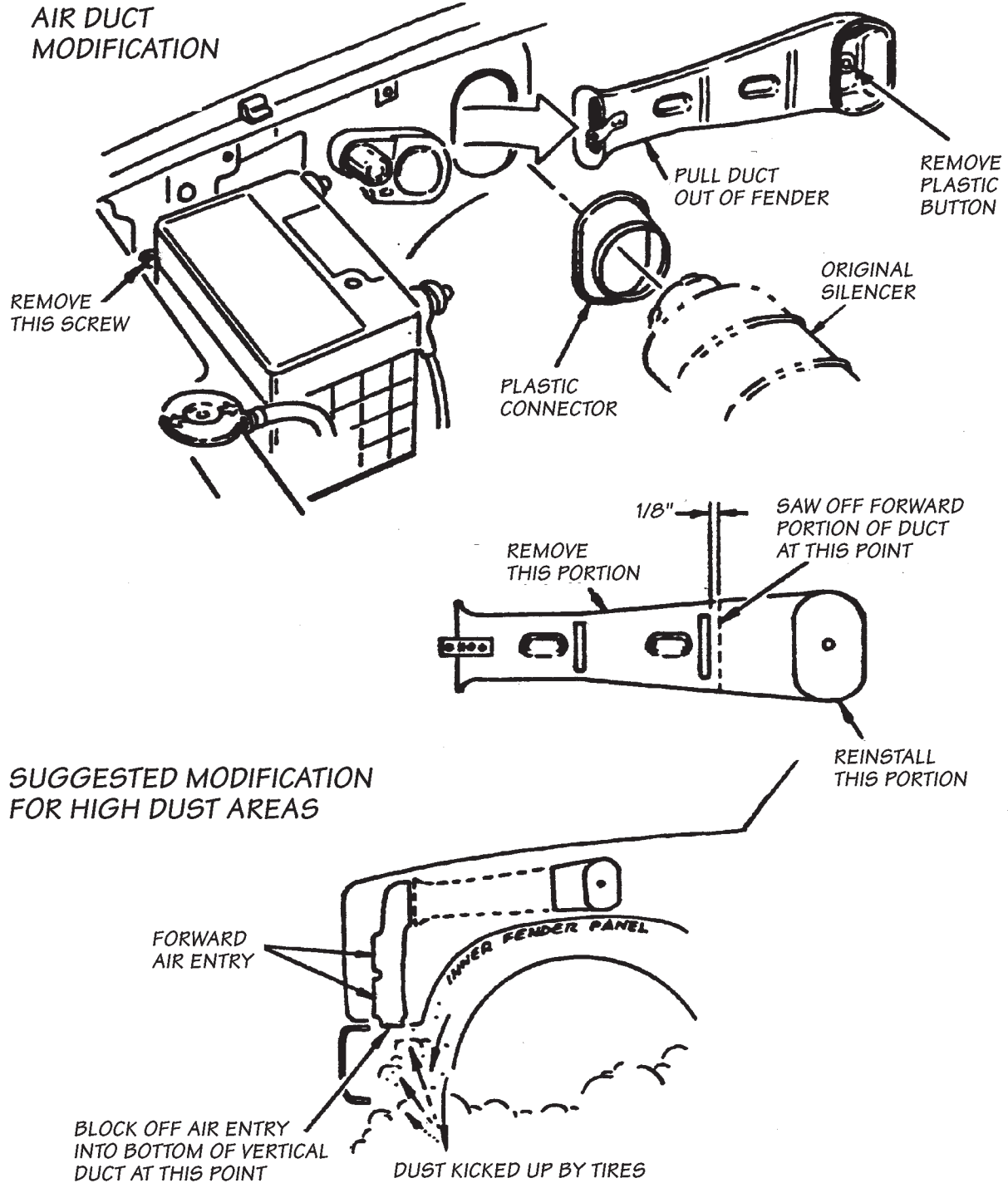


FIGURE 21



the bolt holes in the air filter mounting bracket, provided. This pair of bolt holes has a center-to-center spacing of 1½". See Figure 2.

With these bolts in place, use a pair of ¾-16 x ¾" long bolts and four ¾" ramp-lock washers to secure the air filter mounting bracket to the air filter housing. See Figure 2 for proper positioning of the mounting bracket. NOTE: Ramp-lock washers are used in pairs, with the ramps against each other. See Figure 14.

B. Install the air filter support bracket on the air filter housing using a ¾-16 x ½" bolt and two ¾" ramp-lock washers. Leave the bolt just loose enough so the bracket can be adjusted.

C. Position the air filter housing in place above the right inner fender panel. Make sure the plastic hose connector (original GM) is properly engaged in the fender. With the mounting bracket bolts through the outer two holes in the fender panel (see Figure 2), temporarily tighten the filter housing in place using a ¾-16 nylock nut on the mounting bolt closest to the engine.

19. Position the support bracket so it hangs straight down and contacts the inner fender panel next to the battery tray. Check that you have approximately ½" between the front corner of the filter housing and the inner fender panel. Mark through the hole in the support bracket and drill a ¾" diameter hole through the inner fender panel.

D. The air filter housing may now be permanently mounted using the two ¾-16 x 1" hex bolts, two ¾-16 nylock nuts and two 1" OD x ¾" ID washers with a back-up plate. Use an open end wrench to hold the mounting bolts while tightening. Bolt the filter support bracket in place with a ¾-16 x 1" hex bolt, ¾-16 nylock nut, and a 1" OD x ¾" ID washer. Tighten the bolt that holds the support bracket to the filter housing. Clamp the plastic hose connector in the fender to the nipple on the air filter housing with a No. 64 hose clamp. See Figure 2.

Position the air filter element in the cover (other half) of the air filter. Make sure the lip of the air filter element is seated in the groove around the edge of the cover casting. While holding the cover and filter together, engage the tabs on the cover with the hinge clips on the fixed housing half, and swing the cover/filter up against the fixed housing. Make sure the filter is still in the cover groove, then snap the latches onto the cover to secure it.

Install the 3" dia. rubber elbow between the turbo-charger and the air filter cover. The short leg of the elbow goes on the turbo. Secure the hose with two No. 52 hose clamps. Carefully bend any air conditioning lines as required for clearance.

Install the 1" molded rubber hose from the CDR (anti-depression valve) to the nipple on the air filter cover. Secure with No. 16 hose clamps.

Hook up the remaining heater hose to the radiator. Secure with a No. 10 hose clamp. Replace any coolant drained.

20. Install the pyrometer (exhaust temperature gauge) following the instructions in the pyrometer kit. A gauge panel is included for under-dash mounting. Check that any electrical connections are not exposed where they could come in contact with ground and render the gauges inoperative. Keep all wiring away from exhaust heat and any mechanical components that could damage the wire.

If optional instruments were ordered, they may be installed at this time. Follow the instructions provided with the individual instruments. Route all instrument wiring and tubing away from the exhaust heat and mechanical components that could cause damage.

NOTE: Remove the ½" NPT pipe plug from the left rear corner of the pressure chamber for the boost gauge connection, if this gauge is to be installed. If gauge is not used, make sure connection is plugged.

21. NON EGR MODELS:
Go to step 22.

EGR EQUIPPED MODELS ONLY: Install the fittings in the solenoid valve provided in the Light Duty Emissions Kit. Aim the elbows as indicated in Figure 11. Make sure the fittings are installed in the correct ports on the valve. The ports are stamped with the identification "N.C." and "COM." The third port is the "N.O." port. Do not over-tighten the plastic fittings, finger-tight is sufficient. No sealant is required on the threads.

Bolt the solenoid valve to the bracket supplied with two 8/32 x ¾" screws and lock washers. Make sure the ports on the valve are oriented as shown in Figure 10.

Bolt the solenoid valve and bracket to the intake manifold as shown in Figure 10. This will be at the location of the fifth intake manifold bolt (or stud), counting from front to back. If the vehicle is equipped with factory air conditioning, this is at the rear bolt location on the air conditioning bracket.

Route and connect the hoses as shown in Figure 10. Use the black spring band clamp to secure the blue silicone hose. Use the green clamps on the neoprene hose. Make sure your hoses connect to the proper ports on the solenoid valve.

Hook up the wiring for the new solenoid valve as shown in Figure 11. Use pliers to squeeze the terminals onto the solenoid wiring as shown.

22. Raise vehicle, and install muffler and exhaust system (not included with the turbo system) as shown in Figure 18. Because of various vehicle/chassis combinations, the illustration provided is general, but typical of the exhaust system routing.

A separate 3" high-flow exhaust system is available from GALE BANKS ENGINEERING. This exhaust system includes a special low restriction 3" core muffler, pre-formed tubing sections and all components necessary to install the complete exhaust system. The BANKS 3" exhaust system is REQUIRED for emissions legal applications.

Re-install right battery, move battery as far forward in battery tray as possible. Re-connect positive battery cables. DO NOT connect negative cables.

IMPORTANT: Install the red plastic cap, supplied, over the end of the positive battery cable bolt, to prevent accidental shorting of the cable connection to ground. Cap will snap into place when pushed on. Re-install this cap anytime cables have been removed for service.

23. NOTE: The turbocharger must be oil-primed before initial firing of the engine, as detailed in the following steps. This will prevent a “dry start” that might cause immediate bearing failure in the turbocharger.

Loosen the turbocharger oil feed hose at the turbocharger fitting.

Disconnect the wires from the top of the fuel injection pump cover. Note their location for reassembly (this will prevent the engine from starting).

Re-connect both battery ground cables.

Crank engine until oil flows from oil feed connection at the turbo housing. Re-tighten connection and crank engine until engine oil pressure gauge reading is in normal range. Cranking time should be limited to 20 to 30 seconds, followed by one minute of cooling. The cranking cycle should be repeated as required.

Re-connect wires to injection pump.

24. Turn ignition on and, after the glow plug light goes out, crank the engine, again in intervals of 20 to 30 seconds followed by one minute of cooling, until the engine starts. It may not start immediately, due to fuel lost when adjusting the injector pump. It also may be necessary to depress the accelerator pedal somewhat.

Visually check the installation for any improperly

installed components, improperly routed wires and hoses, intake air leaks and any wires or hoses too close to hot exhaust or turbo components, or sharp edges.

Run engine at idle for a few minutes, to allow it to warm. Check oil feed lines for leaks. Engine may idle erratically or surge until air is fully purged from fuel system.

Drive vehicle. Several short bursts of acceleration are required to completely purge the fuel system of air. The engine may run slightly rough until the purge is complete, but will not in any way cause damage to the engine.

Check injector pump adjustment. See “CHECKING ENGINE PERFORMANCE.”

INJECTION PUMP ADJUSTMENT

To obtain the maximum available performance from your BANKS 6.2 diesel Sidewinder Turbo System, and to comply with emissions requirements, it is necessary to make an adjustment to the fuel injection pump. The pump adjustment increases the fuel delivery capacity of the pump. This adjustment is made by turning an internal screw, found within the pump. Be sure to adjust the pump with the engine and pump cold. The pump adjustment will provide a 30% or greater increase in rear wheel horsepower. Suitable for general use, work trucks and towing.

NOTE: Exhaust gas temperature must not exceed 1100°F, as indicated on the EGT gauge (pyrometer) furnished with the kit. If the EGT approaches this temperature under heavy, uphill load, the fuel pump capacity adjustment must be reduced.

The pump adjustment can easily be set with the pump on the vehicle. If the condition of the pump is in question, or if the pump is to be removed from the vehicle, GALE BANKS ENGINEERING can provide the addresses and phone numbers of qualified Association of Diesel Specialists (ADS) pump service shops.

PUMP ADJUSTMENT PROCEDURE

NOTE: The engine must be COLD before starting this procedure.

NOTE: Utmost cleanliness should be exercised. Do NOT use any rags during the adjustment procedure. The lint from the rag can clog an injector. Lay all parts on clean newspaper during the adjustment procedure.

1. Make sure both battery ground cables are disconnected. Disconnect the wiring from the top

of the fuel injection pump cover. Note their location for reassembly.

2. Place a drip pan under the rear of the engine to catch fuel. Clean the upper portion of the pump and guide stud (Allen-head bolt at the rear of the pump) with diesel fuel or a parts cleaning solvent. See Figures 19 and 20. Do NOT clean the pump while the engine is hot, as doing so may damage the pump.

3. Remove the fuel return line from the pump cover. Remove the top attaching bolt and loosen the lower attaching bolts on the fast idle solenoid and place the solenoid aside. Remove the pump cover bolts and remove the cover. **IMPORTANT:** Utmost care must be used to prevent damage.

4. 1989 AND EARLIER MODELS ONLY: Observe the position of the metering valve spring over the top of the guide stud. This position must be duplicated exactly during the reassembly. See Figure 19.

Remove the Allen-head guide stud and sealing washer from the rear (outside) of the pump bowl. While rocking the throttle lever toward the rear of the engine, lift out the governor spring assembly. Do not bend any springs or linkages.

Rotate the engine slowly by hand, **IN A CLOCKWISE DIRECTION ONLY**, using a breaker bar, a short extension and a $1\frac{5}{16}$ " socket on the vibration damper bolt to bring the Allen screw into view in the inspection slot in the bottom of the pump bowl (see Figure 20). On some late model trucks, ie: 1986 and later, it may be necessary to remove the front crankshaft pulley to gain access to the vibration damper bolt. **DO NOT ATTEMPT TO ROTATE THE ENGINE WITH THE STARTER.** Using a $\frac{5}{16}$ " Allen wrench, rotate the screw $\frac{1}{4}$ turn, clockwise.

NOTE: The Allen-screw turns fairly tightly, and is self-locking. Turning the screw clockwise adds fuel. Keep track of your adjustments.

Reassemble the governor spring assembly and guide stud (see Figure 19). Replace the sealing washer, available from GM, if needed. Make sure the upper extension of the metering valve spring rides atop the guide stud. Torque down the guide stud snugly (85 inch-pounds).

5. 1989 AND LATER MODELS ONLY: Late model ('89 and newer) 6.2L diesel engines may have a plastic limit cap over the head of the guide stud. The position of the guide stud is pre-set at the factory, and should not be altered.

Using a syringe or similar means, remove as much diesel fuel as possible from the injector pump housing. This will make it easier to view the Allen-head adjustment screw through the slot in the bottom of the pump housing when it is rotated into position.

Rotate the engine slowly by hand, **IN A CLOCKWISE DIRECTION ONLY**, using a breaker bar, a short extension and a $1\frac{5}{16}$ " socket on the vibration damper bolt to bring the Allen screw into view in the inspection slot in

the bottom of the pump bowl. (See Fig. 21.) On some late model trucks it may be necessary to remove the front crankshaft pulley to gain access to the vibration damper bolt to turn the engine over. **DO NOT ATTEMPT TO ROTATE THE ENGINE WITH THE STARTER.** The Allen-head screw may be hard to see — a flashlight or shop light may help. The screw will have to be adjusted at an angle from under the guide stud/spring assembly.

Using a $\frac{5}{16}$ " ball-end style Allen wrench, rotate the Allen screw $\frac{1}{4}$ turn, clockwise.

NOTE: The Allen screw turns fairly tightly, and is self-locking. Turning the screw clockwise adds fuel. Keep track of your adjustments.

6. Inspect the pump cover and make sure the seal is seated in the cover. Replace if questionable. Fill the pump bowl with clean diesel fuel. Hold the throttle in the idle position. With the bolts removed from the pump cover, position the cover about $\frac{1}{4}$ " forward, toward the shaft end, and about $\frac{1}{8}$ " above the pump. Guide the cover downward and rearward into position, being careful not to damage the cover seal. Reinstall the bolts with the flat washers against the pump cover.

7. Reconnect battery cables. Turn the ignition switch to the "ON" position, and touch the pink solenoid wire to the solenoid terminal. A clicking noise should be heard. If clicking is heard, proceed to next step. If not heard, the linkage may be jammed in the wide-open position. **DO NOT START THE ENGINE!!** Remove the pump cover. Ground the solenoid lead (opposite hot terminal on the cover) and connect the pink wire to the cover terminal. With the ignition switch on, the solenoid in the cover should move the linkage. If not, free the linkage or replace the solenoid. Reinstall the cover.

8. Make sure battery cables are disconnected after solenoid test.

9. Reinstall the fuel return line and fast idle solenoid.

10. Purge the air from the system as follows: Remove and fill all filters with clean diesel and reinstall the filters. Detach all fuel supply hoses between the lift pump (fuel pump in the side of the engine) and the injection pump at their highest ends, and fill them with clean diesel fuel using a small funnel. Reattach the hoses.

Go to step 3 in the **INSTALLATION INSTRUCTIONS** & continue.

CHECKING ENGINE PERFORMANCE

Use your pyrometer (exhaust temperature gauge) to monitor your engine's operation. At idle, EGT (exhaust gas temperature) will be very low, perhaps only 150°F. As the throttle is opened for higher speeds and greater loads, the EGT will rise. The highest EGT will be seen under maximum load at full throttle, such as climbing a steep grade with a heavily laden vehicle. **Use caution if your EGT approaches 1050°F, with 1100°F being**

the ABSOLUTE MAXIMUM!

If the vehicle approaches those EGT levels under these conditions, downshift the vehicle to reduce the load, or back off the throttle. If frequent high EGT levels are encountered, the fuel delivery of the injection pump will have to be reduced by backing out the Allen head screw in the injection pump as indicated in the **PUMP**

ADJUSTMENT section. A high EGT can also be caused by a restrictive exhaust system.

We recommend engine oil temperature be below 220°F, as measured in the oil pan (an optional oil temperature gauge is available from GALE BANKS ENGINEERING). Optimum oil temperature is 220°F. Continuously high oil temperature is indicative of the

need for an additional oil cooler. If you do not have and oil temperature gauge, watch your oil pressure. Falling oil pressure under a heavy load is caused by rising oil temperature. Use caution.

We recommend that coolant temperature, also, should not exceed 220°F.

TURBO ENGINE MAINTENANCE

OIL AND OIL FILTER

Change engine oil and filter every 3,000 miles. Use oil and filter specified in owner's manual for type of climate/duty encountered.

AIR FILTER

Visually inspect filter element every 8,000 to 10,000 miles of running, more frequently in dusty conditions. Wipe clean the inside of the filter housing halves upon inspection of filter. A dirty filter can cause a loss of boost and rise in EGT. Clean at least every 20,000 miles.

AIR INLET RUBBER ELBOW

Visually check outside of air inlet elbow every three months for cracks or deterioration. An elbow that has become soft may collapse under turbo suction causing a loss of boost and higher EGT.

HEAT SHIELD FOIL BLANKET

Visually check foil heat shield every three months to insure it is in place (has not slid down pipe) and in good condition.

INJECTOR RETURN HOSE LOOPS

Visually check hoses between injectors every three months for cracking or deterioration, replace as necessary. Check that hoses are tied away from manifold and heat shields.

EGR VALVE VACUUM HOSE

Visually check condition of EGR vacuum hose (blue silicone hose inside of pressure chamber) every three months. A cracked or disconnected hose will cause the engine to run rough with high EGT. Replace as required.

BATTERY TERMINAL PLASTIC CAP

Visually check that plastic cap is in place on right hand positive battery terminal every three months, and anytime the battery or air filter is serviced. This cap protects the terminal from accidental shorting.

CHECKING ENGINE PERFORMANCE

Your BANKS turbocharged diesel engine should exhibit the following operating characteristics:

Cruise Conditions (constant 60mph on level road): EGT should be approximately 400°F; boost gauge, if so equipped, should read 1 to 1½ pounds.

High Load Conditions (uphill with heavy load): EGT should typically be 900 to 1000°F, with 1100 as a maximum; boost levels may approach 9 pounds.

It is important to realize that diesels, unlike gasoline engines, run cooler with additional air. Exhaust gas temperature rises as more fuel is added. Turbocharging a diesel typically lowers the EGT. Normal cruise condition EGT for a normally aspirated (non-turbocharged) diesel engine is typically 600 to 650°F. As noted above, cruise condition EGT for a turbocharged diesel is typically

400°F. This lower EGT translates directly to lower piston and valve temperatures, and significantly increased engine life.

It is also important to understand that turbocharged boost pressures are load related, that is the turbocharger makes boost only when called upon to do so (by load requirements). The turbo will not "make boost" with the transmission in neutral, but makes boost proportional to the load. Long uphill grades, with a heavy load, will result in maximum boost. In other words, the turbo makes boost only when it is needed. This characteristic makes turbochargers so attractive that the vast majority of long haul trucks and off-road earth moving equipment are equipped with turbochargers. Turbocharging typically results in more power and torque, better fuel economy and increased engine life.

CLEANING AND OILING THE BANKS RAM-AIR FILTER

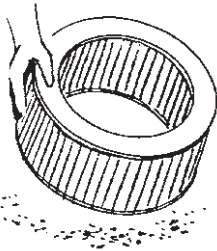
Notification

The Banks Ram-Air Filter comes pre-oiled and no oiling is necessary for initial installation.

Use Banks ram-Air Filter cleaning system (part #90094) available from Gale Banks Engineering to service the Air Filter. Follow the instructions included with the cleaning system to clean and re-oil your Banks Ram-Air Filter.

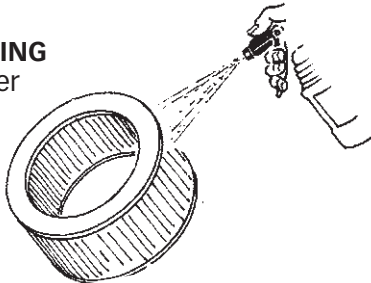
PRE-CLEANING

1. Tap the element to dislodge any large embedded dirt, then gently brush with a soft bristle brush. NOTE: If complete cleaning is not practical at this time, reoil the element and reinstall in your vehicle.



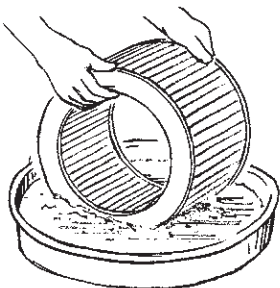
SPRAY-ON CLEANING

2. Spray Banks air-filter cleaner liberally onto the entire element and let soak for 10 minutes.



PAN CLEANING

Large air-filter elements can be rolled or soaked in a shallow pan of Banks air-filter cleaner. Remove immediately and let soak for approximately 10 minutes.

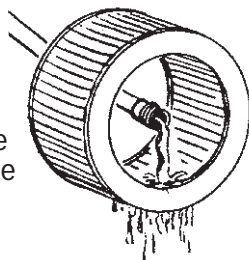


CLEANING HINTS

3. Use only Banks air-filter cleaner. NO gasoline cleaning, NO steam cleaning, NO caustic cleaning solutions, NO strong detergents, NO high-pressure car wash, NO parts cleaning solvents. Any of these NOs can cause harm to the cotton filter media plus SHRINK and HARDEN the rubber end caps.

RINSE OFF

4. Rinse off the element with low-pressure water. Tap water is okay. Always flush from the clean side to dirty side. This removes the dirt and does not drive it into the filter.

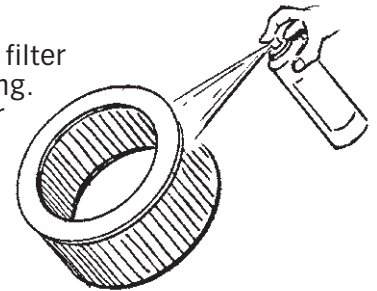


DRYING HINTS

5. Always dry naturally. After rinsing, shake off all excess water and let the element dry naturally. DO NOT USE COMPRESSED AIR – DO NOT USE OPEN FLAME – DO NOT USE HEAT DRYERS! EXCESS HEAT WILL SHRINK THE COTTON FILTER MEDIA. COMPRESSED AIR WILL BLOW HOLES IN THE ELEMENT.

AEROSOL OILING

6. After cleaning air filter always reoil before using. Spray Banks Ram-Air filter oil down into each pleat with one pass per pleat. Wait 10 minutes and re-oil any white spots still showing.



OILING HINTS

7. Never use a Banks Ram-Air filter without oil (the filter will not stop the dirt without the oil). Use only Banks Ram-Air filter oil. Banks air-filter oil is a compound of mineral and animal oil blended with special polymers to form a very efficient tack barrier. Red dye is added to show just where you have applied the oil. Eventually the red color will fade but the oil will remain and filter the air. NEVER USE Automatic Transmission Fluid. NEVER USE Motor Oil. NEVER USE Diesel Fuel. NEVER USE WD40, LPS, or other light-weight oils.

REINSTALL

8. Reinstall your Banks Ram-Air filter element with proper care. Make sure the element seats properly in the filter case. Install the cover making sure it's in the right position. Tighten all the nuts, bolts, screws or clips to factory specifications.

DO NOT DISCARD

9. Affix the "Do Not Discard" sticker to the filter case (included with every Banks replacement element). Make sure you put the sticker in a highly visible place to alert your mechanic not to discard.

PERFORMANCE HINTS

10. Service every 50-100,000 miles on street-driven applications. Service more often in offroad or heavy-dust conditions. If an air-filter restriction gauge is installed, then change the element when the air-filter restriction reaches 18"/H₂O.

CAUTION! Extremely fine dust from agriculture or offroad use will pull the oil from the element. Frequent reoiling of the element's clean side might be required. Completely service when practicable. For extra protection use an air-filter sealing grease on rubber ends of the element. Service only with Banks air-filter cleaner and Banks air-filter oil.

TROUBLE SHOOTING CHART

SYMPTOM	CAUSE	REMEDY
HIGH EGT.	EXCESSIVE FUEL DELIVERY. FAULTY INJECTOR(S). RESTRICTED EXHAUST SYSTEM.	CHANGE INJECTOR PUMP SETTING. REPAIR INJECTOR(S). CHECK FOR OBSTRUCTIONS.
EXCESSIVE FUEL SMOKE, (BLACK) POOR PERFORMANCE.	FAULTY INJECTOR(S).	REPAIR INJECTOR(S).
	DIRTY AIR CLEANER.	CLEAN OR REPLACE.
	RESTRICTED AIR INTAKE.	CHECK FOR BLOCKED OR COLLAPSED AIR INTAKE HOSES.
	POOR QUALITY OR DIRTY DIESEL FUEL.	REPLACE FILTERS, CLEAN LINES, INJECTORS AND TANK AS REQUIRED.
EXCESSIVE OIL SMOKE (BLUE).	BLOCKED OR RESTRICTED TURBO OIL DRAIN.	ELIMINATE RESTRICTIONS OR LOW SPOTS IN THE DRAIN LINE.
	EXCESSIVE ENGINE BLOWBY BEING VENTED INTO THE AIR INTAKE.	REPLACE WORN PISTON RINGS OR VALVE GUIDES. CHECK THE ENGINE OIL LEVEL.
LACK OF BOOST, EXCESSIVE OIL SMOKE, & POOR PERFORMANCE.	DAMAGED TURBO BEARINGS, CAUSED BY DIRTY OIL OR LACK OF LUBRICATION.	REBUILD TURBO, CHECK OIL LEVEL, CHANGE OIL AND FILTER AT REGULAR SERVICE INTERVALS.
	WORN OR DAMAGED ENGINE COMPONENTS.	CHECK COMPRESSION, REPLACE RINGS OR VALVES.
OIL WETTING OF THE INSIDE SURFACES OF THE BOTTOM OF THE AIR FILTER CASTING, AIR INLET ELBOW, AND TURBO COMPRESSOR HOUSING.	THIS IS NORMAL. THE OIL IS PRESENT IN THE VAPORS FROM THE CRANKCASE VENTILATION SYSTEM. THESE VAPORS ARE ALSO PRESENT IN THE INTAKE MANIFOLD PRIOR TO TURBOCHARGING. THIS IS NOT THE RESULT OF A FAILED	IF NO BLUE SMOKE IS PRESENT AT THE VEHICLE'S TAILPIPE, NO ACTION IS NECESSARY. IF BLUE SMOKE IS PRESENT, THE CAUSE MAY, OR MAY NOT, BE FROM THE TURBO. POOR ENGINE OIL CONTROL (WORN RINGS OR VALVE GUIDES, OR TOO MUCH OIL) MAY CAUSE THIS CONDITION.
LOW BOOST, POOR PERFORMANCE, SOMETIMES WITH HIGH EGT.	TURBO SHAFT SEAL. RESTRICTED EXHAUST SYSTEM.	ELIMINATE RESTRICTIONS, CHECK FOR OBSTRUCTIONS.
LACK OF BOOST OR LOW BOOST, POOR PERFORMANCE.	INTAKE SYSTEM LEAKS.	LOCATE AND SEAL LEAKS; CHECK SEAL BETWEEN PRESSURE CHAMBER AND INTAKE MANIFOLD.
	EXHAUST SYSTEM LEAKS AHEAD OF TURBOCHARGER EXHAUST INLET.	LISTEN FOR LEAKS, REPAIR AS NECESSARY.
	BROKEN TURBOCHARGER BLADES CAUSED BY FOREIGN OBJECTS ENTERING THE INTAKE OR EXHAUST SYSTEM.	REBUILD TURBOCHARGER; ELIMINATE MEANS OF FOREIGN OBJECT ENTRY.
PYROMETER NOT WORKING.		
	CHECK FOR REVERSED WIRES. POOR WIRE CONNECTIONS.	REVERSE WIRES. CLEAN AND SECURE CONNECTIONS.
GRADUAL LOSS OF PERFORMANCE, AND POSSIBLY BOOST ("FLATTENS OUT" AT HIGH RPM).	WIRING CONNECTIONS SHORTED TOGETHER. CLOGGED, OR PARTIALLY CLOGGED, FUEL FILTER.	INSULATE CONNECTIONS. REPLACE FUEL FILTER(S).

PARTS LIST – 21007

Sidewinder Turbo System, Chevy/GMC 6.2 Late-Body Style Pickups

QTY	DESCRIPTION	ITEM #	PART #	QTY	DESCRIPTION	ITEM #	PART #
1	CHAMBER, Pressure	3	41070	4	SCREW, Machine, $\frac{6}{32}$ x $\frac{1}{4}$ " Pan Head	65	91830
1	COVER, Air Filter Housing.	6	41052	4	SCREW, Machine, $\frac{10}{32}$ x $\frac{1}{2}$ " Pan Head	64	91834
1	DECAL, Carb. E.O. -D-161-31		96021	4	STUD, $\frac{3}{8}$ x $1\frac{1}{2}$ "	48	91503
1	DECAL, Fed. Emis. Comp. Turbo		96020	2	STUD, $\frac{3}{8}$ " 16 x $2\frac{1}{4}$ ", NC x NC	42	91506
1	ELBOW, Rubber, Air Inlet	19	94006	2	STUD, Pressure Chamber	58	91015
1	FILTER ELEMENT, Air.	11	41508	1	WASHER, $\frac{1}{4}$ " Split Lock	56	91104
1	HEATSHIELD, Blanket, 6 x 14"		26001	6	WASHER, $\frac{3}{8}$ " Circle Lock	60	91407
1	HEATSHIELD, Exhaust Manifold	39	26055	2	WASHER, $\frac{3}{8}$ " Split Lock	45	91404
1	HOSE, Crankcase Vent	22	94031	4	WASHER, $\frac{3}{8}$ " S/S AN.	44	91401
1	HOSE, Heater, $\frac{5}{8}$ x 55"		94449	5	WASHER, $\frac{3}{8}$ " USS	40	91403
1	HOSE, Heater, $\frac{3}{4}$ x 40"		94454	8	WASHER, $\frac{5}{16}$ " S/S AN	43	91201
1	HOUSING, Air Filter.	5	41032	2	WASHER, $\frac{5}{16}$ " Thread Sealing	51	91209
1	KIT, Small Parts (See List A)		21022	1	KIT, Fastener, Ties		91052
1	BACKPLATE, Air Filter Bracket.	8	41143	3	TIE, Wire, Heat Shield Blanket, 16"		26013
1	BRACKET, Air Filter Housing	7	41136	12	TIE, Cable, 11" Black		62002
1	BRACKET, Support, Air Filter Housing	9	41137	1	KIT, Fitting		92800
1	CAPLUG, #18 Blue		62050	1	CAP, Rubber, 1", Intake Manifold	62	92029
1	CLAMP, Exhaust, 3" HD		54465	1	FITTING, $\frac{1}{4}$ Male x -4 AN Swvl		92162
4	CONNECTOR, Flag, 90 Deg.		62040	1	FITTING, $\frac{1}{4}$ NPT x -4 AN Adapter		92101
1	HEATSHIELD, Turbine.	13	26021	1	FITTING, $\frac{1}{4}$ NPT x -4 AN Elbow.	38	92110
1	HOSE, Silicone, $\frac{5}{8}$ x $1\frac{5}{8}$ "	23	94201	1	PLUG, $\frac{1}{8}$ " NPT Hex Head		92250
1	HOSE, Silicone, 2 x $2\frac{1}{4}$ "	20	94252	1	MOUNTING PANEL, One-Gauge		63001
1	HOSE, Silicone, $2\frac{1}{2}$ x $2\frac{3}{8}$ "	21	94271	2	NUT, Machine Screw, # $\frac{10}{32}$		91833
1	HOSE, Turbo Oil Feed, 58"		94080	1	PYROMETER KIT		64001
1	KIT, Clamp		92900	2	SCREW, Machine, $\frac{10}{32}$ x $\frac{1}{2}$ " Pan Head.		91834
4	CLAMP, Hose, #10.		92810	1	SET, Gasket		93301
2	CLAMP, Hose, #12.	25	92812	1	GASKET, Fuel Pump Plate	32	93505
3	CLAMP, Hose, #16.	22	92816	1	GASKET, Oil Drain, TO4	33	93040
2	CLAMP, Hose, #36 w/ Liner.	28	92837	1	GASKET, Pressure Chamber	34	93060
2	CLAMP, Hose, #40 w/ Liner.	27	92841	2	GASKET, Turbo Outlet, TO4	31	93001
2	CLAMP, Hose, #52 w/ Liner.	30	92853	1	TAPE, Teflon, $\frac{1}{2}$ x 100"		91099
1	CLAMP, Hose, #64.	29	92864	1	THREADLOCKER, Blue 6 mil		90001
1	CLIP, Hinge, Air Filter Housing.	24	41146	1	TUBE, Boost	4	41106
2	LATCH, Over Center, Air Filter Housing	26		1	TUBE, Oil Drain, 2 pc	15	24065
41049				2	WASHER, #10 Ext. Tooth Lock		91832
1	KIT, Fastener		91006	1	MANIFOLD, Exhaust	1	51006
1	BOLT, $\frac{1}{4}$ " 20 x $\frac{1}{2}$ " Hex.	55	91115	1	MANUAL, Owners, 6.2 Turbo, Late-Body Style		96292
5	BOLT, $\frac{3}{8}$ " 16 x 1" Hex	47	91427	2	PLAQUE, Banks Sidewinder		96003
6	BOLT, $\frac{5}{16}$ " 18 x 1" S/S Hex	46	91228	1	PLUG, 1" NPT		92267
1	BOLT, Grade 5, $\frac{3}{8}$ " 16 x $\frac{1}{2}$ " Hex	63	91425	1	PIPE, Cross-Over.	12	52017
4	BOLT, Grade 5, $\frac{3}{8}$ " 16 x $\frac{3}{4}$ " Hex	57	91426	1	PIPE, Turbine Outlet	10	52011
2	NUT, $\frac{3}{8}$ " 16 Crimp Lock	41	91416	3	SCREW, Round Drive.	54	91850
3	NUT, $\frac{3}{8}$ " 16 Nylock.	61	91415	1	SERVICE KIT, Air Filter.		90094
4	NUT, $\frac{3}{8}$ " 24 S/S Collet Lock	50	91418	1	TURBOCHARGER, Banks Sidewinder	2	24004
2	NUT, $\frac{5}{16}$ " 24 Nylock.	49	91211	1	WARRANTY STATEMENT.		96362

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