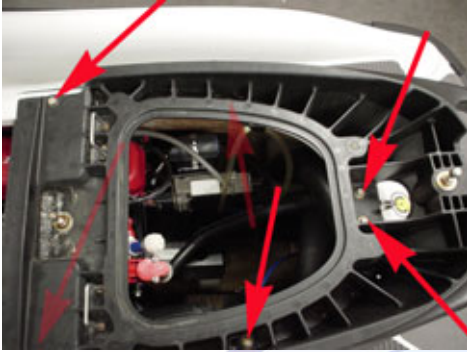


# Engine Removal / Installation

Polaris 1200DI

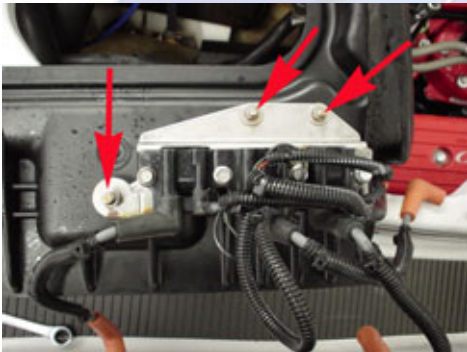
## Step 1

### Seat Brace / Battery Removal



1.1 (Above) Remove the six 1/2 inch bolts securing the seat brace to the hull. Lift the seat brace tip to its side. Remove the spark plug wires.

1.2 (Below) Remove the two 10mm bolts and one 13mm bolts securing the coil packs to the seat brace. Leave the coil pack sitting in the footwell.



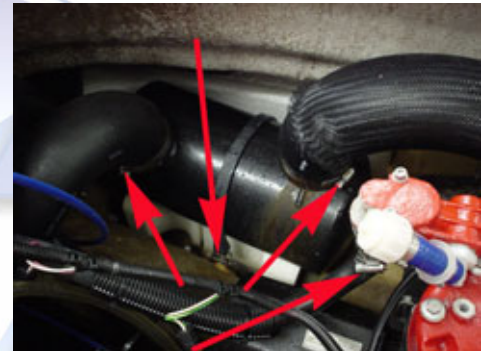
1.3 (Below) Loosen the lamp to the cooling line on the electrical box and remove it. Remove the allen head bolt securing the capacitor to the electrical box. Disconnect the quick connects on the side facing the back of the hull. Using a 5mm allen head wrench remove the electrical connection on the bow side of the box. Remove the two 10mm bolts securing the battery. Pull the electrical box up and loosen the clamp on the cooling line on the bottom of the box and remove the line. Remove the electrical box from the hull. Remove the cover from the battery. Disconnect the negative cable to the battery and then the positive cable. Remove the vent hose to the battery then remove the battery from the hull.



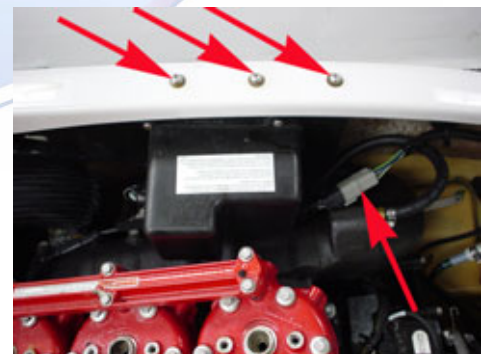
## Step 2

### Exhaust Removal

2.1 (Below) Loosen the two hose clamps securing the exhaust hoses to the waterbox. Remove the exhaust hoses and remove the waterbox strap. Remove the waterbox. Loosen the clamp to the cooling line on the cooling rail. Remove the cooling line.



2.2 (Below) Remove the three 5mm allen head bolts holding the electric reverse in place. Disconnect the quick connect and slide the box toward the back of the hull and set it in the footwell.



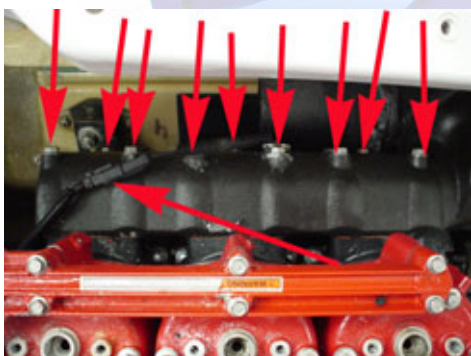
# Engine Removal / Installation

## Polaris 1200DI

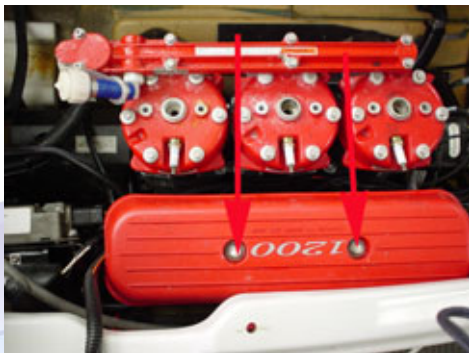
2.3 (Below) Loosen the two clamps using a 10mm wrench. Remove the two 13mm bolts holding the exhaust pipe to the exhaust manifold. Pull the exhaust pipe straight back and remove it from the hull.



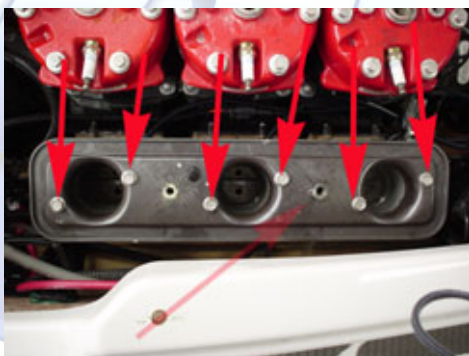
2.4 (Below) Remove the nine 13mm bolts securing the exhaust manifold to the engine. Disconnect the quick connect to the manifold. Remove the exhaust manifold from the hull.



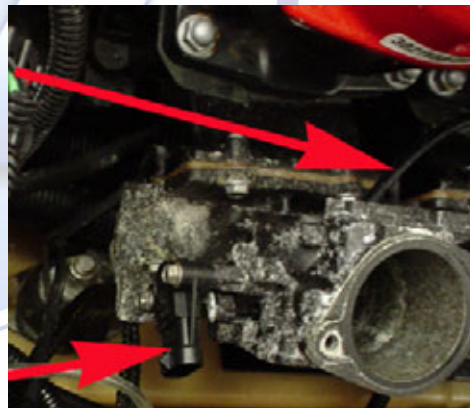
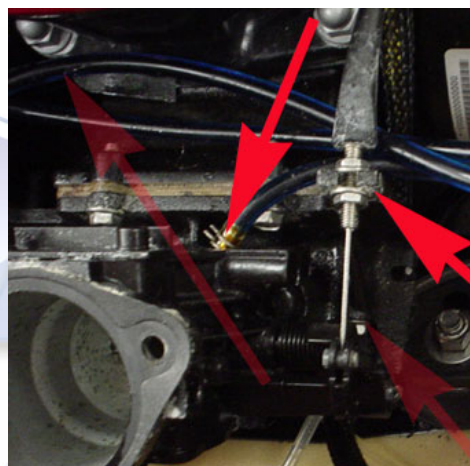
2.5 (Below) Remove the two 14mm bolts securing the airbox cover to the throttle body. Remove the cover and then remove the air filter.



2.6 (Below) Remove the six 10mm bolts securing the throttle bodies to the intake manifold. Disconnect the quick connect to the air flow sensor. Remove the airbox base and bolts from the hull.



2.7 (Below) Remove the quick connect to the throttle position sensor. Using a 10mm wrench, remove the throttle cable and oil pump cable. Remove the three oil lines from the oil pump to the throttle bodies. Remove the throttle bodies from the hull.





# Engine Removal / Installation

Polaris 1200DI

## Step 3

### Fuel Injector removal

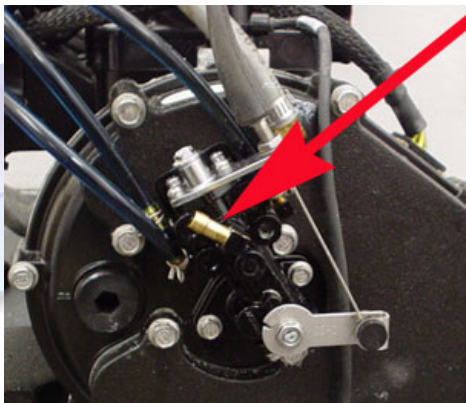
3.1 (Below) Remove the three quick connects to the fuel injectors. Remove the six 10mm bolts securing the fuel injectors to the head. Pull up and wiggle the injectors off of the head. Place the injectors in the footwell. Remove the spark plugs.



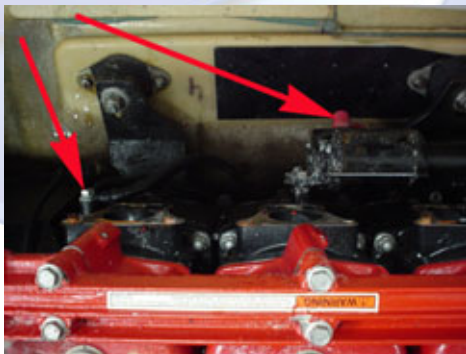
## Step 4

### Engine Removal

4.1 (Below) Remove the oil line from the oil pump and plug the hole. (Picture taken outside of the hull to better show the location of the oil line)



4.2 (Below) Using a 10mm wrench, disconnect the positive cable to the starter. Using an 10mm socket, remove the negative cable.

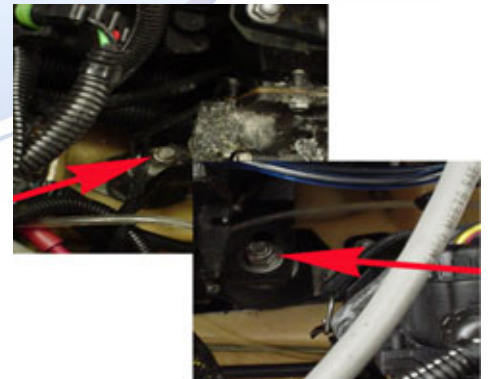


4.3 (Below) Loosen but do not remove the two 13mm bolts holding the PTO shroud in place. Remove the PTO shroud from the hull.

4.4 (Below) Block the PTO piston from moving using a rag or rope. Place a large crescent wrench on the PTO and spin counter-clockwise to break it free. Spin the PTO off as far as possible so it clear of the threads.



4.5 (Below) Remove the four 19mm nuts from the engine mounts.



4.6 Remove the engine from the hull by lifting it up while pushing the PTO towards the rear of the hull. Once clear of the PTO lift up and towards the back of the hull until clear of the hull.

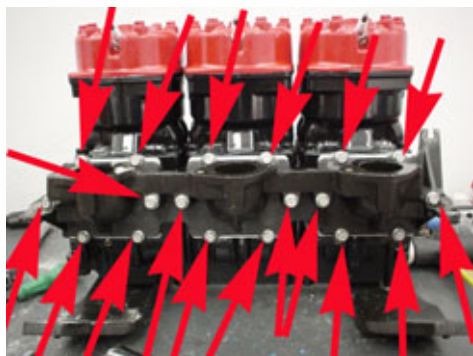
# Engine Removal / Installation

## Polaris 1200DI

### Step 5

#### Accessory Removal

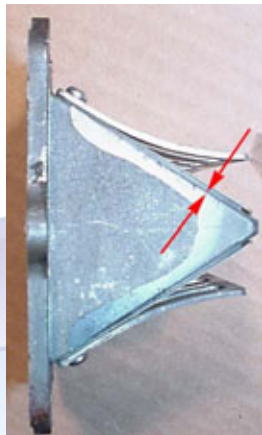
5.1 (Below) Remove the eighteen 10mm bolts securing the intake manifold to the engine. Remove the intake manifold and the reeds.



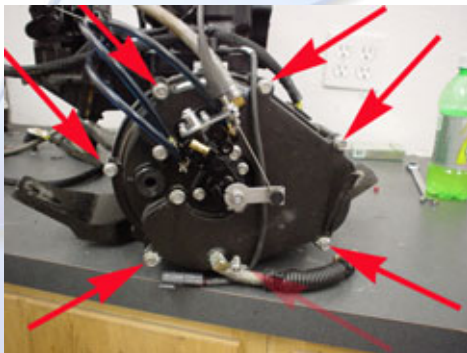
5.2 (Below) Inspect each reed assembly for damage and wear. Look at each reed petal and inspect the edges for signs of cracking, chipping or any missing parts. If any damage is present, replace the petals.



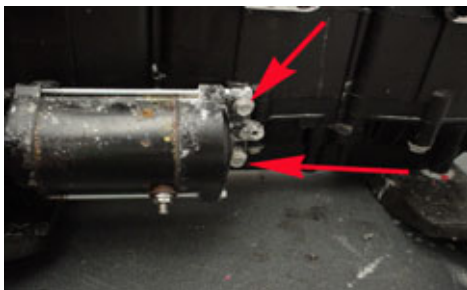
5.3 (Below) Look at each petal-to-cage surface and check for gap. If a gap of more than 0.015" is present, replace the petals.



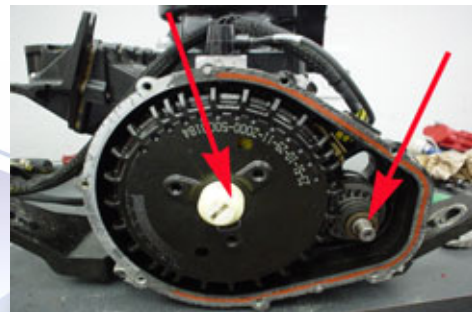
5.4 (Below) Remove the seven 10mm flywheel cover bolts and remove the cover.



5.5 (Below) Remove the two 12mm bolts holding the starter to the case. Slide the starter toward the back of the case to remove it.



5.6 (Below) Remove the plastic cap that turns the oil pump from the flywheel nut. Remove the 19mm flywheel nut. Using a universal flywheel puller, remove the flywheel. Once the flywheel is removed, remove the bendix.

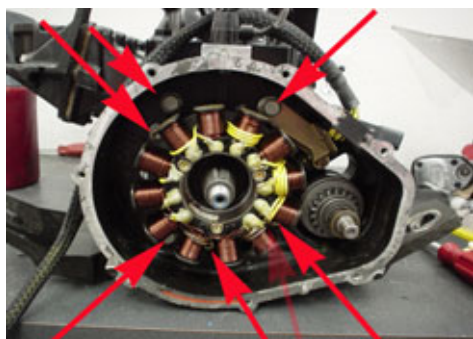




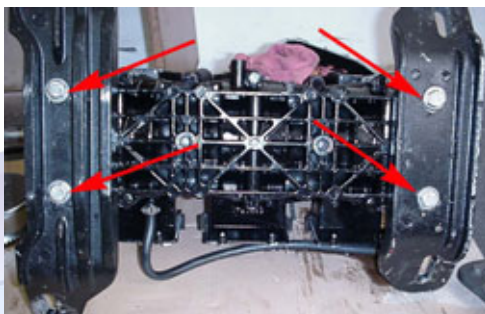
# *Engine Removal / Installation*

## *Polaris 1200DI*

5.7 (Below) Remove the three 5mm allen head bolts holding the stator in place. Tilt it to the side and remove the four 12mm bolts securing the flywheel housing to the engine case. Remove the flywheel housing. Punch out the crank seal and replace it with a new one.



5.8 (Below) Remove the engine cradle by removing the four 16mm bolts with a socket. With all the external accessories removed the engine is now ready to be shipped back to SBT.



5.9 (Below) Remove the six 10mm bolts from the cooling rail and remove the cooling rail.



# *Engine Removal / Installation*

*Polaris 1200DI*

## **Engine Installation**

### **Paper Gaskets**

It is SBT's recommendation that all paper gaskets be treated with Loctite® High-Tack Gasket Sealer prior to installation. Read and follow all instructions on the product canister to insure good gasket sealing on your new engine.

### **Special Gaskets**

It is SBT's recommendation that all exhaust gaskets be sealed with Loctite® Copper Gasket Adhesive prior to installation. Read and follow all instructions on the product canister to insure good gasket sealing on your new engine. Bolts

It is SBT's recommendation that all bolts be treated with Loctite® Medium Strength Threadlocker Blue (242) during assembly.

### **Electrical Connections**

It is SBT's recommendation that all electrical connections be sanded, cleaned and secured during the assembly process. It is a common problem to not have solid connections due to corrosion, paint, poor wire condition, etc.

### **Disclaimer**

While every precaution has been taken in the preparation of these guides, SBT assumes no responsibility for errors or omissions. Neither is any Liability assumed for damages resulting from use of the information contained herein. Publication of the procedures in these guides does not imply approval of the manufacturers of the products covered. Persons engaging in the procedures herein do so at their own risk.

TM

# Engine Removal / Installation

## Polaris 1200DI

Follow the removal steps in reverse order to install your new SBT short block assembly:

- 5.9 Using new gaskets, replace the cooling rail using six 10mm bolts.
  - Torque to 25 ft. lbs.
- 5.8 Replace the engine cradle using four 16mm bolts.
  - Torque to 30 ft. lbs.
- 5.7 Using a new gasket, place the flywheel housing onto the engine using four 12mm bolts. Replace the stator using the three 5mm allen head bolts..
  - 12mm - Torque to 40 ft. lbs.
  - 5mm – Torque to 50 in. lbs.
- 5.6 Place the bendix into the flywheel housing. Replace the flywheel using the flywheel nut and washer. Place the plastic cap onto the flywheel nut.
  - Torque to 65 ft. lbs.
- 5.5 Replace the starter using two 12mm bolts.
  - Torque to 9 ft. lbs.
- 5.4 Using a new gasket replace the flywheel cover using seven 10mm bolts.. Align the key on the oil pump with the slot on the plastic cap on the flywheel nut.
  - Torque to 26 ft. lbs.
- 5.1 Place the reeds into the intake ports. Using a new gasket replace the intake manifold using eighteen 10mm bolts.
  - Torque to 40 in. lbs.
- 4.6 Place the engine into the hull and rest it onto the engine mount studs and align the PTO onto the crankshaft.
- 4.5 Replace the four 19mm engine mount bolts.
  - Torque to 45 ft. lbs.
- 4.4 Using a rag or a piece of rope, block the piston from moving and screw the PTO onto the crankshaft.
  - Torque to 65 ft. lbs.
- 4.3 Slide the PTO shroud into place and tighten the two 13mm bolts until snug.
- 4.2 Replace the positive cable to the starter using a 10mm nut. Replace the negative cable using an 8mm bolt.
  - 10mm nut – Torque to 40 in. lbs.
  - 10mm bolt - Torque to 40 in. lbs.
- 4.1 Replace the oil line to the oil pump. Bleed the oil line using the bleeder screw until all air bubbles are gone.
- 3.1 Replace the fuel injectors to the head using the six 10mm bolts. Re-connect the quick connects to the fuel injectors.
  - Torque to 26 ft. lbs.
- 2.7 Using new gaskets, place the throttle bodies onto the intake manifold. Replace the three oil lines from the oil pump to the throttle bodies. Replace the throttle cables to the throttle bodies. Replace the quick connect to the throttle position sensor.
- 2.6 Replace airbox base using six 10mm bolts. Re-connect the quick connect to the air flow sensor.
  - Torque to 26 ft. lbs.
- 2.5 Replace the air filter and the airbox cover using two 14mm bolts.
  - Torque to 26 ft. lbs.
- 2.4 Using new gaskets, replace the exhaust manifold using nine 13mm bolts. Reconnect the quick connect to the exhaust manifold.
  - Torque to 26 ft. lbs.
- 2.3 Replace the exhaust pipe onto the exhaust manifold using two 13mm bolts. Tighten the clamps from the manifold to the pipe.
  - Torque to 40 ft. lbs.
- 2.2 Replace the electric reverse box in place. Reconnect the quick connect. Using three 5mm bolts, bolt it into place. Tighten until snug.
- 2.1 Replace the cooling line to the cooling rail and tighten the clamp. Place the waterbox into the hull. Strap it into place. Connect the exhaust hoses and tighten the clamps.

# *Engine Removal / Installation*

*Polaris 1200DI*

1.3 Place the battery into the hull. Connect the Negative line and then connect the Positive line. Connect the vent hose to the battery. Place the cover back on the battery. Connect the bottom cooling line to the battery and tighten the clamp. Replace the large electrical connection to the box and tighten the 5mm allen head bolt until snug. Place the electrical box onto the battery and tighten the 10mm bolts securing it to the hull. Replace the quick connects onto the right side of the box. Replace the top cooling line and tighten the clamp. Place the capacitor onto the top of the electrical box and tighten the 5mm allen bolt until snug.

1.2 Place the coil packs onto the seat brace using one 13mm bolt and two 10mm bolts.

- 10mm – Torque to 40 in. lbs.
- 13mm – Torque to 20 ft. lbs.

1.1 Place the seat brace onto the hull and tighten the six ½ inch bolts.

- Torque to 25 ft. lbs.

