MICRO ENGINE CONVERSION INSTRUCTIONS

The following instructions are required when converting a direct drive engine to a clutch drive engine. Check all clutch drive and rewind components thoroughly before transferring to new engine. Replace components as required.

THE ENGINE CONVERSION CONSISTS OF:

New Engine – Remove

- Blower housing
- Cylinder shield
- Flywheel nut/crankshaft adapter

Old Engine – Remove and Transfer

- Clutch cover
- Clutch assembly
- Blower housing
- Cylinder shield
- Flywheel nut/crankshaft adapter

NOTE: It may be necessary to transfer stop switch wires from old engine to new engine.

When removing screws from the engine, the screw threads will loosen aluminum particles which can get into the engine:

Clean thoroughly whenever removing screws from the engine.

Do not use impact tools to remove or install screws.

Use lubricant liberally whenever removing screws.

NEW ENGINE – REMOVE

Remove Blower Housing – Direct Drive Engine

Remove screws with the T-25 bit from Briggs & Stratton Tool #19442 Torqux Star Bit Set.

1. Remove 2 machine screws (A) from blower housing Fig. 1.

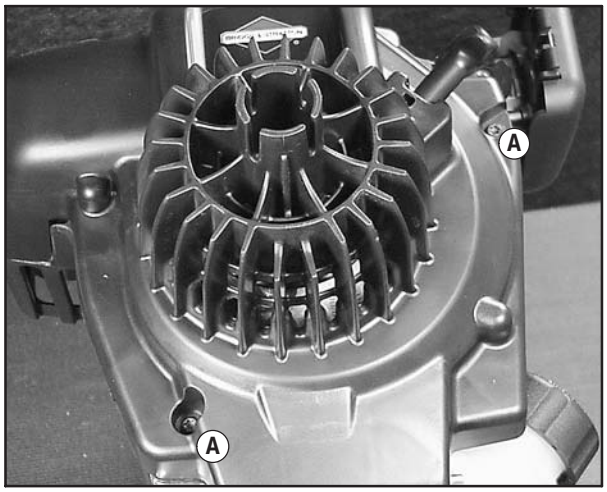

Fig. 1

2. Remove 2 machine screws (A) and 4 self threading screws (B) from cylinder shield side, Fig. 2.
3. Remove blower housing and cylinder shield and set aside.
4. Remove stop switch wires from armature (if required).

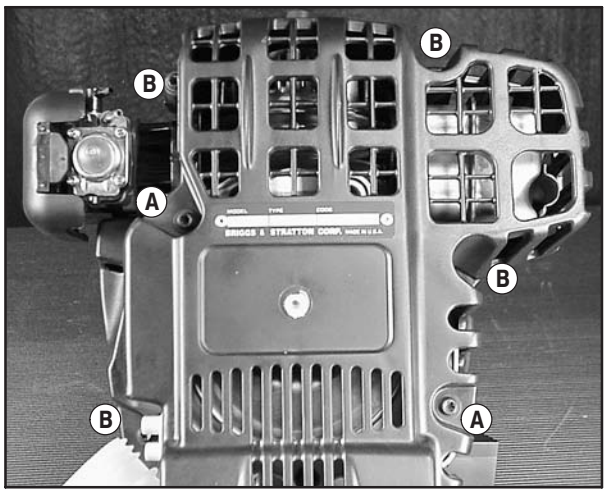

Fig. 2

Remove Flywheel Nut/Crankshaft Adapter

5. Insert the driver from flywheel puller Tool #19538 into flywheel nut /crank adapter (A), Fig.3.
6. Secure flywheel with strap wrench Tool #19433.
7. Turn driver counterclockwise to loosen flywheel nut/ crank adapter, then remove.

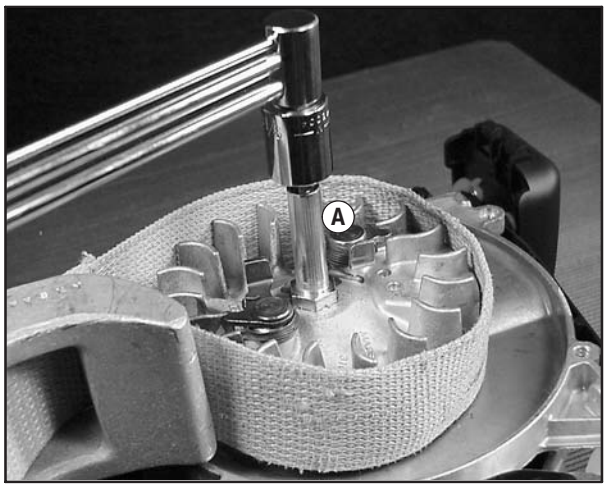

Fig. 3

OLD ENGINE – REMOVE AND TRANSFER

Remove Clutch Cover and Blower Housing – Direct Drive Engine

Before the blower housing can be removed it is necessary to remove the clutch assembly.

1. Remove 6 screws (A) and clutch housing cover, Fig. 4.

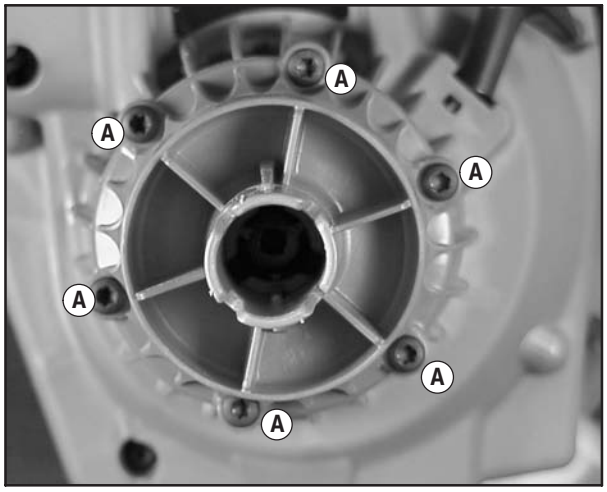

Fig. 4

2. Remove clutch drum (A) using T 15 bit from Briggs & Stratton Tool #19442 Torqux Star Bit Set, Fig. 5.

NOTE: Clutch drum mounting screw remains captive in clutch drum.

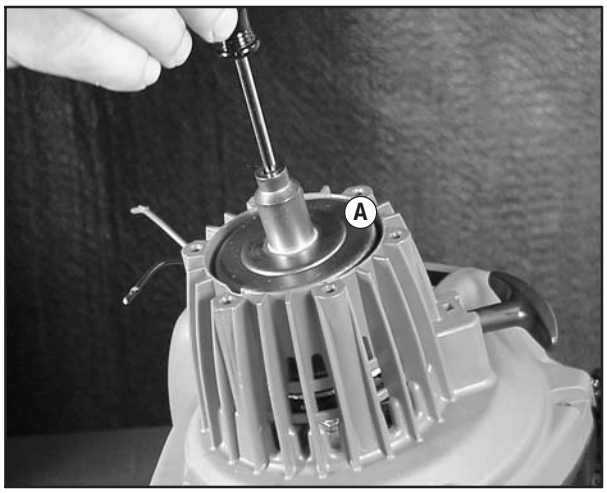

Fig. 5

3. Remove clutch (A) and thrust washer (B), Fig. 6.

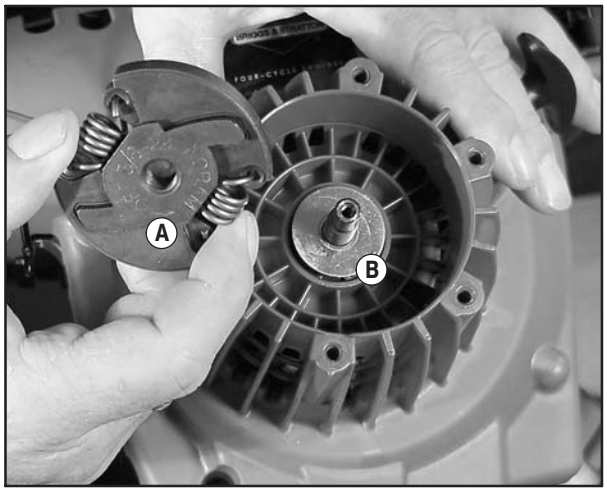

Fig. 6

4. Remove 2 machine screws (A) from blower housing, Fig. 7.

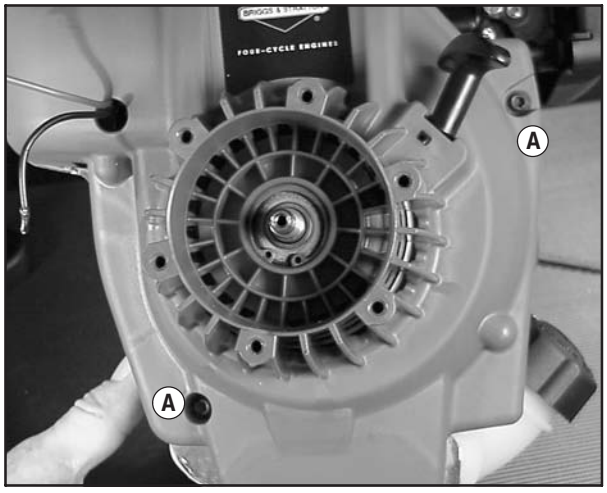

Fig. 7

5. Remove 2 machine screws (A) and 4 self threading screws (B) from cylinder shield side, Fig. 8.
6. Remove blower housing and cylinder shield.
7. Remove stop switch wires from armature (if required).

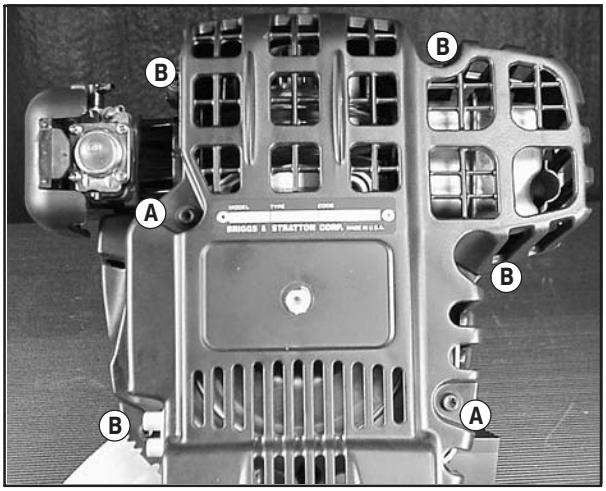

Fig. 8

8. Check ball bearing in blower housing for rough spots or excessive looseness (wear). If bearing is bad the blower housing must be replaced.

Remove Flywheel Nut/Crankshaft Adapter – Clutch Drive Engine

1. Secure flywheel with strap wrench Tool #19433.
2. Loosen flywheel nut/crank adapter (A) with 9/16" wrench, Fig. 9. Then remove.

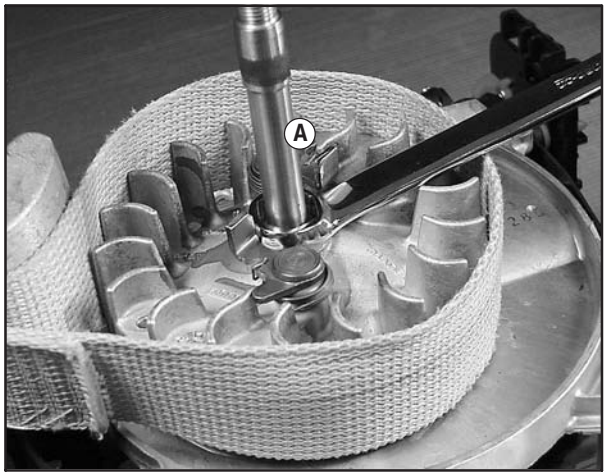

Fig. 9

NEW ENGINE–TRANSFER/INSTALL

Install Flywheel Nut/Crankshaft Adapter – Clutch Drive Engine

1. Assemble stop switch wires to armature (if required).
2. Secure flywheel with strap wrench Tool #19433.
3. Install clutch drive flywheel nut/crank adapter and torque to 170 in. lbs. (19 Nm).

Install Blower Housing – Clutch Drive Engine

Place a drop of engine oil on ball bearing journal on flywheel nut/crank adapter.

Assemble blower housing to engine.

NOTE: Be sure stop switch wires are routed through blower housing.

1. Install 2 machine screws (A) and 4 self threading screws(B) from cylinder shield side, Fig. 10.

Torque machine screws (A) screws to 40 in. lbs. (5 Nm).

Torque self threading screws (B) to 25 in. lbs. (3 Nm).

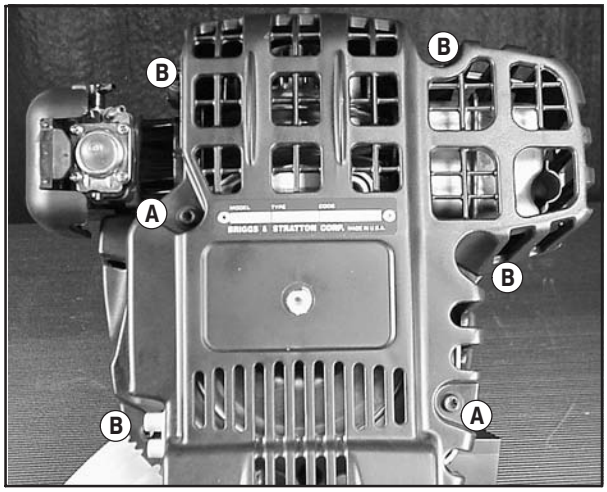

Fig. 10

2. Install 2 machine screws (A) in blower housing, Fig.11.

Torque screws to 40 in. lbs. (5 Nm).

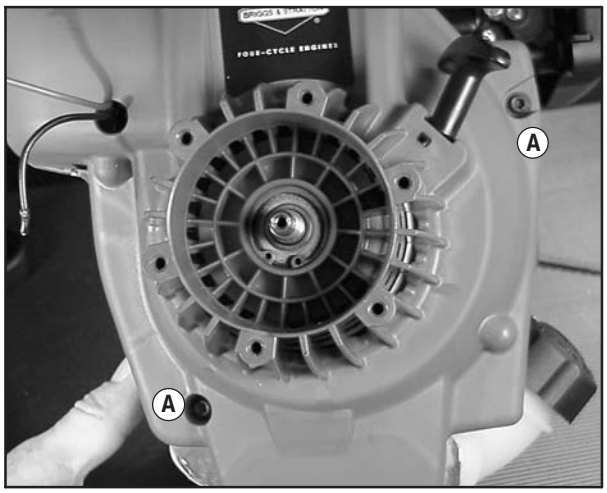

Fig. 11

3. Install thrust washer (A), Fig. 12.
4. Assemble clutch to shaft with writing up (B). Hand tighten clutch.

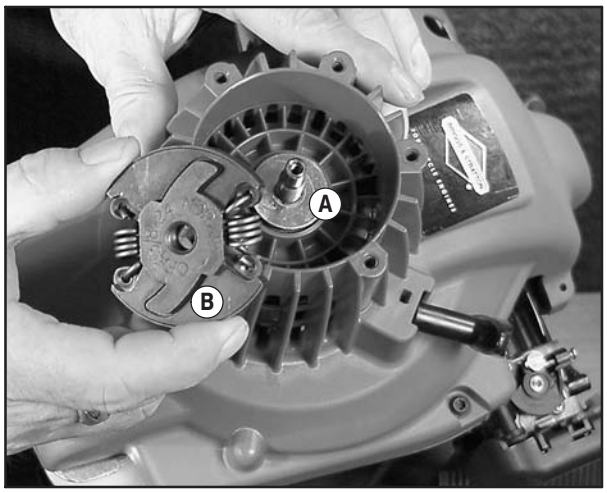

Fig. 12

5. Assemble clutch drum to engine, Fig. 13.

Torque screw to 30 in. lbs. (3.0 Nm).

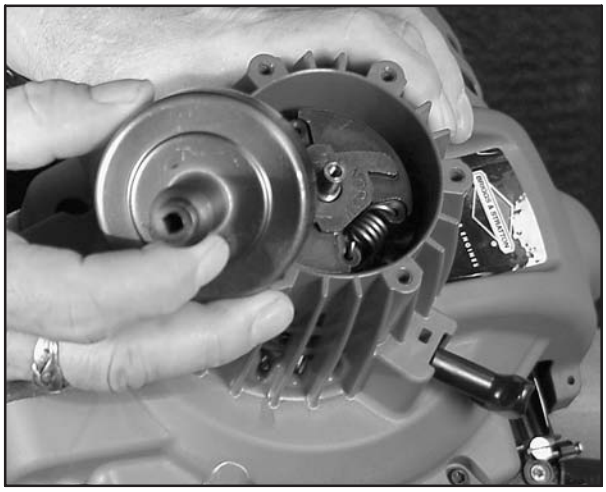

Fig. 13

6. Assemble clutch housing cover to blower housing.

NOTE: Raised boss (A) on clutch housing cover must fit in recessed boss (B) on blower housing, Fig. 14.

Torque screws to 20 in. lbs. (2.0 Nm).

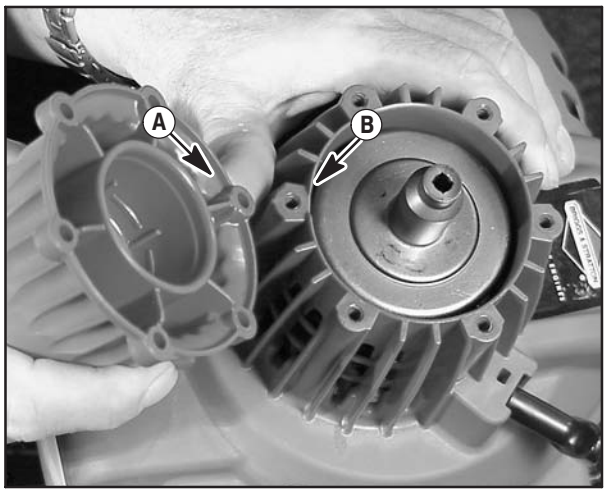

Fig. 14

Idle Speed Adjustment

NOTE: Correct adjustment is necessary to obtain proper acceleration and clutch disengagement on clutch drive engines

1. Start engine and warm up approximately 5 minutes before adjusting.
2. Make sure throttle lever is contacting idle adjustment screw (A), Fig. 15.
3. Adjust idle speed to:

   3600 RPM – Clutch Drive Engine

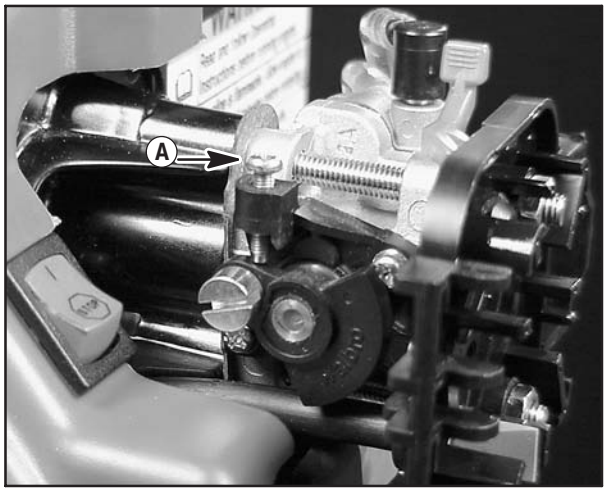

Fig. 15

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