R1 Series
Pull-Type Disc Mower

Quick Change Blade Kit for Quick Change Ready Discs (MD #257135 and 257136) Installation Instructions

214597 Revision A
Original Instruction

The harvesting specialists.
**Introduction**

This document explains how to install the Quick Change Blade kit on R1 Series headers equipped with quick change blade discs. A list of parts included in the kit is provided in Chapter 2 Parts List, page 5.

**NOTE:**

This kit is compatible with disc mowers equipped with quick change ready discs (B). Quick change ready discs are identified by the larger cut-out allowing access for the quick change blade tool.

**Figure 1. Standard Discs and Quick Change Blade Ready Discs**

![Diagram of Standard Discs and Quick Change Blade Ready Discs]

**A - Standard Discs**

**B - Quick Change Blade Ready Discs**

**Installation Time**

The Quick Change Blade kit takes approximately 2.5–3.5 hours to install depending if you have an 8- or 10-disc mower.
Conventions

The following conventions are used in this document:

- Right and left are determined from the operator’s position. The front of the disc mower is the side that faces the crop.
- Unless otherwise noted, use the standard torque values provided in the disc mower operator’s manual and technical manual.

NOTE:
Keep your MacDon publications up-to-date. The most current version of this instruction can be downloaded from our Dealer-only site (https://portal.macdon.com) (login required).

NOTE:
This document is available in English.
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1 Safety

1.1 Signal Words

Three signal words, DANGER, WARNING, and CAUTION, are used to alert you to hazardous situations. Signal words are selected using the following guidelines:

⚠️ DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

⚠️ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

⚠️ CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.
1.2 General Safety

⚠️ CAUTION

The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.

Protect yourself.

- When assembling, operating, and servicing machinery, wear all protective clothing and personal safety devices that could be necessary for job at hand. Do **NOT** take chances. You may need the following:
  - Hard hat
  - Protective footwear with slip resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - Respirator or filter mask
- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.

- Provide a first aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure fire extinguisher is properly maintained. Be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when Operator is tired or in a hurry. Take time to consider safest way. Never ignore warning signs of fatigue.
• Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
• Keep all shields in place. NEVER alter or remove safety equipment. Make sure driveline guards can rotate independently of shaft and can telescope freely.
• Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.

• Keep hands, feet, clothing, and hair away from moving parts. NEVER attempt to clear obstructions or objects from a machine while engine is running.
• Do NOT modify machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten machine's life.
• To avoid bodily injury or death from unexpected startup of machine, ALWAYS stop the engine and remove the key from the ignition before leaving the operator’s seat for any reason.

• Keep service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
• Keep work area well lit.
• Keep machinery clean. Straw and chaff on a hot engine is a fire hazard. Do NOT allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.
• NEVER use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
• When storing machinery, cover sharp or extending components to prevent injury from accidental contact.
2 Parts List

The following parts are included in this kit:
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3 Installation Instructions

To install the Quick Change Blade system, perform the following procedures in order.

3.1 Removing Discblades

⚠️ DANGER

To avoid bodily injury or death from unexpected start-up or fall of a raised machine, stop engine, remove key, and engage header lift cylinder lock-out valves before going under machine for any reason.

⚠️ CAUTION

Discblades have two sharp cutting edges that can cause serious injury. Exercise caution and wear gloves when working with blades.

1. Raise disc mower fully, shut off engine, and remove key.
2. Engage lift cylinder lock-out valves. Refer to your operator’s or technical manual.
3. Open cutterbar doors. Refer to your operator’s or technical manual.

4. Rotate disc (A) so that blade (B) faces forward and lines up with hole (C) in rock guard.

Figure 3.1: Pull-Type Disc Mower

Figure 3.2: Discblade Aligned with Hole in Rock Guard
5. Place a pin (or equivalent) in the front hole of the rock guard to prevent disc rotation while loosening blade bolts.

6. Clean debris from blade attachment area.

7. Remove nut (A) and discard.

8. Remove shoulder bolt (B) and blade (C). Discard bolt and blade.

**NOTE:**
The Quick Change Blade (QCB) system uses different blades and bolts, both provided with the kit. The quick change blades are 6 mm (1/4 in.) longer.

![Figure 3.3: Discblade](image)
3.2 Installing Quick Change Blade System on Driven Drums

⚠️ DANGER

To avoid bodily injury or death from unexpected start-up or fall of a raised machine, stop engine, remove key, and engage header lift cylinder lock-out valves before going under machine for any reason.

⚠️ CAUTION

Exercise caution when working around the blades. Blades are sharp and can cause serious injury. Wear gloves when handling blades.

NOTE:

Illustrations show left side drum and driveline—right side drum and driveline are similar.

NOTE:

There are two sizes of spring plates used with the Quick Change Blade system. The outside drums use the 402 mm discs (MD #281365), and the discs use the larger 425 mm discs (MD #281364).

1. Open cutterbar doors. Refer to operator’s manual.

2. Remove four M10 hex flange head bolts (A) and remove vertical drive shield (B).
3. Remove two M10 hex flange head bolts (A) and remove cover plate (B).

4. Remove four M10 hex flange head bolts (A), and remove top plate (B) and drum top (C).

5. Remove one 20 mm M10 hex flange head bolt (B), two 16 mm M10 hex flange head bolts (C), and vertical shield (A).
6. Remove eight M8 hex flange head bolts (A), and remove two drum shields (B).

7. Remove four M12 hex flange head bolts (A) and spacers securing driveline assembly (B) to hub drive (C).

8. Slide driveline (A) downwards, tilt to the side, and pull driveline up and out of drum.

**NOTE:**
For clarity, illustration shows cutaway view of drum and tube shield.
9. Use a 18 mm deep socket to remove the four M12 bolts (A) and washers holding the drum disc in place. Retain hardware for reinstallation.

10. Remove drum disc assembly.

11. Remove spacer (A) and discard.

12. Remove accelerator bolt (A), nut (B), and spacer (C) from drum disc assembly. Discard spacer (C). Retain accelerator (D) and hardware for reassembly.
13. Install new plate (A) (MD #246301) and retained accelerator (B) using retained accelerator nut and bolt (C). Torque nut (C) to 58 Nm (43 lbf·ft).

14. Install blade bolt (D) (MD #281363) and blade nut (E) (MD #246300) supplied with the kit. Torque nut to 118–132 Nm (87–97 lbf·ft).

15. Install new quick change plate (A) (MD #281634) over spindle (B).
16. Using four new M12 disc cover bolts (A) (MD #246312) and locking disc washer (B) (MD #246952), attach drum assembly (C) to quick change plate (D) and spindle (E). Torque bolts to 85 Nm (63 lbf-ft)

**NOTE:**
Check that the new disc cover bolts (A) are used. They are longer than the discarded disc cover bolts.

**NOTE:**
Check that blade bolt (F) is aligned with hole in quick change plate (D).


**NOTE:**
For clarity, illustration shows cutaway view of drum and tube shield.

18. Insert driveline (B) at an angle and guide it past hub drive (C) and drum (D).

19. Insert splined spindle end (A) into splined bore of driveline (B).

20. Place a bead of medium-strength threadlocker (Loctite® 242 or equivalent) around threads, and install four M12 hex flange head bolts (A) and spacers to secure driveline assembly (B) to hub drive (C). Torque bolts to 95 Nm (70 lbf-ft).
21. Position two drum shields (B) as shown. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and use eight M8 hex flange head bolts (A) to secure drum shields in place. Torque to 29 Nm (21 lbf·ft).

22. Position vertical shield (A) as shown. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and then use one 20 mm M10 hex flange head bolt (B) and two 16 mm M10 hex flange head bolts (C) to secure vertical shield in place. Torque to 57.5 Nm (42 lbf·ft).

23. Position top plate (B) and drum top (C) onto drum as shown. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and then use four M10 hex flange head bolts (A) to secure the top plate and drum top in place.
24. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and then install top M10 hex flange head bolt (B) through cover plate (A) and top plate (C).

25. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and then install lower M10 hex flange head bolt (D) through cover plate (A) and vertical shield (E).

26. Tighten bolts (B) and (D).

27. Position vertical drive shield (B) as shown at right. Apply a bead of medium-strength threadlocker (Loctite® 243 or equivalent) around threads, and then use four M10 hex flange head bolts (A) to secure vertical drive shield in place.

**WARNING**

Ensure cutterbar is completely clear of foreign objects. Foreign objects can be ejected with considerable force when the machine is started and may result in serious injury or machine damage.
3.3 Installing Quick Change Blade System on Discs

Cutterbar discs are interchangeable and can be moved to a spindle that rotates in the opposite direction as long as it is in usable condition and the blades are oriented to cut in the correct direction.

⚠️ DANGER

To avoid bodily injury or death from unexpected start-up or fall of a raised machine, stop engine, remove key, and engage header lift cylinder lock-out valves before going under machine for any reason.

⚠️ CAUTION

Disc blades have two sharp cutting edges that can cause serious injury. Exercise caution and wear gloves when working with blades.

1. Raise header fully, shut off engine, and remove key.
2. Engage safety lock-out valves. Refer to operator’s manual.
3. Open cutterbar doors. Refer to operator’s manual.

4. Place a pin (or equivalent) in the front hole of the rock guard (B) to prevent disc rotation while loosening bolts.
5. Remove four M12 bolts (A) and washers. Discard bolts and washers.
6. Remove cutterbar disc cap (A).

7. Remove cutterbar disc (B).

8. Remove spacer (A) and discard.

9. Remove bolt (A), nut (B), disc guard (C), and 10 mm spacer (D) from disc assembly. Retain hardware and disc guard for reassembly. Discard spacer.
10. Install new plate (A) (MD #246301) and retained disc guard (B) using retained accelerator nut and bolt (C). Torque nut (C) to 58 Nm (43 lbf·ft).

11. Install blade bolt (D) (MD #281363) and blade nut (E) (MD #246300) supplied with the kit. Torque nut to 118–132 Nm (87–97 lbf·ft).

12. Place quick change plate (A) (MD #281364) over cutterbar spindle (B).
13. Using four new M12 disc cover bolts (A) (MD #246312) and locking disc washer (B) (MD #246952), attach disc and disc cap (C) to quick change plate (D) and spindle (E). Torque bolts to 85 Nm (63 lbf-ft)

**NOTE:**
Check that the new disc cover bolts (A) are used. They are longer than the discarded disc cover bolts.

**NOTE:**
Check that blade bolt (F) is aligned with hole in quick change plate (D).

Figure 3.32: Attaching Disc to Spindle
3.4 Installing Quick Change Blades

This kit contains clockwise and counterclockwise 18° bevel down quick change disc blades. The disc blades have cutting edges on both sides so the blades can be turned over and reused. The twist in each blade determines the cutting direction. If you are unsure which direction the spindles rotate, refer to the operator’s manual or technical manual. To install quick change blades follow these steps:

1. Place the blade change tool (A) (MD #259112) between the disc (B) and quick change plate (C).
2. Pull down on tool (A) and insert new blade (D) on blade bolt (E).
3. Return tool (A) upwards trapping blade in disc assembly.

**IMPORTANT:**
Check that blade change tool (A) is fully engaged on both sides of the disc (B).
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