

Recommended Fluids and Lubricants

Ensure your machine operates at top efficiency by using clean fluids and lubricants only.

- Use clean containers to handle all fluids and lubricants.
- Store fluids and lubricants in an area protected from dust, moisture, and other contaminants.

Lubricant	Specification	Description	Use	Capacities
Grease	SAE multi-purpose	High temperature extreme pressure (EP) performance grease with 1% max Molybdenum Disulphide (NLGI Grade 2) lithium base	As required unless otherwise specified	—
		High temperature extreme pressure (EP) performance grease with 10% max Molybdenum Disulphide (NLGI Grade 2) lithium base	Driveline slip-joints	—
Gear Lubricant	SAE 85W-140	API service class GL-5	Knife drive box	2.2 liters (2.3 quarts)
			Main drive gearbox	2.5 liters (2.6 quarts)
Hydraulic Oil	Single grade trans-hydraulic oil Recommended brands: • Petro-Canada Duratran • John Deere Hy-Gard J20C • Case Hy-Tran Ultraction • AGCO Power Fluid 821 XL	Lubricant trans / hydraulic oil	Header drive systems reservoir	85 liters (22.5 US gallons)

Break-In Inspections

To help avoid major component service or replacement, perform break-in inspections on your machine for the first 50 hours of operation. Refer to your operator's manual for complete break-in inspection and adjustment procedures.

Inspection Instance	Item
First 5 Minutes	Check hydraulic oil level in reservoir (check after first run-up and after the hydraulic hoses have filled with oil).
5 Hours	Check for loose hardware and tighten to required torque.
	Check knife drive belts tension (check periodically for the first 50 hours).
10 Hours	Check auger drive chain tension.
	Check knife drive box mounting bolts.
50 Hours	Change float module gearbox oil.
	Change float module hydraulic oil filter.
	Change knife drive box lubricant.
	Check gearbox chain tension.
	Check deck height adjustment.

Ongoing Maintenance Intervals

Refer to the operator's manual for a comprehensive maintenance schedule and record. Log hours of operation, use the maintenance record, and keep copies of your maintenance records.

Following the maintenance schedule will increase your machine's life.

Subject to change without notice

MacDon

FD1 Series / FM100 Quick Card – MD #215063 Revision A
Supplement to FD1 Series Combine Header Operator's Manual

FD1 Series Draper Header / FM100 Float Module

MacDon

SETTING HEADER FLOAT AND WING BALANCE

Follow these five steps to set the header float and wing balance:

IMPORTANT:

Read your operator's manual and complete all the setup tasks before setting the header float.

Step 1: Preadjustments Complete before adjusting float or wing balance.

1. Park combine on a level surface, and ensure the combine feeder house is level.
2. Ensure the top of the float module is level with the combine axle and the combine tires are inflated equally.
3. Adjust header so cutterbar is 150–254 mm (6–10 in.) off the ground.
4. Set the header angle hydraulic cylinder to between B and C on indicator (A).
5. Set the reel fore-aft to mid position (5 or 6 on reel arm decal).
6. Lower the reel completely, shut down the combine, and remove key from the combine ignition.
7. Place wing lock spring handles (B) in the locked (upper) position.
8. Place both left and right header float locks in unlocked (lowered) position (C).
9. Set stabilizer/transport wheels (if equipped) to the storage position.

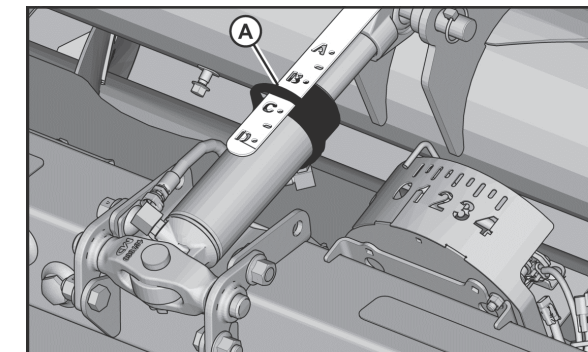


Figure 1: Center-Link

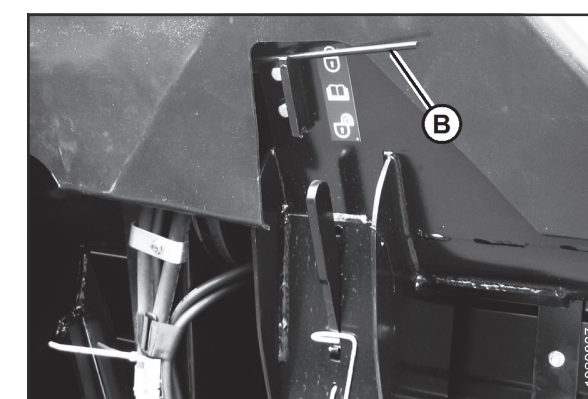


Figure 2: Wing Lock Spring Handle in Locked Position

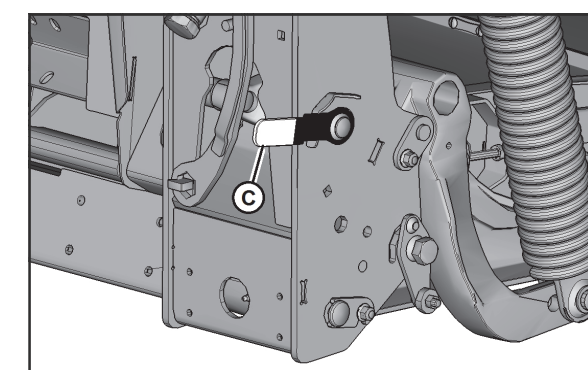


Figure 3: Float Unlocked – Right Side Shown

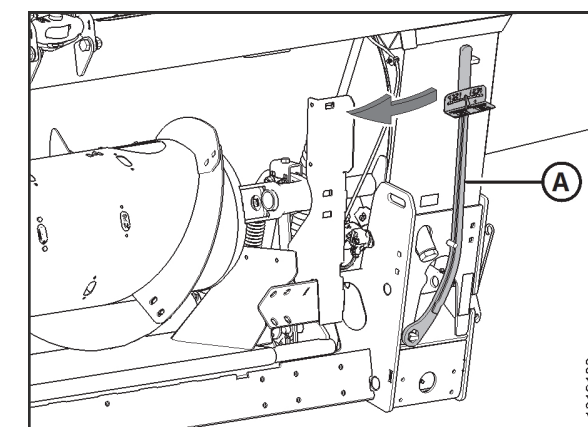


Figure 4: Torque Wrench Storage Location

Step 2: Retrieving Torque Wrench from Storage

1. Remove the special torque wrench (A) from its storage position at the right side of the float module frame. Pull in the direction shown to disengage the wrench from its hook.

Step 3: Checking Header Float

- Place torque wrench (A) onto float lock (B). Note the change in wrench orientation when checking float module's left and right side.
- Push down on torque wrench (A) to rotate bell crank (C) forward.
- Continue pushing down on torque wrench until the wrench's indicator (D) reaches a maximum reading and begins to decrease. Note the maximum reading.
- Repeat above steps for opposite side of float module.
- Refer to Table 1.1 as a guide for float settings.
 - If the reading is high, the header is heavy.
 - If the reading is low, the header is light.

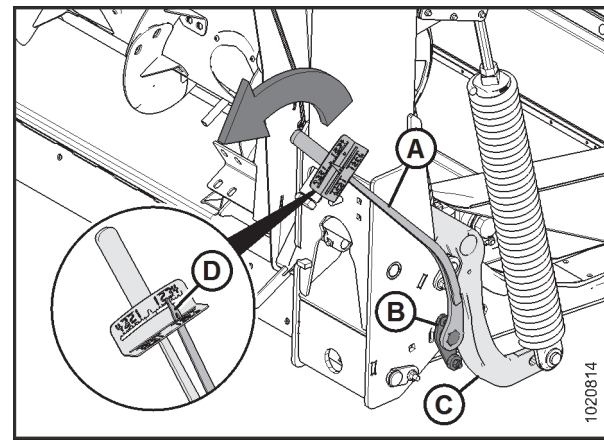


Figure 5: Checking Float – Right Side Shown

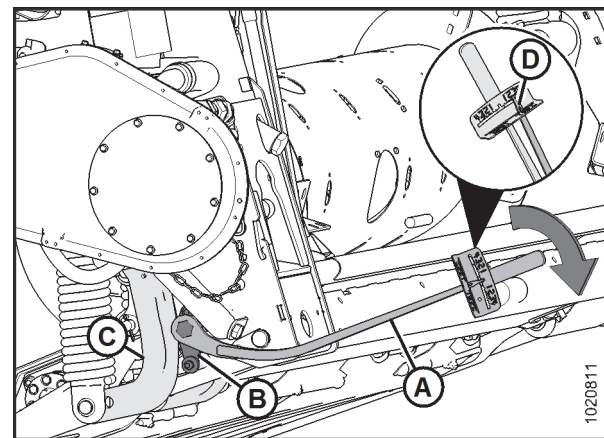


Figure 6: Checking Float – Left Side Shown

Table 1.1: Float Settings

Header Size m (ft.)	Indicator Reading	
	Cutting on the Ground	Cutting off the Ground
9.1 and 10.6 m (30 and 35 ft.)	1-1/2 to 2	2 to 2-1/2
12.1 and 13.7 m (40 and 45 ft.)	2 to 2-1/2	2-1/2 to 3

IMPORTANT:

Torque settings in Table 1.1: Float Settings are recommended header float settings. If necessary, set float values to suit crop and field conditions.

Step 4: Setting Header Float

- Before adjusting the float spring adjustment bolts (A), rotate the spring locks (B) by loosening bolts (C).
- To **increase** float (decrease header weight), turn both adjustment bolts (A) on the left side clockwise. Repeat adjustment at opposite side.
- To **decrease** float (increase header weight), turn left side adjustment bolts (A) counterclockwise. Repeat at opposite side.

IMPORTANT:

Ensure torque wrench indicator readings are equal on both sides of float module.

NOTE:

For 12.2 and 13.7 m (40 and 45 ft.) double-knife headers, adjust float as above, then loosen right side float spring bolts two turns.

NOTE:

If adequate header float cannot be achieved using all the available adjustments, an optional heavy duty spring is available. See your MacDon Dealer or refer to the parts catalog for ordering information.

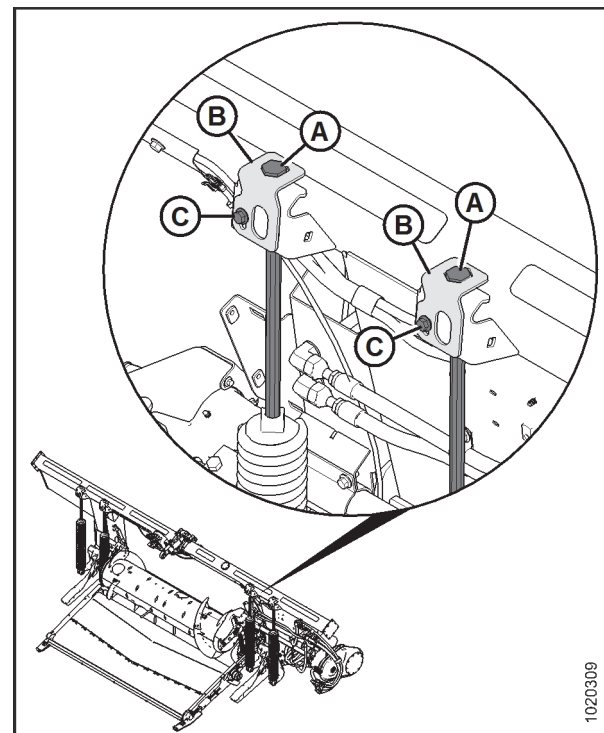


Figure 7: Float Adjustment Bolts – Left Side Shown

IMPORTANT:

Before proceeding, the header float must be set properly. Refer to Step 4: Setting Header Float.

Step 5: Check Wing Balance

- Remove wing balance linkage cover on left side of the float module by removing securing bolt and rotating the cover upwards until the inboard end can be lifted off.
- Place wing lock spring handles in the unlocked (lower) position.
- Place torque wrench (A) on bolt (B).
- Check that pointer (C) is properly positioned as follows:
 - Use the torque wrench (A) to move the bell crank so that the bell crank's lower edge (D) is parallel to the top-link's lower edge (E).
 - Ensure pointer (C) is lined up with the top-link (E). If necessary, bend the pointer it aligns with bolt hole (J).
- Move wing upward with torque wrench (A) until the pointer's lower alignment tab (F) lines up with the upper edge of the top-link (E). Refer to Figure 8. Observe the indicator reading (G) on the torque wrench and record it.
- Move the wing downward with torque wrench (A) until the pointer's upper alignment tab (H) lines up with the lower edge of the top-link (E). Refer to Figure 9. Observe the indicator reading (G) on the torque wrench and record it.
- Check wing balance on opposite side of header.
 - If the difference between the readings is 0.5 or less, the wing is balanced and adjustment is not required.
 - If the difference between the readings is more than 0.5, the wing is not balanced and adjustment is required.

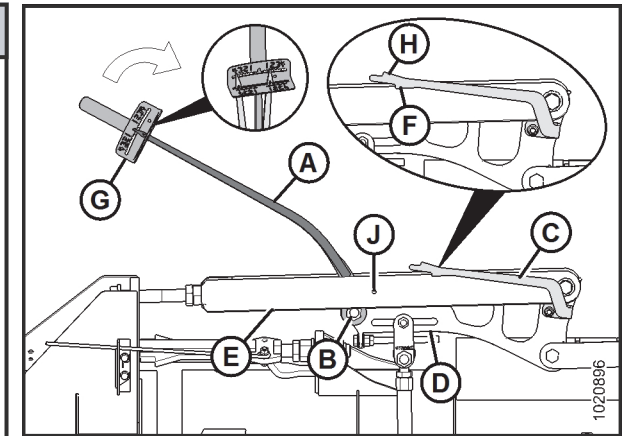


Figure 8: Wing Balance Linkage, Wings Set too Light – Left Side Shown, Right Opposite

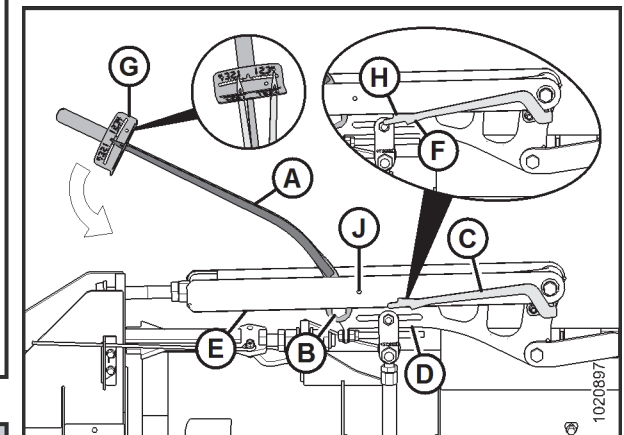


Figure 9: Wing Balance Linkage, Wings Set too Heavy – Left Side Shown, Right Opposite

Step 6: Adjust Wing Balance

- Place torque wrench (A) on bolt (B) on the left side of header.
- Loosen clevis bolt (C) and jam nut (J).
- Recheck wing balance. Refer to Step 5: Check Wing Balance.
- If necessary, make the following adjustments:
 - If the wing is too heavy, turn the clevis adjuster bolt (D) to move clevis (E) outboard (F).
 - If the wing is too light, turn the clevis adjuster bolt (D) to move clevis (E) inboard (G).
- Adjust clevis (E) position (if necessary) until the difference between torque wrench indicator readings is 0.5 or less. Tighten clevis bolt (C) and jam nut (J).
- Place wing lock spring handles (H) in the locked (upper) position. If lock doesn't engage, move the wing up and down with the torque wrench (A) until it locks. When locked, there will be some movement in the linkage. Repeat on opposite side of header.
- If the cutterbar is not straight when wings are in lock mode, then further adjustments are required. Contact your MacDon Dealer.
- Return the torque wrench (A) to its storage location on the float module frame.

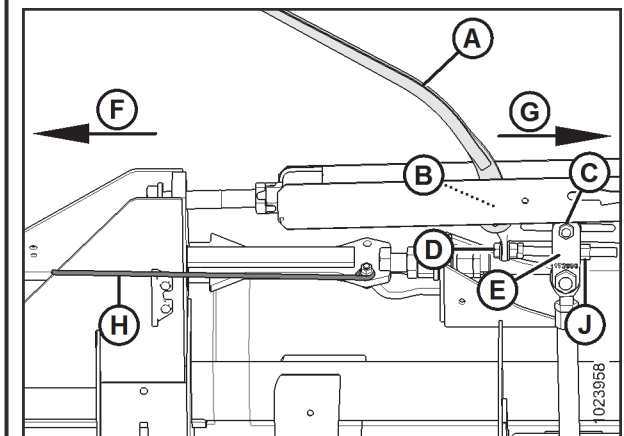


Figure 10: Wing Balance Linkage – Left Side Shown