

INSTALLATION INSTRUCTIONS

DESCRIPTION: Turbo Kit
PART NUMBER: 2HC-E46F0-V0 (standard shift)
B57-E46F0-V0 (sport shift)
MODEL: '16 ~ YXZ1000R (standard shift models)
'17 ~ YXZ1000R SS (sport shift models)



⚠ WARNING

Please read and understand these instructions completely before installation to avoid possible injury, or damage to the accessory or vehicle.

NOTICE:

This installation is complex. It requires the service manual for the vehicle and should be performed by an authorized Yamaha dealer or other qualified technician.

WARRANTY INFORMATION:

United States, see your Yamaha dealer for a copy of the Yamaha Genuine Part & Accessories Limited Warranty statement.

This kit is not for sale or use in California. It is not California Air Resources Board (CARB) certified.

DEALER OR INSTALLER:

These instructions contain important information for future reference and *must* be given to the customer.

PARTS LIST: * Part supplied with kit only and not available separately

No.	Part Number	Description	Qty
--	2HC-E46F0-V0 (B57)	Turbo Kit	--
①	*	Turbo	1
②	*	Air Cooler	1
③	*	Exhaust Manifold	1
④	*	Air Filter	1
⑤	*	Air Cleaner Mount	1
⑥	*	Air Cleaner Bracket	1
⑦	*	Intake Manifold	1
⑧	*	Air / Oil separator	1
⑨	*	Exhaust Downpipe	1
⑩	*	Water Pump	1
⑪	*	Water Pump Bracket	1
⑫	*	Radiator	1
⑬	*	Radiator Cap	1
⑭	*	ECU	1
⑮	*	Intake Bracket	1
⑯	*	Cooling Surge Tank	1
⑰	*	Coolant Line Clamp	2
⑱	*	Wire Harness	1
⑲	*	Exhaust Gasket ●not shown in parts list picture.	3
⑳	*	3 Bar MAP sensor	1
㉑	*	M8x20mm Socket Hd Screw	2
㉒	*	Turbo Outlet Gasket	1
㉓	*	Turbo Base Gasket	1
㉔	*	M5 x 14mm Stainless Screw	1
㉕	*	M8 Copper Flange Nut	10
㉖	*	M8 x 35mm Flange Bolt	7
㉗	*	90 elbow 2.5"	2
㉘	*	90 elbow 2" – 2.5"	1
㉙	*	Aluminum Air Hose 2.5"	1
㉚	*	Silicone Straight Hose 3"	1
㉛	*	Silicone Bend 3" ID 135deg	1

32	*	Aluminum Air Hose 3"	1
33	*	Oil Drain Gasket	1
34	*	23" Oil Drain Line	1
35	*	17" Oil Feed Line	1
36	*	40" Coolant Hose	1
37	*	38" Coolant Hose	1
38	*	14mm -10 Straight fitting	1
39	*	M8 to -4 Oil feed fitting	1
40	*	Oil Drain flange	1
41	*	¾" Coolant Hose x 11"	1
42	*	¾" Coolant Hose x 56"	1
43	*	¾" Coolant Hose x 68.5"	1
44	*	¾" Coolant Hose x 112"	1
45	*	¼" NPT to ¼" Nipple	1
46	*	¼" Boost Pressure Hose.	1
47	*	½" to 3/8" hose adaptor	1
48	*	½" x ½" x ½" T-Fitting	1
49	*	14mm X 5mm Thick sealing washer	1
50	*	M8 x 25mm Flange Bolt	5
51	*	M8 Flange Nut	7
52	*	8mm Stud	4
53	*	M6x16mm Flange Bolt	4
54	*	M6 Flange Nut	4
55	*	Intake Runner Clamp	3
56	*	Hose Clamp 22-32mm	8
57	*	Hose Clamp 52-76mm	5
58	*	Hose Clamp 40-64mm	1
59	*	Hose Clamp 65-89mm	4
60	*	8" long ½" rubber hose	1
61	*	4" long ½" rubber hose	1
62	*	5" long ½" rubber hose	1
63	*	22" long ¾" rubber hose	1
64	*	Zip ties ●not shown in parts list picture.	20
65	2HC-E165B-V0	Connecting Rod Kit ●Not Shown	1
66	2HC-11181-00	Cylinder Head Gasket ●Used w/Connecting Rod kit. Not shown.	1
67	2HC-15461-00	Crankcase Gasket ●Used w/Connecting Rod kit. Not shown.	1
68	2HC-13414-00	Strainer Cover Gasket ●Used w/Connecting Rod kit. Not shown.	1
69	93450-19095	Inner Circlip ●Used w/Connecting Rod kit. Not shown.	1
70	90119-09004	Bolt w/Washer ●Used w/Connecting Rod kit. Shown on page 14/bottom.	4
71	90119-09011	Bolt w/Washer ●Used w/Connecting Rod kit. Shown on page 14/bottom	4



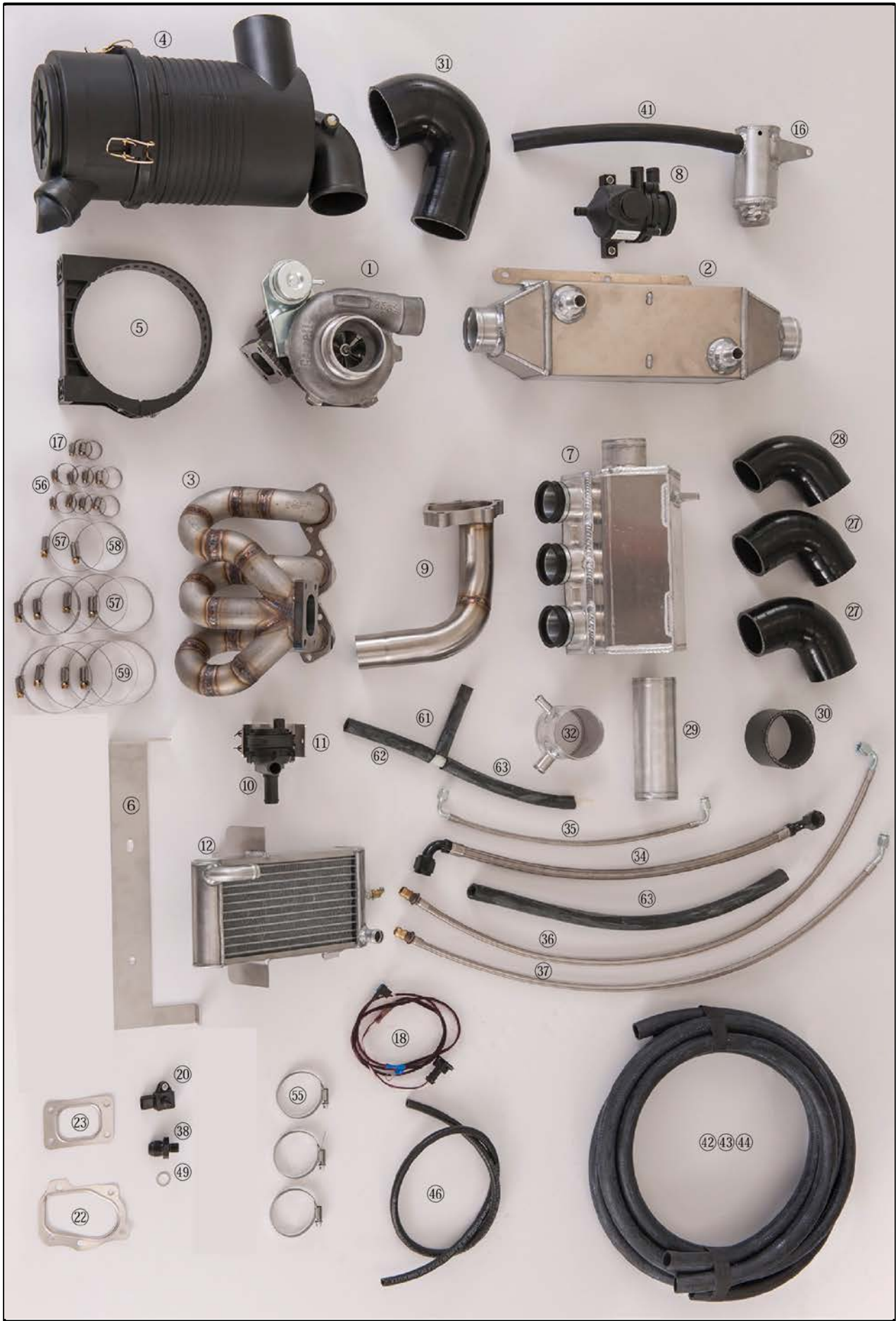


Fig. 1

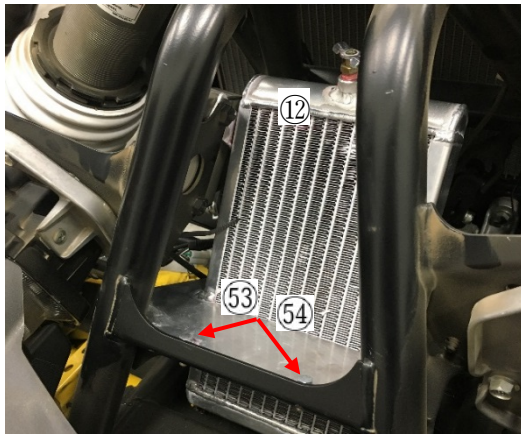


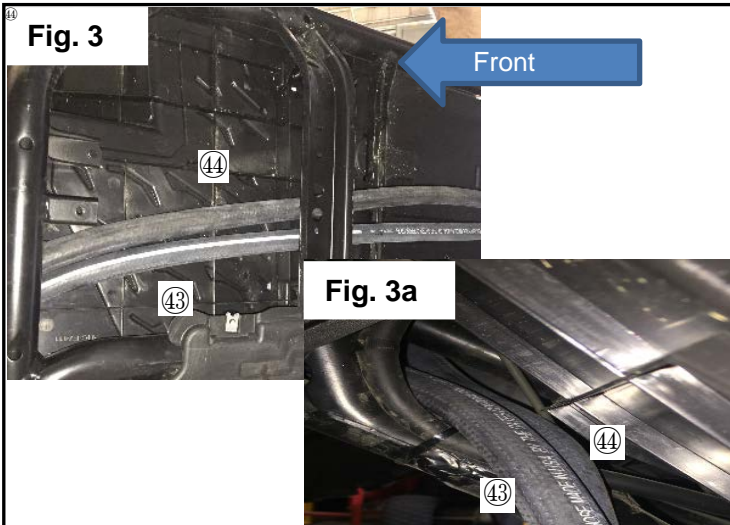
Fig. 1a



Fig. 2



Fig. 3



PREPARATION:

- Clean the vehicle so no debris enters the engine
- Place vehicle on a secure and level surface.
- Set the parking brake.

DISASSEMBLY:

- 1 Start by disconnecting the battery. Remove the suntop, ROPS (enclosure) tubes, front body work, driver side skid plate, and cargo bed. Refer to the factory service manual for procedures.
- 2 Remove the exhaust header and stock airbox. Refer to factory service manual for removal.
- 3 Remove the engine. Install connecting rods in the kit referring to the service manual. The gaskets required for engine reassembly are included in this kit. Be sure to pack the pump with grease (see the Appendix on page 14). Reinstall the engine, connect radiator hoses and electrical connections, fill oil through the upper oil fill plug on the engine with 1.3L of oil, but do not fill with coolant. **Do not install throttle bodies, airbox, or any other engine accessories yet.**

INSTALLATION:

- 1 The radiator (12) for the intercooler bolts into the front of the frame as shown in Fig. 1. Remove the nut and bolt that secure the top of the left side front shock and tilt the shock outboard. Slip the radiator into place from behind the left hand shock. Use two M6x16mm Flange Bolt (53) and two M6 Flange Nut (54) to secure the lower portion of the bracket. The top mount fits behind the voltage regulator, and is secured by the OE upper regulator bolt as shown in Fig. 1a. Reinstall the bolt and nut that secure the top of the shock and torque to 65 N·m (6.5 kgf·m, 47 lb·ft).
- 2 On the under side of the driver's footwell the support ribs in the plastic need to be ground down using a rotary sanding or cutoff tool to create clearance for two heat exchanger hoses to pass through the floor. Remove the ribs inside the red box as shown in Fig.2. The image shows the underside of the front of the vehicle, looking towards the driver side rear wheel.
- 3 Install 3/4" Coolant Hose x 68.5" (43) and 3/4" Coolant Hose x 112" (44) as shown in Fig. 3. Pass both hoses between frame and brake line under the driver's footwell as shown. Both hoses pass under the steering column. Secure hoses away from the drive shaft with two zip ties. See Fig. 3a.
- 4 Route the 3/4" Coolant Hose x 112" (44) to the top of the Radiator (12) installed in step 1. Install 3/4" Coolant Hose x 68.5 (43) to the lower radiator outlet with two 22-32mm hose clamps (56) See Fig. 3b.

Ensure lines aren't kinked or rubbing against any hot or rotating parts.

Fig. 3b



Fig. 4

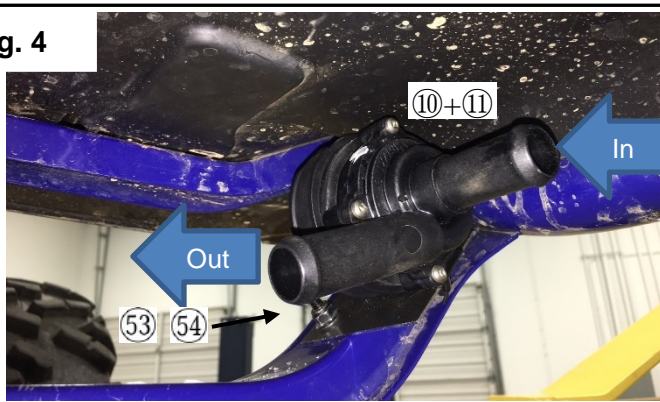


Fig. 4a



INSTALLATION:

- 5** Install the water pump bracket to the lower frame rail under and behind the driver seat, under the vehicle. The Water Pump Bracket (11) bolts through the outer frame rail with a M6x16mm Flange Bolt (53), and M6 Flange Flange Nut (54) on top. The water pump (10) pops into the bracket. See Fig. 4.
- 6** Use Hose Clamp 22-32mm (56) to connect 3/4" Coolant Hose x 68.5" (43) to water pump (10) inlet. Route 3/4" Coolant Hose x 112" (44) so that it passes above the vehicle radiator hard line and into the engine bay. See Fig. 4a. Connect 3/4" Coolant Hose x 56" (42) at water pump (10) outlet and secure with clamp (56). See Fig. 4b.
- 7** Route 3/4" Coolant Hose x 56" (42) and 3/4" Coolant Hose x 112" (44) in the same route path up the front of the engine toward the oil tank. Secure with clamps (56). See Fig. 4c.
- 8** Install the Turbo Manifold (3) onto the engine with new Exhaust Gaskets (19). The turbo flange faces up. Secure with 6 M8 Copper Flange Nuts (25) and torque per service manual. See Fig. 5.
- 9** Install the Turbo (1) to the manifold. Install the Turbo Base Gasket (23), 8mm Studs (52), and 4 M8 Copper Flange Nuts (25). Torque nuts to 24.4 N-m (2.4 kgf-m, 18 lb-ft) as shown in Fig. 5.
- 10** Remove the throttle bodies from the boots on the cylinder head and rotate them out of the way towards the front of the vehicle. Also remove the rubber boot from the rear most cylinder. Refer to the service manual.

Fig. 4b

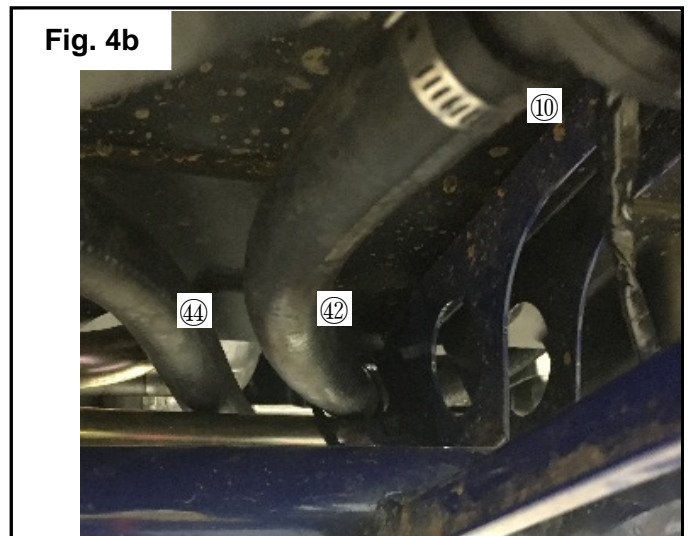
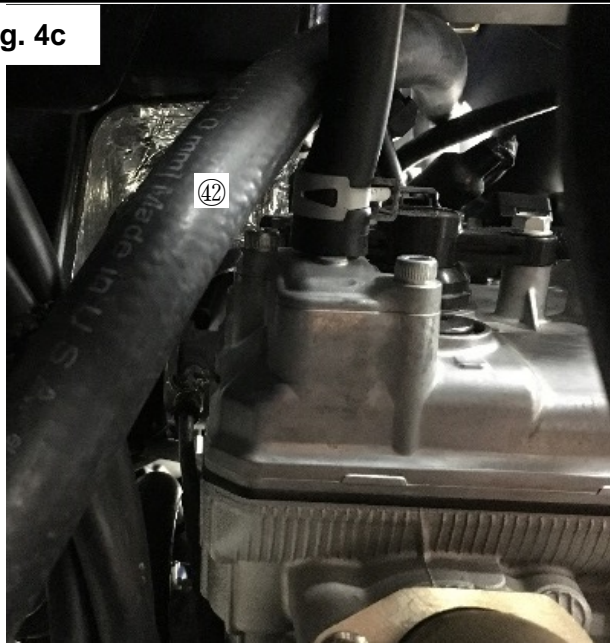


Fig. 4c



INSTALLATION:

- 11** Remove the OE flange bolt that plugs the port in the head at the rear most cylinder. Use the OE sealing washer and install the M8 to -4 Oil Feed Fitting (39) to the port. Torque to 12.0 N-m (1.2 kgf-m, 8.7 lb-ft) see Fig. 6.
- 12** Install the 17" Oil Feed Line (35) onto the oil feed restrictor on the top of the turbo (Fig. 6). Connect the other end onto the oil feed fitting (39). See Fig. 7. Reinstall the boots and throttle bodies removed in step 10. Refer to the factory service manual.
- 13** Install the oil drain flange (40) onto the bottom of the turbo. Use the oil drain flange gasket (33) and 2 M8 X 20 Socket head screws (21) and Torque to 24 N-m (2.4 kgf-m, 18 lb-ft). Install the 23" oil drain line (34) onto the Oil Drain Flange (40). Ensure the fitting on the end of the oil drain line points towards the timing cover plug on the mag cover as shown in Fig. 7.

Fig. 5

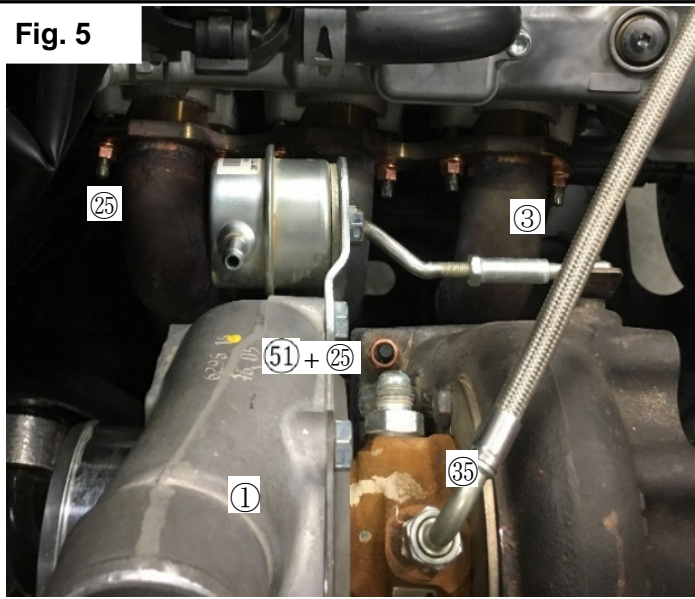


Fig. 7

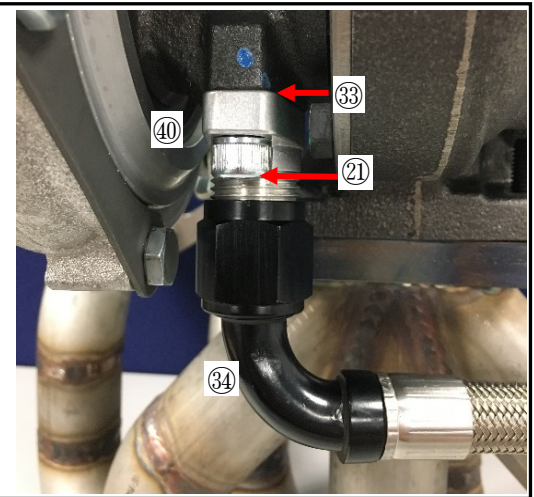


Fig. 6

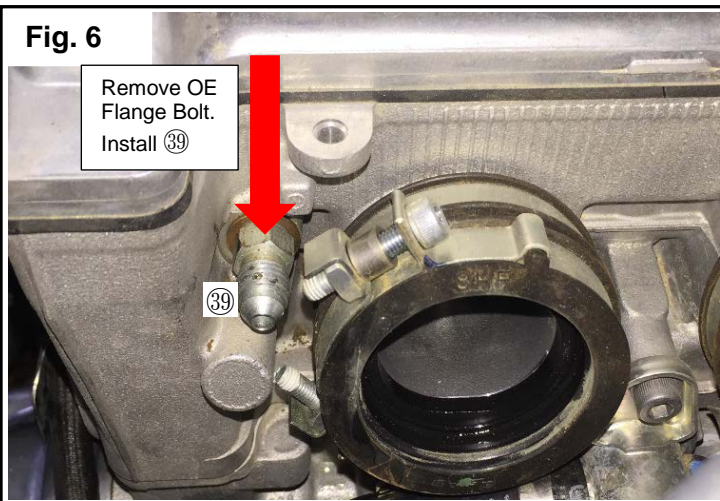
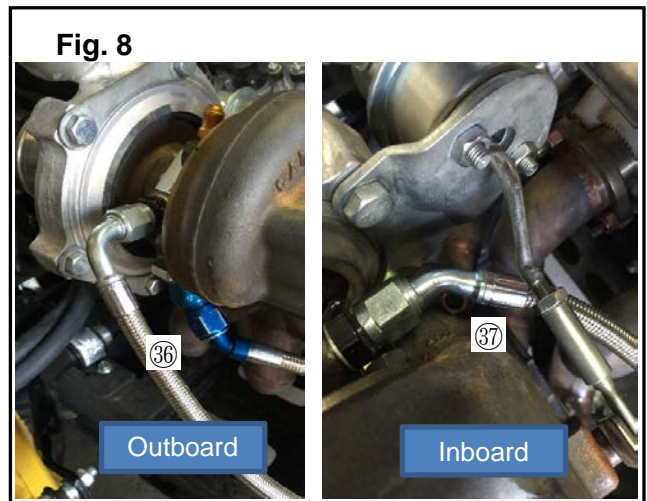


Fig. 8



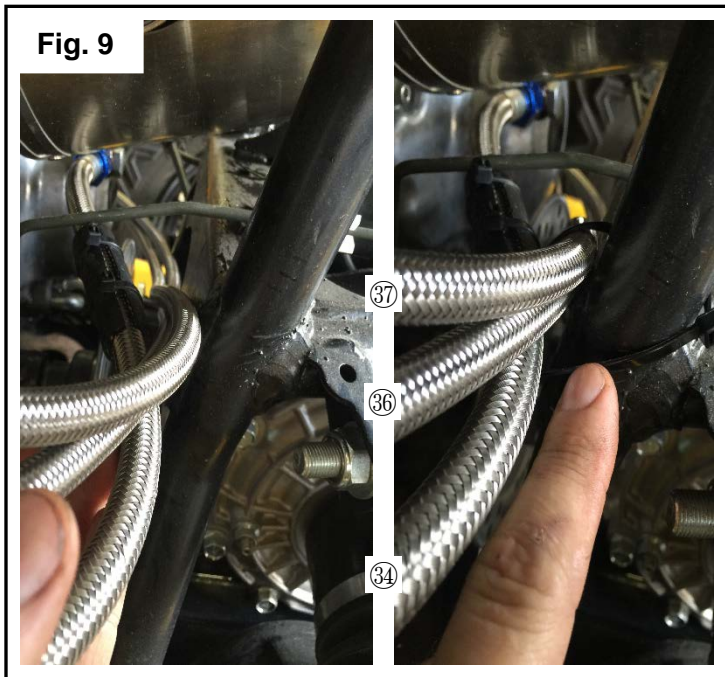


Fig. 9

INSTALLATION:

- 14** Install the 40" Coolant Line 36 / 90° fitting end onto the outboard coolant fitting on the turbo. Install the 38" Coolant Line 37 / 45° fitting end onto the inboard coolant fitting on the turbo. Ensure there is proper clearance for the wastegate actuator to operate. See Fig. 8.
- 15** Route the 40" Coolant hoses 36, 38" Coolant Hose 37 and 23" Oil Drain Line 34 back to the vertical tube on the frame. These route under the brake line and muffler. Secure lines with three zip ties. See Fig. 9.

NOTE: Wrap a short piece of rubber hose around braided lines wherever the braided line contacts a metal line in order to prevent damage to the braided line(s). Cut sections from the OE air injection system hose as it is not reused. See Fig. 9a.

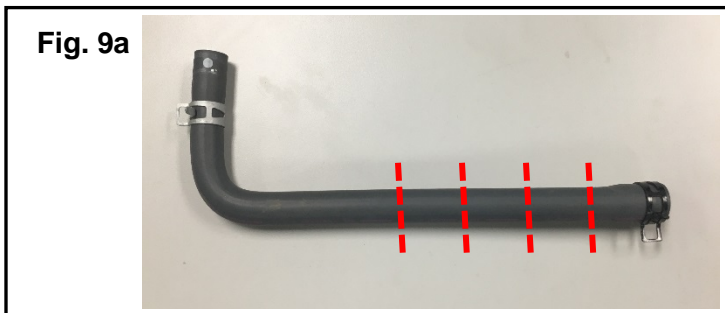


Fig. 9a

- 16** Loosen the 4 OE bolts that hold the muffler to the frame and rear mounting bracket. Slide the pipe end of the Exhaust Downpipe 9 into the inlet of the muffler. Align the turbo side with the turbo outlet flange, and install the Turbo Outlet Gasket 22. Secure with five M8x35 Flange Bolts 26 and torque to 24N-m (2.4 kgf-m, 18 lb-ft). Torque muffler bolts and inlet clamp per the service manual. See Fig. 10.

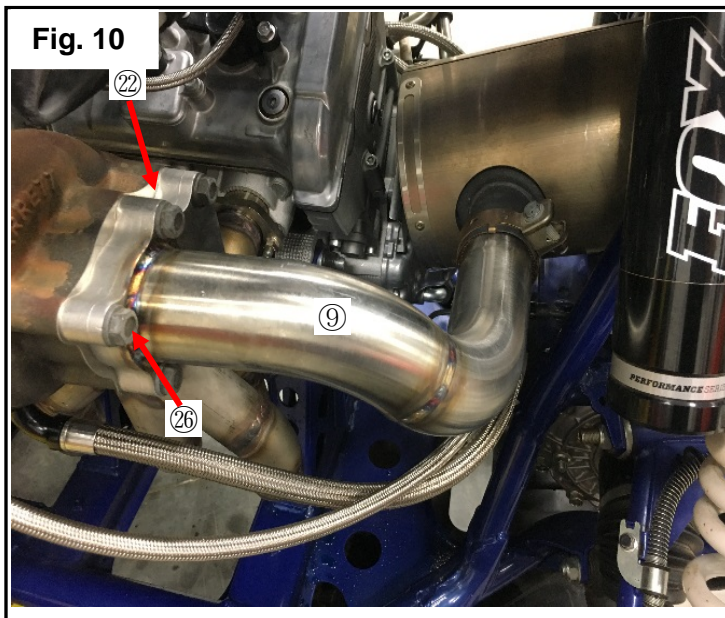


Fig. 10

- 17** Remove the small timing plug located on the upper portion of the magneto cover. Install the 14mm – 10 Straight Fitting 38 into the hole from the timing plug with the 14mm x 5mm Thick Sealing Washer 49. The 23" Oil Drain Line 34 installs onto the 14mm – 10 Straight Fitting 38 as shown in Fig. 11.

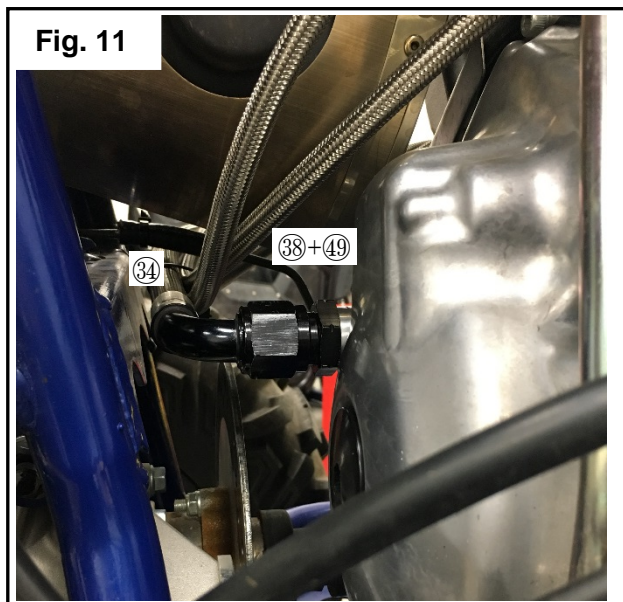


Fig. 11

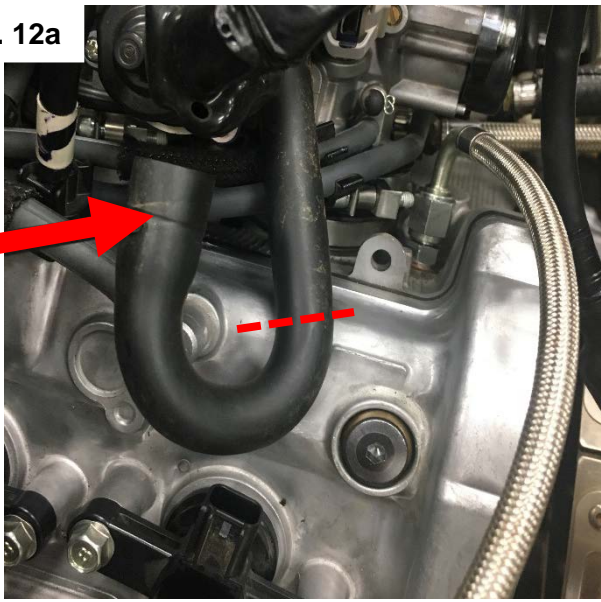
Fig. 12



INSTALLATION:

18 Route the Idle Air Control valve line under the throttle bodies and then up and between the intakes for cylinder #2 and cylinder #3, as shown in Fig. 12. Run the hose under the fuel line to the location shown just above the valve cover. Cut the hose to remove the bend in the end of the hose along the red dashed line shown in Fig. 12a.

Fig. 12a



19 Working on the right hand side of the engine find the U-shaped hose. This hose routes from the oil cooler outlet to the steel tube at the engine block. Cut this hose in the middle and leave two straight sections of hose to connect the 40" inch Coolant Line ③⑥ and 38" Coolant Line ③⑦ as shown in Fig. 16. Note the two lines installed into the two small sections of hose. Secure the hose with the 2 Coolant Line Clamps ①⑦ as shown in Fig. 13.

20 On the OE air box, find and remove the intake air temperature sensor on top of the Intake Manifold ⑦ with a M5 X 14 Stainless Screw ②④. Install the 1/4" NPT to 1/4" Nipple ④⑤ into the larger threaded hole next to the air temperature sensor with thread sealing tape. Locate the Intake Runner Clamps ⑤⑤, and install them loosely onto the rubber boots on the intake manifold oriented as shown in Fig. 14.

Fig. 13

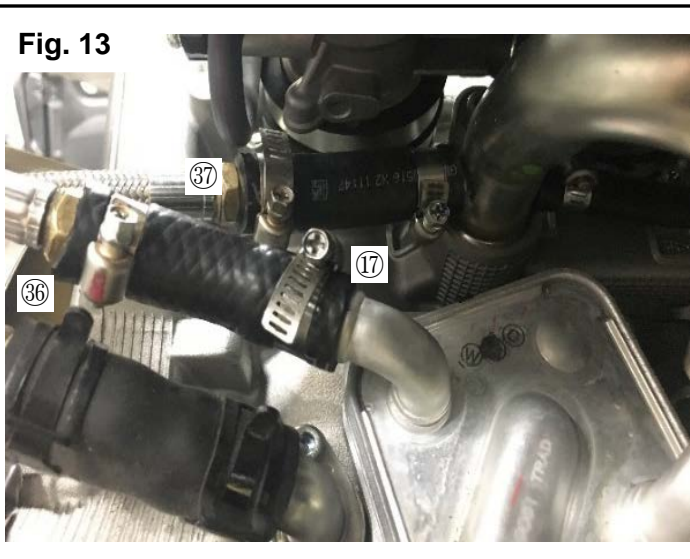


Fig. 14

Intake air temperature sensor

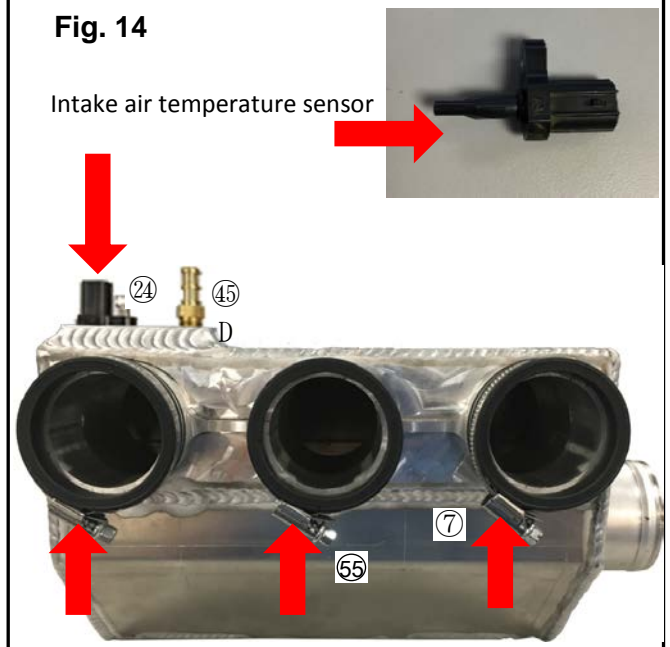


Fig. 15

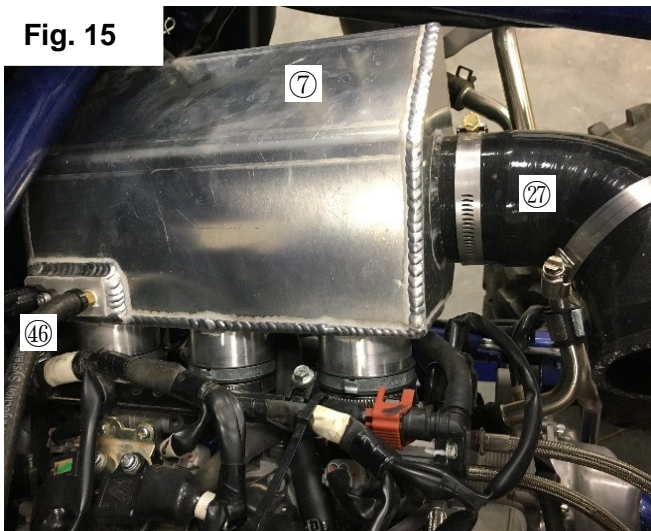


Fig. 15a

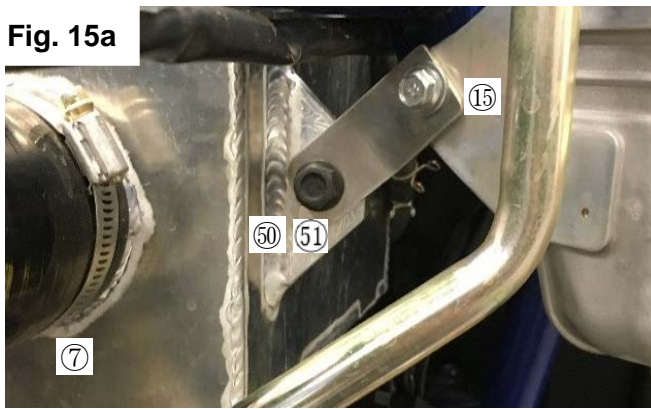
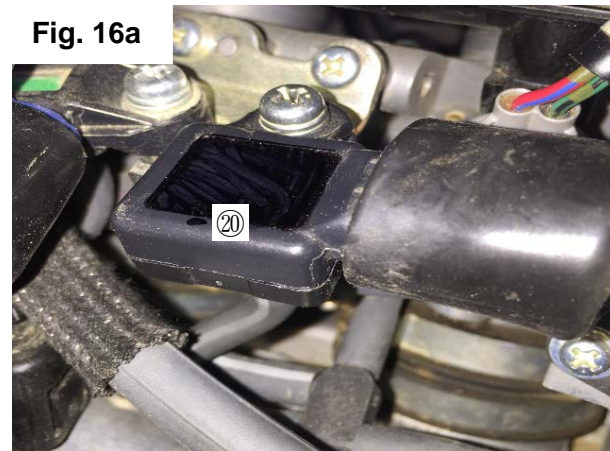


Fig. 16

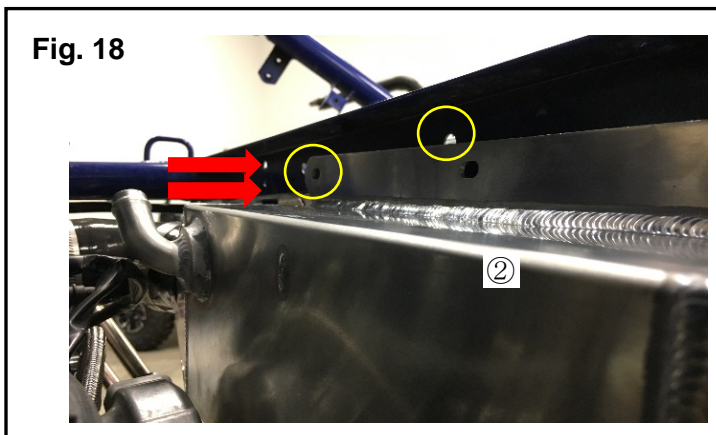
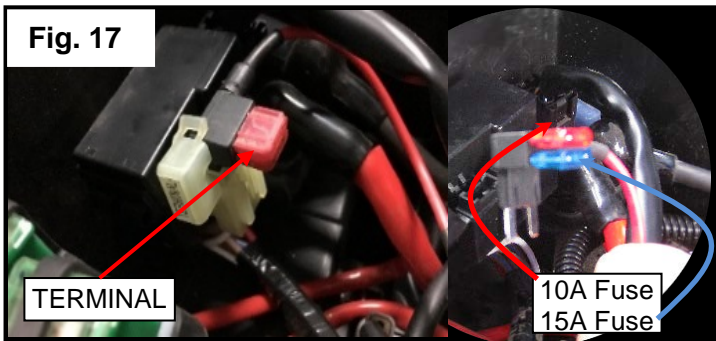


Fig. 16a



INSTALLATION:

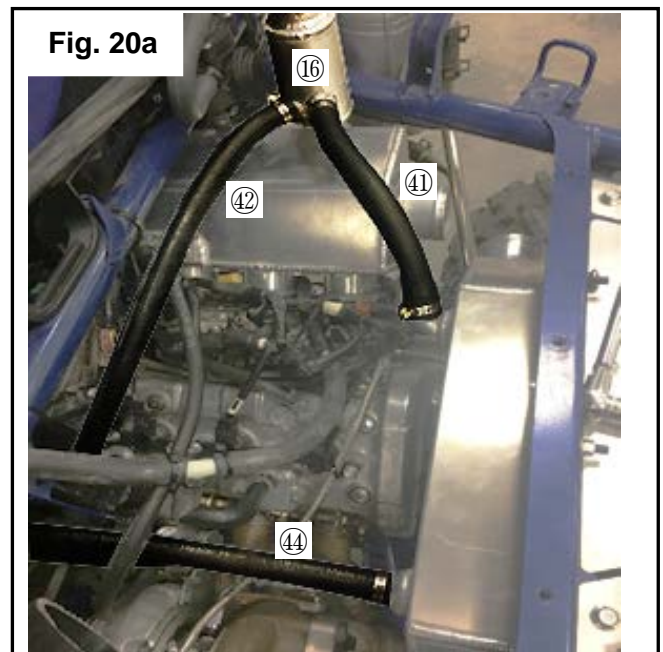
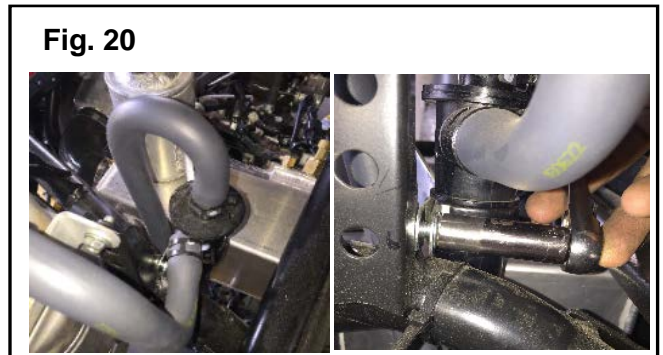
- 21 Install the intake manifold onto the throttle bodies with the inlet pointing to the rear of the vehicle. Ensure the idle air control hose (shown in Fig. 12) is not pinched. Ensure all three rubber boots are correctly seated onto the throttle bodies. Tighten the intake runner clamps from below. Install the 1/4" Boost Pressure Hose (46) onto the nipple on the top of the intake manifold. Secure with a zip tie. See Fig. 15.
- 22 Use a 2.5" hose clamp (57) to attach a Silicone 90 Elbow 2.5" (27) onto the inlet tube on the intake manifold. The other end of the Silicone elbow points across the vehicle. Place another 2.5" hose clamp (57) over the end for the air cooler. Remove the lower mounting bolt for the oil tank. Install the Intake Bracket (15) with the round facing the intake manifold. Reinstall the lower oil tank bolt through the bracket. Secure the bracket to the intake with 1 M8x25mm Flange Bolt (50) and 1 M8 Nylock Nut (51) as shown in Fig. 15a.
- 23 On the top of the throttle bodies there are two small sensors with a green square, as shown in Fig. 16. Locate the rearmost sensor. Disconnect the electrical plug, and loosen the Phillips head screw holding it in place. Remove the small vacuum line on the bottom of the sensor, and remove the sensor from the vehicle. Replace with the 3 Bar MAP sensor (20) as shown in Fig. 16a.
- 24 Install the new Wire Harness (18). Connect the pump to the harness. Route the harness up from under the driver seat, back through the center tunnel, and between the interior side panel and follow the path used by the negative battery cable. Plug the positive side into the 10A fuse labeled TERMINAL - see Fig. 17.
Note: This may be in a different location on your vehicle. The negative ring terminal connects directly to the battery negative - see Fig. 17a. Reinstall the 10A fuse into the open slot in the fuse holder. The fuse holder uses two fuses as shown in Fig. 17.
- 25 Remove the OE airbox bracket that bolts into the holes pointed out on Fig. 18. Locate the Air Cooler (2). The flange on the air cooler has two holes that will bolt to the front of the cross tube in the frame shown in Fig. 18. Slide the tube on the end of the air cooler into the 90 degree fitting on the end of the intake manifold. Use 2 M8 x 25 flange bolts (50) and 2 M8 flange nuts (51) to secure the air cooler. Do not tighten the left hand bolt. Tighten the hose clamp from step 22. See Fig. 18.



INSTALLATION:

26 Slide the 2" portion of Silicone 90 Elbow 2" - 2.5" Silicone ②⑧ onto the compressor outlet side of the turbo. Secure with a 2" hose clamp ⑤⑧. Install the Aluminum Tube ②⑨ into the 2.5" end of the elbow. Install the 90 degree 2.5" Silicone elbow ②⑦ onto the other end of the Aluminum Tube ②⑨. Connect the other end of the Elbow to the air cooler. Secure with 3 Hose Clamps 52-76mm ⑤⑦. See Fig. 19.

27 Remove the factory oil separator and the two upper gray hoses from the vehicle. Disconnect the lower drain line to attach to the new separator. Install the Cooling Surge Tank ①⑥ and secure with the OE bolt from the oil separator. Ensure that there is clearance between the surge tank and intake manifold before tightening the bolt. See Fig. 20. Install the coolant lines as shown in Fig. 20a. 3/4" Coolant Hose x 56" ④② attaches to the surge tank. Install the 3/4" Coolant Hose 11" ④① between the surge tank and air cooler. Install the ④④ 3/4" Coolant Hose 112" between the radiator and the straight barb on the air cooler. Secure all lines with Hose Clamp 22-32mm ⑤⑥.



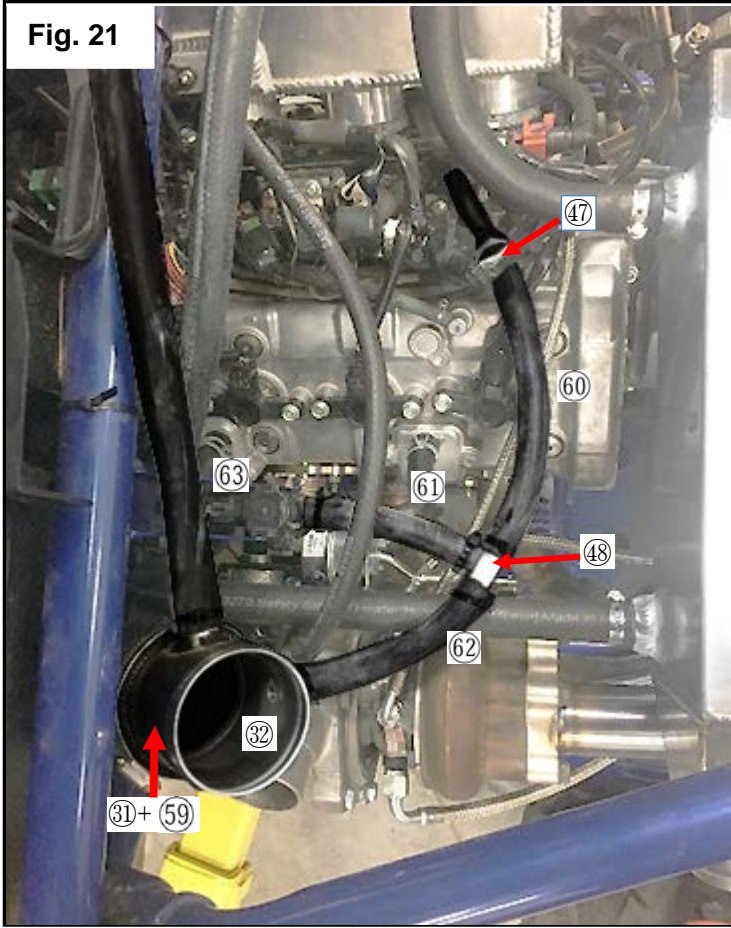


Fig. 21

INSTALLATION:

- 28** Remove the OE radiator cap from the vehicle radiator in the front and reinstall it to the top of the Cooling Surge Tank ⑩. Install Radiator Cap ⑬ in place of the original cap.
- 29** Install ½" To 3/8" Hose Adaptor ④⑦ to the small end of the idle air control hose from step 16. Install the 8" long ½" rubber hose ⑥⑩ onto the ½" side of the ½" To 3/8" Hose Adaptor ④⑦. Install the 4" long ½" rubber hose ⑥① to the air injection valve on the LH side of the engine bay. Fit the T-fitting into the end of the 8" long ½" Rubber Hose ⑥⑩ and 4" long ½" rubber hose ⑥①. Install the 5" long ½" rubber hose ⑥② onto the remaining port on the T-fitting ④⑧. Install short end of the Silicone Bend 3" 135deg ③① onto the intake of the turbo. See Fig. 21.
- 30** Install the Aluminum Air Hose 3" ③② to the top of Silicone Bend 3" ID 135 deg ③① with the larger barb pointed across the vehicle to the passenger side and the smaller barb pointed downwards. Secure both ends of ③① with Hose Clamp 65-89mm ⑤⑨. Connect the remaining end of the 5" hose to the smaller ½" barb. Install the ¾" rubber hose ⑥③ onto the larger barb on Aluminum Air Hose 3" ③②. Install and tighten zip ties for all air hose connections. See Fig. 21.
- 31** Install the Silicone Straight Hose 3" ③① onto the aluminum tube ③② and secure with clamp ⑤⑨. Leave an extra clamp here for the airbox. Install the ¼" boost pressure hose ④⑥ onto the barb on the wastegate actuator. Secure with zip ties ⑥④. See Fig. 22.
- 32** Remove the left hand bolt in the air cooler that was left loose in step 25. Install the Air Cleaner Bracket ⑥ with one M6 flange bolt ⑤③ and 1 M6 Flange Flange Nut ⑤④ as shown in Fig. 23. Replace the M8 bolt and nut and tighten the bracket in place. See Fig. 23a.

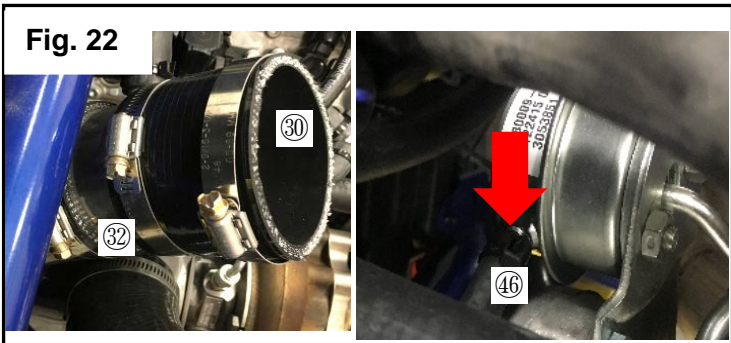


Fig. 22

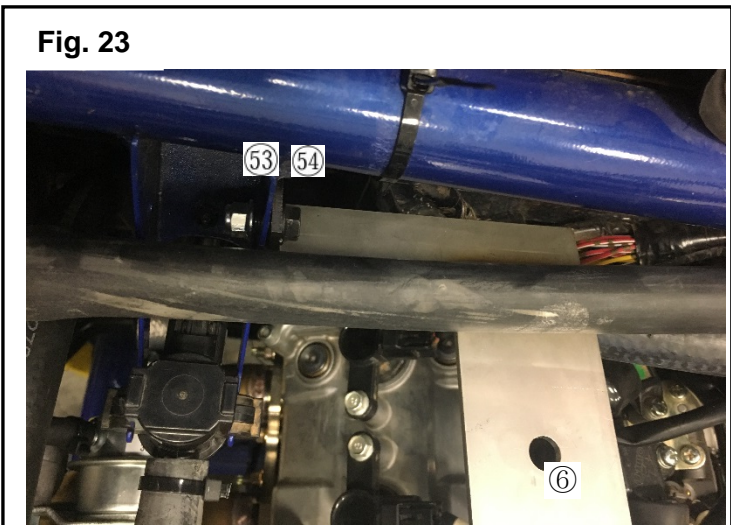


Fig. 23

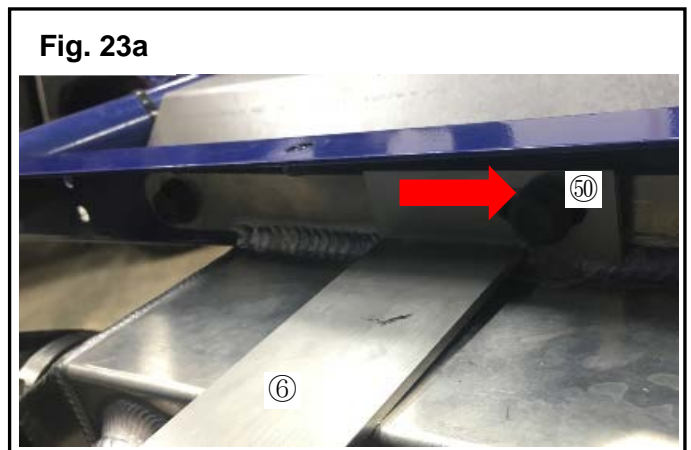


Fig. 23a

Fig. 24a



Fig. 24b

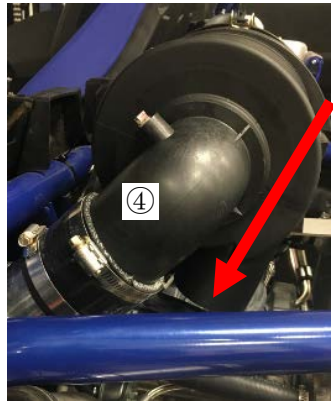


Fig. 25

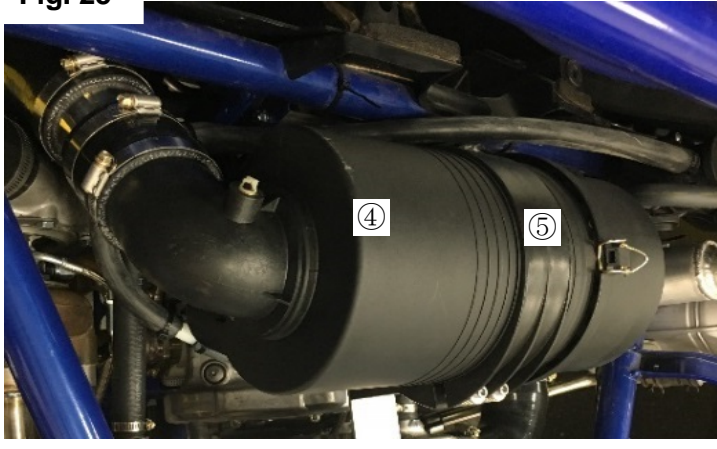


Fig. 26



INSTALLATION:

- 33** First remove the two socket head bolts, washers, and springs clamping the air cleaner mount (5) closed as shown in Fig. 24a. Slide the air filter (4) into the clamp. Replace the bolts, springs, and washers but do not tighten.
- 34** Orient the air cleaner so that the open hole points in the same directions as the red arrow in Fig. 24b. Use two M8 x 25 flange bolts (50) and two M8 flange nuts (51) to mount the air cleaner to the air cleaner bracket. Secure the Silicone Straight Hose 3" to the air filter with the clamp (59). Tighten the hose clamp and then the air filter mount. Refer to Fig. 25.
- 35** Ensure all hoses and clamps are tight.
- 36** Install the ECU (14). Refer to the service manual for procedure.
- 37** Ensure all electrical connections are re-connected to the engine. Reconnect the battery. Fill the oil feed line from the oil tank to the oil intake at the bottom of the mag cover. Refill the oil tank. Ensure levels in the engine and oil tank are per specification in the service manual.
- 38** Refill the vehicle cooling system following the process in the service manual. The coolant bleed screw is accessible under the intake manifold
- 39** Fill the Cooling Surge Tank with coolant. Turn on the ignition **but do not start the engine**. Listen for the Water Pump (10) running. Check the surge tank and ensure that coolant is flowing. If no coolant is flowing, unbolt the pump bracket, position the pump so that it is the lowest point in the cooling circuit and lightly shake the pump to free trapped air. Reinstall the water pump when coolant is flowing. There is a bleeder valve on the top of the radiator in the front. Open the valve until coolant starts to flow out of the bleeder. Close the valve, check the surge tank and fill the surge tank up to the level of the opening for the radiator cap. **Note:** Have 5 quarts of Yamacool® High-Performance Antifreeze or equivalent on hand to fill the turbo intercooler system.
- 40** Trim the bottom flange out of the section of the cargo bed airbox as shown in Fig. 26. The trim line is the red dashed line. Ensure that the air filter-to-turbo hose does not rub on the plastic bed. Reinstall the cargo bed onto the vehicle per the factory service manual.

Fig. 27



INSTALLATION:

41 Install the longer gray hose removed from the OE oil separator (step 26) to the Air / Oil separator ⑧ on the lower large barb on the side. The other end of the gray hose connects to the top of the oil tank. Secure the hose with the original clamps from the vehicle. Secure the 22" long 3/4" rubber hose ⑥3 to the upper large barb on the side of the air/oil separator with a zip tie ⑥3. The drain line from the OE separator removed in step 26 connects to the small barb on the very bottom of the Air / Oil separator ⑧ as shown in Fig. 27. **Note:** The bed was removed to take the photo.

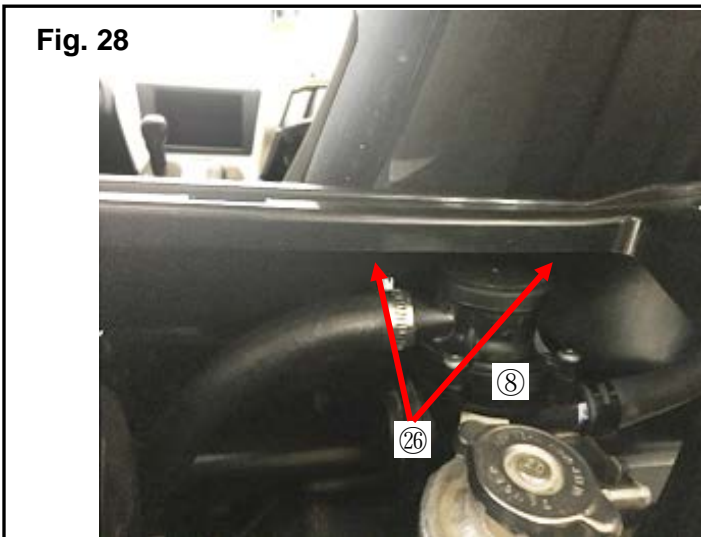
42 With the passenger seat removed from the vehicle, the air/oil separator ⑧ bolts to the forward wall of the cargo bed. Lift the bed enough to locate mount holes for the separator and drill 2 5/16" holes through the plastic. Secure the separator with two M8 X 35 flange bolts ②6 and two M8 Flange Nuts ⑤1 in the approximate location shown in Fig. 28.

43 Start the vehicle and check for leaks. Let the vehicle warm to operating temperature and check for leaks again. Follow the procedures laid out in step 38.

Note: Use ②8 Cable Ties to secure waterlines and hoses away from possible contact with hot or moving parts.

44 Reinstall the body work, ROPS enclosure, and suntop. Be sure to refer to the factory service manual for installation steps and torque values. Tightening sequence and torques for ROPS enclosure are shown on page 15.

Fig. 28



MAINTENANCE:

Periodically check all hardware and re-torque as required.

CUSTOMER SERVICE:

For further information see your Yamaha dealer.

ESTIMATED TIME TO INSTALL: 24 HRS

APPENDIX

Tech Tip – YXZ1000R All Models

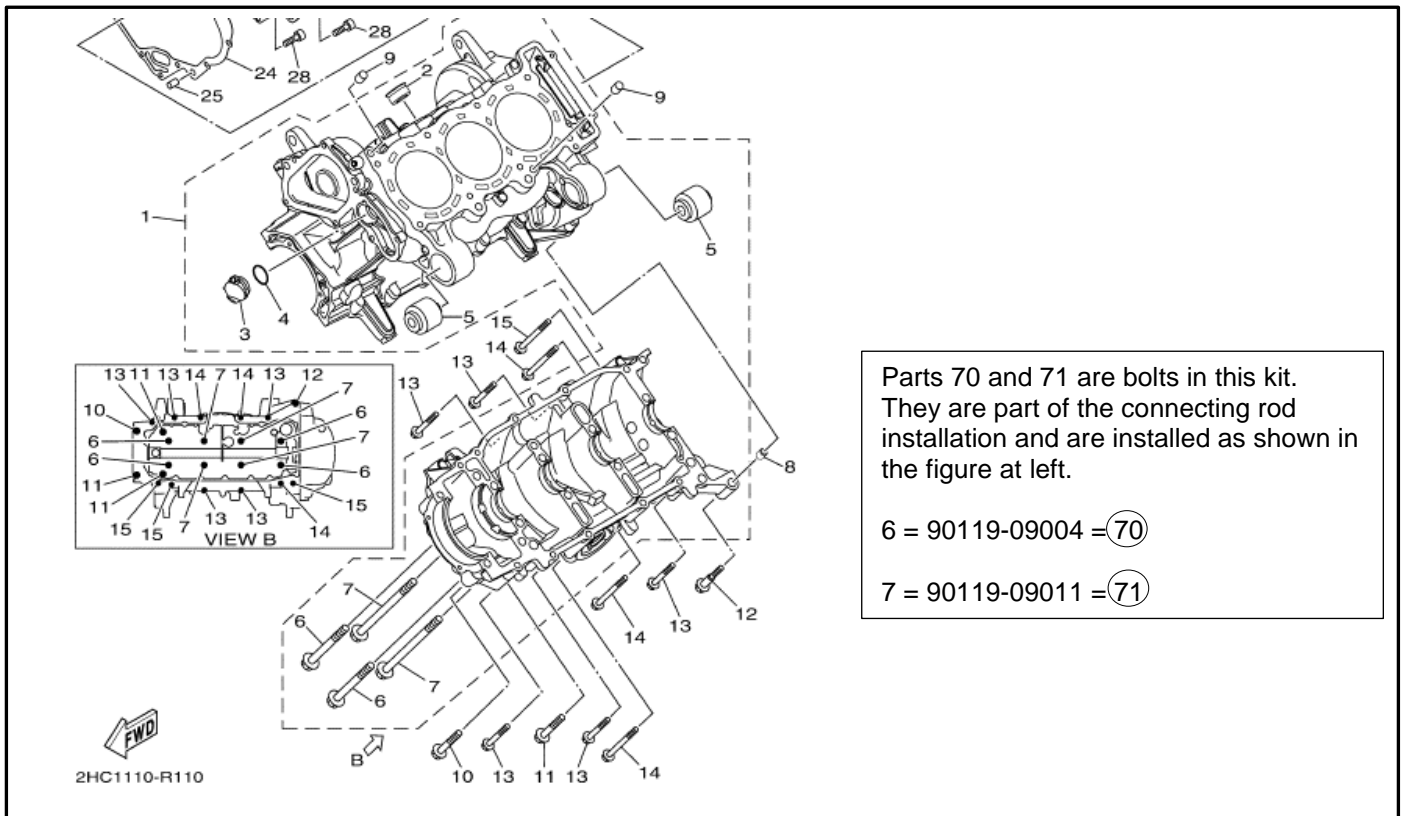
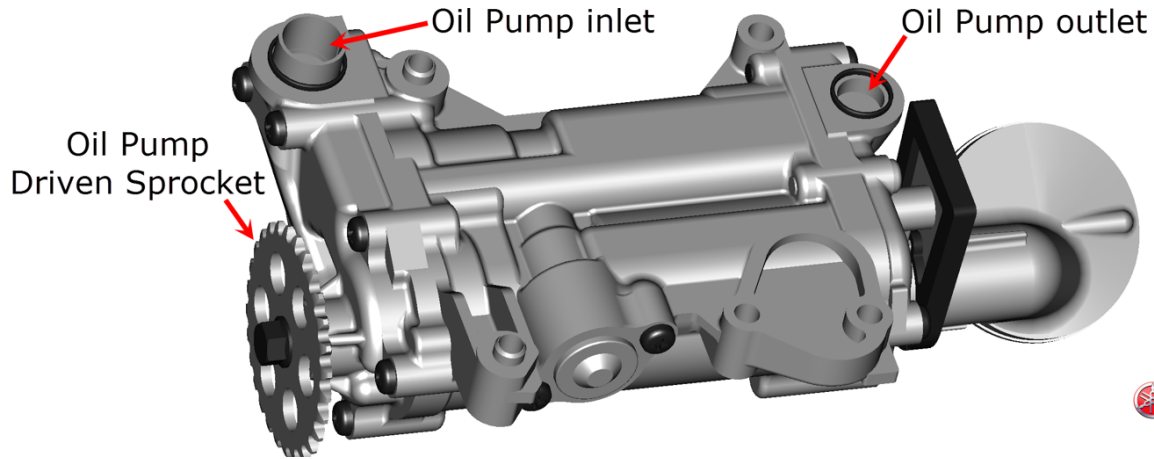
Oil Pump Priming Method

Recommendation:

- If replacing the Oil Pump assembly for any reason, use the following procedure to ensure oil pressure immediately at engine start up.

Procedure:

- While rotating the Oil Pump Driven Sprocket clockwise, inject Yamalube Multi-Purpose Grease (ACC-GREAS-RE-FL) into the pump inlet hole until grease exits the outlet port.



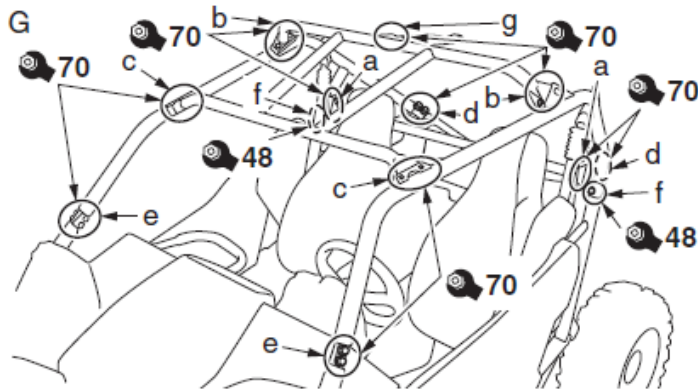
Parts 70 and 71 are bolts in this kit. They are part of the connecting rod installation and are installed as shown in the figure at left.

6 = 90119-09004 = (70)



7 = 90119-09011 = (71)

Torques for ROPS Tubes

When Reinstalling the ROPS tubes, Tighten the Bolts and Nuts in the sequence shown below.



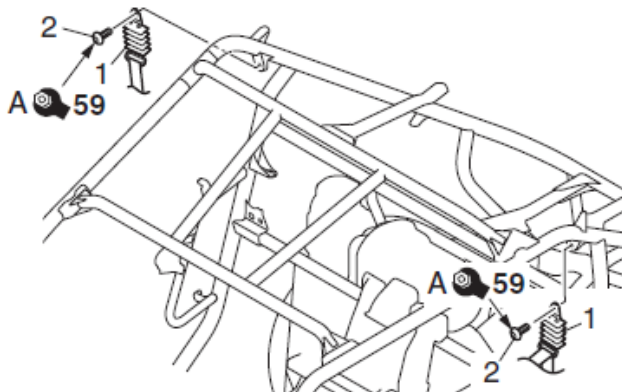
G: Tighten the bolts and nuts to specification.

	Bolt and nut
	70 N·m (7.0 kgf·m, 51 lb·ft)
	Nut
	48 N·m (4.8 kgf·m, 35 lb·ft)

TIP


Tighten the bolts and nuts according to the alphabetical order shown in the illustration.

When re-connecting the seat belt straps to the ROPS tubes, torque the bolts to the specification shown below.



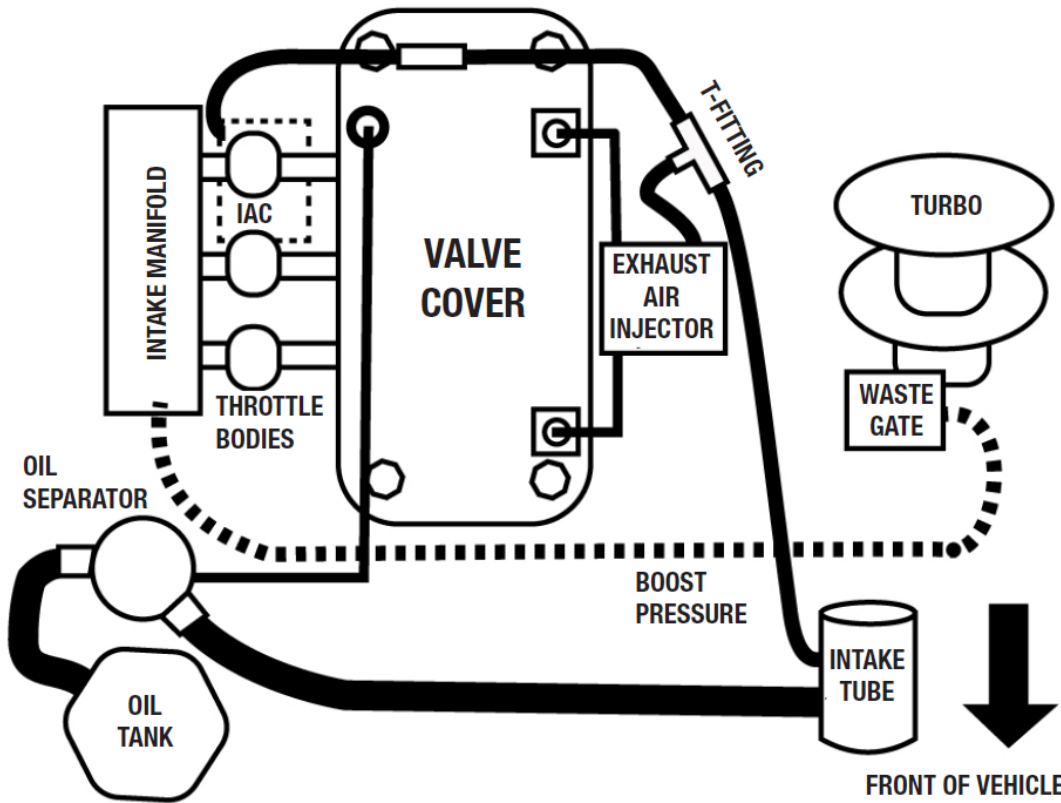
1	Seat belt	2	*	
2	Hexagon socket bolt	2	(8)-V	d = 12 (0.47), ℓ = 18 (0.71)

A: Tighten the bolts to specification.

	Bolt
	59 N·m (5.9 kgf·m, 43 lb·ft)

Tech Tip: Hose Route Diagram.

EMISSION HOSE ROUTING



YAMAHA

2HC-F111F-V0