NOTICE

Before running this machine a Service Needs to be performed.

Polaris has found a issue with the vendor supplied Motor Mount Straps being machined incorrectly causing engine placement to be incorrect.

Due to this issue you will need to replace both Motor Mount Straps with the supplied Motor Mount Straps included with your machine BEFORE RUNNING THE MACHINE! Failure to make this change will cause Drive Train issue's and or Failures.

Please use the supplied information for proper installation and Clutch alignment procedures. Also the choke cable free play needs to be checked. Some sleds may have to little of free play, causing the choke cable lever to break. As always if you have any question call the Polaris Race Department (715-355-5157) and check the website for our Race Tips

We are sorry for any inconvenience this may have caused but this was the best way to release the Race Sled for the upcoming race season in a timely manner. Thank you and Good Luck This Race Season!

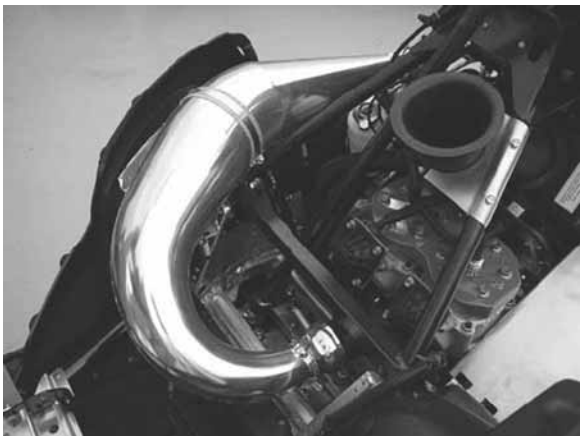
ENGINE REMOVAL AND INSTALLATION

Removal

1. Remove the hood and side panels.
2. Disconnect the exhaust pipe sensor and remove the exhaust system.
3. Turn the fuel valve to OFF.
4. Remove the drive belt.
5. Remove the drive and driven clutches.

NOTE: Keep track of the spacers that are on the jackshaft (behind the driven clutch).

6. Remove the intake horn and the brace from the chassis.

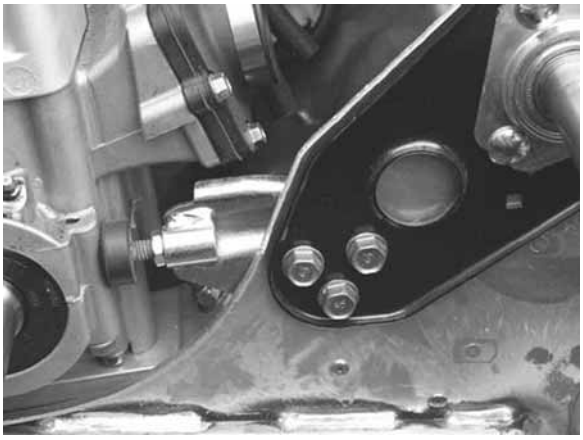


7. Remove the air box.
8. Remove the exhaust system.

NOTE: Grey colored springs are located on the header pipe and should be replaced in the same area.

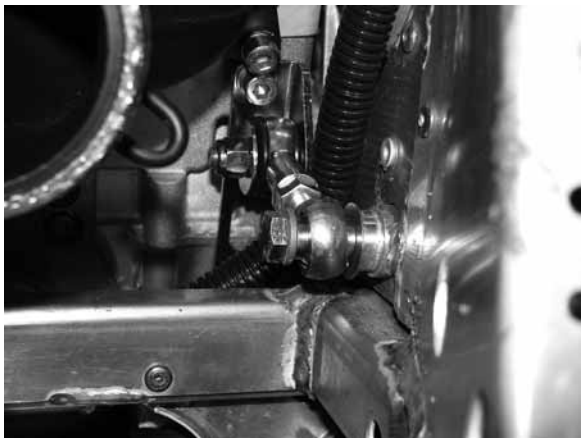
9. Separate the carburetors from the intake boots and secure it out of the way.

10. Remove the rear engine torque stop.



11. Remove the exhaust manifold and gaskets.

12. Remove the fastener that holds the torque stop to the engine plate.

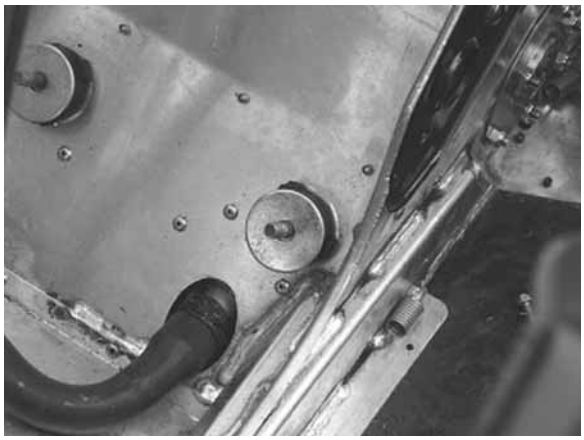


13. Disconnect the spark plugs.
14. Drain all coolant from the engine.
15. Remove the lower center front cooling hose.
16. Remove the hose from the top of the thermostat.
17. Disconnect the impulse line from the crankcase.
18. Remove the recoil handle and secure the recoil rope.
19. Disconnect the EV solenoid, water pump sensor, regulator rectifier and stator connections.
20. Remove the PTO EV assembly from the engine.

21. Remove the front motor mount fasteners and washers.
22. Remove the rear motor mount fasteners.
23. Remove the engine from the clutch side of the chassis.

Installation

The following instructions is for an engine that is assembled with the engine mounting plates attached and the spark plugs and PTO EV assembly removed.



1. From the clutch side, place the engine into the chassis and onto the motor mounts.
2. Apply Loctite 242 to the threads of each base fastener on the PTO EV and torque to specification.

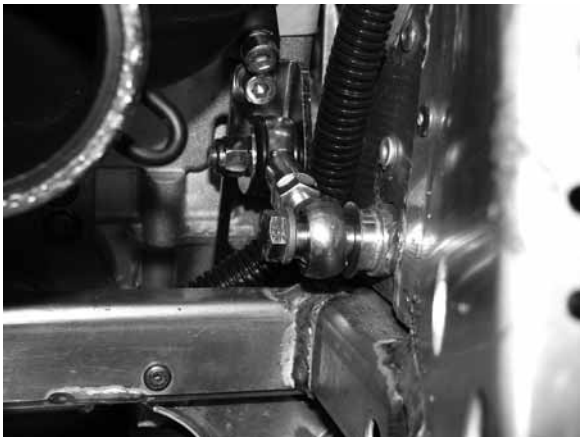
= T
EV Base: 12 ft-lbs (16Nm)

3. Place the washers and nuts on to the front and rear motor mounts.

4. Torque the motor mounts to specification.

= T
Motor Mount Torque: 28 ft-lbs (38Nm)

5. Connect the electrical items.
6. Connect the impulse line to the crankcase.
7. Route the recoil rope to the correct position.
8. Replace the hose to the thermostat housing.
9. Replace the lower center front cooling hose.
10. Connect he spark plug leads.
11. Replace the front torque arm to the engine plate and route the harness wires in a secure place.



12. Replace the exhaust manifold and gaskets. Torque the mounting fasteners to specification.

= T
Manifold Fastener Torque: 22 ft-lbs (30 Nm)

13. Replace the rear torque stop plate and torque the fasteners to specification.

= T
Rear Torque Stop Plate Torque: 28 ft-lbs (38Nm)

14. Adjust the torque stop so that it is touching but not forcing on the engine.
15. Place the carburetor back onto the intake boots and tighten the hose clamps to secure the carburetors.
16. Place the air box into the chassis.
17. Place the air intake horn onto the airbox and secure it to the chassis.
18. Replace the drive clutch and torque to specification.

= T
Drive Clutch Torque: 50 ft-lbs (69Nm)

19. Place the driven clutch spacers on to the jackshaft.
20. Place the driven clutch on to the jackshaft and torque to specification.

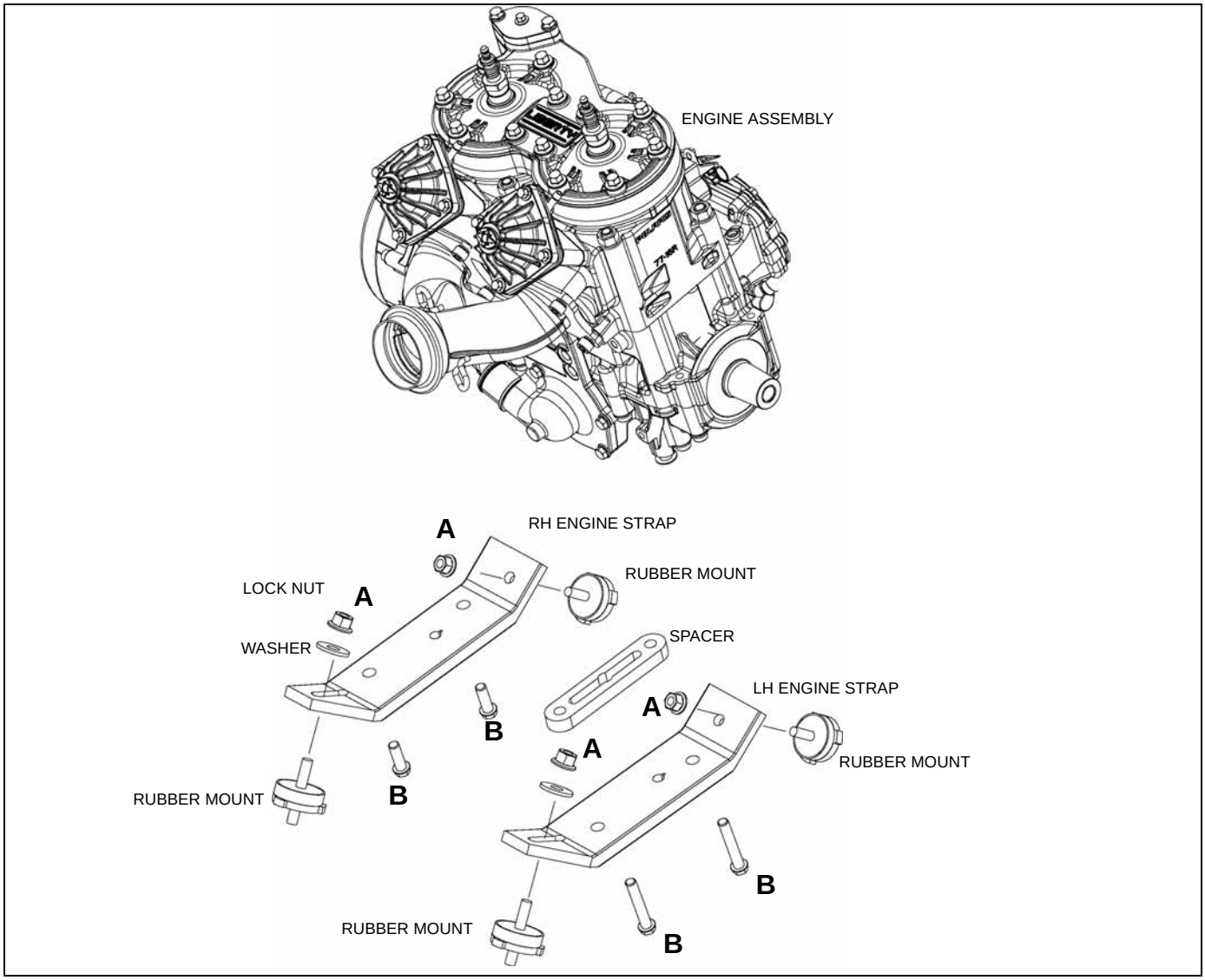
= T
Driven Clutch Torque: 12 ft-lbs (17Nm)

21. Verify clutch alignment.
22. Re-install the drive belt.
23. Replace the belt cover.
24. Replace the side panels.
25. Replace coolant and bleed the cooling system.
26. After test running, re-torque the drive clutch bolt.

9923892 - 2013 600 IQ Racer Service Manual

ENGINE COMPONENT ASSEMBLIES

IQ Racer Engine Mounting



= T
A = 28 ft-lbs (38 Nm) B = 30 ft-lbs (41 Nm)-Apply Loctite 242

PVT SYSTEM ADJUSTMENTS

Clutch Alignment / Offset

The engine is mounted in the bulkhead so the drive and driven clutches self-align under high torque loads.

Offset is controlled by the number of washers installed on the jackshaft behind the driven clutch.

1. Remove drive belt. Push the driven clutch towards the bulkhead.
2. Install the alignment tool into the drive clutch and on top of the driven clutch stationary housing.
3. Verify the tool is seated in the drive clutch and the driven clutch is pushed tight against the jackshaft bearing/washers.

TOOL PART NUMBER	APPLICATION
PS-47477	Light Weight (LW) Team Driven / P2

4. The optimum setup is when the front and rear of the tool touch the driven clutch. No gap should be present in the front, and the rear clearance should not exceed .060" (1.5 mm).

NOTE: If the front of the alignment bar does not touch the driven sheave, the maximum clearance cannot exceed .025″ (0.6 mm).

Offset/Float Adjustment

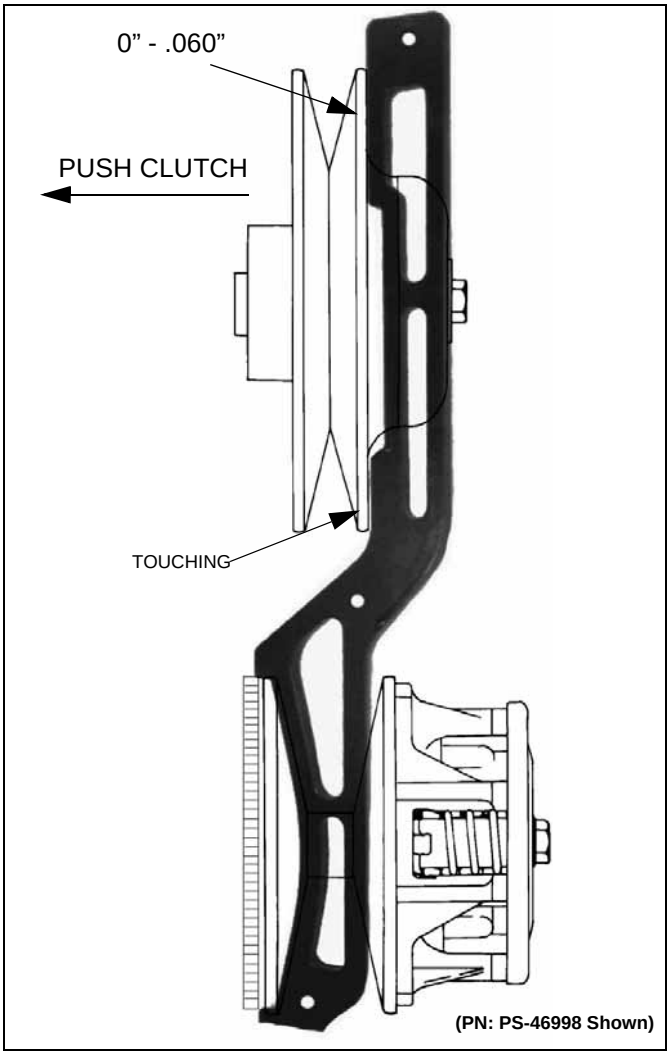
1. Determine direction driven clutch needs to be adjusted.
2. Remove driven clutch retaining bolt, and remove driven clutch.
3. With one 16 GA. bushing installed, add or remove offset washers from behind the driven clutch to set the proper offset.
4. After adjusting the offset, add or remove shim washers from behind the driven clutch bolt and washer to provide a .060" (1.5mm) driven clutch float on the jackshaft.

Driven Clutch Offset/Shim Washers

Offset Washers
16 Gauge Bushing=7556509 (QTY.1)
.023” = 7555917 (AR)
.120” = 7555864 (AR)
Float Washers
.047" = 7555957 (AR)
.063" = 7555734 (AR)
(AR = As Required)

⚠ CAUTION

Always verify the driven clutch floats on the jackshaft. The jackshaft bearing will fail from side-loading if the driven clutch is not allowed to float.



(PN: PS-46998 Shown)

9923892 - 2013 600 IQ Racer Service Manual