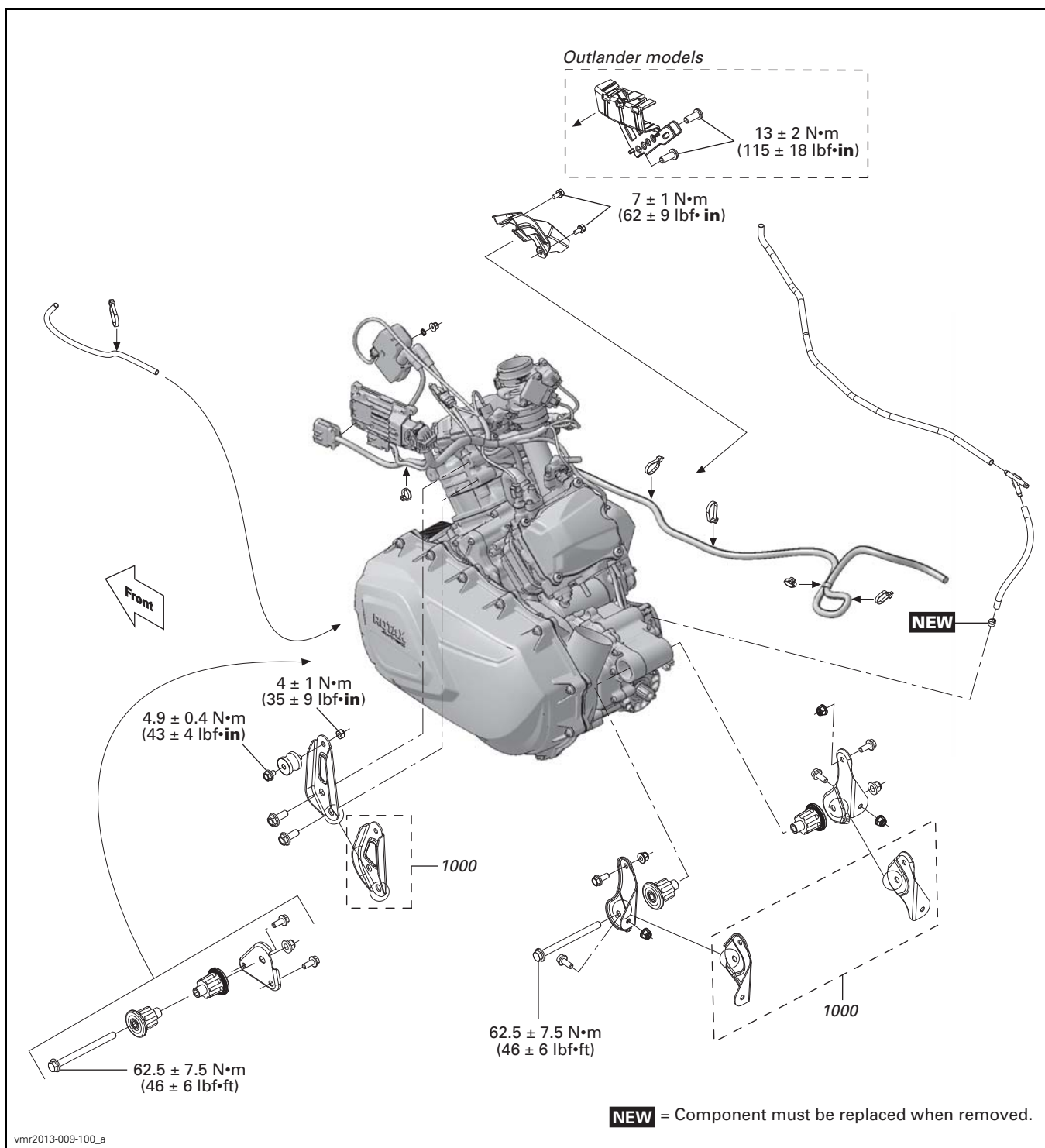


ENGINE REMOVAL AND INSTALLATION

SERVICE TOOLS

Description	Part Number	Page
ENGINE LIFTING TOOL	529 036 022	5



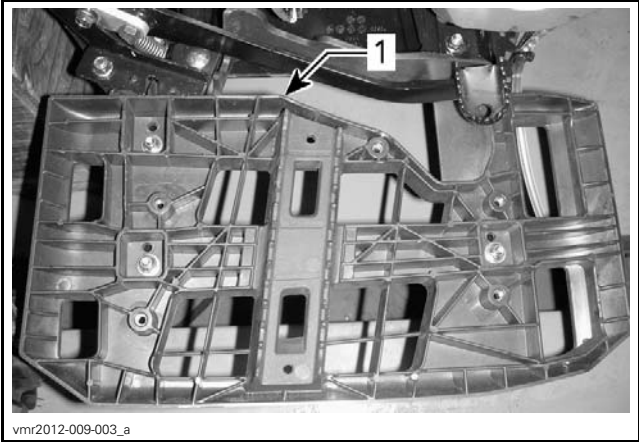
PROCEDURES

ENGINE REMOVAL

- 1. Place vehicle on a workstation equipped with an engine-lifting hoist.
- 2. Disconnect negative (-) cable from battery.
- 3. Carry out the following operations. Refer to table.

OPERATIONS	REFERENCES (SUBSECTION)
Safely lift and support the vehicle	INTRODUCTION
Release fuel pressure	FUEL TANK AND FUEL PUMP
Drain engine coolant	PERIODIC MAINTENANCE PROCEDURES
Remove front body module	BODY
Remove RH footrest panel	
Remove air filter housing	AIR INTAKE SYSTEM
Remove muffler	EXHAUST SYSTEM
Remove exhaust pipes	
Remove CVT air inlet	CONTINUOUSLY VARIABLE TRANSMISSION (CVT)
Remove CVT air outlet	
Disconnect positive (+) starter cable	STARTING SYSTEM
Disconnect TPS connector	ELECTRONIC FUEL INJECTION (EFI)
Disconnect MAPTS connector	
Remove intake manifold	INTAKE MANIFOLD
Remove spark plug cables	IGNITION SYSTEM

- 4. Remove RH footrest support.



TYPICAL - OUTLANDER SHOWN
1. RH footrest support

- 5. Move throttle body aside to make room.



TYPICAL - THROTTLE BODY ATTACHED ON FRAME

- 6. Move master cylinder aside to make room.



TYPICAL - MASTER CYLINDER ATTACHED ON REAR FENDER

- 7. Move crankcase vent hose as illustrated.



TYPICAL

1. Cranksent vent hose

8. Disconnect both engine harness connectors (HIC).



TYPICAL

1. Engine harness connectors (HIC)

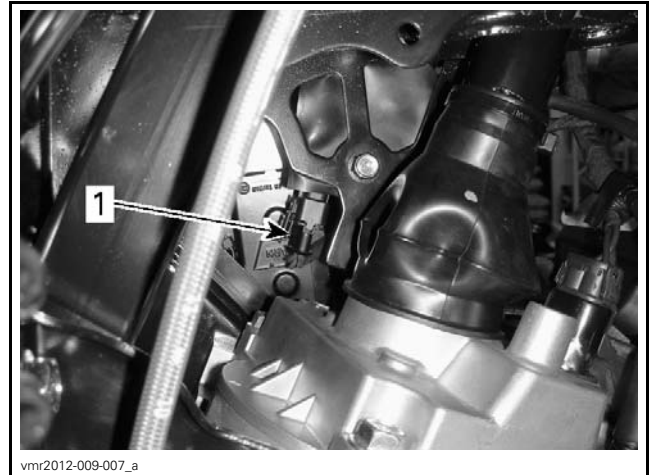
9. Move ECM as illustrated.



TYPICAL

10. Cut locking ties from ignition coil harness.

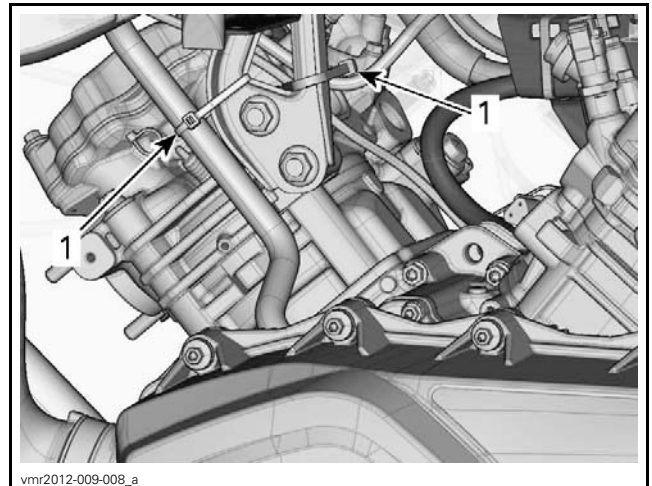
11. Disconnect ignition coil connector.



TYPICAL - FROM LH SIDE

1. Ignition coil connector

12. Remove the following locking ties.



TYPICAL

1. Locking ties

13. Remove plastic cover from engine.

Subsection XX (ENGINE REMOVAL AND INSTALLATION)



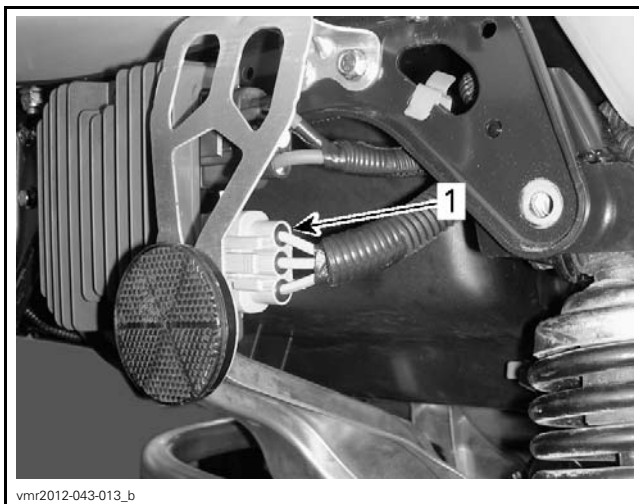
TYPICAL
1. Plastic cover

14. Remove harnesses support from engine.



TYPICAL
1. Harnesses support

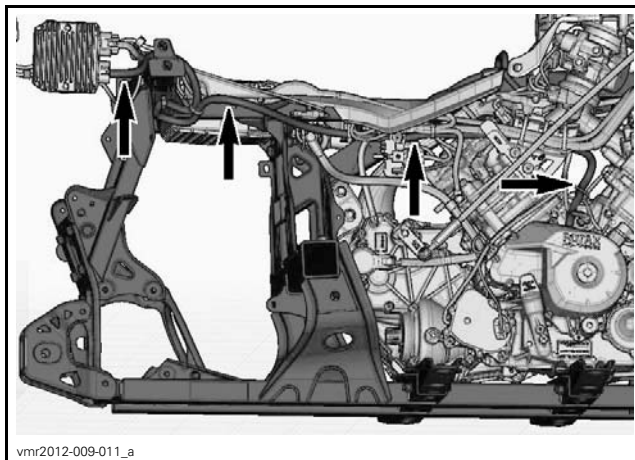
15. Disconnect magneto connector from voltage regulator rectifier.



TYPICAL - OUTLANDER SHOWN
1. Magneto connector

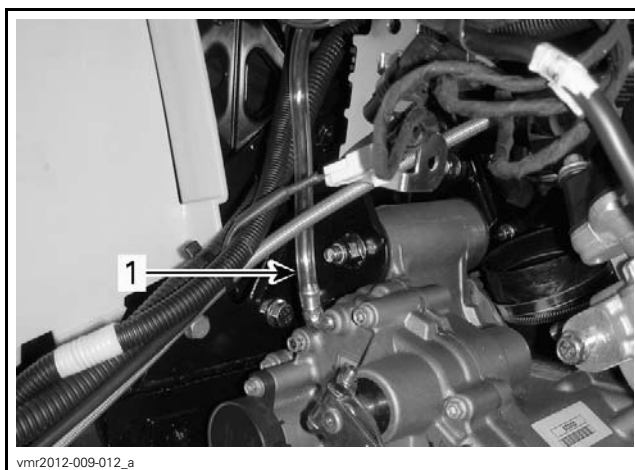
16. Remove magneto harness from its location along vehicle and gather it in a bundle near engine.

NOTE: It may be necessary to slightly lift the rear body module to ease magneto harness removal. Refer to *BODY* subsection.



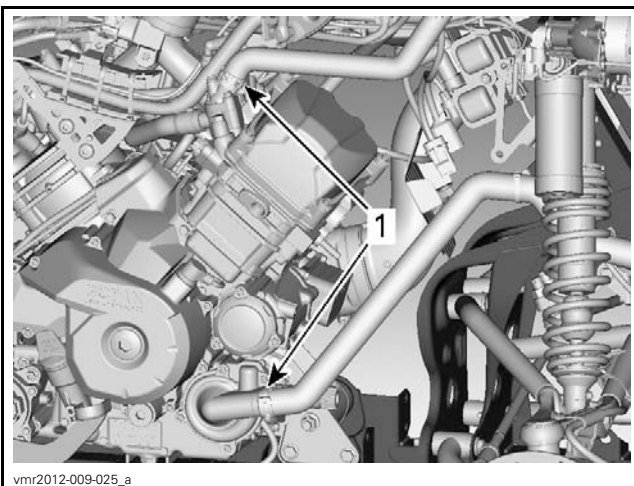
MAGNETO HARNESS (SOME PARTS REMOVED FOR CLARITY)

17. Disconnect vent hose from gearbox.

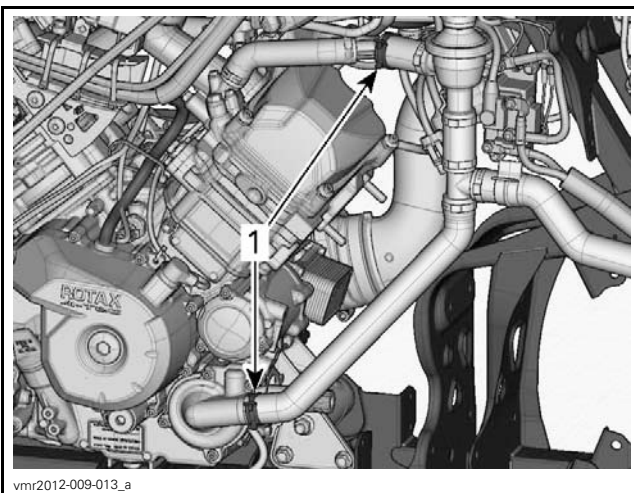


TYPICAL - OUTLANDER SHOWN
1. Vent hose

18. Disconnect coolant hoses as illustrated.

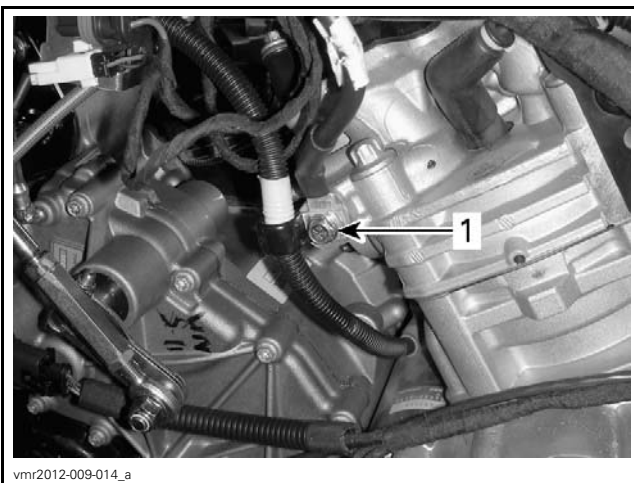


500/650/800R ENGINES - SOME PARTS REMOVED FOR CLARITY
 1. Disconnect the following coolant hoses



1000 ENGINE - SOME PARTS REMOVED FOR CLARITY
 1. Disconnect the following coolant hoses

19. Remove main ground wire from engine.



TYPICAL - OUTLANDER SHOWN
 1. Main ground wire

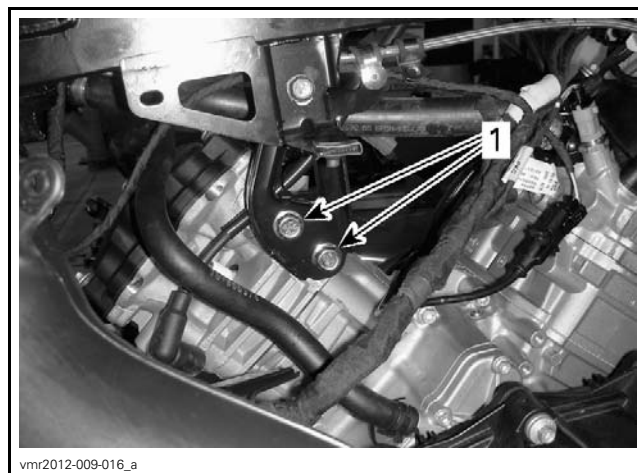
Engine Lifting

1. Install the ENGINE LIFTING TOOL (P/N 529 036 022) on engine.



TYPICAL

2. Remove upper retaining screws from engine.

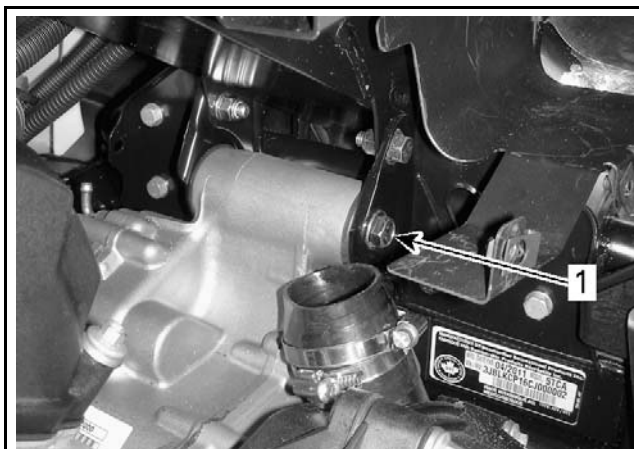


LH SIDE

1. Upper retaining screws

3. Remove rear retaining bolt from engine.

Subsection XX (ENGINE REMOVAL AND INSTALLATION)



LH SIDE

1. Rear retaining bolt

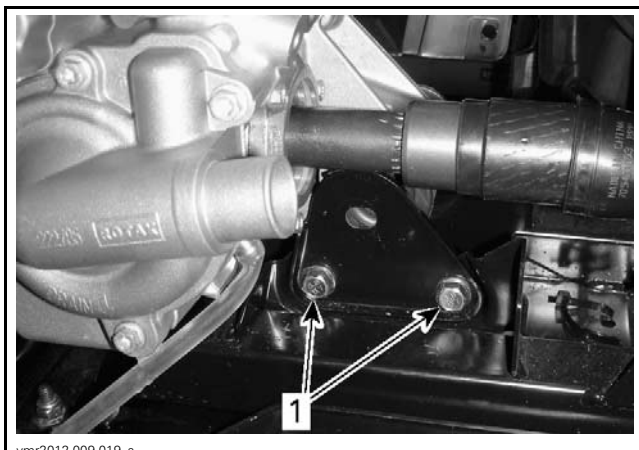
4. Remove front retaining bolt from engine.



LH SIDE

1. Front retaining bolt

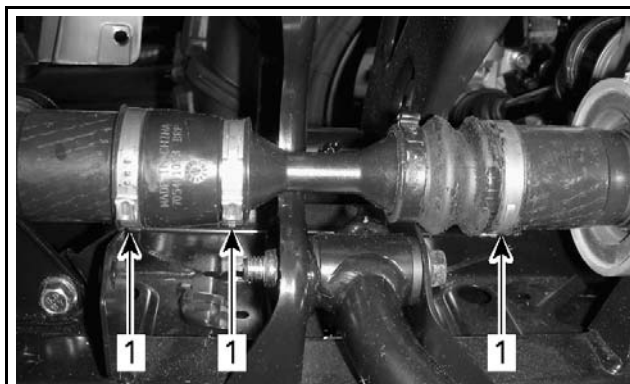
5. Remove engine support plate from frame.



RH SIDE

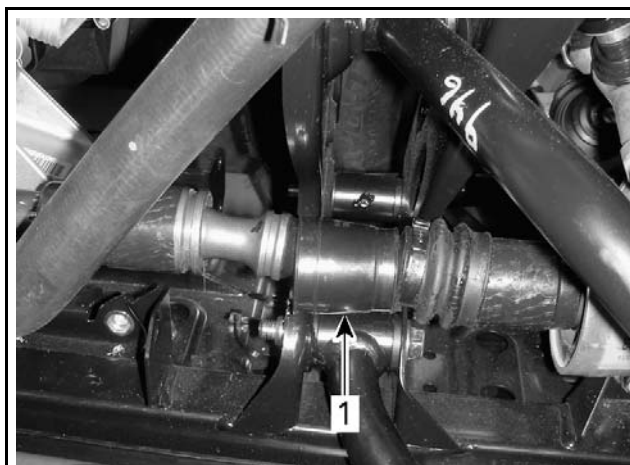
1. Engine support plate screws

6. Remove the following Oetiker clamps from front propeller shaft.



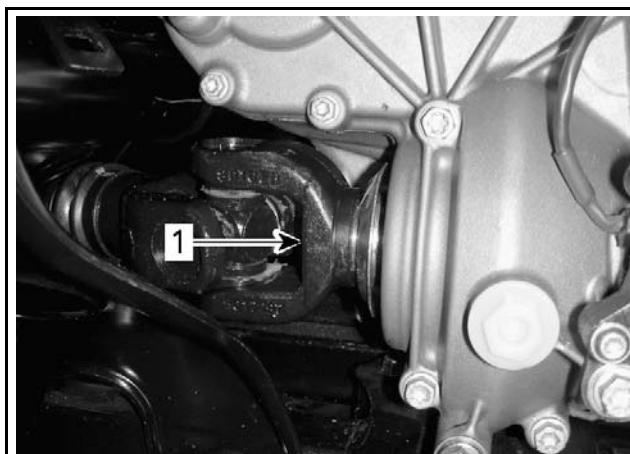
1. Oetiker clamps

7. Move front propeller shaft bellows forward.



1. Front propeller shaft bellows

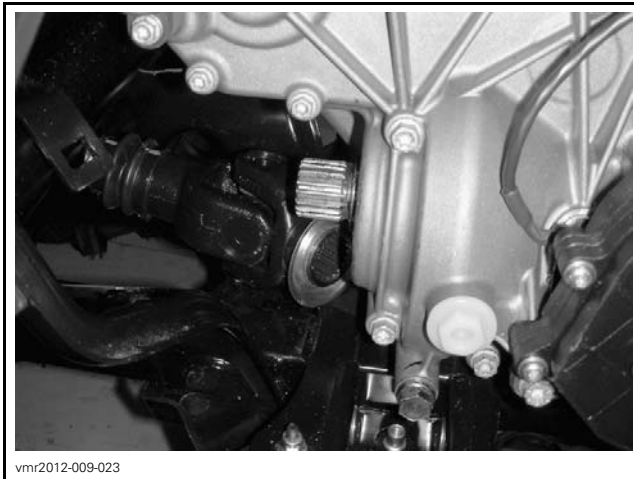
8. Remove propeller shaft screw from gearbox output shaft.



1. Rear propeller shaft screw

9. Slightly lift engine and move it forward to disconnect rear propeller shaft from engine.

10. Move propeller shaft yoke downwards to make room.



TYPICAL

11. Move engine rearward to disconnect front propeller shaft from engine.
12. Remove engine by the RH side.



TYPICAL

ENGINE INSTALLATION

The installation is the reverse of the removal procedure. However, pay attention to the following.

1. Inspect condition of engine mounts.
2. Install engine on vehicle.
3. Install all engine retaining bolts loosely.
4. Install and tighten propeller shaft screw. Refer to *REAR DRIVE* subsection.
5. Tighten engine retaining bolts to specification.

TORQUE	
Engine retaining bolts	62.5 N•m ± 7.5 N•m (46 lbf•ft ± 6 lbf•ft)

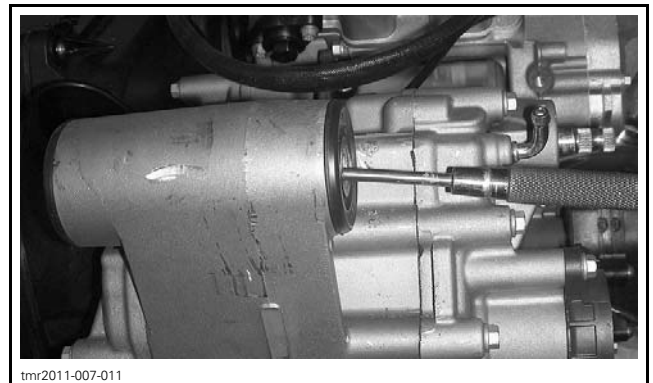
6. If applicable, fill engine as per specification. Refer to *LUBRICATION SYSTEM* subsection.
7. Fill and bleed cooling system. Refer to *PERIODIC MAINTENANCE PROCEDURE* subsection.
8. Check for any leaks.
9. Reinstall all the remaining parts as the reverse of removal procedure. Refer to exploded views and proper subsections.
10. Test drive vehicle to confirm proper operation.

ENGINE MOUNTS REPLACEMENT

NOTE: Use the same procedure for the front and rear engine mounts.

Engine Mount Removal

Insert a punch into engine mount bushing and push the opposite engine mount out.



TYPICAL

Engine Mount Installation

The installation is the reverse of the removal procedure.