

JOHN DEERE
AG & TURF DIVISION

Material Collection System (MCS)
MC542

OMM163154 L1

OPERATOR'S MANUAL



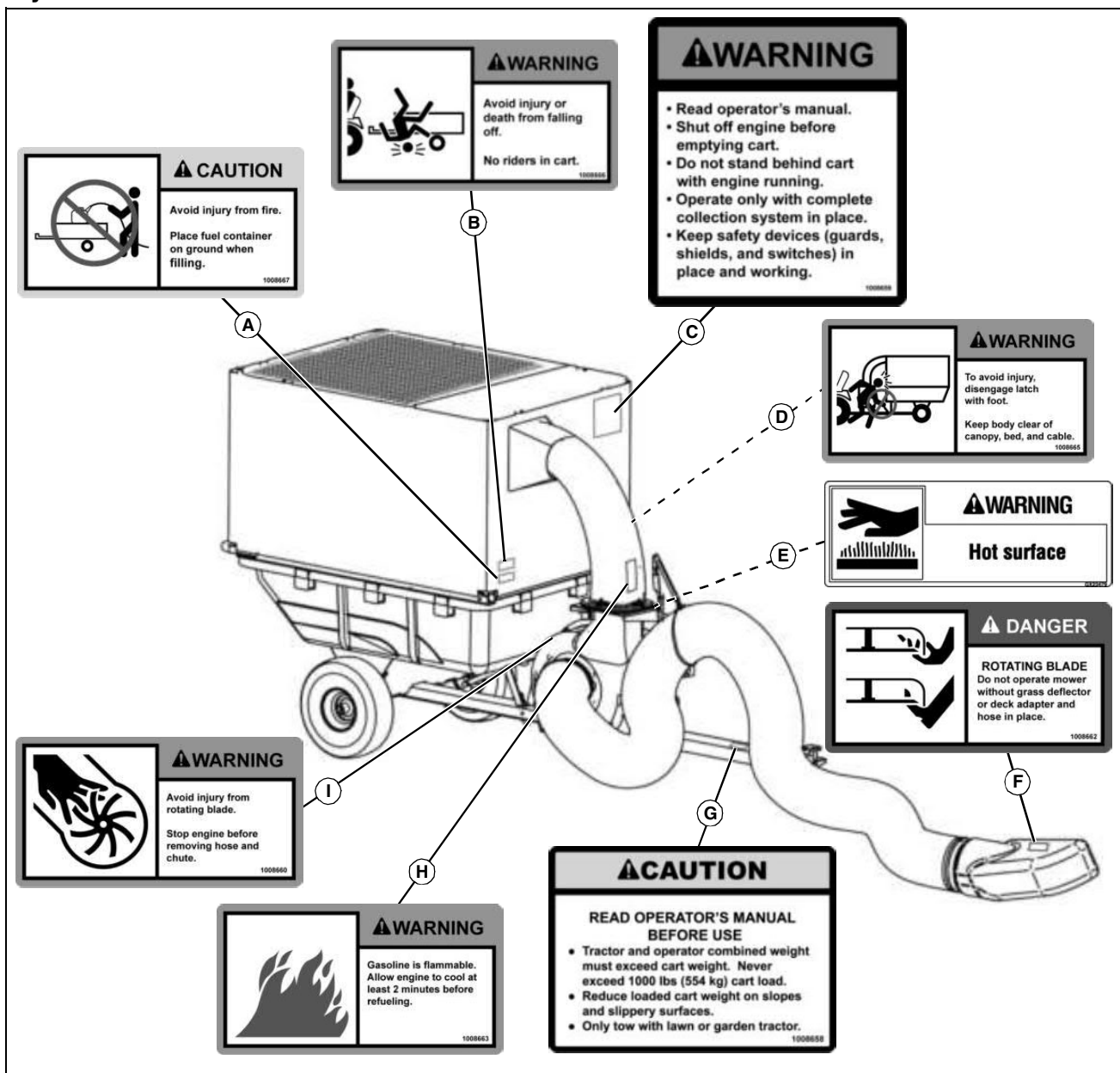
JOHN DEERE

North American Version
Litho in U.S.A.

Safety Labels

Safety Label Location

Safety Labels



MX45462

Picture Note: Use label number listed in table below to locate complete text of safety label message following this illustration.

- A- CAUTION - 1008667
- B- WARNING - 1008666
- C- WARNING - 1008659
- D- WARNING - 1008665
- E- WARNING - GX23479
- F- DANGER - 1008662
- G- CAUTION - 1008658
- H- WARNING - 1008663
- I - WARNING - 1008660



Understanding The Machine Safety Labels

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.

Safety Labels

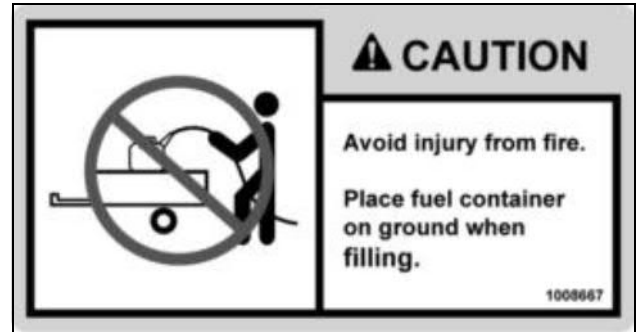
WARNING 1008665



1008665

- To avoid injury, disengage latch with foot.
- Keep body clear of canopy, bed, and cable.

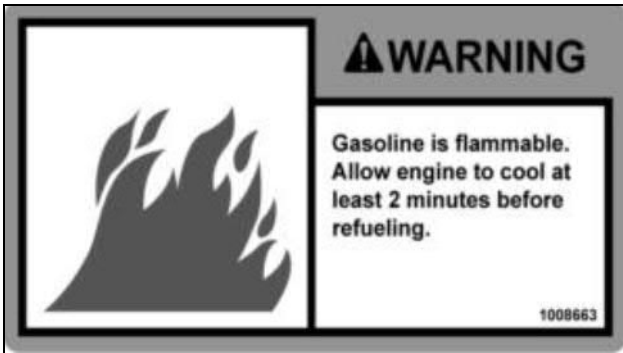
CAUTION 1008667



1008667

- Avoid injury from fire.
- Place fuel container on ground when filling.

WARNING 1008663



1008663

- Gasoline is flammable. Allow engine to cool at least 2 minutes before refueling.

CAUTION 1008658



1008658

READ OPERATOR'S MANUAL BEFORE USE

- Tractor and operator combined weight must not exceed cart weight. Never exceed 1000 lbs (554 kg) cart load.
- Reduce loaded cart weight on slopes and slippery surfaces.
- Only tow with lawn or garden tractor.

WARNING 1008666



1008666

- Avoid injury or death from falling off.
- No riders in cart.

WARNING 1008659



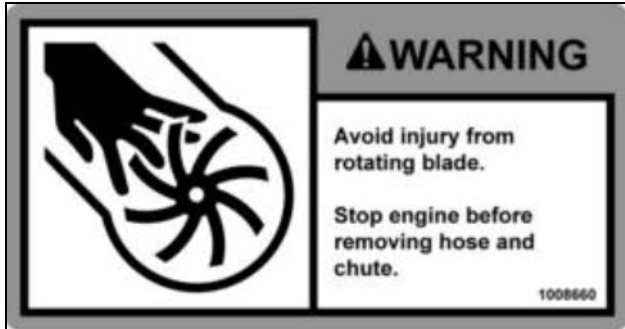
1008659

- Read operator's manual.

Safety

- Shut off engine before emptying cart.
- Do not stand behind cart with engine running.
- Operate only with complete collection system in place.
- Keep safety devices (guards, shields, and switches) in place and working.

WARNING 1008660



1008660

- Avoid Injury From Rotating Blade.
- Stop engine before removing hose and chute.

DANGER 1008662

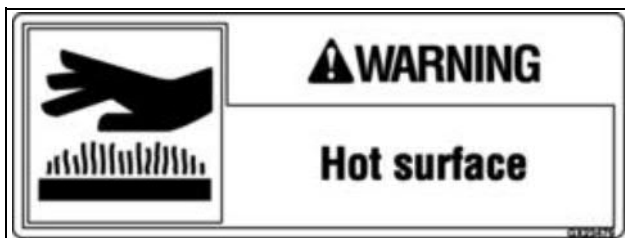


1008662

ROTATING BLADE

- Do not operate mower without grass deflector or deck adapter and hose in place.

WARNING GX23479



GX23479a

Hot surface

- Hot Surface

Safety

Read Safety in Machine Operator's Manual

Read the general safety operating precautions in your machine operator's manual for additional safety information.

Operating Safely

- Read, understand and follow all instructions in this attachment manual, the machine operator's manual and safety signs on equipment before starting.
 - Be sure the area is clear of bystanders before operating. Stop machine and attachment if anyone enters the area.
 - Only allow responsible adults, who are familiar with the machine and instructions operate the machine. Do not allow children to operate this machine.
 - Not for highway use. Watch for traffic when operating near or crossing roadways.
 - Stay focused when operating the machine. Stay alert for holes in the terrain and other hidden hazards.
 - Do not operate unless entire material collection system, chutes and hoses are fastened in place and securely installed.
 - Never operate the blower engine unless it is firmly attached to the MCS chassis.
 - Never open canopy unless blower engine is stopped. Always wear protective eyewear.
 - Hot exhaust can burn, do not stand in the exhaust discharge area when blower or machine engine is running.
 - Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts.
 - Never attempt to clear a clogged material collection system with the engine running.
 - Do not operate the machine and attachment unless the grass deflector or the deck adapter and hose are in place.
 - Do not let anyone ride on the mower or material collection system. Riders are subject to injury such as being struck by foreign objects or being thrown off. Riders may obstruct the operator's view and cause a collision.
- Before MCS removal or installation:**
- Stop mower.
 - Disengage mower or PTO.
 - Stop engine and remove key.
 - Wait for engine and all moving parts to stop before leaving the operator seat.
- Before backing up machine:**
- Stop machine.
 - Always look down and behind before and while backing.
 - Keep bystanders away when unloading material collection system.
- Operate safely on slopes:**
- Empty MCS when half full.
 - Do not operate on steep slopes.
 - Before turning, slow down.

Safety

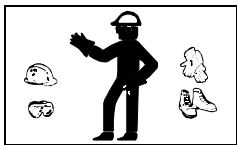
- Avoid sudden starts and stops.
- Do not park machine with material collection system on slopes.

Hose Maintenance:

- Hose is subject to wear and deterioration.
- Check hose frequently; replace when necessary.
- Use John Deere hose or equivalent to comply with safety specifications.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage mower blades or any other attachments.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire(s) (for gasoline engines) before servicing the machine.



Wear Appropriate Clothing

- Always wear safety goggles, or safety glasses with side shields when operating the machine.

- Wear close fitting clothing and safety equipment appropriate for the job.

- While operating this machine, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.

- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.

Protect Children

- Tragic accidents can occur if the operator is not alert to the presence of children. Keep children indoors when the machine and attachment are operated and under the watchful care of another responsible adult.
- Never assume that children will remain where you last saw them. Stay alert to the presence of children. Turn the machine off if a child enters the work area.
- Do not let children or an untrained person operate the machine.
- Do not carry or let children ride on any attachment or machine even with the attachment off. Do not tow children in a cart or trailer.

Towing Loads Safely

- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Total towed weight must not exceed limits specified in towing vehicle operator's manual.
- Excessive towed load can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes.
- Never allow children or others in or on towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the

approved hitch point.

- Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes. Use counterweights or wheel weights as described in the machine operator's manual.

- Do not turn sharply. Use additional caution when turning or operating under adverse surface conditions. Use care when reversing.

- Do not shift to neutral and coast downhill.

Protect Bystanders

- Keep bystanders away when you operate a towed attachment.
- Before you back machine and attachment, look carefully behind attachment for bystanders.

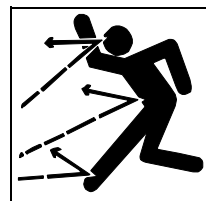
Keep Riders Off Towed Attachment

- Keep riders off of a towed attachment.
- Riders on a towed attachment are subject to injury, such as being struck by objects and being thrown off the attachment during sudden starts, stops and turns.
- Riders obstruct the operator's view, resulting in the attachment being used in an unsafe manner.
- Keep riders off of hitch bracket.

Avoid Injury From Drawbar

Before you disconnect an attachment from machine hitch plate:

- Unload attachment.
- Stop attachment on level ground.
- Stop machine engine.
- Lock machine park brake.
- Block attachment wheels.
- Make sure hands, feet or other body parts are not under drawbar.



Avoid Injury From Thrown Objects

- When operating the vehicle with the MCS attachment installed make sure all chutes and hoses are securely in place. Keep hopper closed or MCS in operating position.

- Stop the engine and wait for all moving parts to stop before removing or lifting any attachment components.

- Avoid injury from impeller blades and thrown objects. Remove attachment when operating vehicle in side discharge mode. Make sure deflector shield is in place on mower deck if attachment is removed.



Avoid Injury From Rotating Blades

- Keep hands and feet away from rotating blades and blower assembly when engine is running.

- Stop engine and wait for moving parts to stop before servicing components.

- Do not operate MCS or blower unless all attachment components are in place and latched.

Practice Safe Maintenance

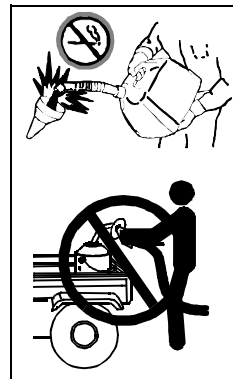
- Only qualified, trained adults should service this machine.

Safety

- Understand service procedure before doing work. Keep area clean and dry.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- If you strike a foreign object, stop and inspect the machine. repair, if necessary, before restarting.
- Never lubricate, service or adjust the machine or attachment while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Lower any attachment completely to the ground or to an existing attachment mechanical stop before servicing the attachment. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Stop engine, disconnect battery or remove spark plug wire (for gasoline engines) before servicing, cleaning, or installing hose or chute.
- Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components and springs.
- Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers.
- Securely support any machine or attachment elements that must be raised for service work. Use jack stands or lock service latches to support components when needed.
- Never run blower engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
- Check all hardware at frequent intervals to be sure the equipment is in safe working condition.
- Do not modify machine or safety devices. Unauthorized modifications to the machine or attachment may impair its function and safety.

Prevent Fires

- Machine fires and structure fires can occur if a machine is stored before allowing it to cool, if debris is not removed from critical areas of the machine, or if machine is stored near combustible materials.
- Remove grass and debris from engine compartment and muffler area, before and after operating machine.
- Always shut off fuel when storing or transporting machine, if the machine has a fuel shutoff.
- Do not store machine near an open flame or source of ignition, such as a water heater or furnace.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.



Handling Fuel Safely

To avoid personal injury or property damage, use extreme care in handling fuel. Fuel is extremely flammable and fuel vapors are explosive:

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only an approved fuel container. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM). If using a funnel, make sure it is plastic and has no screen or filter.
- Never remove the fuel tank cap or add fuel with the engine running. Allow engine to cool before refueling.
- Never add fuel to or drain fuel from the machine indoors. Move machine outdoors and provide adequate ventilation.
- Clean up spilled fuel immediately. If fuel is spilled on clothing, change clothing immediately. If fuel is spilled near machine, do not attempt to start the engine but move the machine away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliance.
- Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in an ungrounded fuel container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before fueling.
- Remove fuel-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a fuel dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock-open device.
- Never overfill fuel tank. Replace fuel tank cap and tighten securely.
- Replace all fuel container caps securely after use.
- For gasoline engines, do not use gas with methanol. Methanol is harmful to your health and to the environment.

Handling Waste Product and Chemicals

Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

Using a Spark Arrestor

The California Public Resources Code, section 4442.5 provides as follows:

No person shall sell, offer for sale, lease, or rent to any person any internal combustion engine subject to Section 4442 or 4443, and not subject to

Assembly

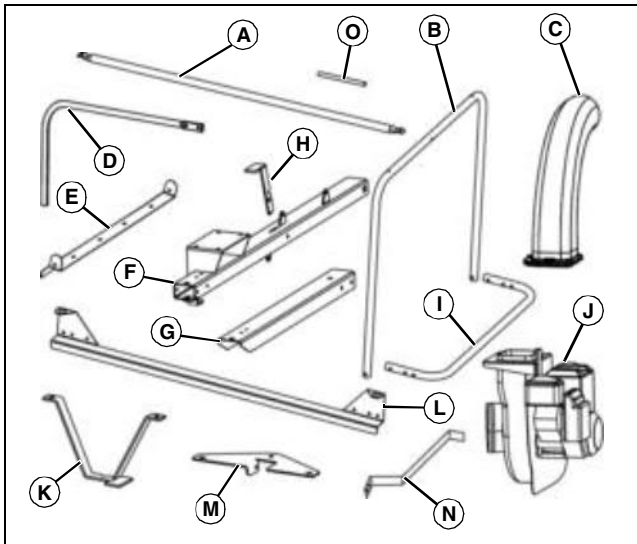
Section 13005 of the Health and Safety Code, unless the person provides a written notice to the purchaser or bailee, at the time of sale or at the time of entering into the lease or rental contract, stating that it is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrestor, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443. Cal. Pub. Res. Code 4442.5.

Other states or jurisdictions may have similar laws. A spark arrestor for your machine may be available from your authorized dealer. An installed spark arrestor must be maintained in good working order by the operator.

Assembly

Parts in Kit

MC542 Parts



MX45554b

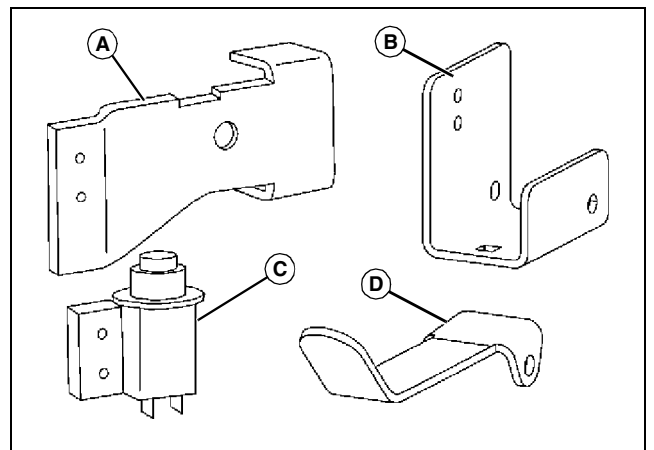
| Qty. | Description |
|------|----------------------------|
| 2 | Tube, Canopy Top (A) |
| 2 | Tube, Canopy End (B) |
| 1 | Chute (C) |
| 1 | Rod, Hose Support (D) |
| 1 | Bracket, Front (E) |
| 1 | Towbar, Rear (F) |
| 1 | Towbar, Tongue (G) |
| 1 | Handle, Bed Release (H) |
| 1 | Handle, Rear (I) |
| 1 | Engine/Blower Assembly (J) |
| 1 | Bracket, Lock (K) |
| 2 | Bracket, Side (L) |

| Qty. | Description |
|------|-------------------------|
| 1 | Stop Bracket (N) |
| 1 | Bracket, Gas Spring (M) |
| 1 | Canopy |
| 2 | Baffle |
| 1 | Rod, Threaded |
| 1 | Hose, Blower |
| 1 | Gas Spring |
| 1 | Cable |
| 3 | Tubing, Black (O) |
| 2 | Clamp, Hose, 8 in. |
| 1 | Bungee Cord, 36 in. |

Parts in Bag 1007266

| Qty. | Description |
|------|------------------------|
| 2 | Bolt, 5/16x3/4 in. |
| 1 | Bolt, 5/16x4 in. |
| 1 | Bolt, 3/8x3-1/2 in. |
| 1 | Bolt, 1/2x1 in. |
| 4 | Washer, Flat, 5/16 in. |
| 5 | Locknut, 5/16 in. |
| 1 | Locknut, 3/8 in. |
| 1 | Locknut, 1/2 in. |
| 2 | Ball Stud |
| 1 | Spring, Latch |

Parts in Bag 1007267



MX45566a

Assembly

| Qty. | Description |
|------|------------------------------------|
| 1 | Switch Bracket, Towbar (A) |
| 1 | Switch Bracket, Blower Housing (B) |
| 2 | Switch (C) |
| 1 | Pivot Plate (D) |
| 2 | Backing Plate |
| 1 | Wire Harness, Engine |
| 1 | Vinyl Grip |
| 4 | Bolt, Carriage, 1/4x1-1/4 in. |
| 4 | Screw, Round Head, #10x3/4 in. |
| 1 | Bolt, 1/4x2-1/4 in. |
| 4 | Locknut, 1/4 in. |
| 4 | Locknut, #10 |
| 1 | Locknut, Metal, 1/4 in. |
| 2 | Tie Strap |

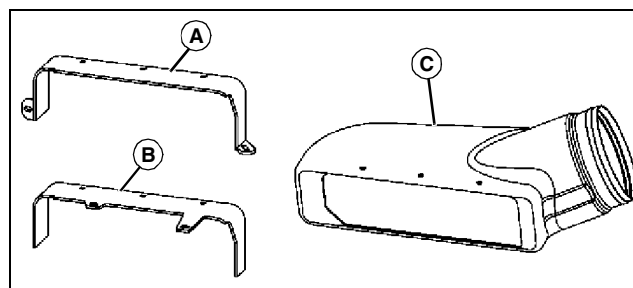
| Qty. | Description |
|------|--------------------------|
| 11 | Clip, Canopy |
| 2 | Spacer |
| 4 | Washer, Fender, 5/16 in. |

Boot Kit Parts

NOTE: Installation of the MC542 will require one of four available Boot Kits to complete the installation:

- LP23080 - 48 in. Deck
- LP23081 - 54 in. Deck
- LP23082 - 60 in. Deck
- LP23083 - 62 in. Deck

The bag of parts provided is universal to all boot kits available and contains hardware that will not be used in every application.



MX45546

Parts in Bag Z-1820-B

| Qty. | Description |
|------|-----------------------------------|
| 3 | Screw, Round Head, 5/16x1-1/4 in. |
| 6 | Washer, Flat, 5/16 in. |
| 3 | Lockwasher, 5/16 in. |
| 3 | Nut, 5/16 in. |

| Qty. | Description |
|------|---|
| 1 | Bracket, Deck Boot <ul style="list-style-type: none"> • 48, 54, 62 in. (A) • 60 in. (B) |
| 1 | Deck Boot (C) |
| 2 | Bolt, Carriage, 5/16x3/4 in. |
| 3 | Bolt, Carriage, 5/16x1-1/4 in. |
| 1 | Bolt, Hex Head, 1/4x1 in. |
| 3 | Nut, 5/16 in. |
| 2 | Washer, Flat, 1/4 in. |
| 7 | Washer, Flat, 5/16 in. |
| 1 | Locknut, 1/4 in. |
| 5 | Locknut, 5/16 in. |

Parts in Bag Z-1953

| Qty. | Description |
|------|-------------------------------|
| 7 | Bolt, Carriage, 1/4x1-1/2 in. |
| 4 | Bolt, 1/4x1-1/2 in. |
| 6 | Bolt, 5/16x1-1/2 in. |
| 5 | Bolt, 5/16x2 in. |
| 2 | Bolt, 5/16x2-1/4 in. |
| 2 | Bolt, 5/16x2-1/2 in. |
| 2 | Nut, 5/16 in. |
| 13 | Washer, Flat, 1/4 in. |
| 13 | Washer, Flat, 5/16 in. |
| 1 | Bracket, Quik Link |
| 1 | Link, Quik, 3/16 in. |
| 14 | Locknut, 1/4 in. |
| 17 | Locknut, 5/16 in. |

NOTE: Retain these installation instructions with the machine operator's manual.

Prepare 17P Cart

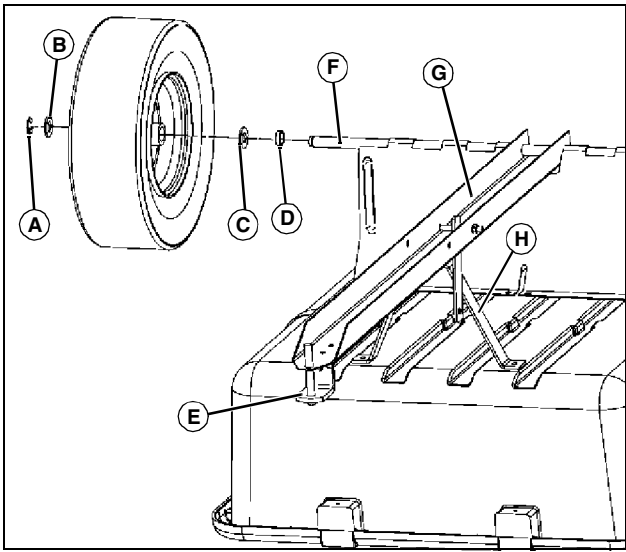
NOTE: These assembly instructions were created to assemble the MC542 Material Collection System (MCS) to a Model 17P Utility Cart that has been previously assembled. These procedures involve certain cart components that will require removal and replacement.

To avoid confusion with assembly procedures if the 17P cart has not yet been assembled, review this ASSEMBLY section completely

Assembly

before beginning cart assembly.

NOTE: The cart is prepared using hardware in the Z-1820-B parts bag.



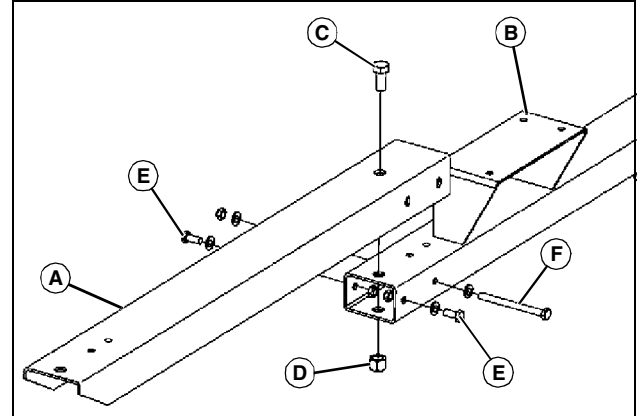
MX45467

1. Remove retaining ring (A), washer (B), wheel, washer (C) and spacer (D) from each side of cart and set aside.
2. Remove clevis (E) and clevis hardware from towbar and set aside.
3. Remove axle (F) and towbar (G) from cart. Set axle aside and save towbar for reuse (Permanent MC542 removal).
4. Remove lock bracket hardware and lock bracket (H). Save for reuse (Permanent MC542 removal).

(K), two 5/16 in. flat washers (L), one 5/16 in. lockwasher (M) and one 5/16 in. nut (N) at each of three locations.

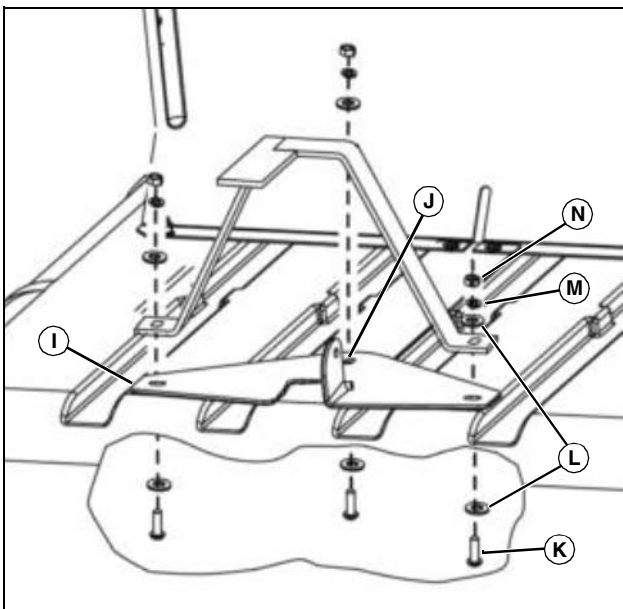
Install Towbar

NOTE: The towbar is assembled and installed using hardware in the 1007266 and 1007267 part bags.



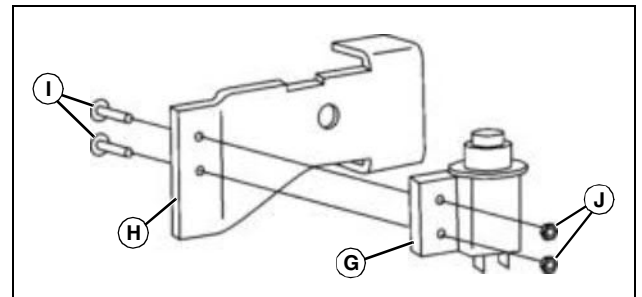
MX45469

1. Assemble towbar tongue (A) to rear towbar (B) and secure as follows:
 - a. Loosely install one 1/2x1 in. bolt (C) and one 1/2 in. locknut (D).
 - b. Loosely install two 5/16x3/4 in. bolts (E), two 5/16 in. flat washers and two 5/16 in. locknuts.
 - c. Loosely install one 5/16x4 in. bolt (F), two 5/16 in. flat washers and one 5/16 in. locknut.
 - d. Tighten all hardware securely.



MX45468b

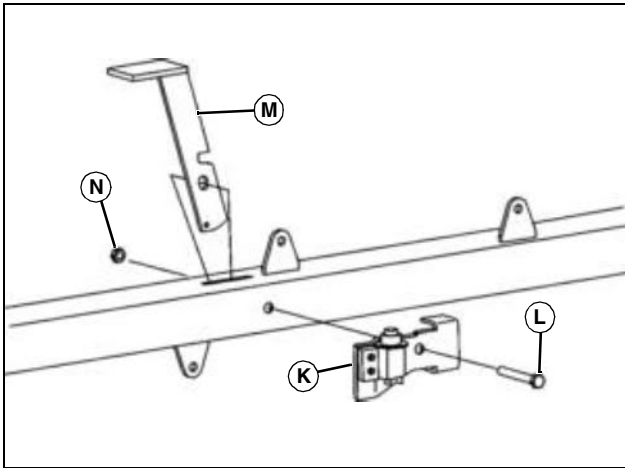
5. Position gas spring bracket (I) on bottom of bed, aligning the outer mounting holes with those in the bed. Mark the location of the center bracket hole (J) on the bed and remove the bracket.
6. Drill a 8.7 mm (11/32 in.) hole in the bed at the marked location.
7. Position the gas spring bracket and lock bracket from the kit on the bed. Secure both brackets to bed using one 5/16x1-1/4 in. round head screw



MX45470a

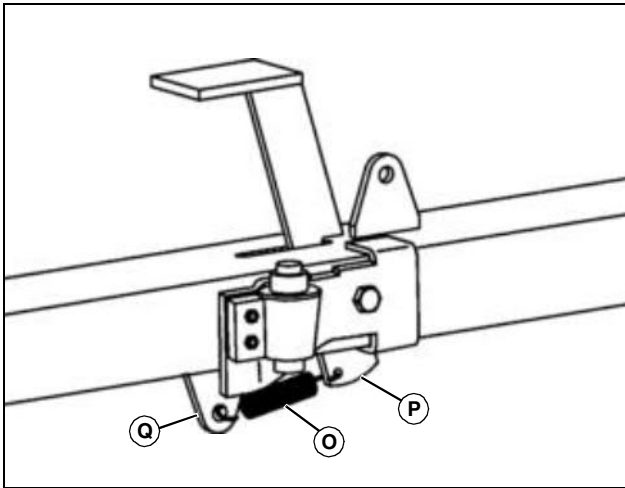
2. Install switch (G) to towbar switch bracket (H) using two #10x3/4 in. screws (I) and two #10 locknuts (J).

Assembly



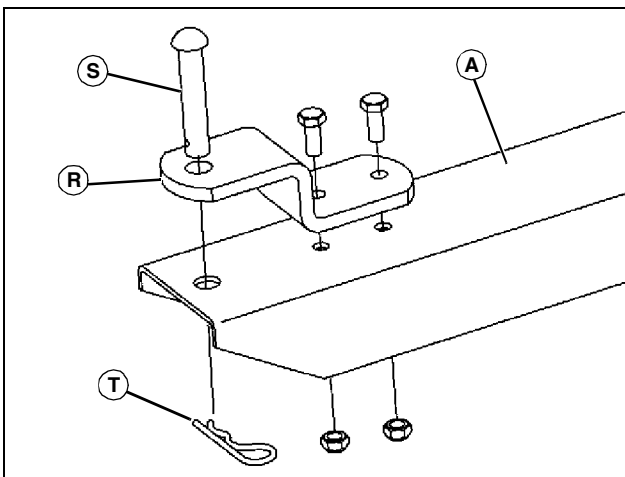
MX45555c

3. Position towbar switch bracket (K) with switch on towbar. Install a 3/8x3-1/2 bolt (L) through the switch bracket, towbar, bed release handle (M) and opposite side of towbar and secure with a 3/8 in. locknut (N).



MX45525b

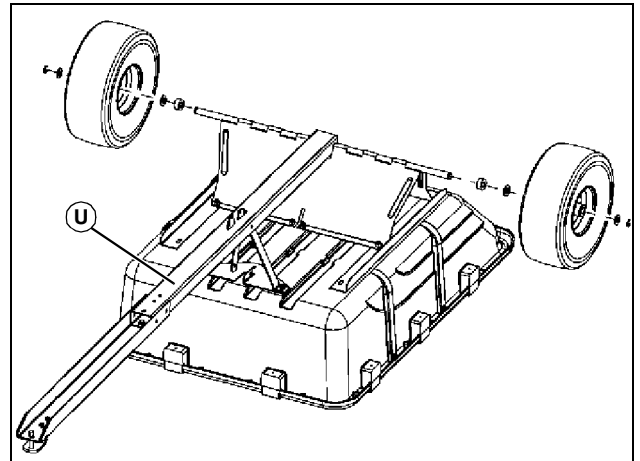
4. Install latch spring (O) on bed release handle (P) and towbar tab (Q).



MX45526

5. Install clevis (R) on towbar tongue (A) with original hardware. (The clevis was removed earlier from original towbar.)

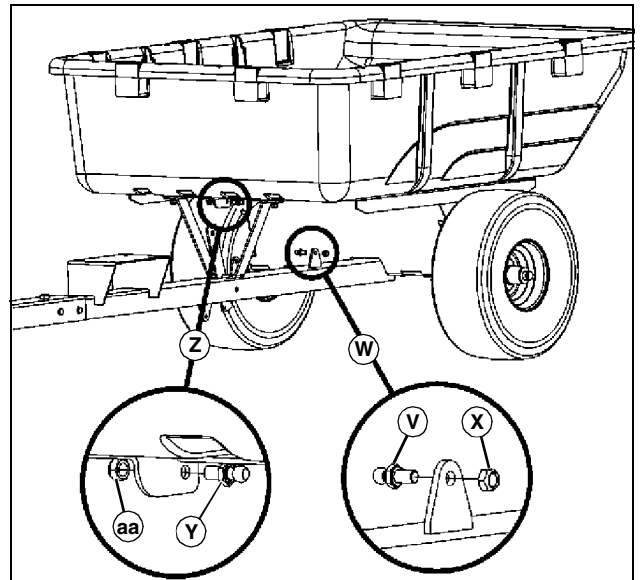
6. Install clevis pin (S) and spring locking pin (T) in towbar.



MX45527

7. Position towbar assembly (U) on bed and install axle and wheels with original hardware removed earlier.

8. Turn cart over and rest on wheels.

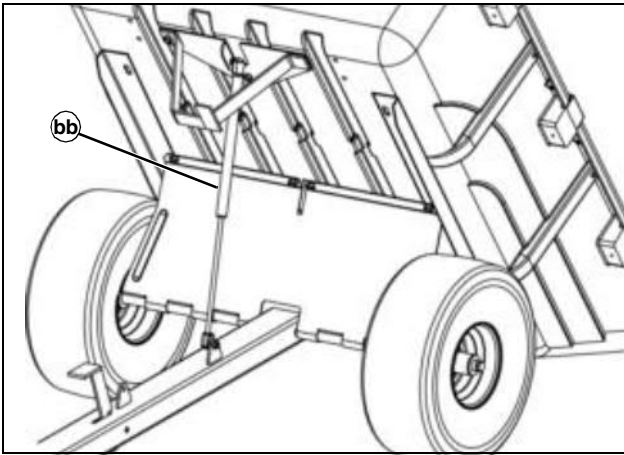


MX45528

9. Install one ball stud (V) on towbar (W) and secure with a 5/16 in. locknut (X).

10. Install one ball stud (Y) on bed (Z) and secure with a 5/16 in. locknut (aa).

Assembly



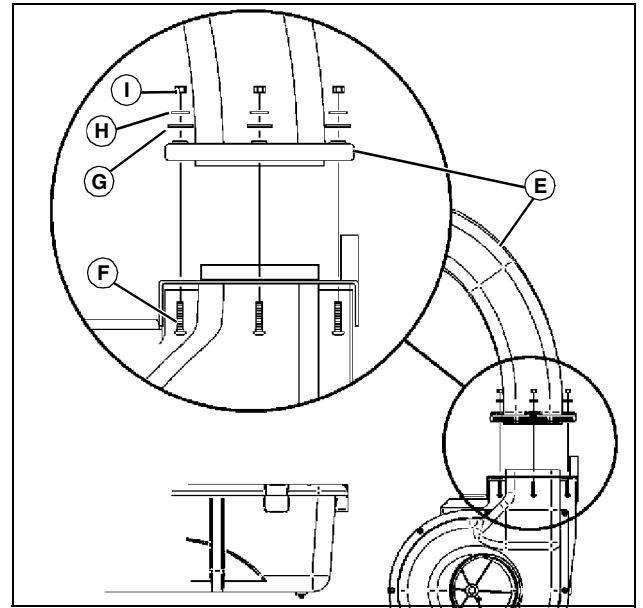
MX45529a

11. Tilt bed and install gas spring (bb) on ball studs.

Install Blower Assembly

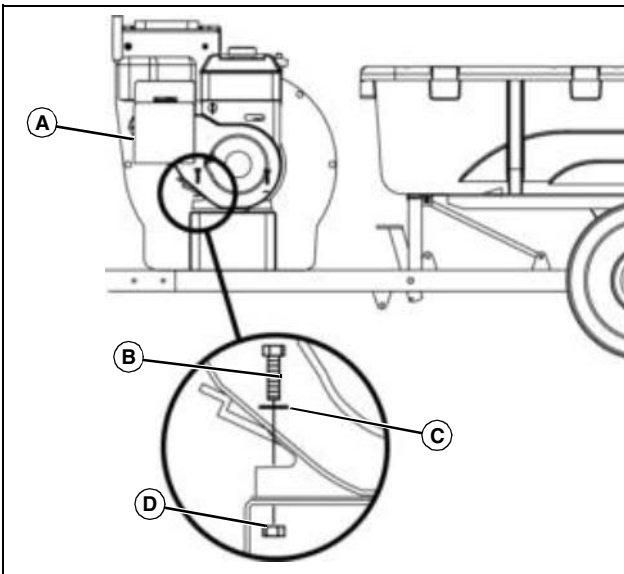
IMPORTANT: Avoid damage! Machine is shipped without oil in the engine. Oil must be added to the proper level before starting engine.

NOTE: The blower assembly is installed using hardware from the Z-1953 and 1007267 part bags.



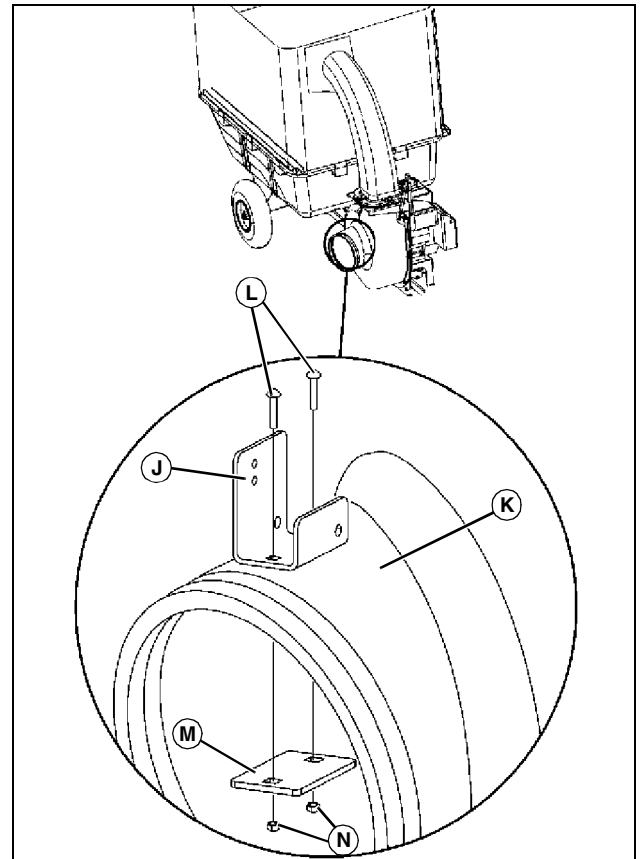
MX45531

2. Install chute (E) on blower housing using one 1/4x1-1/2 in. carriage bolt (F), one 5/16 in. fender washer (G), one 1/4 in. flat washer (H) and one 1/4 in. locknut (I) in each of three locations.



MX45530a

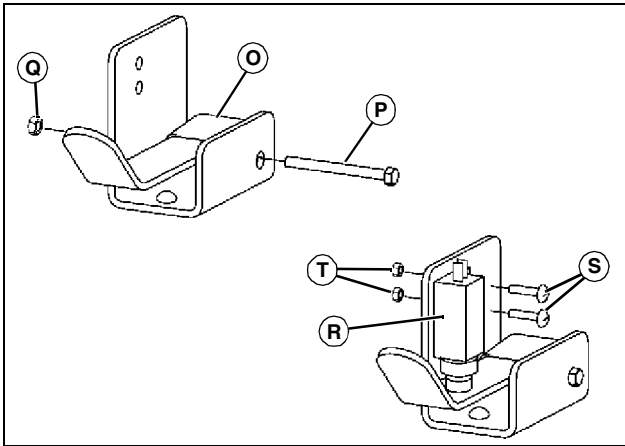
1. Install engine and blower assembly (A) on towbar using four 5/16x1-1/2 in. bolts (B), four 5/16 in. flat washers (C) and four 5/16 in. locknuts (D).



MX45542a

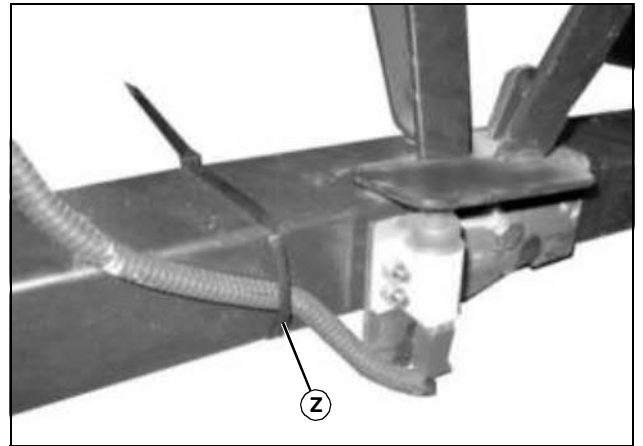
3. Position blower housing switch bracket (J) on blower housing (K) and secure using two 1/4x1-1/4 in. carriage bolts (L), one backing plate (M) and two 1/4 in. locknuts (N).

Assembly



MX45567

4. Position pivot plate (O) in blower housing switch bracket as shown and secure using one 1/4x2-1/4 in. bolt (P) and one 1/4 in. metal locknut (Q).
5. Install switch (R) on blower housing switch bracket using two #10x3/4 in. screws (S) and two #10 locknuts (T).

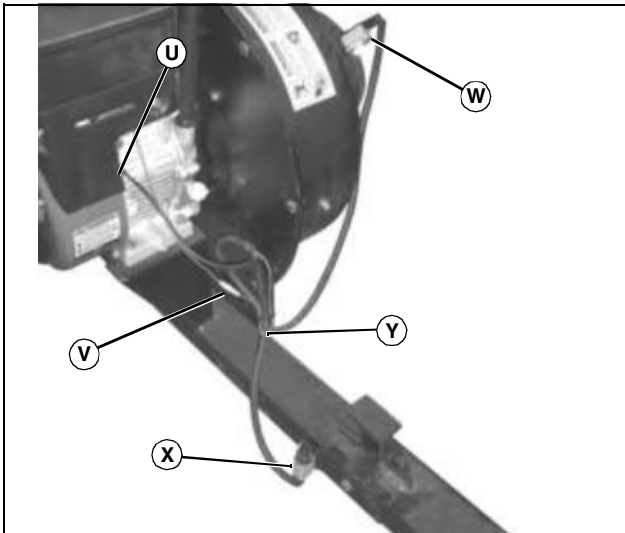


MX48690

7. Secure wire from switch on towbar with tie strap (Z).

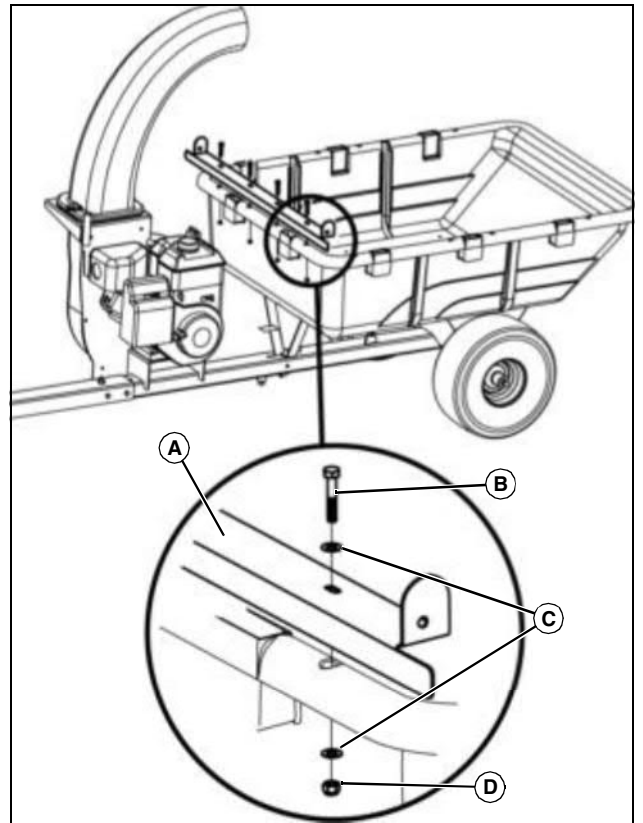
Install Canopy Frame

NOTE: The canopy frame is installed using hardware from the 1007267 and Z-1953 part bags.



MX45553a

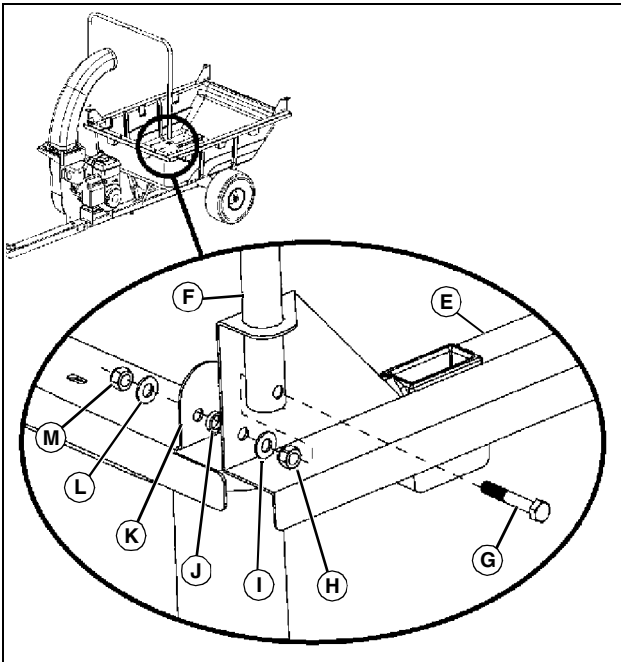
6. Install engine wiring harness as follows:
 - a. Remove existing bolt (U) on the engine. Place the wiring harness ring terminal on the bolt and install bolt in the original location. Tighten bolt securely.
 - b. Attach connector on harness single wire (V) to mating connector on engine wire.
 - c. Attach connector on long harness lead (W) to switch on blower inlet housing.
 - d. Attach connector on short harness lead (X) to switch on towbar.
 - e. Secure harness and all loose wires to blower back plate (Y) with a tie strap.



MX45532a

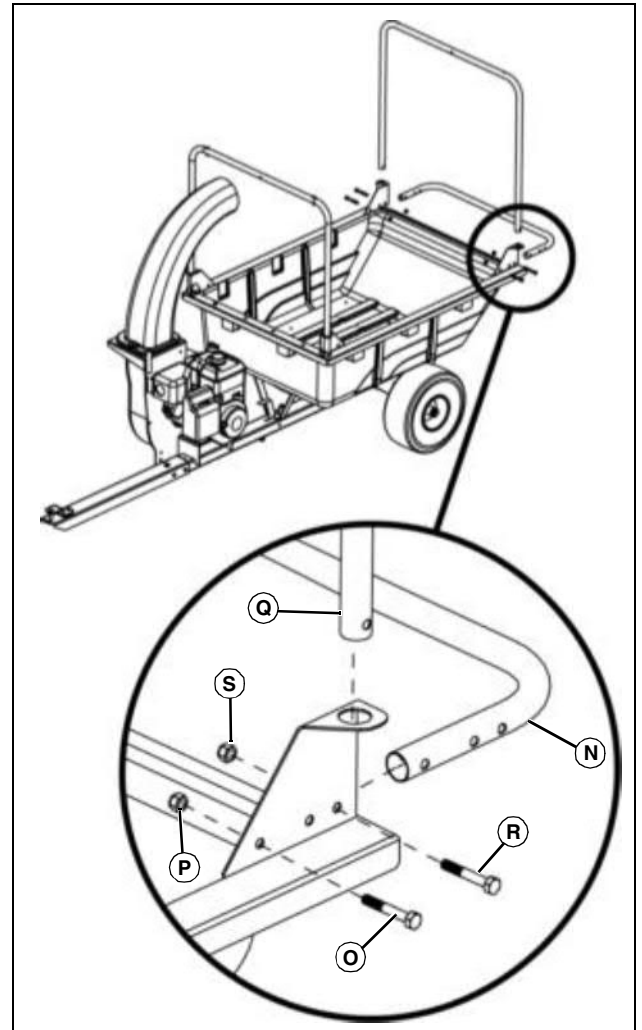
1. Install front bracket (A) on bed and secure using one 1/4x1-1/2 in. bolt (B), two 1/4 in. flat washers (C) and one 1/4 in. locknut (D) in each of four holes on bracket.

Assembly



MX45533

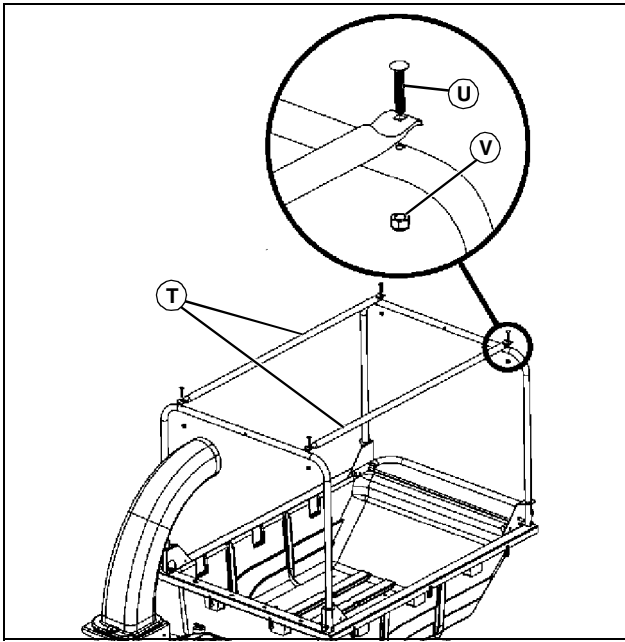
2. Place one side bracket (E) on each side of bed. Insert a canopy end tube (F) into both side brackets at front of cart.
3. Insert one 5/16x2-1/4 in. bolt (G) through the canopy end tub. Thread the bolt through a 5/16 in. nut (H), 5/16 in. flat washer (I), side bracket, spacer (J), and front bracket (K). Secure with a 5/16 in. flat washer (L) and 5/16 in. locknut (M). Repeat on opposite side.



MX45534a

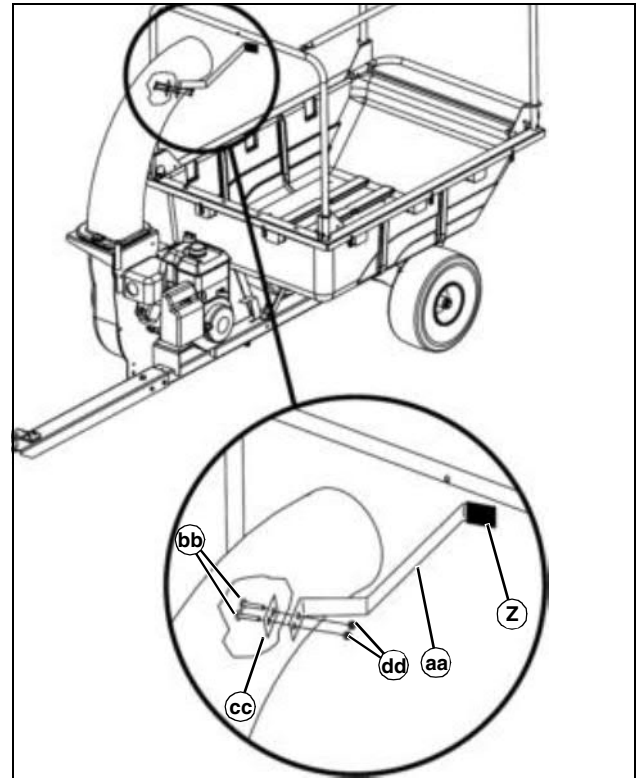
4. Position rear handle (N) on rear of bed, on inside of side brackets. Attach handle to rear flange of side brackets using one 5/16x1-1/2 in. bolt (O) and one 5/16 in. locknut (P) on each side.
5. Insert the second canopy end tube (Q) into the rear flange of the side brackets and secure using one 5/16x2-1/2 in. bolt (R) and one 5/16 in. locknut (S) on each side.

Assembly



MX45535

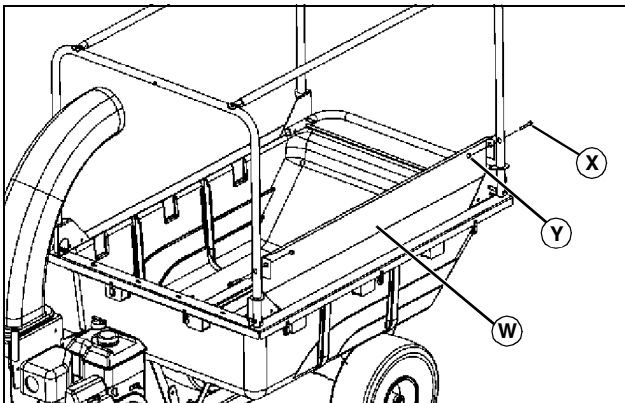
6. Position two top canopy tubes (T) on canopy end tubes and secure using four 1/4x1-1/2 in. carriage bolts (U) and four 1/4" locknuts (V).



MX45537a

8. Install vinyl grip (Z) on end of stop bracket (aa). Position stop bracket on chute and loosely install two 1/4x1-1/4 in. carriage bolts (bb), one backing plate (cc), and two 1/4 in. locknuts (dd).

9. Position the center of the stop bracket vinyl grip (Z) to align with the top canopy tube and tighten the stop bracket hardware securely.

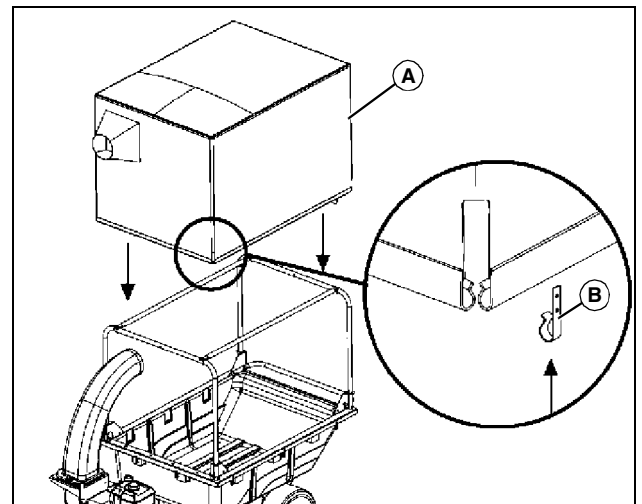


MX45536

7. Install baffle (W) on left canopy frame using two 5/16x2 in. bolts (X) and two 5/16 in. locknuts (Y). Tighten hardware to allow baffle to rotate freely. Repeat to install second baffle on right canopy frame.

Install Canopy

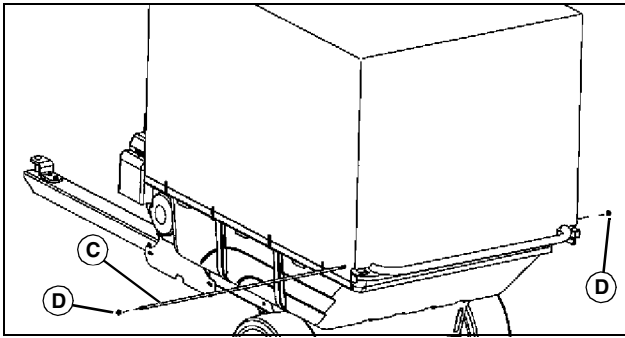
NOTE: The canopy is installed using hardware from the Z-1953 part bag.



MX45538

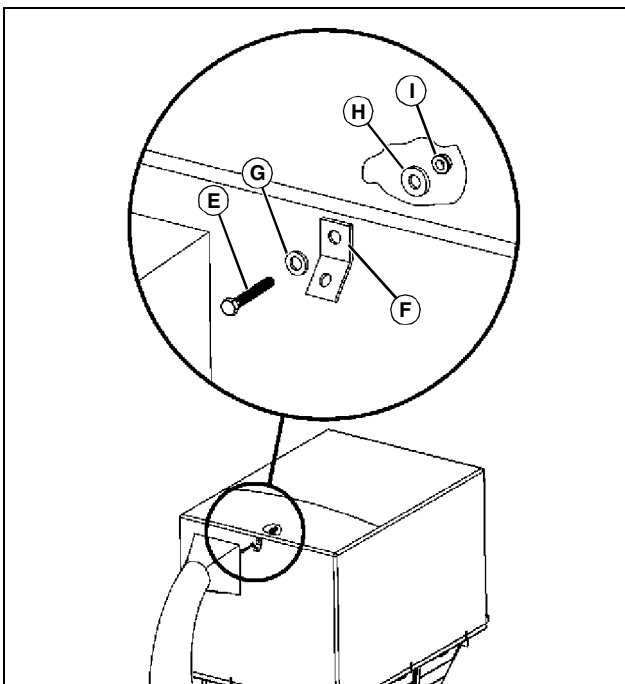
1. Slide canopy (A) on the canopy tube frame and position canopy inlet on chute. Secure the sides and front of the canopy under the front and side brackets using four canopy clips (B) evenly across each side and three canopy clips across the front.

Assembly



MX45539

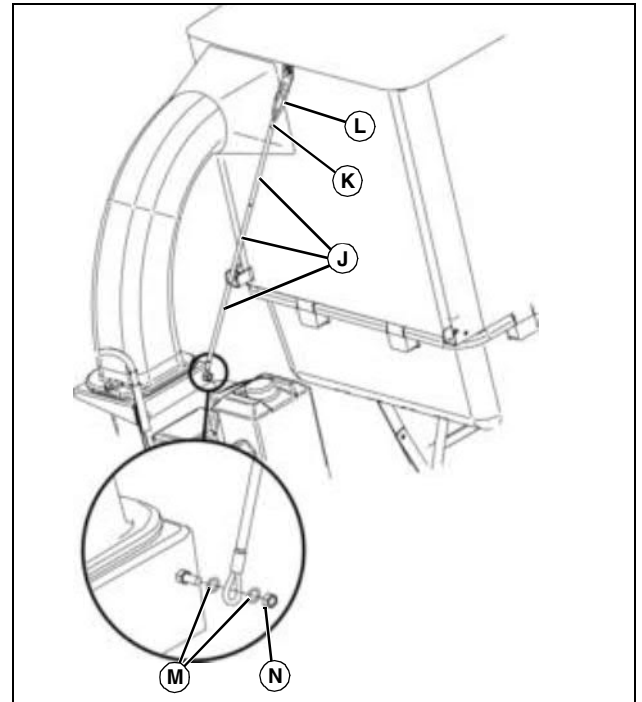
2. Install threaded rod (C) through rear end brackets, rear handle and down channel on rear of canopy. Install one 5/16 in. locknut (D) equally on each side of the rod and tighten until snug.



MX45540a

3. Install quick link bracket on canopy and canopy frame as follows:

- a. Locate the top center hole in front frame tube. Using an ice pick or similar tool, poke a hole through canopy only large enough for the 5/16x2 in. bolt (E) to fit through.
- b. Position the quick link bracket (F) over the hole and insert the 5/16x2 in. bolt (E) with 5/16 in. flat washer (G) through the bracket, canopy and canopy frame.
- c. Install the 5/16 in. fender washer (H) and 5/16 in. locknut (I) on the bolt and tighten securely.



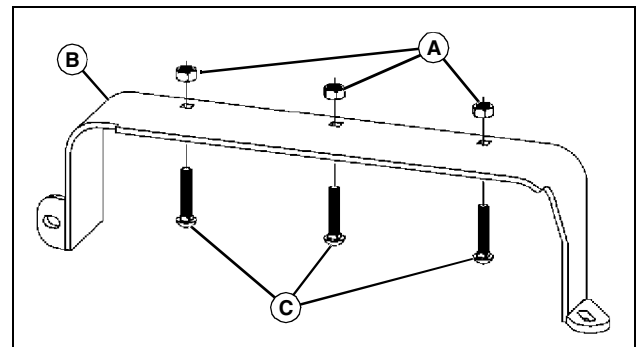
MX45541b

4. Install three pieces of black tubing (J) over end of cable (K).

5. Install quick link (L) on quick link bracket. Install one end of cable (K) on quick link. Install the opposite end of cable on exposed bolt on chute bracket using two 1/4 in. flat washers (M) and one 1/4 in. locknut (N).

Assemble Boot Kit - 48, 54, 62 in. Mower Decks

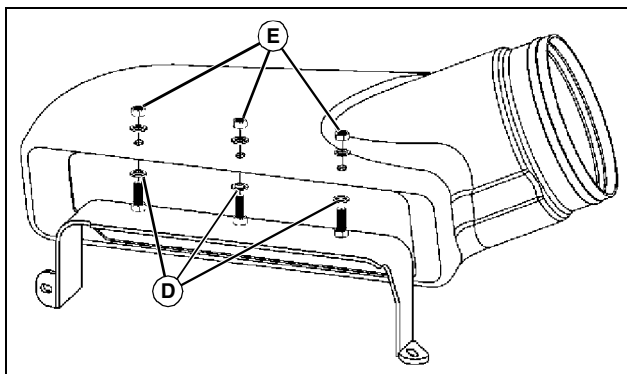
NOTE: The boot kit is assembled using hardware supplied with the kit.



MX45547

1. Install three 5/16x1-1/4 in. carriage bolts (A) in deck boot bracket (B) and secure with three 5/16 in. nuts (C).

Assembly

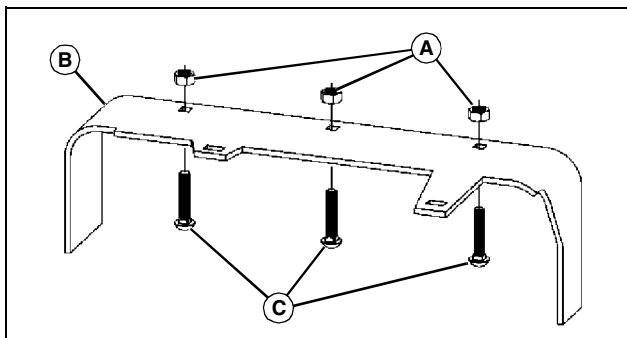


MX45548

2. Install three 5/16 in. flat washers (D) on deck bracket bolts.
3. Install deck boot on bracket bolts and secure with three 5/16 in. flat washers and three 5/16 in. locknuts (E).

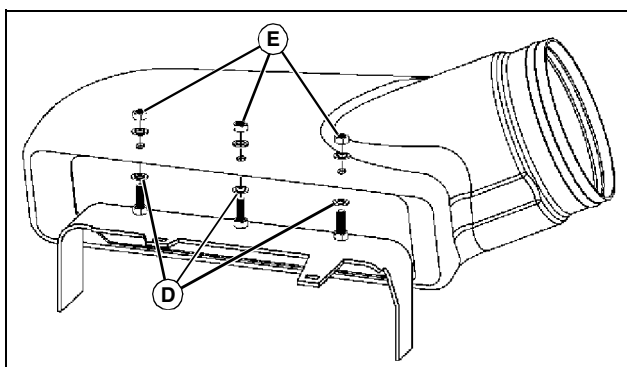
Assemble Boot Kit - 60 in. Mower Deck

NOTE: The boot kit is assembled using hardware supplied with the kit.



MX45550

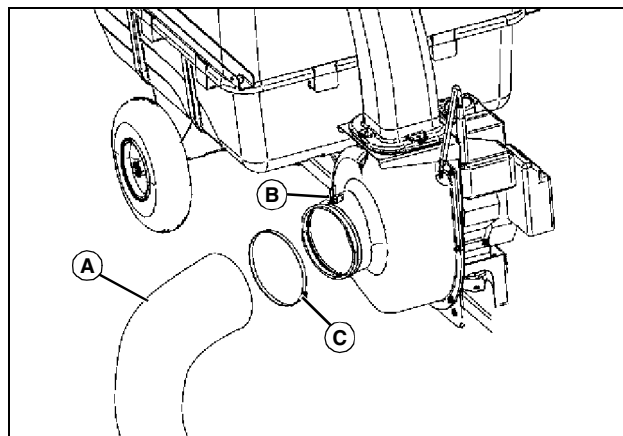
1. Install three 5/16x1-1/4 in. carriage bolts (A) in deck boot bracket (B) and secure with three 5/16 in. nuts (C).



MX45551

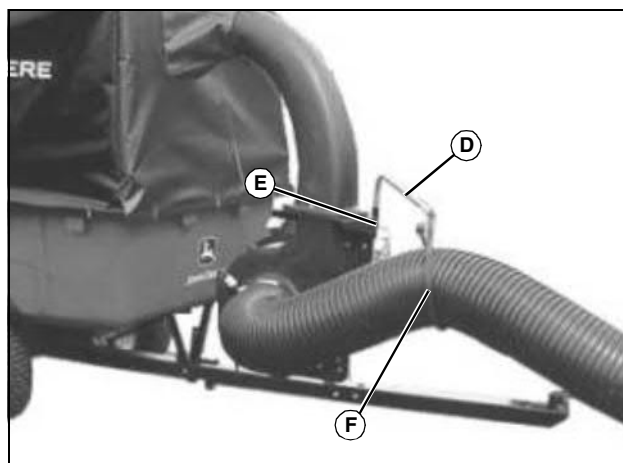
2. Install three 5/16 in. flat washers (D) on deck bracket bolts.
3. Install deck boot on bracket bolts and secure with three 5/16 in. flat washers and three 5/16 in. locknuts (E).

Install Blower Hose



MX45543

1. Install blower hose (A) on blower housing inlet, under switch pivot plate (B) and secure with 8 in. hose clamp (C).



MX45545

2. Install hose support rod (D) in socket (E) on blower housing.
3. Secure blower hose on support rod using a 36 in. bungee cord (F).

Add Engine Oil

IMPORTANT: Avoid damage! Machine is shipped without oil in the engine. Oil must be added to the proper level before starting engine.

1. Raise towbar and block in a level position.
2. Remove dipstick and add oil to the proper level. (See Checking Engine Oil in the SERVICE section.)

Check Machine Safety System

Perform safety system check to ensure that the two safety switches are functioning properly. (See Testing Safety Switches in the OPERATING section.)

Installing

Installing

Installing Deck Boot

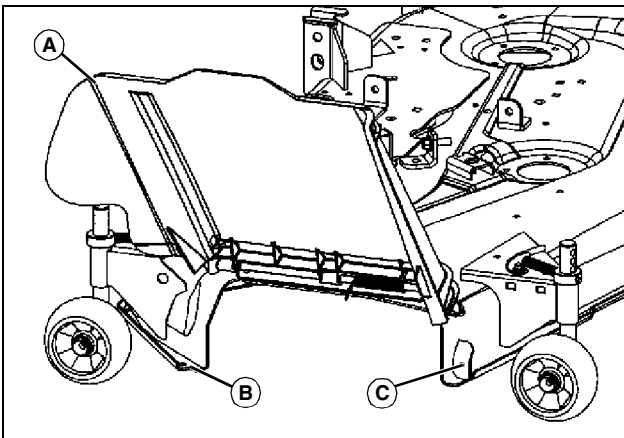
Installing Deck Boot and Bracket - 48, 54, 62 in. Mower Decks



CAUTION: Avoid injury! Rotating blades are dangerous.
Before adjusting or servicing mower:

- Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Shut engine off and lock parking brake. Wait for all moving parts to stop.



MX45549

2. Lift discharge chute cover (A) (It is not necessary to remove the chute from the deck). Position deck boot assembly on deck with boot outlet facing rear of deck.

3. Install a 5/16x3/4 in. carriage bolt through boot bracket and deck at location (B). Loosely install a 5/16 in. locknut on bolt.

4. Install a 1/4x1 in. bolt, 1/4 in. flat washer and 5/16 in. flat washer through boot bracket and deck at location (C). Install a 1/4 in. flat washer and 1/4 in. locknut on bolt.

5. Tighten both bolts securely and lower discharge chute cover.

Installing Deck Boot and Bracket - 60 in. Mower Deck

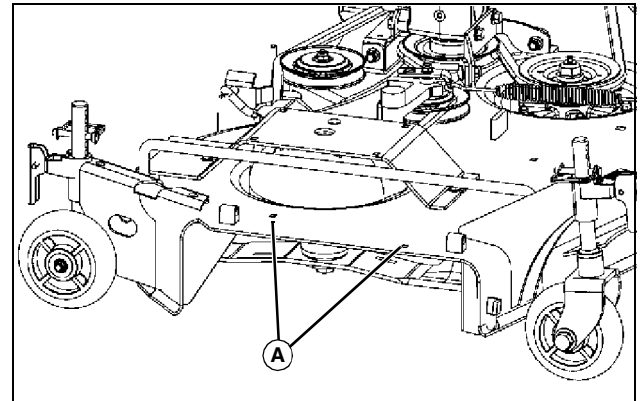


CAUTION: Avoid injury! Rotating blades are dangerous.
Before adjusting or servicing mower:

- Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Shut engine off and lock parking brake. Wait for all moving parts to stop.

2. Lift discharge chute cover (It is not necessary to remove the chute from the deck). Position deck boot assembly on deck with boot outlet facing rear of deck.



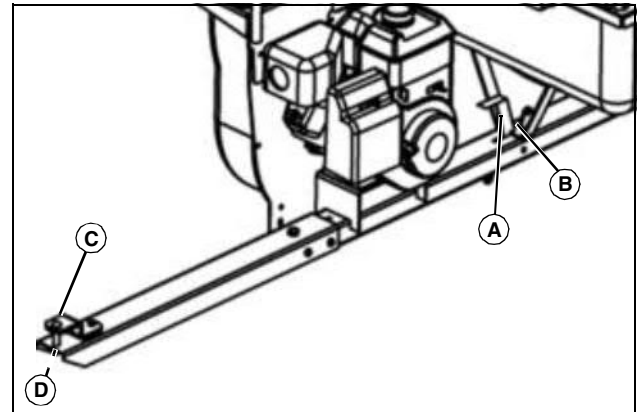
MX45552

Picture Note: Discharge chute cover removed for better view.

3. Install two 5/16x3/4 in. carriage bolts through the boot bracket and deck at location (A) and secure with two 5/16 in. locknuts.

4. Lower discharge chute cover.

Installing MC542 with Cart on Machine



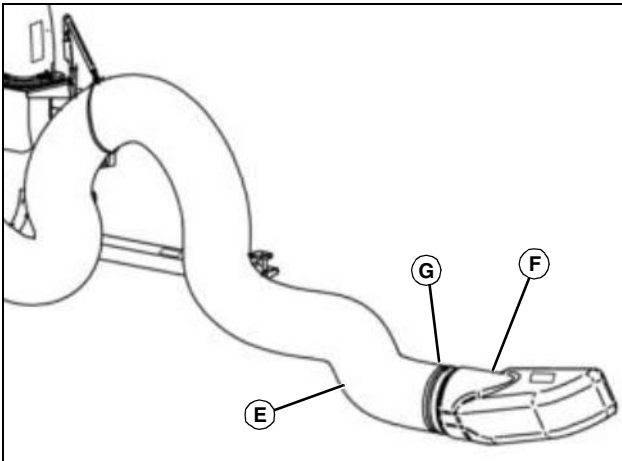
MX45568a

1. Ensure that cart bed release handle (A) is firmly engaged on the lock bracket (B).

2. Park machine safely. (See Parking Safely in the Safety section.)

3. Position the cart towbar on the machine, install the clevis pin (C) and secure with the spring locking pin (D).

Installing



MX45462

4. Position the blower hose (E) on the deck boot (F) and secure with a 8 in. hose clamp (G).

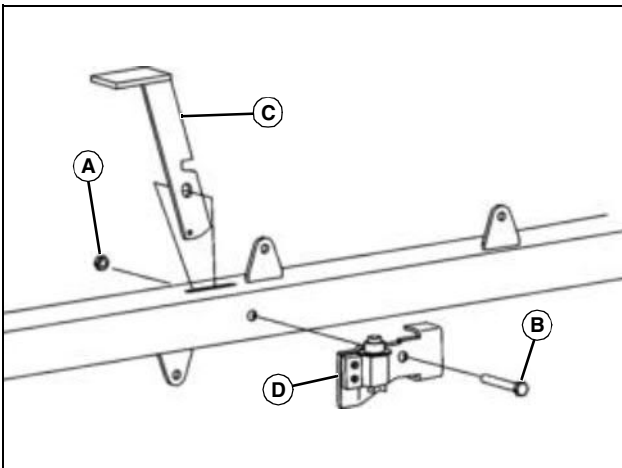
Seasonal Installation of MC542 on Cart

MC542 components can be removed from the 17P cart to allow seasonal use of the cart in its basic configuration. (See Seasonal Removal of MC542 from Cart in REMOVING section.)

Restore the cart to its Material Collection System configuration by installing all MC542 components removed using the following procedures:

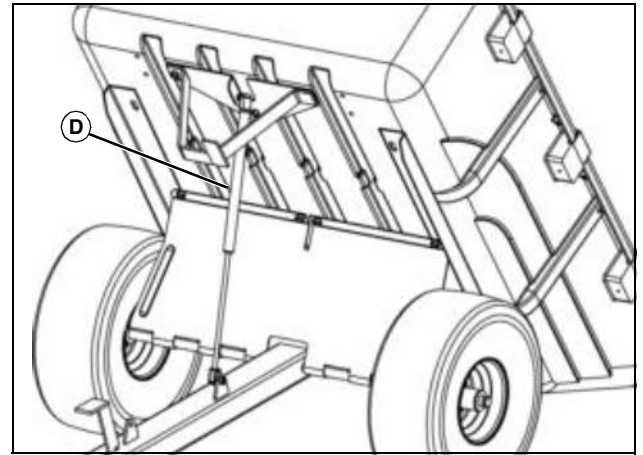
Installing Gas Spring

1. Position the cart on a level surface and allow the towbar to rest on the ground. Place a 50x100 mm (2x4 in.) block under each cart tire.
2. Move the bed release handle to allow the bed to tilt.



MX45555c

3. Remove the 3/8 in. locknut (A) and 3/8x3-1/2 in. bolt (B) securing the bed release handle (C) to the towbar.
4. Position switch bracket with switch (D) on towbar. Install the 3/8x3-1/2 bolt (B) through the switch bracket, towbar, bed release handle (C) and opposite side of towbar and secure with a 3/8 in. locknut (A).

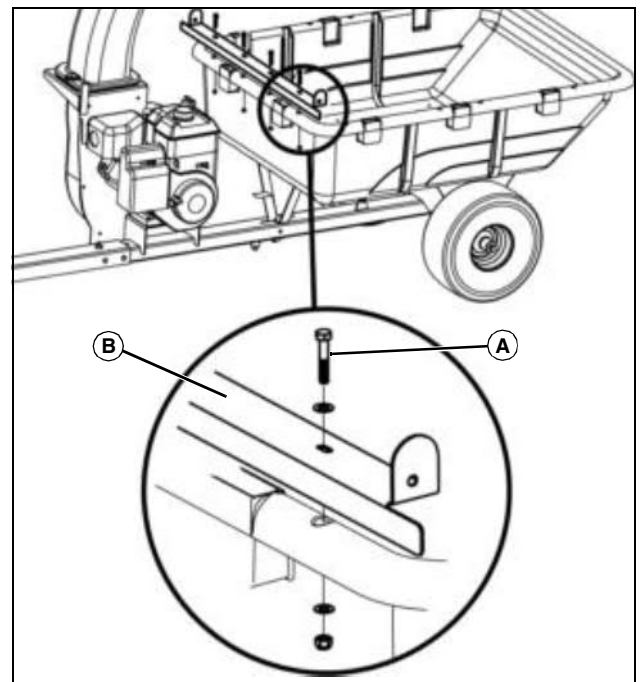


MX45529a

5. Support the bed in the raised position and install the gas spring (D) on both ball studs.
6. Lower the bed and ensure that the bed release handle engages the lock bracket securely.

Installing Canopy and Frame

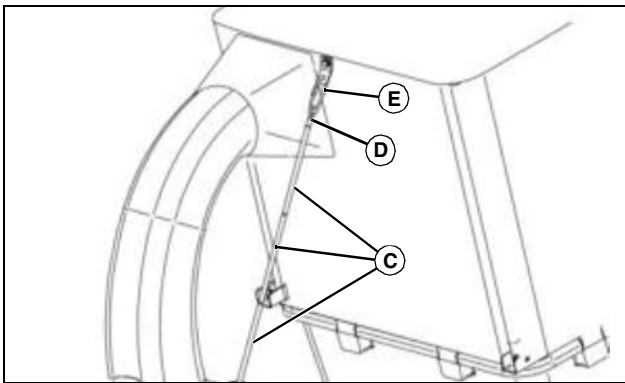
1. Position the canopy assembly on the cart.



MX45532a

2. Install four 1/4x1-1/2 in. bolts (A), eight 1/4 in. flat washers and four 1/4 in. locknuts in the front bracket (B) securing the canopy assembly to the bed.

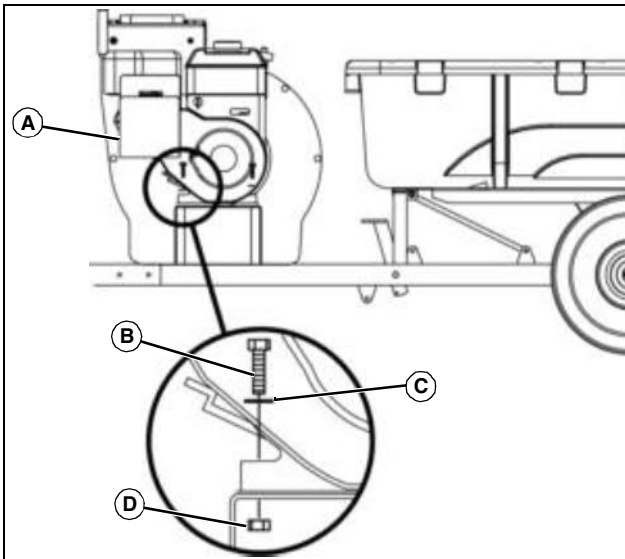
Removing and Storing



MX45541b

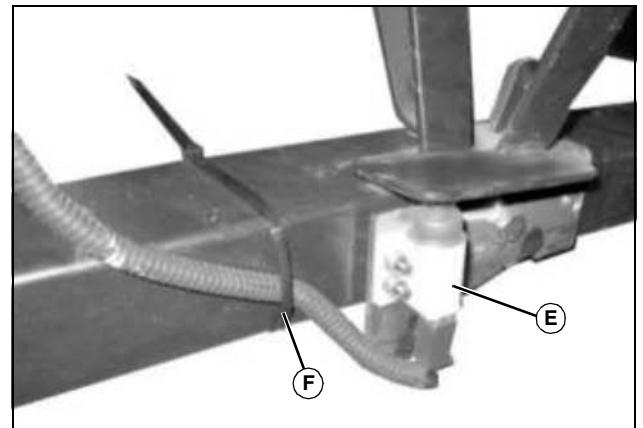
3. Install three pieces of black tubing (C) over end of cable (K).
4. Install the cable (D) to the quik link (E).

Installing Engine/Blower/Chute Assembly



MX45530a

1. Place the engine, blower and chute assembly (A) on the towbar and position the chute in the canopy opening. Secure with the engine blower and chute assembly to the towbar with four 5/16x1-1/2 in. bolts (B), four 5/16 in. flat washers (C) and four 5/16 in. locknuts (D).



MX48690

2. Install the wiring harness connector on towbar switch (E).
3. Secure wire from switch on towbar with tie strap (F).
4. Install the blower hose to the blower housing and secure with a 8 in. hose clamp.
5. Install the deck boot on the mower deck, attach the blower hose to the boot and secure with a 8 in. hose clamp.

Removing and Storing

Removing Deck Boot

The deck boot and bracket must be removed from the mower deck when the MC542 system is not being used to allow for proper deck discharge and operation of the deck discharge cover.

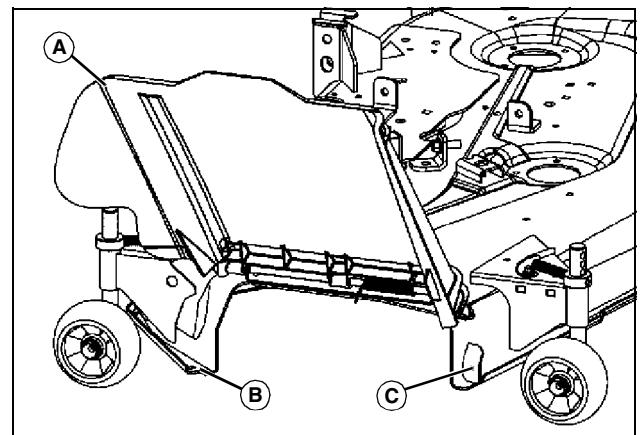
Removing Deck Boot and Bracket - 48, 54, 62 in. Mower Decks



CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Shut engine off and lock parking brake. Wait for all moving parts to stop.



MX45549

2. Lift discharge chute cover (A). Remove one 5/16x3/4 in. carriage bolt

Removing and Storing

and 5/16 in. locknut at location (B).

3. Remove one 1/4x1 in. locknut, one 1/4 in. flat washer, one 5/16 in. flat washer, one 1/4 in. flat washer and one 1/4x1 in. bolt at location (C) and remove boot with bracket from deck.

4. Lower discharge chute cover.

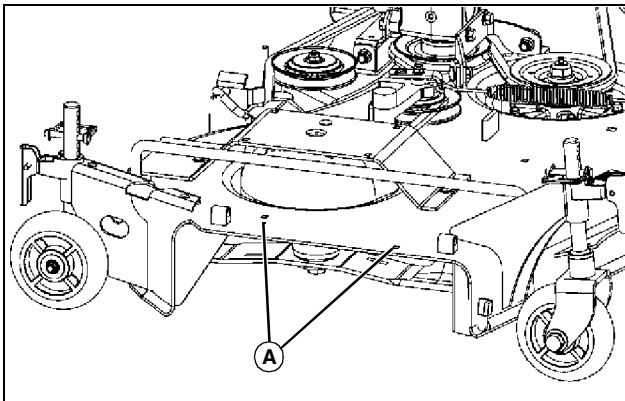
Removing Deck Boot and Bracket - 60 in. Mower Deck



CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Shut engine off and lock parking brake. Wait for all moving parts to stop.
2. Lift discharge chute cover. (It is not necessary to remove the chute from the deck).



MX45552

Picture Note: Discharge chute cover removed for better view.

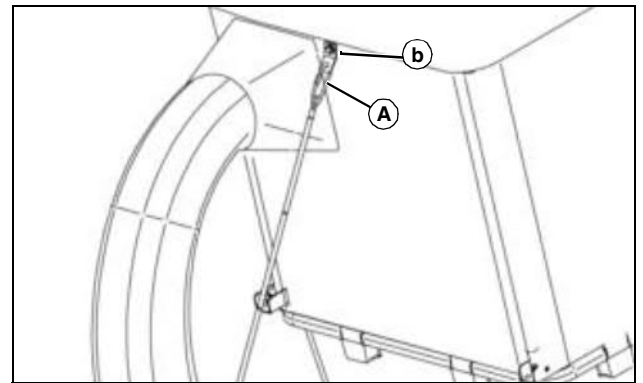
3. Remove two 5/16x3/4 in. carriage bolts and two 5/16 in. locknuts at location (A) and remove boot with bracket from deck.
4. Lower discharge chute cover.

Seasonal Removal of MC542 from Cart

MC542 components can be removed to allow seasonal use of the 17P cart in its basic configuration. Save all hardware removed for reuse. Remove the components as follows:

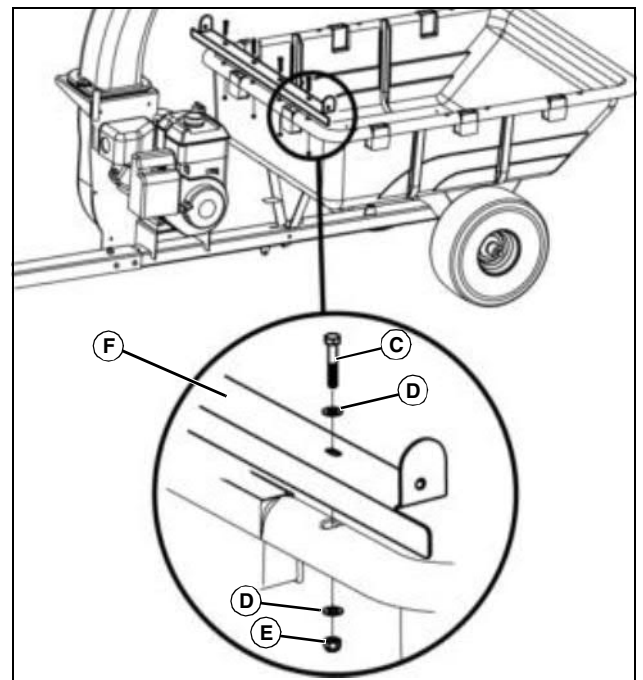
Removing Canopy and Frame

1. Clean canopy and cart and allow to dry thoroughly.



MX45541b

2. Remove quick link (A) from bracket (B).
3. Make sure black tubing stays on cable when storing.



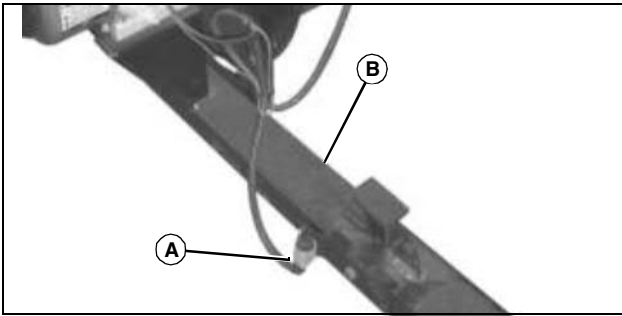
MX45532a

4. Remove four 1/4x1-1/2 in. bolts (C), eight 1/4 in. flat washers (D) and four 1/4 in. locknuts (E) securing front bracket (F) and complete canopy assembly to bed.
5. Remove the complete canopy assembly from the cart.

Removing Engine/Blower/Chute Assembly

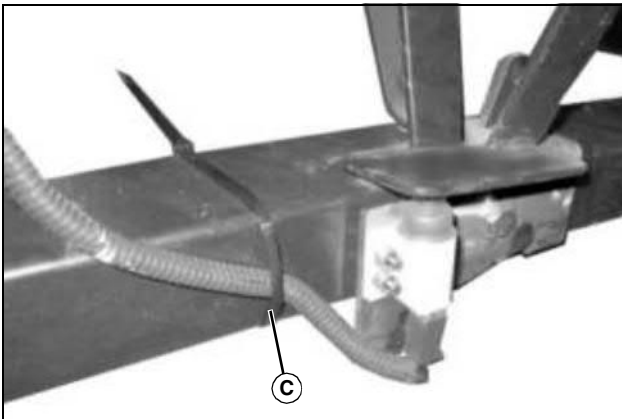
1. Remove the boot kit from the mower deck if required.
2. Loosen the hose clamp and remove the blower hose from the blower housing.

Removing and Storing



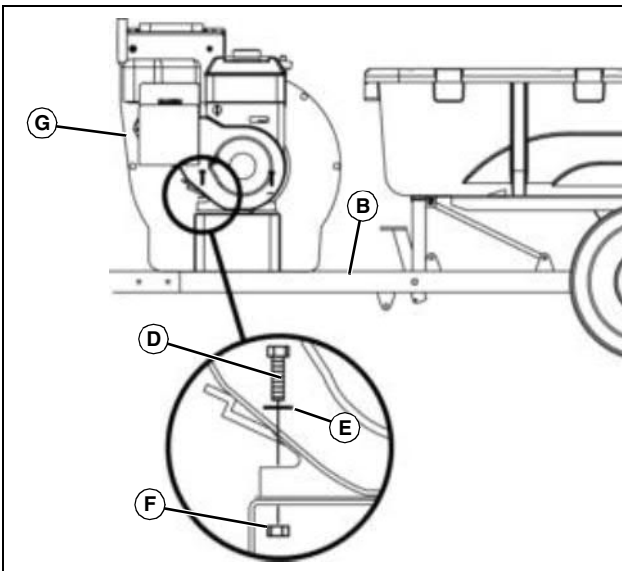
MX45553a

3. Remove wiring harness connector from switch (A) on towbar (B).



MX48690

4. Remove tie strap (C) securing harness to towbar.



MX45530a

5. Remove four 5/16x1-1/2 in. bolts (D), four 5/16 in. flat washers (E) and four 5/16 in. locknuts (F) and remove the engine, blower and chute assembly (G) with engine wiring harness from the towbar (B).

Removing Gas Spring

NOTE: The gas spring must be removed from the cart when the MC542 system is removed.

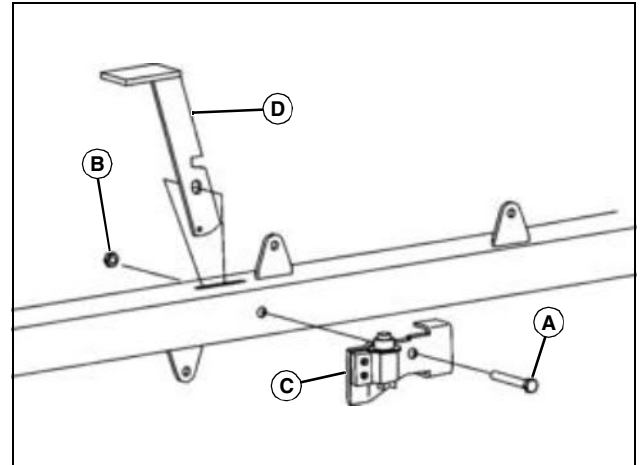
1. Position the cart on a level surface and allow the towbar to rest on the

ground. Place a 50x100 mm (2x4 in.) under each cart tire.

2. Move the bed release handle to allow the bed to tilt.

3. Support the bed in the raised position.

4. Remove the socket clip on each end of the gas spring, remove the gas spring from the cart and install both clips back on the gas spring sockets.



MX45555c

5. Remove the 3/8x3-1/2 bolt (A) and 3/8 in. locknut (B) securing the bracket with switch (C) and bed release handle (D) to the towbar. Remove the switch assembly.

6. Install the bed release handle (D) in the towbar and secure with the 3/8x3-1/2 bolt (A) and 3/8 in. locknut.

7. Lower the bed and ensure that the bed release handle engages the lock bracket securely.

Storing Attachment

IMPORTANT: Avoid damage! Store attachment by placing it door side down.

NOTE: Some of the following steps may not apply to your attachment.

1. Remove any grass clippings from MCS.
2. Remove attachment from machine.
3. Clean attachment and driveline, if equipped, with water pressure from a hose.
4. Remove any shields if needed to clean out all debris.
5. Repair or replace worn, bent, or damaged parts. Tighten loose hardware.
6. Apply paint to painted surfaces where needed to prevent rust.
7. Lubricate any pivot points with engine oil to prevent rust.
8. Lubricate any grease points.

IMPORTANT: Avoid damage! Abrasive surfaces can damage attachment. Store attachment on non-abrasive surface or on wooden blocks.

9. If storing attachment outdoors, block up attachment if possible and place a waterproof cover over it.

Operating

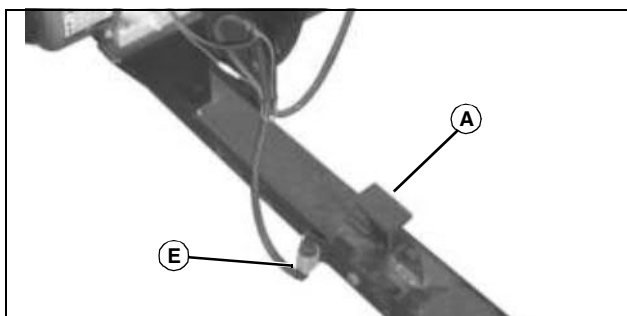
Operating

Testing Safety Switches

1. Connect cart towbar to machine hitch.
2. Attach blower hose to mower deck boot and secure with hose clamp.

Test Bed Tilt Safety Switch

- a. Start the engine and run at low idle.



MX45553a

- b. Pull bed release handle (A) and tilt bed to the rear.

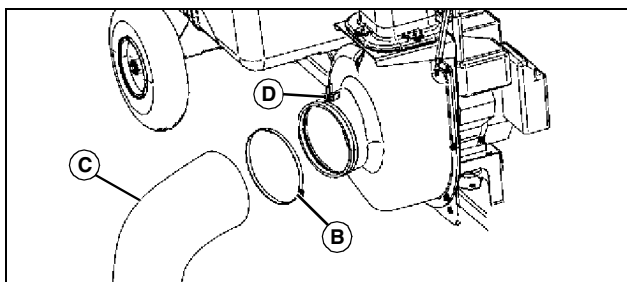
Result: The engine should stop. If the engine continues to run, there is a problem with the machine safety system. Do not operate the machine until it is corrected.

Test Blower Hose Safety Switch

- a. Start the engine and run at low idle.

CAUTION: Avoid injury! Service operation is performed while shield is removed and parts are rotating.

- Rotating parts can catch fingers, loose clothing, or long hair.
- Stay away from rotating parts.
- Install shield as soon as service operation is completed.



MX45543

- b. Loosen hose clamp (B) and pull blower hose (C) from blower intake housing (D).

Result: The engine should stop. If the engine continues to run, there is a problem with the machine safety system. Do not operate the machine until it is corrected.

3. Stop engine.

Adding Fuel



CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- Shut engine off and allow to cool before filling fuel tank.
- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Fill fuel tank outdoors or in well ventilated area.
- Clean up spilled fuel immediately.
- Use clean approved non-metal container to prevent static electric discharge.
- Use clean approved plastic funnel without screen or filter to prevent static electric discharge.
- Loosen fuel cap slowly to release pressure and to keep fuel from escaping around the cap.

1. Clean the fuel cap area of dirt and debris. Remove the fuel cap.
2. Fill the fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
3. Install the fuel cap and tighten securely.

Starting the Engine



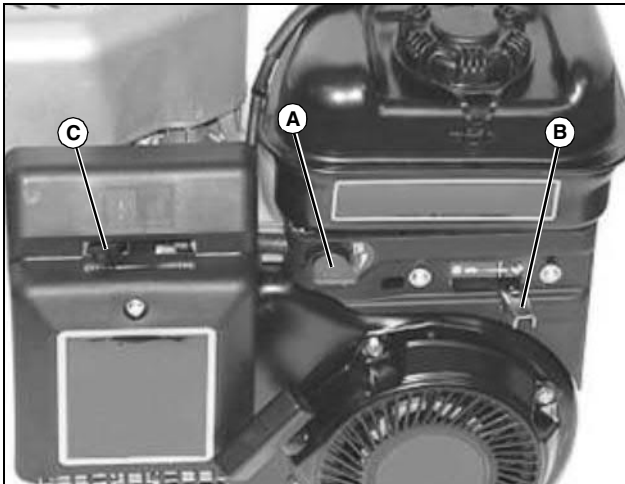
CAUTION: Avoid injury! Visibility is restricted when backing up machine with MCS installed.

- Keep bystanders away from machine, especially when backing up.
- Look behind and around MCS before backing up machine.
- Stop machine on level ground when emptying MCS.
- Keep vehicle a safe distance away from edge of drop-offs when unloading MCS.



CAUTION: Avoid injury! Rotating blades can throw objects or debris. Do not operate mower without discharge chute or entire grass catcher in place.

Service Intervals



MX50533

1. Turn the fuel shut-off valve (A) to the on position.
2. Move throttle lever (B) to the fast position.
3. Move the choke lever (C) to the CHOKE position.

NOTE: A warm engine may not require use of the choke.

4. Pull the starter handle slowly until resistance is felt, then pull fast and steady until the engine starts.

On a cold engine start, allow the engine to warm while gradually moving the choke lever to the RUN position

Stopping the Engine

1. Move engine throttle to the STOP position.

NOTE: If the machine will be left unattended for an extending period of time or is going to be serviced, remove the spark plug wire.

2. Turn the fuel shut-off valve to the OFF position.

Using the MC542



CAUTION: Avoid injury! Excessive towed load can cause loss of traction and loss of control on slopes. Stopping distance increases with speed and weight of towed load.

Total towed weight must not exceed combined weight of pulling machine, operator and front ballast, or the maximum capacity of the cart.

IMPORTANT: Avoid damage! Do not use the MC542 to collect material other than grass and leaf debris.

1. Begin operation with the tractor traveling at a slow speed. Adjust the travel speed as required to match grass height and moisture condition to prevent MC542 clogging.
2. If the MC542 becomes clogged, shut off the engine, wait for all moving parts to stop, and remove the spark plug wire before clearing the clog.

Emptying the Cart

1. Stop the tractor engine and lock the brake.
2. Stop the MC542 engine.

NOTE: When lightly loaded, the cart can tilt rapidly when the bed release handle is released and the gas spring provides tilt assistance.

3. Using your foot, release the bed release handle by pushing toward the engine.
4. Pull the yard debris away from the cart bed using a rake or suitable tool.
5. When the cart has been emptied, pull the rear handle down to close the canopy and tip the bed/canopy assembly forward to engage the lock bracket with the bed release handle on the towbar.

Service Intervals

Service Intervals

First 5 Hours

- Change engine oil.
- Clean impeller.
- Check unit for loose hardware.
- Check impeller torque.
- Test safety switch operation.

First 10 Hours

- Check engine oil level.
- Check tire pressure.
- Check for loose hardware.
- Lubricate wheel grease fittings.
- Clean mesh screens and inside of canopy sidewalls.
- Clean impeller.
- Check impeller torque.

Every 8 hours or Daily

- Check engine oil level.
- Clean area around muffler and controls.
- Clean finger guard on recoil starter housing.
- Check blower hose for damage. Replace if necessary.

Every 25 Hours or Annually

- Clean air precleaner.
- Check air filter.
- Check impeller torque.
- Test safety switch operation.
- Check tire pressure.
- Lubricate wheel grease fittings.
- Check unit for loose hardware.
- Check blower housing, chute and hose for wear or damage.
- Check canopy for wear or damage.

Every 50 Hours or Annually

- Change engine oil.
- Check muffler and spark arrestor if equipped.

Service

Annually

- Replace air filter.
- Replace precleaner.
- Replace spark plug.
- Replace fuel filter.
- Clean engine air cooling system.
- Check valve clearance.
- Test safety switch operation.

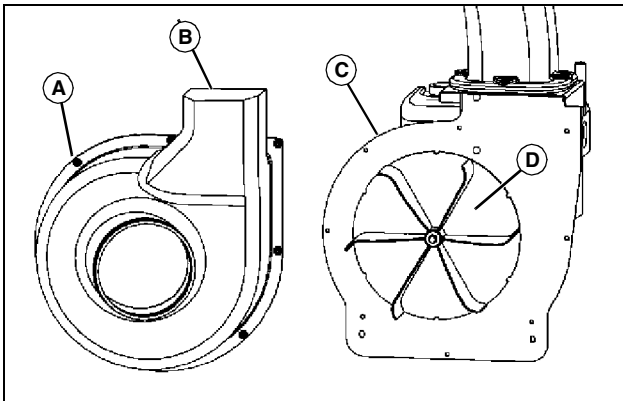
Service

Blower Impeller Service

Cleaning Impeller

Clean the impeller as follows:

1. Stop engine and disconnect spark plug.
2. Remove the blower hose from the blower housing.



MX45562

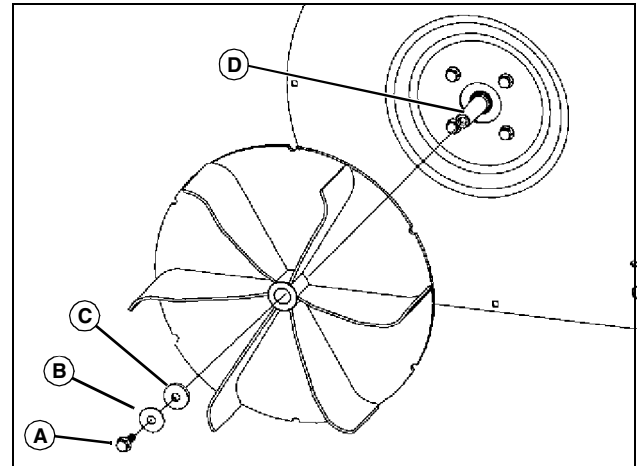
3. Remove eight screws (A - one identified) from the blower housing (B) and remove the blower housing from the blower housing plate (C).
4. Using a putty knife or other suitable tool, scrape the impeller assembly (D) to remove any large buildup of debris. Continue cleaning with warm water and soap applied with a stiff nylon brush.
5. Install the blower housing to the plate and secure with the original hardware. Install the blower hose to the blower housing and tighten hose clamp securely.

Removing Impeller

IMPORTANT: Avoid damage! A bent or damaged impeller will not be balanced and can cause engine damage. Do not operate the MC542 engine until the impeller is replaced.

Remove the impeller as follows:

1. Stop engine and disconnect spark plug.
2. Remove the blower hose from the blower housing.
3. Remove the blower housing from the blower housing plate.



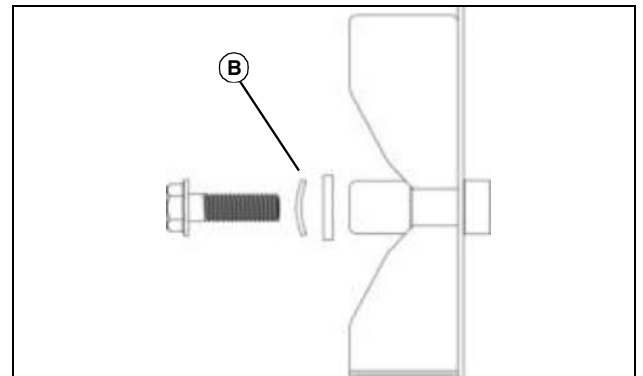
MX45563

4. Remove the bolt (A), spring washer (B) and flat washer (C) and pull the impeller from the engine shaft (D).
5. Clean the engine shaft and the impeller hub of corrosion, rust, or other materials.

Installing Impeller

1. Stop engine and disconnect spark plug.

NOTE: Make sure spring washer (B) is installed in proper orientation, as shown in illustration.



MX27913

2. Place the impeller on the tapered engine shaft. Install the bolt with spring washer and flat washer into the engine shaft. Tighten bolt to 61 N•m (45 lb-ft).
3. Install the blower housing to the blower housing plate and secure with the original hardware. Install the blower hose to the blower housing and tighten hose clamp securely.

Canopy and Cart Cleaning

1. Clean the canopy mesh screens, and bed/canopy interior when required using a stiff bristle brush with soap and water. Rinse thoroughly with fresh water.

NOTE: If tears exist in the rear canopy panel, opposite the chute, the canopy must be replaced. Tears in the front or side panels can be mended with a suitable patch.

2. Check the canopy fabric for damage.

Service Engine

Service Engine

Engine Warranty Maintenance Statement

Maintenance, repair, or replacement of the emission control devices and systems on this engine, which are being done at the customer's expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized John Deere dealer.

Avoid Fumes



CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- Move the machine to an outside area before running the engine.
- Do not run an engine in an enclosed area without adequate ventilation.
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

Using Proper Fuel

Use regular grade unleaded fuel with an octane rating of 87 octane or higher. Fuel blends containing up to 10% ethanol or up to 15% MTBE reformulated fuel are acceptable. Do not use fuel or additives containing methanol as engine damage can occur.

Always use fresh, clean fuel that is purchased in a quantity that can be used within approximately 30 days, or add fuel stabilizer.

Fuel is blended to give best seasonal performance. To avoid engine performance problems such as hard starting or vapor lock, use in-season fuel. Use fuel during warm weather that was purchased during that season, and use fuel during cold weather that was purchased during that season.

Fuel can become stale in machines with engines that are used seasonally or infrequently during a season. Stale fuel can produce varnish and plug carburetor components which can affect engine performance.

Keep fuel storage container tightly covered and in a cool area out of direct sunlight. Fuel can break down and degrade if not sealed properly or exposed to sun and heat.

Condensation may collect in the fuel tank because of a variety of operating or environmental conditions and, over time, may affect your machine's operation. Fill fuel tank at the end of daily use and store fuel in plastic containers to reduce condensation.

For best year-round performance and fuel-handling, add stabilizer to fuel immediately after fuel purchase. Such practice helps prevent engine performance problems and allows fuel storage in the machine all year without draining.

Filling Fuel Tank



CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- Shut engine off before filling fuel tank.
- Allow engine to cool before refueling.
- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Fill fuel tank outdoors or in well ventilated area.
- Clean up spilled fuel immediately.
- Use clean approved non-metal container to prevent static electric discharge.

IMPORTANT: Avoid damage! Dirt and water in fuel can cause engine damage:

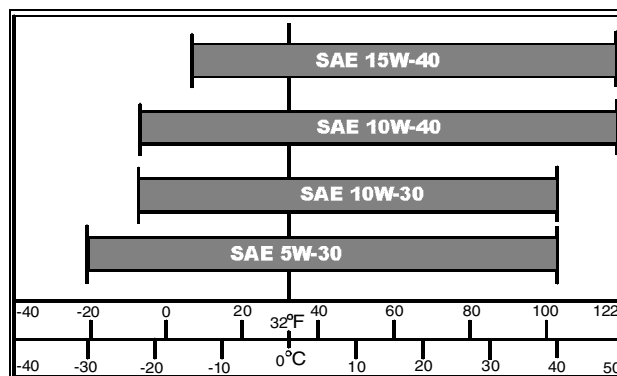
- Clean dirt and debris from the fuel tank opening.
- Use clean, fresh, stabilized fuel.
- Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.
- Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.

Fill fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap.
 - Gas models: Turn cap until clicks.

Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.



The following John Deere oils are preferred:

- TURF-GARD™

Service Engine

- PLUS- 4™
- PLUS-50™ II

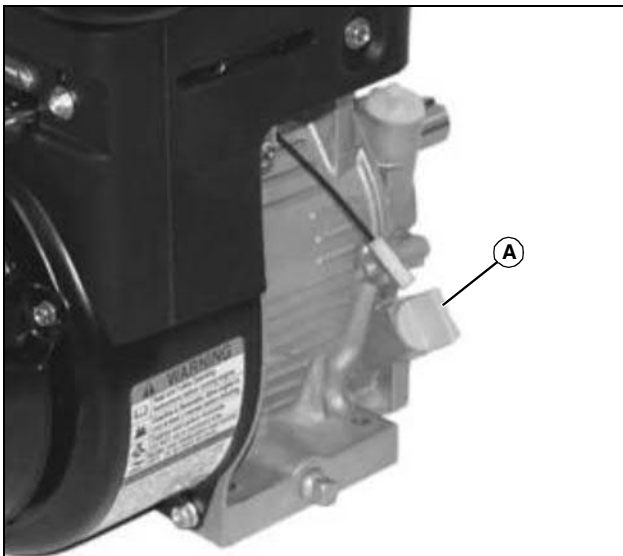
Other oils may be used if above John Deere oils are not available, provided they meet the following specification:

- API Service Classification SJ or higher

Checking Engine Oil Level

IMPORTANT: Avoid damage! Failure to check oil level regularly could lead to serious engine problems if oil level is out of the operating range.

- Check oil with engine warm but not operating.
- Maintain oil level between dipstick marks.



MX45463

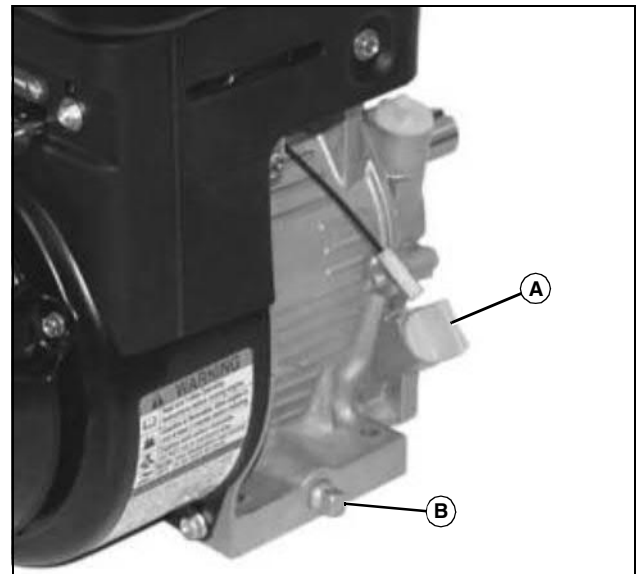
1. Wipe dirt and debris from area around dipstick (A) to prevent debris from falling into crankcase.
2. Remove dipstick (A). Wipe with clean cloth.
3. Place dipstick in engine but do not screw in.
4. Remove dipstick.
5. Check oil level on dipstick. Oil must be between ADD and FULL marks.
6. If oil level is low, add oil to bring oil level no higher than FULL mark on dipstick. Do not overfill.
7. Install and tighten dipstick.

Changing Engine Oil

IMPORTANT: Avoid damage! Change the oil more often if the vehicle is used in extreme conditions:

- Extremely dusty conditions.
- Frequent slow or low-speed operation.
- Frequent short trips.

1. Run engine to warm oil.
2. Stop engine and wait for all moving parts to stop.
3. Place towbar in a level position if required.



MX45463

4. Wipe dirt and debris from area around dipstick (A) and drain plug (B).
5. Remove dipstick (A).
6. Put drain pan under drain plug (B). Remove plug and allow all oil to drain into pan.
7. Install drain plug and tighten securely.
8. Fill with new oil of recommended grade through dipstick (A) hole no higher than FULL mark on dipstick. Do not overfill.
 - Approximate engine oil capacity: 0.54-0.59 L (18-20 oz).
9. Install dipstick.
10. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.
11. Check oil level, add oil if necessary.

Checking and Cleaning Air Cleaner Elements

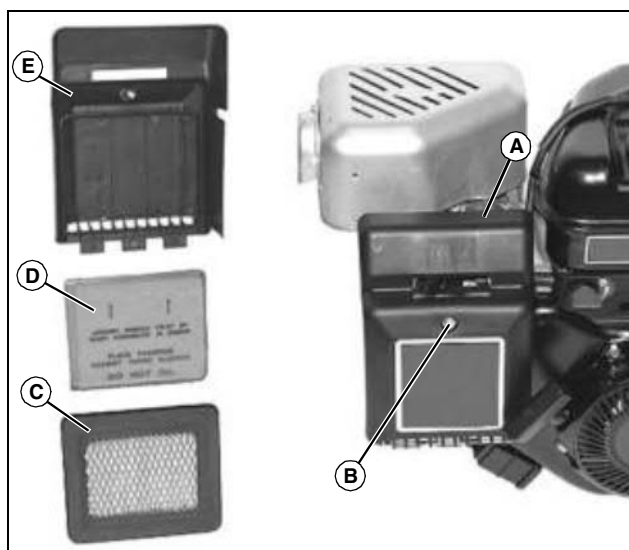
1. Park machine safely. (See Parking Safely in the SAFETY section.)



CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

2. Let engine cool.

Service Engine



MX50534

3. Clean dirt and debris from the engine around the air cleaner cover (A).
4. Loosen screw (B) and remove cover.
5. Remove the filter (C) and foam precleaner (D) from the cover (E). If the precleaner is dirty:

IMPORTANT: Avoid damage! Do not oil foam precleaner.

- a. Wash precleaner in a solution of warm water and liquid detergent.
- b. Rinse precleaner thoroughly. Squeeze out excess water and allow it to thoroughly air dry.

IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element.

- Do not wash paper element.
- Do not use pressurized air to clean element.
- Replace filter element if it is very dirty, damaged or the seal is cracked.

6. Check the paper filter element (C). Replace the filter if the element is damaged or dirty.
7. Install foam precleaner and filter element in air cleaner cover.
8. Install cover on engine.

Checking Spark Plug

1. Park machine safely. (See Parking Safely in the Safety Section.)

CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

2. Let engine cool.

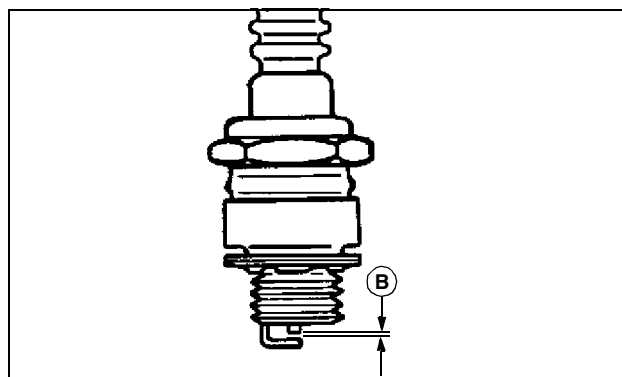


MX45466

3. Disconnect spark plug wire (A).
4. Remove spark plug.
5. Clean spark plug carefully with a wire brush.
6. Inspect spark plug for:
 - Cracked porcelain.
 - Pitted or damaged electrode.
 - Other wear or damage.

NOTE: In some area, local law may require replacement of spark plug with resistor spark plug only.

7. Replace spark plug as necessary.



M85200

8. Check plug gap (B) with a wire feeler gauge. To change gap, move the outer electrode.
 - Gap must be 0.76 mm (0.030 in.).
9. Install and tighten spark plug to 20 N•m (15 lb-ft).
10. Connect spark plug wire.

Adjusting Carburetor

NOTE: Carburetor is calibrated by the engine manufacturer and is not adjustable.

If engine is operated at altitudes above 1524 m (2,500 ft), a high altitude kit will be required. See your authorized dealer.

If engine is hard to start or runs rough, check the TROUBLESHOOTING section of this manual.

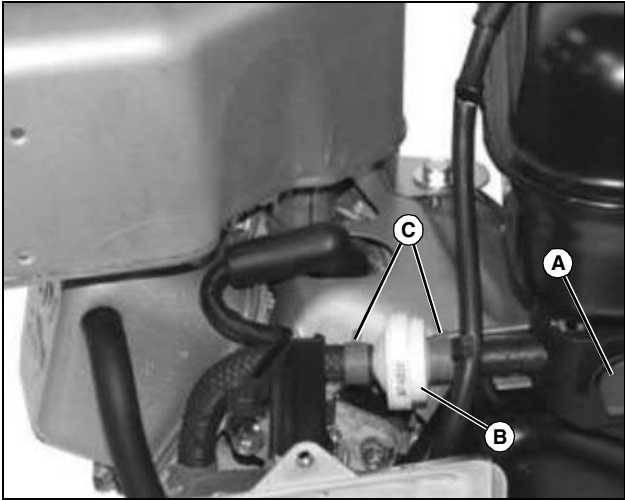
After performing the checks in the troubleshooting section and your engine is still not performing correctly, contact your authorized dealer.

Troubleshooting

Replacing Fuel Filter

CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Shut off engine before servicing.
- Cool engine before servicing.
- Work in a well-ventilated area.
- Clean up spilled fuel immediately.



MX45466

1. Close the fuel shut-off valve (A).
2. Remove air filter cover.
3. Wipe dirt and debris from area around fuel filter (B).
4. Loosen spring clamps (C) and slide away from fuel filter.
5. Remove fuel filter.
6. Install new fuel filter on fuel hoses and install clamps securely on hoses over filter fittings.
7. Open the fuel shut-off valve and check for leakage.

Troubleshooting

Using Troubleshooting Chart

If you are experiencing a problem that is not listed in this chart, see your John Deere dealer for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your John Deere dealer.

| If | Check |
|--|--|
| Engine Will Not Start | Throttle control not in choke or high idle position. Disconnected or dirty spark plug. Fuel tank is empty or shut-off valve is closed. Stale or dirty fuel. |
| Engine Starts Hard, Loses Power, or Runs Rough | Disconnected or dirty spark plug. Engine choke engaged. Stale fuel; blocked fuel line or filter. Dirty air cleaner components. |
| Engine Overheats | Oil level low. Engine externally clogged with debris. |
| Engine Vibrates | Loose mounting bolts. Dirty or damaged impeller. |
| No Debris Entering Canopy/Bed | Hose clogged. Blower chute clogged. Foreign object lodged in impeller. Engine running too slow. Canopy/cart is full. |
| Canopy Will Not Stay Open | Gas spring damaged. Cable assembly at front of unit is not connected or broken. |
| Load Does Not Dump Cleanly | Large debris load requires forward cart movement for complete unloading. |

Specifications

MC542 Specifications with 17P Cart

| | |
|-----------------------|------------------|
| Maximum Towing Speed | 13 kph (8 mph) |
| Maximum Load | 453 kg (1000 lb) |
| Maximum Tongue Weight | 45 kg (100 lb) |
| Empty Weight | 147 kg (325 lb) |

Tires

| | |
|--------------------|------------------|
| Size | 16.00x6.5 |
| Inflation Pressure | 193 kPa (28 psi) |

Engine

| | |
|--------------------------|---|
| Manufacturer | Briggs and Stratton |
| Model Series | .900 |
| Power Rating Information | http://www.briggsandstratton.com/ |
| Displacement | 205 cc (12.48 cu in.) |
| Air Cleaner | Paper Element with Foam Pre-Cleaner |
| Spark Plug Gap | 0.76 mm (0.030 in.) |
| Spark Plug Torque | 20 N•m (15 lb-ft) |

Capacities

| | |
|-----------|----------------|
| Fuel Tank | 2.7 L (2.9 qt) |
|-----------|----------------|

Specifications

Engine Oil 0.59L (20 oz)

Box Capacity 0.49 m³ (17.5 cu ft)

Recommended Lubricants

Fuel 87 Octane Gasoline or higher

Fuel Blends Up to 10% Ethanol or 15% MTBE Reformulated

Engine Oil TORQ-GARD SUPREME® (SAE 30 or SAE10W-30)

Warranty

Warranty

Product Warranty

Product Warranty can be found on the document titled "LIMITED WARRANTY FOR NEW JOHN DEERE LICENSED PRODUCT". This document should be part of the literature you received with the product.

Engine related warranties stated in this manual refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided in the document "LIMITED WARRANTY FOR NEW JOHN DEERE LICENSED PRODUCTS".

Emission Control System Certification Label

NOTE: Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by EPA and/or CARB authorized service centers. If you have questions concerning emission controls or components see your local John Deere dealer or call John Deere Special Services @ 1-866-218-8622 for assistance.

The presence of an emissions label signifies that the engine has been certified with the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB).

The emissions warranty applies only to those engines marketed by John Deere that have been certified by the EPA and/or CARB; and used in the United States and Canada in off-road mobile equipment.

California and U.S. EPA, and Briggs & Stratton Corporation Emissions Control Warranty Statement Your Warranty Rights and Obligations

The California Air Resources Board, U.S. EPA, and Briggs & Stratton (B&S) are pleased to explain the emissions control system warranty on your Model Year 2012--2013 engine/equipment. In California, new small off-road engines and large spark ignited engines less than or equal to 1.0 liter must be designed, built, and equipped to meet the State's stringent anti-smog standards. B&S must warrant the emissions control system on your engine/equipment for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your engine or equipment.

Your emissions control system may include parts such as the carburetor or fuel injection system, fuel tank, ignition system, and catalytic converter. Also included may be hoses, belts, connectors, sensors, and other emissions-related assemblies.

Where a warrantable condition exists, B&S will repair your engine/equipment at no cost to you including diagnosis, parts, and labor.

Manufacturer's Warranty Coverage:

Small off-road engines and large spark ignited engines less than or equal to 1.0 liter are warranted for two years. If any emissions-related part on your engine/equipment is defective, the part will be repaired or replaced by B&S.

Owner's Warranty Responsibilities:

- As the engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. B&S recommends that you retain all receipts covering maintenance on your engine/equipment, but B&S cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.
- As the engine/equipment owner, you should however be aware that B&S may deny you warranty coverage if your engine/equipment or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

- You are responsible for presenting your engine/equipment to a B&S distribution center, servicing dealer, or other equivalent entity, as applicable, as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have any questions regarding your warranty rights and responsibilities, you should contact B&S at (414) 259-5262.

Briggs & Stratton Emissions control Warranty Provisions

The following are specific provisions relative to your Emissions Control Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Operator's Manual.

1. Warranted Emissions Parts

Coverage under this warranty extends only to the parts listed below (the emissions control systems parts) to the extent these parts were present on the B&S engine and/or B&S supplied fuel system.

a. Fuel Metering System

- Cold start enrichment system (soft choke)
- Carburetor and internal parts
- Fuel pump
- Fuel line, fuel line fittings, clamps
- Fuel tank, cap and tether
- Carbon canister

b. Air Induction System

- Air cleaner
- Intake manifold
- Purge and vent line

c. Ignition System

- Spark plug(s)
- Magneto ignition system

d. Catalyst System

- Catalytic converter
- Exhaust manifold
- Air injection system or pulse valve

e. Miscellaneous Items Used in Above Systems

- Vacuum, temperature, position, time sensitive valves and switches
- Connectors and assemblies

2. Length of Coverage

For a period of two years from date of original purchase, B&S warrants to the original purchaser and each subsequent purchaser that the engine is designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board; that it is free from defects in material and workmanship that could cause the failure of a warranted part; and that it is identical in all material respects to the engine described in the manufacturer's application for certification. The warranty period begins on the date the engine is originally purchased.

The warranty on emissions-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period stated

Getting Quality Service

above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.

- Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Add on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non exempted add on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non exempted add on or modified part.

3. Consequential Coverage

Coverage shall extend to the failure of any engine components caused by the failure of any warranted emissions parts.

4. Claims and Coverage Exclusions

Warranty claims shall be filed according to the provisions of the B&S engine warranty policy. Warranty coverage does not apply to failures of emissions parts that are not original equipment B&S parts or to parts that fail due to abuse, neglect, or improper maintenance as set forth in the B&S engine warranty policy. B&S is not liable for warranty coverage of failures of emissions parts caused by the use of add-on or modified parts.

Look for Relevant Emissions Durability Period and Air Index Information on Your Small Off-Road Engine Emissions Label

Engines that are certified to meet the California Air Resources Board (CARB) small off-road Emissions Standard must display information regarding the Emissions Durability Period and the Air Index. Briggs & Stratton makes this information available to the consumer on our emissions labels. The engine emissions label will indicate certification information.

The **Emissions Durability Period** describes the number of hours of actual running time for which the engine is certified to be emissions compliant, assuming proper maintenance in accordance with the Operating & Maintenance Instructions. The following categories are used:

Moderate: Engine is certified to be emissions compliant for 125 hours of actual engine running time.

Intermediate: Engine is certified to be emissions compliant for 250 hours of actual engine running time.

Extended: Engine is certified to be emissions compliant for 500 hours of actual engine running time. For example, a typical walk-behind lawn mower is used 20 to 25 hours per year. Therefore, the **Emissions Durability Period** of an engine with an **intermediate** rating would equate to 10 to 12 years.

Briggs & Stratton engines are certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 or Phase 3 emissions standards. The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emissions requirements.

For engines less than 225 cc displacement.

Category C = 125 hours, Category B = 250 hours, Category A = 500 hours

For engines of 225 cc or more displacement.

Category C = 250 hours, Category B = 500 hours, Category A = 1000 hours

Getting Quality Service

John Deere Quality Continues with Quality Service

John Deere provides a process to handle your questions or problems, should they arise, to ensure that product quality continues with quality parts and service support.

Follow the steps below to get answers to any questions you may have about your product.

1. Refer to your attachment and machine operator manuals.
2. In North America or Canada, call John Deere Special Services at 1-866-218-8622 and provide product serial number (if available) and model number.