FORM NO. 3319–740

TORO®

PTO BELT COVER INSTALLATION KIT

for 416 Series Garden Tractors

PART NUMBER 94–3744

INSTALLATION INSTRUCTIONS

Note: Keep these Instructions with your tractor Operator's Manual for future reference.

Loose Parts

Note: Use the chart below to identify parts used for assembly.

DESCRIPTION	QTY.	USE
Muffler	1	Replaces the existing muffler and heat shield
Heat Shield	1	
#10-24 Stainless Screw	4	
PTO Belt Cover	1	Attaching the belt cover to the retainer nut and belt cover bracket
Wing Nut – 1/4"-20	1	
Knob	1	
Retainer Nut – 1/4"-20	1	Attaching the belt cover to the tractor belt guard
Belt Cover Bracket	1	Attaching the belt cover bracket to the tractor frame
Cap Screw – 3/8"-16 x 1" (25 mm)	1	
Locknut – 3/8"-16	1	

Replacing the Muffler

Removing the Air Cleaner Assembly

1. Open the tractor hood and remove the air cleaner cover knob and air cleaner cover (Fig. 1).
2. Remove the nylon spacer, air cleaner element cover and air cleaner element assembly from the air cleaner housing (Fig. 1).
3. Remove the three (3) hex head machine screws and the two (2) 1/4"-20 hex head flange screws and remove the air cleaner housing from the carburetor (Fig 1).

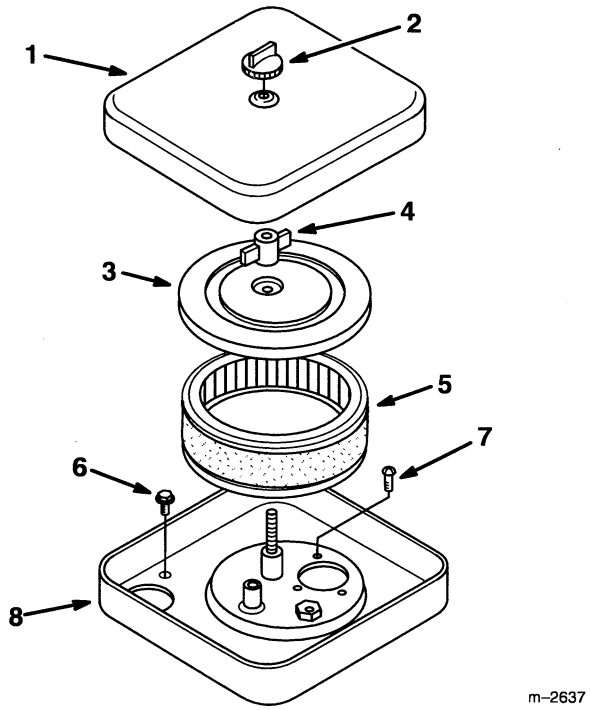


Figure 1

1. Air Cleaner Cover
2. Air Cleaner Cover Knob
3. Air Cleaner Element Cover
4. Nylon Spacer
5. Air Cleaner Element Assembly
6. 1/4"-20 Hex Head Flange Screw (2)
7. Hex Head Machine Screw (3)
8. Air Cleaner Housing

Removing the Existing Muffler

1. Remove the hex head flange screw holding each of the two lift brackets and remove the lift brackets from the engine (Fig. 2).
2. Remove the hex head screws holding the front and rear exhaust covers, then remove the exhaust covers and deflector baffle from the engine to expose the exhaust manifold screws (Fig. 2).

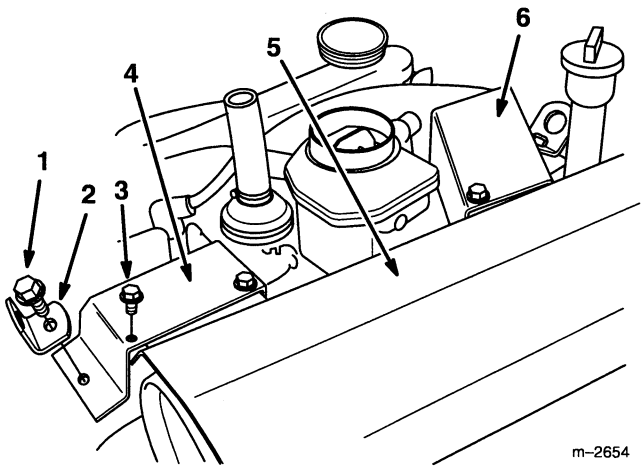


Figure 2

1. Hex Head Flange Screw (2)
2. Lift Bracket (2)
3. Hex Head Screw (4)
4. Rear Exhaust Cover
5. Deflector Baffle
6. Front Exhaust Cover

3. Remove the two hex head screws and lock washers from each of the two muffler flanges (Fig. 3).

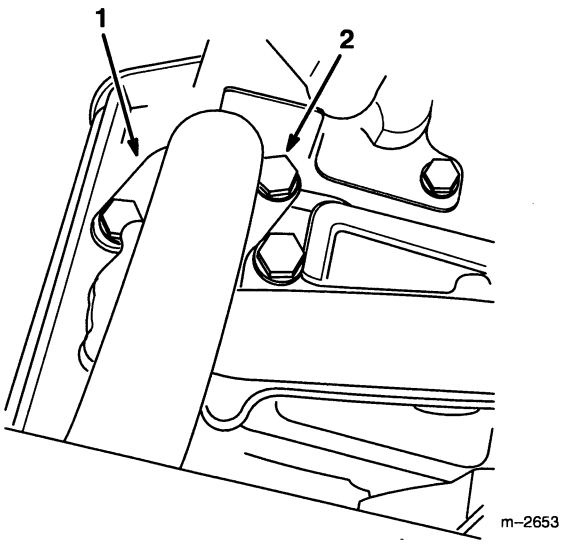


Figure 3

1. Muffler Flange (typical)
2. Hex Head Screw (2)

Note: Steps 4 through 6 below will allow easier access to the 3/8"-16 x 1" (25 mm) hex head screws holding the bottom muffler bracket and PTO engine bracket to the engine.

4. Remove the hairpin cotter holding the PTO trunnion to the PTO plate and move the PTO trunnion and attached clutch rod out of the way (Fig. 4).

5. Loosen the hex head screw and locknut holding the PTO plate to the PTO engine bracket (Fig. 4).

6. Loosen the two hex head screws and jam nuts holding the PTO brake bracket assembly to the PTO engine bracket (Fig. 4).

7. Remove the two 3/8"-16 x 1" (25 mm) hex head screws holding the PTO engine bracket and bottom muffler bracket to the engine (Fig. 4).

8. Remove the old muffler from the tractor.

9. Remove and save the muffler gaskets.

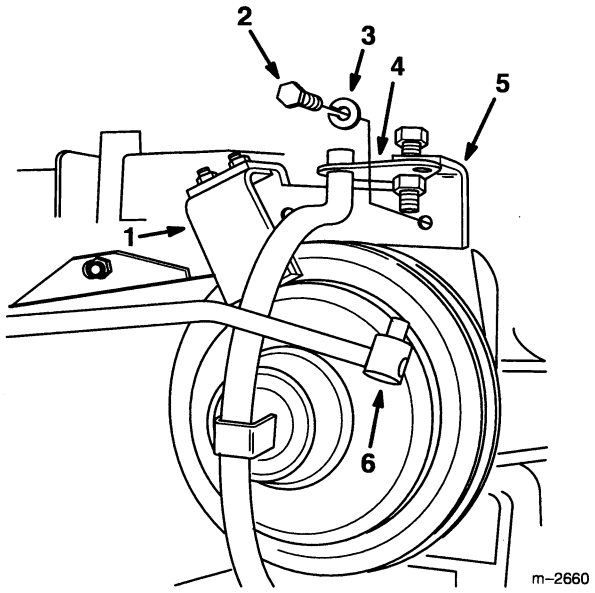


Figure 4

1. PTO Brake Bracket Assembly
2. 3/8"-16 x 1" (25 mm) Hex Head Screw (2)
3. Lock Washer
4. PTO Plate
5. PTO Engine Bracket
6. PTO Trunnion

Installing the New Muffler

1. Reinstall the muffler gaskets.

2. Position the new muffler on the engine so the muffler flanges align with the exhaust ports on the engine (Fig. 3).

3. Reinstall the two hex head screws and lock washers onto each of the two muffler flanges. Tighten the hex head screws finger-tight only (Fig. 3).

4. Reposition the PTO engine bracket over the bottom muffler bracket, then fasten the PTO engine bracket and bottom muffler bracket to the engine with lock washers and the two 3/8"-16 x 1" (25 mm) hex head screws (Fig. 4).

5. Tighten the two 3/8"-16 x 1" (25 mm) hex head screws (Fig. 4), then tighten the two hex head screws on each of the two muffler flanges (Fig. 3).

6. Tighten the hex head screw and locknut holding the PTO plate to the PTO engine bracket (Fig. 5).

7. Reinstall the PTO trunnion and attached clutch rod to the PTO plate, then reinstall the hairpin cotter (Fig. 5).

8. Reset the PTO brake as follows:

   A. Engage the PTO clutch.

   B. Place a .012" (0.3 mm) feeler gauge between the brake pad and the PTO pulley (Fig. 5).

   C. Hold the brake pad against the feeler gauge, then tighten the two hex head screws and jam nuts holding the PTO brake bracket assembly to the PTO engine bracket (Fig. 5).

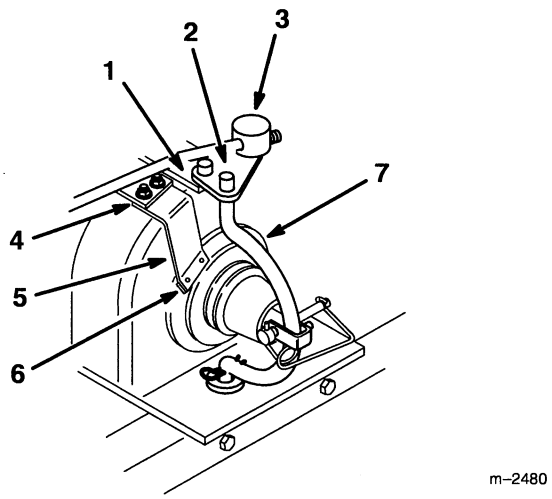


Figure 5

1. PTO Engine Bracket
2. PTO Plate
3. PTO Trunnion
4. Hex Head Screws and Jam Nuts
5. PTO Brake Bracket Assembly
6. .012" (0.3 mm) Feeler Gauge
7. PTO Pulley

Reinstalling the Deflector Baffle, Exhaust Covers and Lift Tabs

1. Position the deflector baffle over the new muffler (Fig. 6).

2. Reposition the two exhaust covers over the exhaust flanges, then reinstall and tighten the four hex head screws (Fig. 6).

3. Reinstall the two lift brackets and tighten the hex head flange screws (Fig. 6).

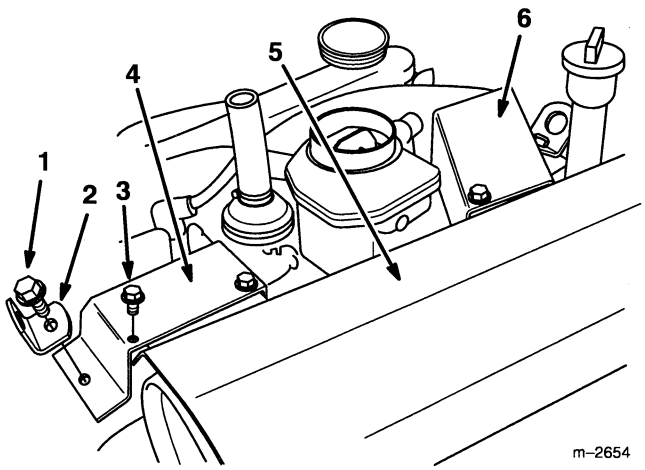


Figure 6

1. Hex Head Flange Screw (2)
2. Lift Bracket (2)
3. Hex Head Screw (4)
4. Rear Exhaust Cover
5. Deflector Baffle
6. Front Exhaust Cover

Reinstalling the Air Cleaner Assembly

1. Replace the air cleaner housing onto the carburetor, making sure the hoses are installed correctly through the bottom of the housing (Fig. 7).
2. Reinstall and tighten the three (3) hex head machine screws and the two (2) 1/4"-20 hex head flange screws (Fig 7).
3. Reinstall the air cleaner element assembly and air cleaner element cover onto the air cleaner housing, then reinstall and tighten the nylon spacer (Fig. 7).
4. Reinstall the air cleaner cover, then reinstall and tighten the air cleaner cover knob (Fig. 7).

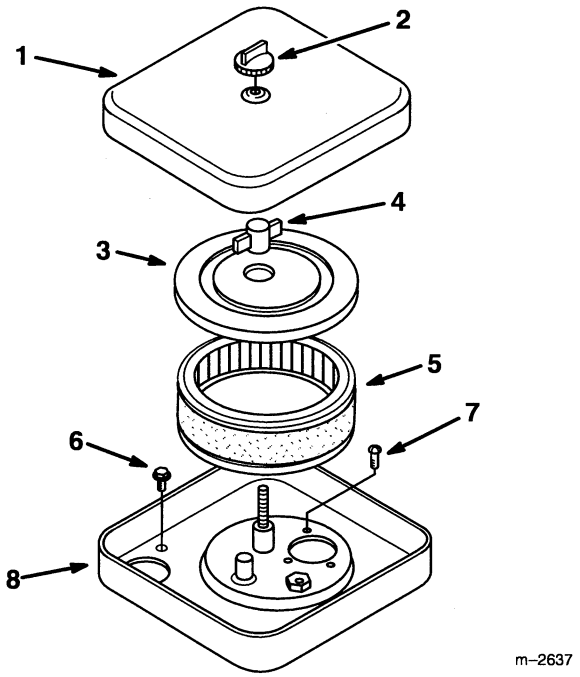


Figure 7

1. Air Cleaner Cover
2. Air Cleaner Cover Knob
3. Air Cleaner Element Cover
4. Nylon Spacer
5. Air Cleaner Element Assembly
6. 1/4"-20 Hex Head Flange Screw (2)
7. Hex Head Machine Screw (3)
8. Air Cleaner Housing

Installing the Inner Heat Shield

1. Disassemble the old inner heat shield from the old muffler and save two of the #10–24 Phillips screws.
2. Fasten the top two holes in the new inner heat shield to the new muffler on the tractor using two of the #10–24 Phillips screws removed in step 1 above (Fig. 8).
3. Fasten the four lower holes in the new inner heat shield to the muffler with the four stainless steel #10–24 screws provided with the kit (Fig. 8).

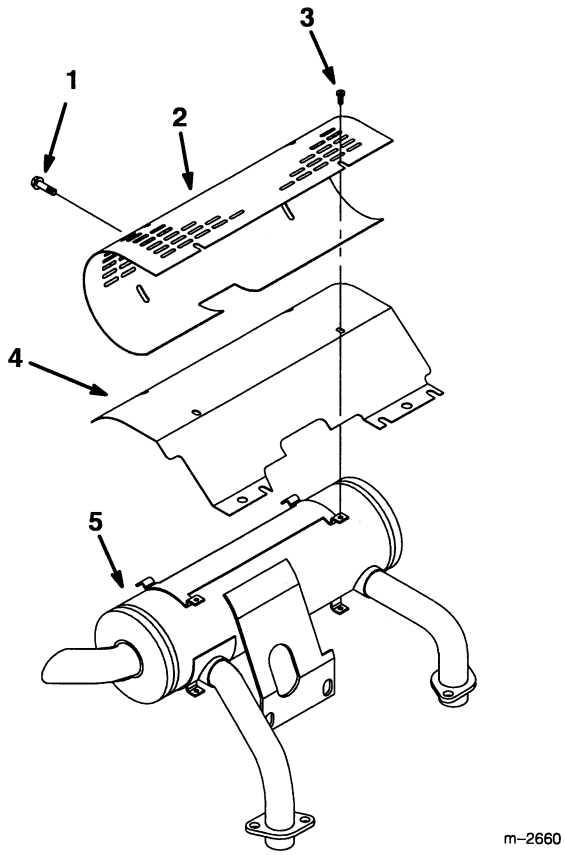


Figure 8

1. Stainless Steel #10-24 Screw (4)
2. Inner Heat Shield
3. #10-24 Screw (from old muffler) (2)
4. Deflector Baffle
5. Muffler

Mounting the Belt Cover Bracket

Fasten the belt cover bracket to the existing hole in the tractor frame using the 3/8"-16 x 1" (25 mm) cap screw and locknut (Fig. 9).

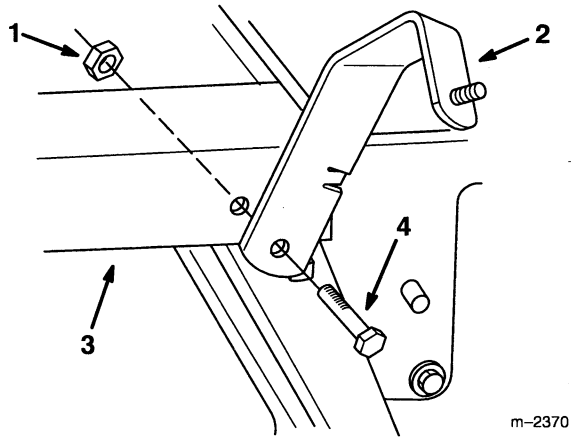


Figure 9

1. 3/8" Locknut
2. Belt Cover Bracket
3. Tractor Frame
4. 3/8"-16 x 1" (25 mm) Cap Screw

Installing the Retainer Bolt into the Belt Guard

1. Remove the belt guard from the right side of the tractor.
2. Cut out the hole template (Fig. 12) from the back of this installation manual.
3. Fold the template tabs along the dotted lines, then tape the hole template onto the belt guard (Fig. 10).
4. Lay out, center–punch and drill a 5/16" hole in the center of the square hole as marked on the template (Fig. 10).
5. Use a file to open up the square hole as drawn on the template (Fig. 10).
6. Snap the retainer nut into the square hole in the belt guard from the back side of the guard (Fig. 10).

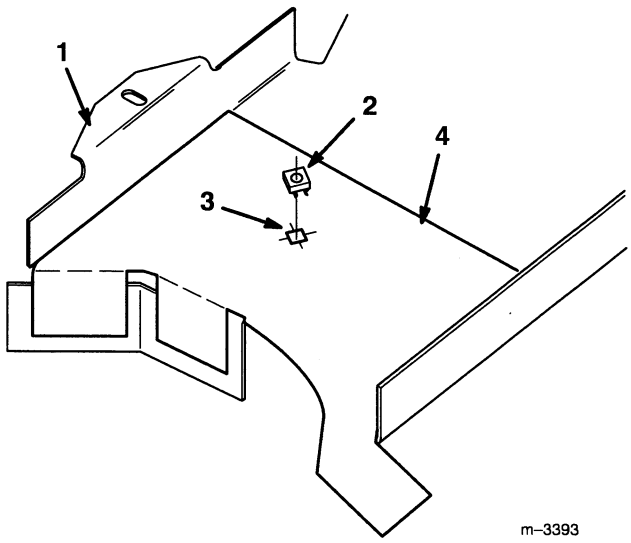


Figure 10

1. Belt Guard
2. Retainer Nut
3. Square Hole
4. Hole Template

7. Reinstall the belt guard and attached retainer nut onto the tractor.

Installing the Belt Cover

1. Install the belt cover over the power take–off (PTO) pulleys, and onto the 1/4"-20 stud on the belt cover bracket (Fig. 11).

2. Install and tighten the wing nut onto the 1/4"-20 stud on the belt cover bracket (Fig. 11).

3. Install and tighten the knob into the retainer nut on the belt guard (Fig. 11).

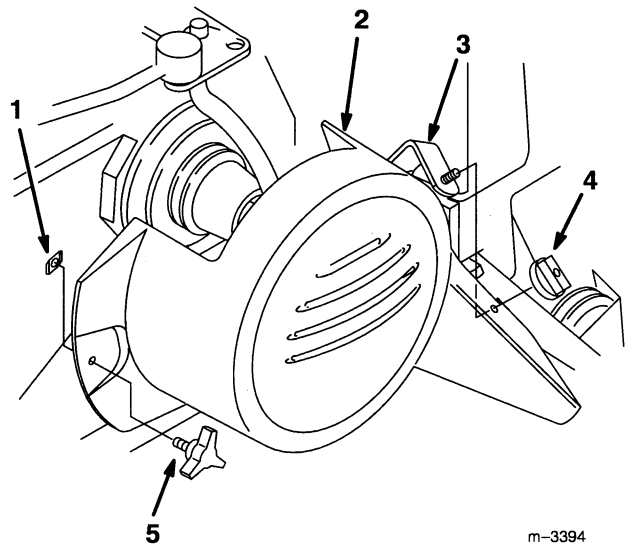
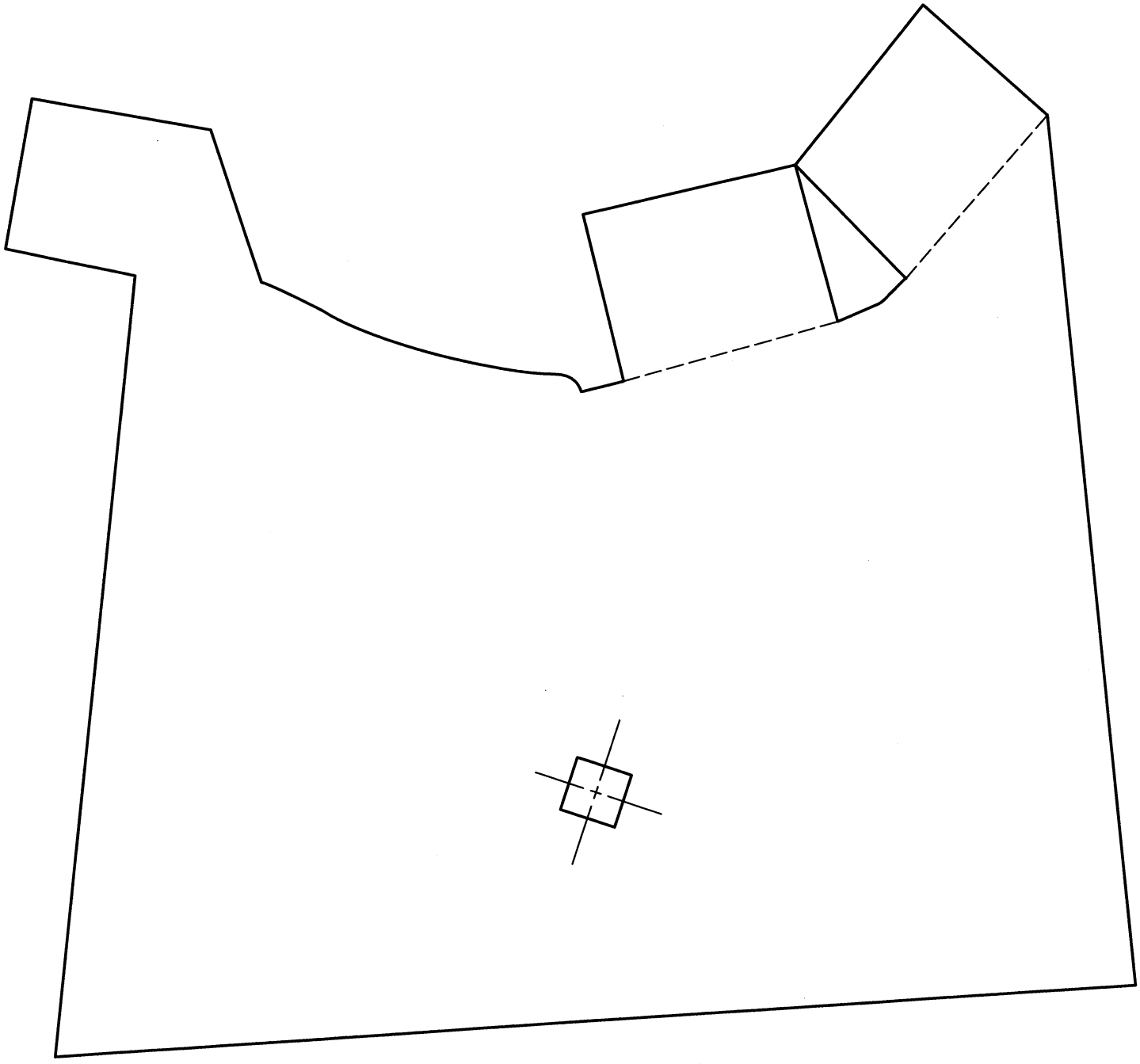


Figure 11

1. Retainer Nut
2. Belt Cover
3. Belt Cover Bracket
4. Wing Nut
5. Knob



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Figure 12 – Hole Template for 416 Tractors (to scale)


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