

7. Refer to **Table 4** at the end of this chapter for torque specifications. Proper torque is essential in ensuring long life and satisfactory service from snowmobile components.
8. Apply a small amount of heat resistant grease to the inner lips of each new oil seal to prevent damage when first starting the engine.
9. Keep a record of all shims while removing them. After removing the shims, inspect them for damage and record their thickness and location.
10. Work in an area where there is sufficient lighting and room for component storage.

SERVICING ENGINE IN FRAME

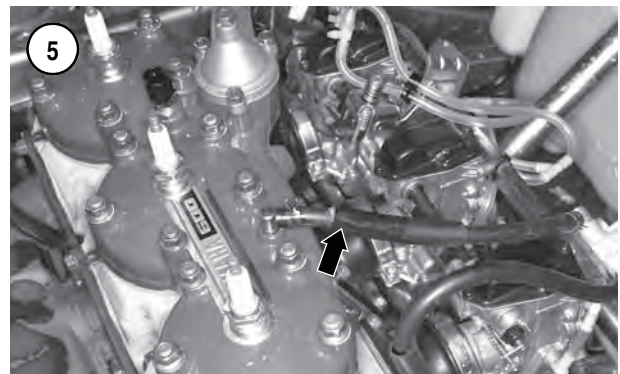
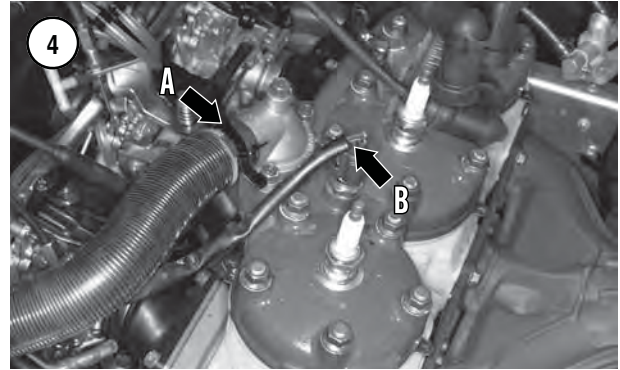
The following components can be serviced while the engine is mounted in the frame:

1. Cylinder head.
2. Cylinder.
3. Piston.
4. Carburetors.
5. Magneto.
6. Oil pump.
7. Recoil starter.
8. Clutch assembly.

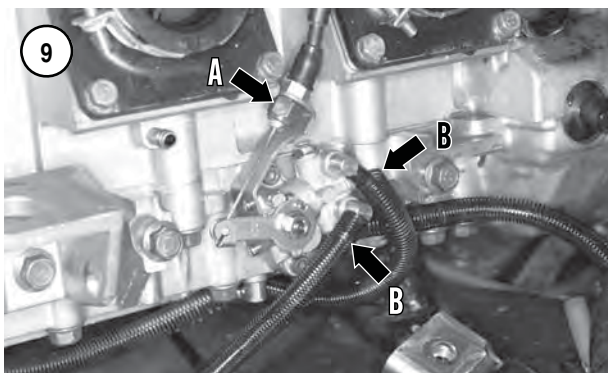
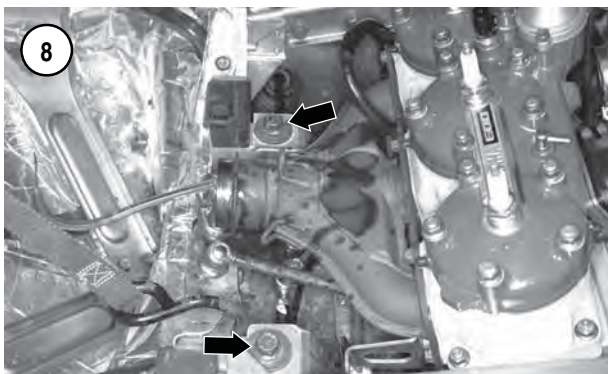
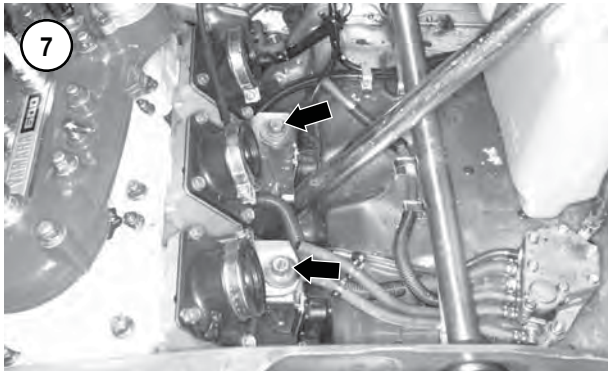
ENGINE REMOVAL

Engine removal and crankcase separation is required to service the crankshaft, connecting rod and bearings.

1. Remove the shroud.
 - a. Open the shroud.
 - b. Disconnect any interfering wiring. It may be necessary to detach the wiring from the hood or speedometer cable.
 - c. Disconnect the speedometer cable.
 - d. Disconnect the hood restraining cable and have an assistant support the shroud.
 - e. Remove the screws that attach the hood hinge, then lift off the shroud.
 - f. Set the shroud out of the way to prevent it from being damaged.
2. If equipped with a battery, disconnect the negative battery cable from the battery.
3. Drain the cooling system as described in Chapter Three.
4. Remove the exhaust assembly as described in Chapter Five.
5. Remove the recoil starter as described in Chapter Nine.
6. Remove the drive belt as described in Chapter Ten.
7. Remove the drive pulley as described in Chapter Ten.



8. Disconnect the upper coolant hose (A, **Figure 4**) and the coolant temperature connector (B).
9. Disconnect the carburetor heater hose (**Figure 5**) from the engine.
10. Disconnect the lower coolant hose from the coolant pump.
11. Remove the carburetor assembly as described in Chapter Five.
12. Disconnect the magneto/generator connectors (**Figure 6**).

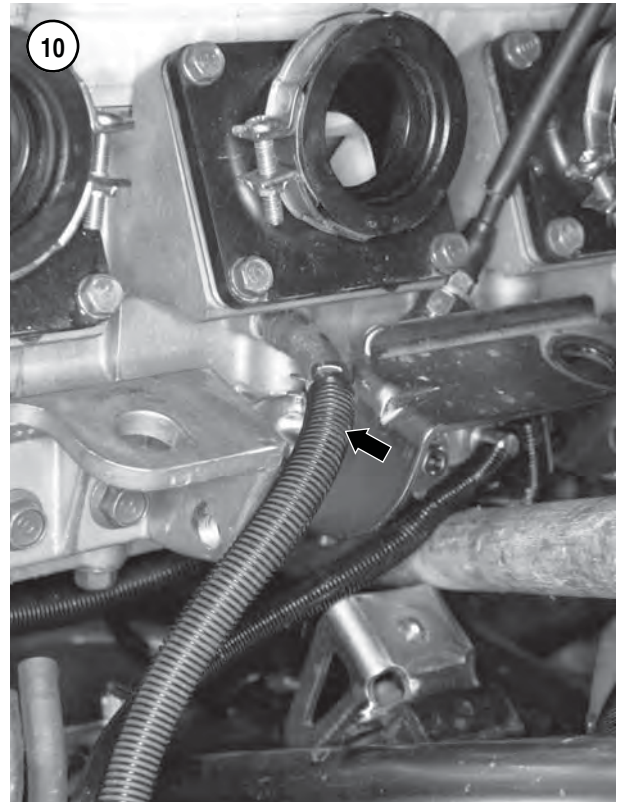


13. Remove the engine retaining bolts (**Figure 7** and **Figure 8**) on both sides of the engine.

NOTE

Raise the engine for access to the following components before lifting out the engine.

14. Disconnect the oil pump control cable (A, **Figure 9**).
15. Detach the oil hoses from the oil pump (B, **Figure 9**).
16. Detach the crankcase pulse hose (**Figure 10**).
17. If equipped with a battery, disconnect the negative battery cable from the engine.



18. If so equipped, remove the electric starter motor as described in Chapter Six.

19. With at least one assistant, lift the engine up and remove it from the frame. Carry it to a workbench for further disassembly.

ENGINE INSTALLATION

1. Degrease the engine compartment and wash with clean water.
2. Clean all the exposed electrical connectors with an electrical contact cleaner.
3. Check all the coolant hoses and the hose connections for looseness or damage. Make sure the hose clamps are tight.
4. Examine the engine mounting bracket components (**Figure 11**). Replace any damaged parts. Check all fasteners for looseness. Tighten fasteners to the torque specified in **Figure 11**.
5. Check inside the frame for any object that may interfere with engine installation. Make sure wiring harnesses are routed and secured properly.
6. Install the engine into the snowmobile.
7. If so equipped, install the electric starter motor as described in Chapter Six.