

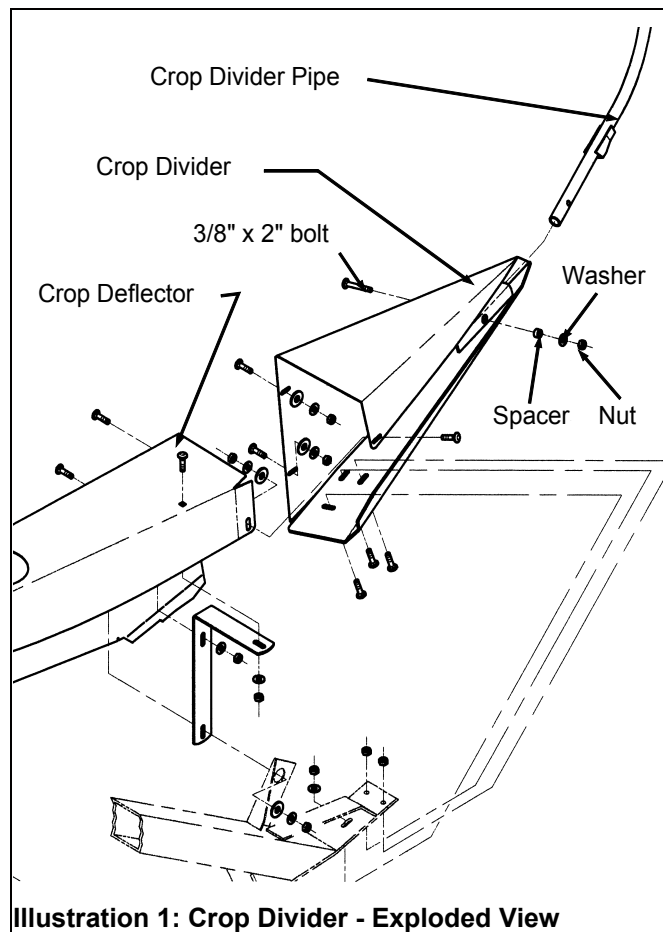
Vertical Crop Cutter Installation Supplement

Honey Bee Manufacturing Limited
Vertical Crop Cutter Installation Supplement

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Preparation of the Header or Swather

1. Raise the Reel, and set the safety blocks to ensure it does not settle unexpectedly.
2. Remove the divider pipes from the crop dividers. Attach the 3/8 x 2" bolts, spacers and washers to the pipes for possible future use.
See Illustration 1: Crop Divider - Exploded View.



Installation

NOTE: The RotoShear is shown in these illustrations as an example only, other products should install in similar fashion.

1. Temporarily position the mounting bracket for the crop cutter on the dividers, ensuring you have the right hand bracket for the right divider, and the left for the left. **“LEFT” is defined as your left side, standing behind the unit, or sitting in the operator’s seat.**
2. Ensure you have sufficient room for the bottom-forward hole beside the welded angle-iron brace. (See Illustration 3: Bolt Placement, page 6.) Remember, you will need to be able to place a washer and nut at this location. Mark the locations for the new holes. You may need to bend the lower lip of the crop divider slightly to obtain enough clearance. **USE CAUTION in bending to avoid cracking the finish at the joint with the angle-iron, or breaking welds.** (See Illustration 4: Crop Divider - Crop Cutter Fastener Location, page 6.)

Alternative Procedure: You may choose to substitute longer bolts, and drill through the base as well as the angle iron, thus placing the nuts and washers on top of the angle. This choice of location should be dictated by the best placement of the shear.

3. Use a sharp, self-centering bit 1/64” to 1/32” larger than the mounting bolts supplied. If you elect to use a center-punch, use caution, as too deep an impression may crack the powder-coat finish beyond the hole.
4. Mount the brackets, divider plates, motors, and crop cutters per the supplier’s directions.
5. Remove the Reel locks and CAREFULLY lower the reel, ensuring clearance between the vertical steel mounting plate of the crop cutter and the arm of the reel. Adjust the reel to its maximum forward travel and note any interference. **Some modification of the vertical plate may be needed to establish adequate clearance. (See)**
6. Mark the “Power” and “Return” ports on each crop cutter motor. Refer to the manufacturer’s instructions for their locations.

Hydraulics Installation

7. Refer to the hydraulic schematics section of this supplement for the connection circuit that applies. The crop cutters must operate in series from the (last) reel drive motor in the circuit. The circuit flows from the (last) reel motor return port to the power inlet of the left-hand crop cutter motor, to the power inlet of the right hand crop cutter motor to the main return line of the header/swather.

Possible circuits include: (See attached schematics):

- a. Single left or right-hand crop cutter operating from a single reel motor;
 - b. Double crop cutters operating from a single reel motor;
 - c. Single crop cutter operating from dual reel motors;
 - d. Dual crop cutters operating from dual reel motors.
8. Plan and obtain adequate lengths of hydraulic hose and fittings for the circuit you need to build.
 9. Test the installation, ensuring that the front edges of the crop cutters are traveling **upward** on each side, and that they operate at sufficient speed. (The advertised range of speed for the "ROTO-SHEAR" is 100-900 RPM, ideal range is 400-500RPM) If the crop cutter does not rotate upward at the front of the blade, reverse the hydraulic connection at that motor.)

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Illustrations

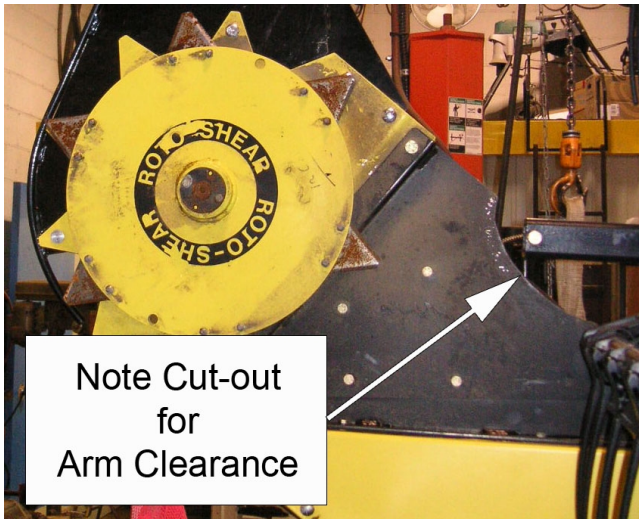


Illustration 2: Reel Arm Clearance - Cut-out



Illustration 3: Bolt Placement

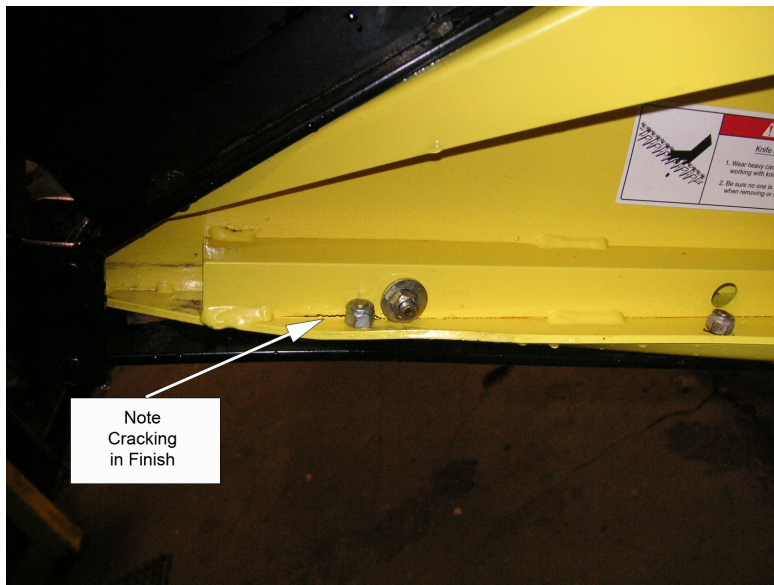
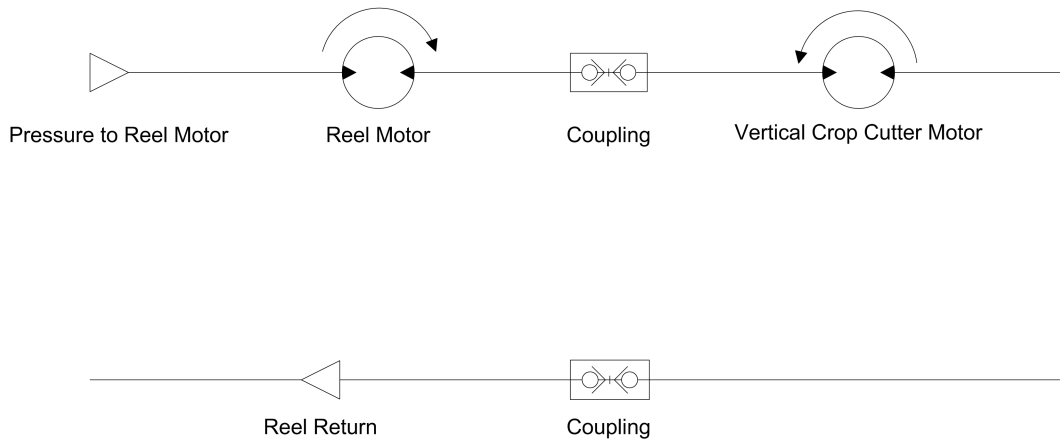


Illustration 4: Crop Divider - Crop Cutter Fastener Location

Hydraulic Schematics -Single Reel Motor Options

Single Reel Motor, Single Vertical Crop Cutter



Single Reel Motor, Dual Vertical Crop Cutter

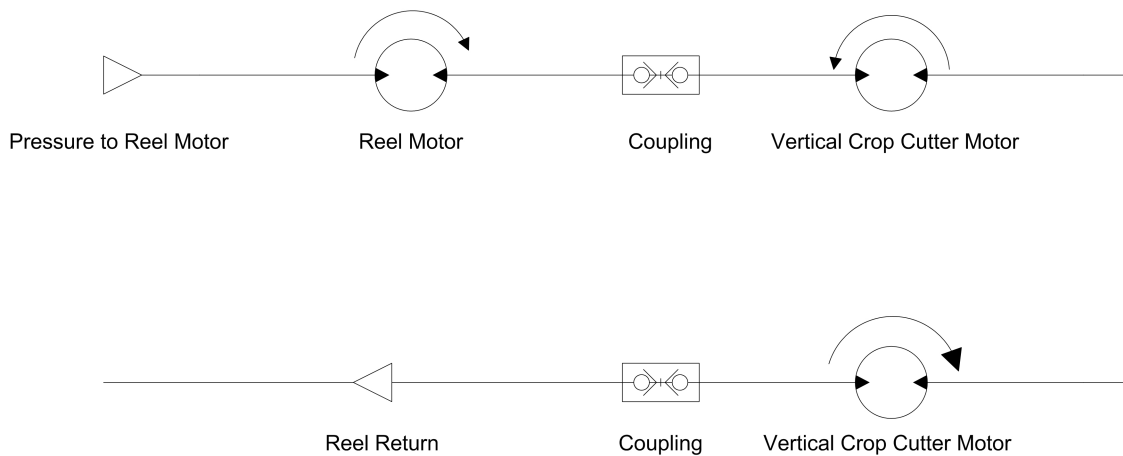
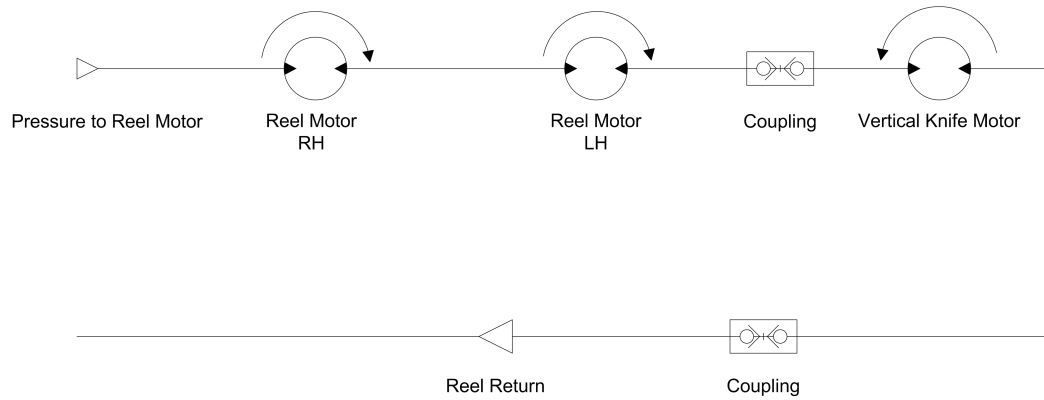


Illustration 5: Single Reel Motor Circuit Options

Hydraulic Schematics - Dual Reel Motor Options

Dual Reel Motor, Single Vertical Crop Cutter



Dual Reel Motor, Dual Vertical Crop Cutters

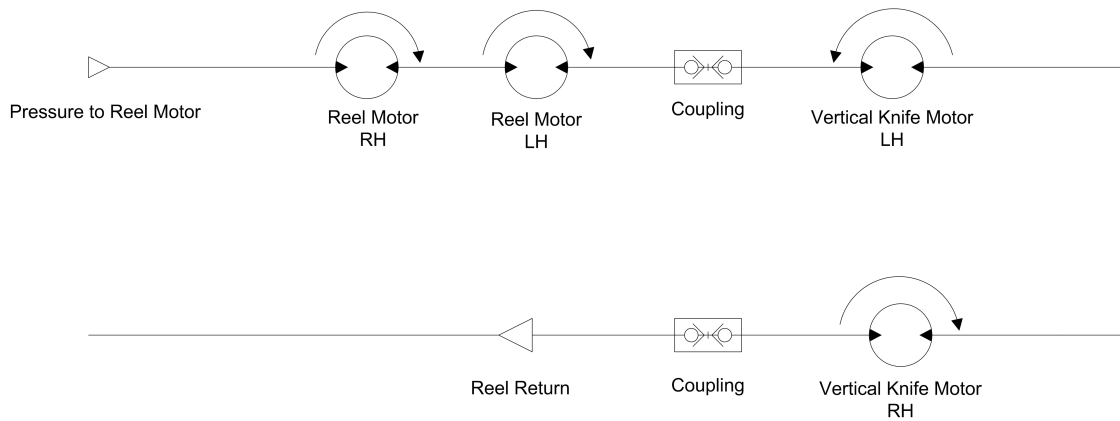


Illustration 6: Dual Reel Motor Circuit Options